

# Newfoundland Rare Plant Project

## Progress report (February 2001)

### Description of the project

The Newfoundland Rare Plant Project (NFRPP) is a multi-partner effort to update and augment data on the rare vascular plants of the island of Newfoundland. Data obtained through this project will:

- support management efforts towards the conservation of rare plants;
- help in determining the general status of plants throughout the province; and ,
- provide basic information for the preparation of status reports for species of concern.

This three-year (April 1999 to March 2002) project involves intensive and systematic botanical surveys to document the occurrence, distribution and density of, and disturbance threats to, vascular plant species of conservation concern. Currently, Bouchard *et al.* (1991, The Rare Vascular Plants of the Island of Newfoundland, Syllogeus No. 65, Canadian Museum of Nature, Ottawa) identify 271 such species for the island of Newfoundland. Work is carried out by a team of qualified botanists under the supervision of the project steering committee. In the first year of the project, major focus was paid to the unique limestone barren regions on the west coast, where numerous provincially and, in some instances, nationally rare species occur. In the second year, work continued on the central and south-west coast, focusing on coastal, riparian and aquatic habitats. In its third year, the project will concentrate on sites of significance for rare plants in central and eastern Newfoundland.

Deliverables of the NFRPP are as follows:

- the development and updating of a vascular plant tracking list for the island of Newfoundland, produced as per conservation data centre methodology;
- the incorporation of georeferenced location data, and population and habitat information within the Biological Conservation Data (BCD) system of the Atlantic Canada Conservation Data Centre (AC CDC);
- the employ of the BCD system to respond efficiently and as fully as possible to formal requests for rare plant data;
- the production of maps showing the occurrence and distribution of the species of conservation concern; and,
- by March 2002, the completion of a detailed report including background information on the project, the most current vascular plant tracking list, location, habitat/range, status and notational information on each species of conservation concern, as well as maps showing the occurrence and distribution of species.

## Participants

The first two field seasons involved the collaboration of a number of individuals and institutions, namely the Newfoundland and Labrador Department of Forest Resources and Agrifoods (NLDFRA) [lead], the Atlantic Canada Conservation Data Centre (AC CDC), Gros Morne National Park (GMNP), the *Institut de recherche en biologie végétale* of the University of Montreal (IRBV), Memorial University of Newfoundland (MUN), and the Newfoundland and Labrador Department of Tourism, Culture and Recreation (NLDTCR).

Principal investigators (botanical team members):

Teuvo Ahti (University of Helsinki)  
Marilyn Anions (GMNP)  
Douglas Ballam (NLDTCR)  
Luc Brouillet (IRBV)  
René Charest (AC CDC)  
Nathalie Djan-Chékar (NLDFRA)  
Claudia Hanel (AC CDC / MUN)  
Stuart Hay (IRBV)

Laurence Lavers (NLDFRA)  
Henry Mann (Grenfell College, MUN)  
John Maunder (Newfoundland Museum)  
Sue Meades (independent botanist)  
Beth Pollock (GMNP)  
Shawna Powell (summer student, MUN)  
Carson Wentzell (GMNP)

Other participants:

Mike Bennett (NLDFRA)  
Dick Brake (NLDFRA)  
Joe Brazil (NLDFRA)  
Michael Burzynski (GMNP)  
Stephen Flemming (GMNP)  
Kim Furey (summer student, MUN)  
George Gibbons (NLDFRA)  
Luise Hermanutz (MUN)

Pat Lavers  
Anne Marceau (GMNP)  
Debby Meades  
Jeff Motty (summer student, NLDFRA)  
Rob Rainier (AC CDC)  
Hubert Smith (NLDFRA)  
Leah Soper (NLDFRA)

## Summary of activities

### Year 1 (1999):

In 1999 field teams surveyed coastal and mountainous areas along the west coast of the island of Newfoundland from the Port au Port Peninsula to the northern tip of the Great Northern Peninsula (see Fig. 1). Efforts were concentrated on limestone barren habitats. Teams also met in southeastern Labrador to survey similar habitats as those surveyed on the island, and joined the Braya Recovery Team for a workshop and intensive surveys.

The botanical teams sampled at 510 stations generating 8,221 occurrence records. An important aspect of the field work during this first field season was the testing and revision of

field work protocols. 2,603 vouchers specimens were collected. These were mostly vascular plants but included also a small set of charophytes, bryophytes and lichens. The collection is deposited at the herbarium of the Newfoundland Museum (NFM) with a duplicate collection at the Marie Victorin Herbarium in Montreal (MT). Any extra duplicates were given to either Gros Morne National Park or Sir Wilfred Grenfell College in Corner Brook. The information collected has been compiled into a database. Before completion of the project, this database will be incorporated into the Atlantic Canada Conservation Data Centre's Biological Conservation Data system, thereby allowing widespread access and use of the information.

#### Year 2 (2000):

The field season spanned from late June until mid-September. The main area of investigation was the southwestern portion of the island between Deer Lake and Port-aux-Basques. Field teams also surveyed a number of sites of special interest on the Great Northern Peninsula (see Fig. 2). Efforts were concentrated on coastal, aquatic, riparian and alluvial habitats, with some work in forested and limestone barren habitats as well. As last year vascular plants were the focus of the surveys, although during a two weeks expedition to the Soufflets and Main River watersheds, an expert lichenologist joined the team and complemented the vascular plant inventories with an important lichen collection.

