

Pilot survey of the invasive alien *Carpobrotus edulis* on Howth Head, Co Dublin, and options for its control.

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Survey carried out on the 15th May 2009

At present *Carpobrotus* is not regarded as a serious pest in Ireland, but in the Gower peninsula of south Wales, Cornwall and Devon in England, and the Channel Islands it has become dominant on extensive areas of coastline. With time it totally engulfs cliff-face communities, forming a mono-specific stand of hundreds of square meters in extent. In Wales and Cornwall it threatens the habitat of a number of rare species such as *Asparagus prostratus*.

The first record for *Carpobrotus edulis* in the wild in Ireland is from Howth head with an Atlas record for 1962 (Reynolds 2002). A further 11, or so records occur in Ireland in counties Cork, Waterford, Wexford, Wicklow and Down. None of these latter colonies is large, comprising single patches each of which could be removed. The largest colonies known are those on Rockabill and on Howth Head. A cliff-top survey of the south side of Howth was conducted on the 25th March 2009, for alien invasive plants from Shielmartin Road to the Baily Lighthouse.



The five colonies of *Carpobrotus* on the south side of Howth head.

A brief description and location of each of the colonies is given, with proposals for its control at each site. Two factors of note are that *Carpobrotus* is very susceptible to chemical control (Glyphosate) and that physical removal should not be done during the bird nesting season, since stem fragments are eagerly collected by cliff-nesting birds such as shags, cormorants and possibly Gannets.

<http://www.botanicgardens.ie/gspc/targets/news/carpobrotus.htm>

Other aliens of concern noticed on the pathway are extensive colonies of *Hebe* and *Berberis* from the Needles to Lion's Head (3-4). A single patch of *Gaultheria* was noticed above the Worn Hole (A on map). *Libertia grandiflora* is becoming a pest immediately east of Lion's Head (4).

1. Sea Cottage

Two large patches above and below Sea Cottage.



Extensive patches of *Carpobrotus* behind cottage, and between cliff path and shoreline.



The coastal patch, ca. 15m in length, 12m in breadth.

CONTROL: This patch can be readily accessed from above and below, and provides an excellent test-bed for trialling two control methods. The cliff edge is rocky, and erosion should not be a problem. The owners at The Cliffs need to be approached to secure their acceptance of eradication of the colony of plants behind the cottage.

2. 100m East of Drumleck Point.

A single, very small patch (ca. 0.5m) exists on a south-facing cliff face a short distance (ca. 80m) after the path turns north around Drumleck Point. This patch is on a steep grassy slope.

CONTROL: This small patch could be removed by hand. There are no issues of erosion.

3. South Face of the Needles.

This area comprises ca. 7 individual patches. The largest being one of the single biggest populations on Howth (ca. 30 x 20m). The other 6 patches are each considerably smaller. A path provides access to the beach at this point. This was the only patch on which a number of flowers were already present, and probably has a warmer microclimate than the other populations.



South face of Needles. The large patch and four smaller patches are arrowed. Two further patches of *Carpobrotus* are hidden by the cliff spur in the foreground; they are narrow, more or less hanging plants.

CONTROL: The six smaller patches could be removed by hand. The larger patch (right) presents a number of difficulties, amongst them the issue of erosion and revegetation to control re-infestation. Control of this patch could be a long-term experiment in competitive exclusion by encouraging, or even implanting gorse and blackthorn. Other possibilities might be physical shading. With an area this size it may be important to remove the patch gradually over a number of years.



4. Lion's Head.

Seven patches occur to the West of Lion's head, two of which are in grassland, access to these is possible from a path 100m to the west. At Lion's Head itself there is a considerable growth from the cliff top to the promontory, but the path down has been securely fenced off. To the east of Lion's head there is considerable growth on the sheer cliffs below a cliff-top cottage, and a further large patch on the earthen slopes.



South-west face of Lion's Head.

CONTROL: The 3 patches in the grassland areas could be removed by hand. The four cliff face patches may be harder to reach, and chemical methods might be employed instead.



East face of Lion's Head.

Besides three patches on the headland itself, there are two major patches on the grassy slopes towards the centre of the bay. Four or five smaller cliff-face patches exist, and an extensive ribbon which runs down a gully at the base of the cliff. The yellow arrow indicates a large infestation of *Libertia grandiflora*, which is spreading onto the grass slopes.

CONTROL: Difficulties with erosion makes this area a difficult one for control. The patch on the grassy slope within the bay is difficult to remove being well entangled in the vegetation, but this may make it a useful site for manual control conducted over a number of years allowing the native vegetation to recolonise by degrees.



Cliff face patches below Lion's Head Cottage. Notice at least 2 areas of erosion, which may cause the owners considerable alarm if any control is planned on this cliff face.

5. Baily Lighthouse

A considerable patch (width 30m, length 10m) exists on the south-west face of the Baily Lighthouse.

CONTROL: The firm base of the lighthouse means that this colony could be removed chemically without anxieties about erosion.



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