

Bord na Móna

Enhanced Decommissioning, Rehabilitation and Restoration Scheme (EDRRS)

**Annual Report – Year 2
April 2022 to March 2023**

Bord na Móna

DOCUMENT CONTROL SHEET

Client	Bord na Móna Lands and Habitats					
Project Title	Enhanced Decommissioning, Rehabilitation and Restoration and Rehabilitation Scheme (EDRRS) also referred to as Peatlands Climate Action Scheme (PCAS)					
Document Title	Annual Report – Year 2					
Document No.						
This Document Comprises	DCS	TOC	Text	List of Tables	List of Figures	No. of Appendices
			36	12	5	3

Rev.	Status	Author(s)	Reviewed By	Approved By	Office of Origin	Issue Date
0	Draft	DK/CC	DO'S	DO'S	BnM Lands and Habitats	29/09/2023
A	Draft	DK/CC	DO'S	DO'S	BnM Lands and Habitats	02/02/2024
B	Draft	DK/CC	DK	DK	BnM Lands and Habitats	01/05/2024

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List of Abbreviations

AA	Appropriate Assessment
CLO	Community Liaison Officer
CSCS	Construction Skills Certification Scheme
DECC	Department of Environment, Climate and Communications
EDRRS	Enhanced Decommissioning, Rehabilitation and Restoration Scheme
EPA	Environmental Protection Agency
ETB	Education and Training Board
GIS	Geographic Information System
IPC	Integrated Pollution Control
IWS	Irish Water Safety
KPI	Key Performance Indicator
LiDAR	Light Detection and Ranging
LOETB	Laois and Offaly Education and Training Board
MBE	Midland Border East
NEBOSH	National Examination Board in Occupational Safety and Health
NGO	Non-Governmental Organisation
NIS	Natura Impact Statement
NPWS	National Parks and Wildlife Service
QQI	Quality and Qualifications Ireland
TNA	Training Needs Analysis

1. Executive Summary

Funding for the Enhanced Decommissioning, Rehabilitation and Restoration, Scheme (EDRRS), also referred to as the Peatlands Climate Action Scheme (PCAS), was approved by the Department of Environment, Climate and Communications (DECC) in November 2020. The Department (DECC) acts as the Approving Authority for the Scheme and has ultimate responsibility. The National Parks and Wildlife Service (NPWS) acts as the Scheme Regulator.

The scheme includes for the restoration and/or rehabilitation of 32,779 hectares of Bord na Móna peatlands. The objective of the enhanced rehabilitation measures employed in EDRRS is to rehabilitate the peatlands so that the improvements optimise climate, environmental, ecological and hydrological impacts. Under the scheme this rehabilitation is to be carried out in accordance with peat rehabilitation best practice as agreed between the Parties to the Agreement (NPWS/DHLGH, DECC & BnM), taking account of related best practise such as those set out in “Best practice in raised bog restoration in Ireland¹” and as adopted in other countries for commercial peat extraction sites, and having regard to ongoing research both nationally and internationally in this field.

This includes the optimisation of suitable baseline hydrological conditions for climate action benefits, the slowing of the movement of water across these landscapes and the acceleration of environmental stabilisation via natural colonisation. A variety of rehabilitation methodologies are employed based on the topography, peat depths, drainage regime, hydro-geological regime, ecology, and other constraints in each bog.

Apart from initial trials, rehabilitation of Bord na Móna bogs under EDRRS commenced in April 2021 and rehabilitation measures were carried out on eighteen bogs to the end March 2022. This report covers the second year of the scheme and in particular the rehabilitation of an additional twenty bogs referred to in this report as Year 2 Bogs. Commencement of rehabilitation on each bog was subject to the approval of the rehabilitation measures by NPWS and the completion of an Appropriate Assessment process for each bog.

This EDRRS Annual report details the rehabilitation, decommissioning, training, stakeholder engagement and design carried out under the EDRRS for Year 2 of the scheme from April 2022 to the end of March 2023.

In total 5,428 hectares were rehabilitated in the EDRRS Year 2 bogs from April 2022 to the end of March 2023. This represents 86.4% of the total area proposed for rehabilitation on Year 2 bogs. In addition, 92 hectares were rehabilitated in EDRRS Year 1 bogs during the same period. In total, 8,009 hectares were rehabilitated in the EDRRS Year 1 bogs from the commencement of the scheme to the end of March 2023. This represents 98% of the total area proposed for rehabilitation on Year 1 bogs. The total area rehabilitated under EDRRS from the commencement of the scheme to the end of March 2023 is 13,437 hectares. The Work Content completed on the Year 1 and Year 2 bogs from April 2022 to end of March 2023 is 94% and 85% respectively. The Work Content takes account of the variation in the intensity of work required for each methodology and is a more accurate measure of the progress of the scheme than the hectares rehabilitated.

¹ Mackin, F., Barr, A., Rath, P., Eakin, M., Ryan, J., Jeffrey, R. & Fernandez Valverde, F. (2017) Best practice in raised bog restoration in Ireland. Irish Wildlife Manuals, No. 99. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht, Ireland.

Some rail decommissioning and bog clean-up was completed however, the focus of the scheme during this period has been on the implementation of the rehabilitation measures.

A stakeholder engagement process was carried out for the EDRRS Year 2 and Year 3 bogs during this period. Information was made publicly available through the dedicated scheme website (www.bnmpcas.ie), while the scheme Community Liaison Officer (CLO) engaged actively with any community stakeholder queries.

A variety of relevant training courses were carried out under EDRRS and were delivered internally by Bord na Móna or by external providers. Many of the training sessions were also supported and funded by the Laois and Offaly Education and Training Board (LOETB).

The EDRRS monitoring programme is ongoing, and a separate Annual Monitoring and Verification Report will be provided detailing the monitoring that has been carried out under EDRRS.

The selection and design of an additional fifteen EDRRS Year 3 bogs commenced during this reporting period with detailed design commenced on each of these fifteen bog units. Design packages for seven bogs were submitted to NPWS with four approved by the end of March 2023.

With over 13,400 hectares rehabilitated in a two-year period, EDRRS is one of the largest and most intensive peatlands rehabilitation schemes in Europe. Further experience was gained, and lessons were learned as the Year 2 rehabilitation was implemented. The benefits from the rehabilitation measures are not immediate and it will only be over time that the extent of the success of optimising climate benefits by improving hydrological conditions can be definitively ascertained. However, the initial hydrological results are promising – visually, the bogs are significantly wetter following the rehabilitation.

2. Introduction

The Enhanced Decommissioning, Rehabilitation and Restoration Scheme (EDRRS), also referred to as the Peatlands Climate Action Scheme (PCAS), was approved by the Department of Environment, Climate and Communications (DECC) in November 2020. Funding for the scheme of €108 million is secured through the EU Recovery and Resilience Facility (RRF), the key instrument at the heart of NextGenerationEU. At a national level, this funding is administered through Ireland's National Recovery Resilience Plan (NRRP). Additional funding of €18m is provided by Bord na Móna to undertake Standard Rehab Measures as part of the EPA's IP licence requirements.

The scheme includes for the enhanced decommissioning of 47,000 hectares of peatlands and, within this, the enhanced rehabilitation and/or restoration of 32,779 hectares of peatlands in 82 Bord na Móna bog units. This scheme, which is currently scheduled to continue to August 2026, has been developed to optimise the ecosystem service benefits of peatland rehabilitation and restoration, particularly carbon storage and the reduction of carbon emissions. In addition, the scheme will also benefit biodiversity and water (water quality and catchment management), as well as providing space for future recreational projects.

DECC acts as the Approving Authority for the Scheme and has ultimate responsibility. The National Parks and Wildlife Service (NPWS) acts as the Scheme Regulator and Bord na Móna are the Operator for the delivery of the scheme. Clause 11.6 of the EDRRS Regulatory controls states the following:

Within six months of the end of each year that the Scheme is in operation, the Operator will submit an annual report on the Scheme to both DECC and NPWS/DHLGH. This report will include data on the Greenhouse Gas and biodiversity indicators agreed for the Scheme by all parties, on any future indicators agreed for the Scheme, the area restored under each Enhanced Rehabilitation Bog Plan, and the overall area restored in the year in question.

In addition, Clause 9.2 of the EDRRS Funding Agreement states the following:

"An annual report prepared by BNM in respect of each calendar year in which the Agreement subsists shall be submitted to the Minister by 30th September of the following year ("the Annual Report"). The Annual Report shall detail the work done to further the aims and objectives and deliver the Scheme outcomes and outputs. For the avoidance of doubt the first calendar year end shall not be before the 31st December 2021."

An Annual Report and separate Annual Monitoring and Verification Report were completed for Year 1 of the scheme from the commencement of the scheme to the end of March 2022 and both of these reports are available on the PCAS/EDRRS website².

This second Annual Report covers Year 2 of the scheme from April 2022 to the end of March 2023. This report details the rehabilitation, decommissioning, training, stakeholder engagement and design carried out during this period. A separate Annual Monitoring and Verification Report for Year 2 of the scheme is currently being prepared and this report will include any available data on the Greenhouse Gas and Biodiversity indicators as well as details of other monitoring and initial results observed on the EDRRS Year 2 Bogs (i.e. bogs where rehabilitation commenced in 2022).

² Publicly Available at: <https://www.bnmecas.ie/supporting-material/>

These reports should be read in conjunction with the document, *Methodology Paper for the Enhanced Decommissioning, Rehabilitation and Restoration of Bord na Móna Peatlands* which is also available on the PCAS/EDRRS website.

3. Rehabilitation - General

3.1 Objective

The objective of the enhanced rehabilitation measures employed in EDRRS is to optimise suitable baseline hydrological conditions for climate action benefits, to slow the movement of water across these landscapes and to accelerate environmental stabilisation via natural colonisation. This means re-wetting peat with the most optimum water levels (generally at or slightly above the surface of the peat), where possible, for the development of vegetation that suits the underlying environmental conditions, setting these areas on a trajectory towards naturally functioning wetland and peatland. Where conditions are suitable, and the peat can be re-wetted, there is potential to re-develop *Sphagnum*-rich plant communities that are considered carbon sinks and therefore in time restore the carbon sequestration function of these sites.

These objectives are set out in the Rehabilitation Plans for each bog, and these documents and the Methodology Report, Appropriate Assessment Screening Reports, Natura Impact Statements and Determinations are all available on the scheme website³.

3.2 Rehab Methodology

In general, the Bord na Móna peat production bogs consist of former peat production fields with drains at 15m intervals. These fields were formed with a camber (i.e. higher in the centre with a gradient towards the drains) to facilitate drainage. The purpose of the rehabilitation methodologies is to inhibit the functionality of this existing production field drainage system thereby re-wetting the peat. The various enhanced rehabilitation measures consist of a combination of peat drain blocks, field re-profiling, formation of low berms, berm, and field re-profiling to form cells, modification of outfalls, application of fertiliser and *Sphagnum* inoculation. The basis for selection of a specific methodology is driven by the heterogeneity of the Bord na Móna cutaway (e.g. Deep Peat, Dry Cutaway, Wetland, etc.), together with the need to deploy different measures and strategies in different environmental conditions.

The rehabilitation methodologies employed as part of the scheme are listed in Table 3.1 below and are described in more detail in Appendix A1 of this report. The use of each specific rehabilitation methodology is designed based on the topography, peat depths, drainage regime, hydro-geological regime, ecology, and other constraints in each bog. Further information on these methodologies is available in the EDRRS Methodology Paper (Version 19, Nov 2022)⁴. This report is available on the PCAS/EDRRS website.

While some trials of various rehabilitation measures were carried out in 2020, rehabilitation of Bord na Móna bogs under EDRRS commenced in April 2021. The commencement date varied for each bog and was subject to

³ Publicly available at: <https://www.bnmecas.ie/2022bogsrehabilitation/>

⁴ Publicly Available at: <https://www.bnmecas.ie/supporting-material/>

- a) screening for Appropriate Assessment
- b) completion of Appropriate Assessment or Natura Impact Statement where required
- c) the approval of the rehabilitation measures by NPWS.
- d) Approval of the Final Rehabilitation Plan by the Environmental Protection Agency (EPA) under Condition 10 of the IPC licence.

Rehabilitation was commenced on eighteen bogs in the first year of the scheme, from the commencement of the scheme to the end March 2022. An additional twenty bogs commenced in Year 2 of the scheme, from April 2022 to the end of March 2023 and this rehabilitation is the main focus of this report.

Further details on the rehabilitation carried out in Year 2 and an update on the Year 1 bogs is set out in Section 4 below. Descriptions of the various rehabilitation methodologies are provided in Appendix A of this report:

Rehab Methodologies and associated Land Type Categories			
Deep Peat Cutover Bog		Wetland	
DPT1	Deep Peat Type 1	WLT1	Wetland Type 1
DPT2	Deep Peat Type 2	WLT2	Wetland Type 2
DPT3	Deep Peat Type 3	WLT3	Wetland Type 3
DPT4	Deep Peat Type 4	WLT4	Wetland Type 4
DPT5	Deep Peat Type 5	WLT5	Wetland Type 5
DPT6	Deep Peat Type 6		
Dry Cutaway		Marginal Land	
DCT1	Dry Cutaway Type 1	MLT1	Marginal Land Type 1
DCT2	Dry Cutaway Type 2	MLT2	Marginal Land Type 2
DCT3	Dry Cutaway Type 3		
Additional Work			
AW1	Additional Work 1		
AW2	Additional Work 2		

Table 3.1 Rehabilitation Methodologies (refer to Methodology Report⁵ for detail on each methodology)

3.3 Appropriate Assessment

Similar to the Year 1 rehabilitation, Bord na Móna appointed third party consultants to carry out screening for Appropriate Assessment on each of the EDRRS Year 2 bogs to assess if the measures were likely to have significant effects on any European Site. If this screening concluded that there was a likelihood of significant effects to a designated site, an Appropriate Assessment or Natura Impact Statement (NIS) was completed and submitted to the relevant Minister for observations. These determinations were completed prior to the commencement of the proposed rehabilitation measures and further details are provided in Section 6 below. All Appropriate Assessment screening reports, Natura Impact Statements and Determinations are available on the scheme website⁶.

⁵ Publicly Available at: <https://www.bnmecas.ie/supporting-material/>

⁶ Publicly available at: <https://www.bnmecas.ie/2022bogsrehabilitation/>

4. Rehabilitation carried out to End March 2023

The following sections provide a breakdown of the rehabilitation measures proposed and carried out in the period from April 2022 to the end March 2023. While the focus of the reporting is on the EDRRS Year 2 bogs where rehabilitation commenced in 2022, an update is also provided on the status of the Year 1 bogs at the end March 2023.

Summary tables of the hectares rehabilitated in the Year 1 and the Year 2 bogs are provided in this report and also in Appendix A1 attached.

While the number of hectares rehabilitated can be considered when assessing the progress of the rehabilitation measures, the intensity of the work carried out varies depending on the rehabilitation method completed in these hectares. In order to take account of this, the *Work Content Completed* is included in the assessment of rehabilitation progress in the summary tables and on each bog. This takes account of the variation in the intensity of work required for each methodology and it also takes account of additional measures such as berms or drains included in the individual Bog plan.

The percentage of Work Content completed is therefore a more accurate measure of the progress of the scheme than the hectares rehabilitated. For the avoidance of doubt, Work Content is deemed to be any/all practical interventions (including supporting activity) such as are tracked through the on the ground auditing process.

Some of the rehabilitation measures include a provision for *Sphagnum* inoculation and fertiliser spreading and due to their seasonal nature, it is not always possible to carry out these measures within the same year that the rehabilitation is carried out. Some trial planting of *Sphagnum* was carried out to determine the most suitable methods for this planting. It is also now proposed that the majority of this *Sphagnum* planting will be carried out under LIFE Integrated Project, Peatlands and People and will be removed from EDRRS. Therefore, for clarity, information on the Work Content completed will be provided both including and excluding the *Sphagnum* planting and the fertiliser spreading.

4.1 Update on Rehabilitation carried out in EDRRS Year 1 Bogs

In the first year of EDRRS, rehabilitation commenced on eighteen bogs, and these are referred to as the Year 1 Bogs. At the end of March 2022 there was a total of 7,917 hectares rehabilitated in the Year 1 Bogs and the Work Content completed was 84.5% excluding the *Sphagnum* planting and fertiliser. The Work Content completed was 82.1% when these items were included.

As well as commencing the Year 2 bogs, further rehabilitation was also carried out on the Year 1 bogs between April 2022 and the end of March 2023.

The summary by bog of the hectares rehabilitated and the Work Content completed on the Year 1 bogs is set out in the Table 4.1 below and in Appendix A2.

The rehabilitation completed is recorded by *Total Area Rehabilitated to Date* and also by *Work Content Completed to Date*. The figures in the column *Total Area Rehabilitated* are the hectares used towards the EDRRS target of 32,779 hectares.

The *Work Content Completed to Date* addresses the difference in the intensity of the labour and equipment required for the various rehab measures and gives a more accurate view of the rehab progress. The *Sphagnum* Inoculation and Fertiliser application is carried out at a later date than the rehabilitation measures and two columns have been included to account for the Work Content to be completed including the *Sphagnum* inoculation and fertiliser application and excluding these elements.

The bog by bog breakdown of the rehabilitation measures completed at the end of March on the Year 1 bogs is set out in the Table 4.2 below and in Appendix A3. This Table shows the various rehabilitation methodologies completed on each Year 1 Bog at the end of March 2023. Table 3.1 of this report gives the full title for these methodologies and a more detailed description is included in Appendix A1.

In total, 8,009 hectares was rehabilitated in the EDRRS Year 1 bogs from the commencement of the scheme to the end of March 2023. This is 98% of the hectares to be rehabilitated in these bogs.

The work content completed on these Year 1 bogs was 94% excluding the *Sphagnum* planting and fertiliser and 91% when these items were included. The Work Content outstanding at the end of the period includes some ancillary measures such as the piping of outfall drains, cleaning of boundary drains, provision of high field taps and other measures. The Work Content remaining also captures the intensity of any rehab hectares that are outstanding.

Headings in Table 4.1

The rehabilitation completed by bog in Table 4.1 below and the headings are defined as follows:

Area of Bog (Ha): Overall area included in the specific bog. (Note: not all of this bog area is subject to rehabilitation under EDRRS as some areas will be constrained out).

Total Area to be Rehabilitated (Ha): Area of bog that is proposed for rehabilitation under EDRRS.

Total Area Rehabilitated at end Mar 2023 (Ha): Area where specific rehabilitation measures have been carried out such as drain blocking, berms and blocking of outfalls and also area where rehabilitation is either not possible or not required but where there will be benefits from adjacent rehabilitation. Areas in this column contribute towards the EDRRS target of 32,779 hectares.

Total Area Rehabilitated at end Mar 2023 (%): This is the percentage of the planned hectares that is complete at the end of March 2023.

Work Content Completed to End Mar 2023 (Sphagnum and Fertiliser Excluded) (%): The percentage of the programmed work content complete at the end of Mar 2023 excluding *Sphagnum* inoculation and fertiliser spreading. This column captures the difference in the intensity of the labour and equipment required for the various rehab measures and gives a more accurate view of the rehab progress than hectares alone. The *Sphagnum* Inoculation and Fertiliser application is carried out at a later date than the rehabilitation measures and is seasonally dependent.

Work Content Completed to End Mar 2023 (Sphagnum and Fertiliser Included) (%): As above with the *Sphagnum* inoculation and fertiliser spreading included.

Year 1 (FY22 Bogs)						
Bog Name (Year 1 Bogs)	Area of Bog Hectares	Total Area to be rehabilitated Hectares	Total Area Rehabilitated at end March 2023) Hectares	Total Area Rehabilitated at end Mar 2023 % of Year 1 Total	Work Content Completed End of Mar 2023 (Sphagnum and Fertiliser <u>excluded</u>) % of Year 1 Work Content	Work Content Completed End of March 2023 (Sphagnum and Fertiliser <i>included</i>) % of Year 1 Work Content
Belmont	320	274	266	97%	92%	90%
Garryduff	972	868	865	100%	98%	97%
Kellysgrove	203	132	132	100%	100%	100%
Kilmacshane	1298	1207	1173	97%	94%	93%
Boora Bog	1851	660	596	90%	68%	66%
Derries	371	359	359	100%	100%	98%
Oughter	358	295	242	82%	68%	68%
Pollagh	304	264	246	93%	98%	94%
Turraun	541	385	385	100%	97%	97%
Castlegar	519	371	370	100%	97%	94%
Cavemount	513	429	420	98%	96%	94%
Clonad	446	370	370	100%	86%	85%
Esker	566	515	515	100%	99%	96%
Mount Lucas	1218	824	824	100%	99%	97%
Ummeras	302	238	238	100%	98%	95%
Derrycashel	384	358	355	99%	98%	98%
Derrycolumb	461	403	403	100%	100%	98%
Edera	282	250	250	100%	100%	97%
Total	10909	8204	8009	98%	94%	91.0%

Table 4.1: Rehabilitation completed on EDRRS Year 1 Bogs at the end of March 2023

Bog Name Year 1 Bogs	Rehabilitation Methodologies complete on Year 1 Bogs at End March 2023 (Hectares)																		
	DPT1	DPT2	DPT3	DPT4	DPT5	DPT6	DCT1	DCT2	DCT3	WLT1	WLT2	WLT3	WLT4	WLT5	MLT1	MLT2	AWT1	AWT2	Total
Belmont	0	5	0	40	6	0	8	48	0	0	13	8	106	0	28	3	0	2	266
Garryduff	0	13	0	5	27	0	0	69	0	0	344	46	284	0	63	14	0	0	865
Kellysgrove	0	105	0	0	0	0	0	0	0	0	0	0	0	0	27	0	0	0	132
Kilmacshane	0	37	0	57	0	0	16	117	0	0	401	158	271	0	107	11	0	0	1173
Boora	0	17	0	57	0	0	120	14	0	0	0	84	113	0	30	0	123	38	596
Derries	0	4	0	3	3	0	112	48	0	0	147	5	0	0	30	0	0	5	359
Oughter	0	0	0	0	0	0	15	36	0	0	14	21	124	0	27	6	0	0	242
Pollagh	0	0	7	72	5	0	0	42	0	0	2	15	87	0	17	0	0	0	246
Turraun	0	0	0	0	0	0	0	89	0	0	38	6	185	1	66	0	0	0	385
Castlegar	23	59	100	92	28	0	0	11	0	0	0	0	0	0	54	1	0	1	370
Cavemount	0	0	0	17	0	0	5	39	0	0	7	243	43	0	39	0	0	28	420
Clonad	0	0	0	41	8	0	0	83	0	0	0	2	188	0	33	14	0	0	370
Esker	0	0	160	117	45	0	11	54	0	0	0	35	54	0	38	3	0	0	515
Mountlucas	0	0	33	25	38	0	0	64	0	4	0	21	75	0	58	0	273	232	824
Ummeras	0	11	0	113	22	0	6	29	0	0	6	1	17	0	33	0	0	0	238
Derrycashel	0	0	0	0	0	0	0	67	0	5	175	0	50	0	0	42	0	16	355
Derrycolumb	0	10	71	40	5	0	0	76	0	0	43	20	97	0	41	0	0	0	403
Edera	0	1	51	59	18	0	0	10	10	0	0	0	42	7	51	0	0	0	250
Total Area (Ha)	23	263	422	739	205	0	292	896	10	9	1191	664	1735	8	741	94	396	322	8009
% Rehab Methodology	0%	3%	5%	9%	3%	0%	4%	11%	0%	0%	15%	8%	22%	0%	9%	1%	5%	4%	

Table 4.2: Rehabilitation measures completed on Year 1 Bogs at the end of March 2023.

Figure 4.1 below shows the hectares rehabilitated (in orange) on the Year 1 bogs at the end March 2023 against the hectares to be rehabilitated (in blue).

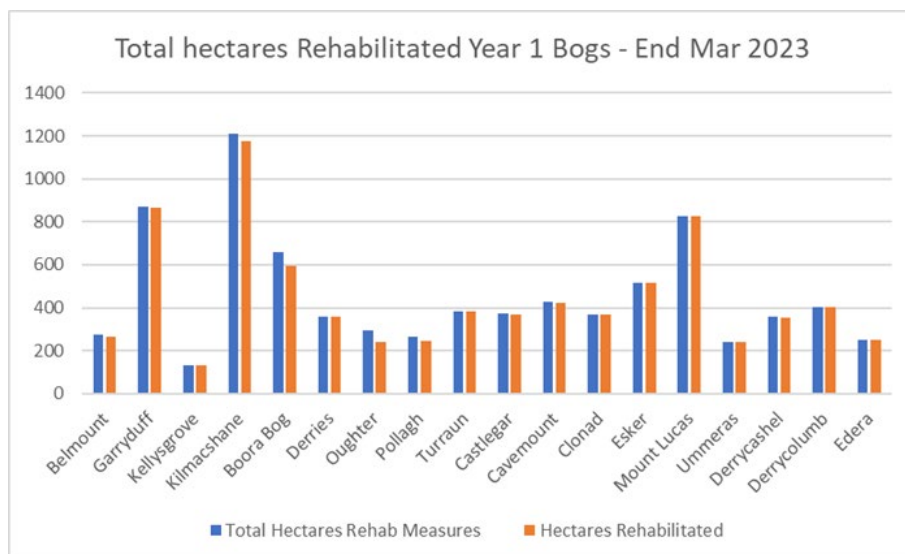


Figure 4.1: Hectares rehabilitated in Year 1 bogs at the end of March 2023

Many of the Year 1 bogs are re-wetting and some receptors, such as wintering wildfowl, breeding waders, etc. at least seem to be benefitting from the completed rehabilitation measures⁷. The image below from Castlegar Bog is an example of a Year 1 Bog showing completed drain blocks and cells. While there were still some outstanding measures to be completed as of the end of March 2023, large areas of the bog have been re-wetted. The outstanding measures on these bogs generally consist of minor measures such as completion of cell flow control measures, drain clearing or outfall measures.



Figure 4.2: Castlegar Bog (April 2023) – Example of Year 1 Bog post completion of majority of rehabilitation measures

⁷ See Monitoring and Verification reporting at: <https://www.bnmecas.ie/supporting-material/>

4.2 Rehabilitation of EDRRS Year 2 Bogs - General

Following on from the commencement of rehabilitation on eighteen bogs in Year 1 of the scheme an additional twenty bogs were scheduled for rehabilitation in Year 2 of the scheme. As a result, a total of thirty-eight bogs were rehabilitated or in the process of being rehabilitated at the end of March 2023.

Detailed design was carried out for each Year 2 bog and a package of documents and drawings were submitted to NPWS for approval. Following the stakeholder engagement process, receipt of approval from NPWS and on agreement with the EPA (Environmental Protection Agency), rehabilitation commenced on all Year 2 bogs during the reporting period.

A summary table of the hectares rehabilitated in Year 2 of the scheme is provided in Table 4.3 of this report and also in Appendix A4 attached. In addition, further information is provided for each individual EDRRS Year 2 bog in Appendix B of this report, setting out the hectares rehabilitated on each bog and the hectares that contribute towards the overall 32,779 hectares to be rehabilitated under the scheme. Areas of a bog that are constrained from rehabilitation are not included in these hectares. Areas buffered for known archaeology and silt pond areas are also excluded from the EDRRS hectares.

Similar to Year 1 of the scheme, as rehabilitation progressed on each bog there were some amendments to the original rehabilitation proposals submitted and approved by NPWS. These amendments were generally due to a change in methodology due to conditions encountered on the ground. Examples of such changes are a reduction in intensity of measures due to the presence of significant vegetation, reduction in intensity of measures as the ground conditions were wetter than anticipated and amendments in proposed rehabilitation measures due to turbary/land ownership issues in bog remnant areas. These areas are generally small and as an example the changes in rehabilitation measures due to existing vegetation was less than 3% of the total hectares rehabilitated on the Year 1 bogs. In some cases, the rehab intensity was increased, and this was carried out in line with the approved change process agreed between Bord na Móna and NPWS. These changes were recorded in a Rehab Type Change Register issued on a regular basis to NPWS and will be addressed in detail in the Ex-Post report for each bog when the bog is fully complete.

Appendix B provides a detailed bog by bog breakdown of the rehabilitation measures completed on the Year 2 bogs at the end of March 2023. The Appendix for each bog includes the following information:

- Site Location Map
- Rehab Plan Map submitted to and approved by NPWS
- Map showing Rehab Progress at end March 2023
- Table showing Rehabilitation Hectares, Approved, changes in hectares since approval and hectares completed at end March 2023.
- Sample Images of rehabilitation

4.3 Design – EDRRS Year 2 Bogs

Detailed design packages were prepared for each of the EDRRS Year 2 bogs and these packages were submitted to NPWS and approval received from NPWS prior to the commencement of rehabilitation. These packages required input from Bord na Móna Ecologists, Engineers, Surveyors, Environmental personnel, GIS Specialists, Finance personnel and Project Management personnel. External

consultants, RPS Ltd. also provided input in relation to hydrology and hydrogeology. The packages for each bog included documents, detailed drawings, and GIS layers.

Aerial photography and Light Detection and Ranging (LiDAR) surveys were purchased for all bogs included in EDRRS at the commencement of the scheme and validation of the LiDAR was carried by Bord an Móna Engineering. A topographical drainage survey was carried out on the bogs by the Bord na Móna Surveying Team. Site visits and surveys were also carried out by Bord na Móna Engineers and Ecologists.

The first package for the EDRRS Year 2 bogs was submitted to NPWS for approval in November 2021 with the final package submitted in June 2022. Approvals for these packages were received from NPWS between February and October 2022. Rehabilitation of the EDRRS Year 2 bogs commenced in April 2022 and the rehabilitation of the bogs was phased based on scheduling of manpower and machines as well as Ecological and Environmental seasonal restrictions.

Stakeholder Engagement and Appropriate Assessment was also carried out on these bogs prior to commencement of rehabilitation. Approval was also obtained from the Environmental Protection Agency (EPA) for each bog rehabilitation plan.

4.4 Rehabilitation of EDRRS Year 2 Bogs – Implementation

Table 4.3 below and Appendix A4 sets out the hectares proposed for rehabilitation in the EDRRS Year 2 bogs and the rehabilitation completed at the end March 2023. It includes the hectares in each bog submitted to and approved by NPWS, the scheme regulator, for each bog. It also includes the total area to be rehabilitated at the end of March 2023 incorporating amendments post commencement of the rehabilitation. The table also gives the rehabilitation completed to end March 2023 in hectares, % hectares complete and work content complete.

The figures in the column *Total Area to be Rehabilitated or Total Area Rehabilitated* are the hectares to be used, or used, towards the EDRRS target of 32,779 hectares with 5,428 hectares completed on the Year 2 bogs at the end March 2023. The final hectares to be included in the scheme are subject to change based on the final sign off by the scheme regulator.

The *Work Content Completed to Date* addresses the difference in the intensity of the labour and equipment required for the various rehab measures and gives a more accurate view of the rehab progress. The *Sphagnum* Inoculation and Fertiliser application is carried out at a later date than the rehabilitation measures and two columns have been included to account for the Work Content to be completed including the *Sphagnum* inoculation and fertiliser application and excluding these elements.

In the case of a number of bogs, approval was obtained for rehabilitation that was to be carried out in both Year 2 and Year 3. These bogs are Bunahinly-Kilgarvan, Bloomhill, Timahoe South and Derryfadda bogs. The area included in the table for these bogs are those areas that are scheduled to be completed in Year 2 only.

The bog by bog breakdown of the rehabilitation measures completed at the end of March on the Year 2 bogs is set out in the Table 4.4 below and in Appendix A5. This Table shows the various rehabilitation methodologies completed on each Year 2 Bog at the end of March 2023. Table 3.1 of this report gives the full title for these methodologies and a more detailed description is included in Appendix A1.

Figure 4.3 below shows the hectares rehabilitated (in orange) on the Year 2 bogs at the end March 2023 against the hectares to be rehabilitated (in blue).

