INTRODUCTION

The Parks Canada Species Database tracks data on the plant and animal species known to occur in each national park. The first iteration of the database, which was prepared in 1997, was prepared by consulting all available information, particularly Resource Descriptions and Analyses and other park reports. The work on plants was supervised by Dr. Luc Brouillet, a professor at the Université de Montréal, while the work on vertebrates was undertaken by a contractor, Mr. Daniel Plasse.

The current second iteration of the Database is current up to the December 2000. It was prepared by sending the first iteration lists to each park for updating in 1998, then incorporating the changes recommended by the park staff over the next year. In addition, some newly created parks (e.g. Ukkusiksalik) and National Park Areas of Interest (e.g. Gulf Islands) were added. The work on plants was again supervised by Dr. Brouillet and the work was carried out by Frédéric Coursol. The vertebrate work was supervised by Rob Alvo and completed by three contractors: Christie Spence, Matthew Smith, and Josée Nesdoly. The vertebrate occurrence records were compared to known species ranges from reference texts to develop a list of “outliers”, of which there were about 250. All of these were forwarded to the respective parks for verification. Replies were obtained for all the records, and the changes were incorporated.

STRUCTURE OF THE DATABASE

The Database consists of a Microsoft ACCESS database for the vertebrates, and a Microsoft EXCEL spreadsheet for the vascular plants.

Vertebrate Database

The vertebrate database (“VertsIteration2”, 4292 KB) consists of three tables: “species”, “parks”, and “occurrences”. The “Species” table presents information specific to each species. (When the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) recognizes more than one population in a species, each population is treated separately, and the species is also treated as a whole.) This table contains 1783 species records. The fields are:

- **ELCODE** -- a species-specific code used by the Conservation Data Centres and the Association of Biodiversity Information (ABI).
Latin -- Latin name. These are the Latin names used by the Association of Biodiversity Information. ABI generally follows the most up to date literature for taxonomic purposes. For example, in the case of birds, ABI follows the taxonomy and nomenclature determined by the American Ornithologists’ Union.

English – English common name. Again, we applied the English names used by the Association of Biodiversity Information (ABI).

French -- French common name. We used a number of sources, depending on the taxonomic group.

Taxonomic Entity
S -- species
SS -- sub-species
PS -- population of a species
PSS -- population of a sub-species
HYB -- hybrid

COSEWIC Status
E -- Endangered
T -- Threatened
SC -- Special Concern (This category was known formerly as “Vulnerable”, and earlier as “Rare”.)
NAR -- Not at Risk
I -- Indeterminate (This category is now called “Data Deficient”).
XT -- Extirpated
X -- Extinct

GRANK -- Global Conservation Rank as determined by the network of Conservation Data Centres

Genus
Family
Order
Class

Taxonomic Notes

The “Parks” table presents information specific to each of the 44 parks. The fields are:

ParkName
ParkCode – Un code de quatre lettres.
ParkArea – Size of the park in squared kms.
YearEstab – Year the park was established.
Lat -- Latitude
Long -- Longitude
The third table is called “Occurrences” and presents information specific to species occurrences in national parks. One species occurring in one park is an occurrence. The database contains 12,157 occurrence records. The fields are:

- **ParkName**
- **C_Name** -- The common name that was used for the species in the first iteration of the Database (note that these are written with the generic name first and the specific epithet following, e.g. Thrush, Wood)
- **Latin** -- Latin name
- **COS_Status** -- This field indicates the status in the park of the species listed by COSEWIC.
  - **C-W** -- Common and widespread in the park. These species are generally easily and regularly observed and they are present in large numbers throughout the park.
  - **C-L** -- Common and limited spatial distribution in the park. These species are generally easily and regularly observed in their limited habitat, where they are present in large numbers.
  - **U-R-W** -- Uncommon or rare but widespread in the park. The presence of such species is characterized by infrequent observations, small population densities, and their being located in fragmented areas of habitat in the park.
  - **U-R-L** -- Uncommon or rare and limited spatial distribution in the park. Includes species that are observed infrequently in their limited habitat.
- **Reproduction**
  - **B** -- Breeding. Breeds in the park.
  - **N** -- Non-Breeding. "Transient" in the park.
  - **I** -- Indeterminate. Unknown.
- **Abundance** -- In this database, the abundance is determined only for the territory of the park by using expert judgement.
  - **C** -- Common. Abundant or common in the park. Generally easily and regularly observed in its preferred habitat. Populations are large and the habitat required for the survival of the species is found over large areas of the park territory.
  - **U** -- Uncommon. Not common in the park. Characterized by infrequent to frequent observations, average population densities and average area of habitat in the park.
  - **R** -- Rare. Present in small numbers in the park and is the focus of special attention due to its fragility. Includes species that are not present in large numbers in the park and rarely observed in their preferred habitat. In most cases, it is a question of the presence of a species in a habitat that is unusual for the region.
  - **E** -- Exceptional. Exceptional in the park. Includes species that have wandered from their home range and/or occasional species, unlikely to be
observed outside their usual habitat. In general, observations of these species are exceptional since in most cases the species are outside their usual range.

