



The Ruffed Grouse Society of Canada

Upland Game Habitat Enhancement - Glengarry Valley, Cape Breton Final Report

The Glengarry Valley Project partnered The Ruffed Grouse Society (RGS) of Canada, Nova Scotia Power Inc. and the Department of Natural Resources in a long term project in Cape Breton, N.S.. Our goal was to create a stable low growing shrub community which would benefit wildlife by providing food and cover while controlling tall growing trees on a transmission corridor. Our objectives were to enhance wildlife habitat and biodiversity, reduce the long-term requirement for repeated application of herbicides and gain insight on growth patterns and species performance on a variety of sites. This involved planting 50,000 shrubs near Chapel Rd. under lines 7011,7012 and 6516 on crown land on a transmission corridor leased by NSPI. 41 plots of various dimensions were planted with the following species;

- Alder - *Alnus rugosa*
- Red-ozier Dogwood - *Cornus stolonifera*
- Staghorn sumac - *Rhus typhina*
- Winterberry Holly - *Ilex verticillata*
- Bayberry - *Myrica pennsylvanica*
- Elderberry - *Sambucus canadensis*
- Wild Raisin - *Viburnum cassinoides*

6 intraspecific and 8 interspecific experiments were implemented and will be monitored and surveyed along with the other 27 plots for a period of 6 years. This will be done by the Project Coordinator and founder of the N.S. chapter of R.G.S., Darrell MacInnis. Results of these surveys will be provided to partners involved as the experiments continue. The monitoring/evaluation plan will, by measuring the percent coverage and height of shrub species and in which year reproductive structures are formed , quantify the enhancement of cover, vertical diversity and food production. We will also provide data on the issue of optimal spacing and species preparation versus performance. Monitoring seedlings percent mortality and height and crown width will track the establishment of a dominant shrub layer. Accordingly, all of the 41 plots were staked, numbered , mapped, and photographed.

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Site Location:

Right from Marion Bridge Hwy onto Sanfield Rd.

Right from Sanfield Rd. onto Intervale Rd.(@ 2 Rivers Wildlife Park)
 Right from Intervale Rd. onto Chapel Rd.
 Drive to end of road and take dirt road at the right to transmission lines.

Intraspecific Experimental Design (2002 survival rates)

Experiment #1

Plot 15	Uncut Alder (<i>Alnus rugosa</i>)	Versus	Plot 16	Cut Alder (<i>Alnus rugosa</i>)
	10% survival			1% survival

The effects on crown closure when planting pruned and unpruned alders in a very damp environment are compared in conditions which might be best described as a swampy marsh.

Experiment #2

Plot 40	12"-28" Alder (<i>Alnus rugosa</i>)	Versus	Plot 27	3"-6" Alder (<i>Alnus rugosa</i>)
	15% survival			10% survival

The results here shall compare the growth of small with large alder planted in conditions which may be best described as mixed field like with some brush.

Experiment # 3

Plot 44	12"-28" Alder (<i>Alnus rugosa</i>)	Versus	Plot 30	3"-6" Alder (<i>Alnus rugosa</i>)
	20% survival			0% survival

With these plots our objective is to measure and compare the survival rates of short versus tall alder when planted in a brushy area.

Experiment #4

Plot 34	24"-26" Unpruned Dogwood (<i>Cornus stolonifera</i>)	Versus	Plot 26	6"-8" Pruned Dogwood (<i>Cornus stolonifera</i>)
	80% survival			0% survival

The rate of crown closure is studied here as we compare dogwood that is pruned with unpruned dogwood in field like conditions that have some very damp areas.

Experiment #5

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Plot 19	Large Staghorn Sumac versus (<i>Rhus typhina</i>)		Plot 24	6"-8" Staghorn Sumac (<i>Rhus typhina</i>)
	1 % survival	Versus		0 % survival

We planted different sized Sumac here to compare their survival rates in brushy areas with some open field like areas.

Experiment # 6

Plot 43	Winterberry Holly (<i>Ilex verticillata</i>) (in drier area)		Plot 37	Winterberry Holly (<i>Ilex verticillata</i>) (in damper area)
	20 % survival	Versus		0 % survival

The crown closure rate of Winterberry Holly is compared when it is grown in a drier area with some brush as opposed to a damper area with some grass.