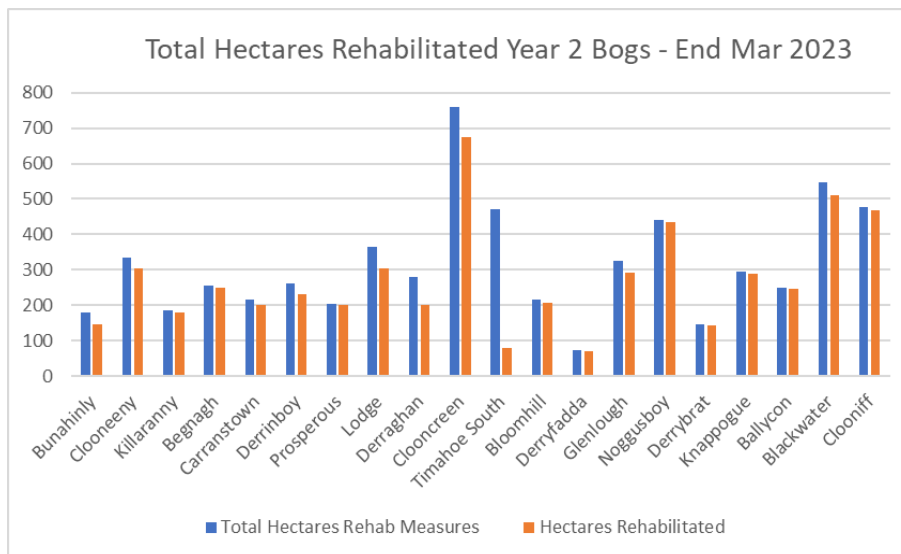


Figure 4.3: Hectares rehabilitated in Year 2 bogs at the end of March 2023

An example of the rehabilitation measures on one of the Year 2 bogs, Noggusboy is shown in Figure 4.4 below. Similar aerial images are included in Appendix B of this report for each of the Year 2 Bogs.



Figure 4.4: Example of Year 2 bog rehabilitation – Noggusboy Bog

Year 2 (FY23 Bogs)							
Bog Name (Year 2 Bogs)	Area of Bog Hectares	Total Area to be rehabilitated in Year 2 (submitted to and approved by NPWS) Hectares	Total Area to be rehabilitated (incorporating amendments post commencement) Hectares	Total Area Rehabilitated at end March 2023) Hectares	Total Area Rehabilitated at end Mar 2023 % of Year 2 Total	Work Content Completed End of Mar 2023 (Sphagnum and Fertiliser <u>excluded</u>) % of Year 2 Work Content	Work Content Completed End of March 2023 (Sphagnum and Fertiliser <u>included</u>) % of Year 2 Work Content
Bunahinly	393	176	179	145	81%	78%	74%
Clooneeny	389	336	336	304	91%	89%	84%
Killaranny	244	186	186	178	96%	100%	95%
Begnagh	264	256	256	251	98%	98%	93%
Carranstown	305	216	216	201	93%	88%	83%
Derrinboy	308	264	263	230	87%	84%	79%
Prosperous	217	205	205	200	98%	97%	91%
Lodge	417	365	365	305	84%	88%	84%
Derraghan	289	283	279	200	71%	69%	67%
Clooncreen	1011	783	760	675	89%	84%	83%
Timahoe South (Phase 1)	1130	469	472	79	17%	22%	21%
Bloomhill (Phase 1)	889	216	216	207	96%	82%	78%
Derryfadda (Phase 1)	1111	74	74	69	94%	91%	86%
Glenlough	335	327	324	291	90%	68%	68%
Noggusboy	536	444	440	434	99%	99%	96%
Derrybrat	177	147	147	145	99%	99%	99%
Knappogue	314	295	295	289	98%	85%	84%
Ballycon	281	248	248	246	99%	86%	86%
Blackwater	2314	548	548	510	93%	98%	96.0%
Clooniff	531	508	477	469	98%	98%	95%
Total	11455	6345	6285	5428	86.4%	81.4%	77.8%

Table 4.3: Rehabilitation measures completed on EDRRS Year 2 Bogs at the end of March 2023

Note: Timahoe South, Bloomhill and Derryfadda Bog to be rehabilitated over two years. Phase 1 is part of the Year 2 programme and phase 2 is part of Year 3 programme on each bog.

Bog Name Year 2 Bogs	Rehabilitation Methodologies complete on Year 2 Bogs at End March 2023 (Hectares)																		
	DPT1	DPT2	DPT3	DPT4	DPT5	DPT6	DCT1	DCT2	DCT3	WLT1	WLT2	WLT3	WLT4	WLT5	MLT2	AWT2	MLT1	AWT1	Total
Bunahinly		1		107	2			18									17		145
Clooneeny		7	6	102			1	100	6			20	29		1	8	24		304
Killaranny		6		77				18					22			22	34		178
Begnagh		15		100			1	63			6	9	34				22		251
Carranstown		38		115				17					4				27		201
Derrinboy		5		156				26					14			7	22		230
Prosperous				136				9							25	7	23		200
Lodge		2		91				55			16		91		6	24	21		305
Derraghan		2		20			7	14			18	2	72			56	9		200
Clooncreen				2			60	197			9		365		3		38		675
Timahoe South (Phase 1)				46											25		7		79
Bloomhill (Phase 1)		16		79				15			26		22		4	10	37		207
Derryfadda (Phase 1)		3		37	4			1				3					21		69
Glenlough		214				18										51	7		291
Noggusboy				13			20	166			98	15	66		10	15	28	3	434
Derrybrat		8					8	23			11	24	3		5	52	10		145
Knappogue								56			99	5	57		13	39	21		289
Ballycon		8					11	12			88					114	12		246
Blackwater				24				76			129	44	189			24	25		510
Clooniff			71	35				45				209	71		5		33		469
Total Area (Ha)	0	325	77	1140	7	18	109	911	6	0	500	332	1037	0	96	428	438	3	5428
% Rehab Methodology	0%	6%	1%	21%	0%	0%	2%	17%	0%	0%	9%	6%	19%	0%	2%	8%	8%	0%	

Table 4.4: Rehabilitation measures completed on EDRRS Year 2 Bogs at the end of March 2023

Rehabilitation Summary	Rehabilitation Methodologies complete on Year 1 Bogs at End March 2023 (Hectares)																		
	DPT1	DPT2	DPT3	DPT4	DPT5	DPT6	DCT1	DCT2	DCT3	WLT1	WLT2	WLT3	WLT4	WLT5	MLT1	MLT2	AWT1	AWT2	Total
Total Area (Ha) Year 1 Bog	23	263	422	739	205	0	292	896	10	9	1191	664	1735	8	741	94	396	322	8009
Total Area (Ha) Year 2 Bog	0	325	77	1140	7	18	109	911	6	0	500	332	1037	0	438	96	3	428	5428
Total Area (Ha)	23	587	499	1879	212	18	401	1807	16	9	1691	996	2772	8	1179	190	399	750	13437
% Rehab Methodology	0%	4%	4%	14%	2%	0%	3%	13%	0%	0%	13%	7%	21%	0%	9%	1%	3%	6%	

Table 4.5: Summary of Rehabilitation Methodologies for Year 1 and Year 2 bogs.

4.5 Overall Rehabilitation Completed and Projected

The overall rehabilitation completed at the end March 2023 and the number of drain blocks and cells completed at the end March 2023 is set out below.

Rehabilitation Measures	Completed on Combined Year 1 and Year 2 Bogs at End March 2023
Rehabilitation Completed (Hectares)	13437
Number of Drain Blocks	121243
Number of Deep Peat Cells	6448

Table 4.6: Summary of rehabilitation completed at the end March 2023

The breakdown of the Year 1 and Year 2 completed rehabilitation by bog cutaway type is set out in Table 4.5 above and in Figure 4.5 below. The largest bog cutaway type rehabilitated and proposed for rehabilitation in Year 1 and Year 2 combined is Wetland.

The rehab methodologies implemented in Year 1 and Year 2 of the scheme are reflective of the conditions encountered on the bogs rehabilitated during these periods. Table 4.5 shows the percentage of each methodology that was carried out on the Year 1 and Year 2 bogs. Wetland Type 4 is the methodology that was implemented on the largest area with Deep Peat Type 4 the second largest area.

This is likely to change as the rehabilitation continues as it is subject to the bog conditions such as the depth of peat, the underlying conditions and the existing vegetation.

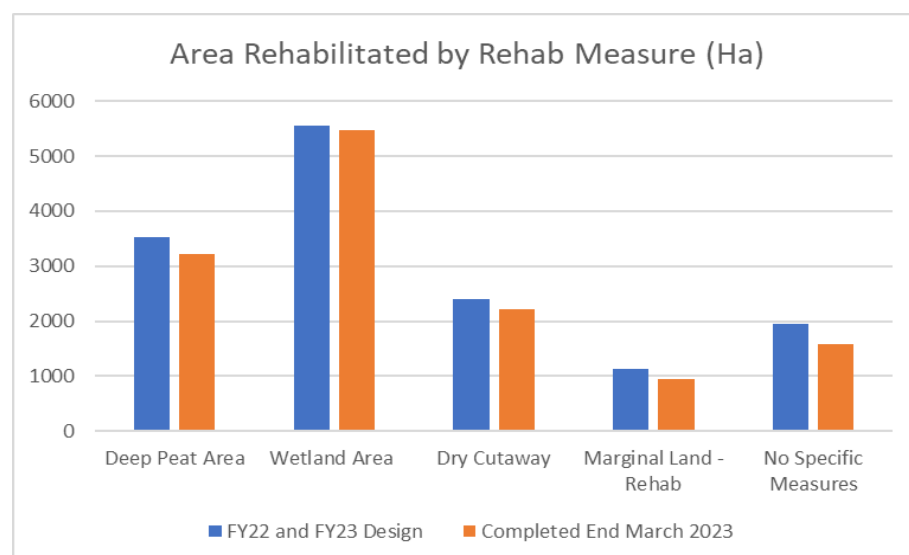


Figure 4.5: Rehabilitated areas by Bog Cutaway Type

Maps showing the progress of the rehabilitation completed at the end of March 2023 are included in Appendix C of this report. These three maps show the bogs in the three Bord na Móna Works Area namely:

- Mountdillon Counties Longford, Roscommon (North) and Westmeath (West)
- Boora/Blackwater Counties Offaly (West), Galway and Roscommon (South) and
- Derrygreenagh Counties Offaly (East), Kildare, Westmeath (East) and Meath

All outstanding rehabilitation measures on the Year 2 Bogs will be completed in conjunction with the Year 3 bog rehabilitation in the period April 2023 to March 2024.

5. Rehabilitation – Year 3 and Year 4

5.1 Design – EDDRS Year 3 Bogs

The selection and design of an additional fifteen EDDRS Year 3 bogs commenced during this reporting period with detailed design commenced on each of these fifteen bog units. Design packages for nine of these bog units were submitted to NPWS by the end of March 2023 and with approval received from NPWS for five of these bogs. In addition to these fifteen Year 3 bogs, the rehabilitation measures for four of the bogs commenced in Year 2 were scheduled to be divided between Year 2 and Year 3. A number of the bogs to be approved in Year 3 will have their rehabilitation carried out over a two-year period, Year 3 and Year 4. The following table sets out the list of bogs scheduled for rehabilitation in Year 3.

Bog Name	Commencement of Rehabilitation
Timahoe South	Year 2 and Year 3 Bog
Bloomhill	Year 2 and Year 3 Bog
Derryfadda	Year 2 and Year 3 Bog
Kilgarvan	Year 3 and Year 4 Bog
Derryshannoge	Year 3 Bog
Ballaghurt	Year 3 and Year 4 Bog
Glebe	Year 3 Bog
Daingean_Derries	Year 3 and Year 4 Bog
Daingean Rathdrum	Year 3 Bog
Bracklin West	Year 3 Bog
Derrarogue (Phase 1)	Year 3 Bog
Derryadd East	Year 3 Bog
Drinagh Phase 1	Year 3 Bog
Corlea	Year 3 Bog
Clynan	Year 3 Bog
Lisclogher West	Year 3 Bog
Tirrur-Derrymore	Year 3 Bog
Mostrim	Year 3 Bog
Killeglan	Year 3 Bog

Table 5.1: List of bog units scheduled for rehabilitation in Year 3 (April 2023 to Mar 2024)

No rehabilitation of the Year 3 bogs had commenced during this reporting period at the end of March 2023.

5.2 Completed and Projected Rehabilitation

The rehabilitation completed and projected for Year 1 and Year 2 and projected for Year 3 and Year 4 of the scheme is set out in Table 4.6 below. The overall list of bogs currently rehabilitated, undergoing

rehabilitation and scheduled for rehabilitation and their hectares is set out in Appendix A6 and is summarised in the table below. The relevant dates are as follows:

- Year 1: Commencement of Scheme to March 2022
- Year 2: April 2022 to March 2023
- Year 3: April 2023 to March 2024
- Year 4: April 2024 to March 2025

Bogs currently Identified for Rehabilitation		
Year of Commencement of Rehabilitation	Total Area to be rehabilitated (<i>Hectares</i>)	Total Area Rehabilitated at end March 2023 (<i>Hectares</i>)
Year 1 Bogs	8201	8009
Year 2 Bogs	6285	5428
Year 3 Bogs (subject to NPWS approval)	5078	0
Year 4 Bogs (subject to NPWS approval)	4026	0
Total	23590	13437

Table 5.2: List of bog units rehabilitated or scheduled for rehabilitation to March 2025

It should be noted that the bogs and areas selected for rehabilitation for Year 4 are provisional and subject to stakeholder engagement and detailed design. In addition, the Year 3 bogs not yet approved by NPWS are also subject to change. The final rehabilitation areas will be set out in the Ex-Post report for each bog which will be subject to review and approval by NPWS.

6. Appropriate Assessment

6.1 General

As set out in Section 3.3 above, Bord na Móna appointed third party consultants to carry out screening for Appropriate Assessment on each of the EDRRS bogs to assess if the measures were likely to have significant effects on any European site and where required an Appropriate Assessment or Natura Impact Statement (NIS) was completed and submitted to the relevant Minister for observations. Following new legislation in 2021 the completed NIS was also subject to a public consultation process. Bord na Móna having regard to these submissions and observations then made a determination as to whether the proposed project individually or in combination with other plans or projects, would have any adverse effects on the integrity of any European site. A determination was also prepared by Bord na Móna where a Natura Impact Statement was not required. These determinations were completed prior to the commencement of the proposed rehabilitation measures and further details on the Appropriate Assessment Screening process for each bog is provided in Appendix B.

6.2 Appropriate Assessment Year 2 Bogs

Five separate Consultants were involved in the Appropriate Assessment process for the Year 2 bogs with a number of bogs allocated to each consultant. Appropriate Assessment was required for six of the Year 2 bogs and the remaining bogs were screened out as it was determined that the

rehabilitation, individually or in combination with other plans or projects is not likely to have a significant effect on any European site.

For the six bogs that were not screened out, a Natura Impact Statement (NIS) was subsequently prepared by the relevant Consultant. Each report was issued to the Minister for Housing, Local Government and Heritage for observations and was also issued for public consultation. Observation received from both the Minister and the public were taken into account and in the case of each of the six bogs, the consultants' recommendations following the Appropriate Assessment that the rehabilitation would not adversely affect the integrity of any European Site.

The following table summarises the status of the Year 2 bogs in relation to Appropriate Assessment.

Bog Name (Year 2 Bogs)	Appropriate Assessment Status
Bunahinly	Natura Impact Statement Completed
Clooneeny	AA Screened Out
Killaranny	AA Screened Out
Begnagh	AA Screened Out
Carranstown	AA Screened Out
Derrinboy	AA Screened Out
Prosperous	AA Screened Out
Lodge	AA Screened Out
Derraghan	AA Screened Out
Clooncreen	AA Screened Out
Timahoe South	Natura Impact Statement Completed
Bloomhill	Natura Impact Statement Completed
Derryfadda	Natura Impact Statement Completed
Glenlough	AA Screened Out
Noggusboy	AA Screened Out
Derrybrat	AA Screened Out
Knappogue	AA Screened Out
Ballycon	AA Screened Out
Blackwater	Natura Impact Statement Completed
Clooniff	Natura Impact Statement Completed

Table 6.1: Appropriate Assessment status of Year 2 Bogs

7. Stakeholder Engagement

7.1 General

A Stakeholder Engagement Process was carried out prior to the commencement of the EDRRS rehabilitation measures on all bogs as it is considered important to explain the purpose of the scheme and the proposed rehabilitation and engage in dialogue with stakeholders. Consultation is also a requirement of the Integrated Pollution Control (IPC) licences issued by the Environmental Protection Agency (EPA) under which Bord na Móna carried out peat production. This requirement is set out in section 2 of the EPA document *Guidance on the process of preparing and implementing a bog rehabilitation plan*.

At the commencement of the scheme a Community Liaison Officer was appointed to deal specifically with EDRRS and address any queries raised by the public or other stakeholders. A dedicated website

was developed by Bord na Móna containing information on the scheme and providing details of the dedicated email address and contact details for the Community Liaison Officer. The website is located at <https://www.bnmpcas.ie/> and the dedicated email address is pcasinfo@bnm.ie.

7.2 Consultation for EDRRS Year 2 and Year 3 Bogs

As part of the initial consultation process for the EDRRS Year 2 Bogs, an email advising of Bord na Móna's intention to rehabilitate each bog along with a link to the Draft Rehabilitation Plan was sent to a list of stakeholders. The stakeholders included local authorities, farming organisations, community groups, environmental groups, Non-Governmental Organisations (NGOs), relevant Government Departments, relevant semi-state organisations and regulatory/statutory bodies along with local and national elected representatives. Submissions were invited from all stakeholders and a consultation period (typically three weeks) was provided for.

In addition to this email, households within a 1 km radius of the bog boundary received a letter advising of the intended rehabilitation and providing contact details for any queries. This letter was accompanied by an information leaflet and these documents were hand delivered by the dedicated EDRRS Community Liaison Officer (CLO) with the assistance of other Bord na Móna representatives as needed. The CLO and Bord na Móna engaged with householders where queries or concerns were raised when delivering these documents.

The consultation period for the EDRRS Year 2 bogs commenced in October 2021 and ran until May 2022. The consultation period for the EDRRS Year 3 bogs commenced in November 2022 and was still ongoing at the end of March 2023.

The Community Liaison Officer was available to take telephone calls, meet landowners/stakeholders onsite, and respond to email queries as necessary. Numerous meetings were held with interested parties consisting of onsite visits, in-person and virtual meetings and presentations. Attendees included local residents groups, local landowners and members of the public, delegations from the Irish Farmers Association (IFA), Irish Creamery and Milk Suppliers Association (ICMSA), Teagasc, National Association of Regional Game Councils (NARGC), Community Wetlands Forum, Heritage Council, County Councillors, Irish Water, Irish Peatland Conservation Council (IPCC), International Peat Society, Irish Wildlife Trust (IWT), National Museum of Ireland, Dept of Foreign Affairs, Dept of Agriculture, Environment and Rural Affairs (Northern Ireland), Climate Action Regional Office, local authorities and local and national elected representatives.

Stakeholder submissions for the EDRRS Year 2 and Year 3 bogs consisted of general queries, acknowledgements, and more detailed submissions. All submissions were logged, responded to, and considered in the Final Rehabilitation Plan. Details of these submissions and responses are contained in the Consultation section of the Final Rehabilitation Plans (Chapter 4 and Appendix XI) for each bog.

Following the public consultation process a Final Rehabilitation Plan was developed for each of the EDRRS bogs. When approval for the proposed rehabilitation was provided by NPWS each Rehabilitation Plan was updated and submitted to the EPA for approval. Once approved by the EPA each Final Rehabilitation Plan was uploaded to the website replacing the Draft Rehabilitation Plan.

While there is a set period of time for the receipt of submissions on the Draft Rehabilitation Plans, stakeholder engagement is ongoing for the lifetime of the scheme. The Community Liaison Officer and Design Team are available to address any queries or issues during the rehabilitation implementation and well as in the design stage.

8. Decommissioning

8.1 Decommissioning General

The decommissioning of an ex-industrial peatland involves the removal of all infrastructure, plant, equipment, materials, and wastes. The associated IPC Licence condition requires Bord na Móna to:

“Decommission, render safe or remove for disposal/recovery, any soil, subsoils, buildings, plant or equipment, or any waste, materials or substances or other matter contained therein or thereon, that may result in environmental pollution”

These decommissioning requirements for each bog are initially identified and recorded using a Geographic Information System (GIS) based application and all infrastructure is quantified and included where applicable in the following years decommissioning. Discrete waste items, such as pipes, machinery parts, plastic sheeting are also located and added to the schedule using survey-based apps and all is recorded and managed on the Bord na Móna GIS mapping system.

The decommissioning is then planned alongside the associated rehabilitation in a particular year using a variety of internal and external resources to dismantle and transport these waste items off the applicable bog for either reuse or recycling. Items defined as waste are collected by approved and licenced waste management with associated waste records to ensure all waste item volumes/weights are tracked from the bog to the end destination. The decommissioning process is managed and tracked using a variety of key performance indicators (KPI's) such as Bog Clean-up (hectares), Rail Decommissioning (kilometres) and Pump Decommissioning (no. off)

8.2 Decommissioning to End March 2023

For the EDRRS Year 1 & 2 bogs, the associated targets and performance at the end March 2023 was as follows:

Bog Clean Up		Rail Decommissioning	
Target (hectares)	Complete (hectares)	Target (Km's)	Completed (Km's)
17,669	12,858	130km	90.5

Table 8.1: Decommissioning targets and performance at end March 2023

The factors and variables that effect the performance of these KPIs include resource availability from prioritised rehabilitation, waste items to be removed from each bog, waste collection service and upstream peat stock and rehabilitation transport requirements (e.g. retention of rail infrastructure to fuel plant for rehabilitation implementation).

The focus of the scheme has been on the implementation of the rehabilitation measures during this period. Existing rail infrastructure is sometimes used to support the rehabilitation measures and in general rail decommissioning is completed when bogs have been fully rehabilitated.

The measurement and verification of the decommissioning is managed using a data gathering application, Survey123, where once a bog has been declared as decommissioned, the Environmental Department visit the bog and confirm that all waste items identified as part of the initial survey, have been removed from site. These records are managed and maintained for reporting to the EDRRS scheme, as part of the Annual Environmental Report (AER) submitted to the EPA and will also be used for the eventual Independent Closure Audit and the EPA's Exit Audit process.

Any decommissioning that is a requirement of the existing IPC licences is not funded under EDRRS other than the Time Value Money (TVM) costs associated with the acceleration of these decommissioning activities.

9. Training

9.1 General

Following the cessation of peat production and the announcement of EDRRS, Bord na Móna commenced planning for bog rehabilitation activities to replace peat production. As part of this planning a Training Needs Analysis (TNA) was completed to identify the necessary skills and qualifications Bord na Móna employees would require facilitating the implementation of enhanced rehabilitation and decommissioning. A suite of courses was identified which were rolled out by Bord na Móna internal trainers and, where Bord na Móna did not have the in-house available expertise, by external providers.

9.2 Training Team

The training team currently consists of a training manager, two training specialists and a training administrator. The training specialists conduct all our in-house training courses listed below. More recently one of the training specialists has upskilled to deliver Safe Pass training. This has saved us financially and reduced waiting times for the course. Along with conducting in house courses the training specialists would spend considerable time with operatives preparing them for external testing and courses such as Construction Skills Certification Scheme (CSCS) courses. They are constantly assessing the skill of our operatives to maintain a high level of workmanship. The training team also audit various work areas regularly to ensure that all training is up to date and where gaps occur the team organise training to mitigate. The training administrator keeps records of all training conducted and works with our external providers to arrange for any required training, raise purchase orders and resolve any issues that may occur.

9.3 Training Courses

The mandatory, and other, identified training that was delivered under EDRRS by Bord na Móna was as follows:

- Environmental Health & Safety Induction
- Bord na Móna Certificate - Manual Handling
- Bord na Móna Certificate - Abrasive Wheels
- Internal Certificate - Working at Heights
- Specialist Bord na Móna Fire Safety Module
- Lantra Tractor & Attachment Operations

Other courses provided by external bodies are listed below:

- Quality and Qualifications Ireland (QQI) Level 5 Forestry Fencing
- Solas - SafePass
- Solas - Construction Skills Certification Scheme (CSCS) 360 Excavator Training
- Solas - CSCS Telescopic Handler Training
- Solas - CSCS Dozer Training
- Solas – CSCS Slinger & Signaller Operations
- Solas – CSCS Location of Underground Services

- ATV/Quad Bike Training
- Flood Management
- Testing and Inspection of Plant and Machinery

9.4 Solas CSCS Course

In summary we conducted over 20 separate CSCS courses during the period. At the start of this programme many operatives opted for a New Entrants ticket which lasts for two years. Many of these tickets became expired this period and with the operatives now having up to two years' experience on the machines we put them forward for the experienced operator ticket which lasts for 5 years. The 5-year ticket is construction industry best practice and is also QQI level 5 recognised. Many existing 5-year tickets expired during the period and needed to be renewed for operatives.

9.5 Partners and Suppliers

The following organisations have been involved in the provision of training for EDRRS:

- Laois Offaly Enterprise Training Board (LOETB)
- Mountbellew Agricultural College
- Apex Fire Safety
- Lantra Training
- Midlands Border East Skillnet
- Talent Pool Virtual Limited
- Mountlucas National Construction Training Centre
- National Construction Training & Safety Rooskey
- Carroll's Training Centre, Ballyroan, Co. Laois
- Gurteen Agricultural College
- Hynes Quinn Driving School
- KTC Training & Consultancy
- Shorcontrol Safety Training
- Chris Mee Group Training
- CMG Training

9.6 Summary of Training Completed

The following is a summary of the training provided to the end of March 2023:

- CSCS Machinery Tickets – 66 employees
- CSCS Renewals – 8 employees
- Safepass Courses – 34 employees
- First Aid – 85 employees

9.7 Training Outlook: April 2023 to March 2024

Bord na Móna will continue to use our internal training team to continuously assess the skill of the workforce and audit all related records. Safepass, CSCS Tickets and renewals will remain the primary focus of the training team. These will continue to be a requirement as New Entrants tickets and safepasses expire.

10. Monitoring

A separate Annual Monitoring and Verification Report has been provided detailing the monitoring that has been carried out under EDRRS and this report will cover all monitoring carried out between April 2022 and the end March 2023. As a summary the following monitoring and verification is ongoing as part of the scheme:

- Monitoring of carbon fluxes using a combination of Eddy Co-variance towers and carbon chambers.
- Monitoring of surface water quality (circa 70% of drainage catchments) on a monthly basis.
- Monitoring of hydrology on the bogs through a network of piezometers equipped with loggers or dipped manually.
- Monitoring of changes in vegetation using habitat mapping and vegetation monitoring quadrats.
- Monitoring of pollinator response through the use of pollinator transects.
- Monitoring of breeding birds and wintering birds.
- Monitoring of changes in bog condition over the lifetime through Bog Condition mapping.
- Aerial photography to verify rehabilitation measures.
- Flow Monitoring – using a combination of probes and flumes at sample locations.
- Archaeological Monitoring – The National Monuments Service engaged Archaeological Management Solutions (AMS) to carry out monitoring at a number of bogs in the scheme.

A breakdown of the monitoring on a bog by bog basis will be included in the Annual Monitoring and Verification Report and Appendices.

11. Lessons Learned / Recommendations

11.1 Lessons Learned

Further experience was gained with the implementation of the second year of rehabilitation under EDRRS and lessons were learned as the rehabilitation was implemented and the rehabilitation design was influenced by emerging data. Some of these lessons learned from the first two years of the scheme are set out below:

- *Focus on the more intensive Deep Peat methodologies during the summer months*
The more intensive Deep peat methodologies require the use of dozers and screw-levellers and are difficult, if not impossible, to implement when bog conditions are very wet and soft. The creation of the Deep Peat 4 and Deep Peat 5 cells and the re-profiling of production fields for the Deep Peat 3 methodologies need to be completed in the dryer summer months. The recommendation is that these deep peat rehabilitation methodologies are prioritised and commenced as soon as possible from April onwards and the other methodologies consisting of drain blocks carried out in the wetter Winter months, if necessary, to complete the programme of measures.
- *More hectares completed in the winter months*
The EDRRS Model assumed that circa 80% of the annual hectares would be rehabilitated in the summer months (April to September inclusive), however as the focus is on the more intensive

rehabilitation measures during these drier months this has not been the case. The intensive Deep peat measures require more plant, equipment and resources to deliver therefore it takes longer to complete the hectares for these methodologies. Other methodologies that are less intensive and that can be delivered in the winter months can result in more completed hectares per week. The recommendation is that for future projects the projected breakdown of hectares completed per quarter is considered in light of the rehab intensities, areas and available resources and where appropriate be scheduled so that the proportion of hectares rehabilitated between October and March is increased.

- *Install flow control in DPT4 and DPT5 cells as soon as possible after completion of cells*

Due to the late commencement of some of the EDRRS Year 1 bogs it was not possible to complete the flow control system between the Deep Peat cells in all of the DPT4 and DPT5 rehabilitation measures before the wet weather made access to these cells more difficult. These flow control measures create a system to allow the water to flow from one cell to another and maintain optimum water levels in the cells. The recommendation is that flow control is provided as soon as cells are completed and prior to the removal of resources from the bog to prevent high water levels in the cells. Where it is anticipated that there will be a lag period in providing the flow control features, overflow channels between the cells will be provided to reduce the risk of the internal system filling up. These channels will be positioned at the site of the proposed flow control feature to be installed at a later date.

- *Use of Plastic Sheet Piles to control flow between cells*

The original design for the DPT4 and DPT5 cells included for pipes in the berms to control the flow between cells and control the level of water within each cell. While these pipes worked well, there were instances, due to conditions encountered in some locations, where the pipes became dislodged and did not function as designed. Alternatives were considered and following a trial, plastic sheet piles were identified as a suitable option. The recommendation is to consider the use of plastic sheet piles as an alternative to pipes for this flow control. In most bogs a combination of pipes at the edge cells with sheet piles within the bog is recommended, however this will be determined by the relevant Bord na Móna Engineer.

- *Postpone rail decommissioning until after bog rehabilitation is complete*

As the rehabilitation progressed on the bogs, it was clear that the rail infrastructure where available was the most efficient means of re-fuelling the plant and equipment implementing the rehabilitation measures. The recommendation is that all rail decommissioning on a bog is delayed until the rehabilitation measures on that bog have been completed.

- *Requirement for greater than envisaged machine maintenance*

The implementation of the rehabilitation involved intense use of excavators and dozers for eight to ten hours per day, sometimes in difficult ground conditions. As a result, the machine maintenance required to keep these machines operational and to minimise time lost due to breakdowns was greater than originally envisaged in the Financial Model. The recommendation is that an allowance be made for increased machine maintenance in future cost projections for the scheme.

- *Variations on Rehabilitation Methodologies*

The design of original rehabilitation methodologies as set out in the rehabilitation descriptions in Appendix A1 are quite specific, for example the size of the Deep Peat 4 and Deep Peat 5 cells. As the rehabilitation was implemented on the ground, flexibility was required to accommodate the layout of the bog and provide a best fit for these cells resulting in some deviation from the cells

sizes in the methodology. In other areas, where cells were proposed and there was existing vegetation, it was agreed to form berms without levelling the centre of the cell in order to retain the existing vegetation. The lesson learned is that Engineering and Ecological expertise is required in conjunction with the Operations team who are implementing the rehabilitation measures, to adjust the methodologies on the ground to suit the conditions encountered. Such flexibility should only be implemented in accordance with processes agreed with the Regulator.

- *Training Costs*

It was initially envisaged that all training would be carried out in the first two years of the scheme, however it has since become clear that a level of training will be required throughout the lifetime of the scheme as certificates need to be updated and renewed.

11.2 Initial observations on EDRRS to date

With over 13,400 hectares rehabilitated in a two-year period, EDRRS is one of the largest and most intensive peatlands rehabilitation schemes in Europe. The benefits from the rehabilitation measures are not immediate and it will only be over time that the success of optimising climate benefits by improving hydrological conditions can be definitively ascertained. While these climate, and other benefits and their verification will take time to determine, the EDRRS monitoring data collected on an annual basis will be used to assess the trajectory of each bog in terms of hydrogeology, carbon emissions, biodiversity benefits and surface water quality.

The initial results are promising with the bogs visually appearing to be significantly wetter following the rehabilitation.

