RENEW Report 10

1999-2000

ANNUAL REPORT

RECOVERY OF NATIONALLY ENDANGERED WILDLIFE

Rescuing Species From Extinction

Canadian Endangered Species Conservation Council

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This report was produced by the Canadian Wildlife Service of Environment Canada
in cooperation with the provinces, territories, Fisheries and Oceans Canada
and Parks Canada Agency
The printed report is complemented by the Recovery web site
(www.cws-scf.ec.gc.ca/es/recovef.html)

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REPORT from the CHAIR

I WELCOME THIS OPPORTUNITY to share with you some of the excitement and change that characterize our national recovery program. The first change is the broadened mandate for recovery that has moved us beyond the scope of the 1988 RENEW (Recovery of Nationally Endangered Wildlife) strategy to the 1996 *Accord for the Protection of Species at Risk* agreed to in principle by the provinces, territories and federal government. Under the Accord, we are now endeavouring to report on all recovery activities for endangered, threatened or – where possible – extirpated species as listed by the Committee on the Status of Endangered Wildlife in Canada. The Ministers of the Canadian Endangered Species Conservation Council provide general guidance to the national recovery program.

In order to report on a greater number of single species, multi-species and ecosystem recovery plans, as well as to provide a financial analysis of recovery effort, we are also introducing a new format for our annual report. In the pages that follow, we introduce the Canadian Wildlife Directors Committee which directs the national recovery program, describe the evolving two-part recovery planning process (recovery strategy plus action plan), summarize the status of recovery planning in Canada, and report on financial contributions and funding per species. To complement this summary report, we have enhanced the species coverage in our species at risk web site (*www.cws-scf.ec.gc.ca/es/recovef.html*) to include photos, range map, biological information, updated recovery information, the recovery team list, and useful references. We encourage you to visit this site.

This annual report covers the 1999-2000 fiscal year, which brought the new territory of Nunavut to our table. We would like to convey a warm welcome to the Nunavut government and Nunavut Wildlife Management Board, who together represent the wildlife interests of the territory. The 1999-2000 fiscal year also saw development of the proposed federal Species at Risk Act and progress in developing or amending provincial and territorial legislation regarding species at risk. By the end of this reporting period, eight provinces had legislation specific to endangered wildlife protection or including provisions for species at risk, and four provinces and territories had legislation pending. These legislative developments and increases in federal, provincial and territorial program funding contribute to an unprecedented profile for recovery in Canada.

I would like to acknowledge the dedication of the recovery teams who are bringing together the best efforts to recover species at risk of extinction. Their job will become more challenging in the years to come, as the list of species at risk grows, the recovery process becomes more consultative and interactive, and the traditional recovery plan is replaced by the new recovery strategy plus action plan. I would also like to thank the National Recovery Working Group of government and non-government recovery experts for their guidance over the past few years in shaping the national recovery process and advising the Wildlife Directors on issues related to recovery. We would not be moving ahead with such sure footing without the support of these groups.

David Brackett
Chair, Canadian Wildlife Directors Committee
Director General, Canadian Wildlife Service

HIGHLIGHTS of 1999-2000

47 recovery teams in place

17 approved recovery plans, 3 awaiting approval

21 recovery plans or recovery strategies in draft form

$14.4 million expended on recovery (salaries + expenses)

Employment equivalent to about 100 people working full-time

Volunteer effort reported as about 16 people working full-time

120 organizations made financial contributions

CANADIAN WILDLIFE DIRECTORS COMMITTEE

CHAIR, David Brackett, *Director General, Canadian Wildlife Service*

CONTACTS FOR SPECIES AT RISK:

ALBERTA

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THE NATIONAL RECOVERY PROCESS

1

RECOVERY TEAM IS FORMED

EXTINCT – *no action*
EXTIRPATED IN CANADA – *recovery where possible*
ENDANGERED – *recovery team formed*
THREATENED – *recovery team formed*
SPECIAL CONCERN *(Vulnerable)* – *conservation measures*

A **RECOVERY TEAM** is comprised of wildlife experts from each responsible jurisdiction and authorized wildlife management board where the species is found, plus any other experts the team calls upon.

2

RECOVERY PLAN = RECOVERY STRATEGY + ACTION PLAN

A **RECOVERY STRATEGY** is developed within one year for endangered, within two years for threatened species. It outlines:

- goals (what the outcome should be)
- objectives (what needs to be done)
- approach (how to do it)
- identification of critical habitat, if possible
- when action plan should be developed by

THERE WILL BE ONGOING CONSULTATION THROUGHOUT THIS PROCESS INCLUDING

- incorporation of community and traditional Aboriginal knowledge
- stakeholder input

APPROVAL

- peer review of draft recovery strategy
- approval by responsible jurisdictions

An **ACTION PLAN** includes:

- specific projects that will achieve objectives in the recovery strategy
- who will do the work
- what the cost will be and where the funds will come from
- when the work will be completed by
- identification of critical habitat, if possible
- evaluation of the socio-economic costs of the action plan

THERE WILL BE ONGOING CONSULTATION THROUGHOUT THIS PROCESS INCLUDING

- incorporation of community and traditional Aboriginal knowledge
- direct involvement of stakeholders and interested parties
- LINKS TO HABITAT STEWARDSHIP PROGRAM and ESRF (Endangered Species Recovery Fund)

APPROVAL

- by responsible jurisdictions

3

IMPLEMENTATION AND EVALUATION

Amendments to recovery strategies and action plans may be made at any time. Updated recovery strategies will be produced every five years.

