

# **Enhanced Decommissioning, Restoration and Rehabilitation Scheme (EDRRS)**

## **Annual Monitoring and Verification Report**

### **EDRRS Year 1 Bogs**

## **Appendices**

- Appendix A: EDRRS Year 1 Bogs
- Appendix B: Belmont Bog
- Appendix C: Clooniff Bog
- Appendix D: Garryduff Bog
- Appendix E: Kellysgrove Bog
- Appendix F: Kilmacshane Bog
- Appendix G: Boora Bog
- Appendix H: Derries Bog
- Appendix I: Oughter Bog
- Appendix J: Pollagh Bog
- Appendix K: Turraun Bog
- Appendix L: Castlegar Bog
- Appendix M: Cavemount Bog
- Appendix N: Clonad Bog
- Appendix O: Esker Bog
- Appendix P: Mountlucas Bog
- Appendix Q: Ummeras Bog
- Appendix R: Derrycashel Bog
- Appendix S: Derrycolumb Bog
- Appendix T: Edera Bog
- Appendix U: Aerial Imagery/ Lidar
- Appendix V: Flow Monitoring

**Appendix A**  
**EDRRS Year 1 Bogs**

<b>Bog Unit</b>	<b>County</b>	<b>Bord na Móna Works Area</b>
Belmont	Offaly	Blackwater
Clooniff	Roscommon	
Garryduff	Galway	
Kellysgrove	Galway	
Kilmacshane	Galway	
Boora	Offaly	Boora
Derries	Offaly	
Oughter	Offaly	
Pollagh	Offaly	
Turraun	Offaly	
Castlegar	Offaly	Derryfadda
Cavemount	Offaly	Derrygreenagh
Clonad	Offaly	
Esker	Offaly	
Mountlucas	Offaly	
Ummeras	Offaly and Kildare	
Derrycashel	Roscommon	Mountdillon
Derrycolumb	Longford	
Edera	Longford	

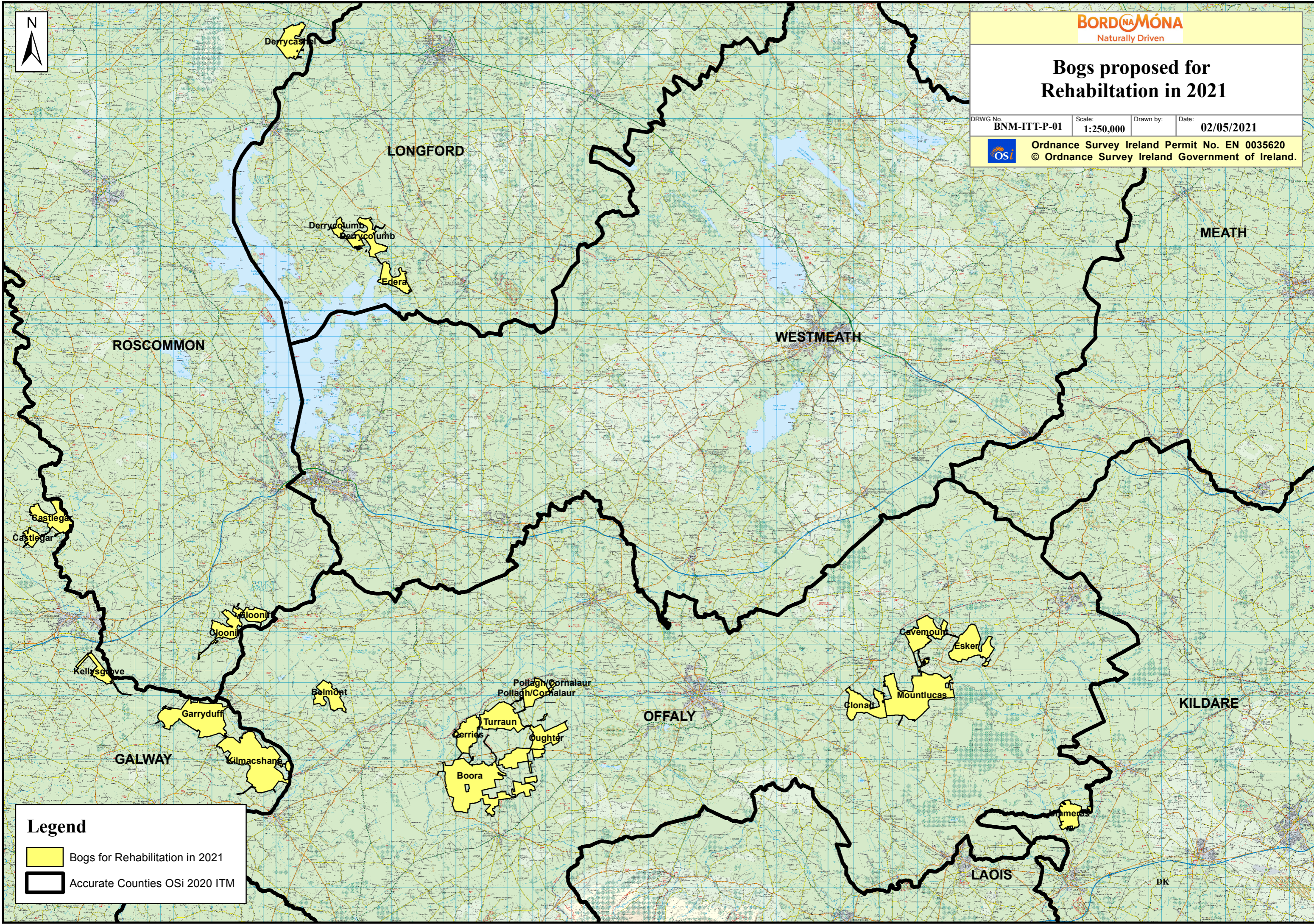


# Bogs proposed for Rehabilitation in 2021



DRWG No: **BNM-ITT-P-01** Scale: **1:250,000** Drawn by: Date: **02/05/2021**



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## Legend

-  Bogs for Rehabilitation in 2021
-  Accurate Counties OSi 2020 ITM

## **Appendix B: Belmont Bog**

### Appendix B0 - Belmont Bog - Maps

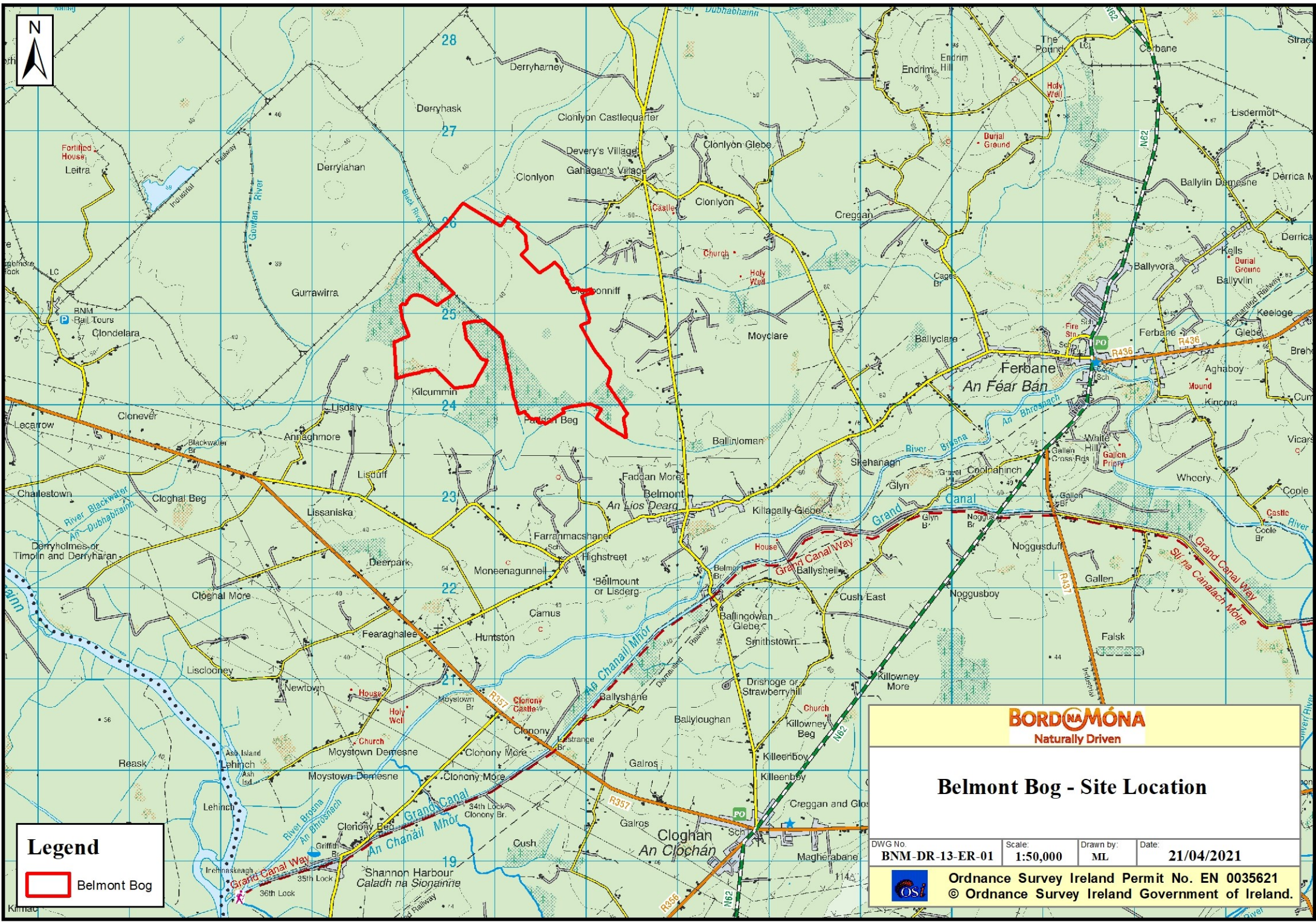
- Belmont Bog Site Location: DWG No. BNM-DR-ER-01
- Belmont Piezometer and Sampling Locations: DRWG No. BNM-DR-22-13-32

