

# **12-Month Progress Report**

Nova Scotia's Natural Resources Strategy 2011-2020

**August 2012**



# INTRODUCTION

*The Path We Share – A Natural Resources Strategy for Nova Scotia 2011-2020* was released on August 16, 2011. The companion document - *From Strategy to Action*, lays out 32 specific time-bound actions to be implemented in the first 24 months of this 10-year strategy (see “Actions at a Glance” p. 2). This interim report outlines progress achieved in the first twelve months (August 17, 2011- August 16, 2012, see area highlighted on p. 2). A more detailed 24-month progress will be released in August of 2013.

Nova Scotia’s natural resources strategy focuses efforts in four priority areas – biodiversity, forests, geological resources, and provincial parks. Implementation is guided by four overarching goals, as presented below. Progress has been made on many actions, as outlined in the pages that follow. Some actions in the area of “forests” have met with delays due to government’s need for assistance from staff at Natural Resources to address the crisis in the pulp and paper industry in Nova Scotia. Despite this diversion of resources, the forest actions in the strategy continue to be a priority and the department is committed to moving these forward.

## Overarching goals

### Collaborative leadership

Build a culture of collaboration, innovation, and mutual accountability that equips government to implement the natural resources strategy.

### Sustainable resource development

Manage Nova Scotia’s natural resources to achieve a sustainable balance of economic, environmental, and social benefits for current and future generations of Nova Scotians.

### Research and knowledge sharing

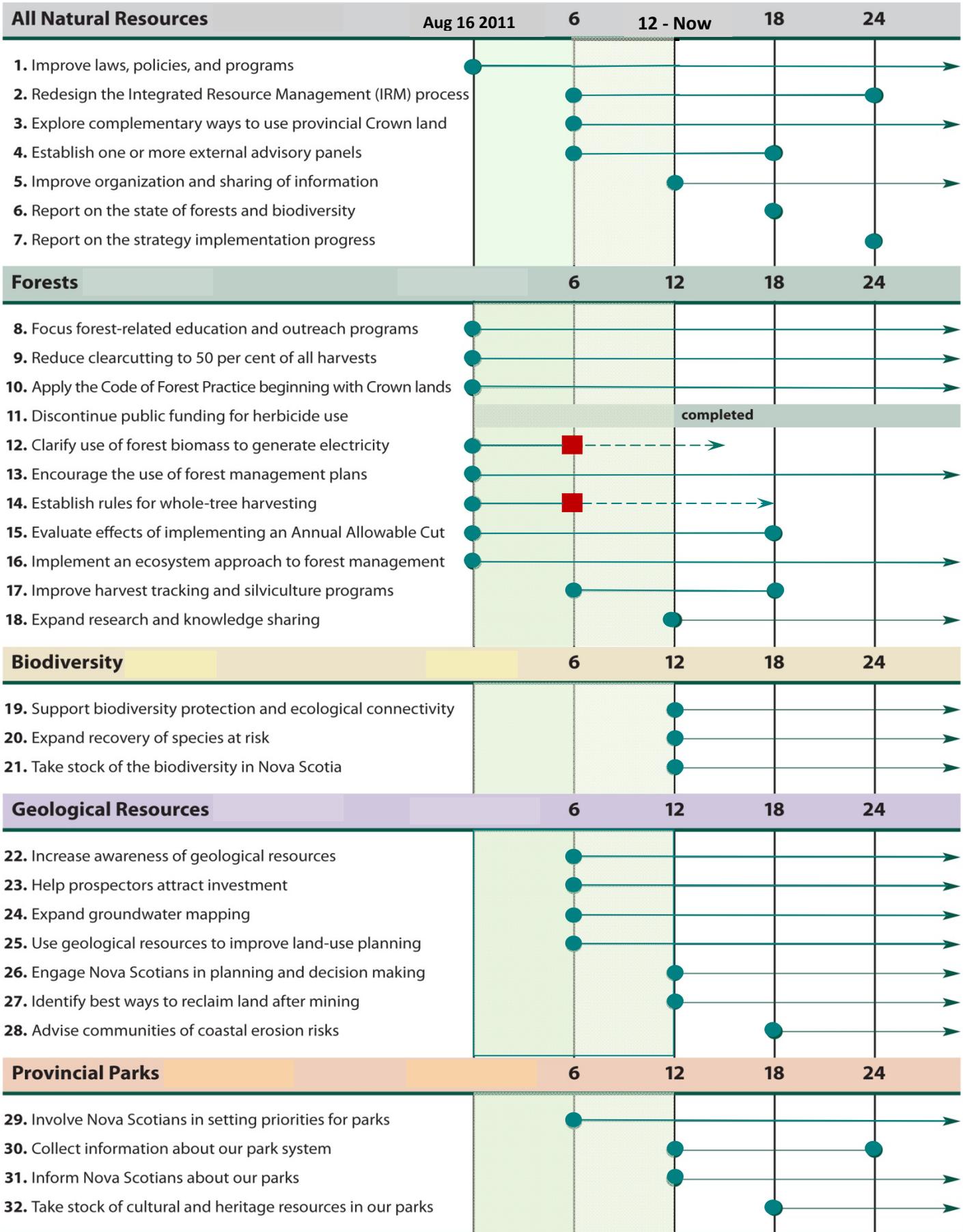
Strengthen research capacity and knowledge sharing so that government and interested groups are well informed about issues affecting our natural resources.