STATUS of RECOVERY PLANNING

SPECIES (COSEWIC DESIGNATION)	POPULATION ESTIMATE AND TREND IN CANADA	CAUSES FOR CONCERN	RESPONSIBLE JURISDICTIONS
MAMMALS			
1 American Marten [Newfoundland pop.] *Threatened (1986), Endangered (1996)*	300 marten in Newfoundland (1998) *– believed to be stable*	Habitat loss from timber harvesting and fires; accidental trapping and snaring.	NF, Parks Canada Agency (Parks)
2 Beluga Whale [St. Lawrence River pop.] *Endangered (1997)*	~1200 (1999)	Small and isolated population subject to severe threat and disturbance from navigation and exposed to important loads of various toxic contaminants.	Fisheries and Oceans Canada (DFO), Parks
3 Black-footed Ferret *Extirpated (1978)*	30 adults in captivity in Canada	The prey base (Black-tailed Prairie Dogs) is too limited to sustain a wild population of ferrets.	SK, AB, Parks
4 Peary Caribou a) High Arctic pop., *Endangered (1991)* b) Banks Island pop., *Endangered (1991)* c) Low Arctic pop., *Threatened (1991)*	Smallest populations are Banks Island: 365-507 caribou 1 year old (1998); NW Victoria Island: 433-583 caribou 1 year old (1998); Prince of Wales-Somerset Islands: <100 (1995)	Uncertainties regarding climate trends, levels of wolf predation, and relationship among musk oxen, wolves and caribou.	NU, NWT, Canadian Wildlife Service (CWS)
5 Right Whale [Atlantic and Pacific Oceans] *Endangered (1990)*	300-350 right whales off the east coast of North America	Critically low population size due to historical commercial whaling; noise, disturbance and pollution resulting from human activities.	DFO
6 Swift Fox *Extirpated (1978), Endangered (1998)*	279 foxes in the wild (1999) *– 2 wild populations remains small*	Small population subject to severe climatic variation; accidental poisoning or trapping; cultivation and industrial development of key mixed-grass prairie habitats; predation by coyotes.	AB, SK, Parks
7 Vancouver Island Marmot *Endangered (1979, 1997)*	62 marmots in the wild, 27 in captivity (1999) *– declining*	Small population and confined geographic distribution; associated impacts due to logging; disease; and predation by cougars, wolves and eagles.	BC
8 Wolverine [Eastern pop.] *Endangered (1989)*	< 50 wolverines in Quebec-Labrador	Small, isolated population; hunting and trapping for fur.	NF, QC
9 Wood Bison *Endangered (1978), Threatened (1988)*	3,536 disease free (2,828 wild and 708 in captivity)	Disease; genetic impoverishment; expansion of bison ranching; escape of commercial plains bison into the wild; loss of habitat to agriculture; wolf predation.	MB, AB, BC, NWT, YT, Parks
BIRDS			
10a Acadian Flycatcher *Endangered (1994) – and* **10b Hooded Warbler** *Threatened (1994),* [joint recovery plan]	a) 35-50 pairs (1998) b) 144-207 pairs (1998)	Drastic reduction of habitat due to agricultural and other development throughout the Canadian range.	CWS, ON

STATUS OF RECOVERY PLAN	RECOVERY TEAM CHAIR	PROGRESS TO DATE	FUNDING IN 1999-2000 (includes salaries and in-kind support)	WEB SITE URL FOR FULL INFORMATION (www.speciesatrisk.gc.ca/Species/English/SearchDetail.cfm?SpeciesID=...)
Recovery plan was approved in 1995.	Joe Brazil, *Newfoundland & Labrador Department of Forest Resources & Agrifoods*, joebrazil@mail.gov.nf.ca	Progress in developing captive breeding techniques in Salmonier Nature Park; establishment of reserves; recent population stability.	$ 1,094,820	SpeciesID=134
Recovery plan was approved in 1995.	Richard Bailey, *Fisheries and Oceans Canada*, Richard.Bailey@XLAUIML.dfo-mpo.X400.gc.ca	A review of initial plan implementation is available from the recovery team chair or from World Wildlife Fund Canada.	$ 252,500	SpeciesID=102
Recovery efforts are on hold.	Earl Wiltse, *Saskatchewan Department of Environment & Resource Management*, Earl.Wiltse.erm@govmail.gov.sk.ca	Captive breeding program at Toronto Zoo continues.	$ 160,000	SpeciesID=138
Recovery strategy has been formally reviewed and will be submitted for approval in 2000.	Anne Gunn, *North West Territories Department of Resources, Wildlife & Economic Development*, anne_gunn@gov.nt.ca	The harvest quota was continued on Banks, northwest Victoria and Bathurst islands.	$ 605,500	a)SpeciesID=133 b)SpeciesID=308 c)SpeciesID=145
Recovery plan for North Atlantic Right Whale population was completed in 2000.	Jerry Conway, *Fisheries and Oceans Canada*, conwayj@mar.dfo-mpo.gc.ca	Whaling has been banned since 1946; voluntary disentanglement programs are in place.		SpeciesID=135
Recovery plan was approved in 1995.	Steve Brechtel, *Alberta Department of Environment*, sbrechte@env.gov.ab.ca	Small populations have become established in two areas; reintroductions are on hold to allow for analysis of natural population maintenance and growth.	$ 71,500	SpeciesID=140
First plan was approved in 1994; updated plan was approved in 1999.	Doug Janz, *British Columbia Ministry of Environment, Lands & Parks*,doug.janz@gems2.gov.bc.ca	Captive breeding underway in Toronto and Calgary zoos; significant fundraising by Marmot Recovery Foundation; planning underway for new Mt. Washington breeding facility.	$ 936,400	SpeciesID=136 www.marmots.org
Draft recovery plan is being revised as a result of discussions with Aboriginal band councils.	Michel Huot, *Société de la faune et des parcs, Québec*, michel.huot@mef.gouv.qc.ca	Consultations with Aboriginal communities in northern Quebec and Labrador continue; community and traditional Aboriginal knowledge is being recorded.		SpeciesID=137
Recovery plan has been formally reviewed and will be submitted for approval in 2000.	Cormack Gates, *University of Calgary*, ccgates@nucleus.com	Developed a cooperative Canada-U.S. agreement; have established 6 populations in the wild and 4 captive breeding herds.	$ 1,235,850	SpeciesID=143
Recovery plan has been conditionally approved.	Mike Cadman, *Canadian Wildlife Service*, Mike.Cadman@ec.gc.ca	New nests found as a result of surveys; better understanding of habitat use; public outreach.	$ 94,000	a) SpeciesID=19 b) SpeciesID=37

STATUS OF RECOVERY PLANNING (CONTINUED)

