



SPECIES AT RISK ACT
ANNUAL REPORT FOR 2016

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1. Introduction

1.1 The Purpose of the Annual Report

This report summarizes activities carried out in 2016 related to the *Species at Risk Act* (SARA). The report fulfills the Minister of the Environment's obligation, under section 126 of the Act, to prepare an annual report on the administration of SARA for each calendar year. The Act requires that the report include a summary of:

- a) the assessments of the Committee on the Status of Endangered Wildlife in Canada and the Minister's response to each of them;
- b) the preparation and implementation of recovery strategies, action plans and management plans;
- c) all agreements made under sections 10 to 13;
- d) all agreements entered into and permits issued under section 73, and all agreements and permits amended under section 75 or exempted under section 76;
- e) enforcement and compliance actions taken, including the response to any requests for investigation;
- f) regulations and emergency orders made under SARA; and
- g) any other matters that the Minister considers relevant.

This introductory section provides background information on SARA and outlines the responsibilities of the federal departments and agencies under the Act.

1.2 Background on SARA

SARA is an important tool for conserving and protecting Canada's biological diversity, and helps the Government of Canada meet its international commitments under the Convention on Biological Diversity. It also supports the federal commitments under the 1996 Accord for the Protection of Species at Risk to prevent species in Canada from becoming extinct as a consequence of human activity. The purpose of the Act is to prevent wildlife species from being extirpated or becoming extinct, to provide for the recovery of wildlife species that are extirpated, endangered or threatened as a result of human activity and to manage species of special concern to prevent them from becoming endangered or threatened.

The Act establishes a process for conducting scientific assessments of the status of individual wildlife species and a mechanism for listing extirpated, endangered, threatened and special-concern species. SARA also includes provisions for the protection, recovery and management of listed wildlife species, and their critical habitats¹ and residences.²

The responsibility for conservation of species at risk is shared by all jurisdictions in Canada. The Act recognizes this joint responsibility and that all Canadians have a role to play in the protection of wildlife.

¹ Under SARA, "critical habitat" is defined as the habitat that is necessary for the survival or recovery of a listed wildlife species and that is identified as the species' critical habitat in the recovery strategy or in an action plan for the species (see section 5.2).

² "Residence" means a dwelling-place, such as a den, nest or other similar area or place, that is occupied or habitually occupied by one or more individuals during all or part of their life cycles, including breeding, rearing, staging, wintering, feeding or hibernating.

1.3 Responsible Authorities for Implementation of SARA

The Parks Canada Agency (PCA), Fisheries and Oceans Canada (DFO), and Environment and Climate Change Canada (ECCC) commonly referred to as the “competent” departments, share responsibility for the implementation of SARA. The ministers responsible for these organizations are known as the “competent” ministers under SARA. The Minister of the Environment is the minister responsible for both ECCC and PCA. Ministerial responsibilities are as follows:

- The Minister responsible for the Parks Canada Agency is responsible for individuals of species found in or on federal lands and waters that the agency administers.
- The Minister of Fisheries and Oceans is responsible for aquatic species at risk other than individuals in or on federal lands administered by the Parks Canada Agency.
- The Minister of the Environment is responsible for all other species at risk.

The Minister of the Environment is the minister responsible for the overall administration of SARA, except insofar as the Act gives responsibility to another minister (i.e., the other competent minister). The Minister of the Environment is required to consult with the other competent ministers as necessary on matters related to SARA administration.

2. Assessment of Species at Risk

SARA establishes a process for conducting scientific assessments of the status of individual wildlife species. The Act separates the scientific assessment process from the listing decision, ensuring that scientists provide independent assessments and that decisions affecting Canadians are made by elected officials who are accountable for those decisions.

2.1 COSEWIC Assessments

The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) is the committee of experts that assesses the status of wildlife species in Canada that it considers to be at risk and identifies existing and potential threats to the species. It includes members from government, academia, Aboriginal organizations, non-governmental organizations and the private sector. The federal government provides financial support to COSEWIC.

In keeping with section 20 of SARA, ECCC provides COSEWIC with professional, technical, secretarial, clerical and other assistance via the COSEWIC Secretariat, which is housed within ECCC.

COSEWIC assesses the status of a wildlife species using the best available information on the biological status of a species, including scientific knowledge, community knowledge and Aboriginal traditional knowledge. To help prioritize species for assessments, COSEWIC uses the general status ranks outlined in a report called *Wild Species – The General Status of Species in Canada*, which is published about every five years by the National General Status Working Group. COSEWIC provides assessments and supporting evidence annually to the Minister of the Environment.

COSEWIC can assess wildlife species as extinct, extirpated, endangered, threatened, of special concern or not at risk:

- An extinct wildlife species no longer exists anywhere in the world.
- An extirpated wildlife species no longer exists in the wild in Canada but exists elsewhere in the world.
- An endangered wildlife species faces imminent extirpation or extinction.
- A threatened wildlife species is likely to become endangered if nothing is done to reverse the factors leading to its extirpation or extinction.
- A wildlife species of special concern may become threatened or endangered because of a combination of biological characteristics and identified threats.
- A wildlife species may also be assessed as 'not at risk' or COSEWIC may not have sufficient information to classify the species.

The Act establishes Schedule 1 as the official list of wildlife species at risk, which triggers the provisions under the Act. All of the species that COSEWIC assessed as being at risk prior to October 1999 (when it adopted new criteria) were included at proclamation on SARA's Schedules 2 (endangered and threatened) and Schedule 3 (special concern). These species are being reassessed by COSEWIC using current criteria as part of the process to determine if they should be added to Schedule 1. All Schedule 2 species have since been reassessed by COSEWIC. For Schedule 3, seven species remained to be reassessed at the end of 2016.

Further details on risk categories and more information on COSEWIC are available online at www.cosewic.gc.ca.

ECCC, PCA, and DFO provide input to the assessment process via staff experts who are members of COSEWIC and through the population surveys that they conduct on some species of interest to COSEWIC. They are also regularly involved in the peer review of COSEWIC status reports.

In 2016, through a variety of collaborative wildlife monitoring and research programs across Canada, ECCC continued to contribute data that is used to assess species at

risk, and guide recovery efforts. For example, information from the Breeding Bird Survey and Grassland Bird Monitoring Program was used to support the assessment of McCown's Longspur. Other work carried out in southern Manitoba to develop a survey protocol to assess site occupancy of Prairie Skink will be used to identify critical habitat and to inform future COSEWIC assessments.

Also in 2016, PCA continued to keep track of the distribution of the species found within the lands and waters it administers. This helps determine if the species is regularly occurring, if it is breeding or just a transient, and if it is currently present at the heritage place such as a national park, national historic site, historic canal or national marine conservation area. The information contributes to the Wild Species reports, COSEWIC status reports and the development of PCA site-based action plans. PCA also reviewed 53 COSEWIC status reports for both terrestrial and aquatic species that are found in the lands and waters it administers.

The data that DFO submits to COSEWIC to support assessments of aquatic species is vetted through a peer-review process. The process involves government scientists, experts from academia, and other stakeholders, as appropriate. In 2016, DFO hosted a peer-review meeting regarding Roughhead Grenadier, and provided published information for many other aquatic species to COSEWIC. The Department also reviewed 37 COSEWIC status reports for aquatic wildlife species before they were finalized.

2.1.1 COSEWIC Subcommittees

COSEWIC's Species Specialists Subcommittees (SSCs) provide species expertise to COSEWIC. Each SSC is led by two co-chairs, and members are recognized Canadian experts in the taxonomic group in question, able to demonstrate high standards of education,

experience and expertise, with a demonstrated knowledge of wildlife conservation. Members are drawn from universities, provincial wildlife agencies, museums, Conservation Data Centres, and other sources of expertise on Canadian species. SSC members support the co-chairs in developing candidate lists of species to be considered for assessment, commissioning status reports for priority species, reviewing reports for scientific accuracy and completeness, and proposing to COSEWIC a status for each species. Currently, COSEWIC has 10 SSCs: Amphibians and Reptiles, Arthropods, Birds, Freshwater Fishes, Marine Fishes, Marine Mammals, Molluscs, Mosses and Lichens, Terrestrial Mammals and Vascular Plants.

SARA also requires that COSEWIC establish and support a subcommittee on Aboriginal Traditional Knowledge. In 2016, the Aboriginal Traditional Knowledge (ATK) Subcommittee continued its efforts to produce: ATK Source Reports (which compile potential sources of documented ATK); ATK assessment reports (which summarize the relevant content of documented ATK sources); and ATK Gathering Reports (which compile non-publicly available documented and non-documented ATK that is shared directly from Indigenous communities). While no ATK reports were completed in 2016, the ATK Subcommittee worked to prioritize and select species for which ATK reports will be completed and to support COSEWIC assessments. Also, the ATK Subcommittee was invited to meet with local Okanagan Chinook Knowledge Holders and community representatives in Osoyoos, BC. The gathering provided an opportunity for the Subcommittee to thank and acknowledge their contribution to the Okanagan Chinook ATK Gathering Report produced in 2015.

2.2 Wildlife Species Assessments Since 2002

COSEWIC finalized the following wildlife species assessments, grouped in batches, between 2002 and 2016:

- Batch 1: 115 wildlife species in May 2002, November 2002 and May 2003
- Batch 2: 59 wildlife species in November 2003 and May 2004
- Batch 3: 73 wildlife species in November 2004 and May 2005
- Batch 4: 68 wildlife species in April 2006
- Batch 5: 64 wildlife species in November 2006 and April 2007
- Batch 6: 46 wildlife species in November 2007 and April 2008
- Batch 7: 48 wildlife species in November 2008 and April 2009
- Batch 8: 79 wildlife species in November 2009 and April 2010
- Batch 9: 92 wildlife species in November 2010 and May 2011
- Batch 10: 64 wildlife species in November 2011 and May 2012
- Batch 11: 73 wildlife species in November 2012 and May 2013
- Batch 12: 56 wildlife species in November 2013 and May 2014
- Batch 13: 56 wildlife species in November 2014 and May 2015
- Batch 14: 45 wildlife species in November 2015 and April 2016

Details on Batches 1 through 14 can be found in Table 2 (see section 3.4), and in previous SARA annual reports online (www.sararegistry.gc.ca/approach/act/sara_annual_e.cfm).

Batch 14

At its November 2015 and April 2016 meetings, COSEWIC finalized assessments and classification reviews of 45 wildlife species:

- Seven (7) wildlife species were assessed as not at risk.
- Thirty-eight (38) wildlife species were assessed as at risk, of which 8 were confirmed at the classification already attributed to them on Schedule 1 of SARA.

COSEWIC forwarded these assessments to the Minister of the Environment in fall 2016.

3. Listing of Species at Risk

3.1 Listing Process

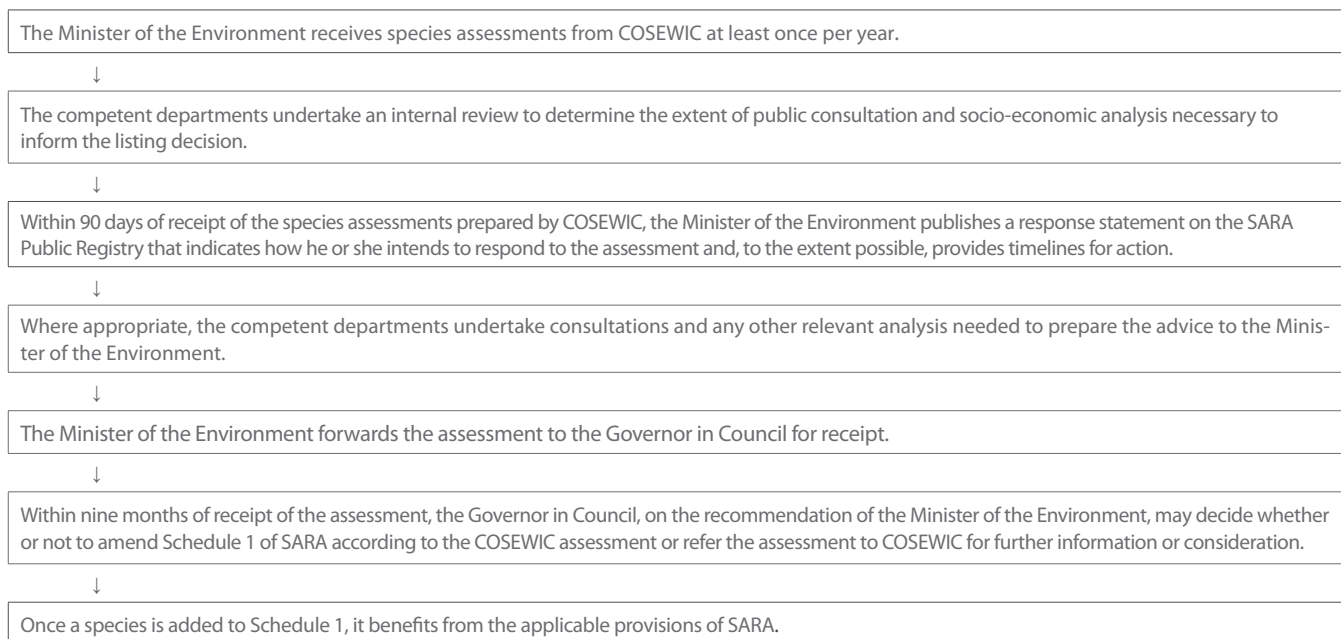
Upon formally receiving COSEWIC's assessments, the Minister of the Environment has 90 days to post a response statement on the Species at Risk Public Registry indicating how the Minister intends to respond to each assessment and, to the extent possible, providing timelines for action.

During this 90-day period, the relevant competent minister carries out an internal review to determine the level of public consultation and socio-economic analysis necessary to inform the listing decision. Timelines for action and the scope of consultations included in the response statement are based on the results of this initial review.

In addition to public consultation and socio-economic analysis, for aquatic species classified as threatened or endangered, DFO often develops science advice in the form of a Recovery Potential Assessment. This provides scientific information on the current status of the species, population or designatable unit, threats to its survival and recovery, and the feasibility of its recovery in given scenarios. These Recovery Potential Assessments are taken into consideration at various steps in the SARA process, including at the recovery planning stage. In 2016, DFO led five Recovery Potential Assessments for five species: Winter Skate, White Sturgeon, Bull Trout, Rainbow Trout, Black Redhorse. The department also produced reports associated with Recovery Potential Assessments (2 proceedings, 9 research documents, and 5 science advisory reports).

Figure 1 outlines the species listing process under SARA. Table 2 (see section 3.4) provides the status of the listing process for each batch of assessed species.

