
Chapter 3: Species at Risk: Management of Conservation and Recovery



Why we did this audit:

- With human activity causing impacts in the world, more species are likely to become at risk
- The variety of and connections between life and supporting ecosystems are key
- Preservation of habitat for species at risk is important to their survival

Overall conclusions:

- Species at risk need to be a greater priority for Natural Resources
- Department not fully managing conservation and recovery of species at risk
- Department is not carrying out planning and completing species recovery activities satisfactorily
- Some success in achieving biodiversity goals; more work needed

What we found in our audit:

- Eight of 14 plans for species at risk were not done; some plans were more than seven years late
- Four plans due for review are one to four years late. This means actions taken may not be the most effective.
- Natural Resources coordination and communication with species recovery teams needs improvement
- Department's special management practices do not cover all listed species
- Department works well with external parties to monitor species at risk
- Natural Resources does not monitor some species as planned, while others are monitored more than planned
- Plans to act on biodiversity goals are not detailed enough to clearly show what should be done, when, and expected results



Recommendations at a Glance	Auditee Response Page Reference
Recommendation 3.1 The Department of Natural Resources should establish recovery teams, and develop and review recovery and management plans for species at risk, as required under the Endangered Species Act.	54
Recommendation 3.2 The Department of Natural Resources should implement a process for communicating with recovery teams, including the method of communication and response time. Natural Resources management should tell teams how they plan to address the concerns teams identify or why changes will not be made.	55
Recommendation 3.3 The Department of Natural Resources should review all species listed in the Endangered Species Regulations and amend or develop appropriate practices, as guided by recovery plans, to protect their habitat.	56
Recommendation 3.4 The Department of Natural Resources should create a comprehensive monitoring program for all species at risk and ensure monitoring activities are clearly communicated and completed as planned.	59
Recommendation 3.5 The Department of Natural Resources should establish detailed action plans with measurable outcomes to implement its biodiversity strategy. Plans should specify what needs to be done, when, and expected results.	60

** Natural Resources agreed to implement all recommendations*

3 Species at Risk: Management of Conservation and Recovery

Background

- 3.1 The Department of Natural Resources is responsible for the provincial Endangered Species Act. The Act provides legal protection for species listed in the Endangered Species Regulations. As of February 2016, there were 60 species at risk. Appendix 1 provides a detailed list of individual species at risk. They are classified as follows.

Status	Endangered Species Act Definition for Listed Species	Number of Species
Endangered	A species that faces imminent extinction or extirpation	28
Threatened	A species that is likely to become endangered if the factors affecting its vulnerability are not reversed	9
Vulnerable	A species of special concern due to characteristics that make it particularly sensitive to human activities or natural events	15
Extirpated	A species that no longer exists in the wild in the province but exists in the wild outside the province	3
Extinct	A species that no longer exists	5
Total		60

- 3.2 The Act mandates a provincial working group which is responsible for determining the addition and status of species at risk listed in the regulations. For all endangered and threatened species, recovery teams, made up of Department representatives and external experts, are to be set up and develop recovery plans. The Minister of Natural Resources has discretion concerning whether individual species recovery plans are feasible and designating core habitats which may be identified in the plans.
- 3.3 Across Canada, legal protection of species and their habitats is a shared responsibility. Federal, provincial and territorial governments signed the National Accord for Species at Risk, an agreement to establish complementary legislation and coordinate efforts to provide protection of species at risk. The federal Species at Risk Act establishes the role of the Committee on the Status of Endangered Wildlife in Canada to assess species at risk. This is an independent national committee of scientists from inside and outside of government. In Nova Scotia, the Species at Risk Working Group is responsible for assessing and legally listing species at risk under the Endangered Species Regulations. Members of the working group also participate in the Committee.
- 3.4 *Assessing and listing species at risk* – Once the Species at Risk Working Group adds a species to the regulatory list, the Endangered Species

Regulations require the Province to provide legal protection. Listing of species is determined based on the working group's review of technical reports commissioned by the Province or prepared by the Committee on the Status of Endangered Wildlife in Canada. An overview of the species at risk listing process is provided in the diagram below.