### Good governance

Ensure that laws and policies are clear and effective.

# Actions at a Glance

Timeline (months) ■ Target date extended



From Strategy to Action • An Action Plan for The Path We Share • A Natural Resources Strategy for Nova Scotia

## LEGISLATION

1. Improve laws, policies, and programs related to the development and conservation of Nova Scotia's natural resources.

**Action Plan Timeline:** ongoing

The Department of Natural Resources is working to ensure laws and policies that relate to the sustainable management and the use of the province's natural resources are clear and effective. This is a long term action that requires extensive consultation and engagement along the way. A 10-year legislation renewal inventory and work plan is in development that will help set priorities and guide the process and timing of legislative and regulatory changes.

Initial efforts are focused on strengthening biodiversity legislation, clarifying regulations and policies on sustainable forest management, Crown Lands, and investigating ways to update the Mineral Resources Act. Highlights of early efforts are outlined below.

### **Biodiversity Legislation**

The department will consult with stakeholders and Nova Scotians on amendments to the Wildlife Act in the fall of 2012. These changes will fill gaps in the legislative authority over the management and protection of wild species and ecosystems. Input will also be gathered on the concepts of biodiversity and the ecosystem approach during this consultation process to help inform the development of more robust biodiversity legislation.

### **Forest Sustainability Regulations / Registration and Statistical Returns Regulations**

These regulations will be amended to make biomass users subject to the same rules that currently apply to the forestry industry. Options for draft amendments are being reviewed internally. Plans are to consult with stakeholders and the public this fall.

### **Mineral Resources Act**

Initial work is underway to define the scope and plan the approach to review this legislation. Consultations will be conducted prior to any proposed changes.

### **Crown Lands Act**

Priorities for legislative change have been identified and work on amendments will begin in the fall of 2012. Consultations will be conducted prior to any proposed changes.

## LAND MANAGEMENT

2. Redesign the Integrated Resource Management (IRM) process to guide resource management on public and private land.

**Action Plan Timeline:** Start by February, 2012; complete by August, 2013

Integrated Resource Management (IRM) offers a way to identify the potential uses of and benefits from the land. This approach also contributes to informed decisions about which resources to develop, which to protect, and the combination of uses to allow.

The department is working with a consultant to conduct a review of resource management processes in other jurisdictions and compare this information with current IRM practices in Nova Scotia. This background report will be released in the fall of 2012. It will help inform next steps as the department works with others to consider options to update and improve the IRM process in Nova Scotia.

3. Explore complementary ways to use provincial Crown land.

**Action Plan Timeline:** Start by February, 2012; ongoing

Currently, Crown land not set aside for protection or recreation can be used to generate revenue in areas such as forestry, agriculture, mineral resources, wind energy, and communications. The department is conducting a Land Asset Management Pilot Project to investigate ways to improve decisions made about the use of Crown land. This pilot focuses on promoting agriculture development and wind-energy conversion opportunities on Crown land. It will be linked to the redesign of the IRM process outlined in Action 2.

Policies for Wind Energy Generation and for Agricultural Use on Crown Land have been reviewed as part of this project. A revised Crown Land Leasing Policy has also been developed. Work has begun to identify potential areas for maple sugar production.

## SEEKING ADVICE, SHARING INFORMATION

4. Establish external advisory panels to offer guidance to the Department of Natural Resources.

**Action Plan Timeline:** Start by February, 2012

Natural Resources welcomes input from all Nova Scotians. We have benefited from the experience and advice of the Minister's external Steering Panel, and the Panels of Expertise in Phase 2 of the natural resources strategy development process. Advisory panels and multi-stakeholder committees will be established, as appropriate, to provide input and advice as we implement the strategy.

