Cape Breton Power Plant Spring Plant Survey

June 2, 2005
Botanist: Tom Neily

Results: There were no plants observed during this survey listed as S1 or S2 by the Atlantic Canada Conservation Data Centre or as red or yellow by Nova Scotia Department of Natural Resources.

Species List

Lingan Turbine Sites

Scientific Name	Common Name	DNR/ACCDC Status
Fragaria virginiana	Strawberry	Green/S5
Picea glauca	White Spruce	Green/S5
Alnus incana	Speckled Alder	Green/S5
Taraxacum officinale	Dandelion	SE
Spiraea alba	Meadow-sweet	Green/S5
Rubus idaeus	Red Raspberry	Green/S5
Sambucus racemosa	Red-berried Elder	Green/S5
Salix sp	Willow	Not species at risk
Potentilla tridentate	Three-toothed Cinquefoil	Green/S5
Vaccinium vitis-idaea	Foxberry	Green/S5
Empetrum nigrum	Black Crowberry	Green/S5
Arenaria lateriflora	Sandwort	Green/S5
Achillea millefolium	Yarrow	Green/S5
Plantago maritima	Seashore Plantain	Green/S5
Myrica pensylvanica	Bayberry	Green/S5
Juniperus horizontalis	Creeping Juniper	Green/S5
Maianthemum canadense	Wild Lily-of-the-valley	Green/S5
Equisetum fluviatile	Water-horsetail	Green/S5
Rosa sp	Rose	Not a species at risk
Vaccinium macrocarpon	Large Cranberry	Green/S5
Carex sp	Sedge	Not a species at risk

Scientific Name	Common Name	DNR/ACCDC Status
Vaccinium angustifolium	lLowbush Blueberry	Green/S5
Osmunda cinnamomea	Cinnamon Fern	Green/S5
Iris versicolor	Blue Flag	Green/S5
Typha latifolia	Broad-leaved Cat-tail	Green/S5
Lonicera canadensis	Fly-honeysuckle	Green/S5
Kalmia angustifolia	Lambkill	Green/S5
Rubus sp	Brambles	Not a species at risk
Viola sp	Violet	Not a species at risk
Cornus canadensis	Bunchberry	Green/S5
Dennestadia punctiloba	Hay-scented Fern	Green/S5
Ribes glandulosum	Skunk Currant	Green/S5
Viburnum nudum	Wild Raisin	Green/S5
Phegopteris connectilis	Northern Beech Fern	Green/S5
Anthyrium felix-femina	Northern Lady Fern	Green/S5
Dryopteris cristata	Crested Shield Fern	Green/S5
Chrysosplenium americanum	Golden Saxifrage	Green/S5
Ledum groenlandicum	Labrador-tea	Green/S5
Carex nigra	Sedge	Green/S5
Rumex sp	Dock	Not a species at risk
Eriophorum vaginatum	Hare's Tail	Green/S5
Aralia nudicaulis	Wild Sarsaparilla	Green/S5
Trientalis borealis	Starflower	Green/S5
Pteridium aquilinum	Bracken	Green/S5
Betula papyrifera	Paper Birch	Green/S5
Populus tremuloides	Trembling Aspen	Green/S5
Lycopodium obscurum	Ground Cedar	Green/S5
Ranunculus repens	Creeping Buttercup	Green/S5
Luzula acuminata	Wood-rush	Green/S5
Acer rubrum	Red Maple	Green/S5
Thelyptris palustris	Marsh Fern	Green/S5

Scientific Name	Common Name	DNR/ACCDC Status
Prunus serotina	Chokecherry	Green/S5
Amelanchier sp	Serviceberry	Green/S5
Gaylussacia baccata	Huckleberry	Green/S5
Rhododendron canadense	Rhodora	Green/S5
Larix laricina	Larch	Green/S5

Cape Breton Power Late Summer Plant Survey

Location: Lingan, Cape Breton County

Date: September 14, 2005

Botanist: Tom Neily

Results: There were no plants observed during this survey listed as rare by Nova Scotia Natural Resources or Atlantic Canada Conservation Data Centre.

