

The Path We Share

A Natural Resources
Strategy for Nova Scotia
2011-2020
Five-year Progress Report

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Message from the Minister

Much has changed in the world since the release in 2011 of *The Path We Share, A Natural Resources Strategy for Nova Scotia, 2011-2020*. And much has changed in the way we embrace this province's rich natural resources.

When the 10-year plan was introduced, it was clear that the status quo was not an option. And so, we have spent the past five years working toward the kind of change that Nova Scotians told us they valued: change that moves us closer to the overarching goals of collaborative leadership, sustainable resource development, research and knowledge sharing, and good governance.

We remain committed to continuing to improve the way we manage our biodiversity, forests, geological resources and parks. And we remain committed to ongoing efforts to balance economic, environmental, and social benefits for current and future generations.

We are developing new ways of working within the Department of Natural Resources. We are encouraging an even stronger culture of shared stewardship with stakeholders and Nova Scotians.

We have made great progress. We also know that this is a 10-year strategy, and we are only marking a half-way point.

This Five-year Progress Report is an opportunity to celebrate our successes, and to outline some of the challenges that lie ahead.

We still have work to do. This is an ongoing process; we will continue to adapt and improve as we go.



The Honourable Lloyd Hines
Minister of Natural Resources

Executive Summary

Over the past five years, the Department of Natural Resources has done considerable work in our efforts to move toward the vision outlined in *The Path We Share: A Natural Resources Strategy for Nova Scotia 2011–2020*.

Much of that work has been internal. We have created new divisions, moved responsibilities to other departments to create efficiencies, and developed frameworks for action and policy development.

We have built partnerships and strengthened working relations across government and with other interested parties, non-governmental organizations, and the Mi'kmaq. This work has resulted in many innovative new initiatives, such as Atlantic Canada's first community forest.

We are staying true to our commitment to be transparent by sharing natural resources data on publicly accessible websites—a move that has already inspired local entrepreneurs to develop a new web tool to assist private landowners.

Other major achievements include

- establishing a Forest Biodiversity Science Advisory Committee
- implementing a guiding Code of Forest Practice that is mandatory on all Crown lands and takes an ecosystem approach to planning on a landscape scale
- introducing our new Mineral Resources Act (2016), which reduces red tape, streamlines processes, and also helps ensure the sustainability of our land
- launching *Our Parks and Protected Areas* plan in 2013, which secures and strengthens our park system

Along with these successes, we have had some challenges. In November 2015, the Nova Scotia Auditor General concluded that we needed to improve the way we were monitoring the implementation of our long-term strategic plans for forests, and in June 2016, we were cited for not meeting all of our legislated obligations for the conservation and recovery of species at risk. We have accepted all of the Auditor General's recommendations and are acting on them.

In 2011, we committed to meeting 23 goals to fully implement the strategy, and we broke those goals down into 91 actions. This report highlights our progress to date on all goals and actions.

A New Approach to Natural Resources Management

Change of the calibre we described in *The Path We Share, A Natural Resources Strategy for Nova Scotia 2011–2020* starts on the inside, with our internal structures and processes. Even our mindsets.

That's why, before we talk about the changes we've made to the way we manage our biodiversity, forests, minerals, and parks, we must first talk about the way we are changing the department. And major changes have been made.

We have created new divisions, moved responsibilities to other departments to create efficiencies, and developed frameworks for action and policy development.

We have ensured that the values of sustainability, transparency, diversity, collaboration, and informed decision making have guided our every move.

We have built public participation and community engagement into our processes and have developed innovative ways to share our information and allow others to use it.

We've had major successes in the past five years. They include receiving three Premier's Awards of Excellence for work tied to the strategy:

- In 2013, the Mills team earned the award for developing and executing a plan to protect jobs, sustain the forest industry, and set the groundwork to transform the sector. This team pioneered a new approach to respond to crises and to support communities and industry in trouble.
- In 2014, The Parks and Protected Areas Plan team, made up of staff from both Natural Resources and Environment, earned the award for their plan for a sustainable parks and protected areas system.
- In 2016, members of the Integrated Resource Management team earned the award for modernizing the province's approach to the approval of forestry harvesting on Crown lands in the western region of the province.

Throughout all our efforts, we have worked hard to speak to the natural resources vision outlined in the strategy, which is a sustainable and prosperous future for Nova Scotia.

Details of actions associated with the four goals we set in the 2011 strategy for taking a new approach to natural resource management can be found in Appendix 1.

GOAL 1:

COLLABORATIVE LEADERSHIP

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

The natural resources strategy calls for a complete change in the way we think about, understand, and manage our natural resources for the benefit of Nova Scotians—change that recognizes that what happens in one area or sector of the province can have social, economic, and environmental repercussions in others.