- 3.5 A *BioScience* magazine article (by the American Institute of Biological Sciences), based on a 2006 research study on the threats to endangered species in Canada, indicated that loss of habitat is a factor in approximately 84% of species at risk. Protection of habitat goes beyond protection of endangered species individually to that of their supporting ecosystems. Species protection is impacted by other legislation and involvement of other government departments and stakeholders.
- 3.6 For example, the provincial Department of Environment is responsible for protected areas (Special Places Protection Act and Wilderness Areas Protection Act) as well as environmental assessment and other responsibilities under the Environment Act. Other legislation, regulations and policies include:
- Forests Act (Wildlife Habitat and Watercourses Protection Regulations)
 - Wildlife Act
 - Conservation Easements Act
 - Environmental Goals and Sustainable Prosperity Act (Nova Scotia Wetland Conservation Policy)
- 3.7 The Department of Natural Resources has a strategy document – *The Path We Share – A Natural Resources Strategy for Nova Scotia 2011-2020*. It highlighted that biodiversity is one of our most important natural resources. According to the World Wildlife Fund, biodiversity is the term given to the variety of life on earth within and between all species of plants, animals, and micro-organisms and the ecosystems within which they live and interact.



- 3.8 The Department's *The Path We Share* strategy included four biodiversity goals.
- “Good governance – *establish clear and effective leadership and governance related to biodiversity in Nova Scotia*
 - Research and knowledge sharing – *increase and share knowledge about biodiversity to help governments and interested groups make informed decisions and take responsible action*
 - Ecosystem approach – *work together to maintain and restore healthy wildlife populations, ecosystems, and ecosystem processes*
 - Education and shared stewardship – *engage Nova Scotians in understanding, appreciating, and taking care of the province's biodiversity”*

Audit Objectives and Scope

- 3.9 In winter 2016, we completed a performance audit at the Department of Natural Resources. We examined activities relating to the protection and recovery of species at risk and related long-term planning. The audit was conducted in accordance with sections 18 and 21 of the Auditor General Act and auditing standards of the Chartered Professional Accountants of Canada.
- 3.10 The purpose of this audit was to determine whether the Department of Natural Resources is appropriately managing the conservation and recovery of Nova Scotia's species at risk.
- 3.11 The objectives of the audit were to determine if the Department of Natural Resources:
- undertakes species at risk conservation and recovery activities consistent with relevant legislation, plans, policies, and procedures;
 - appropriately monitors the status of species at risk; and
 - effectively implements its biodiversity strategic goals in relation to species at risk.
- 3.12 Audit criteria were developed specifically for this engagement. Criteria were discussed with, and accepted as appropriate by, Department management.
- 3.13 Our audit approach included interviews with management and staff; examination of legislation, policies, and other documentation; and testing compliance with legislation, policy, and processes.



- 3.14 Our audit scope did not cover enforcement of the Endangered Species Act and the Species at Risk Conservation Fund, except where specifically considered in species recovery plans.

Significant Audit Observations

Species at Risk: Conservation, Protection and Recovery

Conclusions and summary of observations

We believe species at risk need to be a greater priority of the Department of Natural Resources. Although the Endangered Species Act outlines specific duties to conserve, protect, and recover endangered species, the Department has not met all its responsibilities.

- No recovery or management plans for five of nine endangered or threatened species. Plans are six months to more than seven years late.
- Three of five vulnerable species do not have management plans.
- No recovery teams for four of nine endangered or threatened species (listed under Endangered Species Act and solely provincial responsibility).
- Four recovery plans past due for review by one to four years.

Natural Resources' coordination with recovery teams is weak and we recommended a communication process be developed. The Department's special management practices do not cover all species at risk listed under the provincial Act. We recommended the Department amend or establish practices to protect species habitat, as guided by the recovery plans.