SPECIES (COSEWIC DESIGNATION)	POPULATION ESTIMATE AND TREND IN CANADA	CAUSES FOR CONCERN	RESPONSIBLE JURISDICTIONS
BIRDS (CONTINUED)			
11 Barn Owl [Eastern pop.] *Endangered (1999)*	4-6 pairs in ON (1987) *– has never been widespread or common in Ontario*	Loss of grassland foraging habitat primarily through the conversion of pastures to row crops; loss of old wooden barns for nesting.	ON, QC
12 Burrowing Owl *Threatened (1978 and 1991), Endangered (1995)*	1000 breeding pairs in AB and SK (1995); extirpated in MB and BC *– continuing decline at rate of 16% per year*	Low productivity due to limited food supply; high summer mortality; limited information on migration and winter ecology.	SK, AB, BC, CWS, Parks
13 Harlequin Duck [Eastern pop.] *Endangered (1990)*	1200-1500 birds in Eastern Canada (1998) *– declining*	Habitat loss and degradation due to hydroelectric and other natural resource development; oil pollution at sea; disturbance from ecotourism, military low-level flying; accidental hunting.	CWS, NF, NS, NB, QC
14 Henslow's Sparrow *Endangered (1993)*	3 pairs per year *– declining*	Loss of wintering habitat in USA; loss of breeding habitat; vulnerability of small population inhabiting an isolated area.	CWS, ON
15 King Rail *Vulnerable (1985), Endangered (1994)*	50 pairs (1998) *– was never common in Canada, but major declines have occurred*	Habitat loss and degradation due to activities such as draining, filling and dredging; very low population size.	CWS, ON
16 Kirtland's Warbler *Endangered (1979 and 1999)*	Last confirmed breeding record was in 1945; individual males are occasionally heard or seen; increasing in U.S. range (Michigan)	Limited amount of early successional pine habitat.	CWS, ON
17 Loggerhead Shrike a) Eastern population *Endangered (1991)* b) Prairie population *Threatened (1991)* [joint recovery plan]	a) 31 pairs + 9 singles in ON, 3 singles in QC (1998) – *declining*; b) 500 pairs in MB, several thousand pairs in SK, 2500 pairs in a third of the AB range (1994, 1996) – *stable*	Habitat loss and degradation; changes in agricultural practices that impact on short grass habitat; collisions with vehicles; pesticide contamination; increased human disturbance.	CWS, ON, MB, SK, AB, QC
18 Marbled Murrelet *Threatened (1990)*	30,000 (1999)	Loss and degradation of old-growth forest habitat; bycatch mortalities in gill and seine nets; oil spills.	CWS, BC
19 Northern Spotted Owl *Endangered (1986 and 1999)*	100 pairs (1998) *– has declined by about 40% since 1992*	Loss of old growth forest habitat due to timber harvesting; predation by Great Horned Owls; competition with Barred Owls; toxic pollution resulting in thinned eggshells.	BC
20 Peregrine Falcon (anatum subsp.) *Endangered (1978), Threatened (1999)*	400 pairs in NWT and YT (1995); 85 pairs across southern Canada (1995) *– stable in Wood Buffalo National Park*	Pesticide use throughout migratory range; small population in southern Canada; little protection at nest sites; limited protection for prey habitats.	CWS, all provinces and territories except PEI, Parks

STATUS OF RECOVERY PLAN	RECOVERY TEAM CHAIR	PROGRESS TO DATE	FUNDING IN 1999-2000 (includes salaries and in-kind support)	WEB SITE URL FOR FULL INFORMATION (www.speciesatrisk.gc.ca/Species/English/SearchDetail.cfm?SpeciesID=...)
Recovery plan for Ontario was published 1998; info. for Quebec will be added before plan is submitted for approval.	Dave Richards, *Ontario Ministry of Natural Resources*, dave.richards@mnr.gov.on.ca; Bernie Solymar, *Ontario Ministry of Agriculture, Food & Rural Affairs*, solymar@nornet.ca	>240 nest boxes have been erected in Ontario.	$ 68,200	SpeciesID=611
Recovery plan was approved in 1995.	Geoffrey Holroyd, *Canadian Wildlife Service*, Geoffrey.Holroyd@ec.gc.ca	Good support from landowners; strong stewardship programs in place; experimental release of captive owls.	$ 915,600	SpeciesID=20
Recovery plan was approved in 1994.	Bill Montevecchi, *Memorial University of Newfoundland*, mont@morgan.ucs.mun.ca	Satellite telemetry data and genetic analyses indicate there are two populations of harlequins in eastern North America.	$ 147,500	SpeciesID=22
Recovery plan was approved in 1994.	Richard Pratt, *Canadian Wildlife Service*, Richard.Pratt@ec.gc.ca	Birds may be emigrating to southern Ontario from breeding populations in New York State.	$ 11,200	SpeciesID=23
Plan has been conditionally approved.	Laurie Maynard, *Canadian Wildlife Service*, Laurie.Maynard@ec.gc.ca	Species is benefiting from "Wetland Trends Through Time" and other wetlands projects; developing stewardship options.	$ 66,500	SpeciesID=24
Draft plan has been submitted for approval.	Richard Pratt, *Canadian Wildlife Service*, Richard.Pratt@ec.gc.ca	Surveys of potential habitat are ongoing.	$ 7,400	SpeciesID=25
1994 approved recovery plan needs updating.	a) Robert Wenting, *Canadian Wildlife Service*, Robert.Wenting@ec.gc.ca b) Brian Johns, *Canadian Wildlife Service*, Brian.Johns@ec.gc.ca	Captive breeding underway at two facilities; stewardship programs in place (e.g., "Operation Grassland Community"); planning for experimental release of captive birds.	a) $ 470,000 b) $ 90,350	a) SpeciesID=26 b) SpeciesID=38
1993 approved recovery plan is being updated.	Ken Morgan, *Canadian Wildlife Service*, Ken.Morgan@ec.gc.ca	Interim habitat protection measures are in place for known nest sites.	$ 819,000	SpeciesID=39
Management plan has been developed, which does not meet the requirements of a recovery plan.	Ian Blackburn, *British Columbia Ministry of Environment, Lands & Parks*, ian.blackburn@gems1.gov.bc.ca	Inventories have improved knowledge of bird's distribution and abundance; loss of habitat continues.	$ 724,000	SpeciesID=33
1987 approved recovery plan needs updating.	Geoffrey Holroyd, *Canadian Wildlife Service*, Geoffrey.Holroyd@ec.gc.ca	Stabilizing of population levels resulted in down-listing of peregrines to threatened.	$ 614,150	SpeciesID=29