We must come out of our silos—whether geographic, academic, or interest-specific—and work together.

This requires more than a change in mindset; it requires a whole new defined set of processes.

Many of the changes we have made over the past five years may have appeared invisible to the public; but make no mistake, big changes have been taking place as we renovated and remodelled our processes and practices to ensure we are collaborating more within our department, with other departments, and with other stakeholders, including the public.

We've adopted new processes and tools to improve our programs and services. We now have a consistent and efficient risk management system, our workforce strategy has been updated to ensure that new and diverse talent and experience will continually flow

into the department, and we are working with those affected by change to help them understand the reasons and learn ways to thrive in a new natural resource environment.

The Auditor General's report in November 2015 applauded the fact that we consulted Nova Scotians and various industry experts in the development of the long-term strategy. We are continuing by building teams for the new integrated approach that encourages improved collaboration among subject area experts and that helps ensure that all values are considered before changes are implemented. We are also collaborating with the departments of Agriculture, Energy, Environment, and Fisheries and Aquaculture to develop a consistent tool that will allow for deeper public participation and engagement in our decision-making processes.

We are finding innovative and different ways to approach forest management and to include other special interest groups. Examples include the Medway Community Forest Cooperative Ltd pilot project, the Cape Breton Privateland Partnership, a Forest Operating Agreement with the Mi'kmaq of Nova Scotia, and a new way of allocating fibre on western Crown lands that, for the first time ever, changes the allowable harvest from a set volume to a percentage of sustainable harvest.

We have had successes and challenges along the way and are being transparent about them. Some, such as the Auditor General's June 2016 findings about our work with species at risk, have shown we need improvement. But others have been quite positive: when environmental groups contended that land near Lake Panuke designated as environmentally sensitive was improperly harvested under government approval, an independent audit found that was not the case. Still, the department used it as an opportunity to improve transparency. We established a process that indicates where harvesting will take place and what method will be used, and allows the public to comment.

GOAL 2: 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.

Balancing the economic, environmental, and social benefits of our natural resources is not as simple as assigning each of them equal importance. There will be many times when they are in conflict with each other, and in those times we will need to ensure that when we promote one value we do not seriously undermine other important values. Determining the best balance of priorities and desired outcomes will be an ongoing part of our commitment to sustainability.

We have been putting processes in place to help us evaluate which value should lead when we make management decisions. We have done significant work to advance the Provincial Land and Resource Management initiative (PLARM), which links land and natural resource-related data needed for decision making. This is a foundational piece for the development of a long-term land and resource management framework.

We are also developing a Crown Land Forest Resource Management Policy that will reflect our knowledge-based approach to landscape-scale planning using ecosystem-based management. This approach looks at a site in relation to the larger landscape, from the watershed up to and including the entire province, and considers wildlife species, genetic resources, habitats, ecosystems, and ecological processes.

One example of the new approach in action is our Mineral Resources Act (2016), which strives to ensure a balance between economic development and protecting the land. It simultaneously supports business—by providing longer licences and extending the time industry can work—and requires companies to implement engagement plans, work with landowners, and complete reclamation plans to return the land to a desired, usable state. In this way, both values are balanced—just not at the same time.

And while we are reducing red tape for business and encouraging Nova Scotians to prosper from using our natural mineral resources, we are also providing greater opportunities for all of us to enjoy the sanctuary of unspoiled, undeveloped land. *Our Parks and Protected Areas* plan will potentially add 220 properties and more than 249 000 hectares to the system—protecting 13 per cent of our province’s land and surpassing our initial goal of protecting 12 per cent.

A number of stakeholders have said that this makes Nova Scotia a leader in Canada for the protection of wilderness.

GOAL 3: 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.

In the 2011 strategy, we committed to developing and implementing a science and research plan to guide the allocation of resources for research. While we have not created that plan, we do share the science we use and the measures we set in our annual business planning process, which can be seen here: novascotia.ca/government/accountability/2016-2017/2016-2017-Natural-Resources-Business-Plan.pdf.

We further committed to establishing an external advisory panel to share research and data practices and to encourage cross-disciplinary analysis that connects social, scientific, community, and traditional Mi'kmaq knowledge. Since then, however, we have found that a single formal advisory panel did not meet the wide range of inputs and guidance needed for our work. Instead, we will look for opportunities to create and use specific advisory panels, such as the Forest Biodiversity Science Advisory Committee, to help us address complex issues. We are also strengthening our commitment by using public engagement as part of our decision-making process.

The Nova Scotia Government Open Data Portal (data.novascotia.ca) was also launched, giving all Nova Scotians free, easy access to a wealth of government data, including data from the Department of Natural Resources.