► The Department is not preparing or reviewing required recovery and management plans

- 3.15 *Creating plans and recovery teams* – Once a species is listed for protection, the Endangered Species Act requires a recovery or management plan be developed. For the 37 endangered or threatened species listed provincially, 28 are also a federal responsibility. For these 28 species, the Department will work jointly with the federal government, following federal requirements, to develop recovery plans. The provincial Act allows for this. For the 15 vulnerable species listed, management plans for 10 species involve joint preparation following federal requirements. The chart later in this section summarizes the number of species with sole or joint responsibility and those with recovery or management plans.



3.16 Of those species which are provincial responsibility only, Natural Resources has prepared 6 of the 14 required species recovery or management plans. Eight plans are outstanding.

- Recovery plans for five threatened or endangered species are late by six months to over seven years.
- Three vulnerable species do not have management plans. These plans were due by the end of March 2016.

3.17 For listed endangered or threatened species, the Endangered Species Act also requires recovery teams be established to assist in the development and implementation of recovery plans. The Department has not established recovery teams for four of the nine listed endangered or threatened species.

Number of Species					
Species Status	Listed Provincially	Joint Responsibility	Provincial Responsibility Only	With Recovery/ Management Plans	Recovery Teams Established
Endangered	28	21	7	3	3
Threatened	9	7	2	1	2
Subtotal	37	28	9	4	5
Vulnerable	15	10	5	2	none required
Total	52	38	14	6	5

3.18 The Endangered Species Act requires developing a species recovery plan which includes:

- the needs of and threats to the species;
- options for species recovery;
- costs and benefits of the options identified;
- recommended course of action for recovery;
- a schedule to implement the recovery plan and prioritized list of recommended actions;
- the species habitat; and,
- areas to be considered for designation as core habitat.

3.19 Plans developed jointly under federal legislation have similar requirements to those under the Endangered Species Act, although timelines for completion are different.

3.20 We examined five recovery plans; four were developed jointly following federal requirements and one was developed under provincial requirements



only. We found the four joint plans generally met the provincial Endangered Species Act requirements. The one provincial plan we examined did not meet all requirements of the Act. It did not include an implementation schedule or identify areas for consideration as core habitat. As well, a 2013 plan update showed that certain actions were complete which were not. For example, a study to better understand threats to the species was shown as complete, but it was not undertaken due to funding issues. Department staff told us that other planned actions were not completed due to resource constraints. We were also told the recovery team has not met since the recovery plan update was prepared in 2013.

- 3.21 *Review of recovery and management plans* – Species recovery and management plans are supposed to be reviewed every five years. We found timelines for reviewing recovery and management plans were not met. At the time of our audit, four provincially-prepared plans were overdue for review by between one and four years. Natural Resources does not track when plans are developed or when they are due for review. This information is not readily available. Without monitoring, the Department cannot be sure that plans are reviewed when needed or that appropriate actions to protect species are undertaken in a reasonable time.
- 3.22 Establishing clear plans with timelines is important to help guide staff efforts. As discussed above, some recovery plans are from six months to seven years late and reviews are overdue by one to four years. It is not reasonable that the Department is taking this long beyond the required time to develop and review species at risk plans. We are concerned that the Department is not fulfilling its responsibilities for establishing recovery teams and preparing and reviewing recovery or management plans, as the Endangered Species Act requires. When plans are not developed or are late, species may decline more than they would if recovery plans were in place. The Department's recovery efforts may be less effective or not undertaken at all if not coordinated within an overall, timely plan.

Recommendation 3.1

The Department of Natural Resources should establish recovery teams, and develop and review recovery and management plans for species at risk, as required under the Endangered Species Act.