### Appendix B1 - Belmont Bog - Hydrological Monitoring

### Appendix B2 - Belmont Bog – Biodiversity (including Drawings)

- DWG No. BNM-DR-22-13-33: Belmont Bog – Ecology Transects

### Appendix B3 - Belmont Bog - Surface Water Quality




**Legend**

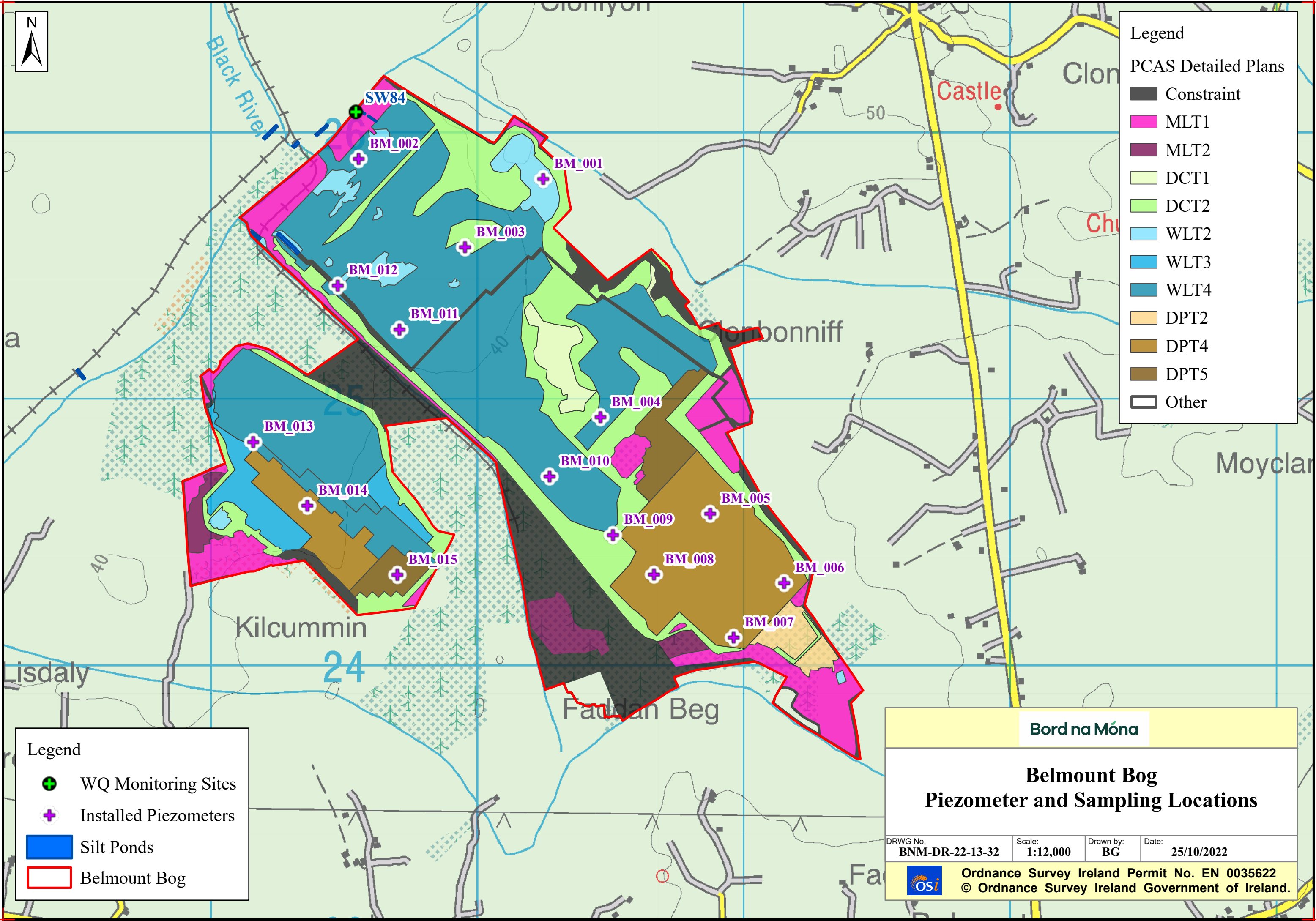
 Belmont Bog

**BORD NA MÓNA**  
Naturally Driven

**Belmont Bog - Site Location**

DWG No. <b>BNM-DR-13-ER-01</b>	Scale: <b>1:50,000</b>	Drawn by: <b>ML</b>	Date: <b>21/04/2021</b>
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**Legend**

PCAS Detailed Plans

- Constraint
- MLT1
- MLT2
- DCT1
- DCT2
- WLT2
- WLT3
- WLT4
- DPT2
- DPT4
- DPT5
- Other

**Legend**

- WQ Monitoring Sites
- Installed Piezometers
- Silt Ponds
- Belmont Bog

**Bord na Móna**

**Belmont Bog  
Piezometer and Sampling Locations**

DRWG No. <b>BNM-DR-22-13-32</b>	Scale: <b>1:12,000</b>	Drawn by: <b>BG</b>	Date: <b>25/10/2022</b>
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Appendix B1 - Belmont Bog - Hydrological Monitoring

Site Name	Well ID	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)
Belmount	BM_001_S	20/05/2021 12:56	-1	05/08/2021 09:47	-16	03/02/2022 11:40	-13	22/08/2022 13:05	-35
Belmount	BM_002_S	20/05/2021 13:17	-12	05/08/2021 09:34	-3	03/02/2022 12:11	-39	22/08/2022 12:51	-65
Belmount	BM_003_S	20/05/2021 13:07	0	05/08/2021 09:53	-6	03/02/2022 11:52	1	N/A	N/A
Belmount	BM_004_S	20/05/2021 14:58	-5	05/08/2021 08:42	-15	02/02/2022 14:52	4	N/A	N/A
Belmount	BM_005_S	20/05/2021 14:50	-27	05/08/2021 10:24	-32	02/02/2022 14:12	11	N/A	N/A
Belmount	BM_006_S	20/05/2021 14:41	-12	05/08/2021 08:17	-15	02/02/2022 14:22	4	22/08/2022 14:05	-20
Belmount	BM_007_S	20/05/2021 14:34	-69	05/08/2021 08:21	-66	02/02/2022 14:28	-71	N/A	N/A
Belmount	BM_008_S	20/05/2021 14:29	-46	05/08/2021 08:25	-8	02/02/2022 14:34	8888	N/A	N/A
Belmount	BM_009_S	20/05/2021 14:25	-6	05/08/2021 08:32	-7	02/02/2022 14:40	3	N/A	N/A
Belmount	BM_010_S	20/05/2021 14:16	-35	05/08/2021 08:39	-24	02/02/2022 14:47	-28	22/08/2022 13:36	-22
Belmount	BM_011_S	20/05/2021 13:36	-6	05/08/2021 10:03	-11	03/02/2022 11:57	-10	N/A	N/A
Belmount	BM_012_S	20/05/2021 13:29	-18	05/08/2021 10:03	8888	03/02/2022 12:05	-28	N/A	N/A
Belmount	BM_013_S	20/05/2021 13:46	0	05/08/2021 09:10	-2	02/02/2022 12:56	4	N/A	N/A
Belmount	BM_014_S	20/05/2021 13:53	-10	05/08/2021 09:10	-6	02/02/2022 13:01	8888	22/08/2022 13:12	-44
Belmount	BM_015_S	20/05/2021 14:00	-61	05/08/2021 08:54	-35	02/02/2022 13:12	-6	22/08/2022 13:27	-57

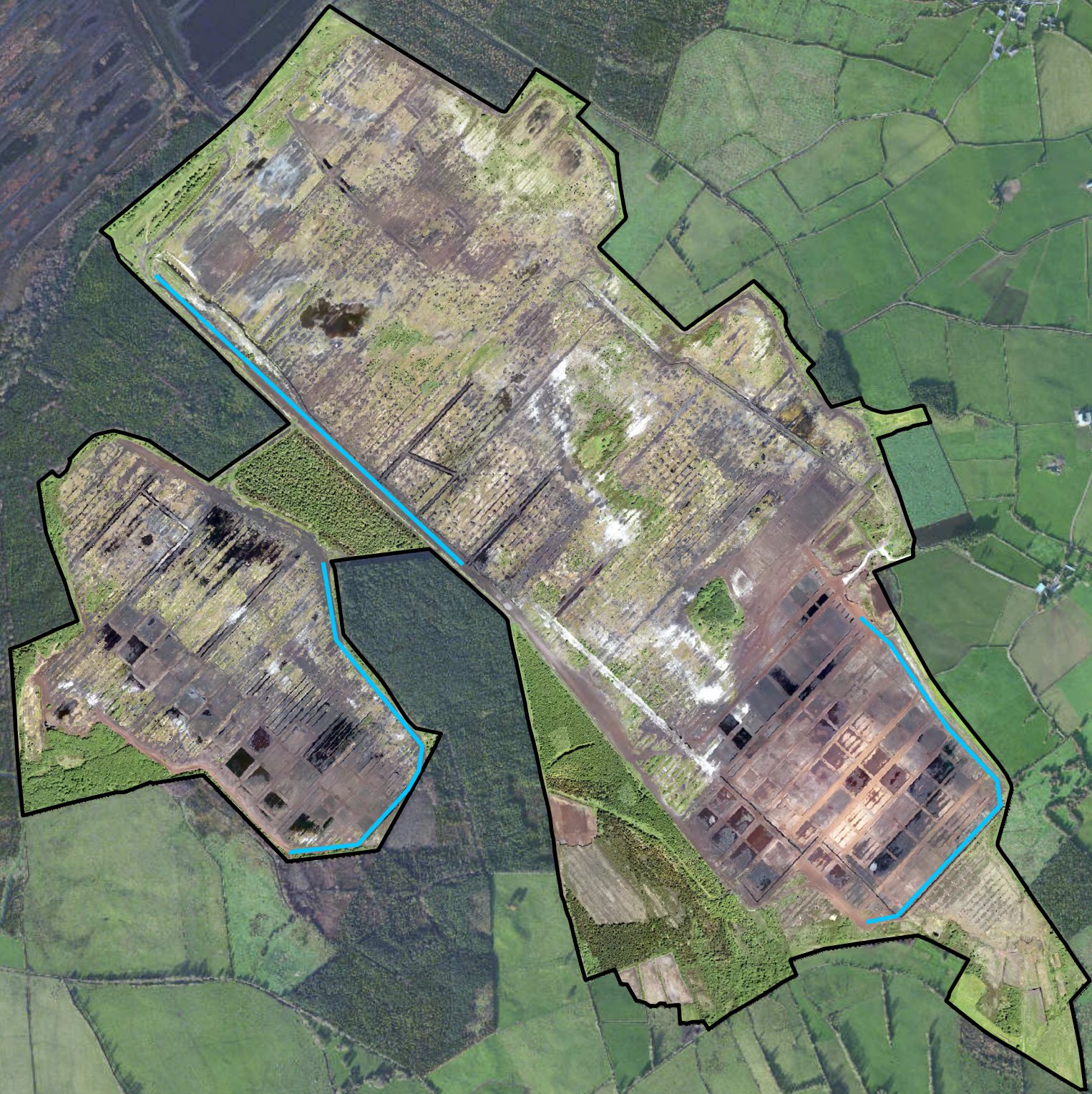
\*Note 9999= well has been destroyed / 8888 = well was inaccessible at the time of the survey