Having publicly available data does more than provide transparency for our decision making; it can lead to new business opportunities for Nova Scotian businesses. For example, WoodsCamp Technologies is a web tool that helps woodlot owners, who may not be able or interested in managing their own land, and timber trade members, who may be looking for more land to manage, find each other. The app, developed by a pair of Nova Scotian entrepreneurs, uses the province's forest inventory, which is open data.

Other examples of how we're sharing information include the Nova Scotia Registry of Claims (NovaROC), launched in 2013, which provides current mineral tenure information accessible to any stakeholder, and our online harvest plans map viewer, which allows the public to view and comment on any harvest plans on Crown lands.

GOAL 4: GOOD GOVERNANCE

Ensure that laws and policies are clear and effective.

All Nova Scotians benefit in some way from our natural resources. Therefore, legislation that governs natural resource use must be developed in collaboration with all stakeholders.

We have developed a legislation review plan that includes participation from a diversity of stakeholders, including the public, and ensures robust policy development that supports the needs of natural resources.

In 2015–16, we took that new, collaborative approach to reviewing and updating legislation and put it to work for the Mineral Resources Act. As part of the review, the Mi'kmaq were consulted, and industry representatives, associations, environmental non-governmental organizations and the public were invited to present their recommendations and opinions on how the act should be changed.

The result is a modern, competitive act that aims to stimulate the economy while protecting the environment.

We are currently also working with broad-based input from targeted stakeholders to develop a new Crown Land Forest Resource Management Policy that will reflect our knowledge-based, scientific approach to ecosystem-based planning at the landscape level.

Government is also working with other provinces to review and develop new legislation to eliminate barriers and help enhance economic opportunities. In March 2015, the Joint Office of Regulatory Affairs and Service Effectiveness was created between Nova Scotia and New Brunswick to accomplish this goal. Prince Edward Island joined in November that year, making it a true Maritimes-wide effort.

And we are ensuring that enforcement of these policies is consistent, unified, and coordinated. In July 2015, our enforcement officers moved to Nova Scotia Environment to create a new division that holds responsibility for compliance across several departments.



Biodiversity

Biodiversity

In June 2016, the Nova Scotia Auditor General issued a report on government's record of delivering on legislated responsibilities under the Endangered Species Act. The auditor concluded that while the Department of Natural Resources had shown some success in achieving our biodiversity goals, and had worked well with external parties to monitor species at risk, we had not met all of our legislated obligations for the conservation and recovery of species at risk.

Specifically, it was recommended that we make species at risk a greater priority. The report said that we were not fully managing conservation and recovery of species at risk, and that we were not carrying out planning and completing species recovery activities satisfactorily.

We accept the recommendations included in the auditor's report and are working to improve our efforts.

Details of actions associated with the four goals we set in the 2011 strategy for biodiversity can be found in Appendix 2.

GOAL 5: **GOOD GOVERNANCE**

Establish clear and effective leadership and governance related to biodiversity in Nova Scotia.

Biodiversity cuts across all areas of our natural resources—and many other areas of government—and therefore must be considered when we speak of forests, geological resources, parks, water, plants and animals, climate change, and more.

One of the challenges we face in Nova Scotia is the fact that the majority of our province's land is privately owned, and landowners want to have as much control as possible so they can manage their land for a variety of values. Through our work, we are demonstrating to them how to use available science and knowledge for the most sustainable options for land use management.

To that end, the Forest Biodiversity Science Advisory Committee will provide advice on how best to implement ecosystem-based planning at the landscape level on Crown lands.

Special management practices for several species are being updated, and new ones designed.

GOAL 6: RESEARCH AND KNOWLEDGE SHARING

Increase and share knowledge about biodiversity to help governments and interested groups make informed decisions and take responsible action.

In the 2011 strategy, we committed to collecting information on biodiversity and building readily accessible databases on the province's species, habitats, communities, and ecosystems.

Since then, we have been finding new ways and building new tools to share that information. They include

- a biodiversity web page for wild species, species at risk, ecosystem, habitats, and more (novascotia.ca/natr/biodiversity)
- the Biodiversity Landowner's Guide (BioLOG, euro.cs.dal.ca/biolog/), which was co-funded by Ducks Unlimited and co-created with Dalhousie University and the Nova Scotia Federation of Agriculture, and which provides farmers and landowners with information, resources, and guidance
- updates to an inventory of significant wildlife habitat in Nova Scotia (novascotia.ca/natr/wildlife/habitats/hab-data)

We are also currently nearing completion of a forest biodiversity stewardship guide.