STATUS OF RECOVERY PLANNING (CONTINUED)

SPECIES (COSEWIC DESIGNATION)	POPULATION ESTIMATE AND TREND IN CANADA	CAUSES FOR CONCERN	RESPONSIBLE JURISDICTIONS
BIRDS (CONTINUED)			
21 Piping Plover [Atlantic & Prairie pops] *Endangered (1985)*	Atlantic: ~476 adults (230 pairs, 16 singles) (1999); Prairie: 1687 adults (1996) *– declining*	Threats to habitat and reproductive success, including human disturbance, artificial water levels, natural beach succession, and unnatural increases in predator numbers.	CWS, Parks, PEI, NF, NS, NB, QC, ON, MB, SK, AB (with USA)
22 Prothonotary Warbler *Vulnerable (1984),* *Endangered (1996)*	17 pairs + 11 unmated males (1999) *– some signs of recovery (increase from 20 to 46 adults between 1996 and 1999)*	Nesting failure due to competition with house wrens and brood parasitism by Brown-headed Cowbirds; shortage of nesting cavities; destruction of habitat; drought in breeding habitat.	CWS, ON
23 Roseate Tern *Threatened (1986),* *Endangered (1999)*	120 pairs (1999) *– stable in Canada, increasing in U.S.*	Low population size; low reproductive success and survival of young due to predation by gulls and humans and negative effects of toxic chemicals.	CWS, NS
24 Sage Grouse [Prairie pop.] *Endangered (1998)*	Alberta: 560 adults (including 126 males at 8 active leks) (in 2000); Saskatchewan: 550 adults (including 124 males at 11 active leks) (in 2000)	Low adult survival and low recruitment of young; small population size.	SK, AB, Parks
25 Whooping Crane *Endangered (1978)*	185 birds in Wood Buffalo flock (48 nesting pairs) (1999) *– increasing at ~4% per year; 17 pairs successfully produced offspring in 1999*	Small, localized breeding population in Canada; deteriorating winter habitat due to boat traffic, wave erosion and dredging; deteriorating breeding habitat due to drought.	CWS, SK, AB, NWT (with USA)
REPTILES			
26 Black Rat Snake *Threatened (1998)*	Not available	Habitat loss and degradation; road mortality; persecution by humans (including collection).	ON
27 Blanding's Turtle [NS pop.] *Threatened (1993)*	130 adults in Kejimkujik Park, > 60 adults outside the park (1999)	Short incubation season in NS, with threat of nest flooding; predation of eggs and young by raccoons.	NS, Parks
28 Blue Racer *Endangered (1991)*	205 adults (1995) *– indirect evidence of population decline in recent years*	Habitat loss due to increased commercial residential and cottage development; continued road kill and loss of breeding sites; low numbers.	ON
29 Eastern Massasauga Rattlesnake *Threatened (1991)*	250 in Killbear Provincial Park, and probably <100 in each of Ojibway and Wainfleet populations (1998)	Loss of habitat to development (Ojibway pop.) and natural succession (Wainfleet); population isolation and reduction through habitat fragmentation; mortality on roads; persecution by humans.	ON, Parks

STATUS OF RECOVERY PLAN	RECOVERY TEAM CHAIR	PROGRESS TO DATE	FUNDING IN 1999-2000 (includes salaries and in-kind support)	WEB SITE URL FOR FULL INFORMATION (www.speciesatrisk.gc.ca/Species/English/SearchDetail.cfm?SpeciesID=...)
First plan was approved in 1989; updated plan was submitted for approval in 2000.	Atlantic: Diane Amirault, *Canadian Wildlife Service*, Diane.Amirault@ec.gc.ca; Prairie: Paul Goossen, *Canadian Wildlife Service*, Paul.Goossen@ec.gc.ca	Population increases in all 5 eastern provinces (13% increase overall) between 1998 and 1999.	$ 1,691,500	SpeciesID=30
Recovery plan has been submitted for approval.	Jon McCracken, *Bird Studies Canada*, jmccracken@bsc-eoc.org	Nest box program has been successful in reducing cowbird parasitism and mammalian predation; over 80% of the Canadian population is now nesting in nest boxes.	$ 53,200	SpeciesID=31
1992 approved recovery plan is being updated.	Sherman Boates, *Nova Scotia Department of Natural Resources*, boatesjs@gov.ns.ca	Legal protection provided by the Nova Scotia Endangered Species Act.		SpeciesID=40
Draft recovery strategy nearing completion.	Wayne Harris, *Saskatchewan Department of Environment and Resource Management*, wayne.harris.erm@govmail.gov.sk.ca, and Ken Lungle, *Alberta Department of Environment*, Ken.Lungle@gov.ab.ca	Ongoing graduate research into survival/mortality factors; development of a population model; studying use of controlled fire to rehabilitate old sagebrush habitat.	$ 125,800	SpeciesID=291
1994 approved recovery plan is being updated as a joint Canadian/U.S. plan.	Brian Johns, *Canadian Wildlife Service*, Brian.Johns@ec.gc.ca	Progress in planning for reintroduction to establish a new migratory Wisconsin-Florida flock; for 5 consecutive years, >40 pairs of cranes have bred in Wood Buffalo National Park.	$ 450,450	SpeciesID=34
Draft recovery plan is being informally reviewed.	Shaun Thompson, *Ontario Ministry of Natural Resources*, shaun.thompson@mnr.gov.on.ca	Movement patterns, habitat use and population ecology of the snake are better understood.	$ 95,500	SpeciesID=537
Recovery plan was approved in 1998.	Tom Herman, *Acadia University*, tom.herman@acadiau.ca	Two populations of turtles have been found outside the park.	$ 183,350	SpeciesID=276
Draft recovery plan is near completion.	Dawn Burke, *Ontario Ministry of Natural Resources*, dawn.burke @mnr.gov.on.ca	Efforts are underway to limit expansion of a quarry, which will save a few key hibernacula.	$ 6,500	SpeciesID=271
Recovery plan will be submitted for approval in 2000.	Kent Prior, *Canadian Wildlife Service*, Kent.Prior@ec.gc.ca	Actively consulting with developers and conducting public outreach efforts.	$ 125,100	SpeciesID=277 www.terra-plex.com/sin/