*Extir* -- Extirpated. No longer occurs in the park. Includes species that were once present in the park, but that are no longer observed there today.

? -- Indeterminate. Data on species abundance are unavailable.

\*Native

*En* -- Endemic. Restricted to the park region.

*N* -- Native. Indigenous to the park region.

*NAIN* -- North American introduced. A Canadian species deliberately introduced to a park or park region.

*NOAM* -- North American incidental. Having reached a park or park region independently.

*EXOT* -- Exotic. Introduced species.

*R-I* -- Reintroduced. Reintroduced species.

? -- Indeterminate -- Status to be determined.

\*Exotic Status

*C-W* -- Common and widespread in the park. Generally easily and regularly observed, and present in larger numbers throughout the park.

*C-L* -- Common and limited spatial distribution in the park. Generally easily and regularly observed in its limited habitat and present in larger numbers.

*U-R-W* -- Uncommon or rare but widespread in the park. Characterized by infrequent observations, small population densities and its being located in a fragmented area of habitat in the park.

*U-R-L* -- Uncommon or rare, and limited spatial distribution in the park. Includes species that occur in their limited habitat, but are infrequently observed.

\*Exo_Asson* -- Exotic Species Association. Many exotic species in Canada’s national parks can reproduce and survive only in disturbed sites such as highway right of ways, lawns, townsites, campground, gravel pits, and other disturbed areas created or maintained by humans. These species may not represent a major threat for park ecosystem conservation. However, some other species may spread in many ecosystems and threaten the ecological integrity of the parks.

\*D* -- Associated only with areas disturbed by human activity. Presence is recorded in recovering ecosystems and/or in human dominated areas such as town-sites, campgrounds, disturbed roadsides, etc.

*D-N* -- Associated with disturbed and natural areas.

\*Water* -- This field is used only for fish and is used to describe the general habitats of a species. A species may be anadromous in Canada but may occur only in freshwater in the park.
Vascular Plant Database

The plant database, “VascularPlantsIteration2” (3.306 Mega-bytes), consists of two separate spreadsheets: “Eastern Canada” and “Western Canada”. Each has exactly 3800 records (species, sub-species and varieties). The first column gives the Latin name, while the second gives the name used by Kartesz, when there is difference. We deferred to Dr. Luc Brouillet at the University of Montreal for plant names. Each column represents one source of data used to document the presence of the species in the park. A “1” indicates that the source listed the species as being present in the park, while a “0” indicates that the source did not list the species as present. Each group of columns represents all the sources used for one park. The final column in each group indicates the presence (1) or absence (0) of the species in the park based on the information given in the previous columns. For example, the first park in the Eastern Canada spreadsheet is Cape Breton Highlands N.P. The first seven columns after the species’ name each represent one reference, with the “5c” signifying this park, and the two-digit number following (e.g. 84) referring to the date of the reference. The eighth column, in red, gives the presence or absence of the species in the park.

After the columns for the last park are the columns:

° **Introduction**  --  “0” indicates a species native to Canada. “1” indicates a species introduced to Canada.

° **COSEWICS** – The following letter codes are COSEWIC categories.

E – Endangered
T – Threatened
V – Vulnerable
NAR – Not at risk
The number codes are categories used for defining the status of vascular plant species under investigation for status report preparation. Five categories of rare plants are recognized.