For example, the Mi'kmaq of Nova Scotia – Nova Scotia Protected Areas Technical Advisory Group has been established to help advance Mi'kmaw and Provincial goals with respect to protected areas planning and management. This Advisory Group provides advice, information, and recommendations to the Assembly of Nova Scotia Mi'kmaq Chiefs and the Province respecting selection, acquisition, designation, management, and use of protected areas in Nova Scotia.

Another example is the joint committee with the Department of Natural Resources and the Nova Scotia Federation of Hunters and Anglers. This committee was recently formed to improve communication on issues surrounding harvested wildlife. It will meet regularly to share information, promote initiatives, and address questions and issues involving wildlife, hunting and trapping, and wildlife habitat.

5. Improve the way key information about natural resources is organized and shared.

**Action Plan Timeline:** Start by August, 2012; ongoing

Tangible capital asset funding of \$4 million over five years (starting in 2011-12) has been allocated to develop a Provincial Land and Resource Management technology solution. The department is working in consultation with other provincial departments to design a system that will improve the way information on Nova Scotia's land and resources is shared across government. This information system will pinpoint where particular resources are located on provincial lands and streamline land resource transactions within the department.

A Mineral and Petroleum Rights Registry System, part of the Provincial Land and Resource Management initiative, will improve existing business processes. A technology solution provider is working with the department to develop and deploy this new system. It will improve decision-making through access to online, map-based land right acquisition and maintenance from anywhere in the world. It will also enable on-line payment transactions. The implementation of this system is planned for the spring of 2013.

## KEEPING TRACK

6. Report on the state of Nova Scotia's natural resources (State of Biodiversity, State of Forests).

**Action Plan Timeline:** Reports due February, 2013

Plans are underway to define the scope and direction for reports on the state of biodiversity and the state of forests in Nova Scotia, to be released in 2013. The state of biodiversity report will take a holistic approach and increase the understanding of biodiversity in our province. It will set the groundwork for future monitoring of ecosystems, and the sustainable management of our natural resources. The state of forests report will build on the existing knowledge base of forests in Nova Scotia.

7. Report on the strategy implementation progress, including that of the Forest Policy Framework.

**Action Plan Timeline:** 24-month Progress Report due August, 2013

This interim report provides an update on the first 12 months, as we implement the 24-month action plan. Progress will also be communicated through a variety of ways such as updates to the Natural Resources website, project reports, conferences, news releases, school visits, and training sessions.

A comprehensive 24-month progress report on the action plan will be released in August, 2013,

## FORESTS

The forestry industry is transforming on a global scale. Nova Scotia has recently been hit hard with the closure of NewPage Port Hawkesbury and Bowater Mersey pulp and paper mills. Delays have occurred in the delivery of some of the forest actions in the strategy as government works with the difficulties the pulp and paper industry is facing. The Department of Natural Resources has played an instrumental role in providing the expertise needed to make informed decisions about the future of this sector. The strategy has provided strategic direction for the often complex negotiations between the province and potential players. Forest actions in the strategy remain a priority. New resources have been allocated for ecosystem-based forest management, including funding for private woodlot management and new staff within the department.

8. Focus education and outreach programs on shared stewardship to support the changes in forest policy and practices.

**Action Plan Timeline:** Start by February, 2011; ongoing

Woodlot owners can have a significant role in the future of sustainable forestry in Nova Scotia. In 2011-12, the department provided more than \$800,000 to woodlot affiliated associations and other organizations to continue engaging small private woodlot owners and forest service providers in sustainable forest management. The department provides support to associations for increasing private woodlot enrollment in programs such as Forest Stewardship Council certification and outreach initiatives.

Agreements have been undertaken with the Nova Scotia Landowners' and Forest Fibre Producers' Association, the Nova Scotia Federation of Woodland Owners, the Woodlot Owners' and Operators' Association, the Mersey Tobetic Research Institute, the Nova Forest Alliance, and with individual woodlot owners, contractors, and consultants. These agreements involve training, certification, and silviculture. In 2011-12 the department provided more than \$3.2 million for these agreements and more than \$3.2 million will be provided in 2012-13.

Examples of initiatives include: the development of woodlot teaching manuals and home study modules; regional forestry workshops, conferences and field days; family woodlot and forest resource guides; enhancements to the home study woodlot management website; forest service provider reference databases; woodland trail development; woodlot walks and interpretation sessions with landowners; and Forest Ecosystem Classification training sessions (train the trainer).

The department supports the Network of Stewardship Woodlots, a website that promotes sustainable woodlot management practices across the province. Woodlot owners voluntarily provide information about their woodlots, including tree species, treatments, equipment, and practices in place. Participants can learn from each other, and improve woodlot management practices across the province.