Preliminary results from the piezometer monitoring are also positive. Analysis of water table responses across the bogs rehabilitated in Year 1 of the scheme reveals a widespread increase in water table levels between summer 2021 and summer 2022 providing a broad indication of the trend of water table levels.

In relation to Biodiversity, even after circa two years of monitoring it appears that the emergent importance of rehabilitated bogs in respect of some target domains such as bird species of conservation concern is notable and likewise the potential for rehabilitated bogs to act as refugia or support the coherence of the Natura 2000 network in many locations. The referenced receptors may benefit more visibly in the short-term post rehabilitation due to step change in water levels post rehab whilst it is likely to take more time for the more gradual effects such as habitat succession to be recorded. Further monitoring in line with the agreed Monitoring and Verification scope is hoped to provide further evidence supporting general biodiversity gains from the scheme in line with stated objectives. See also the most recent Monitoring and Verification report in this regard.

An intensive carbon monitoring programme is ongoing as part of EDRRS, and the overall aim of this programme is to address the variation of Green House Gas (GHG) emissions in current and future habitats. A second aim is to account for the different time scales where GHG fluxes may have particular dynamics (short term and long-term variation).

The carbon monitoring programme includes a chamber measurement programme designed to estimate carbon emission factors from twenty-two different vegetation communities expected to be present on Bord na Mona bogs. In addition, two Eddy Co-variance towers have been installed to estimate baseline emissions from peat and the short-term impact of rewetting and habitat

rehabilitation and flumes with continuous dissolved organic carbon measurements are used to monitor aquatic carbon emissions.

The main objective of the EDRRS monitoring programme is to monitor and verify trajectories of change in response to the proposed re-wetting. The monitoring programme will ultimately demonstrate change in ecosystem functioning and the trajectory of the cutaway bog towards the development of a naturally functioning peatland ecosystem.

Enhanced Decommissioning, Restoration and Rehabilitation Scheme (EDRRS)

Annual Report - Year 2: April 2022 to March 2023

Appendices

Appendix A: Description of Rehabilitation Methodologies

Appendix B: Rehabilitation Details by Bog

Appendix C: Rehabilitation Progress at End March 2023

Appendix A – Bog Rehabilitation – Summary Tables

A1: Description of Rehabilitation Methodologies

A2: Summary - EDRRS Year 1 Rehabilitation (Hectares)

A3: Summary - EDRRS Year 1 Rehabilitation (Rehab Methodologies)

A4: Summary - EDRRS Year 2 Rehabilitation (Hectares)

A5: Summary - EDRRS Year 2 Rehabilitation (Rehab Methodologies)

A6: List of Bogs rehabilitated or currently scheduled for rehabilitation

A1: Description of Rehabilitation Methodologies

Code	Description
Deep Peat Cutover Bog	
DPT1: Deep Peat Type 1	Regular drain blocking – Speed Bump method (3/100 m) + modifying outfalls and managing water levels with overflow pipes
DPT2: Deep Peat Type 2	More intensive drain blocking (max 7/100 m) + modifying outfalls and managing overflows with a controlled weir outfall + fertiliser application
DPT3: Deep Peat Type 3	More intensive drain blocking (max 7/100 m), + field reprofiling + modifying outfalls and managing overflows with a controlled weir outfall + fertiliser application
DPT4: Deep Peat Type 4	Berms and field re-profiling (circa 45m x 60m cell) + modifying outfalls and managing overflows with a controlled weir outfall + drainage channels for excess water + fertiliser application + Sphagnum inoculation
DPT5: Deep Peat Type 5	Cut and Fill cell bunding (circa 30m x 30m cell) + modifying outfalls and managing overflows with a controlled weir outfall + drainage channels for excess water + fertiliser application + Sphagnum inoculation
DPT6: Deep Peat Type 6	Trench drain blocking + modifying outfalls and managing overflows with a controlled weir outfall + fertiliser application
Dry Cutaway	
DCT1: Dry Cutaway Type 1	Targeted fertiliser application
DCT2: Dry Cutaway Type 2	Regular drain blocking – speed bump method (3/100 m) + modifying outfalls and managing water levels with overflow pipes + targeted fertiliser treatment
DCT3: Dry Cutaway Type 3	More intensive drain blocking (max 7/100 m) + modifying outfalls and managing overflows with a controlled weir outfall + targeted fertiliser treatment
Wetland	
WLT1: Wetland Type 1	Turn off or reduce pumping to re-wet cutaway + modifying outfalls and managing water levels with overflow pipes+ targeted fertiliser application
WLT2: Wetland Type 2	Turn off or reduce pumping to re-wet cutaway + modifying outfalls and managing water levels with overflow pipes + Targeted modifying of outfalls within a site+ targeted fertiliser application
WLT3: Wetland Type 2	Turn off or reduce pumping to re-wet cutaway + modifying outfalls and managing water levels with overflow pipes + Targeted modifying of outfalls within a site + constructing larger berms to re-wet cutaway + transplanting Reeds and other rhizomes+ targeted fertiliser application
WLT4: Wetland Type 4	More intensive drain blocking (4/100 m), + modifying outfalls and managing overflows with a controlled weir outfall + transplanting Reeds and other rhizomes+ targeted fertiliser application
WLT5: Wetland Type 5	More intensive drain blocking (max 7/100 m), + field reprofiling + modifying outfalls and managing overflows with a controlled weir outfall + transplanting Reeds and other rhizomes+ targeted fertiliser application
Marginal Land	
MLT1: Marginal Land Type 1	No work required
MLT2: Marginal Land Type 2	More intensive drain blocking (max 7/100 m)
Additional Work – no specific land category	
AW1: Additional Work Type 1	No work required
AW2: Additional Work Type 2	Targeted drain blocking with excavator (1 per 100m)

Appendix A1: Description of Rehabilitation Measures

Appendix A2: Summary - EDRRS Year 1 Rehabilitation (Hectares)

Year 1 (FY22 Bogs)						
Bog Name (Year 1 Bogs)	Area of Bog Hectares	Total Area to be rehabilitated Hectares	Total Area Rehabilitated at end March 2023) Hectares	Total Area Rehabilitated at end Mar 2023 % of Year 1 Total	Work Content Completed End of Mar 2023 (Sphagnum and Fertiliser <u>excluded</u>) % of Year 1 Work Content	Work Content Completed End of March 2023 (Sphagnum and Fertiliser <u>included</u>) % of Year 1 Work Content
Belmont	320	274	266	97%	92%	90%
Garryduff	972	868	865	100%	98%	97%
Kellysgrove	203	132	132	100%	100%	100%
Kilmacshane	1298	1207	1173	97%	94%	93%
Boora Bog	1851	660	596	90%	68%	66%
Derries	371	359	359	100%	100%	98%
Oughter	358	295	242	82%	68%	68%
Pollagh	304	264	246	93%	98%	94%
Turraun	541	385	385	100%	97%	97%
Castlegar	519	371	370	100%	97%	94%
Cavemount	513	429	420	98%	96%	94%
Clonad	446	370	370	100%	86%	85%
Esker	566	515	515	100%	99%	96%
Mount Lucas	1218	824	824	100%	99%	97%
Ummeras	302	238	238	100%	98%	95%
Derrycashel	384	358	355	99%	98%	98%
Derrycolumb	461	403	403	100%	100%	98%
Edera	282	250	250	100%	100%	97%
Total	10909	8204	8009	98%	94%	91.0%

Table 4.1: Rehabilitation Completed on EDRRS Year 1 Bogs at the end of March 2023

Appendix A3: Summary - EDRRS Year 1 Rehabilitation (Rehab Methodologies)

Bog Name Year 1 Bogs	Rehabilitation Methodologies complete on Year 1 Bogs at End March 2023 (Hectares)																		
	DPT1	DPT2	DPT3	DPT4	DPT5	DPT6	DCT1	DCT2	DCT3	WLT1	WLT2	WLT3	WLT4	WLT5	MLT1	MLT2	AWT1	AWT2	Total
Belmont	0	5	0	40	6	0	8	48	0	0	13	8	106	0	28	3	0	2	266
Garryduff	0	13	0	5	27	0	0	69	0	0	344	46	284	0	63	14	0	0	865
Kellysgrove	0	105	0	0	0	0	0	0	0	0	0	0	0	0	27	0	0	0	132
Kilmacshane	0	37	0	57	0	0	16	117	0	0	401	158	271	0	107	11	0	0	1173
Boora	0	17	0	57	0	0	120	14	0	0	0	84	113	0	30	0	123	38	596
Derries	0	4	0	3	3	0	112	48	0	0	147	5	0	0	30	0	0	5	359
Oughter	0	0	0	0	0	0	15	36	0	0	14	21	124	0	27	6	0	0	242
Pollagh	0	0	7	72	5	0	0	42	0	0	2	15	87	0	17	0	0	0	246
Turraun	0	0	0	0	0	0	0	89	0	0	38	6	185	1	66	0	0	0	385
Castlegar	23	59	100	92	28	0	0	11	0	0	0	0	0	0	54	1	0	1	370
Cavemount	0	0	0	17	0	0	5	39	0	0	7	243	43	0	39	0	0	28	420
Clonad	0	0	0	41	8	0	0	83	0	0	0	2	188	0	33	14	0	0	370
Esker	0	0	160	117	45	0	11	54	0	0	0	35	54	0	38	3	0	0	515
Mountlucas	0	0	33	25	38	0	0	64	0	4	0	21	75	0	58	0	273	232	824
Ummeras	0	11	0	113	22	0	6	29	0	0	6	1	17	0	33	0	0	0	238
Derrycashel	0	0	0	0	0	0	0	67	0	5	175	0	50	0	0	42	0	16	355
Derrycolumb	0	10	71	40	5	0	0	76	0	0	43	20	97	0	41	0	0	0	403
Edera	0	1	51	59	18	0	0	10	10	0	0	0	42	7	51	0	0	0	250
Total Area (Ha)	23	263	422	739	205	0	292	896	10	9	1191	664	1735	8	741	94	396	322	8009
% Rehab Methodology	0%	3%	5%	9%	3%	0%	4%	11%	0%	0%	15%	8%	22%	0%	9%	1%	5%	4%	

Table 4.2: Rehabilitation measures completed on Year 1 Bogs at the end of March 2023.

Appendix A4: Summary - EDRRS Year 2 Rehabilitation (Hectares)

Year 2 (FY23 Bogs)							
Bog Name (Year 2 Bogs)	Area of Bog Hectares	Total Area to be rehabilitated in Year 2 (submitted to and approved by NPWS) Hectares	Total Area to be rehabilitated (incorporating amendments post commencement) Hectares	Total Area Rehabilitated at end March 2023) Hectares	Total Area Rehabilitated at end Mar 2023 % of Year 2 Total	Work Content Completed End of Mar 2023 (Sphagnum and Fertiliser excluded) % of Year 2 Work Content	Work Content Completed End of March 2023 (Sphagnum and Fertiliser included) % of Year 2 Work Content
Bunahinly	393	176	179	145	81%	78%	74%
Clooneeny	389	336	336	304	91%	89%	84%
Killaranny	244	186	186	178	96%	100%	95%
Begnagh	264	256	256	251	98%	98%	93%
Carranstown	305	216	216	201	93%	88%	83%
Derrinboy	308	264	263	230	87%	84%	79%
Prosperous	217	205	205	200	98%	97%	91%
Lodge	417	365	365	305	84%	88%	84%
Derraghan	289	283	279	200	71%	69%	67%
Clooncreen	1011	783	760	675	89%	84%	83%
Timahoe South (Year 2)	1130	469	472	79	17%	22%	21%
Bloomhill (Year 2)	889	216	216	207	96%	82%	78%
Derryfadda (Year 2)	1111	74	74	69	94%	91%	86%
Glenlough	335	327	324	291	90%	68%	68%
Noggusboy	536	444	440	434	99%	99%	96%
Derrybrat	177	147	147	145	99%	99%	99%
Knappogue	314	295	295	289	98%	85%	84%
Ballycon	281	248	248	246	99%	86%	86%
Blackwater	2314	548	548	510	93%	98%	96.0%
Clooniff	531	508	477	469	98%	98%	95%
Total	11455	6345	6285	5428	86.4%	81.4%	77.8%

Table 4.3: Rehabilitation Completed on EDRRS Year 2 Bogs at the end of March 2023

Appendix A5: Summary - EDRRS Year 2 Rehabilitation (Rehab Methodologies)

Bog Name Year 2 Bogs	Rehabilitation Methodologies complete on Year 2 Bogs at End March 2023 (Hectares)																		
	DPT1	DPT2	DPT3	DPT4	DPT5	DPT6	DCT1	DCT2	DCT3	WLT1	WLT2	WLT3	WLT4	WLT5	MLT2	AWT2	MLT1	AWT1	Total
Bunahinly		1		107	2			18									17		145
Clooneeny		7	6	102			1	100	6			20	29		1	8	24		304
Killaranny		6		77				18					22			22	34		178
Begnagh		15		100			1	63			6	9	34				22		251
Carranstown		38		115				17					4				27		201
Derrinboy		5		156				26					14			7	22		230
Prosperous				136				9							25	7	23		200
Lodge		2		91				55			16		91		6	24	21		305
Derraghan		2		20			7	14			18	2	72			56	9		200
Clooncreen				2			60	197			9		365		3		38		675
Timahoe South (Phase 1)				46											25		7		79
Bloomhill (Phase 1)		16		79				15			26		22		4	10	37		207
Derryfadda (Phase 1)		3		37	4			1				3					21		69
Glenlough		214				18										51	7		291
Noggusboy				13			20	166			98	15	66		10	15	28	3	434
Derrybrat		8					8	23			11	24	3		5	52	10		145
Knappogue								56			99	5	57		13	39	21		289
Ballycon		8					11	12			88					114	12		246
Blackwater				24				76			129	44	189			24	25		510
Clooniff			71	35				45				209	71		5		33		469
Total Area (Ha)	0	325	77	1140	7	18	109	911	6	0	500	332	1037	0	96	428	438	3	5428
% Rehab Methodology	0%	6%	1%	21%	0%	0%	2%	17%	0%	0%	9%	6%	19%	0%	2%	8%	8%	0%	

Table 4.4: Rehabilitation measures completed on EDRRS Year 2 Bogs at the end of March 2023

Appendix A6: Bogs rehabilitated or currently scheduled for rehabilitation

EDRRS Bogs Identified to Date			
Bog Name	Year of Commencement of Rehabilitation	Total Area to be rehabilitated (<i>Hectares</i>)	Total Area Rehabilitated at end March 2023 (<i>Hectares</i>)
Belmont	Year 1 Bog	274	266
Garryduff	Year 1 Bog	865	865
Kellysgrove	Year 1 Bog	132	132
Kilmacshane	Year 1 Bog	1207	1173
Boora Bog	Year 1 Bog	660	596
Derries	Year 1 Bog	359	359
Oughter	Year 1 Bog	295	242
Pollagh	Year 1 Bog	264	246
Turraun	Year 1 Bog	385	385
Castlegar	Year 1 Bog	371	370
Cavemount	Year 1 Bog	429	420
Clonad	Year 1 Bog	370	370
Esker	Year 1 Bog	515	515
Mount Lucas	Year 1 Bog	824	824
Ummeras	Year 1 Bog	238	238
Derrycashel	Year 1 Bog	358	355
Derrycolumb	Year 1 Bog	403	403
Edera	Year 1 Bog	250	250
Bunahinly	Year 2 Bog	179	145
Clooneeny	Year 2 Bog	336	304
Killaranny	Year 2 Bog	186	178
Begnagh	Year 2 Bog	256	251
Carranstown	Year 2 Bog	216	201
Derrinboy	Year 2 Bog	263	230
Prosperous	Year 2 Bog	205	200
Lodge	Year 2 Bog	365	305
Derraghan	Year 2 Bog	279	200
Cloonreen	Year 2 Bog	760	675
Timahoe South	Year 2 and Year 3 Bog	865	79
Bloomhill	Year 2 and Year 3 Bog	421	207
Derryfadda	Year 2 and Year 3 Bog	185	69
Glenlough	Year 2 Bog	324	291
Noggusboy	Year 2 Bog	440	434
Derrybrat	Year 2 Bog	147	145
Knappogue	Year 2 Bog	295	289
Ballycon	Year 2 Bog	248	246
Blackwater	Year 2 Bog	548	510
Clooniff	Year 2 Bog	477	469
Kilgarvan	Year 3 and Year 4 Bog	181	Post March 2023
Derryshannoge	Year 3 Bog	390	Post March 2023
Ballaghurt	Year 3 and Year 4 Bog	535	Post March 2023
Glebe	Year 3 Bog	108	Post March 2023
Daingean_Derries	Year 3 and Year 4 Bog	255	Post March 2023
Daingean Rathdrum	Year 3 Bog	270	Post March 2023
Bracklin West	Year 3 Bog	151	Post March 2023
Derrarogue (Phase 1)	Year 3 Bog	320	Post March 2023
Derryadd East	Year 3 Bog	320	Post March 2023
Drinagh Phase 1	Year 3 Bog	315	Post March 2023
Corlea	Year 3 Bog	140	Post March 2023
Clynan	Year 3 Bog	332	Post March 2023
Lisclogher West	Year 3 Bog	208	Post March 2023
Tirrur-Derrymore	Year 3 Bog	262	Post March 2023
Mostrim	Year 3 Bog	426	Post March 2023
Killeglan	Year 3 Bog	553	Post March 2023
Additional Year 4 Bogs (provisional)	Year 4 Bogs	3629	Post March 2024
Total Hectares		23590	13437

Appendix B

Rehabilitation Details by Bog

Appendix B1:	Bunahinly Bog
Appendix B2:	Clooneeny Bog
Appendix B3:	Killaranny Bog
Appendix B4:	Begnagh Bog
Appendix B5:	Carranstown Bog
Appendix B6:	Derrinboy Bog
Appendix B7:	Prosperous Bog
Appendix B8:	Lodge Bog
Appendix B9:	Derraghan Bog
Appendix B10:	Cloncreen Bog
Appendix B11:	Timahoe South Bog
Appendix B12:	Bloomhill Bog
Appendix B13:	Derryfadda Bog
Appendix B14:	Glenlough Bog
Appendix B15:	Noggusboy Bog
Appendix B16:	Derrybrat Bog
Appendix B17:	Knappoge Bog
Appendix B18:	Ballycon Bog
Appendix B19:	Blackwater Bog
Appendix B20:	Clooniff Bog

Appendix B – Rehabilitation Details by Bog

Appendix B1 - Bunahinly Bog

Bunahinly Bog Overview

Table 4.1 Summary of Bunahinly Rehabilitation Measures

Drg. No BNM-DR-23-09-01: Bunahinly Bog Site Location Plan

Drg. No BNM-DR- 23-09-GP01-REVA: Proposed Measures (approved prior to rehab commencement)

Sample Photographs of Bunahinly Rehabilitation Measures

Bunahinly

Bunahinly Bog is located 1km south of Athlone in Co. Westmeath and adjacent to the River Shannon. For the purpose of the rehabilitation plan and design package Bunahinly was assessed with an adjacent bog Kilgarvan, located to the south of Bunahinly. The area of the bog is 189 hectares. Industrial Peat extraction at Bunahinly-Kilgarvan commenced in the 1990's and ceased in 2018. Further information on the bog is available in the Bunahinly-Kilgarvan Bog Cutaway Bog Decommissioning and Rehabilitation Plan 2022.

A package of documents and drawings was submitted to NPWS in December 2021 setting out the proposals for the rehabilitation of Bunahinly and Kilgarvan Bogs and these proposed measures and associated cost estimate were subsequently approved by NPWS. The proposed rehabilitation of Bunahinly Bog is set out below and mainly consists of Deep Peat, Dry Cutaway and Wetland rehabilitation methodologies.

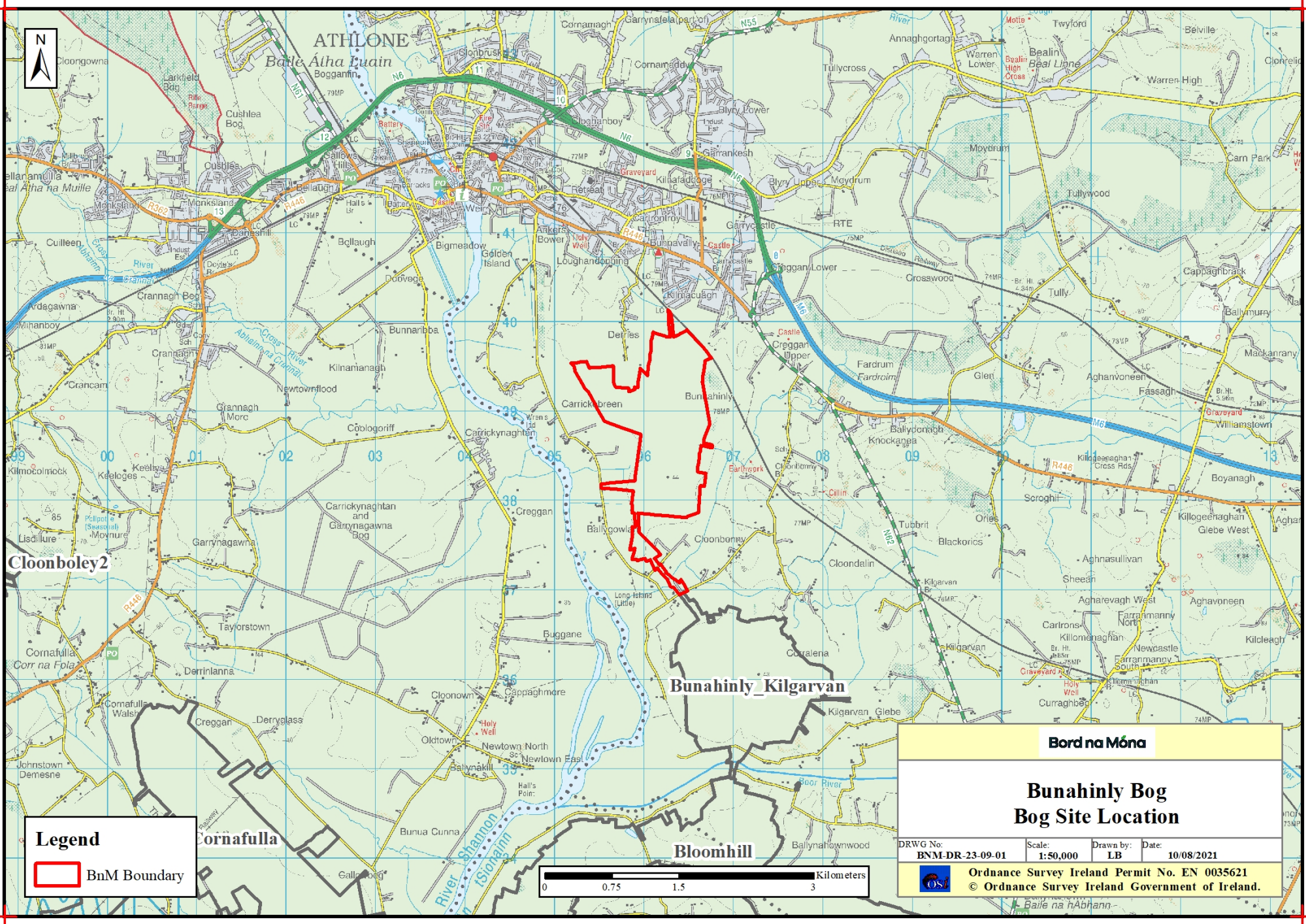
The Appropriate Assessment screening for Bunahinly Bog concluded that there was a likelihood of significant effects to 5 relevant European Sites because of the proposed project, either alone or in combination with other plans or projects. An Appropriate Assessment was therefore required in respect of the River Shannon Callows SAC, the River Suck Callows SPA, Middle Shannon Callows SPA, Mongan Bog SPA and Lough Ree SPA.

A Natura Impact Statement (NIS) was subsequently prepared by third party consultants and this document was issued to the Minister for observations and was also issued for public consultation. No observations were received from the public consultation process. Observations were received from the Minister and these were considered by Bord na Móna. Following this, it was determined on May 24th 2022 that "in view of the best scientific knowledge and the site's conservation objectives, that the proposed Project, individually or in combination with other plans or projects, would not adversely affect the integrity of any European site."


The design package for Bunahinly was formally approved by the National Parks and Wildlife Service (NPWS) on February 25th, 2022 and rehabilitation commenced in June 2022.

Bog	Rehabilitation Methodology (by hectare)																		Total Area (Hectares)
Bunahinly Bog	DPT1	DPT2	DPT3	DPT4	DPT5	DPT6	DCT1	DCT2	DCT3	WLT1	WLT2	WLT3	WLT4	WLT5	MLT1	MLT2	AWT1	AWT2	
Design Rehab Methodologies submitted to and approved by NPWS (year 2 and Year 3 rehab:Bunahinly and Kilgarvan)	0.0	4.5	0.0	265.0	0.0	0.0	1.4	42.0	0.0	0.0	0.0	0.0	2.9	0.0	38.1	0.0	0.0	28.9	382.8
Design Rehab Methodologies submitted to and approved by NPWS (Year 2 Rehab only - Bunnahinly)	0.0	3.3	0.0	110.5	0.0	0.0	0.0	19.1	0.0	0.0	0.0	0.0	0.0	0.0	18.4	0.0	0.0	25.0	176.3
Design Rehab Methodologies incorporating amendments post commencement (Year 2 Rehab)	0.0	1.6	0.0	108.2	2.3	0.0	0.0	18.0	0.0	0.0	0.0	0.0	0.0	0.0	24.2	0.0	0.0	25.0	179.2
Rehab Methodologies completed at end Mar 2023	0.0	1.2	0.0	106.9	2.3	0.0	0.0	18.0	0.0	0.0	0.0	0.0	0.0	0.0	16.6	0.0	0.0	0.0	145.0
Percentage area rehabilitated (Year 2 Rehab) @ end March 2023																			80.9%
Percentage Work Content completed (Year 2 Rehab) @ end March 2023																			78.4%

Table 4.1 Summary of Bunahinly Rehabilitation




Legend

 BnM Boundary

Bord na Móna

**Bunahinly Bog
Bog Site Location**

DRWG No: BNM-DR-23-09-01	Scale: 1:50,000	Drawn by: LB	Date: 10/08/2021
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Rehab Measures

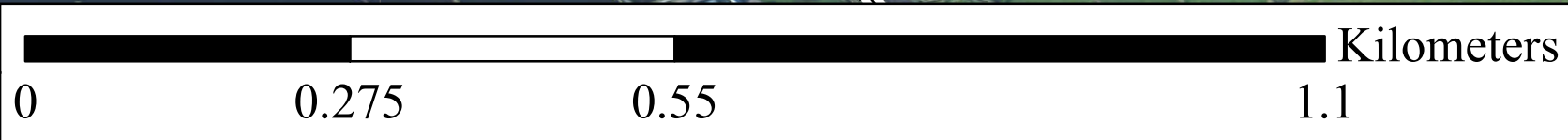
- Proposed Drain Blocks
- Berms
- Bunded Cells

Rehab Type

- Additional Work 2
- Constraint
- Dry Cutaway 2
- Deep Peat Cutaway 2
- Deep Peat Cutaway 4
- Marginal Land 1
- Silt Pond

Bog Assets

- Production Centres
- Proposed Piezometer Locations
- SW Discharge Locations
- Railway Line (To Be Lifted)
- Highfields
- BnM Boundary



Peatlands Climate Action Scheme

Bunahinly Bog

Proposed Measures - Site Layout Plan

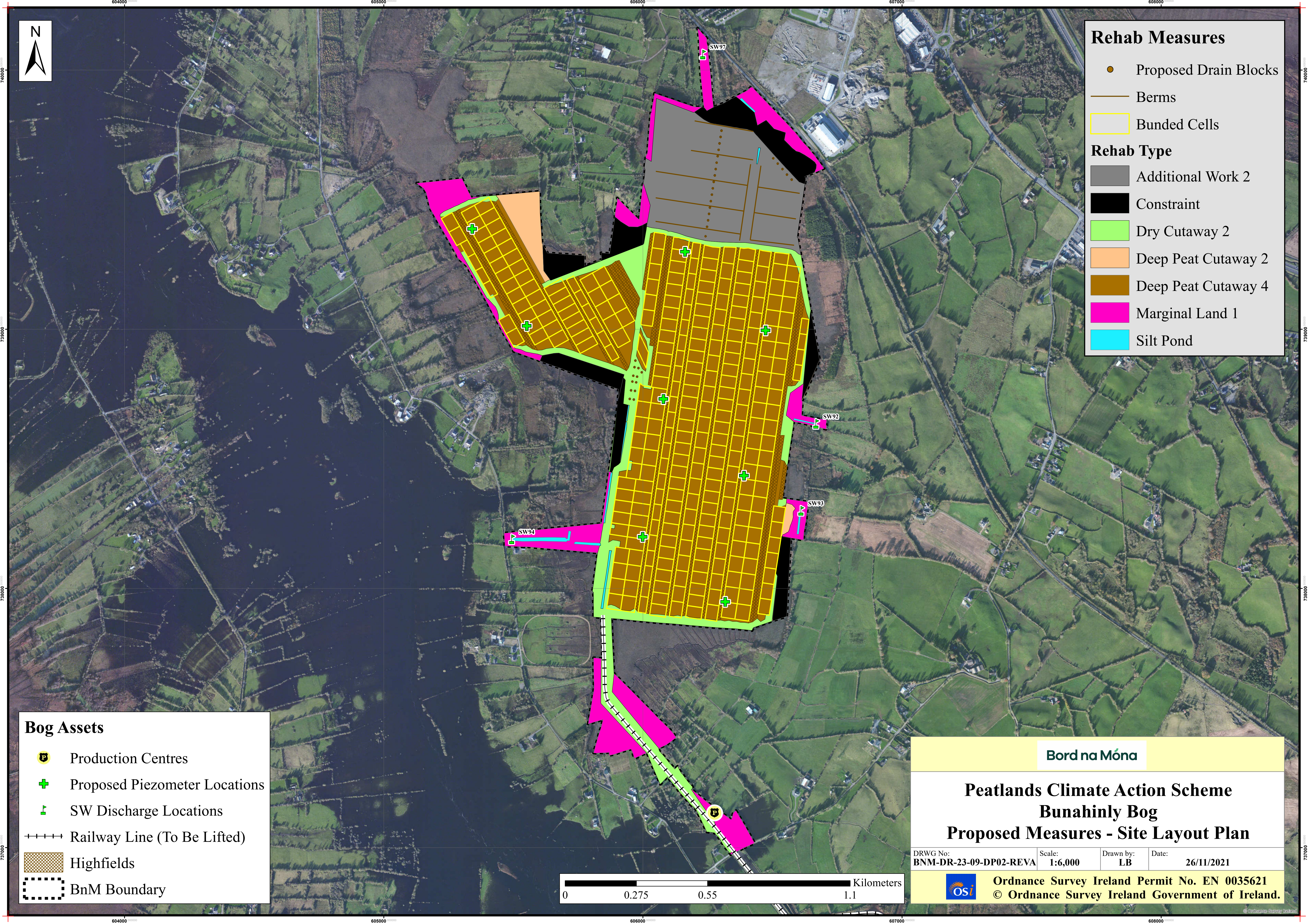
DRWG No:
BNM-DR-23-09-DP02-REVA

Scale:
1:6,000

Drawn by:
LB

Date:
26/11/2021

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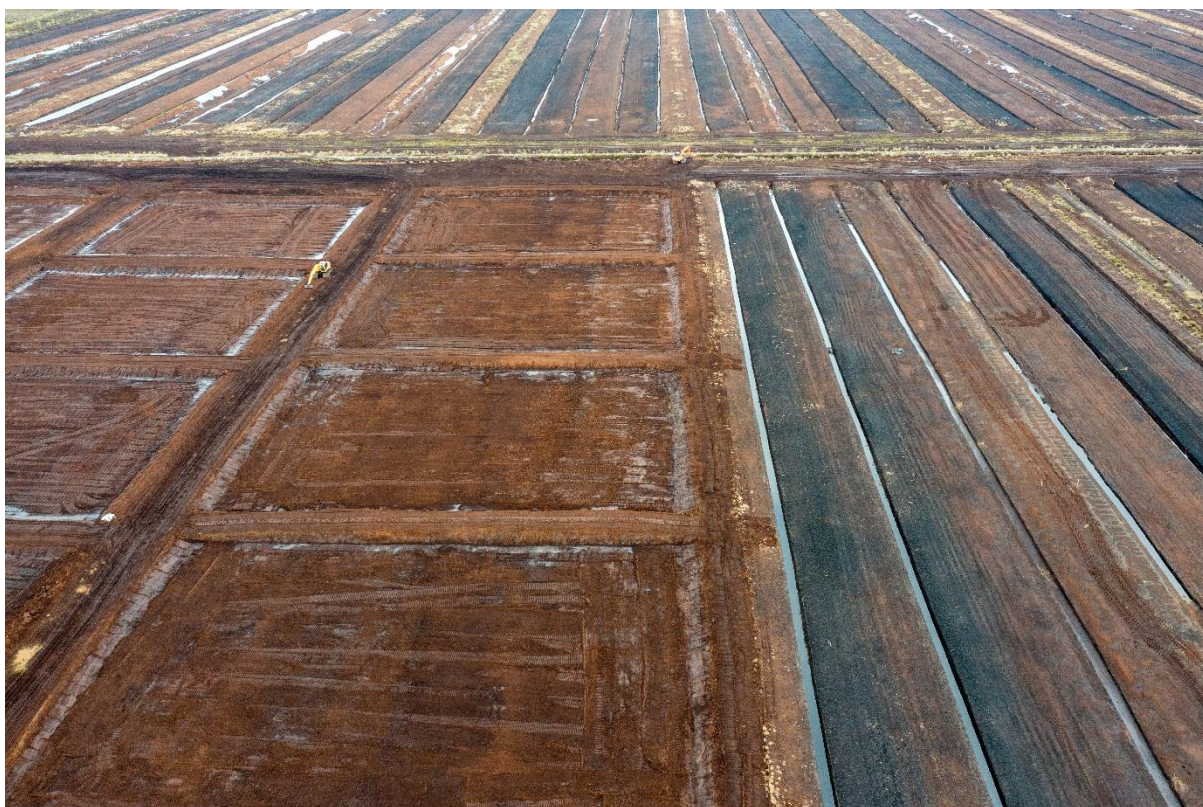


Plate B1.1: Bunahinly Bog rehabilitation measures - April 2023



Plate B1.2: Bunahinly Bog rehabilitation measures - December 2022

Appendix B2 - Clooneeny Bog

Clooneeny Bog Overview

Table 4.2 Summary of Clooneeny Rehabilitation Measures

Drg. No. BNM-DR-23-06-01: Clooneeny Bog Site Location Plan

Drg No BNM-DR-23-06-DP02: Proposed Measures (approved prior to rehab commencement)

Sample Photographs of Clooneeny Rehabilitation Measures

Clooneeny

Clooneeny Bog is located approximately 5km to the west of Longford Town, Co. Longford. The area of the bog is 389 hectares. Clooneeny Bog was drained and developed for industrial peat production in the 1980s and was in active peat production from 1985 until industrial peat production ceased in 2018. Further information on the bog is available in the Clooneeny Bog Cutaway Bog Decommissioning and Rehabilitation Plan 2022.