1. Rare Canadian endemics.
2. Rare Canadian peripheral species that are Endangered, Threatened or Vulnerable through their global range.
3. Rare Canadian peripheral species that are Endangered, Threatened or vulnerable in 2 or more American border states.
4. Rare Canadian peripheral species that are Endangered, Threatened or Vulnerable in one American border state.
5. Rare Canadian peripheral species that occur at few localities, but for which no official status is known from American border states.

° Family -- Taxonomic Family
° English – English common name.

The last three fields are for comments.
APPENDIX I. SOURCES USED TO COMPILNE THE LIST OF VASCULAR PLANT TAXA PRESENT IN NATIONAL PARKS.

5c : Cape Breton Highlands
5c cap ACCESS file called, "Natl_db.mdb", dated 17 February, 1999 from James Bridgland.

5e : Kejimkujik


O’Grady, Sally. 27 p. Fax.


Clay D. and S.G. Richard. 1996. A Checklist (with codes) of the vascular plants, lichens, and bryophytes of fundy NP: including notes on the park herbarium. Parks Canada - Ecosystem monitoring and data report No. 02. (Information taken from an e-mail from Vicki Sahanatien on 03/11/99 01:06 PM To: Robert Alvo/HullOttawa/PCH/CA@PCH).


Bouchard, A. et al. 1987. Phytogeographical and life-form analysis of The vascular flora of Gros Morne...


FileMaker Pro file from Luc Brouillet’s own data.

Kouchibouguac


Prince Edward Island

Grandtner, M. M. 1971. Ecological study of the interior dunes of West Brackley Beach, Prince Edward
Island National Park: final report. Volume 1. Project no. 05/1-14, Québec. 83p.


5t: Terra Nova


5tluc FileMaker Pro file from Luc Brouillet’s own data.

5t final FileMaker Pro file from Luc Brouillet’s own data.

6f: Forillon


La Mauricie


Archipel de Mingan


6m99 Text file called « mingan.txt » received from the park via an e-mail to Luc Brouillet of 2 novembre 1998.

6s: Saguenay


7b: Bruce Peninsula


7b bruce List sent to the national office and forwarded by Jean Poitevin Date: 17 December 1997.

7g: Georgian Bay Islands

7g73 Thaler, G. R. 1973. Some preliminary observations on the flora and vegetation of Beausoleil Island (Georgian Bay Islands National Park), Honey Harbour, Ontario. 19p.


7g84 Brownell, V. 1984. A resource management study of rare vascular plants of The Tobermory Islands Unit, Georgian Bay Islands National Park : final report.


7g98 Access file called Georgian Bay.mdb, dated 19 July, 1998, from the park via an e-mail from Luc Brouillet.

7p: Point Pelee


7p99 Access file called plants.mdb from Gary Mouland via an e-mail from Luc Brouillet on 6 November 1998.

7s St. Lawrence Islands


7s77 Parks Canada, St. Lawrence Islands National Park, Interpretation Division. 1977. Vascular plants of the Thousand Islands : trilingual list. Parks Canada, Ontario Region. 47p.


7s99 DBase IV file called Slis_p.dbf from the park via an e-mail from Luc Brouillet on 4 February 1999.
7u : Pukaskwa


7u98 ACCESS file called puskawa.mdb dated 20 July, 1998 from the park via an e-mail from Luc Brouillet.

8a : Auyuittuq


8a99 EXCEL file called "auy_revised_pl98.xls" from Vicki Sahanatien via an e-mail from Luc Brouillet on 24 February 1999.

8b : Aulavik


8b99 EXCEL file called « de aulavik. », from Martin Raillard via an e-mail from Luc Brouillet on 20 novembre 1998.

8c: Ukkusiksalik

8e : Ellesmere Island (Quttinirpaaq)
8e99 EXCEL file called «Revised_ELLE_PLANTS.xls » from Vicki Sahanatien via an e-mail from Luc Brouillet on 6 novembre 1998.

8g : Grasslands
8g98 DBase file called «Grassland.dbf » dated 19 June, 1998 from Pat Fargey via an e-mail from Luc Brouillet.