We have been building new collaborative partnerships and improving upon existing ones within the department, across governments, and with interested groups to find ways to share information and make it more accessible. For example, we have increased our support for the Atlantic Canada Conservation Data Centre, which works with us to collect and provide important biodiversity data for decision making and planning by government and others (www.accdc.com). As well, our biologists have been working more closely with our foresters to share varying scientific perspectives, and also with farmers to share best practices on topics such as protection of waterfowl habitat. We also worked with the Applied Geomatics Research group on a landscape modelling framework, and we worked collaboratively with Acadia University on forest and marine coastal wildlife species and their habitats.

What we have not done is complete and release a State of Biodiversity report. We committed to this report in the 2011 strategy, and again in the 24-month progress report. Work is well underway on the report, but other actions continually took priority. We will continue our work on this action.

GOAL 7: ECOSYSTEM APPROACH

Work together to maintain and restore healthy wildlife populations, ecosystems, and ecosystem processes.

We have accepted all of the Auditor General's recommendations outlined in the June 2016 report related to the protection and recovery of species at risk and to long-term planning.

To improve our efforts in this area, we are developing a comprehensive, multi-year work plan that will be released in October 2016. This plan will take a risk-based management approach to prioritize the most critical tasks related to the establishment of recovery teams and recovery and monitoring plans; and it will include a process to formally track and respond to recommendations from recovery teams.

The Auditor General's report identified that we are working well with external parties to monitor species at risk and are having some success in achieving our biodiversity goals.

Some highlights of this work include co-leading *Our Parks and Protected Areas* plan with Nova Scotia Environment—a plan that received praise from stakeholders and environmental non-governmental organizations—and improving efforts to support the recovery of populations of species at risk (for example, partnering with the Mersey Tobeatic Research Institute to develop tools for the public to report sightings of endangered bats: www.batconservation.ca/).

GOAL 8: EDUCATION AND SHARED STEWARDSHIP

Engage Nova Scotians in understanding, appreciating, and taking care of the province's biodiversity.

To bring the concept of biodiversity to life for Nova Scotians, we have been finding ways that will engender curiosity, interest, and a lifelong love of nature.

We've been inviting families to reconnect with the wonders of the outdoors through Open Forest Day and our Kids in the Forest program. We opened the doors of our own department in June 2013 and shared information about our stewardship work with more than 6,000 people over a three-day period.

Families already love the Shubenacadie Provincial Wildlife Park, and we are enhancing that experience for them through a partnership with Ducks Unlimited that will develop a new plan for education and interpretation at the park, as well as improvements to the Greenwing Legacy Centre.

Government may play a vital role in protecting the province's biodiversity, but this is a responsibility that can and must be shared by all Nova Scotians.



Forests

Forests

In the past five years, the department has transformed our approach to how we manage forests.

We are now moving toward an ecosystem-based approach to planning on a landscape scale and have formalized and implemented a guiding *Code of Forest Practice*, which is mandatory on all Crown lands.

We are supporting innovative initiatives, such as

- the Medway Community Forest Cooperative, the first of its kind in Eastern Canada
- the Cape Breton Privateland Partnership, which brings together landowners and forest-management contractors to develop and share best practices—a partnership model we are actively working to adopt in other regions to support landowners across the province
- the harvest management group, which brings together regional foresters and resource planners to better connect on-the-ground work with planning processes, allowing for greater transparency, collaboration, and accountability

We are responding to the public's right to know about how, when, and why Crown lands are being harvested. We have developed a harvest plans map viewer that makes all the information transparent and accessible; it also allows for public comments, which have already led to changes in some harvest plans.

Our approach to allocation has also been transformed. In the past, allocation was determined by volume, but now we will determine it as a percentage of sustainable harvest. This allows us the flexibility to better balance economic and conservation goals as changing circumstances may require.

The Nova Scotia Auditor General's November 2015 report concluded that while we had done a good job of developing a long-term strategic plan, we needed to do a better job of monitoring its implementation and reporting on that progress.

The report recommended that we

- establish performance measures for how actions are being implemented
- report on the status of all 21 forest-related actions
- complete a comprehensive assessment of the risks associated with harvesting and licensing operations and design monitoring processes to adequately address identified risks

- implement a process to ensure that Crown land silviculture has been completed to the department's requirements

The department agreed with all four of these recommendations, and work is underway to make the changes necessary. For example, the department is already working toward province-wide implementation of the newly developed Forest Operations Inspection and Audit Program. The program will monitor forest-management activities conducted by Crown land licensees.

Details of actions associated with the five goals we set in the 2011 strategy for forestry can be found in Appendix 3.

GOAL 9:

ECOSYSTEM APPROACH

Work together to maintain healthy forests.