***Department of Natural Resources Response:** The Department agrees with this recommendation. By October 31, 2016 a multi-year work plan will be developed using a risk management approach to prioritize the most critical tasks. The plan will describe how and when recovery teams and plans will be established and will account for, and coordinate with, joint listings and planning under the federal SARA, for newly listed species and for changes in species' status.*



► **Natural Resources' coordination with recovery teams is weak**

- 3.23 *Coordination of recovery teams* – Recovery teams, made up of Natural Resources representatives and external experts, are formed to develop and implement the recovery plans. Team members vary, depending on the species. The Department includes at least one representative who is to provide a communication link between the recovery team and the Department of Natural Resources. Recovery teams may communicate directly to the Minister in certain circumstances.
- 3.24 Staff told us coordination between the recovery teams and Department management was not always functioning well. For example, in June 2014, a recovery team sent the Department a letter recommending change to certain forestry practices developed by the Department for the species. The team was concerned the current practices could lead to further decline of the species. At the time of our audit, almost two years later, the Department had not responded to the recovery team or addressed its concerns.
- 3.25 The Department does not have a clear process that shows recovery team recommendations are considered, informs the teams whether recommendations are accepted, or provides reasons why they were not accepted. If the Department does not appropriately respond to recovery team concerns, it may affect the team's functioning. Not dealing with concerns the teams bring forward calls their usefulness into question. This may also create a barrier to achieving goals and objectives described in the recovery plans. Although we did not assess the validity of the recovery team's concerns, the level of expertise in the teams shows their concerns deserve appropriate attention.

Recommendation 3.2

The Department of Natural Resources should implement a process for communicating with recovery teams, including the method of communication and response time. Natural Resources management should tell teams how they plan to address the concerns teams identify or why changes will not be made.

Department of Natural Resources Response: The Department agrees with this recommendation. DNR will continue its leadership on recovery teams and further improve the operation of the teams. By October 31, 2016 a process will be created to formally track and respond to new recommendations from recovery teams. Any outstanding recommendations from recovery teams will be addressed by October 31, 2016.

- 3.26 *Protecting species in their habitat* – The provincial Endangered Species Act includes provisions to protect species by acquiring land and designating it as core habitat. Natural Resources has used other means, such as acquiring land



through various land trusts, or working with private landowners to protect habitat. As well, some areas in the province have critical habitat identified or designated under federal legislation.

► **The Department's special management practices are not sufficient for protecting species at risk**

3.27 In addition to protecting habitat through land acquisitions, the Department developed special management practices in its work with forestry and agriculture industries to protect species habitat. For example, creating no-cut zones in forests. Natural Resources has implemented special management practices for some of the species at risk listed provincially, including mainland moose, wood turtles, American marten, and certain lichens. The Department has not evaluated the need for these practices for all of the listed species at risk. While habitat is only one component of a species recovery plan, it is an important one. Establishing practices to protect habitat, if deemed appropriate by recovery plans, could strengthen recovery efforts.

Recommendation 3.3

The Department of Natural Resources should review all species listed in the Endangered Species Regulations and amend or develop appropriate practices, as guided by recovery plans, to protect their habitat.

***Department of Natural Resources Response:** The Department agrees with this recommendation. The threats to species at risk are diverse and include industrial activity, climate change, invasive species, recreational activities, urban and road development and pollution. The Province and DNR must employ a variety of complementary approaches including special management practices, protected areas, ecosystem based management, landscape-scale planning, private land stewardship, partnerships with other governments and non-government organizations, education and enforcement to maintain and protect habitat. By October 31, 2016 a work plan will be developed using a risk management approach to prioritize the most critical tasks in recovery plans.*

► **The Department coordinates well with stakeholders for recovery of species at risk**

3.28 *Partnerships and cooperation with stakeholders* – The Endangered Species Act encourages the use of nonregulatory means to protect and recover species at risk. Natural Resources' preferred approach to planning and protecting species at risk is through cooperation, stewardship, education, and partnerships to minimize the need for enforcement. The Department works with stakeholders on many aspects of protection and recovery. A number of interested groups and individuals participate and collaborate in species recovery. Department management told us their resources are limited and



working with stakeholders has been their primary means to extend limited resources.