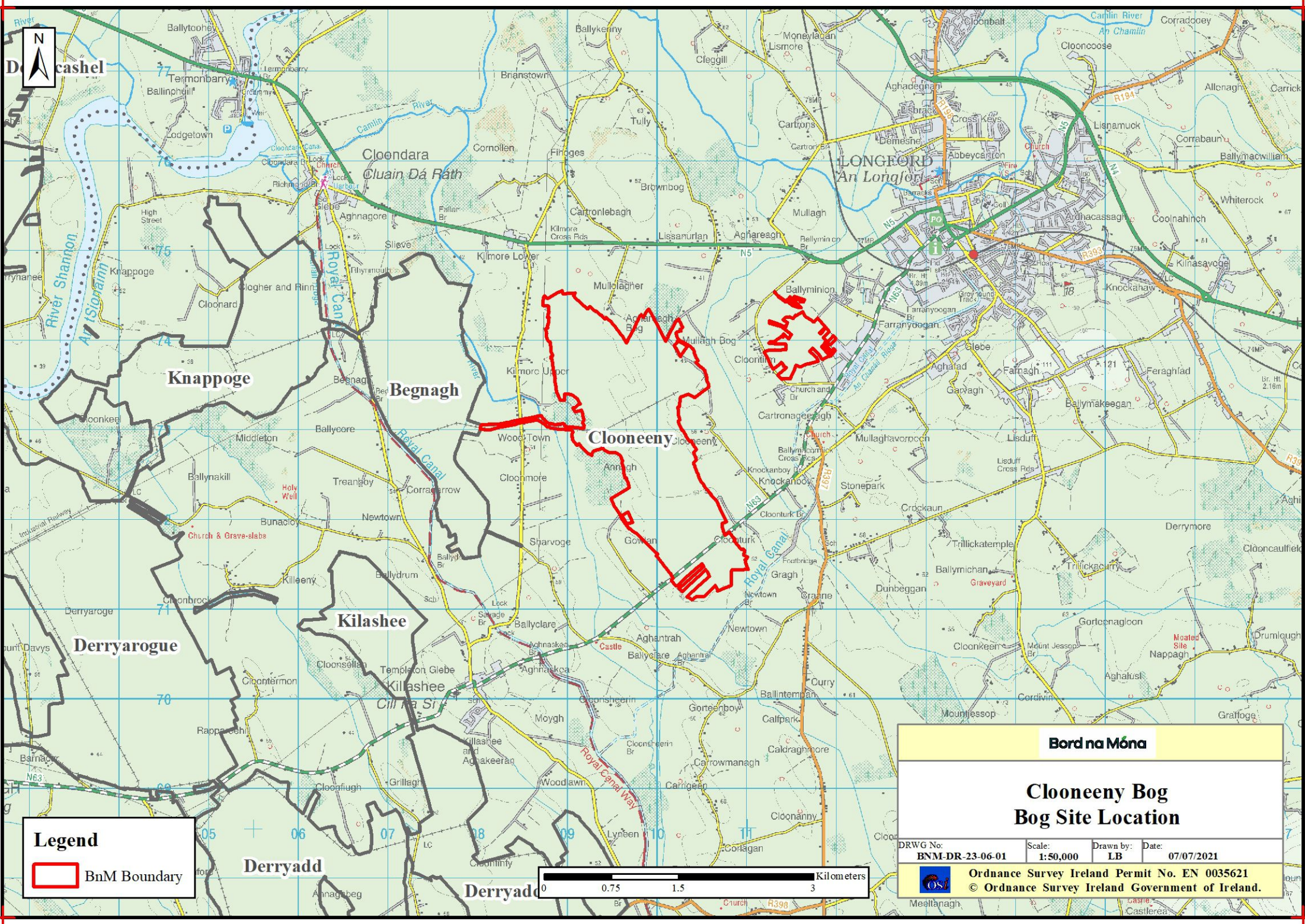
A package of documents and drawings was submitted to NPWS in December 2021 setting out the proposals for the rehabilitation of Clooneeny Bog and these proposed measures and associated cost estimate was approved by NPWS. The proposed rehabilitation of Clooneeny Bog is set out below and mainly consists of Deep Peat, Dry Cutaway and Wetland rehabilitation methodologies.

The Appropriate Assessment screening for Clooneeny Bog held on February 3rd, 2022 concluded that there was no likelihood of significant effects to European Sites because of the proposed project, either alone or in-combination with other plans or projects. Therefore, the potential for significant effects on relevant European Sites has been excluded and have been 'Screened Out' from the Appropriate Assessment process and no Appropriate Assessment is required for these European Sites.


The design package for Clooneeny was formally approved by the National Parks and Wildlife Service (NPWS) on February 17th, 2022 and rehabilitation commenced in June 2022.

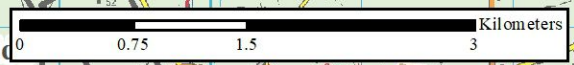
	Rehabilitation Methodology (by hectare)																		Total Area (Hectares)
Clooneeny Bog	DPT1	DPT2	DPT3	DPT4	DPT5	DPT6	DCT1	DCT2	DCT3	WLT1	WLT2	WLT3	WLT4	WLT5	MLT1	MLT2	AWT1	AWT2	
Design Rehab Methodologies submitted to and approved by NPWS	0.0	17.6	6.3	103.8	0.0	0.0	1.0	102.9	6.7	0.0	0.0	21.3	29.3	0.0	32.1	0.6	0.0	14.0	335.6
Design Rehab Methodologies incorporating amendments post commencement	0.0	18.5	6.3	105.7	0.0	0.0	1.0	99.5	6.2	0.0	0.0	19.7	27.9	0.0	32.1	0.6	0.0	18.2	335.6
Rehab Methodologies completed at end Mar 2023	0.0	7.0	6.3	101.8	0.0	0.0	1.0	99.8	6.2	0.0	0.0	19.7	29.2	0.0	24.4	0.6	0.0	7.9	303.8
Percentage area rehabilitated @ end March 2023																			91.0%
Percentage Work Content completed @ end March 2023																			88.8%

Table 4.2 Summary of Clooneeny Rehabilitation



Legend


 BnM Boundary



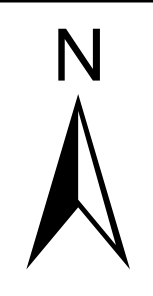
Bord na Móna

**Clooneeny Bog
Bog Site Location**

DRWG No:	Scale:	Drawn by:	Date:
BNM-DR-23-06-01	1:50,000	LB	07/07/2021



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Rehab Measures

- Proposed Drain Blocks
- Berms
- Bunded Cells

Rehab Type

- Additional Work 2
- Constraint
- Dry Cutaway 1
- Dry Cutaway 2
- Dry Cutaway 3
- Deep Peat Cutaway 2
- Deep Peat Cutaway 3
- Deep Peat Cutaway 4
- Marginal Land 1
- Marginal Land 2
- Silt Pond
- Wetland 3
- Wetland 4

Bog Assets

- Production Centres
- Proposed Piezometer Locations
- SW Discharge Locations
- Railway Line (To Be Lifted)
- Highfields
- BnM Boundary



Bord na Móna

Peatlands Climate Action Scheme Clooneeny Bog Proposed Measures - Site Layout Plan

DRWG No:
BNM-DR-23-06-DP02

Scale:
1:7,000

Drawn by:
LB

Date:
01/12/2021

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Plate B2.1: Clooneeny Bog rehabilitation measures - December 2022



Plate B2.2: Clooneeny Bog rehabilitation measures - December 2022

Appendix B3 - Killaranny Bog

Killaranny Bog Overview

Table 4.3 Summary of Killaranny Rehabilitation Measures

Drg. No BNM-DR-23-02-01: Killaranny Bog Site Location Plan

Drg No BNM-DR-23- 02-DP02: Proposed Measures (approved prior to rehab commencement)

Sample Photographs of Killaranny Rehabilitation Measures

Killaranny

Killaranny Bog is located approximately 7km west of Tullamore, Co. Offaly. The area of the bog is 244 hectares. Killaranny Bog was drained and developed for industrial peat production in the early 1980s and was in active peat production from the early 1980's until industrial peat production ceased in 2020. Further information on the bog is available in the Killaranny Bog Cutaway Bog Decommissioning and Rehabilitation Plan 2022.

A package of documents and drawings was submitted to NPWS in December 2021 setting out the proposals for the rehabilitation of Killaranny Bog and these proposed measures and associated cost estimate was approved by NPWS. The proposed rehabilitation of Killaranny Bog is set out below and mainly consists of Deep Peat, Dry Cutaway and Wetland rehabilitation methodologies.

The Appropriate Assessment screening for Killaranny Bog held on February 10th, 2022 concluded that there was no likelihood of significant effects to European Sites because of the proposed project, either alone or in-combination with other plans or projects. Therefore, the potential for significant effects on relevant European Sites has been excluded and have been 'Screened Out' from the Appropriate Assessment process and no Appropriate Assessment is required for these European Sites.

The design package for Killaranny was formally approved by the National Parks and Wildlife Service (NPWS) on March 4th, 2022 and rehabilitation commenced in April 2022.

	Rehabilitation Methodology (by hectare)																		Total Area (Hectares)
Killaranny Bog	DPT1	DPT2	DPT3	DPT4	DPT5	DPT6	DCT1	DCT2	DCT3	WLT1	WLT2	WLT3	WLT4	WLT5	MLT1	MLT2	AWT1	AWT2	
Design Rehab Methodologies submitted to and approved by NPWS	0.0	2.6	0.0	81.9	0.0	0.0	0.0	17.2	0.0	0.0	0.0	0.0	21.0	0.0	41.2	0.0	0.0	22.3	186.2
Design Rehab Methodologies incorporating amendments post commencement	0.0	5.6	0.0	76.8	0.0	0.0	0.0	18.1	0.0	0.0	0.0	0.0	21.6	0.0	41.2	0.0		22.3	185.5
Rehab Methodologies completed at end Mar 2023		5.6		76.8				18.1					21.6		34.0			22.3	178.3
Percentage area rehabilitated @ end March 2023																			96.1%
Percentage Work Content completed @ end March 2023																			98.1%

Table 4.3 Summary of Killaranny Rehabilitation



Lemanaghan

Pollagh/Cornalaur

Turraun

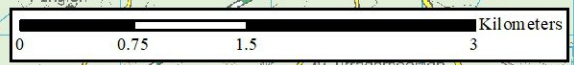
Oughter

Killaranny

Boora

Legend


 BnM Boundary

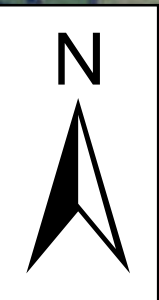


Bord na Móna

**Killaranny Bog
Bog Site Location**

DRWG No:	Scale:	Drawn by:	Date:
BNM-DR-23-02-01	1:50,000	LB	07/07/2021

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Rehab Measures

- Proposed Drain Blocks
- Berms
- Bunded Cells

Rehab Type

- Additional Work 2
- Constraint
- Dry Cutaway 2
- Deep Peat Cutaway 2
- Deep Peat Cutaway 4
- Marginal Land 1
- Silt Pond
- Wetland 4

Bog Assets

- Proposed Piezometer Locations
- SW Discharge Locations
- Railway Line (To Be Lifted)
- Highfields
- BnM Boundary



Bord na Móna

Peatlands Climate Action Scheme

Killaranny Bog

Proposed Measures - Site Layout Plan

DRWG No:
BNM-DR-23-02-DP02

Scale:
1:5,000

Drawn by:
LB

Date:
06/12/2021

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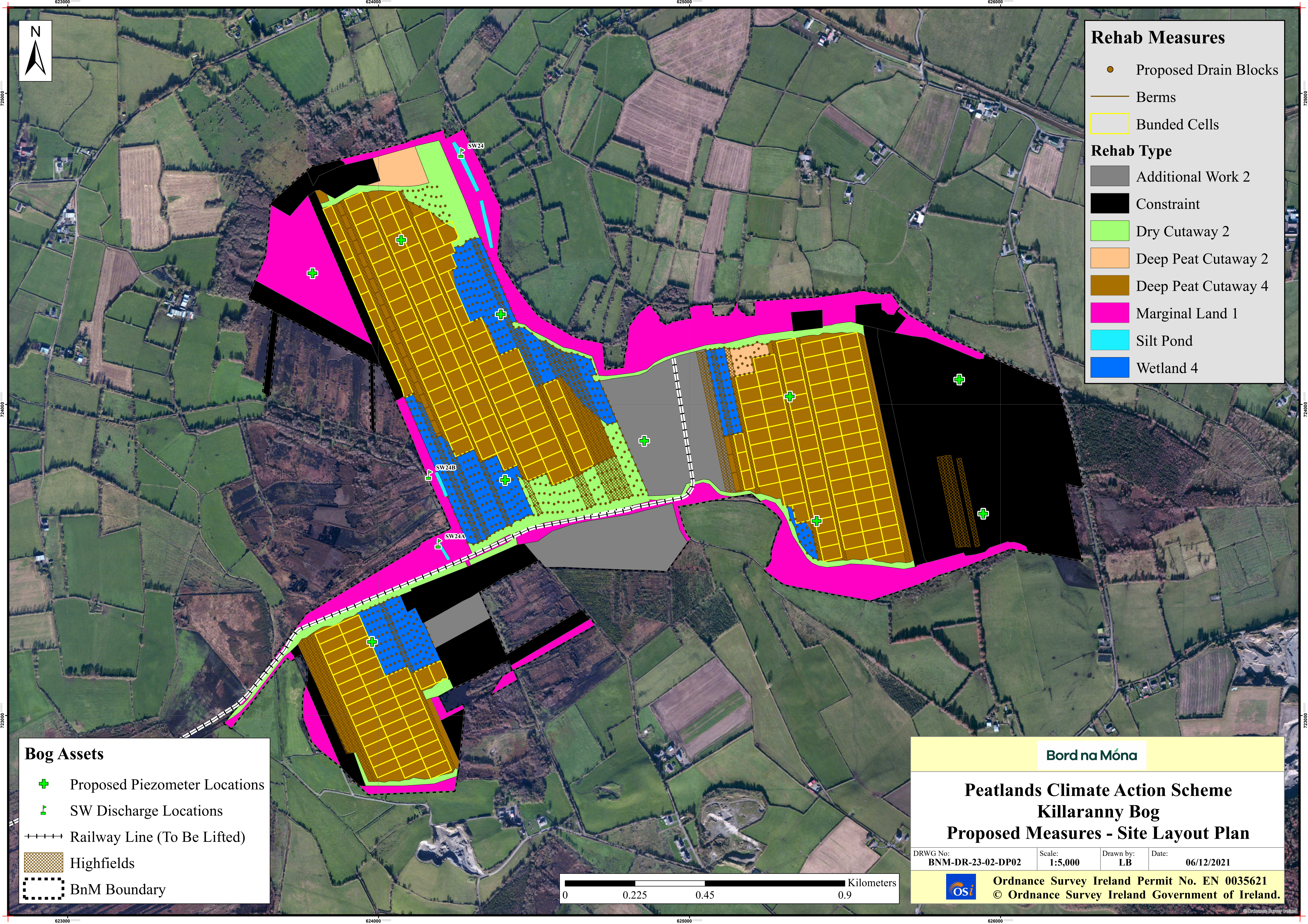




Plate B3.1: Killaranny Bog rehabilitation measures - September 2022



Plate B3.2: Killaranny Bog rehabilitation measures - September 2022

Appendix B4 - Begnagh Bog

Begnagh Bog Overview

Table 4.4 Summary of Begnagh Rehabilitation Measures

Drg. No BNM-23-05-01: Begnagh Bog Site Location Map

Drg No BNM-DR-23-05-DP02: Proposed Measures (approved prior to rehab commencement)

Sample Photographs of Begnagh Rehabilitation Measures

Begnagh

Begnagh Bog is located adjacent to the south of the N5, 1.2km southeast of Cloondara and 5km west-southwest of Longford town in Co. Longford. The area of the bog is 265 hectares. Begnagh Bog was drained and developed for industrial peat production in 1977 and was in active peat production until industrial peat production ceased in 2020. Further information on the bog is available in the Begnagh Bog Cutaway Bog Decommissioning and Rehabilitation Plan 2022.

A package of documents and drawings was submitted to NPWS in December 2021 setting out the proposals for the rehabilitation of Begnagh Bog and these proposed measures and associated cost estimate was approved by NPWS. The proposed rehabilitation of Begnagh Bog is set out below and mainly consists of Deep Peat, Dry Cutaway and Wetland rehabilitation methodologies.

The Appropriate Assessment screening for Begnagh Bog held on February 3rd, 2022 concluded that there was no likelihood of significant effects to European Sites because of the proposed project, either alone or in-combination with other plans or projects. Therefore, the potential for significant effects on relevant European Sites has been excluded and have been 'Screened Out' from the Appropriate Assessment process and no Appropriate Assessment is required for these European Sites.

The design package for Begnagh Bog was formally approved by the National Parks and Wildlife Service (NPWS) on February 25th , 2022 and rehabilitation commenced in April 2022.

	Rehabilitation Methodology (by hectare)																		Total Area (Hectares)
Begnagh Bog	DPT1	DPT2	DPT3	DPT4	DPT5	DPT6	DCT1	DCT2	DCT3	WLT1	WLT2	WLT3	WLT4	WLT5	MLT1	MLT2	AWT1	AWT2	
Design Rehab Methodologies submitted to and approved by NPWS	0.0	8.4	0.0	105.4	0.0	0.0	1.8	63.7	0.0	0.0	5.6	9.1	35.0	0.0	26.4	0.0	0.0	0.0	255.5
Design Rehab Methodologies incorporating amendments post commencement	0.0	14.9	0.0	100.2	0.0	0.0	1.8	63.3	0.0	0.0	5.6	9.1	34.1	0.0	26.4	0.0	0.0	0.0	255.5
Rehab Methodologies completed at end Mar 2023	0.0	14.9	0.0	100.2	0.0	0.0	1.5	63.3	0.0	0.0	5.6	9.1	34.1	0.0	21.8	0.0	0.0	0.0	250.5
Percentage area rehabilitated @ end March 2023																			98.0%
Percentage Work Content completed @ end March 2023																			98.1%

Table 4.4 Summary of Begnagh Rehabilitation



Cloonshannagh Rail Link

Cloonmore

Granaghan Derrycashel

Mountdillon

Knappoge

Begnagh

Clooneeny

Derryarogue

Kilashee


Derryadd2

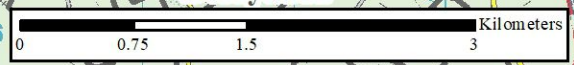
Derryadd6


Bord na Móna

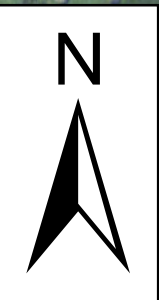
Begnagh Bog
Bog Site Location

Legend

 BnM Boundary



Bord na Móna			
Begnagh Bog Bog Site Location			
DRWG No: BNM-DR-23-05-01	Scale: 1:50,000	Drawn by: LB	Date: 07/07/2021
 Ordnance Survey Ireland Permit No. EN 0035621 © Ordnance Survey Ireland Government of Ireland.			



Rehab Measures

- Proposed Drain Blocks
 - Berms
 - Bunded Cells
- ## Rehab Type
- Constraint
 - Dry Cutaway 1
 - Dry Cutaway 2
 - Deep Peat Cutaway 2
 - Deep Peat Cutaway 4
 - Marginal Land 1
 - Silt Pond
 - Wetland 2
 - Wetland 3
 - Wetland 4

Bog Assets

- Production Centres
- Proposed Piezometer Locations
- SW Discharge Locations
- Railway Line (To Be Lifted)
- Highfields
- BnM Boundary

Bord na Móna

Peatlands Climate Action Scheme Begnagh Bog Proposed Measures - Site Layout Plan

DRWG No: BNM-DR-23-05-DP02	Scale: 1:7,000	Drawn by: LB	Date: 01/12/2021
Ordinance Survey Ireland Permit No. EN 0035621 © Ordnance Survey Ireland Government of Ireland.			

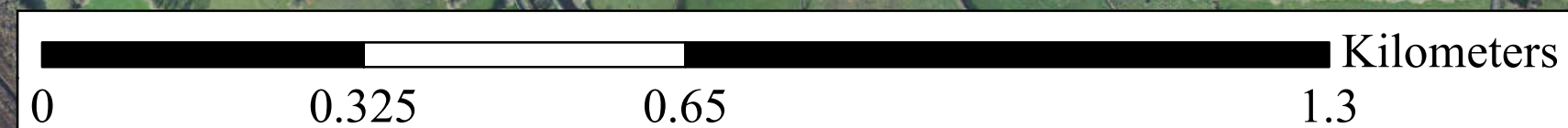




Plate B4.1: Begnagh Bog rehabilitation measures – Spring 2023



Plate B4.2: Begnagh Bog rehabilitation measures - December 2022

Appendix B5 - Carranstown Bog

Carranstown Bog Overview

Table 4.5 Summary of Carranstown Rehabilitation Measures

Drg. No BNM-DR-23-20-01: Carranstown Bog Site Location Plan

Drg No BNM-DR-23-20-DP02: Proposed Measures (approved prior to rehab commencement)

Sample Photographs of Carranstown Rehabilitation Measures

Carranstown

Carranstown Bog is located approximately 5 km east of Raharney in Co Westmeath along the R156 Raharney to Ballivor Road. The area of the bog is 306 hectares. Carranstown Bog was drained and developed for industrial peat production in 1950 and was in active peat production until industrial peat production ceased in 2020. Further information on the bog is available in the Carranstown Bog Cutaway Bog Decommissioning and Rehabilitation Plan 2022.

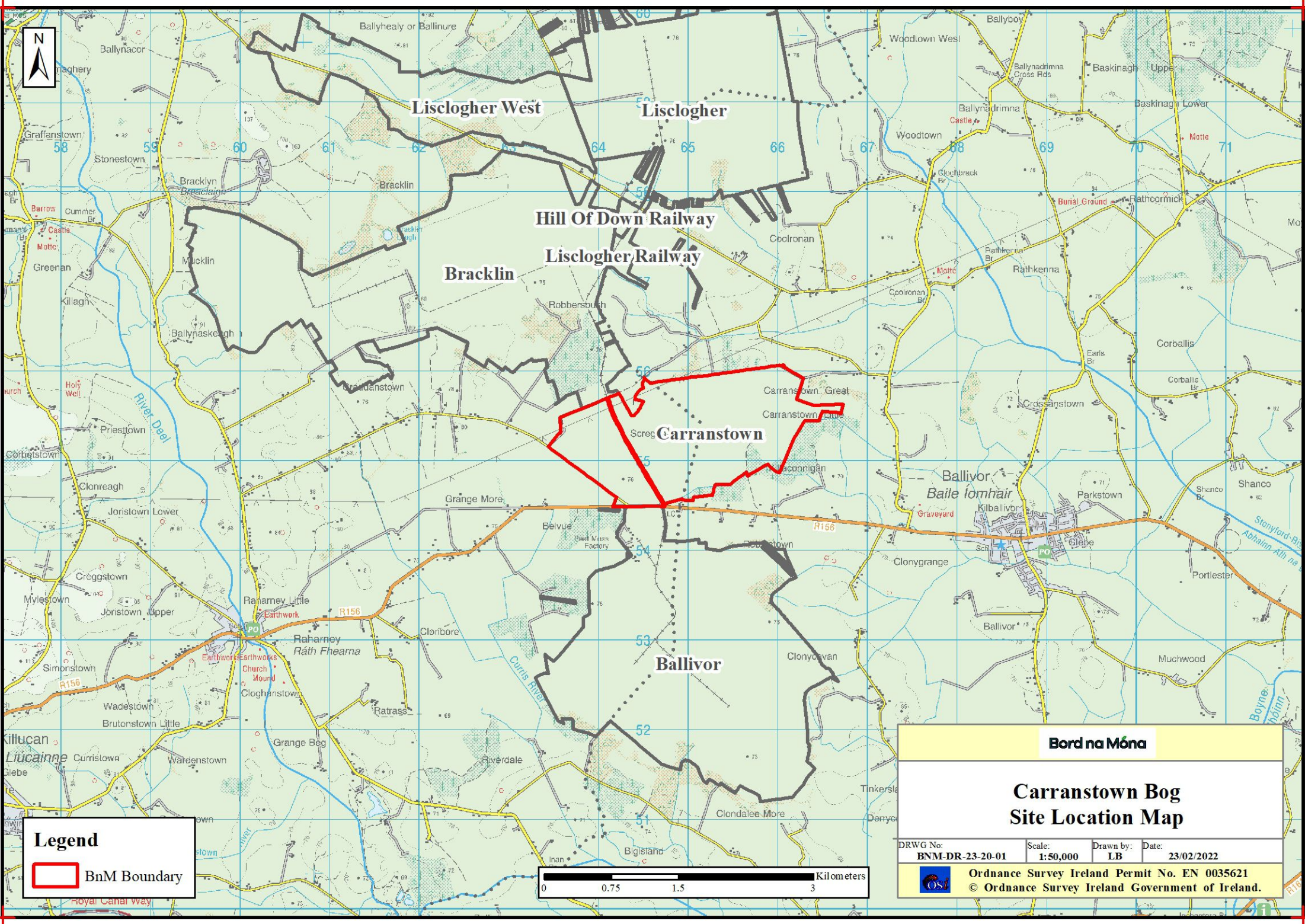
A package of documents and drawings was submitted to NPWS in December 2021 setting out the proposals for the rehabilitation of Carranstown Bog and these proposed measures and associated cost estimate was approved by NPWS. The proposed rehabilitation of Carranstown Bog is set out below and mainly consists of Deep Peat, Dry Cutaway and Wetland rehabilitation methodologies.

The Appropriate Assessment screening for Carranstown Bog held on January 27th, 2022 concluded that there was no likelihood of significant effects to European Sites because of the proposed project, either alone or in-combination with other plans or projects. Therefore, the potential for significant effects on relevant European Sites has been excluded and have been 'Screened Out' from the Appropriate Assessment process and no Appropriate Assessment is required for these European Sites.

The design package for Carranstown Bog was formally approved by the National Parks and Wildlife Service (NPWS) on February 17th , 2022 and rehabilitation commenced in April 2022.

	Rehabilitation Methodology (by hectare)																		Total Area (Hectares)
Carranstown Bog	DPT1	DPT2	DPT3	DPT4	DPT5	DPT6	DCT1	DCT2	DCT3	WLT1	WLT2	WLT3	WLT4	WLT5	MLT1	MLT2	AWT1	AWT2	
Design Rehab Methodologies submitted to and approved by NPWS	0.0	38.2	0.0	121.5	0.0	0.0	0.0	17.6	0.0	0.0	0.0	0.0	4.3	0.0	34.6	0.0	0.0	0.0	216.1
Design Rehab Methodologies incorporating amendments post commencement	0.0	38.0	0.0	122.4	0.0	0.0	0.0	17.0	0.0	0.0	0.0	0.0	4.1	0.0	34.6	0.0	0.0	0.0	216.1
Rehab Methodologies completed at end Mar 2023	0.0	38.0	0.0	114.8	0.0	0.0	0.0	17.0	0.0	0.0	0.0	0.0	4.1	0.0	27.3	0.0	0.0	0.0	201.4
Percentage area rehabilitated @ end March 2023																			93.2%
Percentage Work Content completed @ end March 2023																			88.1%

Table 4.5 Summary of Carranstown Rehabilitation




Legend

 BnM Boundary

Bord na Móna

Carranstown Bog Site Location Map

DRWG No:	Scale:	Drawn by:	Date:
BNM-DR-23-20-01	1:50,000	LB	23/02/2022
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Rehab Measures


- Proposed Drain Blocks
- Bunded Cells
- Rehab Type**
 - Constraint
 - Dry Cutaway 2
 - Deep Peat Cutaway 2
 - Deep Peat Cutaway 4
 - Marginal Land 1
 - Silt Pond
 - Wetland 4

Bog Assets

- Production Centres
- Proposed Piezometer Locations
- SW Discharge Locations
- Railway Line (To Be Lifted)
- Highfields
- BnM Boundary

Bord na Móna

Peatlands Climate Action Scheme Carranstown Bog Proposed Measures - Site Layout Plan

DRWG No: BNM-DR-23-20-DP02	Scale: 1:5,000	Drawn by: LB	Date: 07/12/2021
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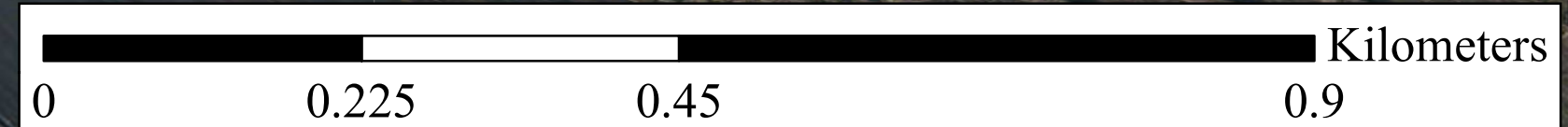




Plate B5.1: Carranstown Bog rehabilitation measures - February 2023



Plate B5.2: Carranstown Bog rehabilitation measures - February 2023

Appendix B6 - Derrinboy Bog

Derrinboy Bog Overview

Table 4.6 Summary of Derrinboy Rehabilitation Measures

Drg. No BNM-DR-23-22-01: Derrinboy Bog Site Location Plan

Drg No BNM-DR-23-22-DP02: Proposed Measures (approved prior to rehab commencement)

Sample Photographs of Derrinboy Rehabilitation Measures

Derrinboy

Derrinboy bog is located in south Co. Offaly, close to Cadamstown Village and 3.5 km south of Kilcormac Town. The area of the bog is 309 hectares. Derrinboy Bog was drained and developed for peat production in 1988 but was first brought into production in 2003 and was in active horticultural peat production until 2020. Further information on the bog is available in the Derrinboy Bog Cutaway Bog Decommissioning and Rehabilitation Plan 2022.

