

APPENDIX A - GROENLANDIA DENSA SURVEY RESULTS

Site details

Site name: King's Island, County Limerick	Grid Reference: R 573 586
Vice-county No.: H8	SAC: Adjacent to 002165 Lower River Shannon SAC
Surveyor(s): Dr Joanne Denyer & Slattery	Survey date: 01/04/2017
Elevation (m): <5m	Solid geology: Limestone

Site notes

Site location

The ditch section with *Groenlandia densa* is located on the north-western edge of King's Island, Limerick (Figure 1). To the east of the ditch there is an area of wet grassland (GS4) (Photograph 1) and to the west a river embankment, alluvial woodland on flooded, low-lying ground by the river and the River Shannon (Figure 1).

Figure 1. Location of ditch section with *Groenlandia densa* on King's Island



Site description

The ditch is adjacent to the River Shannon, which may be connected to the ditch. It is 3-4m wide and generally less than 1m deep (Photograph 2). The water was high at the time of survey and was slightly flooding adjacent wet grassland to the east of the ditch (Photographs 1 and 2). The wet grassland to the east is grazed by horses and the embankment to the west is used for recreation (e.g. dog walking).

Protected sites

This section of ditch is adjacent to the Lower River Shannon Special Area of Conservation (SAC)

Habitat type

Fossitt: Drainage ditch (FW4)

Annex I: n/a (Vegetation has some affinity 3260, but the habitat is not a river (or canal) and there is only a low number (and cover) of most typical indicator species. It is therefore not considered to be an example of 3260 as described in the Lower River Shannon SAC Conservation Objectives)

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Population description

Groenlandia densa is abundant in a ditch section approximately 200m in length (e.g. Photographs 3 and 4). Figure 2 shows the main areas of *Groenlandia densa* plants (mapped using GPS). In the southern section of the ditch (where the transect was located), *Groenlandia densa* was present throughout the channel and only particularly dense populations have been mapped. The plants appeared healthy at the time of survey and had been present in the ditch during January, suggesting they had overwintered in the ditch.

GPS points: *Groenlandia densa* is abundant between the GPS locations R 57386 58700 (N) and R 57396 58521 (S) (red line on map)

Figure 2. Location of main areas of *Groenlandia densa* plants mapped using GPS



Associated species/ vegetation

Macrophytes growing with *Groenlandia densa* at the time of survey included *Chara vulgaris*, *Ranunculus cf trichophyllus* (not flowering), *Callitriche cf obtusangula* (not flowering or fruiting), *Glyceria maxima*, *Sparganium sp.* (not flowering), *Lemna minuta*, *L. minuta*, *Equisetum fluviatile*, filamentous algae *Veronica beccabunga* and *Iris pseudacorus* (see transect T1 for more detail).

Current management

The ditch did not appear to be under any management. To the north and south of the section with *Groenlandia densa* (Figures 1 and 2), the ditch is infilling and overgrown suggesting that no ditch clearance has been undertaken recently. To the north, the channel is shaded by scrub and dense patches of *Lemna spp.* and litter dominate the water surface (e.g. Photograph 5). To the south the ditch channel is dominated by tall monocots such as *Typha latifolia*, *Glyceria maxima* and *Sparganium sp.* (e.g. Photograph 6). *Groenlandia densa* was not recorded from these overgrown ditch sections.

Threats

Infilling of the ditch due to lack of management, pollution from dumping of litter.

Conservation measures

Regular (sensitive) ditch clearance, removal of overhanging scrub and removal of dumped material.

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Comments

Groenlandia densa was first recorded from this ditch in January 2017. There are no records from this ditch (or King's Island) in the *Flora of County Limerick* (Reynolds, 2013), *A survey of rare and scarce vascular plants in County Limerick* (Reynolds et al., 2006) or in the NPWS database (NPWS data provided March 2017). There are other vascular plant records in the *Flora of County Limerick* (Reynolds, 2013) from King's Island. The lack of records for *Groenlandia densa* in this location may either be because this section of ditch was not surveyed, or because the plant was not present until recently. As *Groenlandia densa* is present only in a 200m ditch section in a ditch that is otherwise overgrown with litter dumping, it may have been overlooked. *Groenlandia densa* can respond positively to ditch clearance, however there are no obvious signs that this section of ditch has been recently cleared.

Groenlandia densa in adjacent ditches on King's Island

All of the ditches on King's Island were walked during the survey to search for *Groenlandia densa* and to assess the potential of the ditch to support this species. As described above, the ditch sections immediately north and south of the *Groenlandia densa* populations were overgrown with little open water. The ditch sections within the SAC on the northern and eastern boundaries of King's Island had some areas with open water (e.g. Photographs 7, 8 and 10), but there were few/ no aquatic macrophytes in these areas and other sections were overgrown (e.g. Photograph 9).

PHOTOGRAPHS

Main survey area – ditch section with *Groenlandia densa* adjacent to SAC



Photograph 1. Low area of wet grassland adjacent to the ditch which was slightly flooded at the time of survey (view to NW)



Photograph 2. Ditch with *Groenlandia densa*, showing embankment to west and flooded wet grassland to east (view to N)



Photograph 3. *Groenlandia densa* plant underwater in ditch



Photograph 4. Abundant *Groenlandia densa* (centre and top left) growing with *Callitriche* sp. and *Chara vulgaris*