## Appendix B2 - Belmont Bog - Biodiversity

Table 1: Belmont Quadrat Data

Name	Belmont	Belmont	Belmont	Belmont	Belmont
Surveyor	SD	SD	SD	DMcN	SD
Survey Date	10/06/2021	10/06/2021	10/06/2021	07/07/2021	17/06/2021
Quadrat	1	2	3	4	5
Bare Peat	91-100%	51-75%	91-100%	91-100%	51-75%
Betul pubec	Not Observed	<4% (few individuals)	Not Observed	Not Observed	Not Observed
Eriop angus	Not Observed	26-33%	Not Observed	Not Observed	26-33%
Molin caeru	Not Observed	Not Observed	Not Observed	<4% (few individuals)	Not Observed
Phrag austr	Not Observed	Not Observed	<4% (several individuals)	<4% (several individuals)	Not Observed
Trigl palus	Not Observed	Not Observed	Not Observed	<4% (many individuals)	Not Observed
Vegetation Height	0	15	30		12
Sphagnum Cover	0%	0%	0%	Not Observed	0%
Open Water	0%	0%	0%	0%	0%
Festuca rubra	Not Observed	Not Observed	Not Observed	<4% (few individuals)	Not Observed
Juncus bulbosus	Not Observed	Not Observed	Not Observed	<4% (few individuals)	Not Observed
Mentha aquatica	Not Observed	Not Observed	Not Observed	<4% (few individuals)	Not Observed
Leontodon hispidus	Not Observed	Not Observed	Not Observed	<4% (few individuals)	Not Observed
Grimmia pulvinata	Not Observed	Not Observed	Not Observed	<4% (few individuals)	Not Observed
Agrostis stolonifera	Not Observed	Not Observed	Not Observed	<4% (few individuals)	Not Observed
Comment	Slight slope. North aspect. Soil type = bog peat. Peat Form = no. Firm ground. Moisture = dry.	Slight slope. North aspect. Soil type = fen peat. Peat Form = no. Firm ground. Moisture = dry.	Flat slope. Soil type = fen peat. Peat Form = no. Firm ground. Moisture = dry.		Flat slope. Soil type = bog peat. Peat Form = no. Firm ground. Moisture = dry.
Current Habitat Description	BP	bp2	bp	Bare pet on high field, with encroaching common reed from the north. Marsh arrowgrass establishing.	pE.ang
Note1	bare peat, pre rehab	predominantly bp, approx. 30% E. <i>angustifolium</i> cover, few small birch seedlings		Reedbed dominated by Common Reed with an understory of Molinia adjacent to the north.	dry P-Eang





**Legend**

 Bog boundary

Transects

 CBS Transect

**Bord na Móna**

**Belmont Bog  
Ecology Transects**

DRWG No.  
**BNM-DR-22-13-33**

Scale:  
**1:12,804**

Drawn by:  
**JG**

Date:  
**19/10/2022**



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Appendix B3 - Belmont Bog - Surface Water Quality

	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids
<b>SW Code -GIS</b>	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/8/20	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	2/2/22	2/3/22	2/4/22	1/5/22	1/6/22
SW84	7	7		2	2	2	2	4		2	7	8	2	7	2	2	2	2		2	5	7	9
Monthly rainfall (mm)	100.3	52.7	103.1	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5
Rehabilitation											10												

	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour
<b>SW Code -GIS</b>	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co
	1/8/20	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22
SW84	148	194		377	330	300	315	132		249	171	203	236	166	204	240	297	261		83.2	213	249	198
Monthly rainfall (mm)	100.3	52.7	103.1	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5

	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD
<b>SW Code -GIS</b>	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/8/20	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22
SW84	36	51		81	69	54	63	48		76	62	75	75	82	80	86	74	73		36	67	74	47
Monthly rainfall (mm)	100.3	52.7	103.1	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5

	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH
<b>SW Code -GIS</b>	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units
	1/8/20	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22
SW84	8.1	7.1		7.1	7.3	6.7	7.3	7.8		7.4	7.6	7.3	7.3	7.6	7.3	7.4	7.3	7.4		7.9	7.6	7.4	7.9
Monthly rainfall (mm)	100.3	52.7	103.1	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5
Rehabilitation											9												
	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P
<b>SW Code -GIS</b>	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/8/20	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22
SW84	<0.05	<0.05		0.12	<0.05	<0.05	<0.05	<0.05		<0.05	0.06	0.08	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		0.08	<0.05	0.07	<0.05
Monthly rainfall (mm)	100.3	52.7	103.1	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5

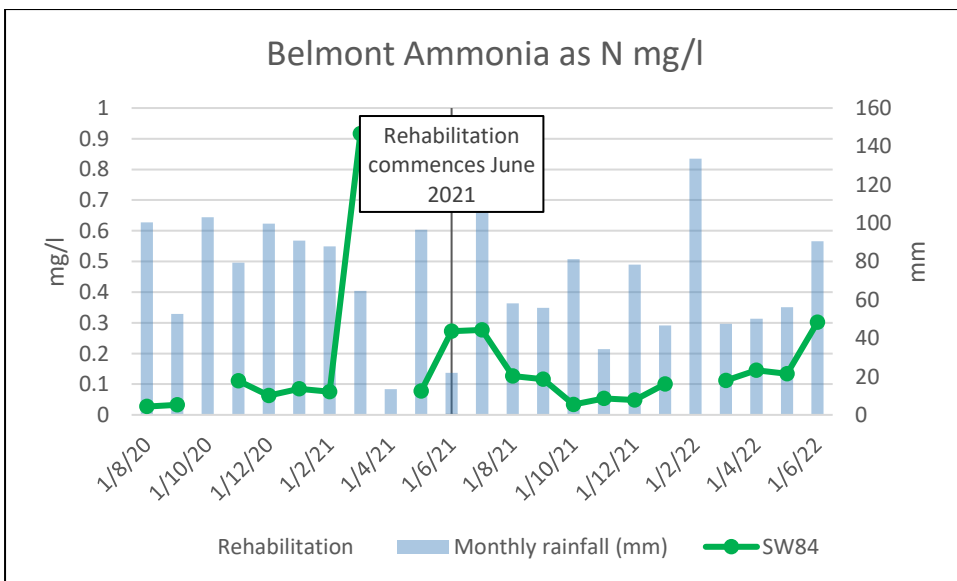
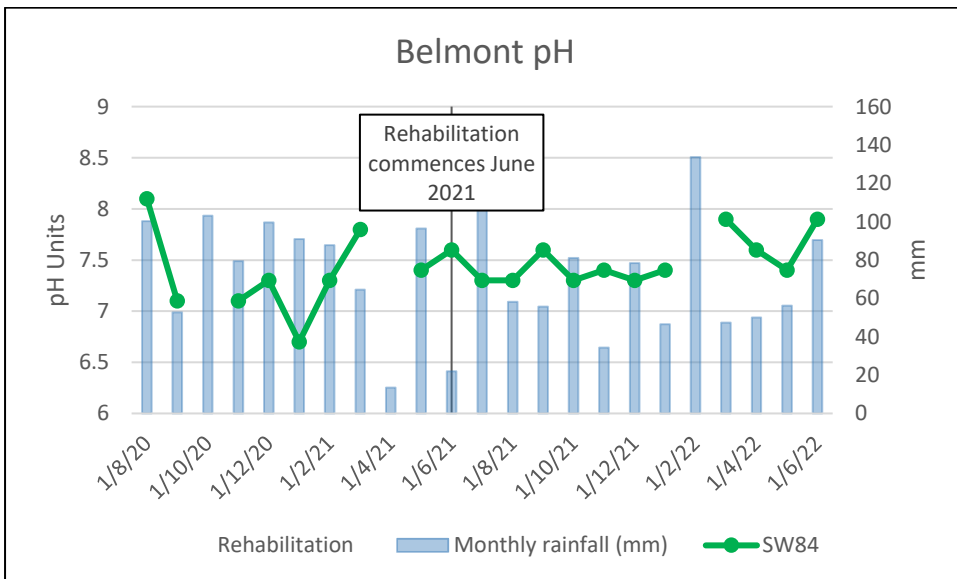
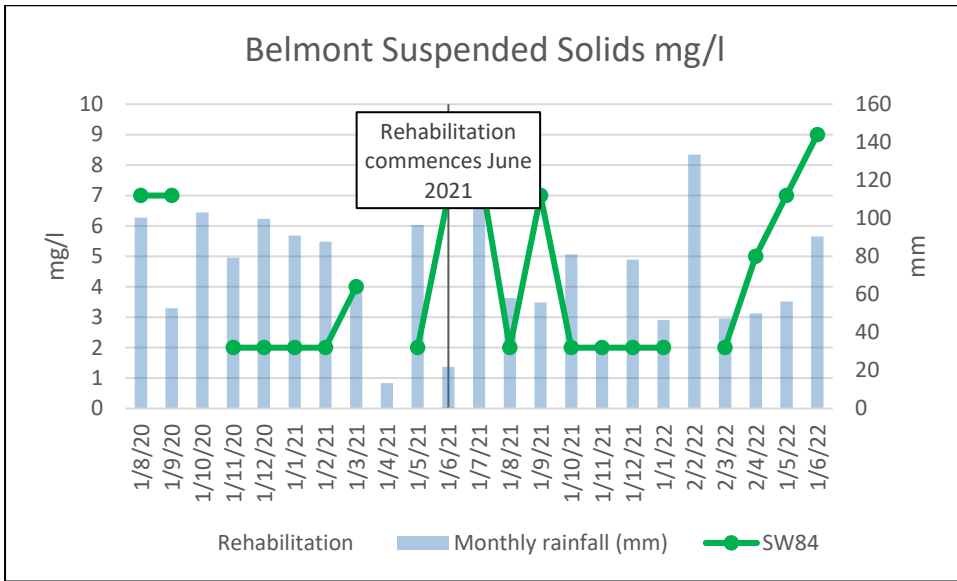
	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/8/20	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22
SW84	427	458		178	141	134	213	238		218	439	419	225	366	240	183	108			410	239	312	
Monthly rainfall (mm)	100.3	52.7	103.1	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5

	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/8/20	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22
SW84	0.027	0.033		0.111	0.063	0.085	0.075	0.916		0.078	0.273	0.277	0.127	0.116	0.034	0.053	0.048	0.100		0.112	0.145	0.134	0.302
Monthly rainfall (mm)	100.3	52.7	103.1	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5
Rehabilitation											1												

	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/8/20	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22
SW84		20.2		32.3	28.8	21.3	20.7	17.1		28.7	27.3	31.6	61.4	29	32.8	23.6	34.9	28.5		12.5	26.9	27.3	17.5
Monthly rainfall (mm)	100.3	52.7	103.1	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5

Blank spaces - No results available during times of the year when rivers are in flood or during extended dry spells