Our 2011 strategy recognized the need to take an ecosystem approach to forest management. This means seeing beyond the trees and understanding how the land, water, wildlife, and other living resources come together in a forest to deliver services that benefit us economically, environmentally, and socially.

To this end, the department now requires that Crown lands be assessed for a wide range of details (such as vegetation and soil type, hazards, stand characteristics, and special wildlife features) before any silviculture operation is carried out. This assessment allows us to choose the right treatment for a given stand and avoids a one-size-fits-all system of forest management.

We also officially made the *Code of Forest Practice* mandatory on Crown lands. The code's guidelines are based on the concept of sustainable forest management while also considering the long-term well-being of the forest environment.

The challenge, however, is that Nova Scotia owns less than 35 per cent of the land in this province. Our hope is that by demonstrating the advantages of our approach, we will encourage and inspire private landowners to follow our lead.

Our new approach to forestry allocation is one of the bold, innovative steps we are taking to show the industry a new model that balances economic and conservation values. Now, allocations on western Crown lands are based on a percentage of sustainable harvest rather than fixed volume. As per *Our Parks and Protected Area* plan, no harvesting will take place on protected areas.

We are also providing funding to help others upgrade their skills and build capacity in forest ecosystem classification and in pre-treatment assessments.

Human activity is not the only threat to our forests. We are proactively preparing for a potential spruce budworm outbreak (already being experienced by some of our neighbouring provinces) by forming a collaborative Spruce Budworm Management Team and having an action plan in place.

The State of the Forest Report, which we committed to in the action plan, has not been released yet. However, other information sources, such as Open Data, are available. Work on the State of the Forest Report is in progress now.

GOAL 10: RESEARCH AND KNOWLEDGE- SHARING

Increase knowledge to help governments and other interested groups make better decisions about forest management.

We believe our Code of Forest Practice and ecosystem-based planning at the landscape scale is the right way forward for our province. It will help maintain a sustainable forest industry while protecting the total health of our province's forests and all the benefits they deliver to us.

We are encouraging others to do the same by sharing our successes, challenges, and learnings.

Much of our information can be found on the new Nova Scotia Government Open Data Portal (data.novascotia.ca), which makes it easier for individuals, businesses, and researchers to access information across government.

GOAL 11: SHARED STEWARDSHIP

Involve many in the shared stewardship of Nova Scotia's forests.

It's clear to us that it's not just industry and interested groups that care about Nova Scotia's forests. In recent times, almost 90 per cent of all fires have been reported by members of the public. It's good to know that we can count on the participation of a vigilant public to protect our valuable resource.

It's vital that we continue to incorporate a diversity of backgrounds and points of view in how we can protect and sustainably manage our forests.

One example of that is our work toward a new Forest Operating Agreement with the Mi'kmaq of Nova Scotia, which will give them responsibility for managing certain forests on Crown lands in central and western areas of the province.

Another is the recent Forest Summit. Established by the Nova Scotia Woodlot Owners and Operators Association, the summit brought together environmental groups, private woodlot owners, industry representatives, government, and more to address challenges facing the industry and find innovative solutions for our province's forest sector. The success of this work is in the many partnerships that can be and are being forged for the future.

A direct result of the summit was the Forestry Lab, a unique, collaborative project that seeks to bring leading methods of social entrepreneurship and business innovation together to take on the current challenges. The project aims to end the culture of conflict and bring all interest groups together to focus on the future of the rural economy.

GOAL 12: SUSTAINABLE RESOURCE DEVELOPMENT

Support the sustainable development of the province's forest resources in order to attract investment, create high-value jobs, and grow the economy.

The *Now or Never* report called on Nova Scotians to be bold, innovative, and entrepreneurial in order to grow our economy. It shared the same rallying cry as our natural resources strategy: the status quo is not an option.

Now is the time for us to start thinking of new ways to use our forest resources, and to find new markets.

We are supporting several initiatives that are experimenting with and exploring everything from new products and policies to new production processes to help make our forestry sector stronger and more competitive in the marketplace.

We are working with partners in private industry as well as the federal and provincial governments to develop and expand opportunities in the emerging low-carbon, bio-resource economy. The Forestry Innovation Hub is one such partnership. Its focus is the establishment of a bio-economy-based industrial cluster that will provide the processing

and/or manufacturing capacity to take advantage of the economically available natural resource supply chain in the region. The products produced will have or will create a lower carbon footprint and will target both domestic and export markets. The economic activity generated through this hub will strengthen and grow the resource sector and, by extension, support rural economic development activities and contribute to the province's larger economic and environmental sustainability agendas.

GOAL 13: **GOOD GOVERNANCE**

Provide clear and effective laws and policies to ensure that forestry is economically, environmentally, and socially sustainable.