Figure 1: The Species Listing Process under SARA



For more information, go to the Species at Risk Public Registry at http://www.sararegistry.gc.ca/sar/listing/listing_e.cfm.

3.2 Federal Government Response to COSEWIC Assessments

In October 2016, the Minister of the Environment received the assessments for Batch 14 from COSEWIC. These assessments included 29 terrestrial and 10 aquatic wildlife species at risk. The Minister's response statements were posted in January 2017. The response statements indicate the following:

- For 20 terrestrial and three aquatic wildlife species, normal consultations (i.e., consistent with the path that is typical for most species; see Figure 1) would be undertaken.
- For four terrestrial and five aquatic wildlife species, extended consultations will be undertaken, because in some cases, listing

these species could have marked impacts on the activities of Indigenous peoples, hunters and trappers, ranchers, commercial and recreational fishers, or Canadians at large.

- For five terrestrial and two aquatic wildlife species already listed on Schedule 1, COSEWIC's assessments confirmed the current status, and no changes to Schedule 1 are required.

Fourteen (14) of the terrestrial species and 2 of the aquatic species are already listed on Schedule 1 and are eligible to have their status changed: 6 to a higher risk category (uplist) and 10 to a lower risk category (downlist). One species, the Pygmy Pocket Moss, is being considered for removal from the list, as it was found to be not at risk in its latest assessment.

Table 1 shows the risk status of species received from COSEWIC in 2016.

Table 1: List of species received from COSEWIC in October 2016

COSEWIC risk status	Taxon	English legal name	Scientific name
Normal consultation			
Endangered	Amphibians	Unisexual Ambystoma (Jefferson Salamander dependent population)	Ambystoma laterale - (2) jeffersonianum
Endangered	Amphibians	Unisexual Ambystoma (Small-mouthed Salamander dependent population)	Ambystoma laterale - texanum
Endangered	Arthropods	Hoptree Borer	Prays atomocella
Threatened	Arthropods	Lake Huron Grasshopper	Trimerotropis huroniana
Threatened	Lichens	Wrinkled Shingle Lichen	Pannaria lurida
Special Concern	Fishes (freshwater)	Northern Sunfish (Great Lakes - Upper St. Lawrence populations)	Lepomis peltastes
Special Concern	Lichens	Mountain Crab-eye	Acroschyphus sphaerophoroides
Special Concern	Molluscs	Pygmy Slug	Kootenaia burkei
Special Concern	Molluscs	Sheathed Slug	Zacoleus idahoensis
↑ From Threatened to Endangered	Fishes (freshwater)	Spotted Gar	Lepisosteus oculatus
↑ From Threatened to Endangered	Reptiles	Spiny Softshell	Apalone spinifera
↑ From Threatened to Endangered	Vascular Plants	Colicroot	Aletris farinosa
↑ From Special Concern to Threatened	Birds	Louisiana Waterthrush	Parkesia motacilla
↑ From Special Concern to Threatened	Birds	McCown's Longspur	Rhynchophanes mccownii
↓ From Endangered to Threatened	Birds	Red Crossbill perca subspecies	Loxia curvirostra perca
↓ From Endangered to Threatened	Molluscs	Blue-grey Taildropper	Prophysaon coeruleum
↓ From Endangered to Threatened	Vascular Plants	Bear's-foot Sanicle	Sanicula arctopoides
↓ From Threatened to Special Concern	Lichens	Flooded Jellyskin	Leptogium rivulare
↓ From Threatened to Special Concern	Vascular Plants	Baikal Sedge	Carex sabulosa
↓ From Threatened to Special Concern	Vascular Plants	Common Hoptree	Ptelea trifoliata
↓ From Endangered to Special Concern	Molluscs	Rainbow	Villosa iris
↓ From Endangered to Special Concern	Reptiles	Lake Erie Watersnake	Nerodia sipedon insularum
↓ From Special Concern to Not at Risk	Mosses	Pygmy Pocket Moss	Fissidens exilis
Extended consultation			
Endangered	Arthropods	Nine-spotted Lady Beetle	Coccinella novemnotata
Endangered	Arthropods	Nuttall's Sheep Moth	Hemileuca nuttallii
Endangered	Fishes (freshwater)	River Darter (Great Lakes - Upper St. Lawrence populations)	Percina shumardi
Endangered	Fishes (marine)	Sockeye Salmon (Sakinaw population)	Oncorhynchus nerka
Endangered	Molluscs	Shortface Lanx	Fisherola nuttallii
Threatened	Fishes (freshwater)	Little Quarry Lake Benthic Threespine Stickleback	Gasterosteus aculeatus
Threatened	Fishes (freshwater)	Little Quarry Lake Limnetic Threespine Stickleback	Gasterosteus aculeatus
↓ From Endangered to Threatened	Mammals	Peary Caribou	Rangifer tarandus pearyi
↑ From Special Concern to Threatened	Reptiles	Western Yellow-bellied Racer	Coluber constrictor mormon
Status confirmed – no consultation			
Endangered	Arthropods	Eastern Persius Duskywing	Erynnis persius persius
Endangered	Mammals	Pacific Water Shrew	Sorex bendirii
Threatened	Mammals	Gray Fox	Urocyon cinereoargenteus
Threatened	Reptiles	Eastern Yellow-bellied Racer	Coluber constrictor flaviventris
Special Concern	Fishes (freshwater)	River Redhorse	Moxostoma carinatum
Special Concern	Mammals (marine)	Harbour Porpoise (Pacific Ocean population)	Phocoena phocoena vomerina
Special Concern	Reptiles	Northern Rubber Boa	Charina bottae

3.3 Public Consultations

Public consultations provide the Minister with a better understanding of the potential social and economic impacts of possible changes to Schedule 1, and of the potential consequences of adding or *not* adding a species to the list. Information collected during consultations is used to inform the Minister's recommendations to the Governor in Council on amending Schedule 1 of SARA.

In 2016, ECCC carried out consultations for 25 terrestrial species for which status assessments had been received from COSEWIC as part of Batch 13. The document *Consultation on Amending the List of Species under the Species at Risk Act: Terrestrial Species – January 2016* was posted on the Species at Risk Public Registry (http://www.registrelep-sararegistry.gc.ca/document/default_e.cfm?documentID=2749).

In 2016, DFO consulted Canadians on the possible listing on Schedule 1 of five aquatic species. DFO mailed / emailed consultation documents directly to other government departments, Wildlife Management Boards, stakeholders, Indigenous groups and non-governmental organizations for their input, and held meetings with potentially affected groups and organizations. Public consultations were also facilitated by inviting respondents to contribute to a web-based, species-specific survey hosted on the Species at Risk Public Registry along with supporting documents.

In 2016, three regulatory proposals on whether or not to amend Schedule 1 of SARA according to the COSEWIC assessments for the 48 species on Schedule 1 were published in *Canada Gazette*, Part I for a 30-day public comments period. The comments received will inform final listing decisions for these species.

3.4 Listing Decisions

Governor in Council decisions on whether or not to amend Schedule 1 according to the COSEWIC assessments are published as orders amending Schedule 1 of SARA in the *Canada Gazette*, and include Regulatory Impact Analysis Statements. Decisions to not add a species at risk to Schedule 1 of SARA or to refer the matter back to COSEWIC are published in the *Canada Gazette* with an explanatory note.

There were no orders amending Schedule 1 of SARA published in 2016. However, in June 2016, 18 terrestrial species were proposed for addition or reclassification to Schedule 1 of SARA. In August 2016, 13 aquatic species were proposed for addition, reclassification or removal from Schedule 1 of SARA, and a proposal was made to not add two additional aquatic species to Schedule 1. In October 2016, 15 terrestrial species were proposed for addition or reclassification on Schedule 1 of SARA. Final decisions on these 48 species are expected in 2017.

Table 2: Listing processes for species at risk at year-end 2016 (Batches 1 to 14)

Batch and year of Minister's receipt	Total number of species assessed^a	Assessed as at risk	Confirmation of current status	Added to Schedule 1^b	Uplisted (to a higher risk category)	Downlisted (to a lower risk category)	Not listed	Referred back	Listing decision pending
(Proclamation)	-	233	-	233	-	-	-	-	-
Batch 1 (2004)	115	95	4	75	0	0	8 ^c	8 ^c	0
Batch 2 (2004)	59	51 (+9 ^d)	0	46	0	0	13	1	0
Batch 3 (2005)	73	59	4	44	0	0	6	1	4
Batch 4 (2006)	68 (+5 ^e)	59	4	40	2	0	4	2	7
Emergency Assessment (2006)	1	1	0	0	0	0	1	0	0
Batch 5 (2007)	64	53	8	29	2	4	0	0	10
Batch 6 (2008)	46	39	14	18	3	0	1	0	3
Batch 7 (2009)	48	46	17	18	3	1	0	0	7
Batch 8 (2010)	79	78	34	14	3	5	3	0	19
Batch 9 (2011)	92	81	31	0	0	1	0	2	47
Batch 10 (2012)	64	57	28	0	0	0	0	0	29
Emergency Assessment (2012)	3	3	0	3	0	0	0	0	0
Batch 11 (2013)	73	67	32	0	0	0	0	0	35
Batch 12 (2014)	56	56	23	0	0	0	0	0	33
Batch 13 (2015)	54	54	24	0	0	0	0	0	30
Batch 14 (2016)	45	38	8	0	0	0	0	0	30

^a The total includes species assessed for the first time, species being reassessed and previously assessed species that have been split into more than one designatable unit.

^b The total listed as "Added to Schedule 1" may not add up to the number of species included on Schedule 1 (518) because it does not account for species that were subsequently split into more than one designatable unit with no corresponding change in status and were therefore treated as status confirmations or were subsequently removed from the list.

^c One species was referred back and subsequently not listed. It is counted under "not listed."

^d Includes four wildlife species that were not listed for further consideration from Batch 1 and reconsidered in Batch 2, and five additional wildlife species when one designatable unit received by COSEWIC was split into six for listing.

^e Includes five wildlife species in Batch 1 that were referred to COSEWIC and resubmitted by COSEWIC with the original assessments.

3.5 SARA Schedule 1 Current Status

When SARA was proclaimed in June 2003, Schedule 1 included 233 species. Starting in 2005, species have been added to the list every year, except in 2008, 2015 and 2016.

As of December 31, 2016, Schedule 1 listed 23 extirpated species, 241 endangered species, 127 threatened species and 130 species of special concern, for a total of 521 species.

Tables 3 and 4 show the number of species added to Schedule 1 each year, by risk status and government department/agency, respectively.

Table 3: Numbers of species added to Schedule 1 each year by risk status (as of December 2016)

Year	Risk status				Total
	Extirpated	Endangered	Threatened	Special Concern	
June 2003 (proclamation)	17	107	67	42	233
2005	4	47	30	31	112
2006	0	18	14	12	44
2007	0	20	5	11	36
2008	0	0	0	0	0
2009	0	8	3	11	22
2010	0	11 ^a	8	4	23 ^a
2011	2	7	4	10	23
2012	0	11	2	5	18
2013	0	4	2	1	7
2014	0	3	0	0	3
2015	0	0	0	0	0
2016	0	0	0	0	0
Total	23	236	135	127	521^b

^a The Eastern Foxsnake was split into two populations. The new populations inherited the species' status on Schedule 1 of SARA before it was split, and both new populations were uplisted in 2010. For the purpose of this table, one of the new Eastern Foxsnake populations was treated as an addition to Schedule 1.

^b Although the total number of listed species (521) is correct, the total listed as endangered, threatened and special concern is slightly different because the values presented in this table do not reflect status changes (i.e., uplisting or downlisting of a species).

Table 4: Number of species listed on Schedule 1 by department/agency responsible for recovery planning (as of December 2016)

	Environment and Climate Change Canada	Fisheries and Oceans Canada	Parks Canada Agency	Total
Terrestrial mammals	30	–	4	34
Aquatic mammals	–	22	–	22
Birds	70	–	3	73
Reptiles	34	1	5	40
Amphibians	20	–	1	21
Fishes	–	69	–	69
Molluscs	5	19	2	26
Arthropods	33	–	4	37
Plants	122	–	52	174
Lichens	9	–	1	10
Mosses	11	–	4	15
Total	334	111	76	521

4. Protection of Individuals and Residences of Listed Species

4.1 Legislative Background

The protection that comes into effect following the addition of a species to Schedule 1 of SARA depends on the type of species (aquatic, terrestrial, migratory bird), its listed status (extirpated, endangered, threatened, special concern) and its location.

Sections 32 and 33 of SARA make it an offence to:

- kill, harm, harass, capture or take an individual of a species that is listed as extirpated, endangered or threatened;
- possess, collect, buy, sell or trade an individual of a species that is listed as extirpated, endangered or threatened, or any of its parts or derivatives; or
- damage or destroy the residence of one or more individuals of a species that is listed as endangered or threatened, or of a species listed as extirpated if a recovery strategy has recommended its reintroduction into the wild in Canada.

These prohibitions apply immediately upon listing to:

- all aquatic species;
- all migratory birds protected under the *Migratory Birds Convention Act, 1994* wherever they are found in Canada; and
- all other extirpated, endangered or threatened species on federal lands or on lands that are in a territory and that are under the authority of the Minister of the Environment or the Minister responsible for the Parks Canada Agency.

Under SARA, the provinces and territories are provided with the first opportunity to protect other listed species that are not aquatic or migratory birds on provincial, territorial and private land. If the Minister of the Environment is of the opinion that provincial, territorial or other federal legislation does not effectively protect the species or the residences of its individuals, the Minister is required, after consultation with the appropriate provincial or territorial minister or the applicable wildlife management board, to recommend to the Governor in Council that an order be made to apply the prohibitions in sections 32 and 33 of SARA. To date, the Government of Canada has not made any such orders under SARA.

SARA also contains requirements about the protection of critical habitat for species at risk once it has been identified. Section 6.1 of this report addresses the protection of critical habitat.

4.2 Emergency Protection Orders

In accordance with subsection 80(2) of SARA, the competent minister must recommend an emergency order to the Governor in Council (GIC) if he or she is of the opinion that a listed wildlife species faces imminent threats to its survival or recovery. The final decision on whether or not to issue the emergency order rests with the GIC. When making its decision, the GIC also takes into account socio-economic considerations.

On June 22, 2016 the Government of Canada unveiled an emergency order for the protection of the Western Chorus Frog (*Pseudacris triseriata*), Great Lakes / St. Lawrence — Canadian Shield Population (GLSLCS), which came into force on July 8, 2016. This followed the Minister of the Environment's recommendation to the GIC regarding imminent threats to the recovery of the Western Chorus Frog as a result of development in La Prairie, Quebec.