## Belmont Trend Graphs



## **Appendix C: Clooniff Bog**

### Appendix C0 - Clooniff Bog - Maps

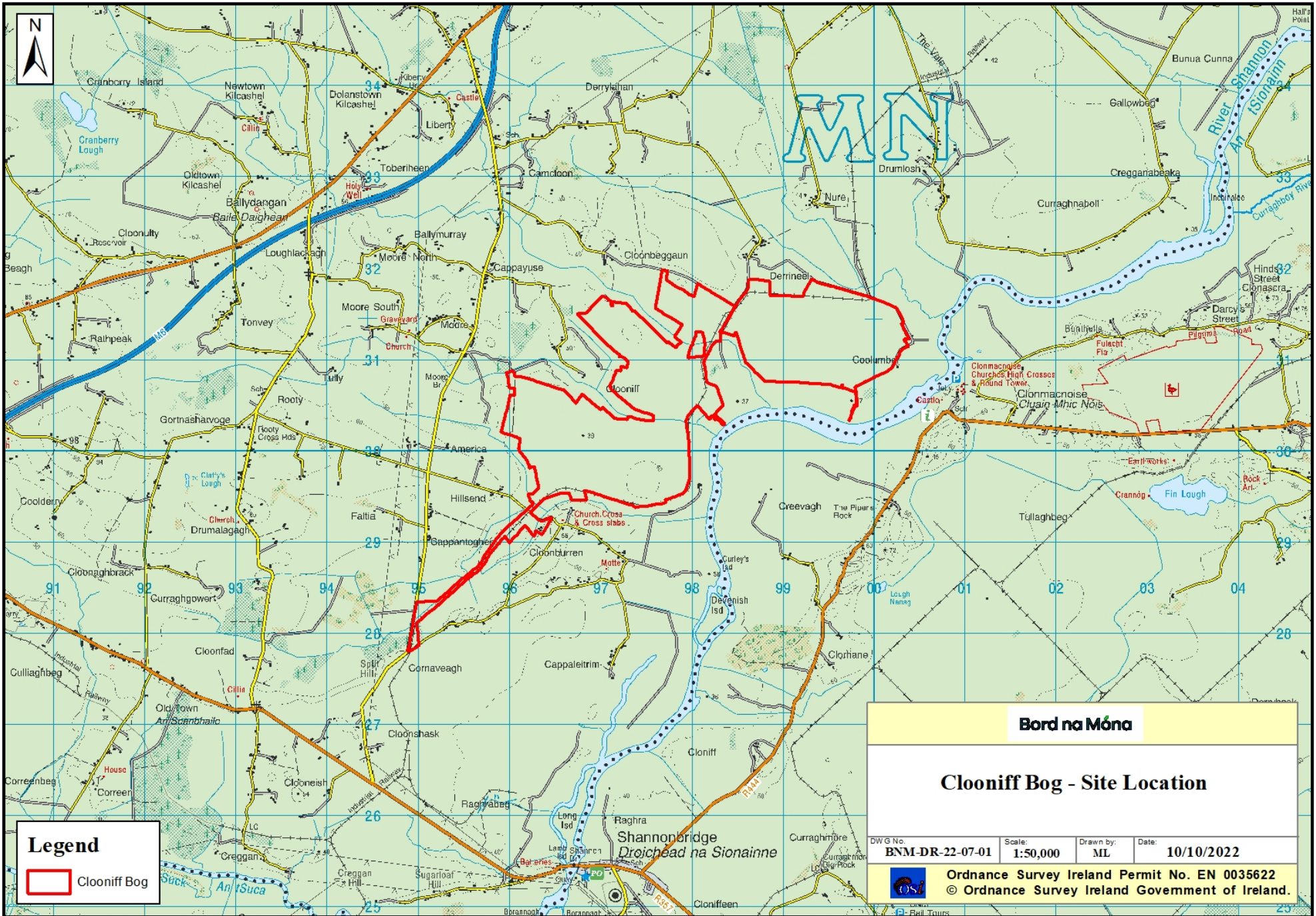
- Clooniff Bog Site Location: DWG No. BNM-DR-22-07-01
- Clooniff Piezometer and Sampling Locations: DRWG No. BNM-DR-22-07-32

### Appendix C1 - Clooniff Bog - Hydrological Monitoring

### Appendix C2 - Belmont Bog – Biodiversity (including Drawings)

- DWG No. BNM-DR-22-07-33: Clooniff Bog – Ecology Transects

### Appendix C3 – Clooniff Bog - Surface Water Quality

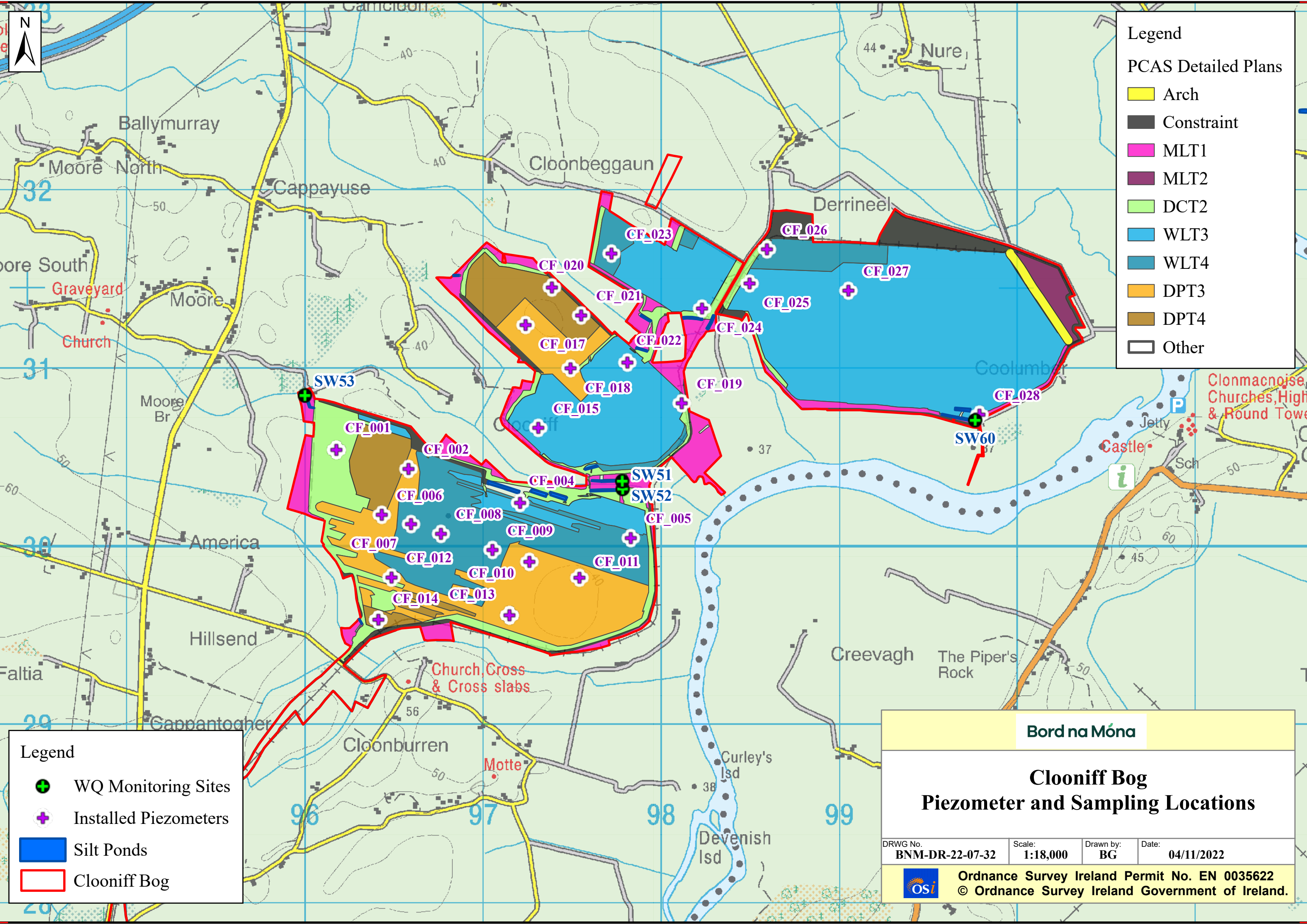




**Legend**

PCAS Detailed Plans

- Arch
- Constraint
- MLT1
- MLT2
- DCT2
- WLT3
- WLT4
- DPT3
- DPT4
- Other



**Legend**

- WQ Monitoring Sites
- Installed Piezometers
- Silt Ponds
- Clooniff Bog

**Bord na Móna**

**Clooniff Bog**  
**Piezometer and Sampling Locations**

DRWG No. <b>BNM-DR-22-07-32</b>	Scale: <b>1:18,000</b>	Drawn by: <b>BG</b>	Date: <b>04/11/2022</b>
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Appendix C1 – Clooniff Bog - Hydrological Monitoring

Site Name	Well ID	S/D	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)
Clooniff	CF_001_S	S	21/05/2021 10:00	-46	20/07/2021 15:43	-47	28/01/2022 11:45	-21	19/08/2022 08:16	-40
Clooniff	CF_002_S	S	21/05/2021 10:09	-33	20/07/2021 15:34	-39	28/01/2022 11:42	-26	n/a	n/a
Clooniff	CF_004_S	S	21/05/2021 10:18	-4	20/07/2021 15:16	0	28/01/2022 11:28	-9	19/08/2022 08:58	-38
Clooniff	CF_005_S	S	21/05/2021 10:57	-4	20/07/2021 14:58	-35	28/01/2022 11:26	-20	19/08/2022 09:29	-41
Clooniff	CF_006_S	S	21/05/2021 09:49	-16	20/07/2021 13:52	-42	27/01/2022 15:18	-33	n/a	n/a
Clooniff	CF_007_S	S	21/05/2021 09:45	0	20/07/2021 13:56	-31	27/01/2022 15:16	-8	n/a	n/a
Clooniff	CF_008_S	S	21/05/2021 09:40	0	20/07/2021 13:59	-30	27/01/2022 15:12	-19	n/a	n/a
Clooniff	CF_009_S	S	21/05/2021 09:33	-17	20/07/2021 14:04	-40	27/01/2022 15:09	-30	19/08/2022 10:03	-37
Clooniff	CF_010_S	S	21/05/2021 09:29	-11	20/07/2021 14:16	-60	27/01/2022 15:05	-56	n/a	n/a
Clooniff	CF_011_S	S	21/05/2021 09:24	-14	20/07/2021 14:20	-39	27/01/2022 15:02	-28	n/a	n/a
Clooniff	CF_012_S	S	21/05/2021 09:02	-30	20/07/2021 13:38	-31	27/01/2022 14:42	-35	n/a	n/a
Clooniff	CF_013_S	S	21/05/2021 09:14	-21	20/07/2021 14:38	-50	27/01/2022 14:48	-41	n/a	n/a
Clooniff	CF_014_S	S	21/05/2021 08:53	-59	20/07/2021 13:06	-58	27/01/2022 14:34	-54	19/08/2022 10:42	-36