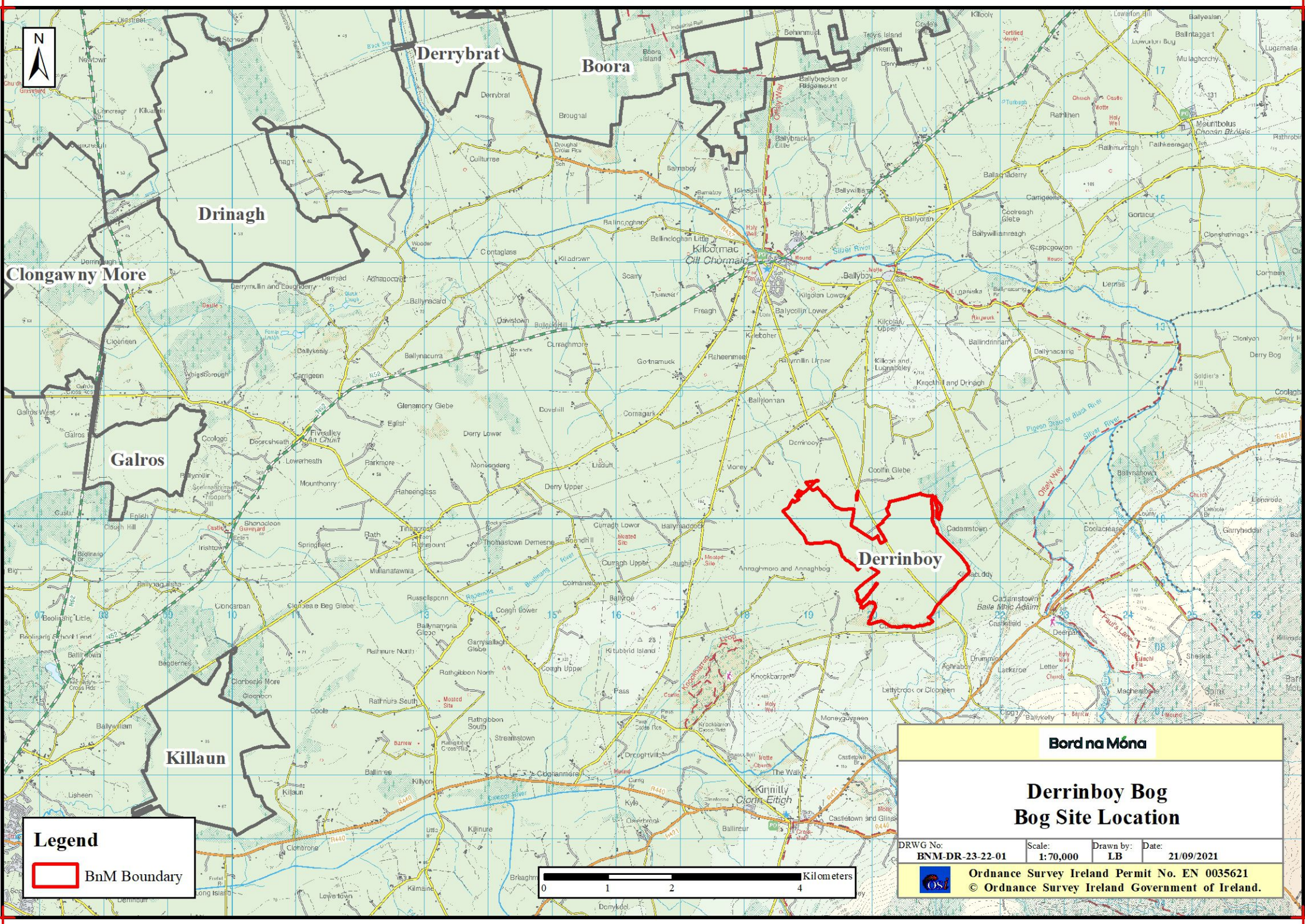
A package of documents and drawings was submitted to NPWS in December 2021 setting out the proposals for the rehabilitation of Derrinboy Bog and these proposed measures and associated cost estimate was approved by NPWS. The proposed rehabilitation of Derrinboy Bog is set out below and mainly consists of Deep Peat, Dry Cutaway and Wetland rehabilitation methodologies.

The Appropriate Assessment screening for Derrinboy Bog held on February 10th, 2022 concluded that there was no likelihood of significant effects to European Sites because of the proposed project, either alone or in-combination with other plans or projects. Therefore, the potential for significant effects on relevant European Sites has been excluded and have been 'Screened Out' from the Appropriate Assessment process and no Appropriate Assessment is required for these European Sites.


The design package for Derrinboy Bog was formally approved by the National Parks and Wildlife Service (NPWS) on February 17th, 2022 and rehabilitation commenced in April 2022.

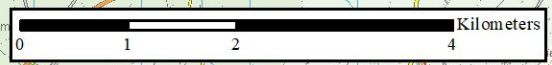
	Rehabilitation Methodology (by hectare)																		Total Area (Hectares)
Derrinboy Bog	DPT1	DPT2	DPT3	DPT4	DPT5	DPT6	DCT1	DCT2	DCT3	WLT1	WLT2	WLT3	WLT4	WLT5	MLT1	MLT2	AWT1	AWT2	
Design Rehab Methodologies submitted to and approved by NPWS	0.0	18.7	0.0	175.8	0.0	0.0	0.0	26.6	0.0	0.0	0.0	0.0	14.7	0.0	27.9	0.0	0.0	0.0	263.8
Design Rehab Methodologies incorporating amendments post commencement	0.0	8.3	0.0	177.5	0.0	0.0	0.0	26.1	0.0	0.0	0.0	0.0	13.7	0.0	30.2	0.0	0.0	7.3	263.0
Rehab Methodologies completed at end Mar 2023	0.0	4.8		155.9	0.0	0.0	0.0	26.1	0.0	0.0	0.0	0.0	13.6	0.0	22.3	0.0	0.0	7.3	229.8
Percentage area rehabilitated @ end March 2023																			87.4%
Percentage Work Content completed @ end March 2023																			83.7%


Table 4.6 Summary of Derrinboy Rehabilitation



Legend

 BnM Boundary



Bord na Móna			
Derrinboy Bog Bog Site Location			
DRWG No: BNM-DR-23-22-01	Scale: 1:70,000	Drawn by: LB	Date: 21/09/2021
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Rehab Measures

Proposed Drain Blocks

Bunded Cells

Rehab Type

Additional Work2

Constraint

Dry Cutaway 2

Deep Peat Cutaway 2

Deep Peat Cutaway 4

Marginal Land 1

Silt Pond

Wetland 4

Bog Assets

Production Centres

Proposed Piezometer Locations

SW Discharge Locations

Highfields

BnM Boundary

Bord na Móna

Peatlands Climate Action Scheme

Derrinboy Bog


Proposed Measures - Site Layout Plan

DRWG No:
BNM-DR-23-22-DP02

Scale:
1:5,000

Drawn by:
BG

Date:
28/06/2022

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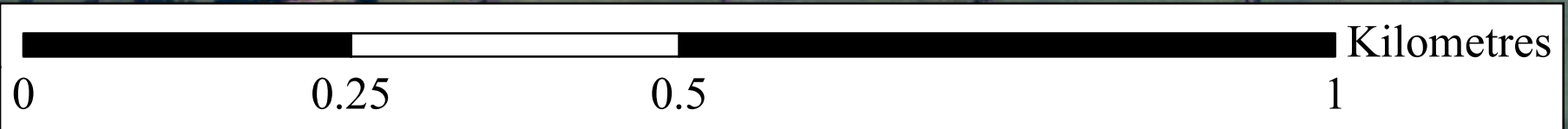




Plate B6.2 Derrinboy Bog rehabilitation measures - March 2023



Plate B6.1 Derrinboy Bog rehabilitation measures - Oct 2022

Appendix B7 - Prosperous Bog

Prosperous Bog Overview

Table 4.7 Summary of Prosperous Rehabilitation Measures

Drg. No BNM-DR-23-24-01: Prosperous Bog Site Location Plan

Drg No BNM-DR-23-24-DP02: Proposed Measures (approved prior to rehab commencement)

Sample Photographs of Prosperous Rehabilitation Me

Prosperous

Prosperous Bog is located approximately 1km north-west of Prosperous in Co. Kildare. The area of the bog is 218 hectares. Prosperous Bog was drained and developed for industrial peat production in the 1980s and was in active peat production until 2020 supplying mainly horticultural peat. Further information on the bog is available in the Prosperous Bog Cutaway Bog Decommissioning and Rehabilitation Plan 2022.

A package of documents and drawings was submitted to NPWS in December 2021 setting out the proposals for the rehabilitation of Prosperous Bog and these proposed measures and associated cost estimate was approved by NPWS. The proposed rehabilitation of Prosperous Bog is set out below and mainly consists of Deep Peat and Dry Cutaway rehabilitation methodologies.

The Appropriate Assessment screening for Prosperous Bog held on January 27th, 2022 concluded that there was no likelihood of significant effects to European Sites because of the proposed project, either alone or in-combination with other plans or projects. Therefore, the potential for significant effects on relevant European Sites has been excluded and have been 'Screened Out' from the Appropriate Assessment process and no Appropriate Assessment is required for these European Sites.

The design package for Prosperous Bog was formally approved by the National Parks and Wildlife Service (NPWS) on March 16th , 2022 and rehabilitation commenced in April 2022.

	Rehabilitation Methodology (by hectare)																			Total Area (Hectares)
Prosperous Bog	DPT1	DPT2	DPT3	DPT4	DPT5	DPT6	DCT1	DCT2	DCT3	WLT1	WLT2	WLT3	WLT4	WLT5	MLT2	AWT2	MLT1	AWT1	AWT2	
Design Rehab Methodologies submitted to and approved by NPWS	0.0	0.0	0.0	133.1	0.0	0.0	0.0	12.4	0.0	0.0	0.0	0.0	0.0	0.0	25.2	0.0	27.6	0.0	6.8	205.2
Design Rehab Methodologies incorporating amendments post commencement	0.0	0.0	0.0	136.0	0.0	0.0	0.0	9.5	0.0	0.0	0.0	0.0	0.0	0.0	25.2	6.8	27.6	0.0	0.0	205.2
Rehab Methodologies completed at end Mar 2023	0.0	0.0	0.0	136.0	0.0	0.0	0.0	9.5	0.0	0.0	0.0	0.0	0.0	0.0	25.2	6.8	22.8	0.0	0.0	200.4
Percentage area rehabilitated @ end March 2023																				98.0%
Percentage Work Content completed @ end March 2023																				96.7%

Table 4.7 Summary of Prosperous Rehabilitation



Gilltown

Prosperous

Bord na Móna

Prosperous Bog Bog Site Location

Legend

 BnM Boundary

0 0.75 1.5 3 Kilometers







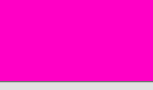


DRWG No: BNM-DR-23-24-01 Scale: 1:50,000 Drawn by: LB Date: 17/09/2021






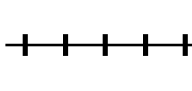


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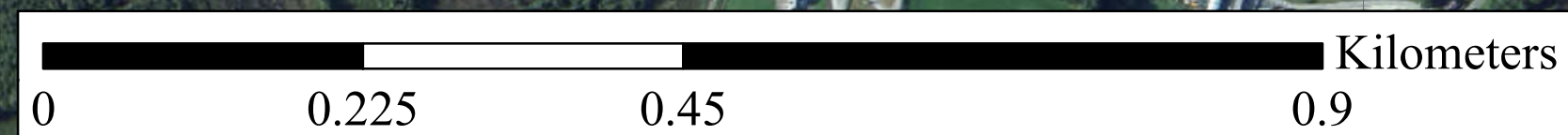


Rehab Measures

-  Proposed Drain Blocks
-  Bunded Cells
- Rehab Type**
-  Additional Work 2
-  Constraint
-  Dry Cutaway 2
-  Deep Peat Cutaway 4
-  Marginal Land 1
-  Marginal Land 2
-  Silt Pond

Bog Assets

-  Production Centres
-  Proposed Piezometer Locations
-  SW Discharge Locations
-  Railway Line (To Be Lifted)
-  Highfields
-  BnM Boundary



Bord na Móna

Peatlands Climate Action Scheme Prosperous Bog Proposed Measures - Site Layout Plan


DRWG No: BNM-DR-23-24-DP02	Scale: 1:5,000	Drawn by: LB	Date: 17/12/2021
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Plate B7.1: Prosperous Bog rehabilitation measures - February 2023



Plate B7.2: Prosperous Bog rehabilitation measures - February 2023

Appendix B8 - Lodge Bog

Lodge Bog Overview

Table 4.8 Summary of Lodge Rehabilitation Measures

Drg. No BNM-DR-23-21-01: Lodge Site Location Plan

Drg No BNM-DR-23-21-DP02: Proposed Measures (approved prior to rehab commencement)

Sample Photographs of Lodge Rehabilitation Measures

Lodge

Lodge Bog is located adjacent to Lullymore and is 3 km west of Allenwood in Co. Kildare. The area of the bog is 408 hectares. Lodge Bog was drained and developed for industrial peat production in the 1970s and was in active peat production until 2020 supplying milled horticultural and fuel peat. Further information on the bog is available in the Lodge Bog Cutaway Bog Decommissioning and Rehabilitation Plan 2022.

Lodge Bog is located approximately 1km north-west of Lodge in Co. Kildare. The area of the bog is 218 hectares. Lodge Bog was drained and developed for industrial peat production in the 1980s and was in active peat production until 2020 supplying mainly horticultural peat. Further information on the bog is available in the Lodge Bog Cutaway Bog Decommissioning and Rehabilitation Plan 2022.

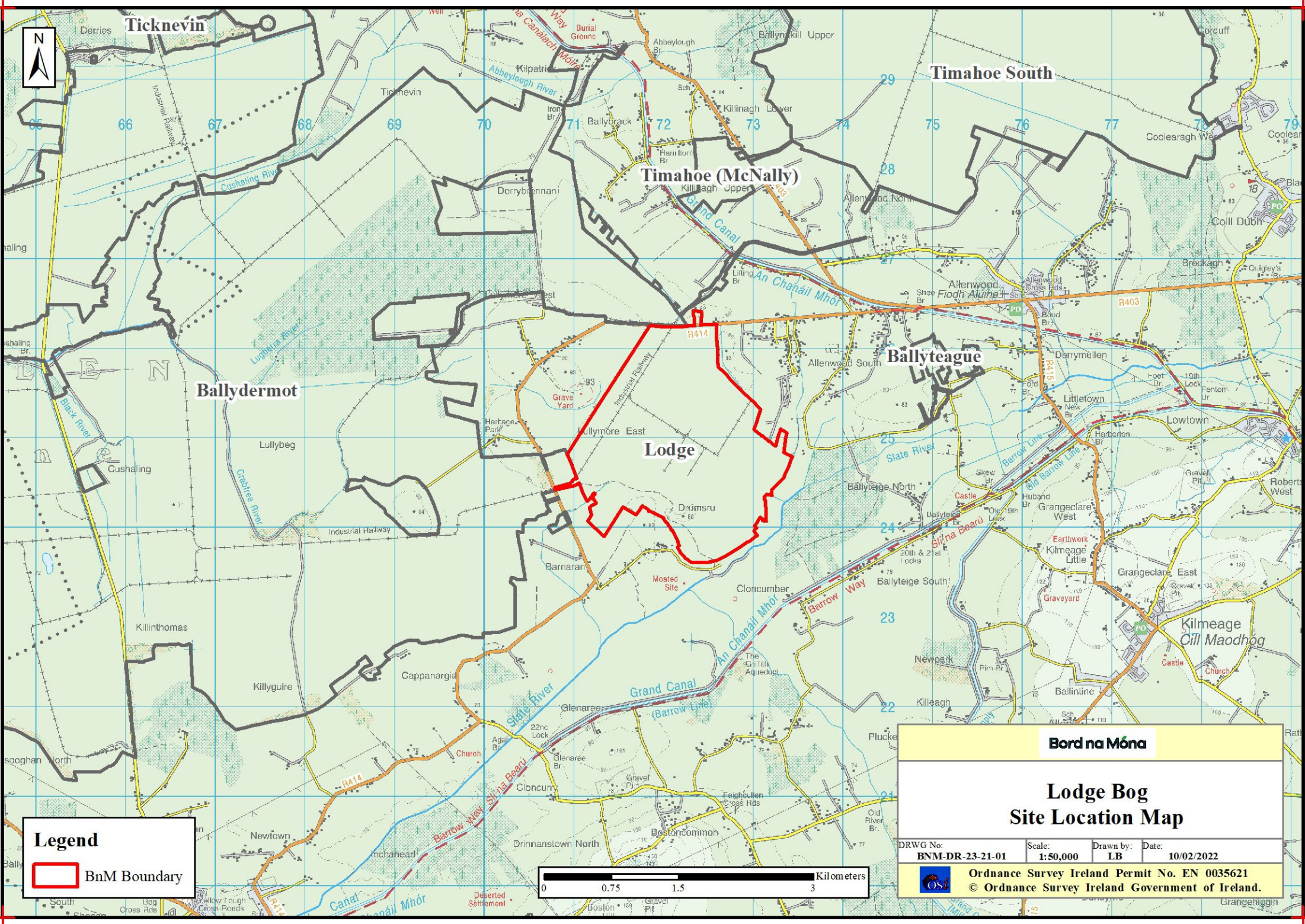
A package of documents and drawings was submitted to NPWS in February 2022 setting out the proposals for the rehabilitation of Lodge Bog and these proposed measures and associated cost estimate was approved by NPWS. The proposed rehabilitation of Lodge Bog is set out below and mainly consists of Deep Peat, Dry Cutaway and Wetland rehabilitation methodologies.

The Appropriate Assessment screening for Lodge Bog held on February 22nd, 2022 concluded that there was no likelihood of significant effects to European Sites because of the proposed project, either alone or in-combination with other plans or projects. Therefore, the potential for significant effects on relevant European Sites has been excluded and have been 'Screened Out' from the Appropriate Assessment process and no Appropriate Assessment is required for these European Sites.


The design package for Lodge Bog was formally approved by the National Parks and Wildlife Service (NPWS) on May 20th, 2022 and rehabilitation commenced in May 2022.

	Rehabilitation Methodology (by hectare)																		Total Area (Hectares)
Lodge Bog	DPT1	DPT2	DPT3	DPT4	DPT5	DPT6	DCT1	DCT2	DCT3	WLT1	WLT2	WLT3	WLT4	WLT5	MLT1	MLT2	AWT1	AWT2	
Design Rehab Methodologies submitted to and approved by NPWS	0.0	6.7	0.0	90.2	0.0	0.0	0.0	55.7	0.0	0.0	60.6	0.0	90.2	0.0	29.3	6.1	0.0	26.2	365.1
Design Rehab Methodologies incorporating amendments post commencement	0.0	6.7	0.0	91.7	0.0	0.0	0.0	55.3	0.0	0.0	28.8	0.0	90.9	0.0	29.3	6.1	0.0	56.2	365.1
Rehab Methodologies completed at end Mar 2023	0.0	2.5	0.0	91.1	0.0	0.0	0.0	54.9	0.0	0.0	16.4	0.0	90.6	0.0	20.5	5.5	0.0	23.5	305.1
Percentage area rehabilitated @ end March 2023																			84.0%
Percentage Work Content completed @ end March 2023																			88.2%

Table 4.8 Summary of Lodge Rehabilitation




Legend

 BnM Boundary

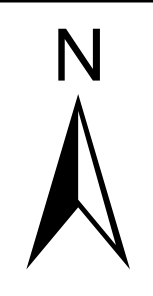
Bord na Móna

**Lodge Bog
Site Location Map**

DRWG No: BNM-DR-23-21-01	Scale: 1:50,000	Drawn by: LB	Date: 10/02/2022
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Rehab Measures

- Proposed Drain Blocks
 - Berms
 - Bunded Cells
- ### Rehab Type
- Archeology Constraint
 - Additional Work 2
 - Constraint
 - Dry Cutaway 2
 - Deep Peat Cutaway 2
 - Deep Peat Cutaway 4
 - Marginal Land 1
 - Marginal Land 2
 - Silt Pond
 - Wetland 2
 - Wetland 4

Bog Assets

- Piezometer Locations
- SW Discharge Locations
- Railway Line (To Be Lifted)
- Highfields
- BnM Boundary

Bord na Móna

Peatlands Climate Action Scheme Lodge Bog Proposed Measures - Site Layout Plan

DRWG No: BNM-DR-23-21-DP02	Scale: 1:6,000	Drawn by: LB	Date: 16/02/2022
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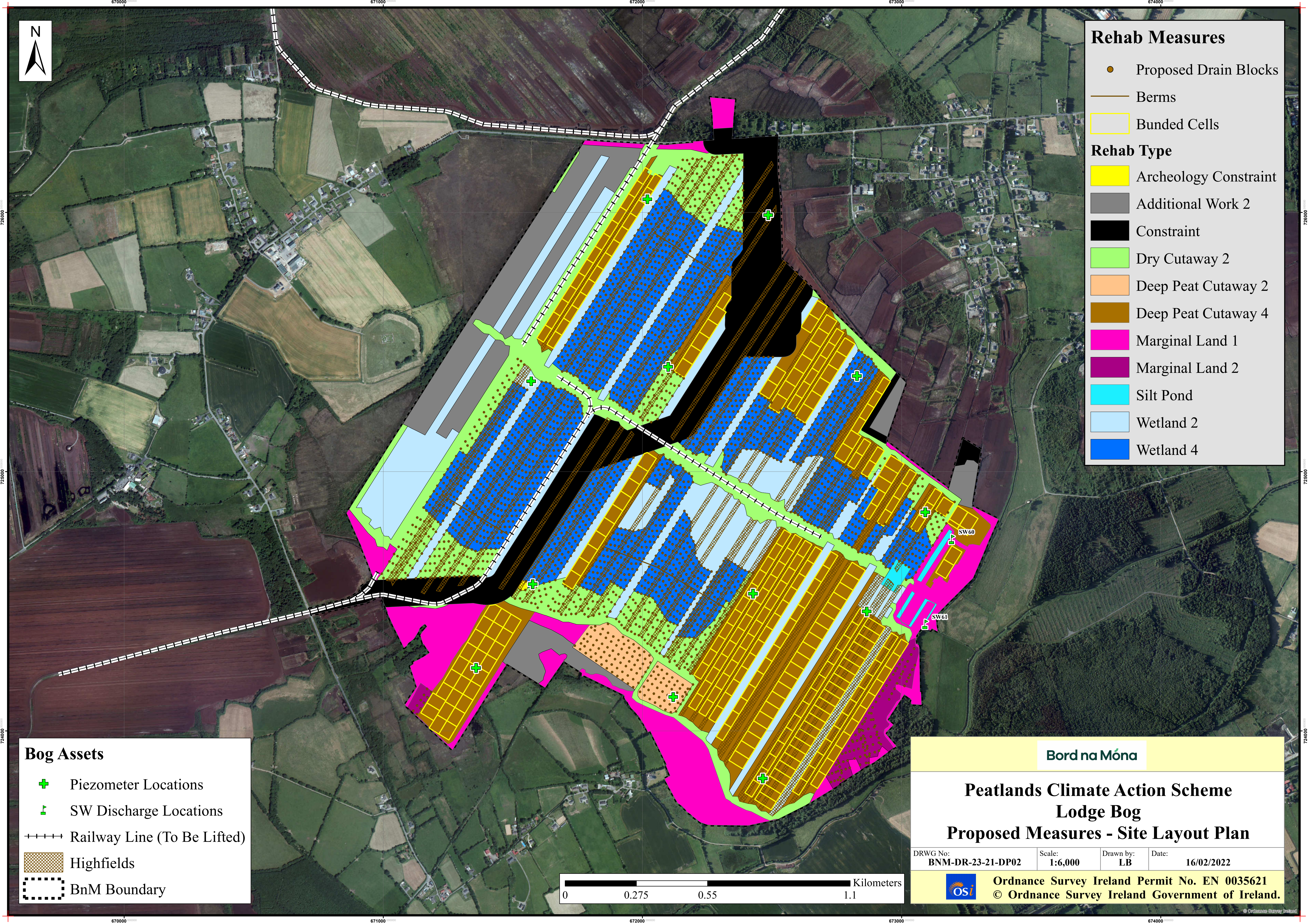
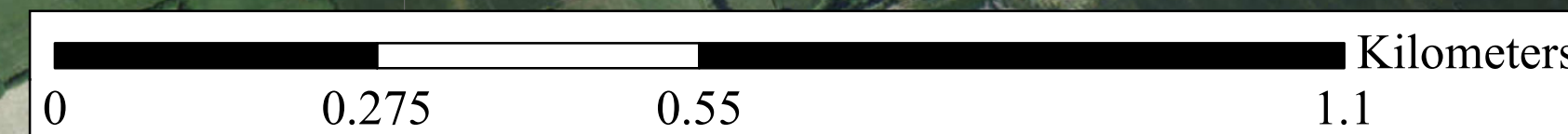




Plate B8.1: Lodge Bog rehabilitation measures - October 2022



Plate B8.2: Lodge Bog rehabilitation measures - October 2022

Appendix B9 - Derraghan Bog

Derraghan Bog Overview

Table 4.9 Summary of Derraghan Rehabilitation Measures

Drg. No BNM-DR-23-07-01: Derraghan Bog Site Location Plan

Drg No BNM-DR-23-07-DP02: Proposed Measures (approved prior to rehab commencement)

Sample Photographs of Derraghan Rehabilitation Measures

Derraghan

Derraghan Bog is located approximately 7km south east of Lanesborough along the R392 Lanesborough to Ballymahon road in Co. Longford. The area of the bog is 288 hectares. Derraghan Bog was drained and developed for industrial peat production in the 1940s and was in active peat production until 2020. Further information on the bog is available in the Derraghan Bog Cutaway Bog Decommissioning and Rehabilitation Plan 2022.

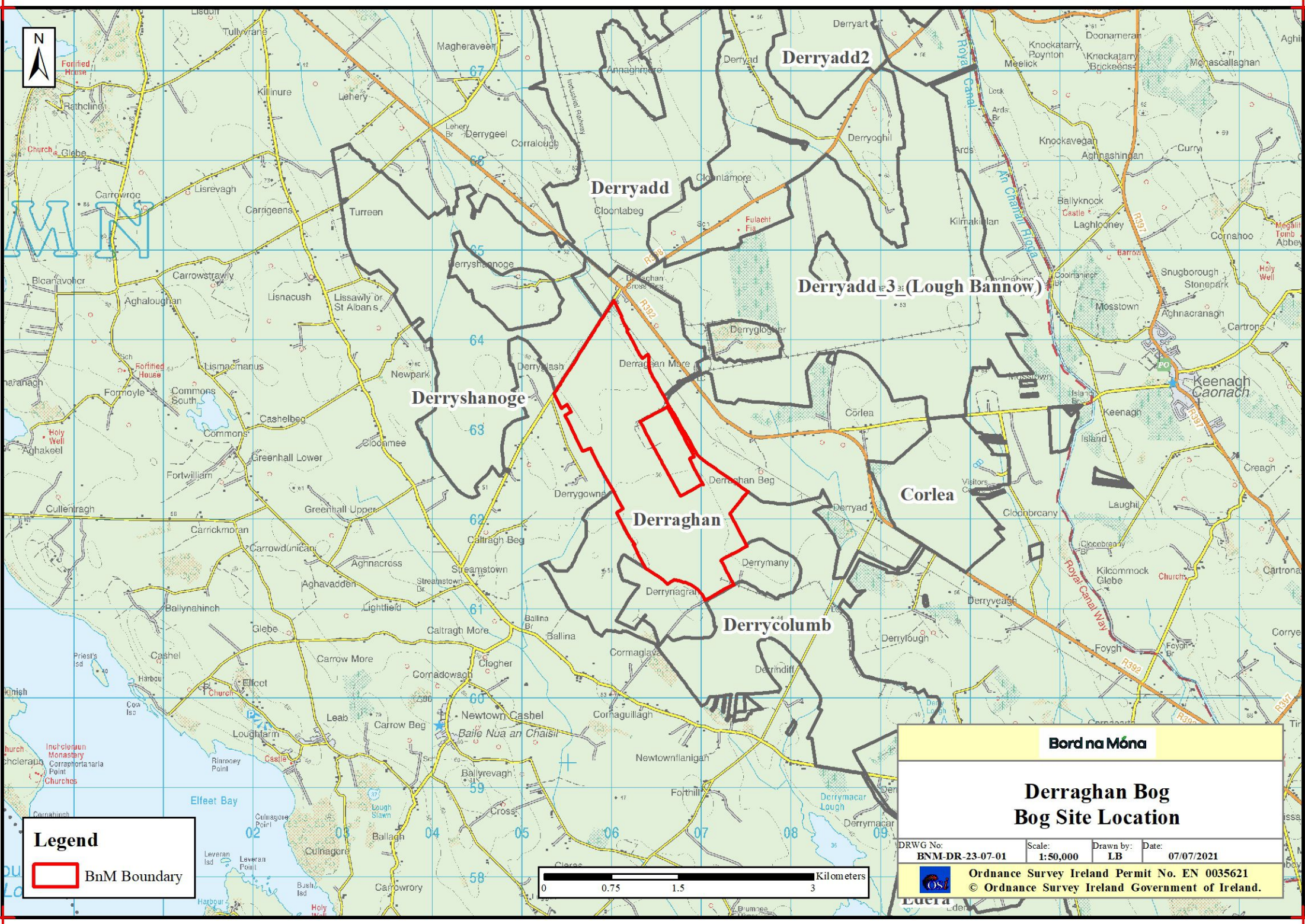
A package of documents and drawings was submitted to NPWS in January 2022 setting out the proposals for the rehabilitation of Derraghan Bog and these proposed measures and associated cost estimate was approved by NPWS. The proposed rehabilitation of Derraghan Bog is set out below and mainly consists of Deep Peat, Dry Cutaway and Wetland rehabilitation methodologies.

The Appropriate Assessment screening for Derraghan Bog held on May 3rd, 2022 concluded that there was no likelihood of significant effects to European Sites because of the proposed project, either alone or in-combination with other plans or projects. Therefore, the potential for significant effects on relevant European Sites has been excluded and have been 'Screened Out' from the Appropriate Assessment process and no Appropriate Assessment is required for these European Sites.


The design package for Derraghan Bog was formally approved by the National Parks and Wildlife Service (NPWS) on May 20th, 2022 and rehabilitation commenced in May 2022.