INTERSPECIFIC EXPERIMENTAL DESIGN (2002 survival rates)

Experiment #1

Plot 29	Tall Alder (20"-24")		Plot 28	Bayberry (6"- 1")
	20 % survival	Versus		40 % survival

The crown closure rates of these species are compared when grown in conditions best described as field like with some brush.

Experiment # 2

Plot 12	Tall Alder (<i>Alnus rugosa</i>)	Versus	Plot 13	Staghorn Sumac (<i>Rhus typhina</i>)
	5 % survival			1 % survival

The crown closure rates of these species are compared when grown in brushy field like conditions.

Experiment #3

Plot 6	Tall Alder (<i>Alnus rugosa</i>)	Versus	Plot 7	Tall Dogwood (<i>Cornus stolonifera</i>)
	20 % survival			95 % survival

The survival rates of these species are compared when grown in marshy conditions.

Experiment #4

Plot 25	Alder (3") (Alnus rugosa)	Versus	Plot 38	Elderberry (4"- 8") (Sambucus canadensis)
	1 % survival			0 % survival

The survival rates of these species are compared when grown in field like conditions.

Experiment # 5

Plot 9	Tall Dogwood (Cornus stolonifera)	Versus	Plot 10	Staghorn Sumac (Rhus typhina)
	80 % survival			0 % survival

Here we compared the survival rates between these species on an exposed hill.

Experiment # 6

Plot 35	Dogwood (24"-26") (Cornus stolonifera)	Versus	Plot 36	Staghorn Sumac (12"-14") (Rhus typhina)
	80 % survival			0 % survival

Survival between these species is compared in open field like areas with scattered brush.

Experiment #7

Plot 42	Bayberry (Myrica pennsylvanica)	Versus	Plot 2	Staghorn Sumac (Rhus typhina)
	10 % survival			1 % survival

Crown closure is compared between these species in a brushy area.

Experiment # 8

Plot 20	Alder (Alnus rugosa)	Versus	Plot 22	Staghorn Sumac (Rhus typhina)
	5 % survival			0 % survival

In a brushy field we planted these species to compare their survival rates.

Communications Component of the Glengarry Project

Signage will be erected on site in the summer of 2003 acknowledging partnerships .

Presentations describing the project and the funds involvement included the following:

- R.G.S. Sporting Clays Day in Stewiacke, N.S. The project and the funds involvement were described to the 50 or so people in attendance and material describing the Funds involvement was distributed to those in attendance.
- 40th annual antique gun show in Bible Hill on Sept. 29th and 30th 2001. Several hundred people were briefed as to the funds involvement at this event.
- Ducks Unlimited Shoot in Stewiacke, N.S. Once again the project and the funds involvement were described to about 50 or so participants.
- Two Rivers Wildlife Park ,N.S. (a 600 ft. hedge was donated to the park Oct.11/2001). The project participants donated time, labour and plants to assist the park while publicizing the N.S. Habitat Fund.

Cape Breton Island Wildlife Association meeting at Brookhaven Community Hall on Nov.14/2001. Recognition of the Funds involvement and of the various partnerships was given in this presentation.

P.E.I. on Feb.14th-15th 2002. Over a 2 day period, the Fund and the project were described in a formal presentation to the Minister of Fisheries, Aquiculture and Environment for P.E.I. and a group of about 90 individuals.

Cape Breton Island Wildlife Association Show on March1st-3rd 2002. Here, the funds involvement was described to several hundred people in attendance over a 2 day period.

R.G.S. banquet April 20/2002 in Stewiacke, N.S. The funds involvement, partnerships involved and the project were described to the 90 people in attendance at the R.G.S. annual fundraiser and banquet.

The N.S. Habitat Conservation Fund is thanked for their \$21,800 contribution as is R.G.S.. Canada for their \$3000 in assistance. Nova Scotia Power Inc. is thanked for their \$8500 contribution with special thanks to Mr. J. Allan Eddy for his kind guidance as representative of this environmentally friendly company.

The Department of Natural Resources in Coxheath is thanked for their in-kind contribution as are all partners involved. Thanks to all those not mentioned for their helpful advice.

Darrell MacInnis
Project Coordinator