STATUS OF RECOVERY PLANNING (CONTINUED)

SPECIES (COSEWIC DESIGNATION)	POPULATION ESTIMATE AND TREND IN CANADA	CAUSES FOR CONCERN	RESPONSIBLE JURISDICTIONS
REPTILES (CONTINUED)			
30 Leatherback Turtle *Endangered (1981)*	Pacific population is now facing imminent extinction (2000); species is declining globally	Loss of eggs to humans and predators, development and illumination of nesting beaches, shoreline pollution (all outside Canada), ingestion of plastic and other debris mistaken for prey; incidental catch in fisheries (in Canada).	DFO
31 Spiny Softshell Turtle *Threatened (1991)*	Rough estimate is 1000-2000 in southern ON, <100 in QC	Poaching of nests; predation at nests; loss of suitable nesting, basking sites and hibernacula; isolation of populations due to habitat fragmentation; introduction of exotics.	ON, QC
AMPHIBIANS			
32 Northern Cricket Frog *Endangered (1990)*	Extirpated at Point Pelee (last record in 1920), and is disappearing from the other Canadian location, on Pelee Island	Loss of wetland habitat to development.	ON
33 Northern Leopard Frog [Southern Mountain pop.] *Endangered (1998)*	*– has declined dramatically* *– found, in very low numbers, only in one area of its historic range in B.C.*	Loss and degradation of wetland habitat; introduction of game fish; pesticide use; disease; increased ultraviolet radiation due to thinning ozone layer.	BC
34 Oregon Spotted Frog *Endangered (1999)*	294 frogs (1999)	Very low population size; habitat degradation and loss; invasive grass species; contamination from agricultural run-off.	BC
FISH			
35 Atlantic (Acadian) Whitefish *Endangered (1984)*	Tusket watershed population declining; other populations appear stable; overall numbers in Canada are decreasing	Competition from introduced species; acid rain; placement of dams on the two water-sheds; poaching and accidental catches.	DFO
36 Aurora Trout *Endangered (1987)*	Captive brood stock currently numbers 500-1000 fish; *– stable or increasing lake populations*	Acidification of lakes prevents reproduction.	ON
37 Copper Redhorse *Threatened (1987)*	*– rare and declining*	Aquatic weed growth and introduction of competitive species; pollution, increased turbidity and siltation; dam impeding spawning migration.	QC, Parks
MOLLUSCS			
38 Banff Springs Snail *Threatened (1997)*	Seasonal fluctuations, e.g. from 5162 (July 1999) to 12,165 (March 2000)	Limited habitat; potential threats include habitat disturbance and destruction.	Parks

STATUS OF RECOVERY PLAN	RECOVERY TEAM CHAIR	PROGRESS TO DATE	FUNDING IN 1999-2000 (includes salaries and in-kind support)	WEB SITE URL FOR FULL INFORMATION (www.speciesatrisk.gc.ca/Species/English/SearchDetail.cfm?SpeciesID=...)
Development of a plan is being considered.	Mike James, *Dalhousie University*, mjames@mscs.dal.ca, and Jerry Conway, *Fisheries and Oceans Canada*, ConwayJ@mar.dfo-mpo.gc.ca	Community-based marine turtle data collection network grew to include 334 commercial fishers and 38 whale watch operators in Nova Scotia; tagging of leatherbacks at sea was accomplished for first time.	$ 112,000	SpeciesID=274
Recovery plan is in draft (QC part has been completed, ON part is in draft).	Michelle Fletcher, *Upper Thames River Conservation Authority*, fletcherm@thamesriver.org	Rehabilitation and public outreach efforts in ON are proving to be effective; new nest sites and hibernacula have been found in both provinces.	$ 93,650	SpeciesID=278
Recovery plan was approved in 1997.	Recovery team has disbanded; contact is Chris Risley, *Ontario Ministry of Natural Resources*, chris.risley@mnr.gov.on.ca			SpeciesID=272
	No team in place; Contact is: Laura Friis, *B.C. Ministry of Environment, Lands & Parks*, lfriis@fwhdept.env.gov.bc.ca	Monitoring of the population and limited research on movements and habitat use are underway.		SpeciesID=551
Recovery plan is in development.	Russ Haycock, *Hyla Environmental Services Ltd.*, rdh.hyla@home.com; J. Richardson, *University of British Columbia*, jrichard@interchange.ubc.ca	Species habitat assessment model is being used as guide for potential reintroductions at historically occupied sites; and habitat manipulation strategies at occupied sites.	$ 34,400	SpeciesID=614
Development of a plan is being considered.	Bob Barnes, *Fisheries and Oceans Canada*, BarnesB@dfo-mpo.gc.ca	Public outreach is ongoing; converted a gillnet fishery for gaspereau in the Petite River estuary to eliminate incidental whitefish mortalities; closed a sensitive migration/staging area to recreational angling.	$ 91,400	SpeciesID=64
A recovery plan is in place that covers the 1994-2004 time period.	Ed Snucins, *Laurentian University*, esnucins@vianet.on.ca	Addition of powdered limestone to lakes to reduce acidification, and stocking of lakes with trout fry, are both proving effective.	$ 10,000	SpeciesID=65
Draft plan to be submitted for approval in 2000.	Serge Gonthier, *Société de la faune et des parcs du Québec* serge.gonthier@fapaq.gouv.qc.ca	Developing artificial reproduction and rearing methods; have introduced young fish into the Richelieu River.		SpeciesID=75
Draft resource management plan has been in place since 1998; this will be updated in 2000.	Charlie Pacas, *Banff National Park*, Charlie_Pacas@pch.gc.ca	Have collected scientific data on the ecology of the species, increased habitat security at selected thermal springs, and raised public awareness.	$ 49,250	SpeciesID=311

STATUS OF RECOVERY PLANNING (CONTINUED)