The primary purpose of the Order is to prevent the loss or degradation of the habitat the Western Chorus Frog (GLSLCS) needs to stabilize its population and help its recovery. It contains a number of prohibitions for the protection of the species. The area covered by the Order is approximately 2 km² of undeveloped and partially developed land in the municipalities of La Prairie, Candiac, and Saint-Philippe, suburbs outside of Montreal, Quebec, a large portion of which is currently a conservation park.

More information about the Order including maps and a summary of the prohibitions is available on the Species at Risk Public Registry.

5. Recovery Planning for Listed Species

5.1 Legislative Requirements

Under SARA, the competent ministers must prepare recovery strategies and action plans for species listed as extirpated, endangered or threatened and management plans for those

listed as special concern. Recovery strategies identify threats to the species and its habitat, identify critical habitat to the extent possible, and set population and distribution objectives for the species. Action plans outline the projects or activities required to meet the objectives outlined in the recovery strategy. This includes information on the species habitat, protection measures, and an evaluation of the socio-economic costs and benefits. Management plans identify conservation measures needed to prevent a species listed as special concern from becoming threatened or endangered, but do not identify critical habitat.

Tables 5a and 5b show the required timelines for developing recovery strategies and management plans. The timelines for developing action plans are set within the recovery strategies. Posting of SARA recovery documents is the responsibility of the competent minister for the species; however, they must be developed, to the extent possible, in cooperation and consultation with all relevant jurisdictions and directly affected parties.

Timeline requirements for developing recovery strategies and management plans

Table 5a: For species listed on Schedule 1 of SARA after June 5, 2003 but not on Schedule 2 or 3 (in years)

Recovery strategy		Management plan
Endangered	Threatened or Extirpated	Special Concern
1	2	3

Table 5b: For species on SARA's Schedule 2 or 3 and listed on Schedule 1 of SARA after June 5, 2003 (in years)

Recovery strategy		Management plan
Endangered	Threatened	Special Concern
3	4	5

Proposed recovery strategies, action plans and management plans are posted on the Species at Risk Public Registry for a 60-day public comment period. The competent ministers consider comments and make changes where appropriate. The final recovery strategy action plan or management plan, as applicable, is to be published on the public registry within 30 days after the expiry of the public comment period. Five years after a recovery strategy, action plan or management plan comes into effect, the competent minister must report on progress made toward achieving the stated objectives.

5.2 Recovery Planning Activities in 2016

In 2014, ECCC published a posting plan for overdue proposed recovery strategies and management plans for 192 species over three years in a prioritized manner, based on consideration of immediate threats and population declines as well as program priorities and information availability. The posting plan and progress in publishing proposed recovery strategies and management plans to date are available on the Species at Risk Public Registry (www.sararegistry.gc.ca/default.asp?lang=En&n=1C098D5B-1).

PCA did not publish any posting plans in 2016.

DFO published a posting plan for overdue proposed recovery strategies, action plans and management plans (www.sararegistry.gc.ca/document/default_e.cfm?documentID=2661).

5.2.1 Recovery Strategies

In 2016, ECCC posted proposed recovery strategies for 41 species and final recovery strategies for 21 species. PCA did not post any recovery strategies in 2016. DFO posted proposed recovery strategies for 14 species and final recovery strategies for two species. New recovery strategies that were posted on the Species at Risk Public Registry are listed in Table 6.

Table 6: Species for which recovery strategies were posted in 2016 by competent department

Competent department	Final recovery strategies: Species	Proposed recovery strategies: Species
Environment and Climate Change Canada	Behr's (columbia) Hairstreak Bent Spike-rush (Great Lakes Plains population) Canada Warbler Cherry Birch Common Nighthawk Drooping Trillium Golden-winged Warbler Half-moon Hairstreak Jefferson Salamander Nodding Pogonia Ogden's Pondweed Olive-sided Flycatcher Oregon Forestsnail Pale-bellied Frost Lichen Porsild's Bryum Queensnake Townsend's Mole Verna's Flower Moth Vesper Sparrow affinis subspecies Wolverine (Eastern population) Yellow-breasted Chat auricollis subspecies (Southern Mountain population)	Bert's Predaceous Diving Beetle Allegheny Mountain Dusky Salamander (Carolinian population) American Chestnut American Colombo Aweme Borer Barn Owl (Eastern population) Bicknell's Thrush Bird's-foot Violet Blanding's Turtle (Great Lakes / St. Lawrence population) Blue-grey Taildropper Slug Branched Bartonina Butler's Gartersnake Chestnut-collared Longspur Cliff Paintbrush Eastern Musk Turtle Edwards' Beach Moth False Rue-anemone Juniper Sedge Large Whorled Pogonia Lewis's Woodpecker Mountain Holly Fern Northern Barrens Tiger Beetle Northern Leopard Frog (Rocky Mountain population) Pacific Gophersnake Prairie Skink Purple Twayblade Rapids Clubtail Red Knot roselaari type Red Knot rufa subspecies Rusty-patched Bumble Bee Seaside Bone Lichen Slender Bush-clover Spalding's Campion Spiny Softshell Spotted Turtle Streambank Lupine Tall Bugbane Wallis' Dark Saltflat Tiger Beetle Western Silvery Aster Wood Bison Wood Turtle
Parks Canada Agency	Nil	Nil
Fisheries and Oceans Canada	Northern Bottlenose Whale (Scotian Shelf Population) Salish Sucker	Atlantic Whitefish Eastern Pondmussel Mapleleaf (Great Lakes – Western St. Lawrence Population) Misty Lake Lentic Threespine Stickleback Misty Lake Lotic Threespine Stickleback Northern Riffleshell Rainbow Rainbow Smelt (Lake Utopia Small-Bodied Population) Rayed Bean Round Pigtoe Salamander Mussel Snuffbox Speckled Dace Western Silvery Minnow

5.2.2 *Action Plans*

An action plan identifies the conservation measures required to address the threats to the species and meet the population and distribution objectives outlined in the recovery strategy. An action plan must also, to the extent possible, identify critical habitat or complete the identification of critical habitat, if it is not fully identified in the recovery strategy. An action plan includes information on measures proposed to protect that critical habitat, methods proposed to monitor the recovery of the species and its long term viability, and an evaluation of the socio-economic costs of the action plan and benefits to be derived from its implementation.

In 2016, ECCC posted proposed action plans for 12 species and final action plans for one species. PCA posted 9 proposed and 9 final multi-species action plans covering a total of 95 different extirpated, endangered and threatened (EET) SARA-listed species on PCA lands and waters. DFO posted proposed action plans for 30 species.

The species for which action plans were posted in 2016 are listed in Table 7.

Table 7: Species for which action plans were posted in 2016

Competent department	Final action plans	Proposed action plans
<p>Environment and Climate Change Canada</p>	<p>Kirtland's Warbler</p>	<p>Barrens Willow Fernald's Braya Long's Braya Atlantic Coastal Plain Flora (Pink Coreopsis, Thread-leaved Sundew, Water Pennywort, Goldencrest, Plymouth Gentian) Southwestern Saskatchewan : South of the Divide (Burrowing Owl, Loggerhead Shrike excubitorides subspecies, Mountain Plover, Sprague's Pipit)</p>
<p>Parks Canada Agency Multi-species Action Plans³ (Number of EET SARA-listed species in action plan)</p>	<p>Gwaii Haanas National Park Reserve, National Marine Conservation Area, and Haida Heritage Site of Canada (16) Point Pelee National Park of Canada and Niagara National Historic Sites of Canada (41) Grasslands National Park of Canada (14) Kouchibouguac National Park of Canada and Associated National Historic Sites of Canada (9) Prince Edward Island National Park of Canada (7) Bruce Peninsula National Park of Canada and Fathom Five National Marine Park of Canada (18) Georgian Bay Islands National Park of Canada (10) Gros Morne National Park of Canada (7) Thousand Islands National Park of Canada (17)</p>	<p>Gwaii Haanas National Park Reserve, National Marine Conservation Area, and Haida Heritage Site of Canada (16) Point Pelee National Park of Canada and Niagara National Historic Sites of Canada (41) Grasslands National Park of Canada (14) Kouchibouguac National Park of Canada and Associated National Historic Sites of Canada (9) Prince Edward Island National Park of Canada (7) Bruce Peninsula National Park of Canada and Fathom Five National Marine Park of Canada (18) Georgian Bay Islands National Park of Canada (10) Kejimikujik National Park and National Historic Site of Canada (12) Pacific Rim National Park Reserve of Canada (18)</p>
<p>Fisheries and Oceans Canada</p>		<p>Atlantic Salmon (Inner Bay of Fundy Population) Atlantic Whitefish Blue Whale (Pacific Population) Coastrange Sculpin (Cultus Population) Eastern Pondmussel Eastern Sand Darter (Ontario Population) Fin Whale (Pacific Population) Kidneyshell Killer Whale (Northeast Pacific Northern Resident Population) Killer Whale (Northeast Pacific Southern Resident Population) Mapleleaf (Great Lakes – Western St. Lawrence Population) Nooksack Dace North Atlantic Right Whale North Pacific Right Whale Northern Bottlenose Whale (Scotian Shelf Population) Northern Madtom Northern Riffleshell Paxton Lake Benthic Threespine Stickleback Paxton Lake Limnetic Threespine Stickleback Pugnose Shiner Rainbow Rayed Bean Round Hickorynut Round Pigtoe Salamander Mussel Salish Sucker Sei Whale Snuffbox Vananda Creek Benthic Threespine Stickleback Vananda Creek Limnetic Threespine Stickleback</p>

³ Note that an individual species may be covered in more than one multi-species action plan.

5.2.3 Identification of Critical Habitat

SARA defines "critical habitat" as the habitat that is necessary for the survival or recovery of a listed wildlife species and that is identified as the species' critical habitat in the recovery strategy or in an action plan for the species. Competent ministers must identify critical habitat to the extent possible, based on the best available information.

In 2016, ECCC published final recovery strategies in which critical habitat was identified for 15 species and proposed recovery strategies in which critical habitat was identified for 36 species, ECCC also published a final action plan in which critical habitat was identified for one species and a proposed action plan in which critical habitat was identified for one species.

PCA identified critical habitat for 11 species in four multi-species action plans as follows:

- seven species in the Multi-species Action Plan for Grasslands National Park of Canada (Eastern Yellow-bellied Racer, Greater Short-Horned Lizard, Mormon Metalmark, Mountain Plover, Loggerhead Shrike (Prairie population), Sprague's Pipit, Swift Fox);
- one species in the Multi-species Action Plan for Gros Morne National Park; (Piping Plover (melodus subspecies))
- two species in the Multi-species Action Plan for Point Pelee National Park of Canada and Niagara National Historic Sites of Canada (Least Bittern and Prothonotary Warbler); and
- one species in the Multi-species Action Plan for Thousand Islands National Park of Canada (Least Bittern).

DFO published final recovery strategies in which critical habitat was identified for two species, and proposed recovery strategies in which critical habitat was identified for 14 species.

5.2.4 Management Plans

Species of special concern are those that may become threatened or endangered because of a combination of biological characteristics and identified threats. SARA requires competent ministers to prepare management plans for species of special concern. A management plan differs from a recovery strategy and an action plan, in that it identifies conservation measures needed to prevent a species of special concern from becoming threatened or endangered, but does not identify critical habitat. Where appropriate, these management plans may be prepared for multiple species on an ecosystem or landscape level.

In 2016, ECCC posted proposed management plans for 13 species and final management plans for four species. PCA did not post any management plans. DFO posted a proposed management plan for eight species and final management plans for three species. The species for which management plans were posted in 2016 are listed in Table 8.

Table 8: Species for which management plans were posted in 2016 (by competent department)

Competent department	Final management plans: Species	Proposed action plans: Species
Environment and Climate Change Canada	Monarch Blue Ash Pygmy Pocket Moss Pale Yellow Dune Moth	Western Toad Northern Map Turtle Northern Rubber Boa Coastal Tailed Frog Coeur d'Alene Salamander Northern Red-legged Frog Band-tailed Pigeon Snapping Turtle Great Blue Heron fannini subspecies Dwarf Woolly-heads (Prairie population) Oldgrowth Specklebelly Lichen Short-eared Owl Red Knot islandica subspecies
Parks Canada Agency	Nil	Nil
Fisheries and Oceans Canada	Deepwater Sculpin (Great Lakes – Western St. Lawrence Population Shortnose Sturgeon Upper Great Lakes Kiyi	Deepwater Sculpin (Great Lakes – Western St. Lawrence Population Fin Whale (Atlantic Population) Green Sturgeon Northern Brook Lamprey River Redhorse Sowerby's Beaked Whale Wavy-rayed Lampmussel Westslope Cutthroat Trout

6. Recovery Implementation

6.1 Protection of Critical Habitat

Critical habitat protection under SARA depends on the type of species (aquatic, terrestrial, migratory bird), and the location of the critical habitat (federal protected area, other federal lands, non-federal lands).

Subsections 58(1) and 61(1) of SARA make it an offence to destroy critical habitat. However, these prohibitions do not automatically apply when critical habitat is identified.

If critical habitat for any species is identified in a federal protected area named under subsection 58(2), SARA requires that a description of that critical habitat be published in the *Canada Gazette* within 90 days after the critical habitat is identified in a final recovery strategy or action plan that is posted on the Species at Risk Public Registry. Subsection 58(1) of SARA prohibiting destruction of critical habitat comes into effect a further 90 days after the date of publication of that critical habitat's description in the *Canada Gazette*.

Case study

Parks Canada turns road construction into opportunities for species

The Highway 117 Rehabilitation Project, in Kouchibouguac National Park of Canada, utilized collaboration, advance planning, and an understanding of the local ecosystem to turn a road construction project into long term benefits for species.

Re-paving 24 kilometers of road risked damaging sensitive stream habitats, where many species including the threatened Wood Turtle lived. Road mortality is one of the biggest threats facing Wood Turtles in Canada.



Highway 117 tunnel in Kouchibouguac
Photo: © Parks Canada Agency



Wood Turtle / Photo: Sylvain Giguère
© Environment and Climate Change Canada

The Highway Rehabilitation Project passed right through two areas of critical habitat for the Wood Turtle. Scientific studies in Kouchibouguac also showed there were four 'hotspots' along the highway that were particularly deadly for amphibians, such as frogs and salamanders. With this in mind, the construction team, engineers, and the Kouchibouguac ecologists worked closely to install four wildlife tunnels in these hotspots. Two of these tunnels are in Wood Turtle critical habitat. These specially designed passages allow wildlife to safely cross under the road rather than over it. To make sure frogs, salamanders, turtles, and other small animals could find the tunnels, fencing was installed along the highway to guide wildlife into the underpasses.

