PRELIMINARY REPORT ON TARGETED SURVEY FOR *Caladenia porphyrea*

LAKES BEACH BUDGEWOI

NOVEMBER 2011
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www.cegconsult.com
Suite E, 78 York Street, East Gosford NSW 2250
PO Box 4300, East Gosford NSW 2250
• Ph (02) 4324 7888 • Fax (02) 4324 7899
• Email cegconsult@bigpond.com
ABN 62 274 841 042

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PO Box 4300, East Gosford NSW 2250
Phone: 02 4324 7888 Fax: 02 43247899

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1. INTRODUCTION

This Report provides details of a targeted survey for the occurrence of the terrestrial orchid species *Caladenia porphyrea* within an area of coastal dune vegetation at Lakes Beach, Budgewoi. Observations of flowering specimens of *Caladenia porphyrea* were made in October 2010 by Mr Phil Conacher of Conacher Environmental Group (CEG). However, due to the small number of specimens observed and the isolated occurrence of these specimens additional targeted searches were requested by Wyong Shire Council (Mr Garry McLachlan) during the possible flowering period in 2011.

The objectives of the 2011 targeted survey were to determine:

- The flowering period of *Caladenia porphyrea* within the site;
- An estimate of the distribution of the local population of *Caladenia porphyrea;*
- An estimate of the size of the local population of *Caladenia porphyrea* present.

2. SURVEY DETAILS

Caladenia porphyrea is noted as flowering during the late winter to early spring months (Jones 1999), with this species known to flower during September in the local area (Gunninah Environmental Consultants 2003).

Regular surveys (at fortnightly intervals) were commenced on 1 July 2011 until the flowering specimens of *Caladenia porphyrea* were observed on 26 August 2011. Weekly surveys were undertaken from 2 September 2011 until flowering orchids were not identified in two consecutive surveys.

To accurately count and record the distribution of flowering orchid species within the survey site a measured grid at 30 x 30m spacings using an alpha/numeric numbering system was marked out within the site. The area marked out measured 300 metres in a north-south direction and 90 metres wide in an east-west direction.

The areas within the marked grid were surveyed by one person each week with the locations of flowering *Caladenia porphyrea* recorded and counted. Flowering locations were not marked in the field to prevent unauthorised removal of the orchid species.

Once orchids were observed flowering searches of hind dune areas to the north and south of the subject survey site were also searched for any occurrence of *Caladenia porphyrea.* The purpose of extending the search area beyond the site was to establish if the extent of the local population of *Caladenia porphyrea.*

Any other orchid species observed during surveys were noted and details of locations and numbers present were recorded.

3. SURVEY RESULTS

The targeted seasonal surveys have identified that *Caladenia porphyrea* flowering was first observed during the survey of 26 August 2011 with flowering finishing by the survey conducted on 10 October 2011. Peak flowering was observed on 12 September 2011 with 813 individual plants observed. The results of the targeted seasonal surveys are provided in Table 1 with the maximum distribution of plants on the site shown in Figure 1.

TABLE 1 TARGETED SEASONAL SURVEYS IDENTIFYING *Caladenia porphyrea*		
SURVEY N^{O} AND DATE	**No OF INDIVIDUAL PLANTS**	**N^{O} CLUMPS**
1. 1/7/2011	0	0
2. 15/7/2011	0	0
3. 29/7/2011	0	0
4. 12/8/2011	0	0
5. 22/8/2011	0	0
6. 26/8/2011	In flower	Not Recorded
7. 2/9/2011	813	99
8. 12/9/2011	199	43
9. 19/9/2011	197	44
10. 27/9/2011	47	17
11. 4/10/2011	9	1
12. 10/10/2011	0	0
13. 17/10/2011	0	0

4. DISCUSSION OF RESULTS

The results of the seasonal survey for *Caladenia porphyrea* have confirmed the following aspects redating to the local population of *Caladenia porphyrea:*

1) The flowering period for *Caladenia porphyrea* occurs from late August to early October with a predominance of flowering in late August and early September.

2) The local population of *Caladenia porphyrea* is restricted to an area of approximately 2 hectares located to a maximum distance of approximately 250 metres to the south of the Lakes Beach Surf Club building.

3) The local population of *Caladenia porphyrea* contains at least 813 individual plants recorded in 85 separate clumps of plants.

4) *Caladenia porphyrea* was not observed within the two additional off-site survey areas located to the north of the Lakes Beach Surf Club, as shown in Figure 2.

Due to the isolated nature of this local population of *Caladenia porphyrea* on this site it may be possible for this species to be listed as an endangered population within the provisions of the Threatened Species Conservation Act. *Caladenia porphyrea* is listed as an endangered species under the provisions of the TSC Act and therefore any loss of known habitat of the species or a reduction in the overall size of the population from possible future development is likely to be considered as a significant effect on this species.