8n : Nahanni
8n76 Marsh, A. H. & Scotter, G. W. 1976. Vegetation survey and development recommendations for the Rabbitkettle
8n98 EXCEL file called « NAHA_P.xls » dated 24 March, 1998, provenant de the park via an e-mail from Luc Brouillet.

8o : Sirmilik

8p : Prince Albert

8r : Riding Mountain

8t: Tuktut Nogait

8u: Wapusk


8w : Wood Buffalo


8w98 WORD file « wbnpli~1.wd.doc » from Christina Kaiser via an e-mail from Luc Brouillet on 2 November 1998.

8w2000 File received from the park via e-mail in early summer 2000.

8y : Ivvavik


Fred Fax from Parks Canada (Calgary)  
Date: November 18 1998.  
From: Martin Raillard, To: Robert Alvo  
Subject: Ivvavik biodiversity lists. 26 p.

9b : Banff


9b93 Achuff, P. L. 1993. Vascular plants of the mountain national parks : species list and a database. Western
Regional Office, Canadian Parks Service, Calgary, Alberta. 43p.


Elk Island


Jasper


Hettinger, L. R. 1971. A comparative synecological and distributional study of the montane, subalpine
plant communities in the Vine Creek basin, Jasper National Park. 9p.


9j98achuff Comments on SOP Vascular Plant Lists for 7 Mtn NPks (Brouillet et al. 1997) WordPerfect file sopvgn.wpd dated 2 August, 1998 from Peter Achuff via an e-mail from Luc Brouillet.

9k : Kootenay


9k98achuff Comments on SOP Vascular Plant Lists for 7 Mtn NPks (Brouillet et al. 1997) WordPerfect file sopvgn.wpd dated 2 August, 1998 from Peter Achuff via an e-mail from Luc Brouillet.

9w : Waterton Lakes


9w77 Trottier, G. C. 1977. Vegetation change in response to protection from grazing in the fescue grassland of


9w98 WORD file « welcapa.doc » from the park via an e-mail from Luc Brouillet.

9w98achuff Comments on SOP Vascular Plant Lists for 7 Mtn NPks (Brouillet et al. 1997) WordPerfect file sopvvpn.wpd dated 2 August, 1998 from Peter Achuff via an e-mail from Luc Brouillet.

9y : Yoho


9y98achuff Comments on SOP Vascular Plant Lists for 7 Mtn NPks (Brouillet et al. 1997) WordPerfect file sopvvpn.wpd dated 2 August, 1998 from Peter Achuff via an e-mail from Luc Brouillet.

10g : Glacier

10g98achuff Comments on SOP Vascular Plant Lists for 7 Mtn NPks (Brouillet et al. 1997) WordPerfect file sopvpn.wpd dated 2 August, 1998 from Peter Achuff via an e-mail from Luc Brouillet.

10k : Kluane
10k75 Hoefs, M. 1975. Phytosociological analysis and synthesis of Sheep Mountain, southwest Yukon Territory, Canada. Syesis 8 (suppl. 1) : 125-228.
Craig McKinnon comment received by e-mail on 26 October 1998 to: Robert Alvo/HullOttawa/PCH/CA
Subject: species list.

Mount Revelstoke


Comments on SOP Vascular Plant Lists for 7 Mtn NPks (Brouillet et al. 1997) WordPerfect file sopvxn.wpd dated 2 August, 1998 from Peter Achuff via an e-mail from Luc Brouillet.

Pacific Rim


Foskett, D. R. (ed.). 1974. Rare plants which should not be collected even under permit in Pacific Rim National Park. 5p.

10p Correction 1999 Fax. From: Warden Headquarters To: Rob Alvo Date October 30/1998 containing a list of the park’s species.

10s : Gwaii Haanas


10s98 EXCEL file « Gwaiip.xls » dated 24 March, 1998, from the park via an e-mail from Luc Brouillet.

10v : Vuntut

10v99a Fichier Word sous le nom de oldcrow_vascular_flora_list.doc provenant de Rhonda Markel via un courrier de Luc Brouillet le 10 décembre 1998.

10v99b WORD file « OLDCROW collection.doc » from Rhonda Markel via an e-mail from Luc Brouillet date 10 October 1998.