9. Reduce clearcutting to 50 per cent of all harvests.

**Action Plan Timeline:** Start by February, 2011; target - 2016

A Policy Framework for the Future of Nova Scotia's Forestry, released in December 2010, set a target to reduce clearcutting to no more than 50 per cent of all harvests. The government of Nova Scotia plans to reach this target by 2016.

A clear, commonly understood, and scientifically defensible definition of the term "clearcut" is an essential first step to track progress reaching this target. The implementation of some forest actions in the strategy, such as improving harvest-tracking and assessing an annual allowable cut, also depend on this definition.

#### Definition of a clearcut

An area is considered a clearcut when less than 60 per cent is sufficiently occupied with trees taller than 1.3 metres.

A trial technical clearcut definition was introduced to industry, non-government organizations, forestry contractors and crews, forestry associations, and other interested stakeholders over the past year. Site visits and on-the-ground discussions of sustainable harvesting techniques and practices have helped to refine this definition. After extensive consultation, the department has established the technical definition of a clearcut as shown in the text box to the left.



Clearcut



Non-Clearcut: More than 60 per cent occupied to maintain ecological connection

10. Apply the Code of Forest Practice on publicly and privately owned woodlands, beginning with Crown lands.

**Action Plan Timeline:** Start by August, 2011; ongoing

The Code of Forest Practice is the technical rule book for new forestry practices. It includes a set of principles, guidelines, and technical recommendations for the sustainable management of Nova Scotia's forests. The Code is currently being implemented on Crown lands. It will be refined over time to reflect the standards and rules stemming from the work being done on the strategy.

The department is providing training to forestry workers on the application of the Code and forest ecosystem classification, including non-clearcut harvesting techniques, information on vegetation types, soil types, silviculture, and forest eco-sites.

11. Discontinue public funding for herbicide use.

**Action Plan Timeline:** Completed

Prior to the release of the strategy, government stopped funding the use of herbicides. This change is reflected in all forest sustainability agreements.

12. Clarify the use of forest biomass to generate electricity. (target date extended to December, 2012)

Government is taking a cautious approach to the use of biomass. The current cap on the use of forest biomass, 350,000 tonnes, reduced from 500,000 dry tonnes, will be reflected in the Renewable Electricity Regulations when they are amended this fall.

Work is also being done to ensure that the rules for biomass use in the forest industry apply to other biomass users. Draft amendments to the Forest Sustainability Regulations and the Registration and Statistical Returns Regulations to make this clear are undergoing internal government review prior to public consultations this fall. The department also plans to update the Code of Forest Practice to include rules for the use of biomass.

The Department of Natural Resources and the Department of Energy have developed criteria by which fuel procurement plans for biomass COMFIT renewable electricity projects will be evaluated for approval.

13. Encourage the use of forest management plans.

**Action Plan Timeline:** Start by August, 2011; ongoing

While forest management plans are not mandatory on private lands, the department encourages and supports their use as an important part of woodland management. Initiatives described in Action 8 help private woodlot owners develop and implement these plans (e.g., woodlot certification programs).

The department is working with the Nova Scotia Landowners and Forest Fibre Producers' Association to evaluate the efficiency and effectiveness of two approaches to engage landowners with forest management plans. In one approach, extension staff work closely with the landowner at all stages of the process. In the second approach, the landowner is given information on the process and how to get started. The owner is responsible to hire the contractor and determine the areas to be treated.

14. Establish rules for whole-tree harvesting. (target date extended to February 2013)

**Action Plan Timeline:** Start by August, 2011; due by February, 2012

In keeping with government's policy announcement of December 2010 which helped prepare the way for the strategy, the Department of Natural Resources will establish rules that will prohibit the removal of whole trees from the forest site. By consulting with forestry stakeholders, non-governmental organizations and all Nova Scotians we will ensure this happens. Our priority is to maintain woody debris for the soil and biodiversity. Implementation of this action is complex, and it is taking longer than expected but work is ongoing and government remains committed to this action.

15. Evaluate the effects of implementing an annual allowable cut to ensure the sustainability and productivity of Nova Scotia forests.

**Action Plan Timeline:** Start by August, 2011; complete by February, 2013

The department is in the early stages of investigating options to implement an annual allowable cut to ensure the sustainability and productivity of Nova Scotia forests. The work on the process to determine options for an annual allowable cut will continue in 2012 to meet the 18-month timeline set out in the action plan.