5. CONCLUDING COMMENTS

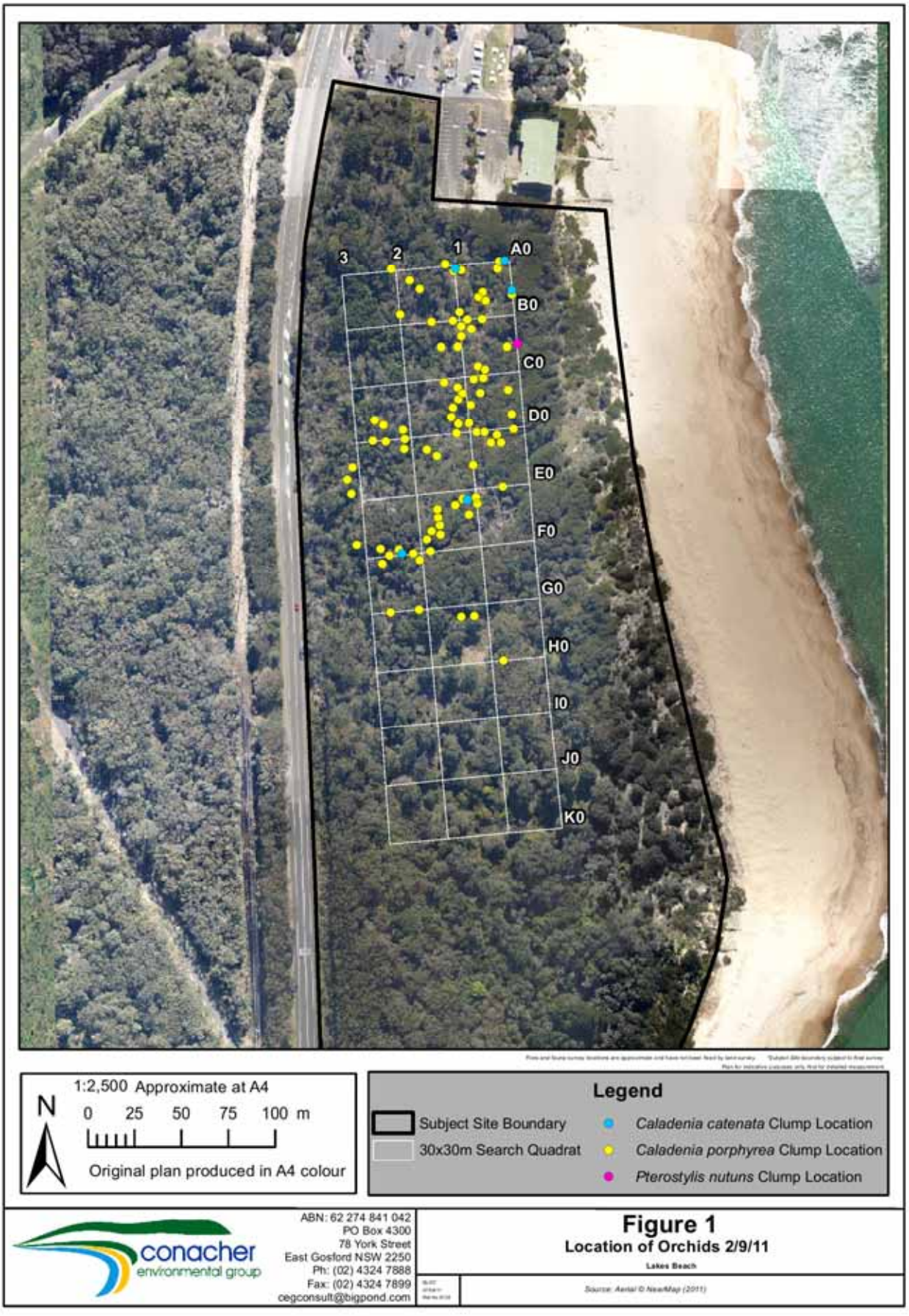
Future development within the subject site is likely to be highly constrained due to the presence of vegetation classified as endangered ecological communities and the distribution of a local population of the endangered terrestrial orchid species *Caladenia porphyrea.*