A great deal of learning, research, and consultation went into the strategy, and have continued since its release. In light of that continuing process, we found it necessary to refine some of our original commitments.

Five years ago, when we first released our strategy, we committed to some actions around clearcutting, whole-tree harvesting, and other forestry practices.

Those commitments were based on our best information and intentions at the time.

But times have changed. We've learned more. We now have a better understanding of what it means to take an ecosystem-based, landscape-scale approach to land management.

In the strategy, for example, we committed to reducing clearcutting to no more than 50 per cent and to revisit the annual allowable cut (AAC). We understand now that the decision to clearcut (or not) has to be made in a larger context. In some areas, clearcutting will not have an impact on the total health of the forest—it may even improve it. In others, clearcutting could have a negative impact.

We have now developed tools that ensure that all harvest treatments are aligned with the nature-based requirements of Nova Scotia's lands.

We will continue to share best practices, such as our Code of Forest Practice, and our ecosystem-based tools, such as mapping technology and pre-treatment assessments, that can help private landowners reach the right decisions about what to do on their lands.

We will continue to provide funding to engage small, private woodlot owners and forest service providers in sustainable forest management, and to fund further forest ecosystem classification training.



Geological Resources

Geological Resources

Geological resources are needed to generate electricity, to construct roads and homes, and to create everything from the simplest tools to the most complex machines. The demand for geological resources provides economic opportunities for Nova Scotia. We currently mine gypsum, salt, and coal, and there is significant potential to develop other resources such as gold, tin, and rare-earth elements.

Developing our province's geological resources must be done responsibly. Toward this end, we are changing how we identify, support, and manage opportunities. We have improved the ability for the public and the mineral industry to access information related to our geological resources. We have provided the mineral industry with clear expectations around the need to engage with communities. We have helped fund promising mineral resource exploration through our Mineral Incentives Program, and we have provided greater regulatory clarity and certainty by introducing a new Mineral Resources Act (2016).

The province's geology provides opportunities, but there are also some risks. Elevated levels of radon in dwellings, arsenic and radionuclides in drinking water, sinkholes, and coastal erosion are all naturally occurring risks associated with geology. To help protect Nova Scotians, we have greatly expanded our research and public outreach related to these risks.

Details of actions associated with the five goals we set in the 2011 strategy relating to geological resources can be found in Appendix 4.

GOAL 14: SUSTAINABLE RESOURCE DEVELOPMENT

Support the sustainable development of the province's geological resources in order to attract investment, create high-value jobs, and grow the economy.

The new Minerals Resources Act (2016) cuts red tape and streamlines many processes, thus improving our competitive position and promoting the fact that we are open for business for mining.

We are further promoting mineral exploration in the province by making research undertaken by government geoscientists, and access to staff expertise, available online at novascotia.ca/natr/meb/maps. And we are continuing to provide the Nova Scotia Mineral Incentive Program (NSMIP) funding to increase and encourage exploration that could lead to new discoveries and new mines. Prospectors and others in the mining sector can now get mineral tenure information and apply for licences online through the Nova Scotia Registry of Claims (NovaROC) website, which was launched in 2013.

We are encouraging the mining industry to embrace our values of transparency and collaboration by ensuring that they engage and consult with stakeholders before any exploration work is done. The new act requires companies to implement engagement plans—a first of its kind in Canada. To help them, we published *Community Consultation: A Guide for Prospectors and Mineral Exploration Companies Working in Nova Scotia* so they can have the benefit of our experience in this area. The guide was produced in consultation with industry and environmental non-governmental organizations.

But, as we have said previously, it's not all about mining. Tourism is one of the fastest-growing economic sectors in the world, and Nova Scotia has plenty to offer the geological enthusiast. In 2012, we published *The Joggins Fossil Cliffs: Coal Age Galapagos* to celebrate the history and heritage of this unique area, and we supported the travelling exhibit *Gold: A Nova Scotia Treasure*, which explores how gold mining had an impact on our history and culture.

We would also like to add another UNESCO feather to our cap and are currently working with the Cumberland Geological Society to develop a global geopark along the Parrsboro shore. "UNESCO Global Geoparks are single, unified geographical areas where sites and landscapes of international geological significance are managed with a holistic concept of protection, education and sustainable development." (unesco.org)

GOAL 15: LIFE-CYCLE PLANNING

Align mineral exploration, mining, and land reclamation practices with leading government and industry standards.

Mines don't operate indefinitely. Eventually a mine will run its course, and the company behind it will have to close the mine and move on. Now, thanks to our new Mineral Resources Act, any companies mining in Nova Scotia will have to develop a reclamation plan before they can even begin. Plans must show exactly how they will return the land to a usable state and must include considerations for biodiversity. These plans must be updated every three years by licensees, lessees, and non-mineral registrants.