Species Lists

Lingan Turbines Sites

Binomial	Common Name	DNR/ACCDC Rank
Solidago canadensis	Canada Goldenrod	Green/S5
Solidago rugosa	Rough Goldenrod	Green/S5
Aster novae-belgii	New York Aster	Green/S5
Aster umbellatus	Tall White Aster	Green/S5
Leontodon autumnalis	Fall Dandelion	SE
Anaphalis margaritacea	Pearly Everlasting	Green/S5
Linaria vulgaris	Butter-and-eggs	SE
Solidago puberula	Goldenrod	Green/S5
Euphrasia officinalis	European Eyebright	SE
Euthamnia graminifolia	Narrow-leaved Goldenrod	Green/S5
Achillea millefolium	Yarrow	Green/S5
Plantago maritima	Seashore Plantain	Green/S5
Arenaria lateriflora	Sandwort	Green/S5
Eupatorium maculatum	Joe-pye-weed	Green/S5
Polygonum sagittatum	Tear-thumb	Green/S5
Scirpus cyperinus	Bulrush	Green/S5
Rubus pubescens	Dwarf Raspberry	Green/S5
Aster nemoralis	Bog-aster	Green/S5
Triadenum virginiana	Marsh St. John's-wort	Green/S5

Binomial	Common Name	DNR/ACCDC Rank
Scirpus caespitosus	Deergrass	Green/S5
Aster lateriflorus	Aster	Green/S5
Carex nigra	Sedge	Green/S5
Lonicera caerulea	Mountain Fly-honeysuckle	Green/S5
Phalaris arundinacea	Reed Canary-grass	Green/S5
Agrostis capillaris	Brown Top	SE
Ammophila breviligulata	Marram	Green/S5
Vicia cracca	Common Vetch	SE
Potentilla palustris	Cinquefoil	Green/S5
Spergularia marina	Sand-spurrey	Green/S5
Senecio vulgaris	Common Groundsel	SE
Trifolium campestre	Low Hop Clover	SE
Angelica lucida	Seaside-angelica	Green/S4S5
Danthonia spicata	Poverty Grass	Green/S5
Oenothera biennis	Evening-primrose	Green/S5
Juncus canadensis	Rush	Green/S5
Epilobium angustifolium	Fireweed	Green/S5
Sonchus arvensis	Perennial Sow-thistle	SE

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**A Report On the Amphibian and Reptile Faunas
At Three Proposed Wind Powered Generating Sites
In Cape Breton County, Cape Breton Island, Nova Scotia.**

**Prepared by John Gilhen
For Dillon Consulting Limited (Attn: Rob Young, M.Sc., P. Geo.)
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The three proposed wind powered generating sites are situated on the Sydney Coal Fields [Theme Region 531, Sydney Coal Fields: 500, Carboniferous Lowlands (Davis and Browne 1997)], each of the three sites are in a separate coastal watershed. The first site is at Gillis Cove, between Davys Head and North Head, east of Lingan, Cape Breton County [New Waterford Watershed 1FJ-38], the second site is at Dominion [Dominion Watershed: 1FJ-36] and the third site is at Port Caledonia [Donkin Watershed: 1FJ-32].

The Gillis Cove Site is the most extensive as a series of seven wind powered generators are proposed for this site. There is only one proposed for both Dominion and Port Caledonia. However, all three sites have two things in common: These are coastal areas which have been subjected to much anthropogenic disturbance, and, there are no breeding populations of endangered, threatened or vulnerable species of amphibians or reptiles.

The endangered Blanding's Turtle, *Emdoidea blandingii*, and threatened Northern Ribbon Snake, *Thamnophis sauritus septentrionalis*, are climatic relics (Bleakney 1958 and Gilhen 1984), and the Nova Scotia populations of both species are presently known from only two watersheds [Mersey River and Medway River including Pleasant River, a tributary] in the south central mainland, which is the warmest region in the Maritimes (Bleakney 1958).

Breeding populations of the vulnerable Wood Turtle, *Glyptemys insculpta*, on Cape Breton Island are known from only two watersheds, River Inhabitants and River Denys, in southwestern Richmond-Inverness counties (Gräf, Gilhen and Adams 2003).

There are a number of new localities for the vulnerable Four-toed Salamander, *Hemidactylium scutatum*, on the mainland but none are known from the three proposed wind powered generating sites on Cape Breton Island.