Clooniff	CF_015_S	S	21/05/2021 10:36	0	21/07/2021 09:25	-22	28/01/2022 12:14	-5	n/a	n/a
Clooniff	CF_017_S	S	17/05/2021 16:01	-54	21/07/2021 09:40	-55	28/01/2022 12:23	-41	19/08/2022 10:07	-28
Clooniff	CF_018_S	S	17/05/2021 15:52	-30	21/07/2021 09:35	-43	28/01/2022 12:26	-25	n/a	n/a
Clooniff	CF_019_S	S	17/05/2021 15:33	-21	21/07/2021 08:57	-28	28/01/2022 11:05	23	19/08/2022 09:29	-5
Clooniff	CF_020_S	S	17/05/2021 16:11	-24	21/07/2021 09:51	-35	28/01/2022 12:13	-4	n/a	n/a
Clooniff	CF_021_S	S	17/05/2021 16:17	-64	21/07/2021 09:55	-68	28/01/2022 12:16	-52	n/a	n/a
Clooniff	CF_022_S	S	17/05/2021 16:25	-28	21/07/2021 10:00	-37	28/01/2022 12:24	10	n/a	n/a
Clooniff	CF_023_S	S	17/05/2021 15:10	-25	21/07/2021 10:19	-38	28/01/2022 11:56	-27	19/08/2022 08:32	-33
Clooniff	CF_024_S	S	17/05/2021 14:59	-14	21/07/2021 10:32	-45	28/01/2022 11:49	-19	19/08/2022 08:21	9999
Clooniff	CF_025_S	S	17/05/2021 14:05	-18	21/07/2021 10:52	-31	28/01/2022 11:28	-18	n/a	n/a
Clooniff	CF_026_S	S	17/05/2021 13:34	-2	21/07/2021 10:58	-10	28/01/2022 11:24	-2	n/a	n/a
Clooniff	CF_027_S	S	17/05/2021 14:19	-18	21/07/2021 10:43	-41	28/01/2022 11:36	-11	19/08/2022 07:46	-67
Clooniff	CF_028_S	S	17/05/2021 16:49	-15	21/07/2021 11:14	-33	28/01/2022 13:05	-17	n/a	n/a

\*Note 9999= well has been destroyed / 8888 = well was inaccessible at the time of the survey



**Legend**

-  Bog boundary
- Transects
-  CBS
-  Pollinators

**Bord na Móna**

**Clooniff Bog  
Ecology Transects**

DRWG No. <b>BNM-DR-22-07-33</b>	Scale: <b>1:14,336</b>	Drawn by: <b>JG</b>	Date: <b>19/10/2022</b>
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Appendix C3 - Clooniff Bog - Surface Water Quality

	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	2/2/22	2/3/22	2/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW51		6	2	2	4	22	2	4	23	2	6	2	2	2	2	2	5	3	9	9	2	12
SW52	6	2	2	2	3	12	2	2	27	4	6	2	2	2	2	5	3	8	11	7	6	11
SW53			2	4	2	2	2	2	3	2	2	2	2	2	5	2	2	2	4	2	2	42
SW60										6		2	8	2	5				2	4	2	16
Monthly Rainfall (mm)	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1
Rehabilitation																		45				

	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour
SW Code -GIS	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co
	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW51		226	78.8	118	269	353	124	61.2	19.8	114	64	131	101	96.1	97.7	153	62	138	152	161	65	49.2
SW52	143	236	71.2	77	223	104	189	60.2	117	92.7	75.2	133	93	86.2	102	168	65.6	140	158	152	47.6	48.2
SW53			76.5	45.5	103	36.2	37.8	31.6	70.9	78.4	40.7	76.4	40.9	69.3	60.7	81.6	63.2	32.7	38.2	31.2	38.7	94.5
SW60										200		129	158	129	107				103	180	133	222
Monthly Rainfall (mm)	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1
	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW51		48	31	35	56	89	49	20	34	43	31	70	43	41	35	51	21	62	69	68	32	19
SW52	35	50	25	16	46	26	53	22	43	31	39	63	41	34	38	52	25	69	71	69	19	18
SW53			23	15	31	<10	<10	14	19	28	24	30	19	25	39	31	21	19	13	<10	14	32
SW60										70		67	77	46	43				42	76	61	77
Monthly Rainfall (mm)	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1

	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH
SW Code -GIS	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units
	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW51		7.7	7.5	8	7.7	7.8	7.9	8.1	8	7.9	8	7.4	7.9	8	7.6	7.7	7.9	7.8	7.9	7.4	8.1	8.2
SW52	7.9	7.5	7.6	8.1	7.9	8	7.8	8.2	7.9	8.1	7.9	7.4	7.8	7.9	7.7	7.8	8	7.8	7.9	7.4	8.1	8.2
SW53			7.8	7.9	7.8	8.4	8.1	8	7.9	8	7.9	8	7.9	8	7.8	7.9	7.8	8	8.1	7.9	7.9	7.7
SW60										7.6		7.4	8	7.7	7.4				7.9	8	7.6	6.9
Monthly Rainfall (mm)	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1
Rehabilitation																		9				

	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW51		<0.05	<0.05	<0.05	<0.05	0.29	<0.05	<0.05	0.12	0.05	0.05	0.07	<0.05	<0.05	<0.05	0.13	0.06	0.1	0.19	0.15	0.08	0.09
SW52	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	<0.05	<0.05	0.11	0.07	0.06	0.07	<0.05	<0.05	<0.05	<0.05	0.09	0.09	0.18	0.14	0.06	0.07
SW53			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.11	<0.05	<0.05	<0.05	0.05	0.11
SW60										0.05		0.08	0.12	<0.05	<0.05				<0.05	<0.05	<0.05	0.1
Monthly Rainfall (mm)	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1

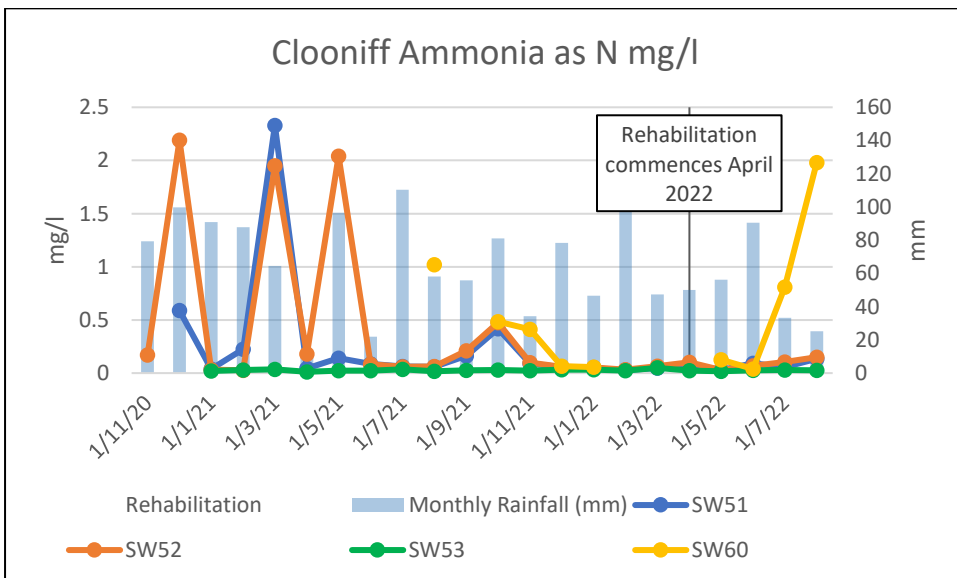
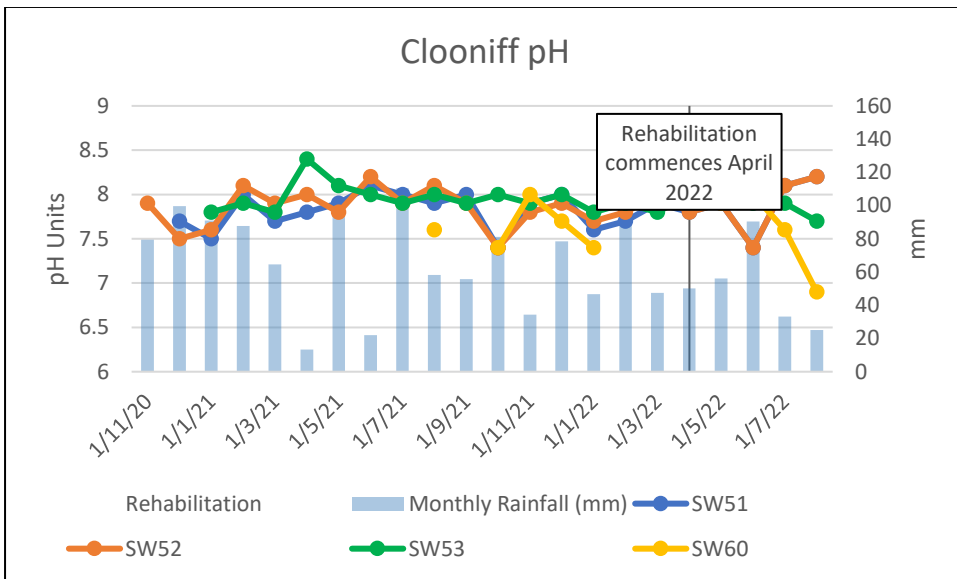
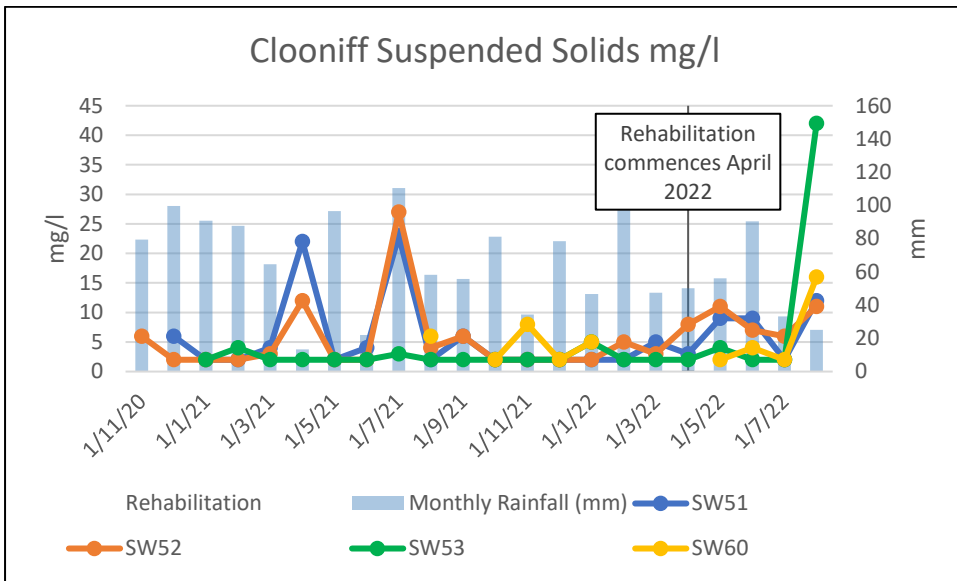
	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW51		169	451	297	140	324	218	443	422	328	441	276	377	447	393	434	553	429	438	390	441	404
SW52	402	135	434	440	213	401	173	418	417	470	340	294	423	465	399	340	382	425	431	427	519	428
SW53			464	468	420	420	456	461	423	463	386	460	457	328	446	460	433	522	458	462	412	494
SW60										287		243	286	327	232				214	303	346	251
Monthly Rainfall (mm)	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1