Mineral resources may not be renewable, but now Nova Scotia is making sure that mining practices are sustainable.

GOAL 16: RESEARCH AND KNOWLEDGE-SHARING

Provide leadership in the collection and use of earth-science research and knowledge to benefit and protect Nova Scotians.

We are assessing and reporting on the potential for geohazards, such as radon, arsenic in drinking water, sinkholes, and landslides, to protect the health and safety of the public, and we are making the information easily accessible on our website: novascotia.ca/natr/meb/.

We are also sharing information with property owners and municipalities to help them understand how to assess the risk of coastal flooding as a result of climate change so they can be proactive and plan ahead.

From giving presentations to grade 4 classes to publishing *A Pebble Identification Guide for Nova Scotia*, to leading field trips for attendees of gem and mineral shows, we are finding new ways to get out into our communities to share our knowledge face to face with Nova Scotians.

GOAL 17: EDUCATION AND SHARED STEWARDSHIP

Help interested groups become better stewards by strengthening their understanding of Nova Scotia's geology.

Nova Scotia's geological resources offer both opportunity and risk.

Mining can bring jobs and economic prosperity, but without proper planning and monitoring, it can potentially harm the land and its biodiversity.

New construction developments can create homes and facilities, but they may also expose people to radon gas, uranium in groundwater, or the threat of coastal erosion and flooding.

We are engaging with industry, municipal governments, environmental non-governmental organizations, the public, Nova Scotia's Mi'kmaq, and even school children to help everyone better understand these risks and opportunities—and each other's interests and values. Communication, collaboration, and education will help us all build a sense of ownership, responsibility, and pride.

GOAL 18: GOOD GOVERNANCE

Provide clear and effective laws and policies that support sustainable geological resource development.

Our new Mineral Resources Act (2016) is the result of years of work and broad public engagement and consultation.

In creating it, we ensured that it includes the priority values we heard through that process.

Nova Scotia is the first province in Canada to require mining companies to develop and implement engagement plans separate from the environmental assessment process.

The new act also compels companies to get written permission from landowners for all work that would disturb their land.

And it requires them to return to the land to a usable state.



Provincial Parks

Provincial Parks

One of the achievements government is most proud of is *Our Parks and Protected Areas* plan. Launched in 2013, the plan delivers on two important government commitments: to update Nova Scotia's park system to secure and strengthen its long-term success, and to increase the province's legally protected landmass to at least 12 per cent, and build on that to 13 per cent.

Even stakeholders who are traditionally critical of the Department of Natural Resources applauded the plan, calling it a monumental achievement for nature conservation in Nova Scotia. Others said the plan makes Nova Scotia a leader in Canada for the protection of wilderness.

In June 2014, the team behind the plan received the Premier's Award of Excellence in Public Service for their commitment to public engagement and collaboration with community groups, industry, non-governmental organizations, and the public. Thousands of Nova Scotians, including stakeholders, members of the public, and Nova Scotia Mi'kmaq, participated to help identify potential lands for protection, and provided input about what they value in our provincial parks.

Throughout this process it became clear that Nova Scotians are passionate about the province's parks and protected areas, and value their many uses. These places provide

- spaces where nature can thrive
- clean air to breathe and clean water to drink
- places to camp, hunt, hike, and explore
- lakes to canoe, rivers to fish, and beaches to enjoy
- a natural way to respond to climate change
- protection for wildlife
- economic opportunities through tourism and recreation
- a place where our heritage is preserved, including lands traditionally used by the Mi'kmaq
- and more

That's a long list of benefits our parks and protected areas provide, and it's no wonder Nova Scotians keep asking for more, as well as infrastructure upgrades to existing ones. We are, however, limited by finite resources. Our goal throughout the plan is to use what means we have to create a sustainable parks system that will satisfy the needs identified by Nova Scotians.

Details of actions associated with the five goals we set in the 2011 strategy for parks and protected areas can be found in Appendix 5.

GOAL 19: **SHARED STEWARDSHIP**

Challenge Nova Scotians to work together to create a sustainable park system for 2020 and beyond.

The plan benefited from the input of thousands of Nova Scotians who participated in engagement sessions and interviews and gave feedback to initial versions. It's clear from this turnout that Nova Scotians care deeply about our province's parks, but are also at times in conflict about how they should be used and how many there should be. We are especially proud of how Nova Scotians came together to participate and collaborate in park management planning and take ownership of the future of this valuable resource.