- 3.29 For example, the Mersey Tobeatic Research Institute assists in recovery planning for various species. The Institute issued publications to help citizens identify species at risk and has undertaken a multi-year project to meet recovery plan objectives through science, education, and stewardship.
- 3.30 *Long-term vacancy* – The Endangered Species Act establishes a Species at Risk Working Group. This group determines which species are listed as at risk. The Act details the number of members needed and the general scientific expertise for the types of species and their habitat. The current working group includes individuals with scientific expertise. There has been one vacancy for several years. Management told us the expertise required is highly specialized and there are few potential candidates to fill the vacancy.

Monitoring of Species at Risk

Conclusions and summary of observations

Natural Resources is not planning and coordinating its monitoring activities for species at risk as it should. The Department uses the work of individuals and nongovernment organizations to supplement its own resources for monitoring species at risk. Staff monitoring is primarily through activities outlined in work plans. The work plans do not include all species listed under the Endangered Species Regulations and we found monitoring was not always completed according to the plans. Staff in one division create monitoring tasks and staff in another division are to complete the tasks. Staff doing the work do not report back to staff who assigned the work; as a result, there is no accountability for completing tasks. We recommended implementing a comprehensive monitoring plan that better coordinates activities between the two divisions.

- 3.31 *Monitoring of species at risk* – Monitoring of species at risk occurs both in the Department and through individuals and nongovernment organizations, with involvement of Natural Resources' representatives. This enables the Department to supplement its own resources with others available in the province. Results of monitoring activities from outside the Department are collected by the Atlantic Canada Conservation Data Centre. The Centre is supported by the four Atlantic Provinces. Information collected on species status, survey information, and other ecological conservation concerns is used by the Committee on the Status of Endangered Wildlife in Canada, as well as by Nova Scotia's Department of Natural Resources, for decision making on species at risk.



► **Natural Resources' coordination of its monitoring activities has weaknesses**

- 3.32 Within Natural Resources, the Wildlife division determines which monitoring tasks are needed based on species at risk recovery plans. The Regional division is responsible for completing the tasks. Staff who are assigned monitoring tasks, through a work plan, are also responsible for other activities in their division. Department management told us species at risk were given first priority in assigning monitoring activities in both 2014-15 and 2015-16.
- 3.33 Staff told us the separation of monitoring responsibilities between the two divisions has sometimes resulted in unclear communication of tasks and reporting on completion. For example, a task may require staff to carry out a certain number of surveys of a species, but not specify where the surveys should be done or if certain things, such as banding, should also be carried out. Since regional staff do not report directly to those who assigned the task, getting additional instruction or reporting back on completion may not happen. This gap in coordination between the two divisions may limit the Department's ability to adequately monitor species at risk.

► **The Department is not monitoring species at risk as planned**

- 3.34 The Department's annual monitoring of species at risk is not always completed as planned. As well, all listed species are not included in the monitoring plans. We looked at work plans for 2013-14, 2014-15, and 2015-16 to determine if annual monitoring tasks were completed. We found more monitoring than planned was done for some species at risk, while there was little or no monitoring for other species. For example, the 2014-15 work plan included 8 expected surveys for the coastal plain flora species; 26 surveys were completed. In the same year, six other species had expected activities, but none were completed. For some listed species there was no monitoring completed in any of the three years we examined. It is possible the Department could have provided better overall coverage of species at risk had it used the resources from the extra work in areas where little or no work was done. We found a similar situation in our 2015 forestry audit in which the Department's monitoring of companies harvesting trees on crown land needed improvement.
- 3.35 The Department's ability to determine if recovery efforts are working, or if species are experiencing further decline, is reduced if monitoring is not effectively carried out.

Recommendation 3.4

The Department of Natural Resources should create a comprehensive monitoring program for all species at risk and ensure monitoring activities are clearly communicated and completed as planned.



