

Ecological Survey Report

Note: This report outlines an ecological survey of the bog. This report should not be taken as a management plan for the site as other land-uses may still be considered. Information within this report may inform the development of other land-uses and identify areas with particular biodiversity value. The report outlines potential options for biodiversity management after industrial peat production has ceased, (if this is the proposed main land-use for the site).

Bog Name:	<u>Derryadd</u>	Area (ha):	655 ha
Works Name:	Mount Dillon	County:	Longford
Recorder(s):	MMC & DF	Survey Date(s):	26 th and 27 th July 2012
Photos:	Photos taken – see L:\AI_Data\Boora\Ecology Team\Photos\Derryadd		

Review status: checked by CF ☺ discussed with TE ☐ discussed with Works manager ☐

Remaining work:

Peat production programme and outlook

Derryadd Bog is expected to be in peat production until 2030.

Key biodiversity features of interest

- The majority of the bog is currently in active peat production, however a significant area of cutaway has developed into calcareous grassland and scrub.
- The margins of the BnM property include some remnant habitats including raised bog (PB1) and bog woodland (WN7) that acts as a refuge for local wildlife.

Ecological rating

The majority of the site can be rated as having **(E) low local ecological value** as it is dominated by bare peat production bog.

Some parts of the site have a higher value (**National value -B**) as they attract species of conservation significance such as Otter.

Habitats present (in order of dominance)

The most common habitats present at this site include:

- Bare peat (BP) (Codes refer BnM classification of pioneer habitats of production bog. See Appendix I).
- Pioneer dry heath communities (dHeath)
- Scrub (eBir, OBir and CBir).
- Silt Ponds (Silt) with associated habitats such as scrub, Bracken, rank grassland (GS2), dry calcareous grassland (gCal) and typical pioneer communities of disturbed areas (disTuss).

The most common habitats present around the margins at this site include:

- Bog woodland (WN7) (Codes refer to Heritage Council habitat classification, Fossitt 2000), See Appendix I.)

- Scrub (WS1) (Gorse scrub and Birch scrub developing of dry high bog around margins)
- Raised bog (PB1)
- Cutover bog (PB4) (several small fragments)
- Wet grassland (GS4).

Description of site

Derryadd Bog is located approximately 4km to the East of Lanesborough in County Longford. This site is located within one main block. Two mineral islands (Annaghmore and Annaghbeg) are located within the site, these areas are not within the ownership of BnM and are managed as grazing land for domestic animals. A minor road connects the mineral islands with a public road that adjoins the eastern edge of the site. Derryarogue Bog is located immediately to the north of the site (separated by the Longford to Roscommon road). A rail link connects the site with Derryarogue to the north and Lough Bannow to the south. The majority of the site is in active peat production. The peat is used as fuel peat in Lough Ree Power in Lanesborough. Derryadd Bog has been in full peat production since the early 1960's and contains two pumps (south western corner of the site and along the northern boundary).

A relatively large area in the centre of the site has been cutaway for a number of years. This area of cutaway is located on a ridge that extends to the north and south of the mineral islands at the centre of the site. These areas are dry and have colonised by a mixture of calcareous grassland (gCal) and scrub (eBir, oBir and cBir). The scrub is well developed in places and is comprised mainly of Birch, however a proportion of Pine (Scot's Pine and Lodge-pole Pine) along with smaller amounts of Hazel and Ash have also become established. These areas are located on gravel and are dry.

Smaller areas of cutaway have developed across the site; these areas appear to be young and are mainly comprised of pioneer poor fen habitats.

Extensive drainage work was ongoing in the south western corner of the site at the time of the ecological survey.

A watercourse flows through the southern section of the site. This watercourse is a tributary of the River Shannon and has been canalised.

Other habitats along the margins of the site include bog woodland, wet grassland, dry heath and cutover bog. Overall, large areas of the site contain less than 2m of peat and contain exposed marl and gravel; however some small areas of the bog, in the south western corner of the site, are young in terms of peat production and still contain some "red" or "Sphagnum" peat. Two pumps are situated on the site and are used to prevent flooding.