The habitat improvements did not end there. In addition to re-paving the road, 58 culverts needed replacing. The new, larger culverts enhanced the habitat for many fish species by reducing erosion. 'Plunge pools' were created adjacent to several culverts which also slow the water flow, providing resting spots for migrating fish and habitat for amphibians. At six sites, culvert replacements expanded fish habitat by connecting previously blocked streams that had fragmented the aquatic habitat.

These were not the only connections established during this project. Park biologists worked with engineers to decide the location of the wildlife tunnels. Construction contractors coordinated with staff at PCA and DFO to decide which style of culverts to install. The key to the success of this project was involving partners who could lend their expertise and support early on in the planning process.

In 2016, ECCC protected critical habitat for 8 species in 8 national wildlife areas (NWAs) and 4 migratory bird sanctuaries (MBS):

- Western Chorus Frog, Great Lakes / St. Lawrence – Canadian Shield population (Wellers Bay NWA)
- Western Harvest Mouse (Canadian Forces Base Suffield NWA)
- Dusky Dune Moth (Canadian Forces Base Suffield NWA)
- Smooth Goosefoot (Canadian Forces Base Suffield NWA)
- Least Bittern (Shepody NWA, Cap Tourmente NWA, Big Creek NWA, Long Point NWA, St. Clair NWA, Nicolet Bird Sanctuary, Philipsburg Bird Sanctuary and Upper Canada Bird Sanctuary NWA)
- Bent Spike-rush (Long Point NWA)
- Yellow Breasted-chat (Vaseux-Bighorn NWA and Vaseux Lake Bird Sanctuary)
- Behr's Hairstreak (Vaseux-Bighorn NWA)

In 2016, PCA protected critical habitat for 16 species in eight national parks:

- Eastern Yellow-bellied Racer (Grasslands National Park of Canada)
- Golden-winged Warbler (Riding Mountain National Park of Canada)
- Greater Short-horned Lizard (Grasslands National Park of Canada)
- Half-moon Hairstreak (Waterton Lakes National Park of Canada)
- Least Bittern (Point Pelee National Park of Canada and Thousand Islands National Park of Canada)
- Loggerhead Shrike (Prairie population) (Grasslands National Park of Canada)

- Massasauga (Georgian Bay Islands National Park of Canada and Fathom Five National Marine Park of Canada)
- Mormon Metalmark (Prairie population) (Grasslands National Park of Canada)
- Mountain Plover (Grasslands National Park of Canada)
- Sprague's Pipit (Grasslands National Park of Canada)
- Swift Fox (Grasslands National Park of Canada)
- Piping Plover (*melodus subspecies*) (Gros Morne National Park of Canada)
- Prothonotary Warbler (Point Pelee National Park of Canada)
- Pugnose Shiner (Thousand Islands National Park of Canada)
- Spotted Gar (Point Pelee National Park of Canada)
- Western Chorus Frog, Great Lakes / St. Lawrence – Canadian Shield population (Thousand Islands National Park of Canada)

Efforts are ongoing to finalize protection measures for critical habitat of other species on lands administered by PCA.

Case study

Collaborative effort to complete the ministerial order to protect critical habitat of the Roseate Tern on federal lands and water in Nova Scotia



Roseate Tern / Photo: Jared Maida
© Environment and Climate Change Canada

The Roseate Tern (*Sterna dougallii*), a medium-sized, graceful seabird, is found on coasts and islands along the Atlantic, Indian and Pacific oceans, with important North Atlantic nesting sites on islands off the coast of Nova Scotia. The Roseate Tern is a migratory bird afforded protection under the *Migratory Bird Convention Act, 1994* (MBCA), listed as an endangered species under the *Nova Scotia Endangered Species Act* and designated as a threatened wildlife species under Quebec's *An Act Respecting Threatened or Vulnerable Species*.

In 2003, the Roseate Tern is also listed as endangered under SARA. The final recovery strategy for the Roseate Tern was completed and posted on the Species at Risk Public Registry in 2006. It identified terrestrial and aquatic critical habitat, some of which was on the following federal lands: 1) terrestrial habitat of, and waters surrounding, Sable Island, Nova Scotia; 2) waters surrounding North Brother and South Brother Islands, Nova Scotia; and 3) terrestrial habitat of, and waters surrounding, Country Island, Nova Scotia.

In January 2007, a description of the critical habitat of the Roseate Tern in the Sable Island Bird Sanctuary was published in the *Canada Gazette*. Legal protection under SARA came into effect 90 days later, on April 20, 2007. Sable Island is administered by PCA and is currently both a Migratory

Bird Sanctuary under the MBCA and a National Park Reserve under the *Canada National Parks Act* (CNPA).

On December 1, 2013, the Sable Island National Park Reserve was established. The PCA published a Protection Statement on the Species at Risk Public Registry in October 2014 that stated that the CNPA and its regulations provide legal protection against the destruction of critical habitat for the Roseate Tern on Sable Island through a number of provisions. In order to assess the legal protection on the remaining federal lands on which critical habitat for the Roseate Tern had been identified, ECCC performed a detailed review of the MBCA; the *Canada Shipping Act, 2001*; the *Oceans Act*; the *Federal Real Property and Federal Immovables Act*; and the *Fisheries Act*. ECCC concluded that portions of Roseate Tern critical habitat were not legally protected. ECCC worked with PCA and consulted DFO, the Nova Scotia Department of Natural Resources and Indigenous communities to finalize the legal protection of critical habitat of the Roseate Tern.

On November 16, 2016, a Ministerial Order was published prohibiting the destruction of critical habitat as set out in subsection 58(1) of SARA. This order will contribute to the recovery of the Roseate Tern by protecting the species' critical habitat on federal land from destructive human activities. The order also provides regulatory certainty with respect to future proposed activities in the area. The order may also help protect additional species, including a variety of other tern species with whom Roseate Terns co-nest -- the Common Tern (*Sterna hirundo*) and the Arctic Tern (*Sterna paradisaea*) -- as well as other species of seabirds and waterfowl that nest on Country Island, such as Leach's Storm-petrel (*Oceanodroma leucorhoa*), the Black Guillemot (*Cepphus grylle*), and the Common Eider (*Somateria mollissima*).

In 2016, DFO protected critical habitat for 6 species in 6 NWAs and 2 MBS (Migratory bird sanctuary), as well as 6 other species (one of which has 4 populations):

- Copper Redhorse (Iles de Contrecoeur NWA)
- Eastern Sand Darter, Ontario populations (Long Point NWA)
- Pugnose Shiner (Big Creek, Long Point, St. Clair and Wellers Bay NWAs)
- Spotted Gar (Big Creek NWA)
- White Sturgeon, Nechako River population (Nechako River Bird Sanctuary)
- Beluga Whale, St. Lawrence Estuary population (Ile aux Basques Bird Sanctuary and the Iles de l'Estuaire NWA)
- Nooksack Dace
- Northern Madtom
- White Sturgeon:
 - Kootenay River population
 - Nechako River population
 - Upper Columbia River population
 - Upper Fraser River population

To help further protect aquatic species at risk, DFO also published a new web site that allows people who are considering a construction project to see where these species are located, and plan accordingly (www.dfo-mpo.gc.ca/species-especies/fpp-ppp/index-eng.htm).

Outside of federal protected areas, for critical habitat identified on other federal lands and for aquatic species, the competent minister has 180 days after the final recovery strategy or action plan that identified critical habitat is posted on the Species at Risk Public Registry to either:

- include on the registry a statement setting out how existing “legal protection” from SARA or another Act of Parliament protects critical habitat or portions of that habitat; or
- make an order to provide protection by bringing the subsection 58(1) prohibition into effect.

In 2016, ECCC did not post any protection statements on the Species at Risk Public Registry. An order was made by the Minister of the Environment to protect the critical habitat of the Roseate Tern on federal lands and waters in Nova Scotia from destruction by human activities.

Provinces and territories also play an important role in ensuring the protection of critical habitat for terrestrial species and migratory birds on provincial, territorial and private lands. If, after consultation with the appropriate provincial or territorial minister or, if applicable, the wildlife management board, the Minister of the Environment is of the opinion that there is no provision in, or other measures under SARA or any other Act of Parliament, including section 11 agreements, and that the laws of the province or territory do not effectively protect critical habitat, the Minister is required to recommend to the Governor in Council that an order be made to apply the prohibition in subsection 61(1) of SARA. The final decision on whether to put protection in place rests with the Governor in Council. In 2016, the Governor in Council did not issue any such orders under SARA.

6.2 Recovery Activities⁴

Government of Canada biologists across Canada led or supported dozens of activities, including research projects, education and awareness, habitat restoration or enhancement initiatives, monitoring, assessment, and more.

⁴ All funding programs in this section report numbers for the fiscal year April 1, 2015–March 31, 2016, the most complete recent data available.

Case study

Grasslands National Park engages volunteers to help protect the Greater Sage-Grouse and restore its critical habitat



Volunteers planting sage brush plugs
Photo: © Parks Canada Agency

In 2016, volunteers and partners at Grasslands National Park of Canada spent more than 400 hours marking fences and planting sagebrush plugs to enhance and restore Greater Sage-Grouse habitat.

The endangered Greater Sage-Grouse (or sage-grouse) has suffered from loss and fragmentation of its sagebrush habitat. Since Grasslands National Park (GNP) has the last two active leks (traditional places where males assemble to engage in competitive displays that attract females) in Saskatchewan, it is a high priority site for sage-grouse habitat enhancement. Improving even small areas of habitat can improve the species' access to food (plants and insects), nest sites, and shelter from predators, leading to a significant boost to their population.

GNP has partnered with the University of Alberta to carry out research on sagebrush steppe habitat restoration, which until now, has received little attention from scientists. Silver sagebrush, the main plant species of this habitat, forms a large portion of the sage-grouse diet and is necessary for nest establishment and successfully raising chicks. As part of this important research, an enthusiastic volunteer crew planted 3,000 small sagebrush plugs to help restore critical habitat. Local ranchers at GNP are also using modified cattle grazing practices to restore and enhance sage-grouse critical habitat. Many other grassland species, including Burrowing Owl, Sage Thrasher, Mountain Plover and Sprague's Pipit, will also benefit.



GNP staff marking fences for Sage-Grouse
Photo: © Parks Canada Agency

Fences present another challenge to sage-grouse and other wildlife; collisions and entanglement with the fence wires often result in injury or death. In 2012, GNP piloted fence marking as a way to minimize wildlife collisions. By placing three-inch lengths of vinyl siding along the top two strands of the barbed wire, the fence is made much more visible to wildlife. Alternating colours of grey and white siding ensure it is visible during all seasons. Fence marking is now a part of regular management activities. By the end of 2015, 33.2 km of fencing had been marked and 28.2 km of fencing had been removed altogether. In 2016, volunteers and staff marked a further 11.5 km of fencing, focusing on areas near sage-grouse.

6.2.1 Competent Departments' Recovery Activities

In 2016, ECCC continued to lead and support numerous activities targeting

the recovery of species at risk, including research projects, education and awareness, habitat restoration and enhancement initiatives, monitoring, and assessment.

Case study National Boreal Caribou Technical Committee

The National Boreal Caribou Technical Committee (NBCTC), composed of federal, provincial, and territorial representatives, was established in 2013 to facilitate collaboration among jurisdictions in achieving the conservation and recovery of boreal caribou, and in implementing the federal *Recovery Strategy for the Woodland Caribou (Rangifer tarandus caribou), Boreal Population, in Canada* (hereafter National Recovery Strategy). The NBCTC provides a forum for jurisdictional experts to come together to discuss challenges and share success stories of boreal caribou management across the country. The Committee also provides an opportunity for provincial and territorial representatives to discuss their approaches to boreal caribou range planning, which will outline the jurisdiction's plans to manage activities over space and time to protect the critical habitat from destruction.

The National Recovery Strategy calls for range plans to be developed by October 2017, and ECCC has developed guidance to assist jurisdictions in their preparation of these plans. The goal of the NBCTC is to share knowledge, develop strategies, and identify and resolve key technical questions amongst jurisdictions that will help lead to the stabilization and recovery

of boreal caribou populations across Canada, and facilitate the implementation of the National Recovery Strategy. In carrying out its work, the NBCTC often draws on the expertise of regional and national scientific experts to ensure that the best available science is applied. To date, the NBCTC has focused its efforts on three main technical areas: 1) restoration of boreal caribou habitat following human-caused disturbances; 2) management approaches to avoid the loss of vulnerable boreal caribou populations; and 3) methods for boreal caribou population monitoring.

Finally, the NBCTC is acting as a review group for new science work being led by ECCC that aims to enhance understanding of the relationship between disturbance and boreal caribou population response in order to identify the best management actions. For example, the results of the new science work may help a jurisdiction to prioritize its management or restoration efforts for different disturbance types. A short description of the new science work for boreal caribou is available on the Species at Risk Public Registry (http://www.registrelep-sararegistry.gc.ca/document/default_e.cfm?documentID=2933).

In 2016, PCA continued to implement recovery activities in and around protected heritage places, including research, restoration activities, and public outreach and education. Several PCA projects are conducted in partnership with non-governmental organizations, academic institutions, private citizens and Indigenous communities. This work includes a number of major initiatives to restore and protect important habitat and implement key recovery actions

for species at risk. Conservation and Restoration (CoRe) project funds were also used to rear and release wild adult Atlantic Salmon (Inner Bay of Fundy population) to the rivers of Fundy National Park and to supplement feed for endangered burrowing owls in Grasslands National Park resulting in one of the highest number of fledglings in the last 18 years.

Case study

Prescribed fire and planting 'plus trees': two techniques used in Waterton Lakes National Park of Canada for recovering Whitebark Pine



Prescribed fire in Waterton Lakes National Park
Photo: Ryan Peruniak © Parks Canada Agency

Since 2009, the Waterton Lakes fire management team has been pro-actively restoring Whitebark Pine habitat using prescribed fires. Since Whitebark Pine thrive in open, sunny habitats, forest fires can benefit this species by creating open spaces in otherwise dense vegetation. In the past, these fires have been confined to small areas of 1-4 hectares. Then in 2016, a fire covering 15 hectares on Sofa Mountain became the first sizeable prescribed fire specifically designed to restore Whitebark Pine habitat.