	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW51		0.589	0.037	0.224	2.330	0.044	0.141	0.086	0.061	0.060	0.162	0.417	0.090	0.056	0.045	0.028	0.047	0.075	0.029	0.094	0.055	0.134
SW52	0.172	2.190	0.032	0.027	1.950	0.179	2.040	0.083	0.059	0.061	0.211	0.474	0.100	0.059	0.053	0.031	0.065	0.101	0.028	0.070	0.105	0.150
SW53			0.020	0.029	0.035	0.012	0.023	0.024	0.034	0.017	0.026	0.029	0.024	0.031	0.032	0.024	0.049	0.023	0.018	0.027	0.028	0.026
SW60										1.02		0.485	0.411	0.067	0.055				0.126	0.039	0.809	1.98
Monthly Rainfall (mm)	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1
Rehabilitation																		2.5				

	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW51		17.2	11.5	12.5	15.5	22.2	19.4	6.85	10.7	61.9	7.05	25.6	15.6	14.6	14.9	16.6	12	21.9	24.3	27.3	11.3	3.88
SW52	16.1	18.8	10.9	11	14.9	9.96	20.2	6.97	10.4	79.2	9.22	25.8	15.3	14.3	15.2	17.7	12.3	21.9	23.8	27.2	8.4	3.84
SW53			10.1	7.17	11.4	5.55	6.72	4.97	8.71	80.7	4.91	11.9	7.55	11.6	10.5	10.7	8.92	5.4	7.27	4.83	6.82	0.351
SW60										54.3		25.6	24.5	18.1	15.9				16.6	30.1	23.7	20.5
Monthly Rainfall (mm)	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1

Blank spaces - No results available during times of the year when rivers are in flood or during extended dry spells

### Clooniff Trend Graphs



## **Appendix D: Garryduff Bog**

### Appendix D0 - Garryduff Bog - Maps

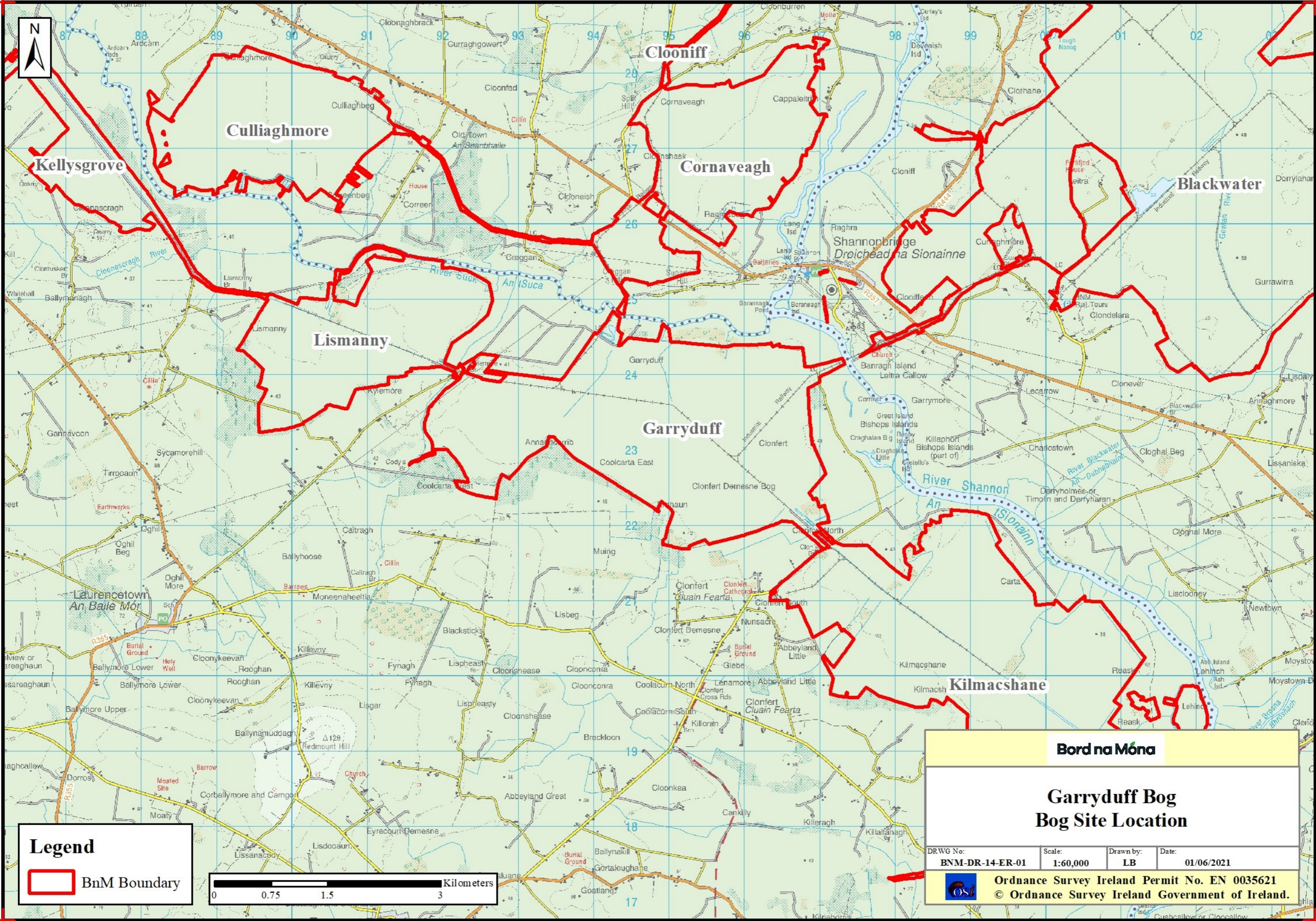
- Garryduff Bog Site Location: DWG No. BNM-DR-14-ER-01
- Garryduff Piezometer and Sampling Locations: DRWG No. BNM-DR-22-14-32

### Appendix D1 - Garryduff Bog - Hydrological Monitoring

### Appendix D2 – Garryduff Bog – Biodiversity (including Drawings)

- DWG No. BNM-DR-22-14-33: Garryduff Bog – Ecology Transects

### Appendix D3 – Garryduff Bog - Surface Water Quality



**Legend**

 BnM Boundary



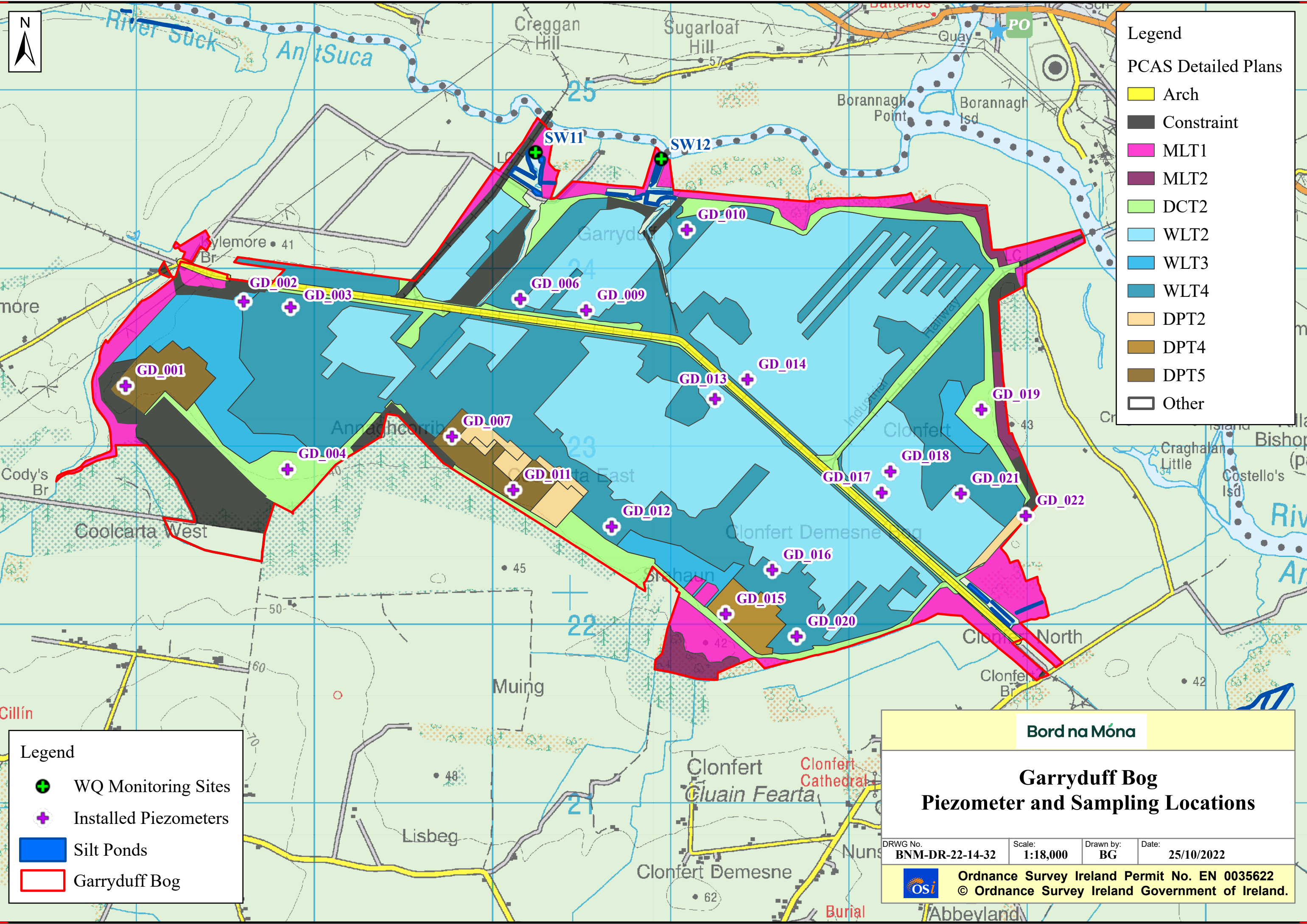
**Bord na Móna**

**Garryduff Bog  
Bog Site Location**

DRWG No: **BNM-DR-14-ER-01** Scale: **1:60,000** Drawn by: **LB** Date: **01/06/2021**



**Ordnance Survey Ireland Permit No. EN 0035621**  
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**Legend**

**PCAS Detailed Plans**

- Arch
- Constraint
- MLT1
- MLT2
- DCT2
- WLT2
- WLT3
- WLT4
- DPT2
- DPT4
- DPT5
- Other

**Legend**

- WQ Monitoring Sites
- Installed Piezometers
- Silt Ponds
- Garryduff Bog

**Bord na Móna**

**Garryduff Bog**  
**Piezometer and Sampling Locations**

DRWG No. BNM-DR-22-14-32	Scale: 1:18,000	Drawn by: BG	Date: 25/10/2022
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Appendix D1 - Garryduff Bog - Hydrological Monitoring