Forestry and potential forestry on site

There are two small blocks of Conifer plantation on the site and these are comprised of 50 year old Sitka Spruce and Lodge-Pole Pine. Although these areas are in poor condition for their age it may prove financially viable to clear fell these areas. Timber extraction would be relatively easy as they are located directly behind the works area to the north of the site.

Other areas of the site may be considered for planting in the future as there are some elevated areas that are dry and may prove to be suitable for planting.

Designated areas on site (cSAC, NHA, pNHA, SPA other)

None

Lough Bannow pNHA (site code – 000449) is located 0.6km to the west of the site.

Adjacent habitats and land-use

Adjacent habitats include lowland depositing river (FW2), wet grassland (GS4), improved agricultural grassland

(GA1), cutaway bog (PB4), Conifer plantation and raised bog (PB1).

Watercourses (major water features on/off site)

- Tributaries of the River Shannon flow along the eastern and western boundaries of the site.
- A tributary of the River Shannon flows through the southern section of Derryadd.

Peat type and sub-soils

The majority of Derryadd contains between 1 to 2m of peat, however large areas of the site contain less than 1m of peat and are approaching the end of peat production. The remaining peat on the site appears to be fen peat. The site is underlain with a mix of gravel and marl.

Fauna biodiversity

Birds

Several bird species were noted on the site during the survey.

- Heron
- Mallard (4)
- Kestrel
- Skylark (6)
- Willow Warbler (3)
- Grasshopper Warbler
- Other more common species include Wood Pigeon, Meadow pipit, Robin, Blackbird, Grey Crow, Magpie
- Some BnM employees are actively releasing Pheasant onto the site.

Mammals

Signs of several mammal species were noted on the site during the survey.

- Otter
- Badger
- Pine Marten
- Squirrel (Red or Grey)
- Hare

Other species

Frog

Butterflies –

Green-veined White, Small Copper, Small Heath, Large White, Meadow Brown

<p>Fungal biodiversity</p> <p>Wax Cap, Shaggy Ink Cap.</p>
<p>Activities on the site</p> <p>Activities on the site include:</p> <ul style="list-style-type: none"> • Pheasants are released every year by BnM staff members. • Shooting
<p>Future issues for biodiversity management and/or rehabilitation</p> <p>Potential issues for biodiversity management and or rehabilitation once production has ceased include:</p> <ul style="list-style-type: none"> • Large sections of the site will be liable to flood once production ceases on the site. These areas will develop a mosaic of wetland habitats such as open water and reedbed. • Sections of remnant raised bog located along the boundaries of Derryadd are in varying conditions. Overall these areas are small and are drying out. There may be issues with ownership in some of the larger sections. • Boundary issues. The current GIS boundary of the property includes small areas that are obviously managed by other land-owners around the margins of the bog, such as small portions of fields that are managed as farmland.
<p>Potential management options for Biodiversity and/or rehabilitation</p> <p>There are several potential management options for this site after industrial peat-cutting has ceased, some of which can be applied to different sections that have different potentials to enhance their biodiversity value. These suggested options do not preclude other land-uses of the site in the future.</p> <ul style="list-style-type: none"> • Drain blocking and installing berms could be used to trap more water in the lower lying sections of the site. • Natural regeneration of habitats is probably the most suitable option for re-colonisation of cutaway bog when peat production ceases. • The small areas of raised bog within the BnM boundary are too small to have potential for restoration of raised bog functions. Some abandoned sections could, however, be retained for biodiversity with no active management required. They offer some potential as a reserve for raised bog species including mosses that may be able to colonise some parts of the cutaway in the future. • The water courses along the boundaries of the site could be re-profiled in order to create more natural habitats. • Butterfly diversity appears to be high on the site (further surveys needed). In some of the drier sections of the site wildflower meadows could be developed to encourage butterfly diversity.
<p>Potential future natural habitats on the site</p> <p>This section attempts to predict the development of natural habitats on the site, assuming there is no intervention or changes in land-use. This prediction is based on research and methods used to predict the natural vegetation of Ireland (Cross 2006). Cross (2006) predicted that cutaway bog is likely to develop a mosaic of Birch forest, alder and ash-alder carr, fen and heath in the future. There is no time-line given for the development of these habitats, although it could be expected that the development of natural climax habitats could take hundreds of years. The complexity is the result of small scale variations in the substrate and other</p>

environmental factors such as drainage and ground-water influence.