FIELD NOTES

Date: 30 June 2005
Locality: Gillis Cove Proposed Wind Powered Generating Site
Habitat and Species:

Tom Neily and I walked down a straight road, covered in grasses, weeds and other old field vegetation, which bisects an alder thicket, and we arrived at the coastal barren between Davys Head and North Head (Lingan area), Cape Breton County, at about 0815 hours. I can't think of a better site for wind powered generators as the area looks and feels wind swept.

The bases for the seven wind powered generators will rest on a coastal barren which has been bisected and scared by ATV trails. There are a number of small wet areas which probably dry up for the most part in summer. There is some sphagnum, a small growth of cattails and iris growing in most of these wet sites. The vegetation throughout the barren itself is a real mix, having the classic horizontal Juniper while a variety of ferns, such as cinnamon fern and interrupted fern thrive next to patches of the small marsh fern. There is a shallow gully, near what I think would be the base for number 3, which has standing water but it is very dark tannic brown.

The small wetlands within this barren represents marginal frog habitat. In other areas on the mainland of Nova Scotia I have seen the Eastern American Toad, *Bufo a. americanus*, Northern Spring Peeper, *Pseudacris c. crucifer*, and the Green Frog, *Rana clamitans melanota*, breed in pools of fresh water on coastal barrens, but there is no evidence of amphibian spring breeding activity here this day. If these frogs are present somewhere on this barren the Maritime Garter Snake, *Thamnophis sirtalis pallidula*, would also be present. The Maritime (Eastern) Smooth Green Snake, *Liochlorophis vernalis borealis* (feeding mostly on moth larvae during the day), and the Northern Redbelly Snake, *Storeria o. occipitomaculata* (feeding mostly on small slugs at night), may be present along the roadside leading down to the barren, and possibly at the edge of the barren and scrub woodland. No doubt the Eastern Redback Salamander, *Plethodon cinereus*, is also present in the scrub woodland.

Locality: Proposed Wind Powered Generating Site At Dominion
Habitat and Species:

We drove down a gravel road and parked by a miners memorial. Here we looked out over a very desolate landscape which probably had buildings standing on it years ago. This area has been subjected to much anthropogenic abuse for many years. If any amphibian or reptile species occupied this area historically they must have been extirpated many years ago. I turned over some rocks and boards on and next to dump sites but saw no amphibian or reptile life. We walked over to the general area where the base of the wind powered generator would be located. There was a cattail gully on one side but it has been scooped out for the most part. We did not see any amphibian or reptile activity in the remaining small wet area here this day.

Locality: Proposed Wind Powered Generating Site At Port Caledonia
Habitat and Species:

We walked down a gated grassy road to a new rough road which leads to a cleared area, and base location of the proposed wind powered generator site. The site is in woodland of mostly

white spuce. Tom tells me white spruce is a pioneer species, and this area at one time was probably a pasture or field. There is a small sphagnum area adjacent to this cleared site which looks like marginal Four-toed Salamander habitat, but we saw no evidence of breeding activity. The same common species of amphibians and reptiles mentioned for the Gillis Cove site would most likely be present along the roadside and in adjacent woods here, but I only found two Eastern Redback Salamanders (redback phase) in the woods this day.

This site is in scrub woodland. From this site we walked along a rough path recently cut through the woods to the coastal barren. There is some litter in the woods and the barren is scared by ATV trails.

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ACCDC List of Species Recorded within 10km of Project Site				
Scientific Name	**Common Name**	**ACCDC Rank**	**NS Rank**	**Protection Status**
Charadrius melodus	Piping Plover	S1B	Red	Endangered
Dolichonyx oryzivorus	Bobolink	S3B	Yellow	
Sympetrum costiferum	Saffron-Winged Meadowhawk	S3	N/A	
Sympetrum vicinum	Yellow-Legged Meadowhawk	S3	N/A	
Lestes congener	Spotted Spreadwing	S3	Green	
Iva frutescens ssp. oraria	Marsh Elder	S2SE	Undetermined	
Vaccinium ovalifolium	Oval-Leaf Huckleberry	S1	Red	
Carex scirpoidea	Bulrush Sedge	S2	Undetermined	