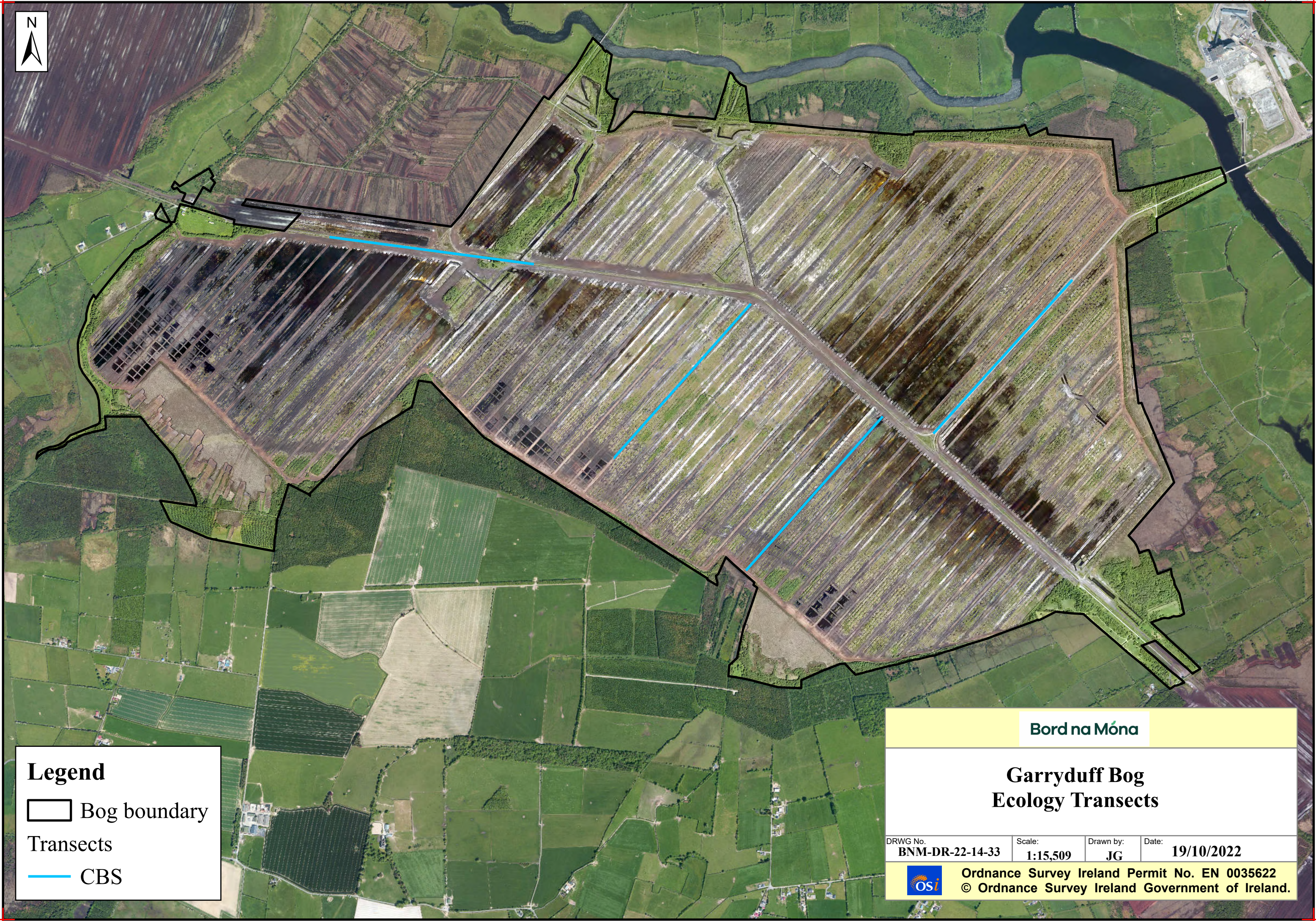
Site Name	Well ID	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)
Garryduff	GD_001_S	19/05/2021 16:23	-56	02/08/2021 10:32	-26	26/01/2022 15:57	-14	18/08/2022 10:07	8888
Garryduff	GD_002_S	19/05/2021 16:13	-32	02/08/2021 10:12	-37	26/01/2022 16:11	-11	18/08/2022 10:46	-29
Garryduff	GD_003_S	19/05/2021 16:07	-43	02/08/2021 11:24	-50	26/01/2022 16:17	-4	N/A	N/A
Garryduff	GD_004_S	19/05/2021 15:55	-76	02/08/2021 10:57	-65	26/01/2022 15:41	-9	N/A	N/A
Garryduff	GD_006_S	19/05/2021 11:37	-60	02/08/2021 14:38	-63	26/01/2022 16:33	-13	N/A	N/A
Garryduff	GD_007_S	19/05/2021 11:51	-27	02/08/2021 14:18	-12	26/01/2022 15:17	-6	18/08/2022 09:09	-3
Garryduff	GD_009_S	19/05/2021 11:29	-19	02/08/2021 14:46	-20	26/01/2022 16:40	-19	18/08/2022 11:35	-18
Garryduff	GD_010_S	19/05/2021 11:14	-38	02/08/2021 15:18	-44	26/01/2022 16:56	-3	18/08/2022 11:33	-32
Garryduff	GD_011_S	19/05/2021 12:01	-30	02/08/2021 13:53	-32	26/01/2022 15:07	-24	N/A	N/A
Garryduff	GD_012_S	19/05/2021 12:12	-20	02/08/2021 13:42	-26	26/01/2022 14:53	6	N/A	N/A
Garryduff	GD_013_S	19/05/2021 12:28	0	02/08/2021 13:28	-3	26/01/2022 17:10	-1	N/A	N/A
Garryduff	GD_014_S	19/05/2021 12:35	-25	02/08/2021 13:17	-52	26/01/2022 17:14	-13	18/08/2022 12:32	19
Garryduff	GD_015_S	19/05/2021 13:05	-12	03/08/2021 08:34	-10	26/01/2022 14:24	8888	N/A	N/A
Garryduff	GD_016_S	19/05/2021 13:12	-6	03/08/2021 08:22	-4	26/01/2022 14:32	1	18/08/2022 08:19	-14
Garryduff	GD_017_S	19/05/2021 13:31	-12	03/08/2021 14:28	-19	27/01/2022 12:59	8888	18/08/2022 11:01	8888
Garryduff	GD_018_S	19/05/2021	9999	03/08/2021 14:48	-20	27/01/2022 12:55	-2	N/A	N/A
Garryduff	GD_019_S	19/05/2021 13:44	-72	03/08/2021 09:44	-68	27/01/2022 12:39	-20	18/08/2022 10:17	-91
Garryduff	GD_020_S	19/05/2021 12:54	-37	03/08/2021 08:42	-31	26/01/2022 14:14	-2	N/A	N/A
Garryduff	GD_021_S	19/05/2021 13:59	-32	03/08/2021 10:22	-34	27/01/2022 12:53	-13	N/A	N/A
Garryduff	GD_022_S	19/05/2021 14:13	-20	03/08/2021 10:39	-25	27/01/2022 12:23	-14	N/A	N/A

\*Note 9999= well has been destroyed / 8888 = well was inaccessible at the time of the survey

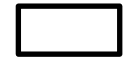

## Appendix D2 - Garryduff Bog - Biodiversity

Table 1: Garryduff Quadrat Data

Name	Garryduff	Garryduff	Garryduff	Garryduff	Garryduff
Surveyor	SD	SD	SD	SD	SD
Survey Date	18/06/2021	18/06/2021	18/06/2021	18/06/2021	18/06/2021
Quadrat	1	2	3	4	5
Current Habitat Description	pE.ang	Willow scrub E.ang	BP4	PB4	pE.ang with scrub encroachment
Sphagnum Cover	0%	0%	0%	0%	
Bare Peat	51-75%	0%	91-100%	91-100%	04-10%
Open Water	0%	0%	0%	0%	
Vegetation Height	12	60	0	10	20
Betul pubec	<4% (few individuals)	<4% (several individuals)	Not Observed	<4% (few individuals)	<4% (several individuals)
Crepi capil	Not Observed	<4% (few individuals)	Not Observed	Not Observed	04-10%
Equis arven	<4% (few individuals)	Not Observed	Not Observed	Not Observed	Not Observed
Eriop angus	11-25%	51-75%	Not Observed	04-10%	51-75%
Juncu effus	Not Observed	Not Observed	Not Observed	Not Observed	11-25%
Molin caeru	<4% (few individuals)	Not Observed	Not Observed	Not Observed	Not Observed
Salix ciner	<4% (few individuals)	11-25%	Not Observed	<4% (few individuals)	<4% (few individuals)
Mentha aquatica	Not Observed	Not Observed	Not Observed	Not Observed	<4% (few individuals)
Holcus lanatus	Not Observed	Not Observed	Not Observed	Not Observed	<4% (few individuals)
Angelica sylvestris	Not Observed	Not Observed	Not Observed	Not Observed	<4% (few individuals)
Ad Speci 1	Individuals - less than 4	willow herb and marsh orchid few individuals			
Comment	Slight slope. West aspect. Fen peat. Peat form = no. Firm ground. Moisture = dry.	Flat slope. Fen peat. Peat form = no. Firm ground. Moisture = intermediate.	Slight slope. East aspect. Fen peat. Peat form = no. Firm ground. Moisture = dry.	Flat slope. Fen peat. Peat form = no. Firm ground. Moisture = dry.	Flat slope. Fen peat. Peat form = no. Firm ground. Moisture = dry.
Note1		coltsfoot few individuals	bare peat, piezometer 2 fields east,	bp E.ang colonising	



**Legend**

-  Bog boundary
- Transects
-  CBS

**Bord na Móna**

**Garryduff Bog  
Ecology Transects**

DRWG No. <b>BNM-DR-22-14-33</b>	Scale: <b>1:15,509</b>	Drawn by: <b>JG</b>	Date: <b>19/10/2022</b>
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	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P
<b>SW Code -GIS</b>	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW11	<0.05	<0.05	<0.05	<0.05	<0.05	0.13	<0.05	0.05	0.07	<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.07	0.13	<0.05	0.11	<0.05
SW12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.12	0.19	<0.05	<0.05
Monthly rainfall (mm)	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1