The Whitebark Pine grows slowly and may be 80 years old before it produces a substantial crop of cones. Despite its ability to withstand extreme environments, this pine is extremely vulnerable to the white pine blister rust fungus, introduced to North America in the early 1900's, which can have a lethal effect by blocking the movement of water and nutrients through its trunk and branches. The fungus also causes large cankers to form on the pine, making it more vulnerable to disease and Mountain Pine Beetle infestations. At Waterton Lakes, approximately 80-90% of the stands are infected and the Whitebark Pine population has decreased

in size significantly. This downward trend has been observed across its range and consequently, the Whitebark Pine has been listed as endangered under SARA.



Whitebark Pine planting / Photo: © Parks Canada Agency

Following a forest fire, Whitebark Pine is often one of the first tree species to settle in this area. Over the past one hundred years however, human suppression of forest fires has resulted in Subalpine Fir and Engelmann Spruce crowding out Whitebark Pine as the forest ages. Forest fires also create habitat that attracts the Clark's Nutcracker by adding nutrients to the soil and by transforming dense vegetation into a sparse forest.

This small bird provides a crucial service to the Whitebark Pine by gathering and caching its seeds in preparation for the winter when food is scarce. The nutcracker, however, only ever retrieves about half of the seeds it buries, so those remaining may grow into trees. Based on this ecological understanding, a solution became clear: re-introducing fire to the landscape via a prescribed fire could effectively restore habitat for Whitebark Pine and also support Clark's Nutcracker.

To prepare for the prescribed fire, staff made a detailed survey to identify any healthy trees, which were then protected from the fire. The local weather conditions were monitored on an hourly basis to identify the optimal time to begin. The main fire was lit using a heli-torch that hung below a helicopter and dropped burning, gelled fuel into the trees below. The existing measures, in addition to rainfall, ensured the fire wouldn't spread further than intended. The prescribed fire had been a success.

In addition to habitat restoration, ecologists at Waterton Lakes National Park are working to identify and collect the seeds of 'plus trees', i.e. those that have shown resistance to the fungus. This scientific work is a cooperative effort. Glacier National Park in the U.S., which shares a border with Waterton Lakes National Park, has been involved by carefully cultivating 'plus tree' seeds in the laboratory and sharing them. Just weeks after the prescribed fire on Sofa Mountain, park staff transplanted 950 of these

plants in the newly restored habitat. Other partners include the six other mountain national parks, and the British Columbia and Alberta provincial governments.



Clark's Nutcracker in Whitebark Pine
Photo: © Parks Canada Agency

In 2016, DFO continued to implement recovery activities including: research, strategic regulatory sign placement, partnering with provincial wildlife conservation staff to share knowledge and build relationships in support of protecting species, environmental restoration opportunities, and targeted site visits.

In its ninth year, DFO's Marine Mammal Response Program departmental personnel and external partner organizations played key roles in marine animal emergency response. They carried out 155 responses nationally for species at risk. Responses included freeing whales from fishing gear entanglements, monitoring close approaches by vessels, refloating live stranded animals, reuniting stranded animals with their pods, performing necropsies on dead animals to determine cause of death, and investigating incidents of harassment. Information from response activities help DFO monitor and evaluate

the threat level from these forms of harm and find ways to reduce entanglements and vessel collisions. Outreach activities help to educate the public on ways to help protect and avoid harming marine animals.

6.2.2 *Habitat Stewardship Program*

The Government of Canada's Habitat Stewardship Program (HSP) for Species at Risk was established in 2000 as part of the National Strategy for the Protection of Species at Risk. The overall goals of the HSP are to contribute to the recovery of endangered, threatened and other species at risk, and to prevent other species from becoming a conservation concern, by involving Canadians from all walks of life in conservation actions to benefit wildlife.

The most complete data available for the HSP is for the 2015–2016 fiscal year.

Case study

Evaluating risk of cumulative effects of fire and human disturbance to boreal Woodland Caribou habitat



Boreal Woodland Caribou / Photo: Anne Gunn
© Government of the Northwest Territories

With support from the HSP Species at Risk Stream, the Forest Management Division of the Government of the Northwest Territories (NWT) undertook a project in 2015–2016 to investigate the combined impact of fire and forestry activity on the SARA-listed Woodland Caribou, Boreal Population (threatened).

Woodland Caribou, Boreal population (*Rangifer tarandus caribou*) is distributed broadly throughout the boreal forest in Canada. They require large areas of continuous tracts of undisturbed habitat rich in mature to old-growth forest, lichens, muskegs and peatlands. Habitat alteration from human activities and natural sources has led to increased predation by wolves, coyotes and bears, and decreased population sizes and distributions across Canada. In southern NWT,

wildland fire is the largest natural source of disturbance, and causes 75% of total alteration to Woodland Caribou habitat in this area. Historically in NWT, oil and gas exploration has been the largest source of human impact to this species. More recently, however, the greatest impact to this species' habitat has been increased forestry activity. This has led to a need to monitor and manage this activity more sustainably.

Using two existing climate change models (2015–2050 and 2051–2080), the Government of NWT developed landscape projections to investigate the combined impact of wildland fire and forestry activities in southern NWT on Woodland Caribou critical habitat. Landscape projections were carried out in two parts. The first part examined the impact of future timber harvests and fire disturbances, individually, as main factors that disturb Caribou habitat. The second part examined the cumulative effects of these two factors on Woodland Caribou ranges in southern NWT. The results highlight the high degree of uncertainty with regard to the impacts of forest fire, and have stressed the importance of managing timber harvesting activities in Woodland Caribou habitat already disturbed by wildfires.

The project produced valuable information that will inform Government of NWT policies on timber harvesting and wildland fire management and help minimize the impact to critical habitat under varying climate conditions. The results of this study will help forest managers integrate the needs of Woodland Caribou into existing and future timber harvesting plans. The HSP invested \$68,450 and the Government of NWT contributed an additional \$71,000 for this project.

Funding under the HSP is separated into two distinct streams: the Species at Risk Stream and the Prevention Stream.

1. The HSP Species at Risk Stream focuses on projects addressing the recovery of species at risk listed on Schedule 1 of SARA. Results are focused on:

- securing or protecting important habitat for the recovery of species at risk;
- improving, through restoration/enhancement, or managing important habitat to meet the recovery needs of species at risk;
- removing or mitigating threats to species at risk or their habitat caused by human activities; or
- engaging Canadians (landowners, resource users, volunteers) to participate directly in activities that support the recovery of species at risk so that project benefits are sustained over time.

Between its inception in 2000 and the end of March 2016, the HSP Species at Risk Stream has contributed over \$163.7 million in over 2,500 projects, benefiting more than 420 species at risk and leveraging more than \$397.1 million from project partners. The program also supports the legal protection of over 191,000 hectares (ha) of land and the improvement or restoration of more than 402,000 ha of land and 3,200 km of shoreline.

2. The HSP Prevention Stream focuses on projects addressing other species, beyond those listed on Schedule 1 of SARA, to prevent them from becoming a conservation concern.

Between its inception in 2014 and the end of March 2016, the HSP Prevention stream has invested over \$5.6 million in over 160 projects. During the 2015–2016 fiscal year, the HSP Prevention Stream invested more than

\$3.1 million to support 75 new local conservation projects and 3 previously approved multi-year projects to prevent species other than species at risk from becoming a conservation concern. Project partners also contributed over \$6.5 million to these projects.

During the 2015–2016 fiscal year, 96 new projects and 73 previously approved multi-year projects involving 150 funding recipients contributed to the recovery of over 270 SARA-listed species across Canada. A total of \$12.1 million in HSP funding was awarded to these projects, and an additional \$16.1 million (cash and in-kind) was leveraged from partners, for a total investment of \$28.2 million. These contributions provided support to stewardship efforts across Canada that resulted in the securement and protection of just over 87,000 ha of land, including over 3600 ha through legally binding means, such as acquisition or conservation easements. Non-legally binding protection was put in place through the use of written conservation agreements with landowners, which accounts for 23,000 ha, including over 10,000 ha through renewed conservation agreements and over 12,000 ha through new conservation agreements. The program also supported the improvement or restoration of more than 12,000 ha of land and 230 km of shoreline.

The HSP is co-managed by ECCC, DFO and PCA, and administered by ECCC on a regional basis. Regional Implementation Boards include representatives from federal, provincial and territorial governments, and various stakeholders. These boards provide advice on priorities and project selection for their regions. Further information on the program is available online at www.ec.gc.ca/hsp-pih.

Case study

Toronto Zoo Great Lakes Program - HSP at work



School presentation

Photo: © Environment and Climate Change Canada

In Southwestern Ontario, urban, industrial, forestry and agricultural activities can severely impact the health of the aquatic ecosystem of the region. The presence of critical habitat for a variety of species at risk, makes it important to sensitize people in the region to stresses on the natural habitat and the need to act as stewards of the environment.

For years, the Toronto Zoo has run a bilingual aquatic species at risk awareness program for children and educators. In 2015–2016, with support from the HSP (Species at Risk stream), the zoo led a one-year program to update and expand its popular Great Lakes Program, which aims to motivate citizens to become community stewards for aquatic species at risk.

- **The school program was updated and broadened**
The content of the program was updated and presentations were expanded to include Grades 4 and 6, in addition to Grades 1, 2, 7, 8 and 11. A biologist was hired to deliver the program in five priority watersheds in southwestern Ontario. In 2015–2016, the Great Lakes program reached over 19,000 participants in 128 different schools.

I am important! I am protected!



Mussels are protected by the *Fisheries Act*; collecting them without a permit is forbidden

For information, contact: greatlakes@torontozoo.ca | visit www.ontariomussels.com to report a mussel sighting



- **Interactive podcast modules aimed at teachers were created**

Two interactive, web-based teaching modules were created to offer additional resources for educators. The modules were shared with partners in Canada and the U.S.

- **A children's activity booklet about Great Lakes species at risk was created**

The zoo also expanded its Great Lakes public awareness program by developing outreach material for eight aquatic species at risk, including the Eastern Pondmussel (*Ligumia nasuta*), which is listed as endangered under SARA. Part of the funding was used to create an educational mussel decal for use as part of the Grade 11 teaching program.

6.2.3 *Aboriginal Fund for Species at Risk*

The Aboriginal Fund for Species at Risk (AFSAR), established in 2004, helps Indigenous organizations and communities across Canada build capacity to participate in the conservation and recovery of species at risk. The program also helps to protect and recover critical habitat or habitat important for species at risk on or near First Nations reserves or on land and waters traditionally used by Indigenous peoples.

The most complete data available for AFSAR is for the 2015–2016 fiscal year.

Funding under AFSAR is separated into two distinct streams.

1. The AFSAR Species at Risk Stream focuses on projects addressing the recovery of species at risk listed on Schedule 1 of SARA, targeting results in four main areas:

- strengthening capacity in Indigenous communities for SARA implementation;
- mitigating threats to species at risk, be they individuals or populations;
- protecting, improving or managing critical and important habitat of species at risk; and
- documenting and conserving aboriginal traditional knowledge and traditional ecological knowledge on species at risk and, where appropriate, helping ensure their use in the development of recovery objectives.

Between its inception in 2004 and the end of March 2016, the AFSAR Species at Risk Stream has contributed more than \$33.1 million to 850 projects, leveraging more than \$23.5 million in matching funds from project partners. Funded projects benefited more than 300 SARA-listed species and supported

the improvement or restoration of more than 13,500 ha of land and 190 km of shoreline.

During the 2015–2016 fiscal year, the AFSAR Species at Risk Stream provided \$3.7 million to 61 new projects and 20 previously approved multi-year projects. These projects leveraged additional funds that exceeded \$3.7 million (cash and in kind) and involved 71 unique Indigenous organizations and communities as recipients. Funded projects benefited approximately 300 SARA-listed species, mostly through increased Indigenous awareness of species at risk and through the development of strategies, guidelines and practices or the completion of monitoring studies, surveys and inventories.

2. The AFSAR Prevention Stream focuses on projects addressing other species, beyond those listed on Schedule 1 of SARA, to prevent them from becoming a conservation concern. It targets the same results as the Species at Risk Stream but with a focus on species beyond those listed on Schedule 1 of SARA.

Between its inception in 2014 and the end of March 2016, the AFSAR Prevention Stream has invested over \$1.5 million to support 45 local conservation projects and has partnered with more than 20 different Indigenous organizations and communities. Project partners have contributed more than \$1 million to these projects. During the 2015–2016 fiscal year, the AFSAR Prevention Stream provided over \$890,000 to 22 new local conservation projects and one previously approved multi-year project to prevent species other than species at risk from becoming a conservation concern. These projects involved 23 different Indigenous organizations and communities as recipients.

AFSAR is co-managed by ECCC, DFO, and PCA, with the support of Indigenous and Northern Affairs Canada and the guidance of National Aboriginal organizations. It is administered by ECCC and DFO on a regional basis. Regional Management Teams include representatives from federal,

provincial and territorial governments, Indigenous representatives, and various stakeholders. These teams provide advice on priorities and project selection for their regions. Further information is available online at www.sararegistry.gc.ca/default.asp?lang=En&n=100965FB-1.

Case study

Education, outreach and the gathering of traditional knowledge within Saskatchewan's Treaty 4 Region



Student field trip / Photo: Scott Fulton
© Nature Conservancy of Canada

In 2015–2016, a two-year project funded, in part, through the AFSAR (Species at Risk Stream) and the Nature Conservancy of Canada (NCC), was completed. The project brought a species at risk education program to children from the Treaty 4 territory within the Qu'Appelle River Watershed. The slopes and uplands of the Qu'Appelle River Watershed act as vital corridors for a number of species including the SARA-listed Piping Plover (endangered), Burrowing Owl (endangered),

Sprague's Pipit (threatened), and Greater Sage-Grouse (endangered). However, these species are under constant threat from habitat loss and degradation due to human activities.

The NCC partnered with the Treaty 4 Education Alliance, a group that supports the advancement of educational initiatives for the Treaty 4 territory, and led the development of the Learning the Land Program. The program, which includes a native prairie species at risk resource kit and associated teacher's manual, was developed to help students learn about native prairie ecosystems. NCC also worked with Elders to incorporate traditional knowledge into the educational materials to engage students and community members in on-the-ground species at risk stewardship work.

Through the Learning the Land Program, 260 youth and 92 adults participated in a variety of educational activities in the field, including walks with Elders to identify and learn more about medicinal plants, species identification, habitat surveys, and the use of Global Positioning Systems. This increased knowledge will allow community members to effectively participate in conservation planning and other stewardship activities to improve species at risk habitat. The AFSAR contributed \$106,660 in funding, and the NCC and its partners contributed an additional \$152,770 to support this project.