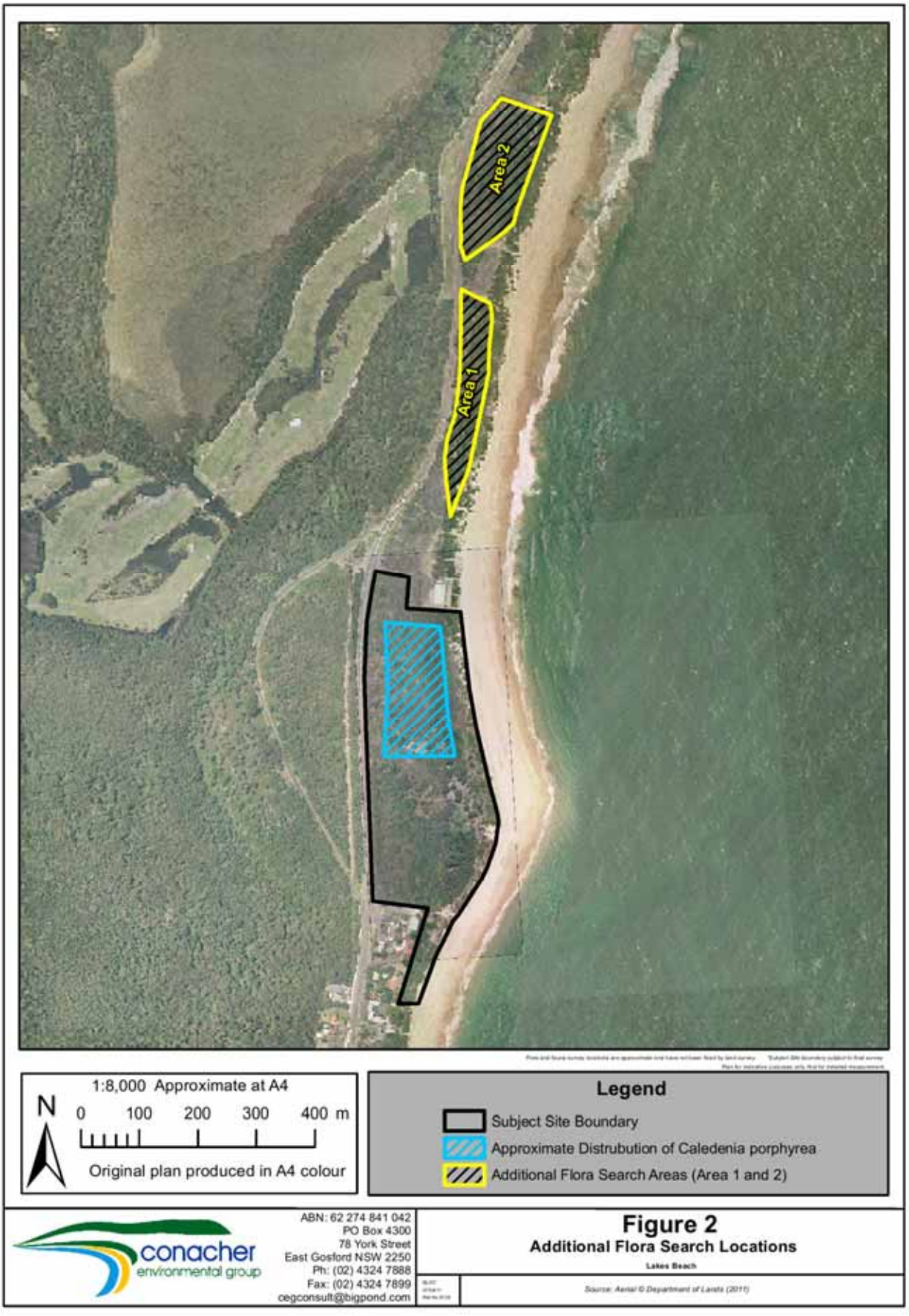
However the same constraints in relation to endangered ecological communities and endangered or vulnerable plant species have not been identified within the two areas of land to the north of the car park area. These areas of land contain areas of moderate to highly degraded regrowth dune vegetation with high levels of exotic weed invasions present. These

areas of land are of much less ecological and biodiversity value than the subject site and may be worthy of further consideration as an alternative site for development in comparison to the subject site.

PRELIMINARY REPORT PREPARED BY:

PHILLIP ANTHONY CONACHER B.Sc.(Hons), Dip.Urb Reg Planning, M.Nat.Res.
Director
Conacher Environmental Group


3
2
1
A0
B0
C0
D0
E0
F0
G0
H0
I0
J0
K0
1:2,500 Approximate at A4
N
0 25 50 75 100 m
Original plan produced in A4 colour
Legend
Subject Site Boundary
30x30m Search Quadrat
Caladenia catenata Clump Location
Caladenia porphyrea Clump Location
Pterostylis nutuns Clump Location
conacher environmental group
ABN: 62 274 841 042
PO Box 4300
78 York Street
East Gosford NSW 2250
Ph: (02) 4324 7888
Fax: (02) 4324 7899
cegconsult@bigpond.com
Figure 1
Location of Orchids 2/9/11
Lakes Beach
Source: Aerial © NearMap (2011)


Area 2
Area 1
1:8,000 Approximate at A4
N
0 100 200 300 400 m
Original plan produced in A4 colour
Legend
Subject Site Boundary
Approximate Distrubution of Caledenia porphyrea
Additional Flora Search Areas (Area 1 and 2)
conacher environmental group
ABN: 62 274 841 042
PO Box 4300
78 York Street
East Gosford NSW 2250
Ph: (02) 4324 7888
Fax: (02) 4324 7899
cegconsult@bigpond.com
Figure 2
Additional Flora Search Locations
Lakes Beach
Source: Aerial © Department of Lands (2011)


N
BUDGEWOI RD
SITE 2
SITE 1
0
50
100
150
200 m