One tangible example of how Nova Scotians are ensuring the sustainability of our parks system is their willingness to embrace new systems, such as self-registration. In 2015, seven of our 20 provincial camping parks changed to this new system, which allows campers to register and pay online, or at pay stations in the park. This new process allows us to redirect financial resources to other priorities, and it is aligned with current consumer trends of researching, reserving, and paying for vacations online.

GOAL 20: **FAR-SIGHTED PLANNING**

Work collaboratively to guide the planning, management, and operation of a sustainable provincial park system.

Now that we have a strategy and a plan for our parks system, it's time to operationalize it. This again starts with some internal restructuring to ensure we have the right infrastructure to do what we said we were going to do. It includes forming a new Parks

Operations Committee and combining two previous divisions (Parks and Operations) into one: the Parks, Outreach and Service Delivery Division. One of the outcomes of this new group will be an enhanced priority-setting process for management planning.

GOAL 21: PROTECTION

Make protection of Nova Scotia's natural and cultural heritage a priority of the provincial park system.

Countries around the world are developing a deeper understanding of the importance of preserving and protecting their natural spaces. *Our Parks and Protected Areas* plan has helped Nova Scotia lead the way. We are now protecting over 12 per cent, well ahead of New Brunswick (3 per cent) and Prince Edward Island (2.5 per cent).

GOAL 22: EDUCATION

Deepen public understanding and appreciation of Nova Scotia's natural and cultural heritage.

Many people of a certain age recall blissful childhood moments spent exploring forests and peeking under rocks, observing the creatures that live around ponds, and sitting around a campfire singing songs. Those times built more than memories: they built confidence, friendships, and a sense of curiosity.

This year, we launched two programs to help more of today's children have those same memories and connection with nature.

In May 2016, we piloted the Grade 4s Outdoors program, which provides every grade 4 student in the province with a provincial parks passport and a campsite coupon for two free nights so they can go camping with their family. And with the assistance of Scouts Canada, we reintroduced the Learn2Camp program, which helps new campers learn to set up a campsite, to cook a meal outdoors, and other activities.

We also know that families love the Shubenacadie Provincial Wildlife Park. About 100,000 people visit it every year to learn more about our native animals, and many more tune in to the reindeer cam and Shubenacadie Sam cam. Thanks to a partnership with

Ducks Unlimited Canada and the Atlantic Canada Opportunities Agency, the Greenwing Legacy Interpretive Centre will undergo improvements aimed at attracting new visitors, enhancing their experience, and extending their stay. These improvements include new interpretive signage and wheelchair-accessible trails.

GOAL 23: RECREATION

Provide nature-based recreation that supports a healthy way of life for Nova Scotians, while protecting our natural and cultural heritage.

Some people call spending time in nature “green therapy.” They say it alleviates stress and promotes psychological development, along with other benefits.

We believe all Nova Scotians—of every age and every ability—deserve the opportunity to experience nature through our parks. That’s why, in May 2016, we announced that campsite fees would be discounted at provincial parks for military veterans who have served three years for Canada or our allies, and we invested \$25,000 to make Martinique Beach Provincial Park more wheelchair accessible.

Next Steps:

We are halfway toward realizing the vision we outlined in *The Path We Share: A Natural Resources Strategy for Nova Scotia 2011–2020*.

While we are proud of the progress we have made, we realize we have much more to do.

In response to recommendations by the Auditor General, we will begin work on biodiversity action plans in August 2016 and expect to have them complete by October 2016.

Action plans for the remaining sectors of our strategy (A New Approach to Natural Resource Management, Forests, Geological Resources, and Provincial Parks) will follow and should be complete by early 2017.

The task we laid out in *The Path We Share* constituted a total transformation of our approach to how we manage our natural resources. We know this change is necessary, and we are committed to its success, but have been challenged by our own finite resources and the often-conflicting demands on government as Nova Scotia strives to grow its economy.

Like any nimble organization, we're adapting and changing priorities to meet changing demands. And as newer, more-current information becomes available, we are willing to rethink an original direction. Our end destination has never changed, but sometimes the route we take to get there has to.

Two things that won't change are our natural resources strategy vision and our four overarching goals.

Vision for 2020 and beyond:

- Nova Scotia is rich in natural resources, including biodiversity, forests, geological resources, and provincial parks.
- Individuals and groups interested in our natural resources work with government to manage these resources wisely.
- All Nova Scotians benefit from the natural health and wealth of the province.

Four overarching goals:

- Collaborative leadership
- Sustainable resource development
- Research and knowledge sharing
- Good governance

We also remain committed to working with our colleagues across government, the Mi'kmaq of Nova Scotia, and other interested groups or individuals to make this strategy a reality.

For more information on our progress, visit novascotia.ca/natr/strategy.