- Large sections of the site are likely to develop a wetland mosaic (mixture of open water, fen and wet woodland).
- Bog woodland with elements of Oak Ash Hazel woodland are likely to develop on the higher ground towards the centre of the site.
- Bog woodland with Pine are likely to develop along the eastern section of the site; this is probably going to be more extensive along the eastern side of this site than others because the areas to the east will be relatively dry and there already is high frequency of pine establishment on the cutaway to date.
- Dry species poor bog woodland (WN7) is likely to develop along the edges of the site.
- Some remnant areas of high bog (PB1) unused by private sod-peat cutters could be expected to remain open as dry Heather-dominated habitats, with some sections developing bog woodland (WN7) and dry heath mosaics.
- Cutover bog (PB4) is likely to develop bog woodland (WN7) in the long-term, depending on land-use.

References

European Commission (1996). Interpretation manual of European Union habitats. Brussels. European Commission, DGXI.

Fossitt, J. (2000). A guide to habitats in Ireland. Kilkenny. The Heritage Council.

HABITAT DESCRIPTIONS

(See Habitats Description Document for detailed description of each vegetation community not described in this section.)

HABITAT DESCRIPTIONS

Appendix I. Codes used for habitat classification.

Bord na Moña habitat classification scheme

	General	Vegetation community ¹	BnM habitat code	Equivalent Heritage Council codes ²
Pioneer habitats of industrial cutaway	Peatland	Bare peat (0-50% cover)	BP	ED2
		Embryonic bog community (containing <i>Sphagnum</i> and Bog Cotton)	PBa	PB
		Embryonic bog community (Calluno-Sphagnion)	PBb	PB
	Flush and Fen	Pioneer <i>Campylopus</i> -dominated community	pCamp	PF2
		Pioneer <i>Juncus effusus</i> -dominated community (Soft Rush)	pJeff	PF2
		Pioneer <i>Eriophorum angustifolium</i> -dominated community (Bog Cotton)	pEang	PF2
		Pioneer <i>Juncus bulbosus</i> -dominated community (Bulbous Rush)	pJbulb	PF2
		Pioneer <i>Triglochin palustris</i> -dominated community (Marsh Arrowgrass)	pTrig	PF2
		Pioneer <i>Caricion davallianae</i> -Community with <i>Cladium</i> (rich fen)	pCladium	PF1
		pioneer <i>Schoenus nigricans</i> community (rich fen)	pSchon	PF1
		pioneer <i>Carex viridula</i> /brown moss community (rich fen)	pVir	PF1
	Emergent communities	Pioneer <i>Carex rostrata</i> -dominated community (Bottle Sedge)	pRos	PF2/FS1
		Pioneer <i>Phragmites australis</i> -dominated community (Common Reed)	pPhrag	FS1
		Pioneer <i>Typha latifolia</i> -dominated community (Reedmace)	pTyp	FS1
		Pioneer <i>Schoenoplectus lacustris</i> -dominated community (Bulrush)	pSch	FS1
	Open water	Charaphyte-dominated community	pChar	FL2
		Permanent pools and lakes	OW	FL2
		Temporary open water	tOW	
	Woodland and scrub	Emergent <i>Betula/Salix</i> -dominated community (A) (Birch/Willow)	eBir	WS1
		Open <i>Betula/Salix</i> -dominated community (B) (Birch/Willow)	oBir	WS1
		Closed <i>Betula/Salix</i> -scrub community (C) (Birch/Willow)	cBir	WS1
		<i>Ulex europaeus</i> -dominated community (Gorse)	eGor	WS1
		<i>Betula/Salix</i> -dominated woodland (Birch/Willow)	BirWD	WN7
	Heathland	Pioneer dry <i>Calluna vulgaris</i> -dominated community (Heather)	dHeath	HH1
		Dense <i>Pteridium aquilinum</i> (Bracken)	dPter	HD1
	Grassland	Pioneer dry calcareous and neutral grassland (Centaureo-Cynosuretum)	gCal	GS1
		<i>Dactylis-Anthoxanthum</i> -dominated community (Cocksfoot-Sweet Vernalgrass)	gCo-An	GS2
		<i>Anthoxanthum-Holcus-Equisetum</i> community (Sweet Vernalgrass-Yorkshire Fog-Horsetail)	gAn-H-Eq	GS
		<i>Molinia caerulea</i> -dominated community (dry) (Purple Moorgrass)	gMol	GS4
		Marsh (Meadowsweet and other tall herbs) (<i>Filipendulion ulmariae</i>)	Mar	GM1
	Disturbed	<i>Tussilago farfara</i> -dominated community (vegetation > 50%) (Colt's Foot)	DisCF	ED3
		<i>Epilobium</i> -dominated community (vegetation > 50%) (Willowherb spp.)	DisWil	ED3
	General	Riparian areas (streams or drain with associated edge habitats (e.g. FW2/4 + WS1, GS2 etc)	Rip	FW2 +
		Silt Ponds (artificial ponds with associated bank habitats (e.g. FL8 + WS1, GS2, ED2, ED3)	Silt	FL8 +
		Access (tracks or railways with associated edge habitats (e.g. BL3 + gCal, gMol, eGor etc)	Acc	BL3 +
		Works areas (predominately built land but can include landscaped and brownfield habitats (e.g. GA2, WS3, WD4, ED2, ED3)	Works	BL3 +