16. Implement an ecosystem approach to forest management.

**Action Plan Timeline:** Start by August, 2011; ongoing

**Otter Ponds Forest  
Demonstration Project**

Although this project pre-dates the strategy, it demonstrates many of the approaches included in the strategy. A piece of Crown Land in Halifax County is being used as a demonstration site for a sustainable working woodlot in an Acadian forest. The Otter Ponds Forest is managed through a partnership between industry, non-government organizations and government. It is being used to field-test various silviculture techniques, resource management options and restoration practices. This site will produce timber for processing using best forest management practices, while preserving the important ecosystem of Nova Scotia's uneven-aged forests. The management approach of the Otter Ponds Project will demonstrate ways to protect watershed and wildlife habitats, respect the ecological services of the ecosystem, and enhance the social and cultural value of the Acadian forests.

Progress on this commitment is demonstrated throughout the full suite of forest actions in the action plan. For example, the department is using the challenges associated with the NewPage Port Hawkesbury mill closure to test some strategy directions related to the ecosystem approach to forest management. A series of workshops has been designed and delivered to forest contractors and crews titled Future Directions in Forestry Management. This program provides training on ecosystems, sustainable forest management practices and partial harvesting techniques. More than 120 contractors and employees (machine operators, mechanics, and foremen) have participated in this program. Training on the ecosystem approach will be extended across Nova Scotia. It is anticipated that skills and knowledge gained from this training will be transferred to the job site.

17. Improve harvest tracking and silviculture programs.

**Action Plan Timeline:** Start by February, 2012; complete by February, 2013

A new harvest tracking system will enable government to monitor and report on progress toward the target to reduce clearcutting to no more than 50 per cent of all harvests by 2016 (Action 9). The department worked with a consulting firm to evaluate a number of options to improve the way harvests are tracked in the province. A final report was received in late July, 2012, and is under review. FPInnovations has been hired to install dataloggers on harvest equipment and to provide training on their use.

The department allocated \$4.1 million in 2011-2012 to assist with silviculture treatments for small and large woodlot owners. This funding was administered through the Association for Sustainable Forestry. Assistance was provided for strategic contributions to silviculture on non industrial small and large private woodlots. The funds covered priority treatment categories with particular emphasis on treatments promoting uneven-aged management of forest stands.

Another \$1.7 million has been allocated in 2012-13 for silviculture operations in small, private woodlots. The Nova Scotia Land Owners and Forest Fibre Producers Association and the Federation of Nova Scotia Woodland Owners will coordinate the allocation of about \$750,000 for use in certified forests. About \$950,000 will be provided to support silviculture in eligible, non-certified small private woodlots. Up to 50 per cent of the funding will go to support forest management practices and treatments that are applied to uneven-aged forests.

Government is also providing up to \$1.5 million in silviculture funding for private woodlot owners in southwestern Nova Scotia. The Association for Sustainable Forestry will administer the investment to support forest management practices and treatments applied to uneven-aged forests.

The province is making over \$1 million available to private woodlot owners to build new access roads or maintain and upgrade substandard roads on their woodland. Improved access will help landowners carry out silviculture practices and other aspects of woodland management that meet provincial goals of ecosystem management, improve access to fibre, and make forest fire protection easier.

18. Expand research and knowledge sharing about the management of Nova Scotia forests.

**Action Plan Timeline:** Start by August, 2012; ongoing

Research and knowledge sharing is one of the overarching goals of the natural resources strategy. The department is undertaking an analysis of research capacity and research priorities in the management of natural resources.

The Department of Natural Resources provided support for a Community Forest Forum at Dalhousie University in June, 2012. Defining community forests is a challenge given the variety of models that exist. One clear and consistent theme is that they are managed by the community, using the values of the community, and all the benefits are returned to the community. The concept of community forests is one the department is interested in gaining more expertise over time. Community forests could become viable in Nova Scotia as part of a transformed forestry sector.

# BIODIVERSITY

## Biodiversity Examples

### **goods and services:**

food, pharmaceuticals  
pollination, recreation

### **raw materials:**

air, water, forests  
habitat for wildlife

Nova Scotia's natural resources strategy is rooted in the recognition that healthy biodiversity is a foundational natural resource. Biodiversity provides many goods and services we take for granted, as well as the raw materials for our resource industries. We must understand, value, and manage these natural assets sustainably.

19. Support biodiversity protection and ecological connectivity between landscapes.

**Action Plan Timeline:** Start by August, 2012; ongoing

## Integrated Moose Management

The Department of Natural Resources is working closely with Mi'kmaq representatives, Office of Aboriginal Affairs, Nova Scotia Environment and the federal government to develop an integrated moose management plan for Cape Breton Island. This plan recognizes that the moose in Cape Breton and the eco-system that sustains the population are a shared resource and must be managed sustainably.