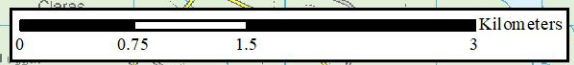
	Rehabilitation Methodology (by hectare)																		Total Area (Hectares)
Derraghan Bog	DPT1	DPT2	DPT3	DPT4	DPT5	DPT6	DCT1	DCT2	DCT3	WLT1	WLT2	WLT3	WLT4	WLT5	MLT1	MLT2	AWT1	AWT2	
Design Rehab Methodologies submitted to and approved by NPWS	0.0	0.0	0.0	30.5	0.0	0.0	6.7	10.1	0.0	0.0	27.5	18.8	57.7	0.0	15.0	1.9	0.0	114.3	282.5
Design Rehab Methodologies incorporating amendments post commencement	0.0	2.2	0.0	27.9	0.0	0.0	6.7	14.9	0.0	0.0	22.0	2.3	72.0	0.0	15.0	1.9	0.0	114.3	279.3
Rehab Methodologies completed at end Mar 2023	0.0	2.2	0.0	19.8	0.0	0.0	6.7	14.1	0.0	0.0	17.5	2.3	71.6	0.0	9.0	0.0	0.0	56.5	199.7
Percentage area rehabilitated @ end March 2023																			71.5%
Percentage Work Content completed @ end March 2023																			68.9%

Table 4.9 Summary of Derraghan Rehabilitation



Legend


 BnM Boundary

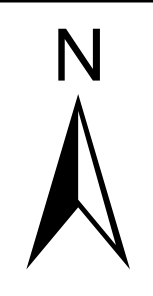


Bord na Móna

**Derraghan Bog
Bog Site Location**

DRWG No: BNM-DR-23-07-01	Scale: 1:50,000	Drawn by: LB	Date: 07/07/2021
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Rehab Measures

- Proposed Drain Blocks
- Berms
- Bunded Cells

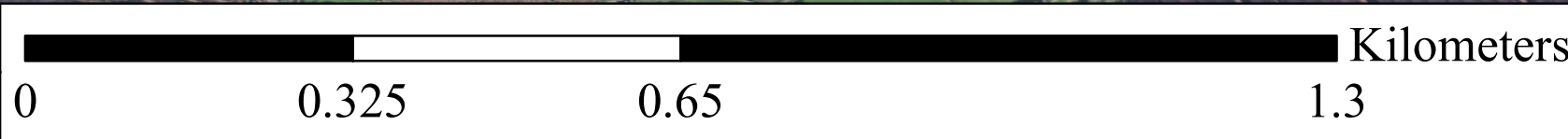
Rehab Type

- Additional Work 2
- Constraint
- Dry Cutaway 1
- Dry Cutaway 2
- Deep Peat Cutaway 4
- Marginal Land 1
- Marginal Land 2
- Silt Pond
- Wetland 2
- Wetland 3
- Wetland 4

Bog Assets

- Production Centres
- Piezometer Locations
- SW Discharge Locations
- Railway Line (To Be Lifted)
- Highfields
- BnM Boundary

Construct New Drain



Bord na Móna

Peatlands Climate Action Scheme

Derraghan Bog

Proposed Measures - Site Layout Plan

DRWG No:
BNM-DR-23-07-DP02

Scale:
1:7,000

Drawn by:
LB

Date:
19/01/2022

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Plate B9.1: Derraghan Bog rehabilitation measures - February 2023



Plate B9.2: Derraghan Bog rehabilitation measures - February 2023

Appendix B10 - Cloncreen Bog

Cloncreen Bog Overview

Table 4.10 Summary of Cloncreen Rehabilitation Measures

Drg. No BNM-DR-123-13-01: Cloncreen Bog Site Location Plan

Drg No BNM-DR-23-13-DP02: Proposed Measures (approved prior to rehab commencement)

Sample Photographs of Cloncreen Rehabilitation Measures

Cloncreen

Cloncreen Bog is located approximately 5 km south west of Edenderry, Co Offaly. The area of the bog is 1,009 hectares. Cloncreen Bog was drained and developed for industrial peat production in the 1970s and was in active peat production until 2018. Cloncreen Bog is also the site of a new Bord na Mona windfarm and areas outside the infrastructure footprint of the windfarm were rehabilitated under the scheme. Rehabilitation measures were implemented while the wind turbines were being erected. Further information on the bog is available in the Cloncreen Bog Cutaway Bog Decommissioning and Rehabilitation Plan 2022.

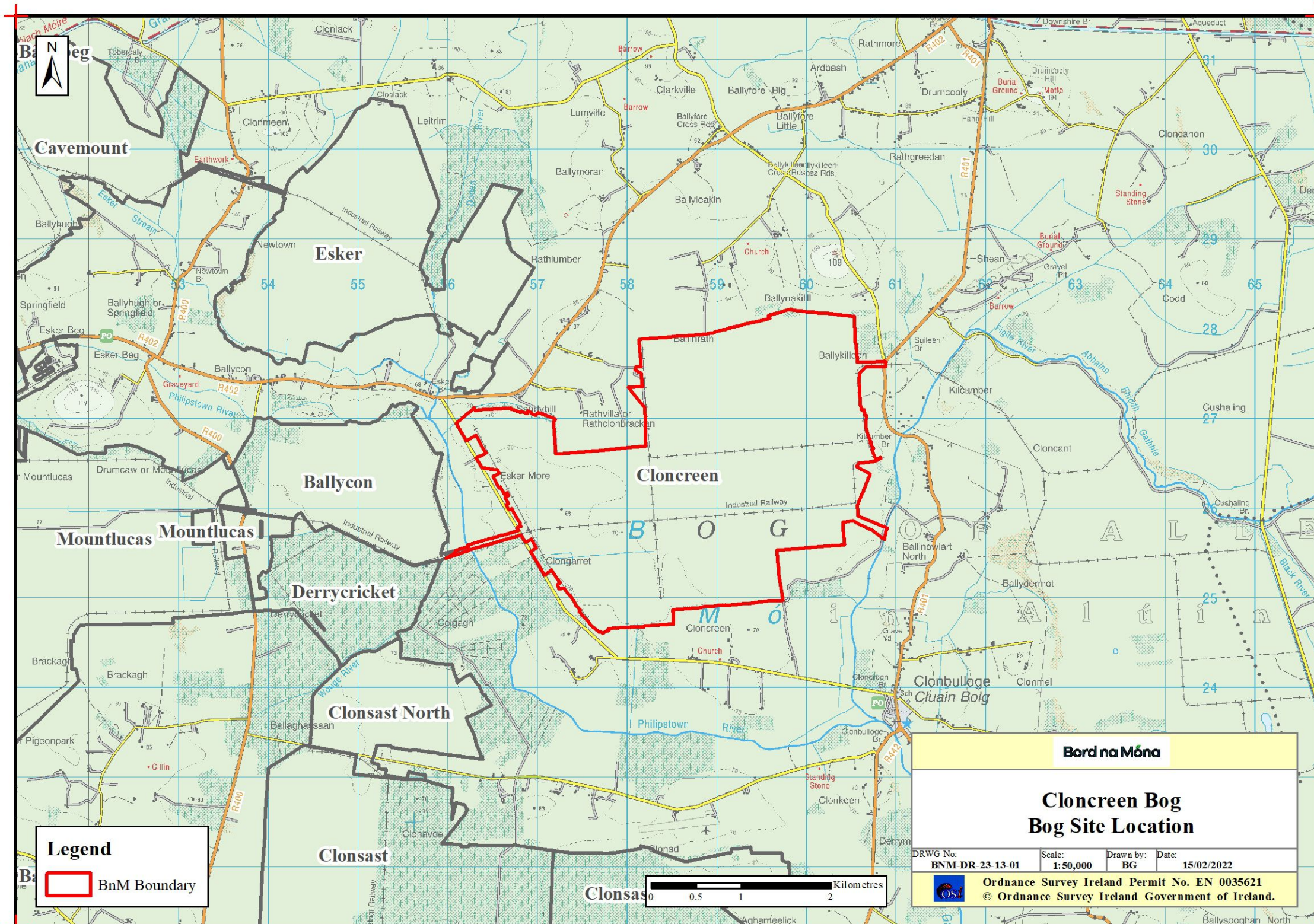
A package of documents and drawings was submitted to NPWS in March 2022 setting out the proposals for the rehabilitation of Cloncreen Bog and these proposed measures and associated cost estimate was approved by NPWS. The proposed rehabilitation of Cloncreen Bog is set out below and mainly consists of Deep Peat, Dry Cutaway and Wetland rehabilitation methodologies.

The Appropriate Assessment screening for Cloncreen Bog held on May 12th, 2022 concluded that there was no likelihood of significant effects to European Sites because of the proposed project, either alone or in-combination with other plans or projects. Therefore, the potential for significant effects on relevant European Sites has been excluded and have been 'Screened Out' from the Appropriate Assessment process and no Appropriate Assessment is required for these European Sites.

The design package for Cloncreen Bog was formally approved by the National Parks and Wildlife Service (NPWS) on June 20th, 2022 and rehabilitation commenced in June 2022.

	Rehabilitation Methodology (by hectare)																		Total Area (Hectares)
Cloncreen Bog	DPT1	DPT2	DPT3	DPT4	DPT5	DPT6	DCT1	DCT2	DCT3	WLT1	WLT2	WLT3	WLT4	WLT5	MLT1	MLT2	AWT1	AWT2	
Design Rehab Methodologies submitted to and approved by NPWS	0.0	0.0	0.0	0.0	0.0	0.0	47.6	235.9	0.0	0.0	2.6	0.0	441.9	0.0	51.8	3.4	1.1	0.0	784.3
Design Rehab Methodologies incorporating amendments post commencement	0.0	0.0	0.0	2.4	0.0	0.0	61.1	208.2	0.0	0.0	8.6	0.0	424.3	0.0	51.8	3.4	0.0	0.0	759.9
Rehab Methodologies completed at end Mar 2023	0.0	0.0	0.0	2.4	0.0	0.0	59.8	197.2	0.0	0.0	8.6	0.0	365.5	0.0	38.4	2.7	0.0	0.0	674.7
Percentage area rehabilitated @ end March 2023																			89.0%
Percentage Work Content completed @ end March 2023																			84.0%

Table 4.10 Summary of Cloncreen Rehabilitation





Rehab Measures

- Proposed Drain Blocks
- Berms

Rehab Type

- Constraint
- Dry Cutaway 1
- Dry Cutaway 2
- Marginal Land 1
- Marginal Land 2
- Silt Pond
- Wetland 2
- Wetland 4

Bog Assets

- Production Centres
- Pump Sites
- Piezometer Locations
- SW Discharge Locations
- Railway Line (To Be Lifted)
- Highfields
- BnM Boundary

Bord na Móna

Peatlands Climate Action Scheme Cloncreen Bog Proposed Measures - Site Layout Plan

DRWG No:
BNM-DR-23-13-DP02

Scale:
1:8,000

Drawn by:
BG

Date:
01/07/2022



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0 0.25 0.5 1 Kilometres



Plate B10.1: Cloncreen Bog rehabilitation measures - February 2023



Plate B10.2: Cloncreen Bog rehabilitation measures - February 2023

Appendix B11 – Timahoe South Bog

Timahoe South Bog Overview

Table 4.11 Summary of Timahoe South Rehabilitation Measures

Drg. No BNM-DR-23-19-01: Timahoe South Site Location Plan

Drg No BNM-DR-23-19-DP02: Proposed Measures (approved prior to rehab commencement)

Sample Photographs of Timahoe South Rehabilitation Measures

Timahoe South

Timahoe South Bog is located 2km north of Allenwood, in Co. Kildare. The area of the bog is 1,707 hectares. Timahoe South Bog was drained and developed for industrial peat production in the 1940's and was in active peat production until the 1980's. Further information on the bog is available in the Timahoe South Bog Cutaway Bog Decommissioning and Rehabilitation Plan 2022.

A package of documents and drawings was submitted to NPWS in February 2022 setting out the proposals for the rehabilitation of Timahoe South Bog and these proposed measures and associated cost estimate were subsequently approved by NPWS. The proposed rehabilitation of Timahoe South Bog is set out below and mainly consists of Deep Peat and Dry Cutaway rehabilitation methodologies. Rehabilitation on Timahoe South is scheduled take place over two years, specifically during Year 2 and Year 3 of the scheme.

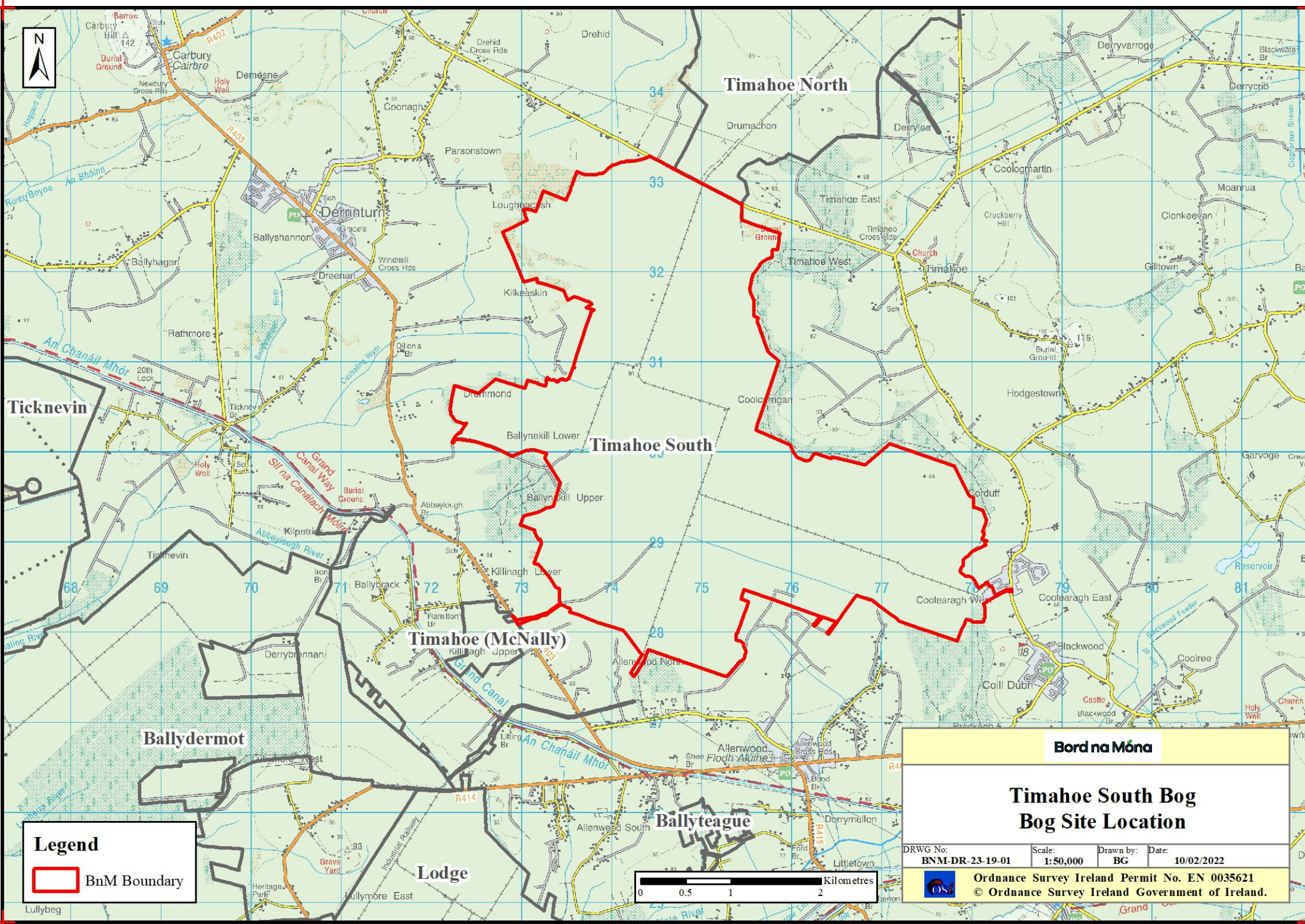
The Appropriate Assessment screening for Timahoe South Bog concluded that there was a likelihood of significant effects to a number relevant European Sites because of the proposed project, either alone or in-combination with other plans or projects. An Appropriate Assessment was therefore required in respect of Ballynafagh Lake SAC, River Boyne and Blackwater SAC/River Boyne and Blackwater SPA, River Barrow and River Nore SAC and Slieve Bloom Mountains SPA

A Natura Impact Statement (NIS) was subsequently prepared by third party consultants and this document was issued to the Minister for observations and was also issued for public consultation. No observations were received from the public consultation process. Observations were received from the Minister and these were considered by Bord na Móna. Following this, it was determined on September 9th 2022 that "in view of the best scientific knowledge and the site's conservation objectives, that the proposed Project, individually or in combination with other plans or projects, would not adversely affect the integrity of any European site."

The design package for Timahoe South was formally approved by the National Parks and Wildlife Service (NPWS) on August 26th, 2022 and rehabilitation commenced in September 2022.

Timahoe South Bog	Rehabilitation Methodology (by hectare)																		Total Area (Hectares)
	DPT1	DPT2	DPT3	DPT4	DPT5	DPT6	DCT1	DCT2	DCT3	WLT1	WLT2	WLT3	WLT4	WLT5	MLT2	AWT2	MLT1	AWT1	
Design Rehab Methodologies submitted to and approved by NPWS	0.0	27.8	0.0	357.3	0.0	0.0	179.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.1	217.9	48.2	0.0	861.8
Design Rehab Methodologies incorporating amendments post commencement	0.0	0.0	0.0	200.8	0.0	0.0	124.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.7	68.3	51.2	0.0	472.2
Rehab Methodologies completed at end Mar 2023	0.0	0.0	0.0	46.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.3	0.0	7.2	0.0	78.9
Percentage area rehabilitated @ end March 2023																			16.7%
Percentage Work Content completed @ end March 2023																			22.1%

Table 4.11 Summary of Timahoe South Rehabilitation



Legend

 BnM Boundary

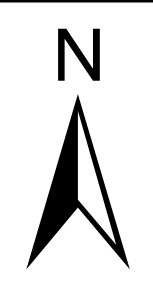
Bord na Móna

Timahoe South Bog Bog Site Location

DRWG No: BNM-DR-23-19-01 Scale: 1:50,000 Drawn by: BG Date: 10/02/2022



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Rehab Measures

- Proposed Drain Blocks
- Bunded Cells

Rehab Type

- Archeology Constraint
- Additional Work 2
- Constraint
- Dry Cutaway 1
- Deep Peat Cutaway 2
- Deep Peat Cutaway 4
- Marginal Land 1
- Marginal Land 2
- Silt Pond

Bog Assets

- Piezometer Locations
- SW Discharge Locations
- ++++ Railway Line (To Be Lifted)
- BnM Boundary



Bord na Móna

Peatlands Climate Action Scheme Timahoe South Bog Proposed Measures - Site Layout Plan

DRWG No: BNM-DR-23-19-DP02	Scale: 1:12,000	Drawn by: BG	Date: 14/02/2022
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Plate B11.1: Timahoe South Bog rehabilitation measures - April 2021



Plate B11.2: Timahoe South Bog rehabilitation measures - May 2023

Appendix B12 – Bloomhill Bog

Bloomhill Bog Overview

Table 4.12 Summary of Bloomhill Rehabilitation Measures

Drg. No BNM-DR-23-15-01: Bloomhill Bog Site Location Plan

Drg No BNM-DR-10-02: Proposed Measures (approved prior to rehab commencement)

Sample Photographs of Bloomhill Rehabilitation Measures

Bloomhill

Bloomhill Bog is located in Co. Offaly, approximately 4km south-west of Ballynahown in County Offaly. The area of the bog is 889 hectares. Bloomhill Bog was drained and developed for industrial peat production in the 1980's and was in active peat production until 2020. Further information on the bog is available in the Bloomhill Bog Cutaway Bog Decommissioning and Rehabilitation Plan 2022.

A package of documents and drawings was submitted to NPWS in March 2022 setting out the proposals for the rehabilitation of Bloomhill Bog and these proposed measures and associated cost estimate were subsequently approved by NPWS. The proposed rehabilitation of Bloomhill Bog is set out below and mainly consists of Deep Peat, Dry Cutaway and Wetland rehabilitation methodologies. Rehabilitation on Bloomhill is scheduled take place over two years, specifically during Year 2 and Year 3 of the scheme.

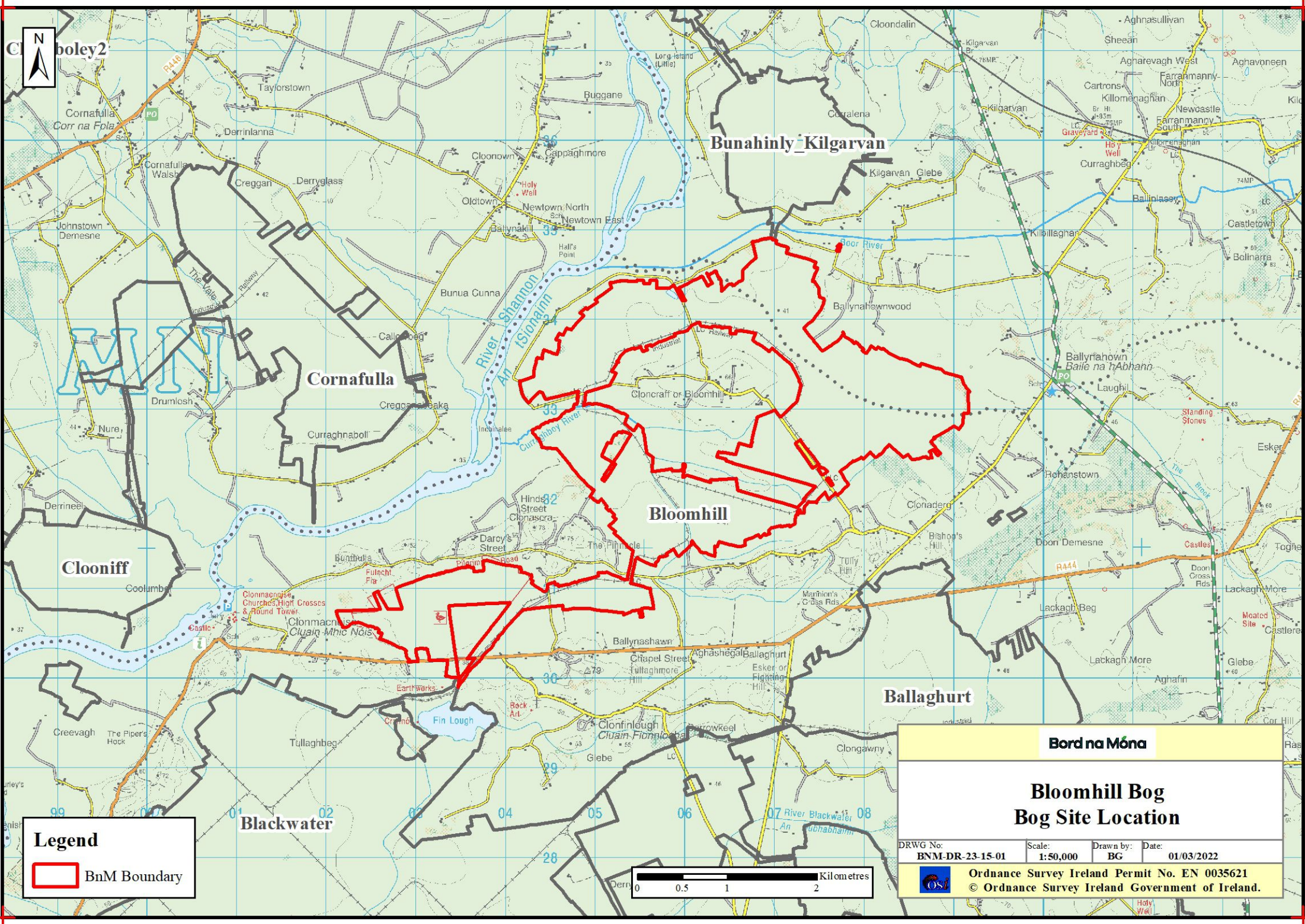
The Appropriate Assessment screening for Bloomhill Bog concluded that there was a likelihood of significant effects to a number of relevant European Sites because of the proposed project, either alone or in-combination with other plans or projects. An Appropriate Assessment was therefore required in respect of River Shannon Callows SAC, Middle Shannon Callows SPA, Mongan bog SAC, Finlough SAC, Pilgrims Road Esker SAC, Mongan Bog SPA and River Suck Callows SPA.

A Natura Impact Statement (NIS) was subsequently prepared by third party consultants and this document was issued to the Minister for observations and was also issued for public consultation. No observations were received from the public consultation process. Observations were received from the Minister and these were considered by Bord na Móna. Following this, it was determined on June 13th 2022 that "in view of the best scientific knowledge and the site's conservation objectives, that the proposed Project, individually or in combination with other plans or projects, would not adversely affect the integrity of any European site."


The design package for Bloomhill was formally approved by the National Parks and Wildlife Service (NPWS) on May 17th, 2022 and rehabilitation commenced in September 2022.

Bog	Rehabilitation Methodology (by hectare)																		Total Area (Hectares)
Bloomhill Bog	DPT1	DPT2	DPT3	DPT4	DPT5	DPT6	DCT1	DCT2	DCT3	WLT1	WLT2	WLT3	WLT4	WLT5	MLT1	MLT2	AWT1	AWT2	
Design Rehab Methodologies submitted to and approved by NPWS (Year 2 and Year 3 Rehab)	0.0	3.9	0	217.4	0.0	0.0	0.0	38.0	0.0	0.0	31.7	0.0	44.3	0.0	69.6	3.6	0.0	12.8	421.2
Design Rehab Methodologies submitted to and approved by NPWS (Year 2 Rehab only)	0.0	0.0	0.0	93.4	0.0	0.0	0.0	15.8	0.0	0.0	26.6	0.0	21.8	0.0	44.3	3.6	0.0	10.5	216.0
Design Rehab Methodologies incorporating amendments post commencement (Year 2 Rehab)	0.0	15.5	0.0	79.8	0.0	0.0	0.0	14.5	0.0	0.0	25.8	0.0	21.9	0.0	44.3	3.6	4.3	6.3	216.0
Rehab Methodologies completed at end Mar 2023	0.0	15.5	0.0	79.1	0.0	0.0	0.0	14.5	0.0	0.0	25.8	0.0	21.9	0.0	37.2	3.6	0.0	9.7	207.3
Percentage area (Year 2 Rehab) rehabilitated @ end March 2023																			96.0%
Percentage Work Content (Year 2 Rehab) completed @ end March 2023																			81.9%

Table 4.12: Summary of Bloomhill Rehabilitation




Legend

 BnM Boundary

Bord na Móna

**Bloomhill Bog
Bog Site Location**

DRWG No:	Scale:	Drawn by:	Date:
BNM-DR-23-15-01	1:50,000	BG	01/03/2022

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Rehab Measures

- Proposed Drain Blocks
 - Bunded Cells
- ## Rehab Type
- Additional Work 2
 - Constraint
 - Dry Cutaway 2
 - Deep Peat Cutaway 2
 - Deep Peat Cutaway 4
 - Marginal Land 1
 - Marginal Land 2
 - Silt Pond
 - Wetland 2
 - Wetland 4

Bog Assets

- Production Centres
- Pump Sites
- Piezometer Locations
- SW Discharge Locations
- Railway Line (To Be Lifted)
- Highfields
- BnM Boundary

Bord na Móna

Peatlands Climate Action Scheme Bloomhill Bog Proposed Measures - Site Layout Plan

DRWG No: BNM-DR-23-15-DP02	Scale: 1:10,000	Drawn by: BG	Date: 21/03/2022
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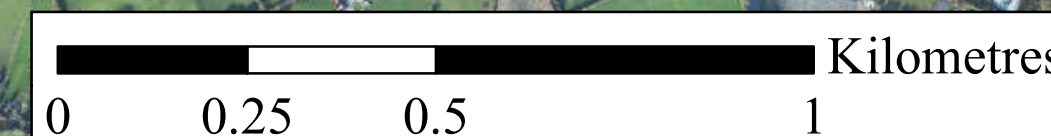




Plate B12.1: Bloomhill Bog rehabilitation measures - October 2022



Plate B12.2: Bloomhill Bog rehabilitation measures - October 2022

Appendix B13 - Derryfadda Bog

Derryfadda Bog Overview

Table 4.13 Summary of Derryfadda Rehabilitation Measures

Drg. No BNM-DR-23-12-01: Derryfadda Site Location Plan

Drg No BNM-DR-23-12-DP02: Proposed Measures (approved prior to rehab commencement)

Sample Photographs of Derryfadda Rehabilitation Measures

Derryfadda

Derryfadda Bog is located in Co. Galway, approximately 4.5 km northeast of Ahascragh Co. Galway, 0.7 km south of Ballyforan and 2 km southwest of Dysart County Roscommon. The area of the bog is 610 hectares. Derryfadda Bog was drained and developed for industrial peat production in the 1980's and was in active peat production supplying milled horticultural and fuel peat until 2020. Further information on the bog is available in the Derryfadda Bog Cutaway Bog Decommissioning and Rehabilitation Plan 2022.

A package of documents and drawings was submitted to NPWS in December 2021 setting out the proposals for the rehabilitation of Derryfadda Bog and these proposed measures and associated cost estimate were subsequently approved by NPWS. The proposed rehabilitation of Derryfadda Bog is set out below and mainly consists of Deep Peat and Wetland rehabilitation methodologies. Rehabilitation on Derryfadda is scheduled take place over two years, specifically during Year 2 and Year 3 of the scheme.

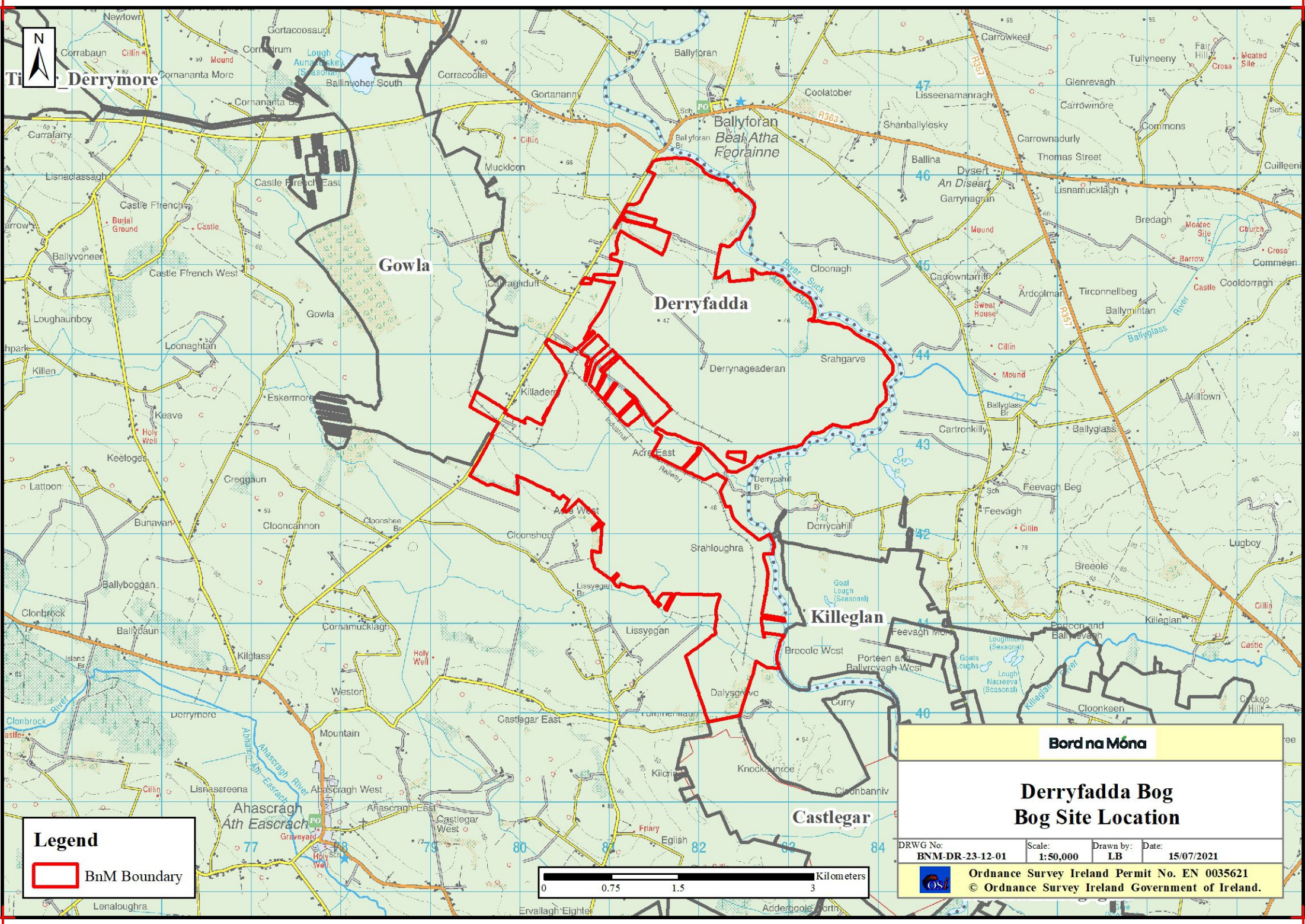
The Appropriate Assessment screening for Derryfadda Bog concluded that there was a likelihood of significant effects to a number of relevant European Sites because of the proposed project, either alone or in-combination with other plans or projects. An Appropriate Assessment was therefore required in respect of River Suck Callows SPA, Lough Croan Turlough SPA, Four Roads Turlough SPA, River Shannon Callows SAC, Middle Shannon Callows SPA, Lough Derg (Shannon) SPA and Lough Derg North-East Shore SAC.