Case study

Atlantic Walrus Traditional Knowledge and Management Workshop

The Atlantic Walrus Population in Nunavut is faced with a number of threats including hunting removal, disturbance due to shipping, and declines in seasonal ice habitat due to climate change. Walrus in Nunavut are co-managed under the Nunavut Land Claims Agreement. A key challenge in the management of threats to walrus has been a lack of integrated information respecting walrus stock size and structure, life history, site occupation, movements and hunting mortality.

In the 2015–2016 fiscal year, the AFSAR program awarded Nunavut Tunngavik Incorporated (NTI) \$59,620 to support Atlantic Walrus Traditional Knowledge and Management workshops in Rankin Inlet, Cape Dorset and Kimmirut. Participants included representatives from NTI, DFO, the Kivalliq Wildlife Board, the Qikiqtaaluk Wildlife Board, the Nunavut Wildlife Management Board, as well as representatives from Nunavut communities and Hunter and Trappers Organizations. The main purpose of the workshops was to bring together walrus knowledge holders and co-management organizations to share information and improve walrus management, look for ways to link science and traditional knowledge and to develop maps of important walrus features (such as feeding, mating and birthing areas, and migration routes) using traditional knowledge.

The workshops included:

- Highlights of the Integrated Fisheries Management Plan for Walrus and its development. The plan incorporates scientific and traditional knowledge, and is expected to evolve and improve over time.
- The screening of an educational walrus hunting training video, developed with the support of AFSAR

funding in 2014–2015, on best management practices for subsistence walrus harvesting and how to provide experience to youth hunters.

- Round table discussions on the four main topics of walrus hunting, management practices, community concerns related to walrus, and ecological knowledge.
- A presentation by DFO Science on Walrus Traditional Knowledge and Science Integration and a discussion on future science and Inuit/traditional knowledge integration.
- Mapping exercises whereby detailed, table-sized maps (produced in collaboration with DFO's GIS colleagues) were used to assist in collecting traditional knowledge on walrus from members of the community, such as haul outs (historical and current), feeding areas, mating areas, birthing areas, migration routes, hunt locations, and polynyas (areas of open water in sea ice).

The participants will be provided with a full workshop summary document and maps (paper and GIS) in English and Inuktitut. Through this project, the positive sharing of information will support the sustainable management regime and species conservation for Atlantic Walrus within the Nunavut Settlement Area.



Workshop in Cape Dorset
Photo: © Fisheries and Oceans Canada

6.2.4 *Interdepartmental Recovery Fund*

Established in 2002, the Interdepartmental Recovery Fund (IRF), administered by ECCC, supports species at risk projects undertaken by federal government departments, agencies and Crown corporations (other than ECCC, DFO, and PCA). Funded projects predominantly occur on lands owned or administered by federal organizations and directly relate to the implementation of activities identified in recovery strategies or action plans, or surveys of species at risk. More information is available online (www.sararegistry.gc.ca/default.asp?lang=En&n=348E9F03-1).

Between its inception in 2002 and the end of March 2016, the IRF has invested over \$21.8 million in over 700 projects which supported recovery efforts for more than 310 SARA-listed species. Since its inception, 72% of program funds supported recovery actions, while 25% supported surveys, 1% supported planning activities and 2% supported compliance activities. In the 2015–2016 fiscal year, the IRF supported 28 projects in seven federal departments and three Crown corporations. Collectively, \$830,000 in program funding and \$1.3 million (cash and in-kind) from project leads and other partners supported recovery efforts for 49 SARA-listed species. In 2015–2016, 81% of program funds supported recovery actions, 14% supported surveys, and 5% supported planning activities.

6.2.5 *Outreach and Education*

Compliance promotion, outreach and education are essential in providing all Canadians with the information they require to play a meaningful role in the conservation of wildlife species and their habitats. In 2016, ECCC produced and delivered information in various forms to educate individuals, communities and the general public about the

role they can play in protecting species at risk and their habitats. There was also a strong focus on engaging other government departments to provide introductory training on SARA for employees who work directly with the Act.

ECCC continues to educate Canadians about species at risk through its longstanding partnership with the Canadian Wildlife Federation in delivering the Hinterland Who's Who wildlife education program (www.hww.ca), and by developing and publishing species profiles on the Species at Risk Public Registry. In 2016, Hinterland Who's Who released videos in six Indigenous languages about wildlife that are particularly important to Indigenous culture, being present in many First Nation, Métis, or Inuit legends.

PCA continues to promote species at risk protection and has developed a new Integrated Compliance and Law Enforcement Planning Process. The process will maintain its focus on proactive communication with visitors to highlight the connection between their actions and the effect they can have on the protection and recovery of species at risk and their habitat.

Public engagement activities related to species at risk occur in national parks, national historic sites and national marine conservation areas across the country. These activities include interpretative programs, field trips, special events and volunteer activities, including participation in restoration and monitoring projects (i.e., citizen science).

In addition, PCA has a number of outreach programs that focus on reaching youth, families and new Canadians in urban areas in order to increase awareness, understanding and foster support for species at risk protection and recovery. In 2016, this included outreach programs at special events and festivals, and at several partner venues (e.g., zoos and aquariums) in large cities such as Toronto, Montréal, Vancouver, Winnipeg and Calgary. Information about species at risk was also shared through the PCA website,

social media, traditional media and organizations that reach out to the public with various programs, articles and websites.

DFO continued working with partners to provide education and outreach activities (e.g. school visits, trade shows, workshops, and industry and community meetings) on the threats to aquatic species at risk and ways to help protect them.

DFO's Whale Release and Strandings Group helped to organize the sixth "Whale Day" at Cape Spear, the easternmost point in Canada, near St. John's, Newfoundland. As part of the "bones,

barnacles and baleen" educational presentation, the group displayed a full Minke Whale skeleton and a life-size Humpback Whale canvas rollout. A full-size fiberglass replica of a Leatherback Sea Turtle that had stranded was also displayed.

This year, public outreach activities in Newfoundland and Labrador included life-sized textile replicas of Blue Whale tails, a Beluga Whale, and four Wolffish (2 Northern, 1 Spotted and 1 Striped). The replicas are used to provide information about the species, the role of the department in protecting them, and the way individuals can help conserve the species.

Case study Beluga Awareness



Patrol speaks to boater / Photo: © Fisheries and Oceans

For the second consecutive year, DFO and PCA encouraged recreational boaters to adopt good practices on the water to protect the beluga whales of the St. Lawrence. Under the theme "Show your care,

keep your distance!" boaters were encouraged to move away from this endangered species to avoid disturbing them.

During the peak tourist season, DFO and PCA raised awareness by patrolling the south shore of the St. Lawrence and the Saguenay–St. Lawrence Marine Park.

In addition, DFO and the Réseau d'observation des mammifères marins (ROMM), a marine mammal ecowatch network, also met with recreational boaters in Rivière-du-Loup, Rimouski, Kamouraska and Saint-Jean-Port-Joli. They spoke with local pleasure boaters from the south shore of the Estuary at special events, such as the Fête des chants marins. The approximately 150 sailing and powerboat enthusiasts who attended these events received floating keychains, and kayakers went away with waterproof pouches with the name of the campaign written on them, as well as a list of best practices. These tokens will serve as reminders of what to do when on the water to avoid disturbing belugas.

To mark the 35th anniversary of DFO's Gulf Region, the Gulf Fisheries Centre in Moncton organized an open house to display the work that is done in the region. The Species at Risk program hosted a kiosk to raise public awareness about species at risk. Attendance at the open house included the general public, fishermen and fisheries associations, environmental groups, provincial partners, universities and other federal departments.

On Oceans Day, the Central and Arctic Region of DFO organized a "Better Bag Challenge" to convey a call to action and educate the public about how we can all protect the ocean and keep it healthy. Eight grocery stores in the Twillingate area provided reusable bags to their customers for one day in the hope of raising awareness of the harm that plastics can cause to turtles and other sea creatures. The bags had a picture of a Leatherback Sea Turtle along with the slogan "Be the Solution to Ocean Pollution". In total, 4,000 of these reusable bags were passed out and the event received positive media attention.

6.2.6 Species at Risk Population Trends

Determining population trends in rare species can present some challenges. Many of these individuals are difficult to find and identify. For example, the most reliable way to distinguish the threatened Eastern Ribbon Snake from the more common Eastern Garter Snake is to see which scale rows have yellow stripes: those of the Ribbon Snake fall on scale rows 3 and 4, whereas those of the Garter Snake are on scale rows 2 and 3.

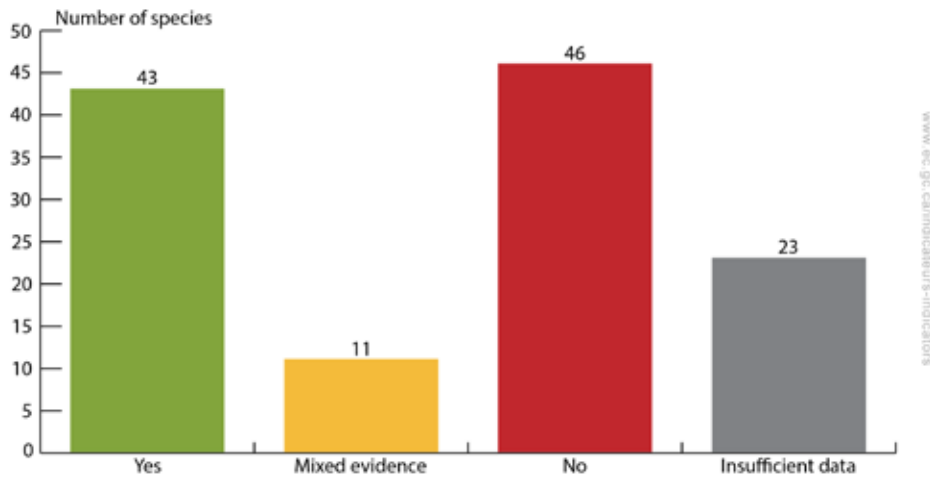
Species need time to recover and long-lived species may require many decades. In addition, observations of rare species are often difficult to collect. The indicator results should not be interpreted as a measure of recovery success until sufficient time has passed to allow species to recover and to collect sufficient information to assess the recovery.

6.2.6.1 Consistency of Population Trends of Species at Risk

Of the 350 species at risk with recovery strategies or management plans as of May 2016, 123 species have population-oriented objectives and have been reassessed since their recovery documents were finalized. Of these 123 species⁵, 43 (35%) have current population trends that are consistent with the objectives laid out in the recovery documents, and 46 (37%) show trends that are inconsistent with the objectives. Another 11 (9%) have both some indication of improvement and some indication of decline. For the remaining 23 species (19%), there are insufficient data to determine trends.

⁵ Species that are not deemed feasible to recover at this time (8) and species with operational, rather than population-related, goals (9) are not included in this total.

Figure 2: Consistency of population trends of species at risk with the objectives, May 2016



Source: Fisheries and Oceans Canada, Environment and Climate Change Canada, Parks Canada, and the Committee on the Status of Endangered Wildlife in Canada Secretariat (2016).

Note: Categories are assigned based on the most recent available information, accounting as much as possible for the amount of time that has been available for recovery. Mixed evidence means that there is a mix of consistent and inconsistent population trends.

Data for this chart can be viewed on the Canadian Environmental Sustainability Indicators (CESI) program web pages (<http://ec.gc.ca/indicateurs-indicators/default.asp?lang=en&n=79579EFA-1>).

Case studies



Harlequin Duck / Photo: Serge Brodeur © Parks Canada Agency

Harlequin Duck (Eastern Population)

The Harlequin Duck (Eastern population) is currently listed as a species of special concern. Its range extends into Nunavut, Quebec, New Brunswick, Nova Scotia, and Newfoundland and Labrador. Under the management plan developed in 2007, the recovery objectives are to support and augment international efforts to restore and increase populations. Current population data indicates that the population size is increasing, which means the current population trends are consistent with the recovery objectives.

Activities that have been undertaken to better understand the species population and help inform potential recovery actions include:

- Mark/recapture analysis;
- Habitat, genetic, diet, and disturbance assessments;
- Ban on hunting since 1990 in Atlantic Canada and Quebec;
- Stewardship coordinator working with Indigenous Peoples; and
- Education and outreach.

The primary cause for the decline of the Harlequin Duck remains unknown. Further research and monitoring activities need to be conducted.



Short-tailed Albatross / Photo: U.S. Fish and Wildlife Service.

Short-tailed Albatross

The Short-tailed Albatross is listed as threatened under SARA. In Canada, it is a migratory bird found only in British Columbia. The recovery goal is to support and augment international efforts to restore and increase populations. The current population trends are consistent with the recovery goal as the population size continues to grow.

Activities that have informed species recovery actions include:

- Routine sea Ship-of-Opportunity surveys (aboard Coast Guard vessels) to monitor abundance, distribution and seasonality of pelagic seabirds off the west coast of Canada;
- Satellite telemetry studies which gather more information about their movement patterns during the breeding and non-breeding seasons, including in Canadian waters; and
- Production of a database and map of all known sightings of Short-tailed Albatrosses in Canadian and adjacent waters.

Red Crossbill *percna* subspecies

The Red Crossbill *percna* subspecies, a migratory bird, is currently listed as endangered. The Red Crossbill is largely located in Newfoundland and Labrador, and Quebec. The recovery goals are to prevent the extirpation of the *percna* subspecies from NL, enhance the population size to a self-sustaining level, and manage sufficient habitat to support a self-sustaining population. Currently the population trends are not consistent with the recovery goals and objectives as populations continue to decline and further habitat loss is expected.

Activities that have been undertaken in the species recovery efforts include:

- Mapping of potential habitat,
- Collection of incidental Red Crossbill sightings, and
- Creation of a brochure for use as a public education tool, as well as a means to provide contact information for the public to report any Red Crossbill sightings.

There is still much uncertainty regarding the threats, population size, and habitat of the Red Crossbill. The most significant apparent threats are invasive and non-native species, biological resource use, natural system modifications, transportation and service corridors, mining and quarrying, and agriculture. More research and monitoring activities are necessary in order to determine the recovery activities required.

Wavy-rayed Lampmussel

The Wavy-rayed Lampmussel was listed as endangered in 1999 and downlisted to special concern in 2010.

This medium-sized mussel has a life span of between ten and twenty years. In Canada, populations are restricted to the upper Grand River and limited section of the Thames, Sydenham and the Ausable rivers in Ontario. Populations are showing signs of improvement; population estimates have risen, area of occupancy has increased two to three fold, and relative abundances have increased from 2-4% to 20-50% in some watersheds.