The department is working to ensure new wind energy developments account for biodiversity in their planning and implementation, including cumulative effects assessment and landscape planning. For example, as recent wind energy projects progressed through the COMFIT and environmental assessment processes, department biologists held numerous meetings with proponents and conducted detailed project reviews to ensure that biodiversity values such as migratory birds, bats and mainland moose, were accounted for in the planning process. This work was critical to the design of measures to avoid, monitor and mitigate potential adverse effects to wild species.

In partnership with Department of Agriculture and the Federation of Agriculture, discussions are underway to examine methods for farmers to prevent and deal with conflicts between agriculture and wildlife. The focus is on prevention, and using innovative methods to control the problem so that impacts to crops, livestock, and wild species can be minimized. This complements the Department of Natural Resources's ongoing work to help farmers protect and enhance biodiversity on the agricultural landscape.

The department plays a leadership role in the Eastern Habitat Joint Venture, a collaboration of the six eastern Canadian provinces, Environment Canada, and non-government organizations. The mandate of this organization is to protect waterfowl habitat and wetlands. The Department of Natural Resources is working to broaden this mandate to include all bird habitats. This change will increase efforts to conserve a greater variety of bird species and their habitats across landscapes.

20. Expand the recovery of populations of species at risk.

**Action Plan Timeline:** Start by August, 2012; ongoing

The natural resources strategy identifies species at risk as an area that needs more attention. As an early step in this direction, the department has increased the effort Conservation Officers spend on enforcement activities related to species at risk by 38 per cent over last year. This means officers will devote more time to ensure compliance of the Endangered Species Act.

The Department of Natural Resources demonstrated leadership in the protection of three bat species threatened by the progression of a new disease, White Nose Syndrome. In response to recommendations from Nova Scotia, the Committee on the Status of Endangered Wildlife in Canada initiated an emergency assessment of three species of bats. They determined that the disease poses a serious and imminent threat to the survival of these populations and concluded the species are "endangered". This assessment is a necessary step towards legal protection of these species and the implementation of further research and recovery efforts. The department, in collaboration with other jurisdictions, wildlife health professionals, and academics, continues to support ongoing research and monitoring of this disease as it spreads.

21. Take stock of the biodiversity in Nova Scotia and use this information to allocate resources.

**Action Plan Timeline:** Start by August, 2012; ongoing

The Department of Natural Resources has recently completed a distribution analysis for the endangered mainland moose using sighting records and results of the Deer and Moose Pellet Group Inventory for the period 1999 - 2011. This information is used in conjunction with the provincial ecological land classification to define mainland moose concentration areas and update special management practices. Resource use planning and operations will be conducted in these areas to minimize impacts to this endangered species and aid in its recovery.

The Department of Natural Resources has led several opportunities to acquire large additions to the province's Crown Land base. The department contributes research and advice to inform decisions as government considers land purchases. In collaboration with Nova Scotia Environment, the department provides information on the biodiversity values of lands under consideration for protection, helping to ensure that lands purchased for this purpose consider the protection of species-at-risk, important ecosystems, and the connectivity between habitats.

The Department of Natural Resources is collaborating with Acadia University and the Habitat Conservation Fund to help ensure that the most up to date and effective methods and models for deer population monitoring and management are used. The department routinely conducts surveys and collects data to monitor this species. Results from this collaboration will help optimize resources, and improve monitoring results.

## GEOLOGICAL RESOURCES

The earth's geology provides the foundation for our natural environment, and the minerals and hydrocarbons that form the basis of our built environment. Geological processes create the varied landscapes and habitats that support biodiversity. These same processes are responsible for hazards such as landslides, earthquakes and coastal erosion.

22. Increase awareness, particularly among young Nova Scotians, of the vital importance of earth sciences and geological resources.

**Action Plan Timeline:** Start by February, 2012; ongoing

### Coal Age Galapagos: The Joggins Fossil Cliffs

The province has published a book on the Joggins Fossil Cliffs in Cumberland County, a UNESCO Heritage Site. This book tells the story of one of the world's most outstanding examples of the coal age, some 300 million years ago. It is written for the general public and highlights the unique geological heritage, history and people who have made Joggins worthy of world attention. Revenue from the book sales will help generate funds for the Joggins Fossil Centre. It is also a very important tool for promoting the site for tourism.

There is significant potential for new gold mines to be opened in Nova Scotia. Natural Resources, in partnership with Communities, Culture and Heritage, is developing a traveling exhibit and online virtual display on the importance of gold to society and the history of gold exploration and mining in Nova Scotia. The display will include information on modern gold mining methods.