A Natura Impact Statement (NIS) was subsequently prepared by third party consultants and this document was issued to the Minister for observations and was also issued for public consultation. No observations were received from the public consultation process. Observations were received from the Minister and these were considered by Bord na Móna. Following this, it was determined on June 30th 2022 that "in view of the best scientific knowledge and the site's conservation objectives, that the proposed Project, individually or in combination with other plans or projects, would not adversely affect the integrity of any European site."

The design package for Derryfadda was formally approved by the National Parks and Wildlife Service (NPWS) on May 30th, 2022 and rehabilitation commenced in July 2022.

Bog	Rehabilitation Methodology (by hectare)																		Total Area (Hectares)
Derryfadda Bog	DPT1	DPT2	DPT3	DPT4	DPT5	DPT6	DCT1	DCT2	DCT3	WLT1	WLT2	WLT3	WLT4	WLT5	MLT1	MLT2	AWT1	AWT2	
Design Rehab Methodologies submitted to and approved by NPWS (Year 2 and Year 3 Rehab)	0.0	0.0	0.0	83.4	6.1	0.0	1.0	7.6	0.0	0.0	2.5	8.8	0.0	0.0	66.1	1.7	0.0	7.7	184.9
Design Rehab Methodologies submitted to and approved by NPWS (Year 2 Rehab only)	0.0	0.0	0.0	37.4	6.1	0.0	0.0	0.8	0.0	0.0	0.0	3.3	0.0	0.0	25.9	0.0	0.0	0.0	73.6
Design Rehab Methodologies incorporating amendments post commencement (Year 2 Rehab)	0.0	2.6	0.0	36.7	4.4	0.0	0.0	0.8	0.0	0.0	0.0	3.1	0.0	0.0	25.9	0.0	0.0	0.0	73.5
Rehab Methodologies completed at end Mar 2023	0.0	2.6	0.0	36.7	4.4	0.0	0.0	0.8	0.0	0.0	0.0	3.1	0.0	0.0	21.4	0.0	0.0	0.0	69.0
Percentage area (Year 2 Rehab) rehabilitated @ end March 2023																			94.0%
Percentage Work Content (Year 2 Rehab) completed @ end March 2023																			90.8%

Table 4.13: Summary of Derryfadda Rehabilitation



Ti Derrymore

Gowla

Derryfadda


Killegran

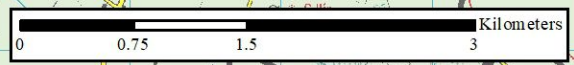
Castlegar


Bord na Móna

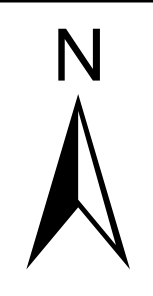
Derryfadda Bog Bog Site Location

Legend

 BnM Boundary



DRWG No:	Scale:	Drawn by:	Date:
BNM-DR-23-12-01	1:50,000	LB	15/07/2021
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Rehab Measures

- Proposed Drain Blocks
 - Berms
 - Bunded Cells
- ## Rehab Type
- Archeology Constraint
 - Additional Work 2
 - Constraint
 - Dry Cutaway 1
 - Dry Cutaway 2
 - Deep Peat Cutaway 4
 - Deep Peat Cutaway 5
 - Marginal Land 1
 - Marginal Land 2
 - Silt Pond
 - Wetland 2
 - Wetland 3

Bog Assets

- Production Centres
- Proposed Piezometer Locations
- SW Discharge Locations
- Railway Line (To Be Lifted)
- Highfields
- BnM Boundary

Bord na Móna

Peatlands Climate Action Scheme Derryfadda Bog Proposed Measures - Site Layout Plan

DRWG No: BNM-DR-23-12-DP02	Scale: 1:12,000	Drawn by: LB	Date: 13/12/2021
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0 0.5 1 2 Kilometers



Plate B13.1: Derryfadda Bog rehabilitation measures - February 2023



Plate B13.2: Derryfadda Bog rehabilitation measures - February 2023

Appendix B14 - Glenlough Bog

Glenlough Bog Overview

Table 4.14 Summary of Glenlough Rehabilitation Measures

Drg. No BNM-DR-23-17-01: Glenlough Bog Site Location Plan

Drg No BNM-DR-23-17-DP02: Proposed Measures (approved prior to rehab commencement)

Sample Photographs of Glenlough Rehabilitation Measures

Glenlough

Glenlough Bog is located along the border of counties Longford and Westmeath, 5km south of Edgeworthstown in Co. Longford. The area of the bog is 328.3 hectares. Glenlough Bog was drained for peat production in the early 1980's, a small part of the site was used for horticultural or sod moss peat between 2000 and 2018. Further information on the bog is available in the Glenlough Bog Cutaway Bog Decommissioning and Rehabilitation Plan 2022.

A package of documents and drawings was submitted to NPWS in March 2022 setting out the proposals for the rehabilitation of Glenlough Bog and these proposed measures and associated cost estimate was approved by NPWS. The proposed rehabilitation of Glenlough Bog is set out below and mainly consists of Deep Peat rehabilitation methodologies.

The Appropriate Assessment screening for Glenlough Bog held on April 21st, 2022 concluded that there was no likelihood of significant effects to European Sites because of the proposed project, either alone or in-combination with other plans or projects. Therefore, the potential for significant effects on relevant European Sites has been excluded and have been 'Screened Out' from the Appropriate Assessment process and no Appropriate Assessment is required for these European Sites.

The design package for Glenlough Bog was formally approved by the National Parks and Wildlife Service (NPWS) on June 24th , 2022 and rehabilitation commenced in July 2022.

	Rehabilitation Methodology (by hectare)																		Total Area (Hectares)
Glenlough Bog	DPT1	DPT2	DPT3	DPT4	DPT5	DPT6	DCT1	DCT2	DCT3	WLT1	WLT2	WLT3	WLT4	WLT5	MLT2	AWT2	MLT1	AWT1	
Design Rehab Methodologies submitted to and approved by NPWS	0.0	217.6	0.0	0.0	0.0	46.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	55.4	11.4	0.0	330.6
Design Rehab Methodologies incorporating amendments post commencement	0.0	220.6	0.0	0.0	0.0	42.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.3	9.3	0.0	324.0
Rehab Methodologies completed at end Mar 2023	0.0	214.0	0.0	0.0	0.0	18.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.3	6.9	0.0	290.7
Percentage area rehabilitated @ end March 2023																			90.0%
Percentage Work Content completed @ end March 2023																			68.4%

Table 4.14: Summary of Glenlough Rehabilitation



Legend



BnM Boundary

0 1.25 2.5 5 Kilometres

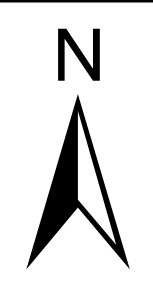
Bord na Móna

Glenlough Bog Site Location Map

DRWG No: BNM-DR-23-17-01 Scale: 1:80,000 Drawn by: BG Date: 20/07/2022



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Rehab Measures

Proposed Drain Blocks

Rehab Type

Additional Work 2

Constraint

Deep Peat Cutaway 2

Deep Peat Cutaway 6

Marginal Land 1

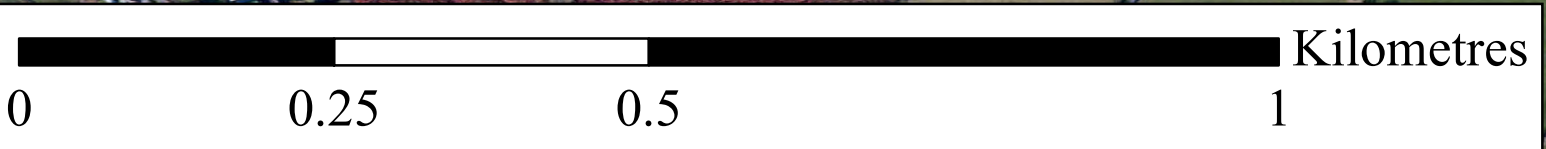
Silt Pond

Bog Assets

Piezometer Locations

SW Discharge Locations

BnM Boundary



Bord na Móna

Peatlands Climate Action Scheme

Glenlough Bog

Proposed Measures - Site Layout Plan

DRWG No:
BNM-DR-23-17-DP02

Scale:
1:6,000

Drawn by:
BG

Date:
20/07/2022

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Plate B14.1: Glenlough Bog rehabilitation measures - November 2022



Plate B14.2: Glenlough Bog rehabilitation measures - November 2022

Appendix B15 - Noggusboy Bog

Noggusboy Bog Overview

Table 4.15 Summary of Noggusboy Rehabilitation Measures

Drg. No BNM-DR-23-11-01: Noggusboy Bog Site Location Plan

Drg No BNM-DR-23-11-DP02: Proposed Measures (approved prior to rehab commencement)

Sample Photographs of Noggusboy Rehabilitation Measures

Noggusboy

Noggusboy Bog is located 0.8 km east of Cloghan and 1.8 km south of Ferbane in Co. Offaly. The area of the bog is 977 hectares. Noggusboy Bog was drained for industrial peat production in the 1950's and was in active peat production until 2018. Further information on the bog is available in the Noggusboy Bog Cutaway Bog Decommissioning and Rehabilitation Plan 2022.

A package of documents and drawings was submitted to NPWS in December 2021 setting out the proposals for the rehabilitation of Noggusboy Bog and these proposed measures and associated cost estimate was approved by NPWS. The proposed rehabilitation of Noggusboy Bog is set out below and mainly consists of Deep Peat, Dry Cutaway and Wetland rehabilitation methodologies.

The Appropriate Assessment screening for Noggusboy Bog held on February 22nd, 2022 concluded that there was no likelihood of significant effects to European Sites because of the proposed project, either alone or in-combination with other plans or projects. Therefore, the potential for significant effects on relevant European Sites has been excluded and have been 'Screened Out' from the Appropriate Assessment process and no Appropriate Assessment is required for these European Sites.

The design package for Noggusboy Bog was formally approved by the National Parks and Wildlife Service (NPWS) on July 1st , 2022 and rehabilitation commenced in July 2022.

	Rehabilitation Methodology (by hectare)																		Total Area (Hectares)
Noggusboy Bog	DPT1	DPT2	DPT3	DPT4	DPT5	DPT6	DCT1	DCT2	DCT3	WLT1	WLT2	WLT3	WLT4	WLT5	MLT2	AWT2	MLT1	AWT1	
Design Rehab Methodologies submitted to and approved by NPWS	0.0	0.0	0.0	12.7	0.0	0.0	20.3	167.1	0.0	0.0	98.2	14.6	66.0	0.0	10.2	20.6	33.9	0.0	443.6
Design Rehab Methodologies incorporating amendments post commencement	0.0	0.0	0.0	13.2	0.0	0.0	20.3	166.5	0.0	0.0	98.3	14.6	66.0	0.0	10.1	14.5	33.9	2.9	440.3
Rehab Methodologies completed at end Mar 2023	0.0	0.0	0.0	13.2	0.0	0.0	20.3	166.4	0.0	0.0	98.3	14.6	66.0	0.0	10.1	14.5	28.0	2.9	434.3
Percentage area rehabilitated @ end March 2023																			99.0%
Percentage Work Content completed @ end March 2023																			99.0%

Table 4.15: Summary of Noggusboy Rehabilitation



Legend

 BnM Boundary

0 0.75 1.5 3 Kilometers

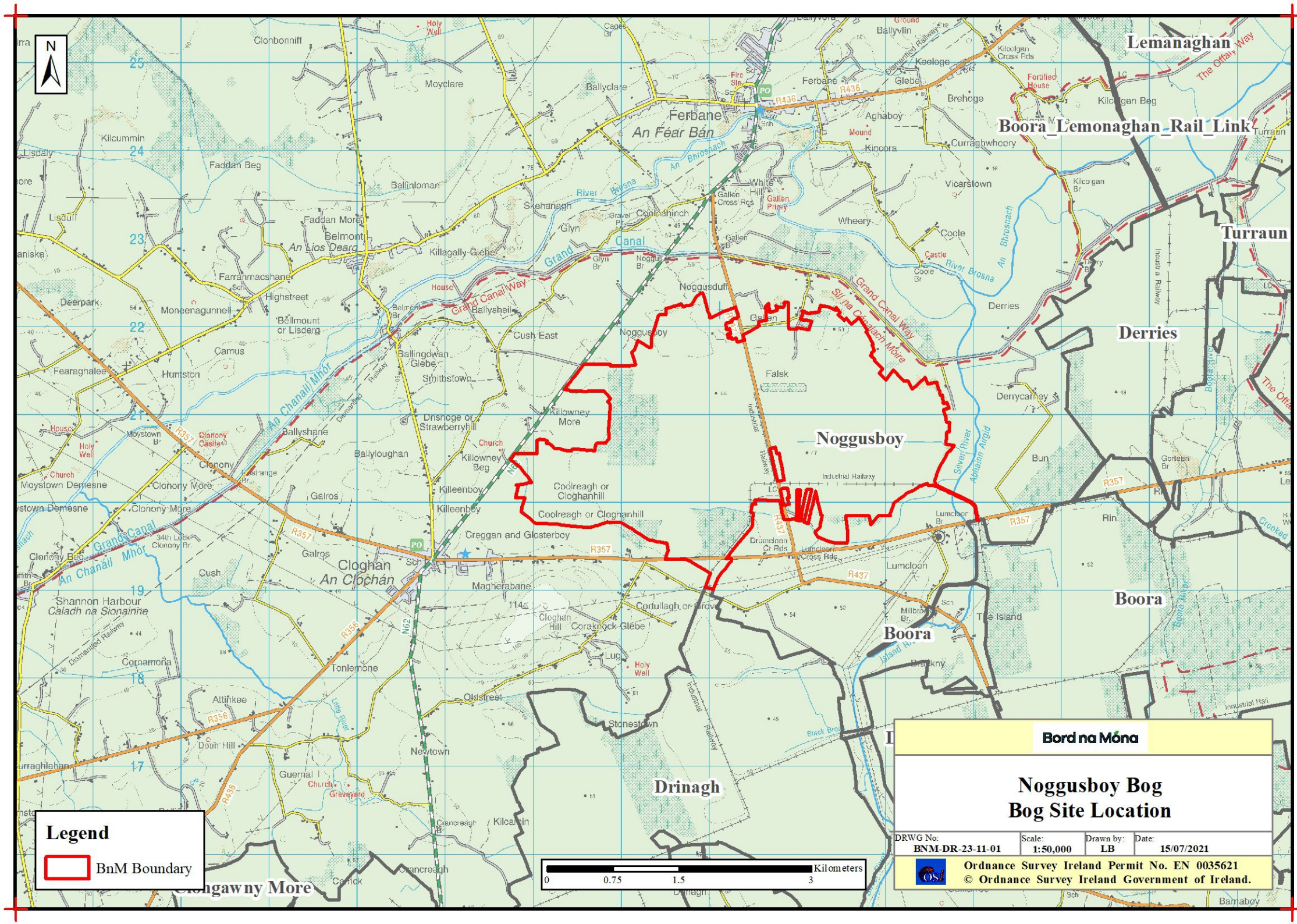
Bord na Móna

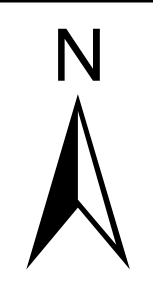
Noggusboy Bog Bog Site Location

DRWG No: BNM-DR-23-11-01 Scale: 1:50,000 Drawn by: LB Date: 15/07/2021



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Rehab Measures

- Proposed Drain Blocks
- Berms
- Bunded Cells
- Rehab Type**
 - Additional Work 2
 - Constraint
 - Dry Cutaway 1
 - Dry Cutaway 2
 - Deep Peat Cutaway 4
 - Marginal Land 1
 - Marginal Land 2
 - Silt Pond
 - Wetland 2
 - Wetland 3
 - Wetland 4

Bog Assets

- Production Centres
- Pump Sites
- Piezometer Locations
- SW Discharge Locations
- Railway Line (To Be Lifted)
- Highfields
- BnM Boundary

Bord na Móna

Peatlands Climate Action Scheme Noggusboy Bog Proposed Measures - Site Layout Plan

DRWG No: BNM-DR-23-11-DP02	Scale: 1:8,000	Drawn by: BG	Date: 27/01/2022
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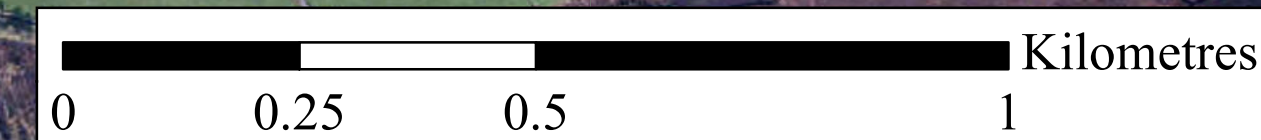




Plate B15.1: Noggusboy Bog rehabilitation measures - October 2022



Plate B15.2: Noggusboy Bog rehabilitation measures - October 2022

Appendix B16 - Derrybrat Bog

Derrybrat Bog Overview

Table 4.16 Summary of Derrybrat Rehabilitation Measures

Drg. No BNM-DR-23-01-01: Derrybrat Bog Site Location Plan

Drg No BNM-DR-23-01-DP02: Proposed Measures (approved prior to rehab commencement)

Sample Photographs of Derrybrat Rehabilitation Measures

Derrybrat

Derrybrat Bog is located adjacent to the R357, circa 6km to the south of Ferbane and 5km north west of Kilcormac Co. Offaly. The area of the bog is 170.2 hectares. Derrybrat Bog was drained for industrial peat production in the 1950's and was in active peat production until 2016. Further information on the bog is available in the Derrybrat Bog Cutaway Bog Decommissioning and Rehabilitation Plan 2022.

A package of documents and drawings was submitted to NPWS in December 2021 setting out the proposals for the rehabilitation of Derrybrat Bog and these proposed measures and associated cost estimate was approved by NPWS. The proposed rehabilitation of Derrybrat Bog is set out below and mainly consists of Deep Peat, Dry Cutaway and Wetland rehabilitation methodologies.

The Appropriate Assessment screening for Derrybrat Bog held on March 31st, 2022 concluded that there was no likelihood of significant effects to European Sites because of the proposed project, either alone or in-combination with other plans or projects. Therefore, the potential for significant effects on relevant European Sites has been excluded and have been 'Screened Out' from the Appropriate Assessment process and no Appropriate Assessment is required for these European Sites.


The design package for Derrybrat Bog was formally approved by the National Parks and Wildlife Service (NPWS) on July 6th , 2022 and rehabilitation commenced in December 2022.

	Rehabilitation Methodology (by hectare)																		Total Area (Hectares)
Derrybrat Bog	DPT1	DPT2	DPT3	DPT4	DPT5	DPT6	DCT1	DCT2	DCT3	WLT1	WLT2	WLT3	WLT4	WLT5	MLT2	AWT2	MLT1	AWT1	
Design Rehab Methodologies submitted to and approved by NPWS	0.0	8.3	0.0	0.0	0.0	0.0	8.3	23.2	0.0	0.0	11.3	28.6	0.0	0.0	5.3	49.6	12.1	0.0	146.7
Design Rehab Methodologies incorporating amendments post commencement	0.0	8.3	0.0	0.0	0.0	0.0	8.3	23.2	0.0	0.0	11.3	23.9	2.7	0.0	5.3	51.5	12.1	0.0	146.8
Rehab Methodologies completed at end Mar 2023	0.0	8.3	0.0	0.0	0.0	0.0	8.3	23.2	0.0	0.0	11.3	23.9	2.7	0.0	5.3	51.5	10.0	0.0	144.7
Percentage area rehabilitated @ end March 2023																			99.0%
Percentage Work Content completed @ end March 2023																			99.0%

Table 4.16: Summary of Derrybrat Rehabilitation



Legend


 BnM Boundary

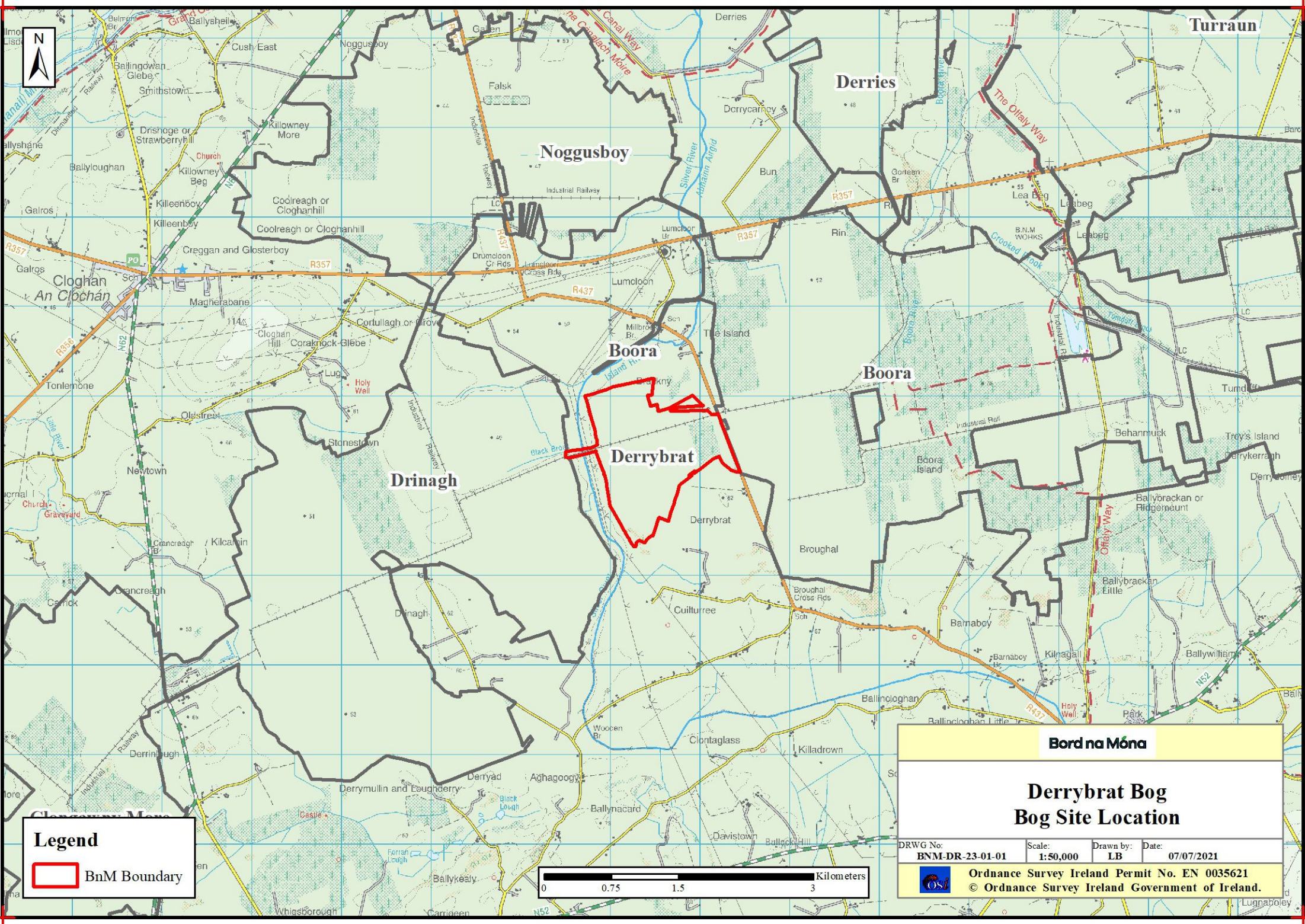


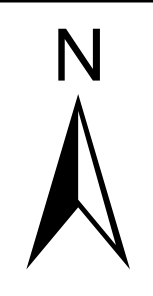
Bord na Móna

**Derrybrat Bog
Bog Site Location**

DRWG No:	Scale:	Drawn by:	Date:
BNM-DR-23-01-01	1:50,000	LB	07/07/2021

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Rehab Measures

● Proposed Drain Blocks

— Berms

Rehab Type

■ Additional Work 2

■ Constraint

■ Dry Cutaway 1

■ Dry Cutaway 2

■ Deep Peat Cutaway 2

■ Marginal Land 1

■ Marginal Land 2

■ Silt Pond

■ Wetland 2

■ Wetland 3

Bog Assets

● Production Centres

✚ Proposed Piezometer Locations

🚰 SW Discharge Locations

+++++ Railway Line (To Be Lifted)

▨ Highfields

⋯ BnM Boundary

Bord na Móna

Peatlands Climate Action Scheme Derrybrat Bog Proposed Measures - Site Layout Plan

DRWG No:
BNM-DR-23-01-DP02

Scale:
1:4,000

Drawn by:
LB

Date:
17/12/2021



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0 0.175 0.35 0.7 Kilometers



Plate B16.1: Derrybrat Bog rehabilitation measures - February 2023



Plate B16.2: Derrybrat Bog rehabilitation measures - February 2023

Appendix B17 - Knappoge Bog

Knappoge Bog Overview

Table 4.17 Summary of Knappoge Rehabilitation Measures

Drg. No BNM-DR-23-08-01: Knappoge Bog Site Location Plan

Drg No BNM-DR-23-08-DP02: Proposed Measures (approved prior to rehab commencement)

Sample Photographs of Knappoge Rehabilitation Measures

Knappoge

Knappoge Bog is located approximately 1km from Cloondara and to the north east of Lanesborough in Co. Longford. The area of the bog is 314 hectares. Peat production in Knappoge bog commenced in 1963 and finished in 2018. Further information on the bog is available in the Knappoge Bog Cutaway Bog Decommissioning and Rehabilitation Plan 2022.

A package of documents and drawings was submitted to NPWS in March 2022 setting out the proposals for the rehabilitation of Knappoge Bog and these proposed measures and associated cost estimate was approved by NPWS. The proposed rehabilitation of Knappoge Bog is set out below and mainly consists of Dry Cutaway and Wetland rehabilitation methodologies.

The Appropriate Assessment screening for Knappoge Bog held on February 3rd, 2022 concluded that there was no likelihood of significant effects to European Sites because of the proposed project, either alone or in-combination with other plans or projects. Therefore, the potential for significant effects on relevant European Sites has been excluded and have been 'Screened Out' from the Appropriate Assessment process and no Appropriate Assessment is required for these European Sites.

The design package for Knappoge Bog was formally approved by the National Parks and Wildlife Service (NPWS) on July 13th , 2022 and rehabilitation commenced in August 2022.

	Rehabilitation Methodology (by hectare)																		Total Area (Hectares)
Knappoge Bog	DPT1	DPT2	DPT3	DPT4	DPT5	DPT6	DCT1	DCT2	DCT3	WLT1	WLT2	WLT3	WLT4	WLT5	MLT2	AWT2	MLT1	AWT1	
Design Rehab Methodologies submitted to and approved by NPWS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	64.0	0.0	0.0	99.3	7.5	85.0	0.0	13.7	0.0	25.4	0.0	294.9
Design Rehab Methodologies incorporating amendments post commencement	0.0	0.0	0.0	0.0	0.0	0.0	0.0	55.6	0.0	0.0	99.3	5.4	56.6	0.0	13.7	38.9	25.4	0.0	294.9
Rehab Methodologies completed at end Mar 2023	0.0	0.0	0.0	0.0	0.0	0.0	0.0	55.6	0.0	0.0	99.3	5.4	56.6	0.0	12.7	38.9	20.9	0.0	289.4
Percentage area rehabilitated @ end March 2023																			98.1%
Percentage Work Content completed @ end March 2023																			84.7%

Table 4.17: Summary of Knappoge Rehabilitation



Cloonshannagh Rail Link

Cloonmore

Granaghan

Derrycashel

Cloondara
Cluain Dá Rath

Mountdillon

Erenagh

Knappoge

Begnagh

Clooneeny

Moher

Derryarogue

Kilashee


Bord na Móna

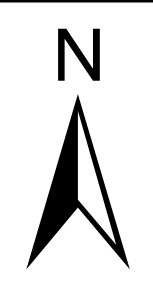
Knappoge Bog Bog Site Location

Legend

 BnM Boundary

0 0.5 1 2 Kilometres

DRWG No: BNM-DR-23-08-01 Scale: 1:50,000 Drawn by: BG Date: 30/03/2022
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Rehab Measures

Proposed Drain Blocks

Berms

Rehab Type

Constraint

Dry Cutaway 2

Marginal Land 1

Marginal Land 2

Silt Pond

Wetland 2

Wetland 3

Wetland 4

Bog Assets

Pump Sites

Piezometer Locations

SW Discharge Locations

Railway Line (To Be Lifted)

Highfields

BnM Boundary

Bord na Móna

Peatlands Climate Action Scheme

Knappoge Bog

Proposed Measures - Site Layout Plan

DRWG No:
BNM-DR-23-08-DP02

Scale:
1:7,000

Drawn by:
BG

Date:
30/03/2022


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Plate B17.1: Knappoge Bog rehabilitation measures - December 2022



Plate B.17.2: Knappoge Bog rehabilitation measures - December 2022

Appendix B18 – Ballycon Bog

Ballycon Bog Overview

Table 4.18 Summary of Ballycon Rehabilitation Measures

Drg. No BNM-DR-23-03-01: Ballycon Site Location Plan

Drg No BNM-DR-23-03-DP02: Proposed Measures (approved prior to rehab commencement)

Sample Photographs of Ballycon Rehabilitation Measures

Ballycon

Ballycon Bog is located in Co. Offaly, approximately 8Km south-west of Edenderry. The area of the bog is 281.1 hectares. Ballycon Bog was drained for industrial peat production in the 1960's and was in active peat production until 2001. Further information on the bog is available in the Ballycon Bog Cutaway Bog Decommissioning and Rehabilitation Plan 2022.

A package of documents and drawings was submitted to NPWS in April 2022 setting out the proposals for the rehabilitation of Ballycon Bog and these proposed measures and associated cost estimate was approved by NPWS. The proposed rehabilitation of Ballycon Bog is set out below and mainly consists of Deep Peat, Dry Cutaway and Wetland rehabilitation methodologies.

The Appropriate Assessment screening for Ballycon Bog held on April 21st, 2022 concluded that there was no likelihood of significant effects to European Sites because of the proposed project, either alone or in-combination with other plans or projects. Therefore, the potential for significant effects on relevant European Sites has been excluded and have been 'Screened Out' from the Appropriate Assessment process and no Appropriate Assessment is required for these European Sites.

The design package for Ballycon Bog was formally approved by the National Parks and Wildlife Service (NPWS) on July 22nd , 2022 and rehabilitation commenced in February 2023.