Department of Natural Resources Response: *The Department agrees with this recommendation. Existing monitoring conducted by governments, universities, NGOs and citizen scientists will be reviewed. By October 31, 2016, a coordinated species-at-risk monitoring plan will be created using a risk management approach to prioritize the most critical tasks as informed by the requirements of recovery plans and the feasibility of implementation.*

Biodiversity Strategy Implementation

Conclusions and summary of observations

The Department of Natural Resources did not prepare sufficient plans for the implementation of the biodiversity goals from its 2011-2020 Natural Resources strategy. Although some work has been completed to date, the Department's action plans to implement the strategy have often not included detailed, specific steps with clear outcomes that can be measured. Additionally, in some cases where the Department identified concrete actions to carry out the strategy, no action was taken. We recommended the Department establish detailed action plans to implement its biodiversity strategy. Plans should have concrete outcomes which clearly state what should be done, when, and expected results.

3.36 *Background* – Biodiversity describes the existence of many kinds of plants and animals. This variety is important to a sustainable environment. Natural Resources' publication *The Path We Share – A Natural Resources Strategy for Nova Scotia 2011-2020* listed 20 actions to achieve the strategy's biodiversity goals. Months later, a separate action plan listed only five activities linked to biodiversity. The Department did not state it had changed its original strategy in this new document. We looked at *The Path We Share*, the action plan, 2012 and 2013 progress reports, and efforts that followed, to assess work on the strategy.

► Action plans to implement biodiversity strategic goals are not always specific enough

3.37 *Plans to implement the strategy* – We expected Natural Resources to have a detailed plan to implement its biodiversity strategic goals with concrete action steps and clear outcomes which can be measured. While the Department developed an action plan, we found some actions were not specific or concrete enough and the work carried out did not always fully address the planned item. For example, the 2011 action plan included expanding the recovery of species at risk populations by reviewing recovery plans and reallocating resources to deal with more species. The one-year progress report noted that enforcement efforts had increased but did not indicate if resources were reallocated. The two-year progress report discussed the need to complete recovery plans for newly-added species, but no specific objectives or targets were established.



- 3.38 The strategy action plan also outlined a process to provide greater details on biodiversity in the province. This information was to be used to set species monitoring priorities and allocate resources, but no specific plans were identified. Progress updates included references to deer monitoring, consulting on protected area land purchases, and developing recommendations on highway protection measures for turtles. These activities, while likely of value, do not clearly link to the strategic action.
- 3.39 The Department put considerable effort into developing its 2011-2020 strategy, including the biodiversity goals. Specific objectives need to be established with performance targets, action plans need to be created and carried out, and results need to be reported. If Natural Resources had more concrete, detailed plans with measurable outcomes, it would improve assessing implementation progress for both Department management and the public.

Recommendation 3.5

The Department of Natural Resources should establish detailed action plans with measurable outcomes to implement its biodiversity strategy. Plans should specify what needs to be done, when, and expected results.

***Department of Natural Resources Response:** The Department agrees with this recommendation. DNR will continue to report on the implementation of the Natural Resources Strategy throughout its 10 year implementation period. By October 31, 2016 a detailed action plan, with clear performance criteria, will be developed in support of the biodiversity strategy and results will be reported in future progress reporting on the Strategy.*



There has been varied success in implementing biodiversity strategy to date

- 3.40 *Progress of implementation* – We assessed progress against the Department’s biodiversity strategic actions. Where specific action was identified, we found varied success. Examples of this are detailed in the following paragraphs.
- 3.41 The Department planned to increase efforts to protect and recover species at risk. In 2013, 19 species were added to the list of provincial species at risk. In 2016, Natural Resources hired a biologist with species at risk responsibilities.
- 3.42 The strategy’s 2011 action plan also required regular reporting on the state of biodiversity in Nova Scotia. A report was to be released by winter 2014. As of March 2016, no reports were released. Management told us they intend to issue three reports in spring 2016 covering an introduction to biodiversity, species at risk, and alien invasive species. They told us reports on other aspects of biodiversity are being considered but the content or potential release dates have not been finalized. Possible biodiversity topics include



freshwater ecosystems; general status of species; state of habitat; coastal/marine biodiversity; land/resource use; and land-based, non-forested ecosystems.