Geological education kits were distributed to 300 grade four classrooms across Nova Scotia. As well, the Department of Natural Resources website is undergoing a redesign to make it easier to access geological information, and learn about the geology and geological resources in Nova Scotia.

23. Help prospectors attract investment for mineral exploration and development.

**Action Plan Timeline:** Start by February, 2012; ongoing

The mineral industry in Nova Scotia has the highest paying jobs in the natural resources sector. Based on a report in 2006, the industry provided over 3000 direct jobs and contributed \$488 million to the provincial GDP. There is substantial potential for growth in the industry as new discoveries are made and brought into production.

A new Mineral Incentive Program, announced in July 2012, will make Nova Scotia more competitive with neighbouring provinces in attracting new mineral exploration investment and help bring new projects closer to development. The program will fund exploration activities and provide training and business development to support industry.

Grants of up to \$100,000 are available for advanced exploration projects, with program funding to be matched by the company or prospector. Grants of up to \$15,000 are available to eligible prospectors for preliminary mineral exploration activities. This year \$700,000 has been budgeted for the program. Prospectors will also be eligible for funding to support introductory and continuing training on exploration techniques, safety, regulations and business development.

The Department of Natural Resources also helps prospectors evaluate and promote their properties. Twelve prospectors received financial assistance to attend the Prospectors and Developers Association of Canada meeting in Toronto in March 2012. This annual event is an opportunity to meet with companies from around the world and promote investment in Nova Scotia properties.

24. Expand groundwater mapping to (a) identify water resource potential and associated risks and (b) provide advice and direction for future development and land-use decisions.

**Action Plan Timeline:** Start by February, 2012; ongoing

Nova Scotia's water resource management strategy adopts an integrated approach to manage the province's water resources wisely. As part of this approach, the Department of Natural Resources is working closely with Nova Scotia Environment to evaluate the quality and quantity of our groundwater resources. Over the last year the department has spent considerable effort to organize, maintain and make available provincial groundwater information. This has included providing an online spatial database and a groundwater map service. In addition the department has undertaken applied research on priority groundwater issues and provided support for external researchers and consultants.

25. Use geological resources information to improve provincial and municipal land-use planning.

**Action Plan Timeline:** Start by February, 2012; ongoing

A report outlining the distribution of acidic rocks in Halifax Regional Municipality has been released. This report will help inform land-use decisions, as development in areas with acidic rocks poses environmental and human health risks that must be mitigated.

Detailed surficial geology maps have recently been published for the urban areas of Halifax Regional Municipality. These maps are a valuable tool to assist with many aspects of land-use planning including infrastructure construction and identification of potential new sources of groundwater.

The department will release a radon distribution map this fall that outlines areas in Nova Scotia that may have levels of radon gas higher than normal. Radon is a naturally occurring, odourless gas found in some rocks and soils in NS. It has the potential to accumulate in poorly ventilated buildings to levels that pose significant health risks, including cancer. By taking easy and inexpensive actions such as increasing building ventilation, these risks can be avoided. This map will be useful to home and building owners, land-use decision makers and governments. It will provide the science to encourage proactive measures to address the potential health risks in high radon areas in the province.

The department maintains a database of over 7,000 abandoned mine openings that can be searched on-line at <http://gis3.natr.gov.ns.ca/amosearch>. The database contains information about the opening including a link to a summary report with information on the hazard potential.

26. Engage Nova Scotians in project planning and decision making about mineral resource development that affects their communities.

**Action Plan Timeline:** Start by August, 2012; ongoing

Mi'kmaq and community consultation form the foundation of socially responsible mineral exploration and development. The department continues to work closely with the Mi'kmaq to improve engagement with industry on the risks and opportunities associated with mineral exploration and development. The department has worked with the Sierra Club Atlantic and the Ecology Action Centre to develop draft guidelines for community consultation for mineral exploration. Input on these guidelines will now be sought from communities and the mineral industry.

27. Identify the best ways to reclaim land after mining.

**Action Plan Timeline:** Start by August, 2012; ongoing

The Department of Natural Resources is working with researchers and Pioneer Coal Company on the Surface Coal Mine Reclamation Enhancement Project. This project is investigating best practices for the re-vegetation of surface coal mine sites.

The department is also working to remediate abandoned mine openings on Crown Lands. In 2012-13, \$30,000 has been allocated to clear, excavate and backfill an extensive area of old coal shafts and pits in the Joggins area of the province. About 20 abandoned mine openings and more than 100 pits will be remediated this fiscal year.