	Rehabilitation Methodology (by hectare)																		Total Area (Hectares)
Ballycon Bog	DPT1	DPT2	DPT3	DPT4	DPT5	DPT6	DCT1	DCT2	DCT3	WLT1	WLT2	WLT3	WLT4	WLT5	MLT2	AWT2	MLT1	AWT1	
Design Rehab Methodologies submitted to and approved by NPWS	0.0	8.0	0.0	0.0	0.0	0.0	5.2	11.7	0.0	0.0	0.0	0.5	0.0	0.0	0.0	208.3	15.3	0.0	248.9
Design Rehab Methodologies incorporating amendments post commencement	0.0	8.0	0.0	0.0	0.0	0.0	11.4	11.7	0.0	0.0	88.2	0.0	0.0	0.0	0.0	114.3	14.5	0.0	248.1
Rehab Methodologies completed at end Mar 2023	0.0	8.0	0.0	0.0	0.0	0.0	11.4	11.7	0.0	0.0	88.2	0.0	0.0	0.0	0.0	114.3	12.0	0.0	245.6
Percentage area rehabilitated @ end March 2023																			99.0%
Percentage Work Content completed @ end March 2023																			86.2%

Table 4.18: Summary of Ballycon Rehabilitation



Legend



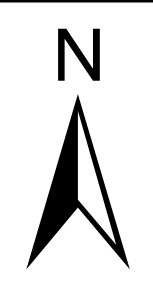
BnM Boundary

Bord na Móna

Ballycon Bog Bog Site Location

DRWG No: BNM-DR-23-03-01 Scale: 1:50,000 Drawn by: BG Date: 31/03/2022
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0 0.5 1 2 Kilometres



Rehab Measures

Proposed Drain Blocks

Berms

Rehab Type

Archaeology Constraint

Additional Work 2

Constraint

Dry Cutaway 1

Dry Cutaway 2

Deep Peat Cutaway 2

Marginal Land 1

Silt Pond

Wetland 3

Bog Assets

Production Centres

Piezometer Locations

SW Discharge Locations

Railway Line (To Be Lifted)

Highfields

BnM Boundary



Bord na Móna

Peatlands Climate Action Scheme

Ballycon Bog

Proposed Measures - Site Layout Plan

DRWG No:
BNM-DR-23-03-DP02

Scale:
1:6,000

Drawn by:
BG

Date:
20/06/2022

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Plate B18.1: Ballycon Bog rehabilitation measures - September 2022



Plate B18.2: Ballycon Bog rehabilitation measures - November April 2023

Appendix B19 – Blackwater Bog

Blackwater Bog Overview

Table 4.19 Summary of Blackwater Rehabilitation Measures

Drg. No BNM-DR-23-14-01: Blackwater Bog Site Location Plan

Drg No BNM-DR-23-14-DP02: Proposed Measures (approved prior to rehab commencement)

Sample Photographs of Blackwater Rehabilitation Measures

Blackwater

Blackwater Bog is located approximately 1 km north-east of Shannonbridge in Co. Offaly, approximately 8Km south-west of Edenderry. The area of the bog is 2,314 hectares. Blackwater Bog was drained and developed for industrial peat production in the 1950's and was in active peat production until 2020. Further information on the bog is available in the Blackwater Bog Cutaway Bog Decommissioning and Rehabilitation Plan 2022.

A package of documents and drawings was submitted to NPWS in June 2022 setting out the proposals for the rehabilitation of Blackwater Bog and these proposed measures and associated cost estimate were subsequently approved by NPWS. The proposed rehabilitation of Blackwater Bog is set out below and mainly consists of Deep Peat, Dry Cutaway and Wetland rehabilitation methodologies. Rehabilitation on Blackwater is scheduled take place over two years, specifically during Year 2 and Year 3 of the scheme.

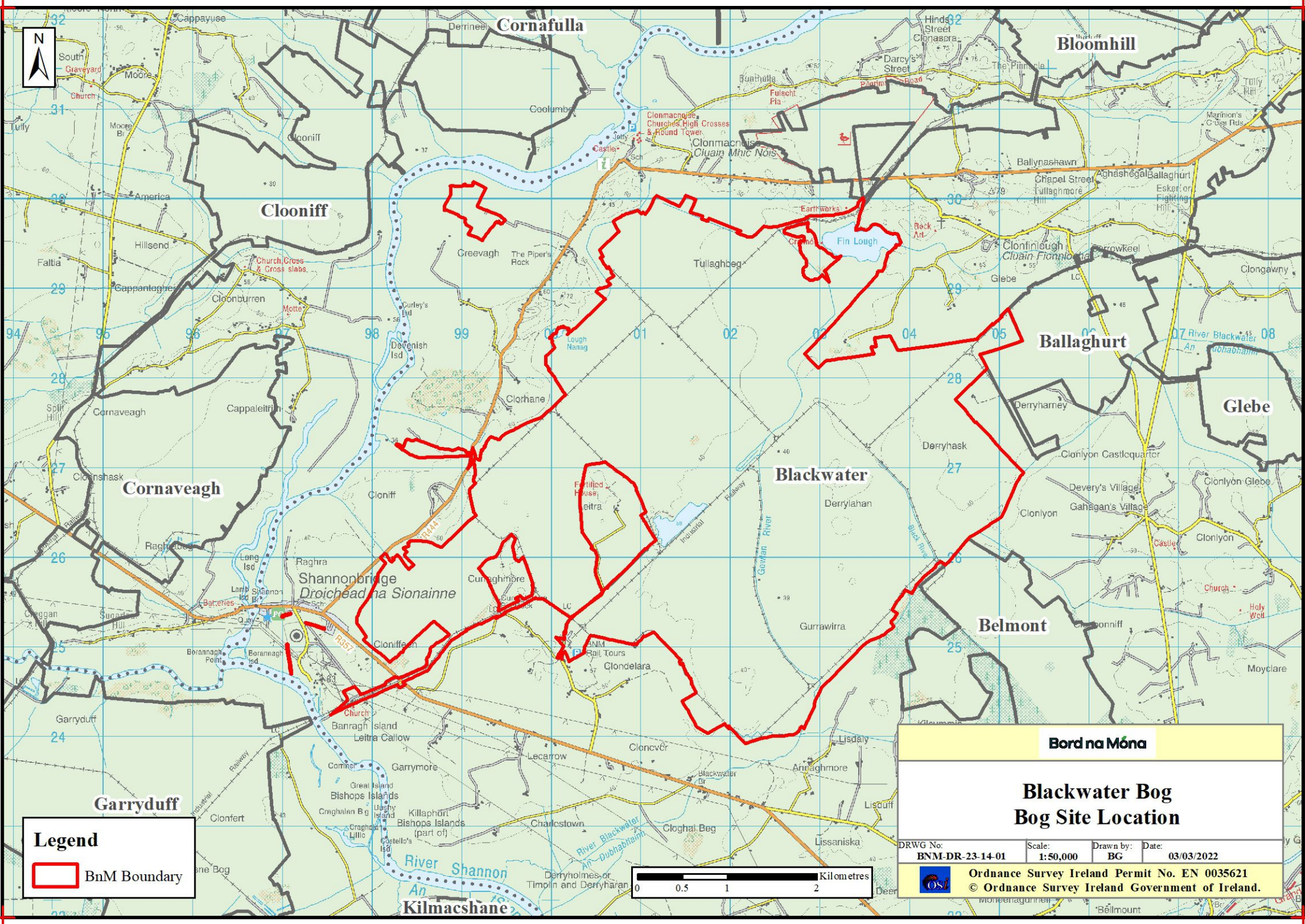
The Appropriate Assessment screening for Blackwater Bog concluded that there was a likelihood of significant effects to a number of relevant European Sites because of the proposed project, either alone or in-combination with other plans or projects. An Appropriate Assessment was therefore required in respect of River Suck Callows SPA, River Shannon Callows SAC, Middle Shannon Callows SPA, Finlough SAC and Mongan Bog SPA

A Natura Impact Statement (NIS) was subsequently prepared by third party consultants and this document was issued to the Minister for observations and was also issued for public consultation. No observations were received from the public consultation process. Observations were received from the Minister and these were considered by Bord na Móna. Following this, it was determined on September 22nd 2022 that "in view of the best scientific knowledge and the site's conservation objectives, that the proposed Project, individually or in combination with other plans or projects, would not adversely affect the integrity of any European site."


The design package for Blackwater was formally approved by the National Parks and Wildlife Service (NPWS) on October 10th, 2022 and rehabilitation commenced in February 2023.

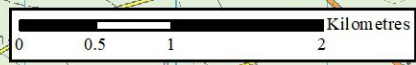
	Rehabilitation Methodology (by hectare)																		Total Area (Hectares)
Blackwater Bog	DPT1	DPT2	DPT3	DPT4	DPT5	DPT6	DCT1	DCT2	DCT3	WLT1	WLT2	WLT3	WLT4	WLT5	MLT2	AWT2	MLT1	AWT1	
Design Rehab Methodologies submitted to and approved by NPWS	0.0	0.0	0.0	23.6	0.0	0.0	0.0	99.5	0.0	0.0	129.1	44.3	190.4	0.0	3.3	0.0	30.4	27.6	548.2
Design Rehab Methodologies incorporating amendments post commencement	0.0	0.0	0.0	23.7	0.0	0.0	0.0	75.8	0.0	0.0	129.2	44.3	188.6	0.0	3.2	51.4	32.0	0.0	548.2
Rehab Methodologies completed at end Mar 2023	0.0	0.0	0.0	23.7	0.0	0.0	0.0	75.8	0.0	0.0	129.2	44.3	188.6	0.0	0.0	23.7	24.8	0.0	510.1
Percentage area rehabilitated @ end March 2023																			93.1%
Percentage Work Content completed @ end March 2023																			98.3%

Table 4.19: Summary of Blackwater Rehabilitation



Legend


 BnM Boundary

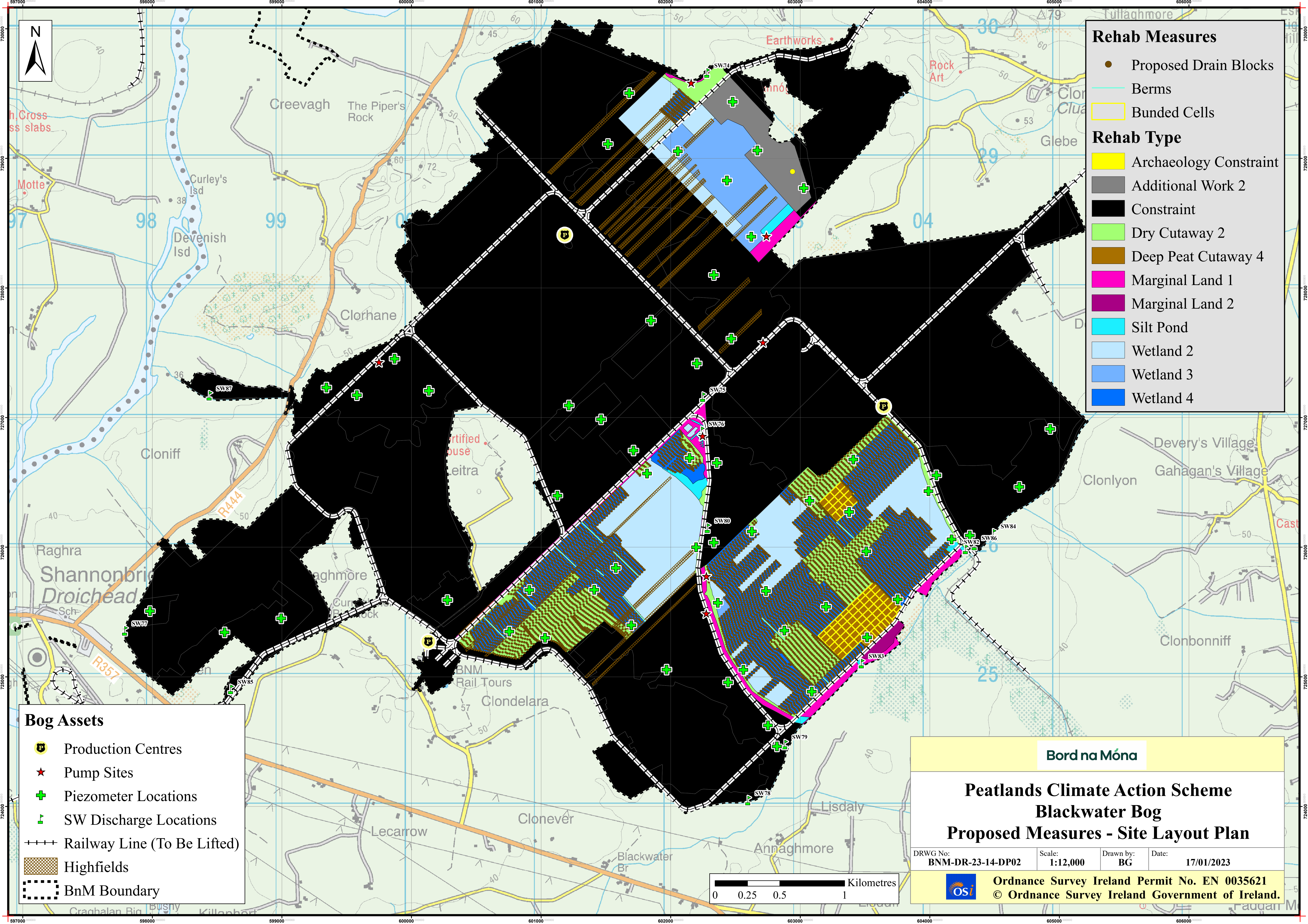


Bord na Móna

**Blackwater Bog
Bog Site Location**

DRWG No:	Scale:	Drawn by:	Date:
BNM-DR-23-14-01	1:50,000	BG	03/03/2022

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Rehab Measures

- Proposed Drain Blocks
- Berms
- Bunded Cells

Rehab Type

- Archaeology Constraint
- Additional Work 2
- Constraint
- Dry Cutaway 2
- Deep Peat Cutaway 4
- Marginal Land 1
- Marginal Land 2
- Silt Pond
- Wetland 2
- Wetland 3
- Wetland 4

Bog Assets

- Production Centres
- Pump Sites
- Piezometer Locations
- SW Discharge Locations
- Railway Line (To Be Lifted)
- Highfields
- BnM Boundary

Bord na Móna

Peatlands Climate Action Scheme

Blackwater Bog

Proposed Measures - Site Layout Plan

DRWG No:
BNM-DR-23-14-DP02

Scale:
1:12,000

Drawn by:
BG

Date:
17/01/2023

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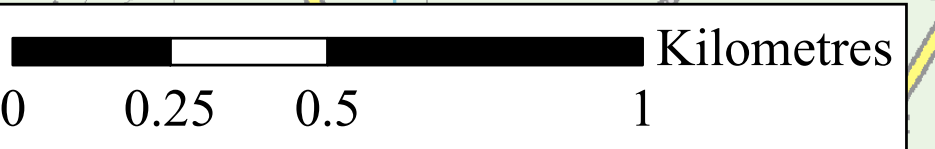




Plate B19.1: Blackwater Bog rehabilitation measures - May 2023



Plate B19.2: Blackwater Bog rehabilitation measures - May 2023

Appendix B20 – Clooniff Bog

Clooniff Bog Overview

Table 4.20 Summary of Clooniff Rehabilitation Measures

Drg. No BNM-DR-22-07-01: Clooniff Bog Site Location Plan

Drg No BNM-DR-09-01-REV B: Proposed Measures (approved prior to rehab commencement)

Sample Photographs of Clooniff Rehabilitation Measures

Clooniff

Clooniff Bog is located approximately 4 km to the north of Shannonbridge in Co. Roscommon, on the western banks of the River Shannon. The area of the bog is 530.3 hectares. Clooniff Bog was drained and developed for industrial peat production in the 1970's and was in active peat production until from 1975 until 2019. Further information on the bog is available in the Clooniff Bog Cutaway Bog Decommissioning and Rehabilitation Plan 2021.

A package of documents and drawings was submitted to NPWS in April 2021 setting out the proposals for the rehabilitation of Clooniff Bog and these proposed measures and associated cost estimate were subsequently approved by NPWS. The proposed rehabilitation of Clooniff Bog is set out below and mainly consists of Deep Peat, Dry Cutaway and Wetland rehabilitation methodologies. Rehabilitation on Clooniff took place during Year 2 of the scheme.

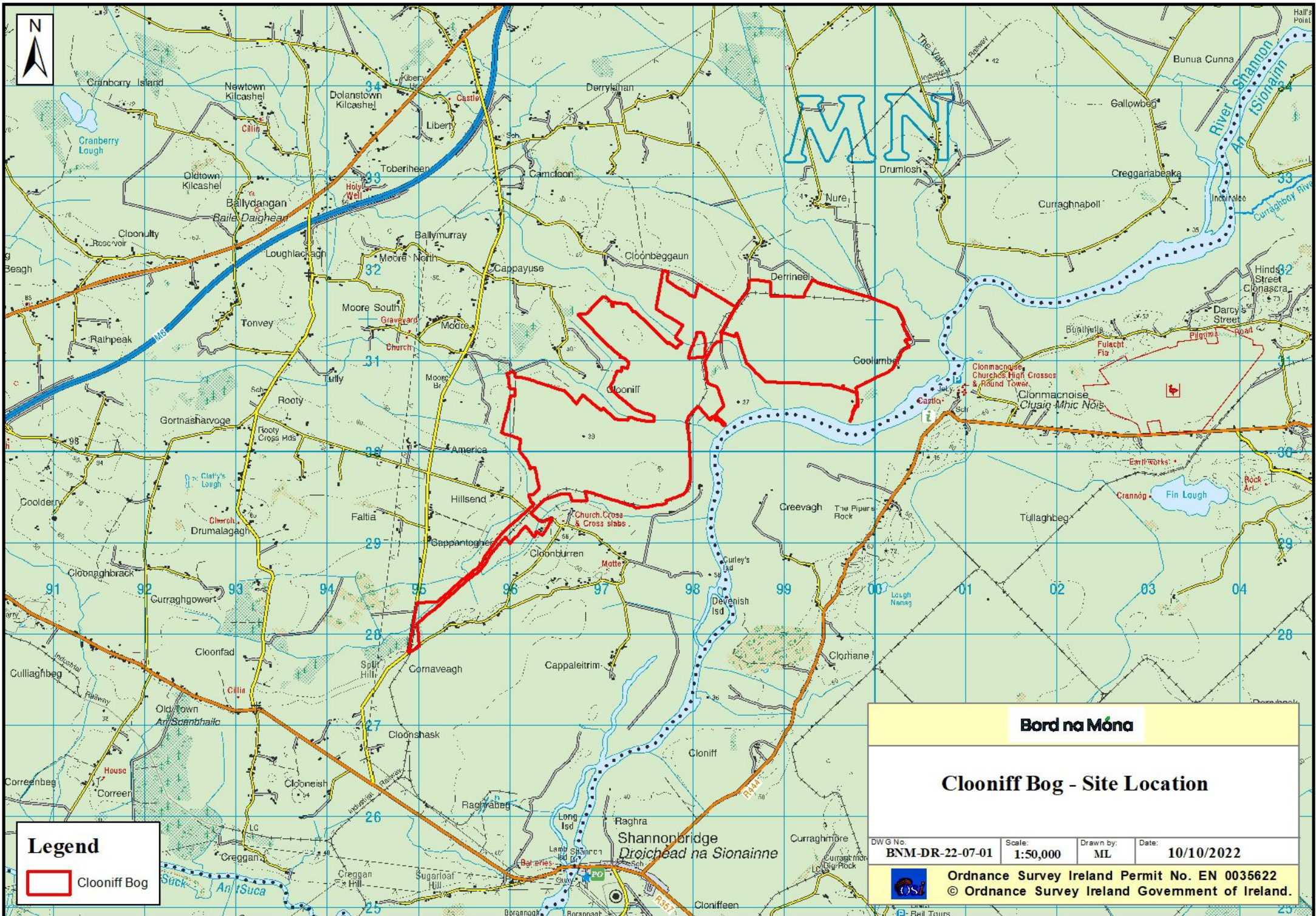
The Appropriate Assessment screening for Clooniff Bog concluded that there was a likelihood of significant effects to a number of relevant European Sites because of the proposed project, either alone or in-combination with other plans or projects. An Appropriate Assessment was therefore required in respect of River Shannon Callows SAC, Middle Shannon Callows SPA and River Suck Callows SPA.

A Natura Impact Statement (NIS) was subsequently prepared by third party consultants and this document was issued to the Minister for observations and was also issued for public consultation. No observations were received from the public consultation process. Observations were received from the Minister and these were considered by Bord na Móna. Following this, it was determined on August 23rd 2021 that "in view of the best scientific knowledge and the site's conservation objectives, that the proposed Project, individually or in combination with other plans or projects, would not adversely affect the integrity of any European site."

The design package for Clooniff was formally approved by the National Parks and Wildlife Service (NPWS) on June 17th, 2021 and rehabilitation commenced in April 2022.

	Rehabilitation Methodology (by hectare)																				Total Area (Hectares)
Clooniff Bog	DPT 1	DPT 2	DPT 3	DPT 4	DPT 5	DPT 6	DCT 1	DCT 2	DCT 3	WLT 1	WLT 2	WLT 3	WLT 4	WLT 5	MLT 1	MLT 2	AWT 1	AWT 2	MLT 1	AWT 1	
Design Rehab Methodologies submitted to and approved by NPWS	0.0	0.0	71.3	33.3	0.0	0.0	0.0	46.7	0.0	0.0	0.0	209.3	71.2	0.0	70.4	5.3	0.0	0.0	0.0	0.0	507.5
Design Rehab Methodologies incorporating amendments post commencement	0.0	0.0	70.8	35.1	0.0	0.0	0.0	45.6	0.0	0.0	0.0	209.5	70.8	0.0	39.6	5.3	0.0	0.0	0.0	0.0	476.7
Rehab Methodologies completed at end Mar 2023	0.0	0.0	70.8	35.1	0.0	0.0	0.0	45.4	0.0	0.0	0.0	209.4	70.7	0.0	32.7	5.3	0.0	0.0	0.0	0.0	469.4
Percentage area rehabilitated @ end March 2023																					98.4%
Percentage Work Content completed @ end March 2023																					98.3%

Table 4.20: Summary of Clooniff Rehabilitation




Legend

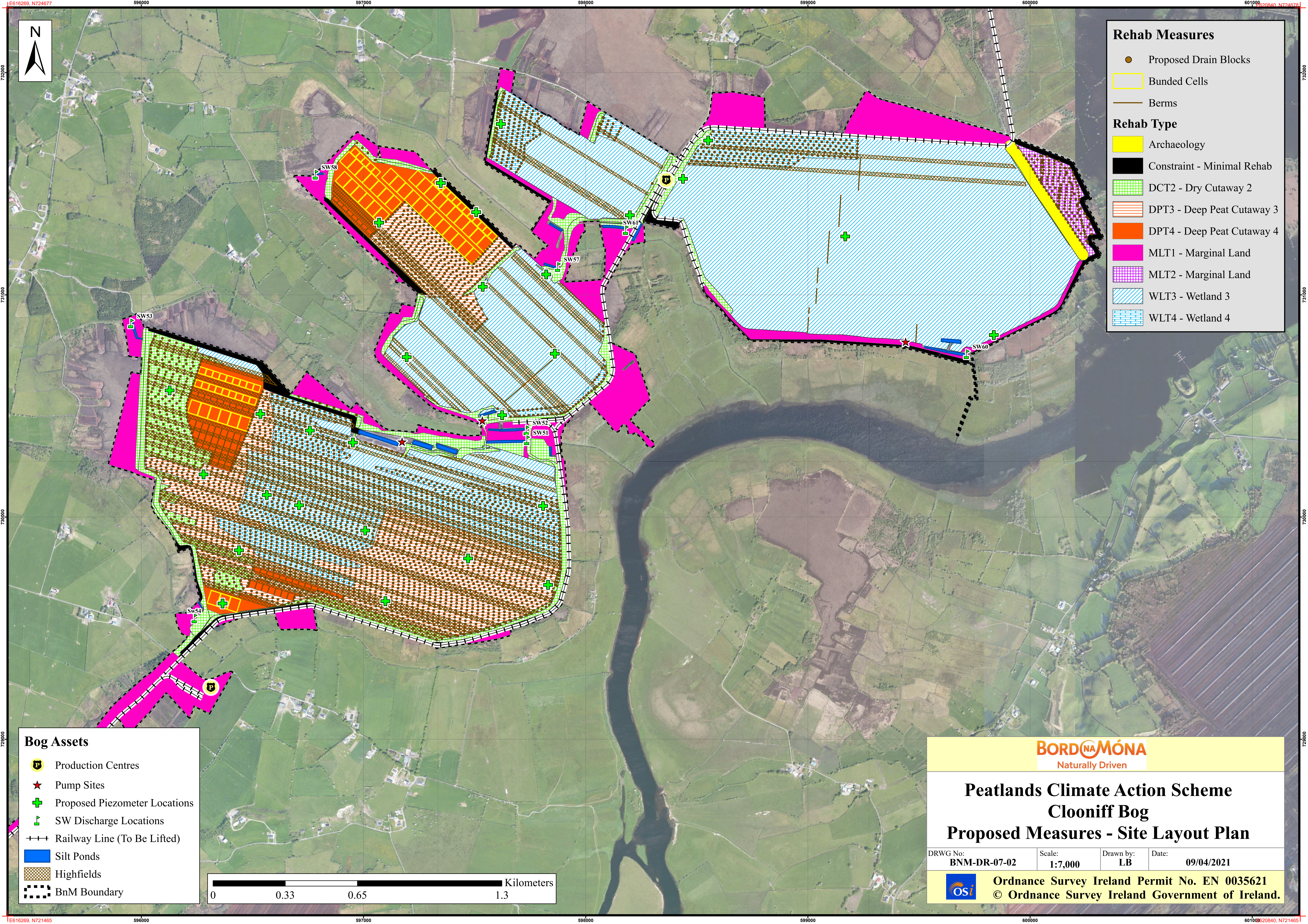
 Clooniff Bog

Bord na Móna

Clooniff Bog - Site Location

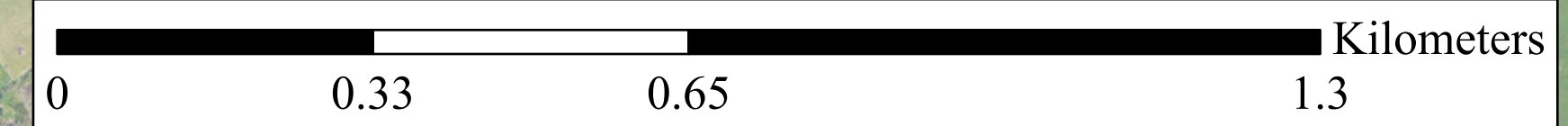
DWG No. BNM-DR-22-07-01	Scale: 1:50,000	Drawn by: ML	Date: 10/10/2022
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Bog Assets

- Production Centres
- Pump Sites
- Proposed Piezometer Locations
- SW Discharge Locations
- Railway Line (To Be Lifted)
- Silt Ponds
- Highfields
- BnM Boundary



Rehab Measures

- Proposed Drain Blocks
- Bunded Cells
- Berms
- Rehab Type**
- Archaeology
- Constraint - Minimal Rehab
- DCT2 - Dry Cutaway 2
- DPT3 - Deep Peat Cutaway 3
- DPT4 - Deep Peat Cutaway 4
- MLT1 - Marginal Land
- MLT2 - Marginal Land
- WLT3 - Wetland 3
- WLT4 - Wetland 4

BORD NA MÓNA
Naturally Driven

Peatlands Climate Action Scheme Clooniff Bog Proposed Measures - Site Layout Plan


DRWG No: BNM-DR-07-02	Scale: 1:7,000	Drawn by: LB	Date: 09/04/2021
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Plate B20.1: Clooniff Bog rehabilitation measures - October 2022



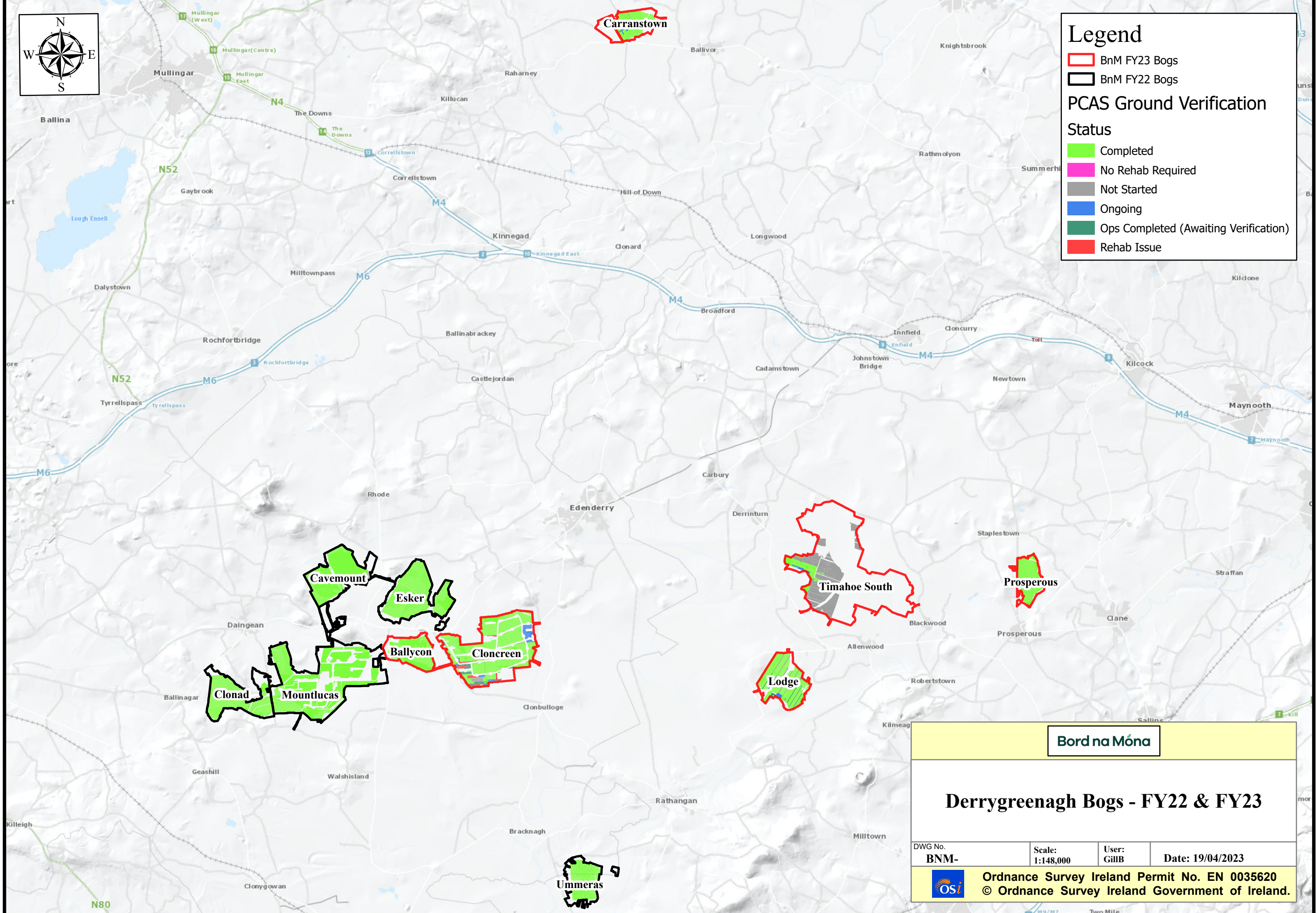
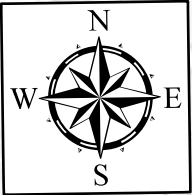
Plate B20.2: Clooniff Bog rehabilitation measures - October 2022

Appendix C – Rehab Progress at End March 2023

Year 1 (FY22) and Year 2 (FY23) Bogs in Derrygreenagh Works Area

Year 1 (FY22) and Year 2 (FY23) Bogs in Boora/ Blackwater Works Area

Year 1 (FY22) and Year 2 (FY23) Bogs in Mountdillon Works Area



Legend

BnM FY23 Bogs

BnM FY22 Bogs

PCAS Ground Verification Status

Completed

No Rehab Required

Not Started


Ongoing

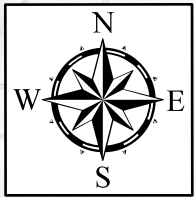
Ops Completed (Awaiting Verification)

Rehab Issue

Bord na Móna

Derrygreenagh Bogs - FY22 & FY23

DWG No. BNM-	Scale: 1:148,000	User: GillB	Date: 19/04/2023
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Bord na Móna

Boora/Blackwater Bogs - FY22 & FY23

DWG No.	Scale: 1:135,000	User: GillB	Date: 19/04/2023
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Legend

BnM FY23 Bogs

BnM FY22 Bogs

PCAS Ground Verification

Status

Completed

No Rehab Required

Not Started

Ongoing

Ops Completed (Awaiting Verification)

Rehab Issue