¹ These are generally pioneer habitats of bare peat and the communities can contain a significant proportion of bare peat. Some habitats are more developed than others. They frequently occur in mosaic with each other.

² Not all these communities are equivalent to habitat classes used by The Heritage Council habitat classification scheme (Fossitt 2000) as some are quite rudimentary and undeveloped.

Heritage Council habitat classification scheme (Fossitt 2000)

	General	Habitat	Heritage Council code
Semi-natural and modified habitats	Peatlands	Raised Bog	PB1
		Lowland Blanket bog	PB3
		Cutover Bog	PB4
		Rich fen and flush	PF1
		Poor fen and flush	PF2
		Transition mire and quaking bog	PF3
	Woodland and scrub	Oak-Birch-Holly woodland	WN1
		Oak-Ash-Hazel woodland	WN2
		Wet Pendunculate Oak-Ash woodland	WN4
		Riparian Woodland	WN5
		Wet Willow-Alder-Ash woodland	WN6
		Bog woodland	WN7
		Mixed broad-leaved woodland	WD1
		Mixed broad-leaved/conifer woodland	WD2
		Conifer plantation	WD4
		Scrub (Gorse)	WS1
		Emergent Betula-dominated community	WS1
		Closed Betula scrub community	WS1
		Recently-planted woodland	WS2
		Ornamental scrub	WS3
		Short-rotation coppice	WS4
		Recently-felled woodland	WS5
	Linear woodland	Hedgerow	WL1
		Treeline	WL2
	Grasslands and Marsh	Improved grassland	GA1
		Amenity grassland	GA2
		Dry calcareous and neutral grassland	GS1
		Dry meadows and grassy verges	GS2
		Dry-humid acid grassland	GS3
		Wet grassland	GS4
		Freshwater Marsh	GM1
	Heath and Bracken	Dry Heath	HH1
		Dry calcareous Heath	HH2
		Wet Heath	HH3
		Dense Bracken	HD1
	Disturbed ground	Exposed sand, gravel or till	ED1
		Spoil and bare ground	ED2
		Recolonising bare ground	ED3
		Active quarry	ED4
	Freshwater	Acid Oligotrophic lakes	FL2
		Mesotrophic lakes	FW4
		Artificial ponds (slit ponds)	FL8
		Depositing rivers	FW2
		Canals	FW3
		Drains	FW4
	Cultivated and Built land	Stonewalls and other stonework	BL1
		Earth Banks	BL2
		Buildings and artificial surfaces	BL3
		Arable crops	BC1
		Horticulture	BC2
		Tilled land	BC3