28. Warn communities that are at risk from rising sea levels, coastal erosion, and flooding.

**Action Plan Timeline:** Start by February, 2013; ongoing

The Department of Natural Resources is investigating the risks posed by coastal flooding and erosion in some provincial parks across Nova Scotia. This work will help identify the adaptation measures required to protect valuable park infrastructure. An assessment of erosion at Dominion Beach Provincial Park, Cape Breton Island, was recently completed. A workshop was held in Oxford on best practices for building armoring/rock walls to prevent coastal erosion. Forty people attended, including contractors and government staff.

The department participated in the Atlantic Climate Adaptation Solutions Association's Atlantic Regional Adaptation Collaborative program. This was an important opportunity to build partnerships and working relationships with government and non-government agencies that deal with coastal science and climate change.

The Department of Natural Resources worked on coastal hazard mapping and analysis projects in collaboration with the Maritime Provinces Spatial Analysis Research Centre at Saint Mary's University and the Applied Geomatics Research Group at the College of Geographic Sciences. These coastal hazard mapping projects focused on three study areas: Yarmouth, Lunenburg and Oxford. The department is producing six surficial and coastal materials maps for these areas. The department also worked with Saint Mary's University and the Applied Geomatics Research Group to create, edit and publish 22 shore zone characterization maps and 52 maps of coastal flood risk from sea-level rise and storm surge. These maps covered the three study areas and two additional study areas in Amherst and Minas Basin.

## PROVINCIAL PARKS

The Nova Scotia provincial park system consists of nearly 300 properties, including 20 camping parks and 122 day use parks, many with coastal access. Other properties are held in reserve. Natural Resources is working closely with Nova Scotia Environment to reach the provincial goal of having 12 per cent of Nova Scotia land set aside as some form of protected area, as mandated in the Environmental Goals and Sustainable Prosperity Act. The current approach is to develop a sustainable parks plan that will be integrated into a provincial parks and protected areas plan.

29. Involve Nova Scotians in setting priorities for a sustainable provincial park system.

**Action Plan Timeline:** Start by February, 2012; ongoing

30. Collect information from Nova Scotians and visitors about our park system.

**Action Plan Timeline:** Start by August, 2012; complete by August, 2013

31. Inform Nova Scotians about the importance of our parks.

**Action Plan Timeline:** Start by August, 2012; ongoing

The department is leading an evaluation of the current provincial park system. A province-wide public consultation process began this spring to provide people with an opportunity to express what they value most about provincial parks and how they should be managed in the future. A series of community meetings were held across the province in June 2012. Sessions in French were also conducted via video conference in five French-speaking areas. An on-line survey is available on the department's website until the end of August, 2012. Telephone surveys and park based user interviews have been completed.

Information from this consultation will be made public. A report on the facilitated sessions will be released by the end of August and the public opinion survey results will be available in October, 2012.

The department launched a new website in May, 2012, as part of engagement activities to design a sustainable provincial park system. This site informs the public about provincial parks, includes park profiles and value statements, visitation statistics, operating costs, recreational activities (existing and potential), protection values, and historical and cultural features.

This process will inform and engage Nova Scotians in setting priorities for a sustainable parks system as part of draft park and protected areas system plan, scheduled for release and public review in the winter of 2013. A final plan will be released later in 2013.

32. Take stock of all the cultural and heritage resources within Nova Scotia's provincial parks.

**Action Plan Timeline:** Start by February, 2013; ongoing

Nova Scotia's provincial park system has an important role to play in educating and engaging the public in understanding our natural and cultural heritage. For example, *Story Circles: A Mi'kmaq Programming Plan* was released in the fall of 2011. This interpretive plan shows how Nova Scotia's provincial parks could be used to increase awareness and understanding of Mi'kmaq heritage and culture.

The Department of Natural Resources continues to work with the Mi'kmaq on how best to move this plan forward. Archeological assessments are conducted to evaluate areas for cultural and heritage sensitivity. Information collected through this process is used to inform development plans for individual parks. It will also be used as part of the inventory of cultural and heritage resources in subsequent years.

## NEXT STEPS

We have already made progress on many of the actions in the action plan. In twelve months we will, once again, look back and take stock of our progress. We expect that *The Path We Share* will be a winding one, and we are prepared to make needed corrections along the way.

Some changes are difficult to track but will be noticeable over time. The department is applying the public values identified by Nova Scotians in Phase 1 of the strategy development process. These values are sustainability, transparency, diversity, collaboration, and informed decision making. By using these values to guide our decisions, we will move closer to our vision for a sustainable and prosperous future for Nova Scotia.