#### List of sites visited:

1. Cape Norman
2. Big Brook
3. Savage Cove
4. Doctor's Brook
5. Soufflets River (Middle Gulch Pond, Great Harbour Deep)
6. Main River (Eagle Mountain Pond area)
7. Upper Humber River (Harriman's Steady, Reidville, Nicholville)
8. Bay of Islands (Raglan Head, North Arm Mountain, Penguin Arm, Goose Arm)
9. Humber Gorge
10. Wild Cove Brook and Hughes Brook
11. Fox Island River
12. Point au Mal
13. Table Mountain (north part)
14. Romaine's River
15. Harry's River (Dump Pool, Black Duck)
16. Bottom Brook (First Pond, Second Pond, Third Pond)
17. Southwest Brook (near mouth)
18. Port au Port Peninsula (Piccadilly, Cape St. George, Garden Hills, White Hills)
19. Flat Bay / Sandy Point
20. Fishells River (near mouth)
21. Robinson's River (The Grasses, near mouth)
22. Middle Barachois River (upper reaches, near mouth)
23. Crabbe's River (upper reaches, TCH crossing)

24. Codroy Valley
25. Cape Anguille (Anguille Mountains)
26. Saddle Mountain (Tompkins)
27. J.T. Cheeseman Provincial Park
28. Osmond
29. Grand Bay West

Over the course of the summer the field teams made observations at approximately 500 stations. At most stations general habitat and precise locality information were recorded. For about a third of the stations complete lists of species present were compiled, thus generating close to 8,000 occurrence records and providing information on presence/absence of rare taxa.

Voucher specimens were collected for rare plants or plants of special interest, as well as plants which could not be identified in the field. This summer's collection numbers over 3,000 specimens; these are mostly vascular plants but include also lichens and bryophytes, and a small set of charophytes. Experts are presently working on the identification of vascular plant and lichen specimens and the information collected is being compiled into a database. Vascular plant specimens will be deposited at the Newfoundland Museum (NFM) with a duplicate collection at the Marie Victorin Herbarium (MT). Lichen specimens will be deposited at the herbarium of the University of Helsinki (H) with a duplicate collection at the Newfoundland Museum.

### Some notable findings

#### Additions to the checklist

- *Proserpinaca pectinata* is an aquatic species of the eastern North American coastal plain. The closest locality where it occurs is in Nova Scotia. The collection made in Newfoundland by project botanists represents a significant extension of the range of the species to the north.
- *Bartonia virginica* is an eastern North American species previously reported in the region from the island of St. Pierre. Collections from two different localities confirm its presence in southern Newfoundland as well.
- *Carex retrorsa* was reported for Newfoundland before in Scoggan (1978, The Flora of Canada, ). Meades et al. (2000, Annotated Checklist of the Vascular Plants of Newfoundland and Labrador) rejected the report because proof could not be found in herbarium records. A collection made the summer of 2000 provides firm documentation of the species occurrence on the island.

#### Relocation of historical populations

- *Carex petricosa* var. *misandroides* is rare in Canada, known only from Quebec and Newfoundland. It had not been collected in Newfoundland since the late 50's. The project team relocated a population discovered by Ernest Rouleau in 1948 in the Bay of Islands.

- Common in eastern North America, *Oclemena acuminata* was known from only two localities in western Newfoundland where it was last collected by Fernald, Long and Dunbar in 1924. A population of this plant was found in 2000 in J.T. Cheeseman Provincial Park by the project botanists and park staff. This is a new locality for this species.
- The first and only collection known so far of *Equisetum hyemale* var. *affine* was by Fernald and Wiegand at Middle Birchy Pond in 1910. Unfortunately the specimen is poor and its identity is questionable. A population attributable to this taxa was found in 2000 near the mouth of Fischells River over 100 km from the original locality. Examination of the specimens collected in 2000 may help to shed some light on the 1910 collection.

### **Input into conservation efforts**

- A COSEWIC status report on Barrens willow (*Salix jejuna*) was under preparation concurrently with the first two years of the project. Data collected on this species was passed on to the author. It provided important additional information on the distribution, abundance and ecology of the species.
- Several of the sites visited during the first two field seasons are designated as candidate ecological reserves under the proposed Natural Areas Plan for the province. The information obtained at these sites will help to better define boundaries and strengthen the knowledge base necessary to defend them.
- Some of the sites visited are within the boundaries of existing parks or reserves. Accurate information on rare plants occurring within protected areas is necessary to ensure appropriate protection, develop management strategies and education programs. As an example, at Port aux Choix National Historic Site, a proposed trail was rerouted to avoid a sensitive area (limestone barren) as a result of field work with the Rare Plant Project team. Using the Rare Plant Database, staff with both federal and provincial parks have been preparing reference material containing information on rare plants in the parks.
- There is presently interest in forest harvesting at some of the sites surveyed. The data collected during the course of the project could assist in better mitigating impacts of commercial cutting on rare plants.
- Staff in the Inland Fish and Wildlife Division use the Rare Plant Database on a regular basis to review development proposals (forestry, mining, cabin development). They are also using the database as a resource in the preparation of management plans for stewardship areas around the province.
- The project is increasing awareness for rare plant conservation in the province. Botanists in the field meet members of the public. The group has also been approached by individuals, tourism organizations, the media and conservation organizations for

information on rare plants.

### **Prospects for the next field season**

In November, 2000, the NFRPP Steering Committee meet to review the 2000 field season, and establish priorities and make plans for 2001. Work started in the past two years will continue, that is relocating rare plant populations to improve location data, and surveying, in search of rare plants, areas where there has been little or no collecting in the past. The geographic search area will be expanded to include the valley of Exploits River and the northeastern portion of the island from White Bay to Bonavista Bay.

### **For more information**

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