James Island

2006 Survey for Rare Spring-flowering Plants

Matt Fairbarns
Aruncus Consulting
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Introduction

In 2004, James Island was surveyed for the presence of rare plants and ecologically significant plant communities (James Island Conservation Assessment 2004, Matt Fairbarns, 32 pp. plus appendices). A vegetation map of the island was produced and a number of rare plant occurrences were identified including populations of Contorted-pod Evening-primrose, Yellow Sand-verbena, Fleshy Jaumea, Beach Knotweed and Graceful Arrow-grass.

The 2004 surveys were conducted in mid-July, too late to determine if spring-flowering species were present on the site. Accordingly the report recommended that spring surveys be conducted in subsequent years. The most critical dates for spring surveys for rare species in the Victoria area is late April and early May.

Scientific Name	**English Name**	**National Status**	**Provincial Status**
Agrostis pallens	dune bentgrass		S3-Blue
Allium amplectens	slimleaf onion		S3-Blue
Alopecurus carolinianus	Carolina meadow-foxtail		S2-Red
Balsamorhiza deltoidea	deltoid balsamroot	Endangered	S1-Red
Carex tumulicola	foothill sedge	(in progress)	S1-Red
Clarkia amoena var. caurina	farewell-to-spring		S3-Blue
Clarkia amoena var. lindleyi	farewell-to-spring		S3-Blue
Lomatium dissectum var. dissectum	fern-leaved desert-parsley	(in progress)	S1-Red
Lotus formosissimus	seaside birds-foot lotus	Endangered	S1-Red
Lotus unifoliolatus var. unifoliolatus	Spanish-clover		S2S3-Blue
Lupinus densiflorus var. densiflorus	dense-flowered lupine	Endangered	S1-Red
Lupinus lepidus var. lepidus	prairie lupine	Endangered	S1-Red
Lupinus oreganus var. kincaidii	sulphur lupine	(in progress)	SX-Red
Piperia candida	white-lip rein orchid	(potential)	S2-Red
Piperia elegans	elegant rein orchid		S3-Blue
Psilocarphus tenellus var. tenellus	slender woolly-heads	Not at risk	S2-Red
Ranunculus californicus	California buttercup	(in progress)	S2-Red
Rupertia physodes	California-tea		S3-Blue
Sanicula arctopoides	bear's-foot sanicle	Endangered	S1-Red
Sanicula bipinnatifida	purple sanicle	Threatened	S2-Red
Toxicodendron diversilobum	poison oak		S2S3-Blue
Trifolium depauperatum var. depauperatum	poverty clover		S3-Blue
Trifolium dichotomum	Macrae's clover		S2S3-Blue
Triteleia howellii	Howell's triteleia	Endangered	S1-Red
Viola howellii	Howell's violet		S2S3-Blue
Viola praemorsa ssp. praemorsa	yellow montane violet	Threatened	S2-Red
Yabea microcarpa	California hedge-parsley	(in progress)	S1-Red

Table 1: Target Species for Spring Rare Flora Survey. National status reports are in progress for five species and a sixth species has a significant potential for listing but no report has been initiated.

In April 2006, a list (Table 1) was prepared of rare spring-flowering plant species known from ecologically similar areas in the Victoria region. Flowering dates were determined by reference to collections from elsewhere in the region.

An analysis of habitat preferences for April-flowering rare species in the region indicated they were very unlikely to occur on James Island due to the absence of suitable habitats (rocky bluffs and vernally wet seeps and pools). On the other hand, there was a slightly higher likelihood that mid- and late-spring species, many of which prefer open woodlands, might occur on the island. Accordingly, a one-day survey was conducted on May 8, 2006.

Methods

Vegetation mapping from the 2004 project, and new (2005) colour air photography, were used to assess the spatial distribution of habitats most likely to contain spring-flowering species.

Figure 1: Habitat Potential for Rare Spring-flowering Plants on James Island (green=moderate potential; pale yellow=low potential)

Three priority survey areas were identified (Figure 1). Each of the three areas was explored on foot, with special reference to microhabitats most likely to have rare spring-flowering species: lightly-wooded upland areas and steep, wooded slopes. Sand dunes, benches and beaches were also briefly visited, although such ecosystems rarely provide suitable habitat for spring-flowering rare species.

Results

The three target areas indicated in Figure 1 were thoroughly explored but no rare spring-flowering species were found. One unidentifiable species of rein-orchid was found scattered in open woodlands. This species had quite large, somewhat glossy foliage but was not yet in flower (many rein-orchids leaf out early but do not flower until summer, after the basal leaves have withered). Rein-orchids cannot be reliably identified by leaf characters alone but the leaves resemble those of White-lip Rein Orchid (*Piperia candida*), a quite rare species.

While surveying the island, I observed that the entire sand-plain near the Powder Jetty had been landscaped with heavy equipment. This area had several roughed-in golf fairways in 2004 but at that time the site improvements had still not eliminated populations of Contorted-pod Evening-primrose (Camissonia contorta), Yellow Sand-verbena (Abronia latifolia) or Beach Knotweed (Polygonum paronychia). These species are unlikely to have survived the subsequent landscaping work. The loss of Contorted-pod Evening-primrose is particularly troubling as this species was recently assessed as Nationally Endangered (http://www.cosewic.gc.ca/eng/sct1/searchform_e.cfm) and the Powder Jetty population was one of the largest in Canada. The loss of most of the Yellow Sand-verbena (a few small patches remain near the Powder Jetty) is almost as troubling. This species is relatively rare in Canada but more importantly, it is the obligate host of the Sand-verbena Moth (*Copablepharon fuscum*), a species which is also Nationally Endangered (http://www.cosewic.gc.ca/eng/sct1/searchform_e.cfm). Yellow Sand-verbena populations on James Island have never been surveyed to determine if this rare moth is present, but the large number of host plants suggests that the site contains abundant habitat suitable for recovery of the species.

The loss of a population of the provincially blue-listed (vulnerable) Beach Knotweed is of lesser significance.

Recommendations

1. Determine the identity of the unknown rein-orchid by visiting the population in late June or early July.
2. Re-establish the population of Contorted-pod Evening-primrose near the Powder Jetty to its previous extent and abundance.
3. Restore the population of Yellow Sand-verbena near the Powder Jetty to its previous extent and abundance.
4. Re-establish a small population of Beach Knotweed near the Powder Jetty.