SPECIES (COSEWIC DESIGNATION)	POPULATION ESTIMATE AND TREND IN CANADA	CAUSES FOR CONCERN	RESPONSIBLE JURISDICTIONS
PLANTS			
39 American Chestnut *Threatened (1987)*	140 sites with 1 or several chestnut trees each	Chestnut blight fungus which appears as cankers on branches and trunk, causing crown of trees to die; habitat loss through forest clearing.	ON
40 American Ginseng *Endangered (1999)*	7 viable populations in Ontario, with a total of 8619 plants; 15 populations in Quebec, with a total of 10,956 plants	Small population size, habitat loss and degradation from clearing and logging, and over-harvesting / poaching.	ON, QC
41a Fernald's Braya *Threatened (1997)* **41b Long's Braya** *Endangered (1997)* [joint recovery plan]	a) 10 populations with a total of 2500 plants, b) 3 populations with a total of 6000 plants	Loss of limestone barrens habitat by gravel quarrying, road building and other development.	NF
42 Red Mulberry *Threatened (1987);* *Endangered (1999)*	About 117 trees in 14 sites (1998) plus numerous red x white mulberry hybrids	Hybridization with white mulberry; small populations; some mortality due to twig blight; habitat loss or degradation.	ON, Parks
ECOSYSTEM PLANS			
43 Coastal Plains [N.S.] 2 *Endangered,* 5 *Threatened plants (see below)*		Extensive losses and degradation of habitat from hydro power development and shoreline development and recreation.	NS
44 Grand River – 2 *Threatened fish:* a) Black Redhorse (1988) b) Eastern Sand Darter (1994)		Siltation and drainage associated with agricultural and urban development, dams preventing migration.	ON
45 South Okanagan 1 *Endangered,* 2 *Threatened birds(see below)*		Continued loss and degradation of habitat due to development.	BC, CWS
46 Sydenham River 3 *Endangered,* 1 *Threatened fish (see below)*	– *declining*	Habitat degradation due to urban, agricultural and resource development.	ON
47 Tallgrass Communities [Ontario] 7 *Endangered,* 3 *Threatened plants (see below)*	The ~ 2100 ha (21 km2) of prairie, savanna and woodland known to be remaining in southern Ontario in 1992 represents less than 3 percent of the pre-settlement extent of prairie and savanna in this region	Mostly habitat destruction, also alteration of ecological processes (e.g., fire suppression, altered hydrology), habitat degradation and invasion by exotic species.	ON

SPECIES INCLUDED UNDER ECOSYSTEM PLANS:

43) a) Thread-leaved Sundew (E, 1991); b) Pink Coreopsis (E, 1984 and 1999); c) Water-pennywort (T, 1999); d) Plymouth Gentian (T, 1984 and 1999); e) Golden Crest (T, 1987 and 1999); f) Redroot (T, 1994); g) Sweet Pepperbush (T, 1986 and 1998)
45) a) Sage Thrasher (E, 1992); b) White-headed Woodpecker (T, 1992); c) Yellow-breasted Chat [BC pop.] (T, 1994)
46) a) Northern Riffleshell (E, 1999); b) Rayed Bean (E, 1999); c) Wavy-rayed Lampmussel (E, 1999); d) Eastern Sand Darter (T, 1994)
47) a) Gattinger's and b) Skinner's Agalinis (both E, 1999); c) Pink Milkwort (E, 1998); d) Purple Twayblade (E, 1999); e) Slender Bush Clover (E, 1999); f) Small White Lady's Slipper (E, 1999); g) White Prairie Gentian (E, 1991); h) Bird's-foot Violet (T, 1990); i) Colicroot (T, 1987); j) Goat's-rue (T, 1996)

STATUS OF RECOVERY PLAN	RECOVERY TEAM CHAIR	PROGRESS TO DATE	FUNDING IN 1999-2000 (includes salaries and in-kind support)	WEB SITE URL FOR FULL INFORMATION (www.speciesatrisk.gc.ca/Species/English/SearchDetail.cfm?SpeciesID=...)
Draft recovery plan.	John Ambrose, *University of Guelph*, jambrose@uoguelph.ca, and Greg Boland, *University of Guelph*, gboland@uoguelph.ca	15 years of site surveys; research on chestnut blight fungus; evidence of hybridization with Eurasian chestnut species.	$ 14,300	SpeciesID=205, www.acf.org/ www.uoguelph.ca/~gboland/projects.htm
Draft recovery plan.	Line Couillard, *Ministère de l'environnement du Québec*, line.couillard@mef.gouv.qc.ca, and Don Cuddy, *Ontario Ministry of Natural Resources*, Don.Cuddy@mnr.gov.on.ca	Restoration of small populations, landowner contacts, management activities in Ontario provincial parks, workshop on ginseng conservation.	$ 105,600	SpeciesID=217
Draft recovery plan.	Luise Hermanutz, *Memorial University of Newfoundland*, lhermanu@mun.ca, and Henry Mann, *Memorial University of Newfoundland*,hmann@beothuk.swgc.mun.ca	Identification of new sites; public outreach to initiate stewardship efforts; established ex situ common garden at Memorial University Botanical Gardens.	$ 26,850	a) SpeciesID=5 b) SpeciesID=6
Draft recovery plan.	John Ambrose, *University of Guelph*, jambrose@uoguelph.ca	Site surveys; white mulberry culling to reduce hybridization.	$ 96,500	SpeciesID=228, www.uoguelph.ca/botany/faculty/husband/index.htm
Plan in development.	Sherman Boates and Mark Elderkin, *Nova Scotia Department of Natural Resources*, boatesjs@gov.ns.ca, elderkmf@gov.ns.ca	Stewardship and education programs are being revived; working with the NS Power Corporation to manage water levels.		a) SpeciesID=197 b) SpeciesID=185 c) SpeciesID=198 d) SpeciesID=226 e) SpeciesID=219 f).SpeciesID=229 g) SpeciesID=232
A framework for a recovery plan has been developed.	Alan Dextrase, *Ontario Ministry of Natural Resources*, alan.dextrase@mnr.gov.on.ca	Habitat mapping and assessment for the Eastern Sand Darter; population monitoring.	$ 37,000	a) SpeciesID=72 a) SpeciesID=77
Ecosystem plan is in preparation.	Tom Slater, *Canadian Wildlife Service*, t_slater@ducks.ca	Extensive land aquisition; public outreach and stewardship.	$3,195,000	a) SpeciesID=32 b) SpeciesID=41 c) SpeciesID=42
A framework for a recovery plan has been developed.	Alan Dextrase, *Ontario Ministry of Natural Resources*, alan.dextrase@mnr.gov.on.ca	Background analysis on water quality, stream channel structure and function, and land use within the watershed.	$ 43,000	a) SpeciesID=582 b) SpeciesID=581 c) SpeciesID=583 d) SpeciesID=77
Draft recovery plan.	Lindsay Rodger, *World Wildlife Fund Canada*, lrodger@wwfcanada.org	Developing "Save Ontario Savannas" land owner contact project, which includes compilation of baseline data on a site by site basis and a threat assessment to allow for future monitoring of progress.	$ 47,500	a) SpeciesID=180 b) SpeciesID=190 c) SpeciesID=186 d) SpeciesID=227 e) SpeciesID=191 f) SpeciesID=193 g) SpeciesID=201 h) SpeciesID=209 i) SpeciesID=214 j) SpeciesID=218 www.heritagefdn.on.ca/tallgrass/