DFO completed a mussel monitoring program in the Sydenham River which included some ten species including the Wavy-rayed Lampmussel. The data generated from the mussel monitoring program allowed for analysis of trends of mussel density, demographics and distribution over a decade. The analysis will be used to track the response of the SAR mussel community to ongoing recovery efforts across the watershed and is the central monitoring priority of the Sydenham River Action Plan (a multi-species, ecosystem-based plan that addresses the needs of several freshwater mussels and two species of fishes).

Conservation authorities continue to play a vital role in stewardship and public education programs that have resulted in increased awareness of species at risk, and improvements to habitat and water quality throughout the Wavy-rayed Lampmussel range in Ontario.

6.2.6.2 Changes in Wildlife Species

Disappearance Risks

Identifying wildlife species at risk is the first step towards protecting these species. As of May 2016, 916 wildlife species have been assessed by COSEWIC and given a risk designation.

Wildlife species previously designated as being at risk are reassessed, usually after 10 years, to determine if there is a change in status. Of the 447 wildlife species that have been assessed more than once, 65% show no change in status, 16% are in a lower risk category and 19% are in a higher risk category.

Changes vary across the extinction risk categories:

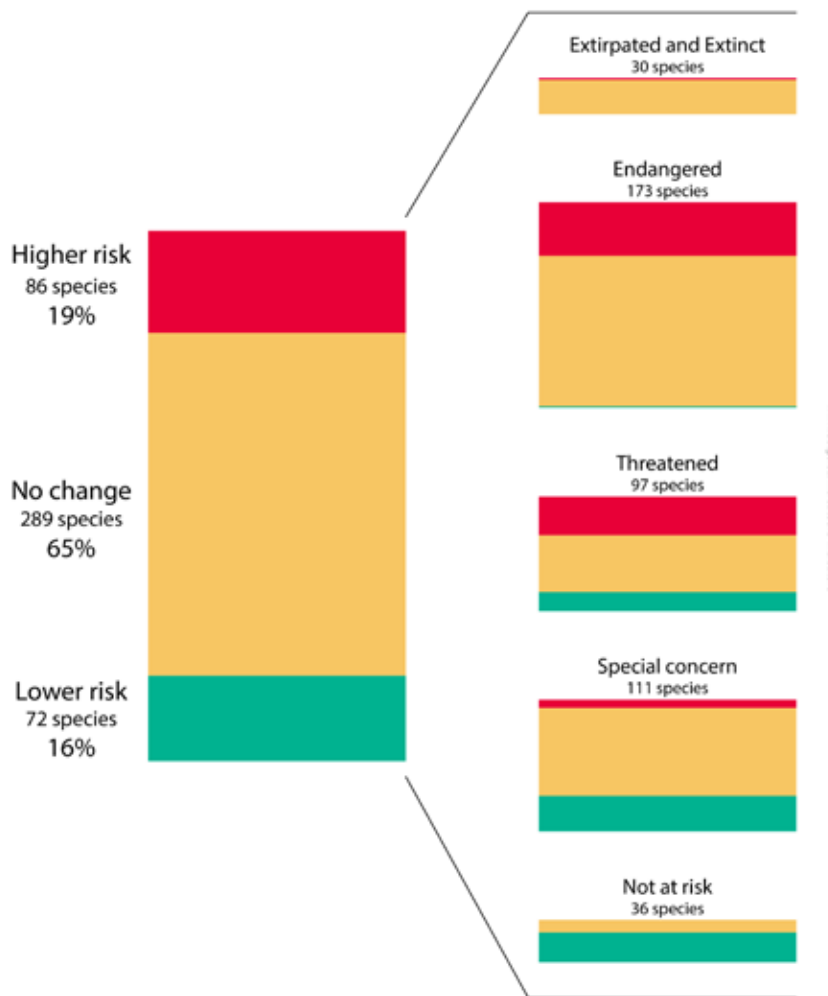
- Of the 30 species in the extirpated and extinct category, one species, the Lake Ontario population of Atlantic salmon, was reclassified from extirpated to the higher risk category of extinct in 2010.
- Of the 173 species in the endangered category, 45 were moved up to that status and the status of one species, the St. Lawrence Striped Bass, improved from extirpated to endangered after a reintroduction effort.

- Of 97 species in the threatened category, 33 were moved up to this status and 16 were moved down to this status.

- In 2016, among the 111 species of special concern, 7 moved up to this status and 30 moved down to this status.

- Twenty-five (25) species moved down and are no longer at risk.

Figure 3: COSEWIC: Changes in risk of wildlife species disappearance from Canada, 2016



Note: In this analysis, "wildlife species" means a wildlife species, subspecies or a genetically or geographically distinct population. Wildlife species disappearance may refer to extinction or extirpation (i.e., a wildlife species that no longer occurs in the wild in Canada). Results from COSEWIC have been further analyzed as described in the Data Sources and Methods document at <http://ec.gc.ca/indicateurs-indicators/default.asp?lang=en&n=39E2431F-1>.

More detailed data used for this chart may be found here: <http://ec.gc.ca/indicateurs-indicators/default.asp?lang=en&n=C48CCBC7-1>.

7. Permits

Sections 73 to 78 of SARA address agreements, permits, licences, orders and other instruments that authorize activities that otherwise would be offences under the Act. If all reasonable alternatives have been considered, all feasible measures have been taken to minimize the impact of the activity, and the survival or recovery of the species is not jeopardized,

the competent minister may enter into an agreement or issue a permit under section 73 of SARA for the following activities:

- scientific research related to the conservation of a listed species, conducted by qualified persons;
- activities that benefit a listed species or enhance its chance of survival in the wild; or
- activities that incidentally affect a listed species.

Table 9: Permits, agreements and licenses issued or enabled under SARA in 2016

Competent department	SARA permits and agreements (Under s.73 of the Act)	SARA-compliant permits and licenses (Enabled under s.74 of the Act)	Grand Total
Environment and Climate Change Canada	45	122	167
Fisheries and Oceans Canada	108	42	150
Parks Canada Agency	0	18	18
Total	153	182	335

ECCC, PCA and DFO issued a total of 335 SARA permits and SARA compliant permits in 2016. Of these 335 permits, 226 were for the purposes of research, conservation and monitoring of listed species while the remaining 99 were for activities that incidentally affected listed species. SARA compliant permits are issued under other Acts of Parliament, such as the *Fisheries Act*, the *Canada National Parks Act*, the *Migratory Bird Convention Act* and the *National Wildlife Act* and can have the same effect as a SARA permit.

ECCC issued 45 SARA permits to allow for activities affecting over 30 species, including reptiles, amphibians, birds, vascular plants, arthropods, molluscs and mammals. Of the 45 permits issued, 10 were for scientific research related to the conservation of a species, 6 were for activities benefiting a species or required to enhance its chance of survival in the wild, 18 were for activities incidentally affecting a species and 11 were for more than one of these three purposes. Of the 45 permits, 2 permits were issued for activities carried out in the area

affected by the emergency protection order for the Western Chorus Frog. ECCC also issued 122 SARA permits affecting threatened and endangered migratory bird species under the *MBCA*, and the *Canada Wildlife Act*. Details regarding delivery against service standards are available online (<http://ec.gc.ca/default.asp?lang=En&n=85530A85-1>).

DFO issued 108 SARA permits. DFO also issued 35 fishing licences for experimental, scientific, and educational purposes under section 52 of the *Fishery (General) Regulations* and seven authorizations under paragraph 35(2)(b) of the *Fisheries Act* that have the same effect as a SARA permit in accordance with section 74 of SARA. Of the 150 activities permitted, 57 were for scientific research related to the conservation of a species, 17 were for other activities that benefit the species or enhance its chance of survival in the wild (e.g. monitoring surveys or marine mammal rescue), and 76 were for activities that incidentally affected the listed species (e.g. accidental capture while undertaking

research on other non-listed species or fish or mussel relocation during construction activities).

PCA issued 18 SARA-compliant research permits, most of which were issued under the *Canada National Parks Act*. Of these, 9 permits covering at least 21 listed species were issued to academic and government researchers as well as PCA scientists, for conservation research affecting species at risk (e.g. inventory, population monitoring, habitat use and restoration, and conservation genetics). Four permits were issued for an activity necessary or beneficial to at least 14 species. The remaining five permits were issued for activities that may incidentally affect a listed species. PCA maintains an online research permitting system to enhance services to researchers, and to ensure that the agency is informed of research being conducted in the protected heritage places network. The system incorporates a mandatory peer-review mechanism that ensures that SARA requirements are considered for every research activity.

Explanations for all permits issued under SARA by ECCC, PCA and DFO are posted on the Species at Risk Public Registry at www.sararegistry.gc.ca/sar/permit/permits_e.cfm.

8. Enforcement

ECCC, DFO and PCA work jointly and in partnership with Indigenous, provincial, territorial and international authorities to protect SARA-listed species and their critical habitat.

In 2016, ECCC focused on two priorities:

- Canadian species at high risk for conservation and/or at high risk for non-compliance, such as illegal hunting or trade;
- Habitats or protected areas at high risk for conservation and/or at high risk for non-compliance, such as destroying nests or polluting land.

ECCC is responsible for recovery planning for 334 species out of 531 species under SARA (491 of which are protected by the prohibitions). Prohibitions, emergency protection orders and permit conditions are enforced throughout Canada in the case of migratory birds, and for terrestrial species on federal lands noting a special focus in ECCC's 146 protected areas (national wildlife areas and migratory bird sanctuaries).

In 2016, ECCC was operating with 78 front line wildlife enforcement officers and 15 criminal intelligence staff to ensure compliance with SARA, as well as the MBCA, the *Canada Wildlife Act*, the *Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act* and the *Antarctic Environmental Protection Act*.

As an example of work to protect Canadian species at high risk for non-compliance, ECCC piloted an approach for tracking Polar Bear hides in trade. The implementation of this approach involved: partnership with territorial and provincial jurisdictions, engagement with local stakeholders and communities, and training of jurisdictional conservation officers and ECCC wildlife enforcement officers.

As another example, ECCC developed and delivered field training specifically-tailored to the needs of the enforcement officers on the protection of populations of wild American Ginseng, a Canadian species at high risk, including techniques to recognize its illegal harvesting.

ECCC enforcement officers patrol national wildlife areas, migratory bird sanctuaries and other lands to ensure compliance with SARA. The protection of these habitats, which include critical habitat identified in SARA recovery strategies, is important given that these habitats are deemed necessary for the conservation and/or recovery of key species.

Enforcement coastal patrols and multi-agency blitz operations target areas with a high level of human wildlife interaction in order to prevent and deter illegal activities disrupting the habitat of these species, as well as to educate and engage the public. This approach has proved to be largely successful in helping to protect SARA-listed species while collaborating with other government organizations and local communities.

Recognizing that the illegal destruction of listed plant or animal specimens comes too late to avoid the conservation damage, ECCC has been increasingly focusing its enforcement approach to preventing crime that harms species. While this report speaks to actions taken under the SARA, ECCC uses other laws to protect species at risk before they are uplisted to the levels where the prohibitions in SARA apply. This involves proactive activities under legislation other than SARA but focused on Species of Special Concern, which are not subject to SARA prohibitions. So while this report captures the enforcement activities proper to SARA, it is not necessarily indicative of all work undertaken to protect species at risk.

In 2016, ECCC conducted 143 inspections under SARA: 21 (15%) were inspections concerning Canadian species at high risk for conservation and/or at high risk for non-compliance; and 122 inspections (85%) were related to habitats or protected areas at high risk for conservation and/or at high risk for non-compliance. Inspections focused on enforcing the emergency protection order which came into force in July 2016 for the protection of the Western Chorus Frog in Quebec (Great Lakes / St. Lawrence – Canadian Shield population) and the ongoing Greater Sage-Grouse Emergency Protection Order. Inspections also focused on continued efforts to protect Piping Plovers and their critical habitat in Atlantic

Canada, Quebec and Ontario regions. In the case of inspections, some can be of very short duration (minutes) while others can be spread out over many days or weeks.

As a result of these inspections, 146 violations of SARA were recorded. Two investigation files were opened in 2016.

Since 2007, there have been 27 convictions in total, by federal enforcement agencies in 19 different cases. In 2016, ECCC's Enforcement Branch efforts brought two convictions under SARA and they resulted in court orders, forfeitures and fines at the total amount of \$9,000.

ECCC SARA Enforcement Highlights



ECCC training session / Photo: Katherine Bembem

3-Pronged Approach for Tracking Polar Bear Hides in Trade

Trade in Polar Bear hides is highly regulated, as Polar Bears (*Ursus maritimus*) are listed as species of special concern under SARA. An innovative project was developed using other legislative authorities to help protect both the species and its sustainable trade. ECCC is collaborating with relevant provinces, territories, and Indigenous communities to implement the new Polar Bear 3-Pronged Approach pilot project, to improve the traceability of hides in trade - from harvest to auction to export, therefore enabling better enforcement of international trade laws.

The pilot project complements the use of harvest tags—the traditional method of identifying Polar Bear hides. Under the pilot approach, when a Polar Bear is harvested and brought to a local conservation officer (or similar authority), a Passive Integrated Transponder (PIT) tag is inserted into the hide and samples are collected for DNA and Stable Isotope analyses. When a hide is destined for export, the PIT tag provides a quick means of identifying the hide: if no PIT tag is detected, DNA and Stable Isotope samples can be used to help verify the origin of the hide to ensure it was harvested and transported legally. This increases confidence in the supply chain by showing that specimens in trade are legally harvested and helps ensure the ongoing sustainable trade which provides income to harvesters and processors.

In 2016, ECCC conducted training of approximately 50 conservation officers in three northern regions

(Nunavut, Nunatsiavut (Newfoundland and Labrador) and Inuvialuit (Northwest Territories)), followed by implementation of the pilot Polar Bear 3-Pronged Approach in 18 communities.

American Ginseng: training – Quebec Region



American Ginseng / Photo: JF Dubois
© Environment and Climate Change Canada

American ginseng (*Panax quinquefolius*) is listed under SARA as endangered in Canada. It is an extremely slow-growing plant that takes seven to ten years to reach reproductive maturity, therefore illegal harvesting of the wild American ginseng is exceptionally detrimental to the reproduction rate of these species.

In July and August 2016, training sessions were organized for wildlife enforcement officers in Quebec Region and for National Capital Commission conservation officers in Gatineau. The officers practiced in the field how to identify the wild American Ginseng in its natural habitat and recognize the signs of poaching and tools poachers use. The training also focused on the threats to these species, methods used to mark the plants to protect the populations from poaching, and ways to support prosecutions.