- 3.43 *Biodiversity and wildlife species management* – The strategy also noted the importance of considering biodiversity in overall decision making and wildlife species management. Department efforts in this area to date have focused on forestry. However, as detailed in the following paragraphs, there is little evidence that biodiversity was considered when Natural Resources approved forestry practices.
- 3.44 Natural Resources hired a consultant to review harvest practices after a 2014 forest harvest in an environmentally-sensitive area raised concerns with a number of Nova Scotians. The report, which the Department accepted, concluded that the forest harvest plan did not outline the biodiversity concerns that should be addressed. The report also concluded that the decision to clear cut the area indicated that, despite a requirement to include biodiversity in the planning process, the forest harvest was carried out without protecting the area's biodiversity. Since then, the Department published guidelines concerning biodiversity in western Crown lands.
- 3.45 More recently, the Department started a forest landscape planning pilot, with an industry partner, on eastern Crown lands. The expectation is that harvest planning will cover larger areas, over a longer time period, which should allow for better consideration of biodiversity and habitat protection in forestry planning. In summer 2015, Department management approved a forestry-planning framework. If the pilot is successful, the planning method will be applied on all provincial Crown lands. A guiding principle for the pilot project includes using the ecosystem approach in the framework and plan design. It is also expected that it will provide a framework for species monitoring activities in target areas.
- 3.46 Work in this area also included consulting with proponents on large wind projects to work with the landscape in determining the location of turbines. For example, wetlands are not to be disturbed and they are to remain viable as landing areas for migrating birds.



Department of Natural Resources: Additional Comments

Since the Endangered Species Act (ESA) came into effect in 1998, DNR has made a concerted effort to implement the ESA and has successfully built partnerships that have resulted in useful planning and important species at risk protection and stewardship actions. However, DNR acknowledges that it has not been able to meet a number of the administrative and other requirements of the ESA for a growing list of species at risk. DNR will review and develop work plans using a risk management approach that will address priorities and the resources required for the ongoing implementation of the ESA.



Appendix 1: Species at Risk Listed under the Endangered Species Act and Regulations

Endangered Species:	Threatened Species:	Extirpated Species:
American marten ¹	Black ash	Atlantic walrus
Atlantic whitefish	Brook floater	Eastern wolf
Barn swallow	Common nighthawk	Woodland caribou
Bicknell's thrush	Eastern baccharis	
Blanding's turtle	Eastern ribbonsnake	Extinct Species:
Boreal felt lichen	Eastern whip-poor-will	Eelgrass limpet
Canada lynx	Olive-sided flycatcher	Great auk
Canada warbler	Wood turtle	Labrador duck
Chimney swift	Yellow lamp mussel	Passenger pigeon
Eastern mountain avens		Sea mink
Harlequin duck	Vulnerable Species:	
Hoary willow	Blue felt lichen	
Little brown myotis	Bobolink	
Macropis cuckoo bee	Eastern lilaeopsis	
Moose ²	Eastern white cedar	
Northern myotis	Eastern wood peewee	
Pink coreopsis	Golden crest	
Piping plover	Long's bulrush	
Plymouth gentian	New Jersey rush	
Ram's-head lady slipper	Peregrine falcon	
Red knot	Prototype quillwort	
Rockrose	Redroot	
Roseate tern	Snapping turtle	
Rusty blackbird	Spotted pondweed	
Thread-leaved sundew	Sweet pepperbush	
Tri-colored bat	Tubercled Spikerush	
Vole ears		
Water pennywort		

1. Cape Breton population

2. Mainland Nova Scotia population

Source: *Categorized List of Species at Risk Regulations*