NOTE:
A "Species", as defined by COSEWIC, is "any indigenous species, subspecies, variety, or geographically defined population of wild fauna and flora."

FINANCIAL CONTRIBUTORS

CONTRIBUTING ORGANIZATION	SPECIES OR GROUP	PYs	(excluding salary dollars, including in-kind contribution) $1000s
Abitibi Consolidated	1	0.25	45.00
Acadia Centre for Wildlife and Conservation Biology	27	1.60	0.50
Acadia University	27, 30		4.50
Alaska Government	9	0.40	3.00
Alberta Conservation Association	12, 21	1.90	
Alberta Government	6, 9, 12, 17, 21, 24	1.35	39.60
Alberta Fish and Game Association	17	0.10	1.5
Alberta Sport, Recreation, Parks and Wildlife Foundation	12, 21		24.40
Alf Kelly Research Award	17		5.00
Allan H. Bill Scholarship	9		0.70
Arcangelo Rea Family Foundation	47		10.00
Atlantic Veterinary College	1, 21	0.60	4.80
Attention Frag-Iles	21	6.90	7.90
Bert Miller Nature Club	10	0.10	0.20
Biodome de Montreal	40	0.20	2.00
Bird Studies Canada	11, 15, 17		8.50
Bow Valley Naturalists	38		0.15
British Columbia Government	7, 9, 12, 18, 19, 20, 34	14.31	734.30
Brock University	29	0.02	
Calgary Zoo	6, 25	1.30	49.00
Canada Trust Friends of the Environment Foundation	20, 30		8.60
Canadian Forest Products Limited	18	0.10	1.00
Canadian Forest Service	1, 42	2.50	125.00
Canadian Peregrine Foundation	20		50.00
Canadian Space Agency	20		15.00
Canadian Wildlife Federation	12, 17, 30		25.00
City of Windsor	29	0.57	1.6
Constitution Square, Ottawa	20	0.10	14.00
Corner Brook Pulp & Paper Co.	1	0.25	60.00
Corporations (unidentified)	7		351.00
Crowne Plaza Hotel, Ottawa	20		0.20
Dalhousie University	30		4.00
Ducks Unlimited Canada	15		0.5
Emerald Property Services	20		0.20
Enbridge Inc.	21		0.17
Environment Canada (Canadian Wildlife Service)	6, 9, 10, 12, 13, 14, 15, 17, 18, 20, 21, 22, 25, 26, 29, 40, 45	12.06	542.60
Environment Canada (Meteorological Service)	15		10.00
Environment Canada (National Water Research Institute)	46		15.00
ESRF (Endangered Species Recovery Fund) [~50% federal, ~50% WWF]	1, 2, 5, 9, 12, 13, 17, 18, 21, 22, 24, 27, 28, 29, 30, 31, 34, 38, 39, 40, 41, 42, 46	3.00	396.10
Essex Region Conservation Authority	15		0.5
Fisheries and Oceans Canada	2, 5, 35	1.14	92.00
Fondation de la Faune du Québec	2		12.50
Foundations (unidentified)	7		8.40
Fuji Photo-Film Canada	30		1.80
Greater Vancouver Regional District	34		5.00
Groupe de Recherche et d'Éducation sur le Milieu Marin	2		20.00
Habitat Conservation Trust Fund	45	0.40	243.00
Haldimand & Area Stewardship Council (Habitat Haldimand)	11		2.10
Hamilton Field Naturalists	20		3.50
Hawk Cliff Foundation	20		0.10
Hawk Cliff Raptor Banding Station	20		0.10
Hubbs Research Institute	30		6.00
Human Resources Development Canada	1,17, 25, 31, 40	0.90	13.00
Husky Oil	9		1.00
Institut National d'Écotoxicologie du Saint-Laurent	2		18.00
Inuvialuit Implementation Funds	4	1.00	95.00
Irving Eco-centre	21	0.65	
Island Nature Trust	21	0.70	9.00
Kamloops Wildlife Park	12	0.50	6.30
Manitoba Government	9, 12, 17, 21	1.30	18.00
Margaret Gunn Endowment for Animal Research	9		25.60
McBride Foundation	22		1.00

FINANCIAL CONTRIBUTORS (CONTINUED)