Emergency Order for the Protection of the Western Chorus Frog – Quebec Region

The Emergency Order for the Protection of the Western Chorus Frog Great Lakes / St. Lawrence – Canadian Shield (GLSLCS) population provides protection to the species by addressing the imminent threats to its recovery, including protection of habitat identified in the order to stabilize the metapopulation. The Order came into force on July 8, 2016. It covers an area of approximately 2 km of partially developed privately-owned land in Quebec, in the municipalities of La Prairie, Candiac and Saint-Philippe in suburban Montréal.

More than 40 patrols took place to verify compliance with the Emergency Order between the date of its entry into force and the end of November 2016. Almost 140 violations of the order, including sheds, gardens and other installations built in the protected territory, were documented and validated. Several aerial photos were analyzed to locate the land encroachments, and ECCC validated the violations during a three-day inspection on the territory. Infractions were observed as far as 100 meters inside the protected area.

One of ECCC's goals is to secure voluntary compliance with the provisions of the Order. ECCC met with homeowners and provided information

to help them understand the Order, its benefits to conservation, as well as their obligations. Corrective measures, where needed, were undertaken proactively by residents during winter months when damage to the habitat would be minimized. In the event of continued non-compliance, enforcement officials have opened inspections and investigations. Violations are expected to be reduced for 2017, given the local residents' heightened knowledge of the provisions of the Order.



Examples of properties that encroach (above the red line) on the land identified under the Order / Photo: © Environment and Climate Change

DFO's enforcement actions for species at risk are carried out by fishery officers who have been trained and designated as enforcement officers under SARA and who incorporate SARA enforcement activities alongside their duties under the *Fisheries Act* and other federal statutes and regulations.

In 2016, DFO's fishery officers dedicated almost 10,000 hours to patrols, inspections, investigations, court cases, public relations and other duties related to enforcing the prohibitions of SARA. The Department recorded a total of 48 SARA violations involving species at risk that resulted in fines, seizures, charges and warnings. Fishery officers initiated 81 investigations and spent over 1,800 hours on investigative work related to species at risk. As well, a number of actions were taken to support the goals of SARA:

- Sessions were organized across the country to train fishery officers on ways to safely assist experts during large marine mammal disentanglement response and to respond to Leatherback Sea Turtle strandings or entanglements.
- Fishery officers provided assistance to experts during several responses to entanglements of SARA-listed marine mammals on the east and west coasts of Canada. In June 2016, DFO and PCA staff supported a DFO expert in freeing a Humpback Whale entangled in fishing gear off Vancouver Island. It took about two hours to successfully cut off the gear and free the whale.
- An online refresher course on SARA was made available to fishery officers.

- In August 2016, a BC Provincial Court judge ordered NG Fung Enterprises (1999) Ltd. to pay a fine of \$77,500 for three SARA violations and one *Fisheries Act* violation.

PCA's Law Enforcement Branch is responsible for enforcing all legislation related to the Agency's mandate, including SARA, on all lands and waters administered by the Agency. In 2016, there were 90 park wardens dedicated to law enforcement

activities in PCA protected heritage areas. PCA's SARA-related enforcement activities included targeted patrols and investigations of reported violations of the SARA prohibitions. Park wardens recorded a total of 9 law enforcement incidents related to the protection of species at risk in protected heritage areas. These incidents led park wardens to issue 6 warnings under SARA as well as to lay four charges under other legislation.

Case study

Pro-active enforcement – Striped Bass in the St. Lawrence



Park wardens in Tadoussac / Photo: Frédéric Deland © Environment and Climate Change Canada

The Striped Bass (St. Lawrence Estuary population) has been gradually reintroduced since 2002 including within PCAs Saguenay-St. Lawrence Marine Park

(SSLMP). This species had disappeared in the mid-1960s and is designated as extirpated under SARA. Sport and commercial fishing of the species is banned and signage to that effect has been widely installed by provincial authorities. However, among the large fishing community of the SSLMP, some individuals catch and retain the Striped Bass intentionally.

In 2016, park wardens from the SSLMP law enforcement detachment in Tadoussac assisted provincial wildlife protection officers and federal fishery officers in three operations regarding the illegal fishing of Striped Bass. A total of seven officers took part in the operations which concluded with inspections at the two fishing tournaments in the Tadoussac / Anse de Roche area. This teamwork helped raise awareness about the precariousness of certain species and the fragility of their marine ecosystems. In addition, officers issued two tickets for non-compliance with the *Fisheries Act*.

9. Monitoring

ECCC collects information on species at risk from its protected areas and through its migratory bird program. Federal funding programs administered by ECCC and, in some cases, co-managed by the department, DFO

and PCA also support monitoring activities, including the Habitat Stewardship Program, the Aboriginal Fund for Species at Risk and the Interdepartmental Recovery Fund. Information from these initiatives, along with information from partner organizations and researchers, allows the tracking of progress toward meeting recovery goals.

Case study Monitoring Red Knots across the Americas



Red Knot / Photo: Yves Aubrey
© Environment and Climate Change Canada

The Red Knot (*rufa* subspecies) has declined dramatically in numbers and is now listed under Schedule 1 of SARA as endangered. The Red Knot flies from breeding grounds in the Canadian Arctic to wintering grounds as far south as Tierra del Fuego, on the southern tip of South America; a return journey of over 25,000km. During spring migration, many Red Knots stop in Delaware Bay to feed on the rich and abundant eggs of the Horseshoe Crab (*Limulus polyphemus*) to fatten in preparation for the final legs of their migration to the Arctic breeding grounds. The horseshoe crab fishery is now regulated, and quotas consider the needs of Red Knots. The rate of decline

in the abundance of Red Knots has slowed in the last decade, but the population remains at a fraction of its former abundance.

Red Knots are monitored throughout their range by ECCC and international partners. Aerial surveys of the wintering sites in Tierra del Fuego have been carried out since the 1980s. The number of sites declined from about 67,500 in 1982, to a low of 9,800 in 2011, but appears to have stabilized recently. This large decline is also seen in the continent-wide results from surveys carried out by hundreds of skilled volunteer birders. These volunteer data also help identify important feeding areas of these birds on migration.

The hemisphere-spanning migration presents challenges for understanding threats to the species and ways to manage them. Scientists are now attaching small radio transmitters weighing less than a gram to the backs of Red Knots to monitor their movements and assess threats. A network of receivers, the Motus Wildlife Telemetry system, allows researchers to study the importance of different feeding sites along their routes and assess potential threats such as proposed wind-power developments. These and other tracking technologies are greatly helping biologists understand how migratory animals respond to conservation threats throughout their ranges and throughout the year.

Species at risk monitoring is ongoing within the PCA heritage areas network to assess the long-term condition of the ecosystems as well as the conservation status of species at risk. In 2016, the national database system that tracks the long term condition of species has been upgraded and will also enable the monitoring of activities related to the implementation of the multi-species action plans. The information obtained from monitoring activities are used to determine progress towards achieving both the population and distribution objectives and recovery measure goals as committed to in the multi-species action plans.

10. Consultation and Governance

10.1 Public Consultation on SARA Policies

ECCC published a suite of draft policies on SARA for public consultation. The policies were posted for comment on the Species at Risk Public Registry for a period of 60 days. The consultation period was further extended to March 31, 2017 to ensure that the public and key stakeholders had sufficient opportunity to examine the draft policies and provide feedback. The draft policies include:

- Policy on Critical Habitat Protection on Non-federal Lands;
- Policy on Protecting Critical Habitat with Conservation Agreements under Section 11 of the *Species at Risk Act*;
- Policy on Survival and Recovery;
- Policy Regarding the Identification of Anthropogenic Structures as Critical Habitat under

the *Federal Species at Risk Act*;

- Approach to the Identification of Critical Habitat under the *Species at Risk Act* when Habitat Loss and Degradation is not Believed to be a Significant Threat to the Survival or Recovery of the Species;
- *Species at Risk Act* Permitting Policy; and
- Listing Policy for Terrestrial Species at Risk.

ECCC received over 80 comments from representatives from provincial and territorial governments, non-governmental organizations, industry, Indigenous groups, and the public.

10.2 Species at Risk Advisory Committee

The Species at Risk Advisory Committee (SARAC) is a multi-stakeholder advisory body established under section 9(1) of SARA to advise the Minister on the administration of the Act. The Committee last met in November 2013.

In October, 2016, ECCC posted a Notice of Opportunity on the Ministerial appointments website and the Species at Risk Public Registry to solicit applications for a new membership to SARAC. ECCC received 45 applications from a broad range of candidates representing non-governmental organizations, industry, business, academia, agricultural and Indigenous organizations. ECCC short-listed 28 representatives to sit on the newly-established Committee. SARAC will be meeting in the spring of 2017.

10.3 Indigenous Groups and SARA

SARA recognizes that the role of Indigenous peoples in the conservation of wildlife is essential and that Indigenous peoples possess

unique traditional knowledge concerning wildlife species. The National Aboriginal Council on Species at Risk (NACOSAR), composed of 6 representatives of Indigenous peoples of Canada, selected by the Minister based on recommendations from Indigenous organizations that the Minister considers appropriate, was created under section 8.1 of SARA to advise the Minister of Environment on the administration of the *Act* and to provide advice and recommendations to the Canadian Endangered Species Conservation Council (CESCC).

In 2016, NACOSAR held meetings and teleconferences to advance their work in providing advice on socio-economic analysis and Indigenous community engagement in recovery planning and implementation. NACOSAR held two meetings: one with local First Nation communities affected by SARA in British Columbia, another in Ottawa with First Nations from Alberta and Ontario, as well with representatives from National Indigenous Organizations to discuss the administration of SARA and receive feedback on potential recommendations to the Minister. NACOSAR also held face-to-face discussions with the Parliamentary Secretary and the Minister of Environment and Climate Change. Upon completion of their terms in April 2016, NACOSAR presented recommendations on the administration of the *Act* to the Minister of Environment and the Minister of Fisheries and Oceans. Also in 2016, NACOSAR began a process to review its mandate and collaborate on the best way to conduct its operations.

10.3.1 *Engagement with Indigenous Groups*

ECCC met with Indigenous organizations to discuss conservation and stewardship and expressed mutual interests in collaborating on species at risk conservation on reserve lands in 2016. Future collaboration could include focus on

engagement capacity, strengthening the SARA consultation process, and further developing collaborative mechanisms for species at risk conservation on reserve lands.

The ECCC and Indigenous and Northern Affairs Canada Coordinating Committee was initiated in 2016, whose purpose is to facilitate a coordinated approach to species at risk conservation on reserve lands by aligning departmental activities related to SARA implementation and land use planning in a manner that respects Indigenous groups' conservation and development priorities.

10.3.2 *Bilateral Administrative Agreements*

The federal government has bilateral administrative agreements on species at risk with individual provinces and territories. The agreements set out shared objectives, as well as commitments for how governments will cooperate on species at risk initiatives. Agreements are in place with the governments of Quebec, Ontario and Saskatchewan, and an agreement with the government of British Columbia is in the process of being renewed. The agreement with Saskatchewan is set to expire in the fall of 2017. There is also a Memorandum of Understanding between the federal government and the Nunavut Wildlife Management Board that covers the listing process for species at risk in Nunavut, and discussions are being held to develop a similar MOU that covers recovery planning.

10.3.3 *The National General Status Working Group*

The National General Status Working Group (NGSWG) is composed of representatives from each of the Canadian provinces and territories, and of the federal government. Members of the working group are responsible for completing the general status assessments of species in their jurisdictions, which the group then uses to produce the *Wild Species – The General Status of Species in Canada* reports.

ECCC is co-chair and coordinator of the NGSWG; the other co-chair in 2016 was the Government of Newfoundland and Labrador.

The NGSWG was established by the Canadian Wildlife Directors Committee (CWDC) in order to meet the commitment of monitoring, assessing, and reporting regularly on the status of all wild species, as required under the Accord for the Protection of Species at Risk. The NGSWG is responsible to the CWDC and ultimately to the CESCC.

10.4 Species at Risk Registry

The online Species at Risk Public Registry fulfills the requirement under SARA for the Minister of the Environment to establish a public registry to facilitate access to SARA-related documents. The registry is an important tool for engaging and informing Canadians on species at risk issues. In addition to providing access to documents and information related to SARA, it provides a forum for Canadians to submit comments on SARA-related documents.

Section 123 of SARA identifies the following documents that must be published on the Registry:

- regulations and orders made under the Act;
- agreements entered into under section 10 of the Act;
- COSEWIC's criteria for the classification of wildlife species;
- status reports on wildlife species that COSEWIC has prepared or has received with an application;
- the List of Wildlife Species at Risk;
- codes of practice, national standards or guidelines established under the Act;
- agreements and reports filed under section 111 or subsection 113(2) of the Act, or notices that

these have been filed in court and are available to the public; and

- all reports made under sections 126 and 128 of the Act.

Other documents prepared in response to the requirements of SARA include recovery strategies, action plans, management plans and reports on the progress of recovery strategy implementation, which are also posted on the Registry.

In 2016, 570 documents were published on the Registry. These documents include SARA and COSEWIC annual reports; consultation documents; COSEWIC status reports and status appraisal summaries; ministerial response statements; permit explanations; and a draft SARA policy suite. In addition, DFO published reports on the progress of recovery strategy implementation for 14 aquatic species.

11. Further Information

To obtain further information or publications—and to submit questions or comments—concerning species at risk programs and activities, please contact any of the following three departments:

Environment and Climate Change Canada
Public Inquiries Centre
7th Floor, Fontaine Building
200 Sacré-Coeur Boulevard
Gatineau QC K1A 0H3
Telephone: 819-938-3860
Toll Free: 1-800-668-6767 (in Canada only)
Email: ec.enviroinfo.ec@canada.ca

Fisheries and Oceans Canada
Communications Branch
200 Kent Street
3rd Floor, Station 13228
Ottawa ON K1A 0E6
Canada
Tel.: 613-993-0999
Fax: 613-990-1866
Email: info@dfo-mpo.gc.ca

Parks Canada Agency
National Office
30 Victoria Street
Gatineau QC J8X 0B3
Canada
Tel.: 888-773-8888
TTY: 866-787-6221
Email: information@pc.gc.ca

Public Registry Office

For more information on the Species at Risk Public Registry, and to submit questions or comments on the Public Registry, please contact the following office:

SARA Public Registry Office
351 St. Joseph Boulevard, 21st Floor
Gatineau QC K1A 0H3
Canada
Email: ec.registrelep-sararegistry.ec@canada.ca