CONTRIBUTING ORGANIZATION	SPECIES OR GROUP	PYs	(excluding salary dollars, including in-kind contribution) $1000s
McGill University	17, 20	0.25	8.00
McIlwraith Field Naturalists	20		2.50
McLean Foundation	47		5.00
McMaster University	2		4.00
Memorial University of Newfoundland	13, 41		19.75
Model Forest	1	1.50	75.00
Moose Jaw Exhibition Co.	12	1.00	105.10
National Defence Canada	34		14.10
Natural Resources Canada	17	0.03	5.00
Natural Sciences and Engineering Research Council of Canada (NSERC)	12, 18, 26, 30, 41	0.75	98.70
Nature Saskatchewan	12, 21	1.00	9.80
Nature Trust of British Cloumbia	45	1.50	2,650.00
Nestucca Trust Fund	18	0.75	
New Brunswick Government	21	0.10	3.50
Newfoundland-Labrador Government	1, 20, 21, 41	5.14	156.10
Niagara Peninsula Conservation Authority	29	0.07	0.06
Norfolk Land Stewardship Council	11		2.30
North American Waterfowl Management Plan (NAWMP)	12, 21		30.10
Northwest Territories Government	4, 9, 20, 25	4.64	538.10
Nova Scotia College of Geographical Sciences	27	0.40	
Nova Scotia Government	21, 27, 35	0.67	13.65
Nova Scotia Liquor Commission	27, 30		8.00
Nova Scotia Museum of Natural History	30, 35		8.00
Nunavut Government	4, 20	1.40	150.00
Ontario Government	10,11,14,15,17,20,21,22,26,28,29,31,36,40,42,44,46	2.92	133.20
Ontario Heritage Foundation	47		2.00
Operation Migration	25	0.60	24.30
Ottawa Field-Naturalists	20		0.20
Owl Foundation	20		0.50
Parks Canada Agency (Canadian Heritage)	1, 2, 4, 6, 9, 21, 25, 26, 27, 29, 38	9.46	326.70
Piper Project	21	3.50	14.50
Polar Continental Shelf Project	4		35.00
Prince Edward Island Government	21	0.06	1.30
Protected Areas Association of Newfoundland	1	0.10	3.00
Quebec Government	20, 40	0.54	12.70
Saskatchewan Government	6, 12, 17, 21, 24, 25	2.46	31.00
Saskatchewan Power Corporation	21	0.03	5.00
Saskatchewan Water Corporation	21	0.01	
Saskatchewan Wetland Conservation Corporation	21	0.07	0.60
Sault Naturalists	20		0.10
Sifton Properties	20		3.00
Simcoe District Fish and Game Club	11		1.00
Simcoe Rotary Club	11		1.00
Southwest Mountain and Marine Corporation	21	0.70	1.80
Stanley Park Breeding Facility	12		3.80
Thunder Bay Field Naturalists	20		0.20
Toronto Zoo	3, 17, 29	2.06	104.40
Trans-Canada Transmissions	20		8.25
University of Alberta	4, 12	0.50	13.00
University of Calgary	9		3.90
University of Toronto	16	0.07	3.50
Upper Thames Conservation Authority	31	1.00	
Volunteers	7, 10, 11, 12, 20, 21, 22, 24, 25, 27, 28, 30, 39, 40, 41, 47	16.44	217.10
Weyerhaeuser Canada	18	0.25	5.00
Wildlife Preservation Trust Fund	12		55.00
World Wildlife Fund Canada (excluding contribution to ESRF)	2, 5, 40, 44, 47	0.02	22.30
York University	10	0.10	0.50
Yukon Fish and Wildlife Enhancement Trust	9		5.40
Yukon Government	9, 20	0.50	55.00
	TOTALS	**114.76**	**8,139.43**

PY =person year
($55,000 on average, including salary and overhead)

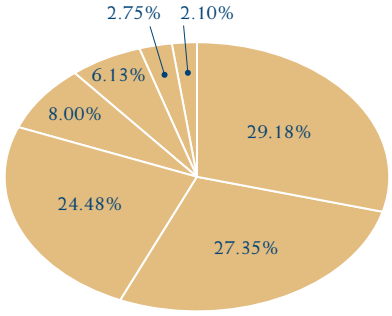
FUNDING per SPECIES

Blue Racer 3.5 (0.05 PY)
Kirtland's Warbler 3.5 (0.07 PY)
Aurora Trout 10.0 (0 PY)
Henslow's Sparrow 0.2 (0.20 PY)
American Chestnut 0.5 (0.25 PY)
Fernald's Braya/Long's Braya 10.35 (0.3 PY)
Oregon Spotted Frog 34.4 (0 PY)
Grand River 37.0 (0 PY)
Sydenham River 41.0 (0 PY)
Tallgrass Communities 20.0 (0.50 PY)
Banff Springs Snail 23.75 (1.10 PY)
Prothonotary Warbler 9.2 (0.80 PY)
King Rail 39.0 (0.50 PY)
Barn Owl [Eastern population] 15.9 (0.95 PY)
Swift Fox 16.5 (1.00 PY)
Atlantic Whitefish 49.0 (0.77 PY)
Spiny Softshell Turtle 24.9 (1.25 PY)
Acadian Flycatcher/Hooded Warbler 13.7 (1.46 PY)
Black Rat Snake 57.0 (0.70 PY)
Red Mulberry 25.0 (1.30 PY)
American Ginseng 44.5 (1.11 PY)
Leatherback Turtle 52.6 (1.88 PY)
Eastern Massasauga 57.9 (1.22 PY)
Sage Grouse [Prairie population] 24.0 (1.85 PY)
Harlequin Duck [Eastern population] 65.0 (1.50 PY)
Black-footed Ferret 50.0 (2.00 PY)
Blanding's Turtle 18.4 (3.00 PY)
Beluga Whale [St. Lawrence River] 197.5 (1.00 PY)
Whooping Crane 151.9 (5.35 PY)
Marbled Murrelet 136.0 (6.45 PY)
Loggerhead Shrike 286.0 (5.75 PY)
Peary Caribou 402.0 (3.70 PY)
Peregrine Falcon 191.2 (7.69 PY)
Northern Spotted Owl 229.0 (9.00 PY)
Burrowing Owl 443.7 (8.58 PY)
Vancouver Island Marmot 914.4 (0.40 PY)
American Marten [Newfoundland population] 495.3 (10.90 PY)
Wood Bison 721.6 (9.35 PY)
Piping Plover 206.5 (27.00 PY)
South Okanagan /3008.0 (3.40 PY)

30 25 20 15 10 5 0 (PY)
500 1000 1500 2000 2500 3000 ($1000s)

Funding of personnel in 1999/2000 (in person years – PYs)
Funding of expenses in 1999/2000 (in $1000s; excludes salaries)

1999/2000 BREAKDOWN BY %



29.18% **NGOs**
27.35% **Provincial/Territorial/Regional/ Municipal Government**
24.48% **Federal Government**
8.00% **Private donations/Volunteer time**
6.13% **Corporations/Businesses**
2.75% **Museums/Zoos/Aquaria**
2.10% **Universities**

(Canadian sources only)