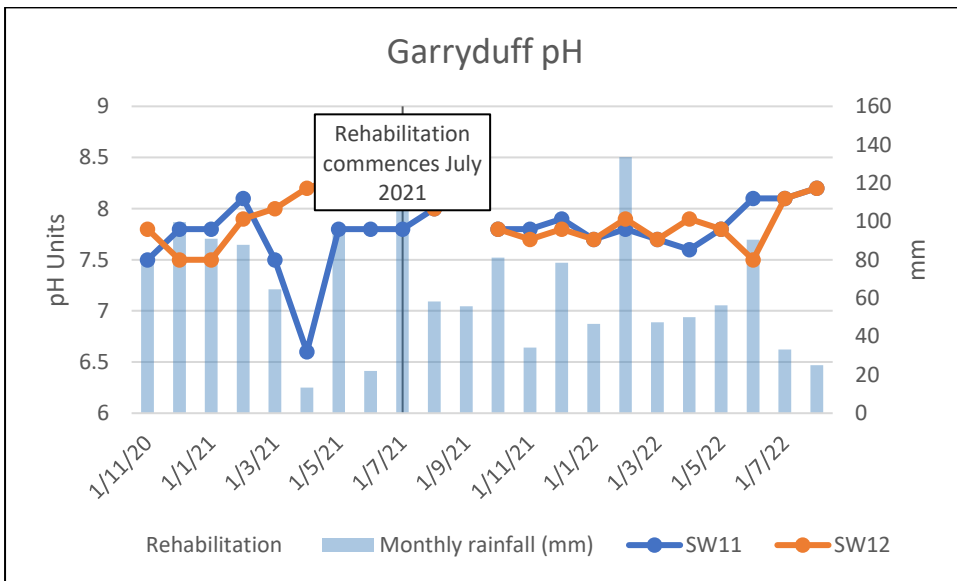
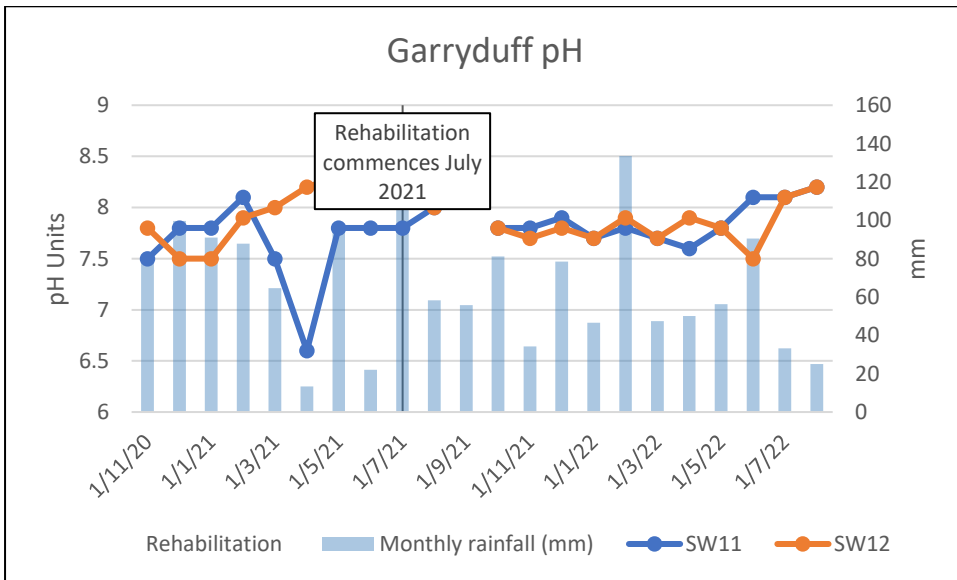
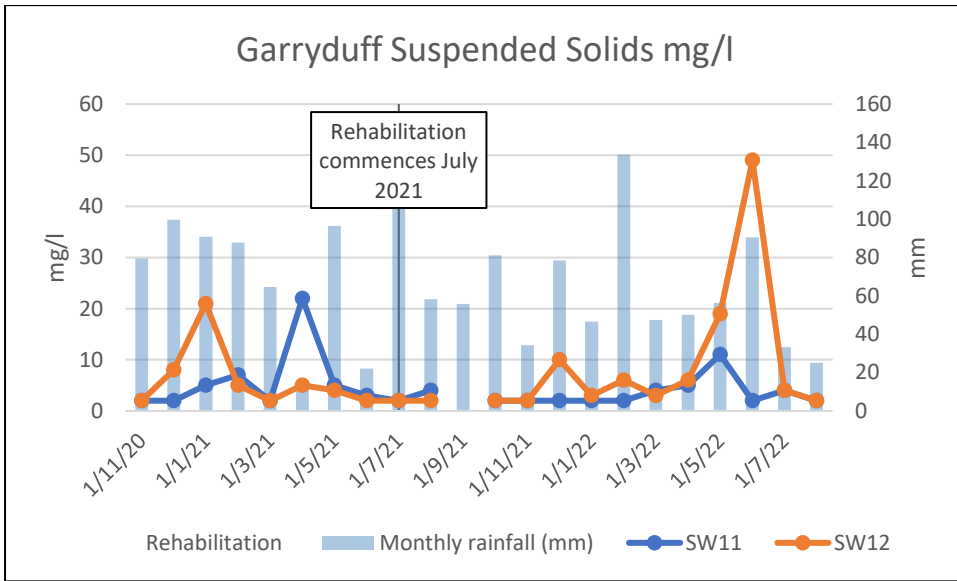
	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS
<b>SW Code -GIS</b>	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW11	294	310	313	335	315	266	360	422	440	374		288	354	198	339	322	299	410	497	304	411	467
SW12	117	221	259	225	193	465	414	471	494	475		452	277	251	324	247	258	375	517	511	404	509
Monthly rainfall (mm)	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1

	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N
<b>SW Code -GIS</b>	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW11	0.320	0.329	0.493	0.045	0.573	0.037	0.334	0.659	1.110	0.507		0.302	0.693	0.411	0.549	0.356	0.187	0.209	0.137	0.078	0.130	0.042
SW12	0.244	0.126	0.046	0.033	0.148	2.340	0.153	2.970	1.970	1.400		0.112	0.705	0.416	0.529	0.344	0.207	0.200	0.189	2.330	0.117	0.041
Monthly rainfall (mm)	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1
Rehabilitation									3.5													

	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC
<b>SW Code -GIS</b>	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW11	21.6	20.4	17.9	16.1	17.8	62.3	19.6	18.4	18.7	73.3		22.5	18.1	20	20	191	18.4	21.2	24.4	23.1	23.4	21.3
SW12	18.4	24.3	14.5	14.9	16.2	14.4	15	14.8	17.8	79.3		19.9	18.2	19.3	19.4	19	19.2	21.2	24.6	23.2	23.3	21.4
Monthly rainfall (mm)	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1

Blank spaces - No results available during times of the year when rivers are in flood or during extended dry spells

Garryduff Trend Graphs



## **Appendix E: Kellysgrove Bog**

### Appendix E0 - Kellysgrove Bog - Maps

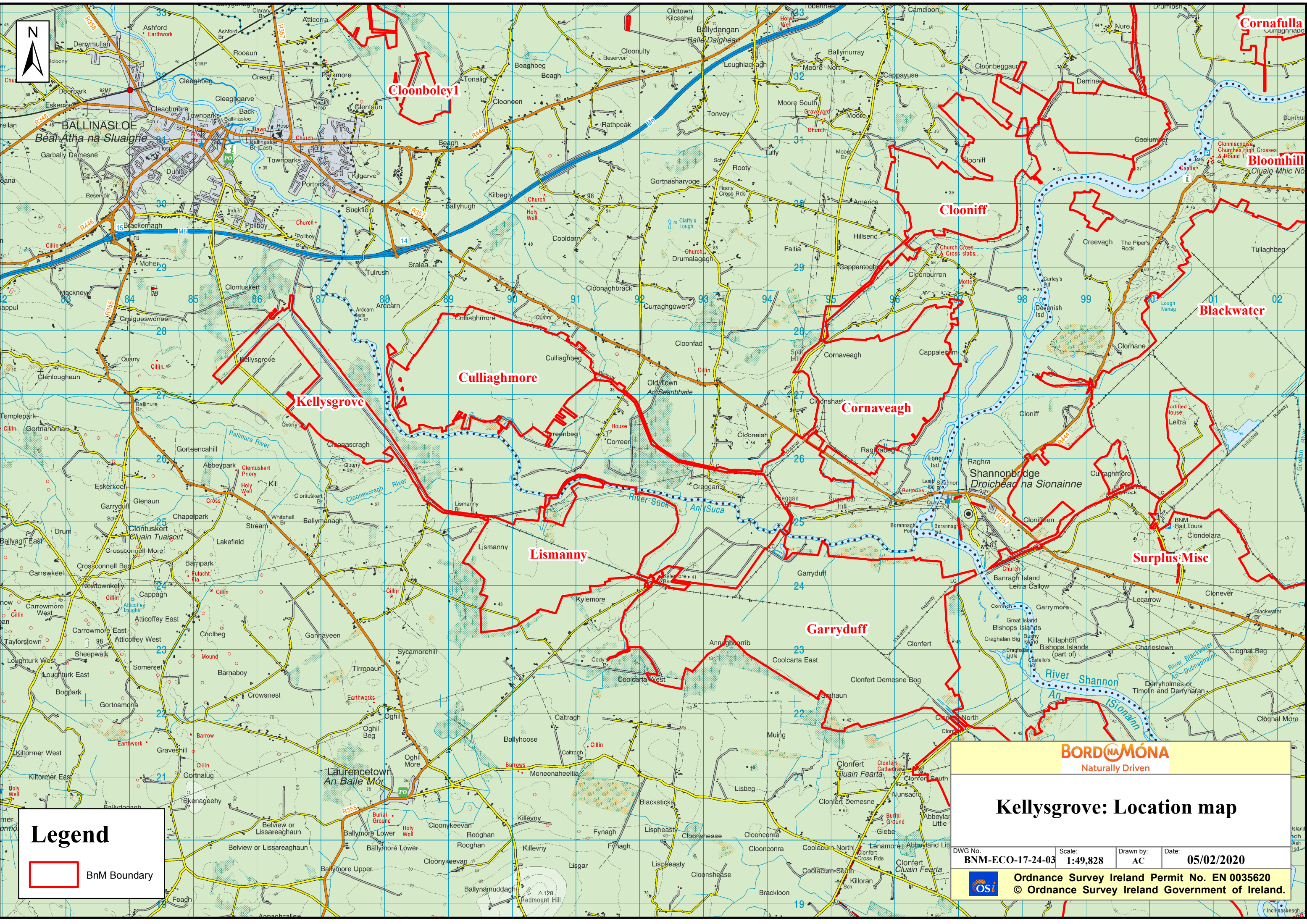
- Kellysgrove Bog Site Location: DWG No. BNM-ECO-17-24-03
- Kellysgrove Piezometer and Sampling Locations: DRWG No. BNM-DR-22-02-32

### Appendix E1 - Kellysgrove Bog - Hydrological Monitoring

### Appendix E2 – Kellysgrove Bog – Biodiversity (including Drawings)

- DWG No. BNM-DR-22-02-33: Kellysgrove Bog – Ecology Transects

### Appendix E3 – Kellysgrove Bog - Surface Water Quality



Cloonboley1

Clooniff

Bloomhill

Blackwater

Kellysgrove

Cullaghmore

Cornaveagh

Lismanny


Surplus Misc

Garryduff


**BORD NA MÓNA**  
Naturally Driven

### Kellysgrove: Location map

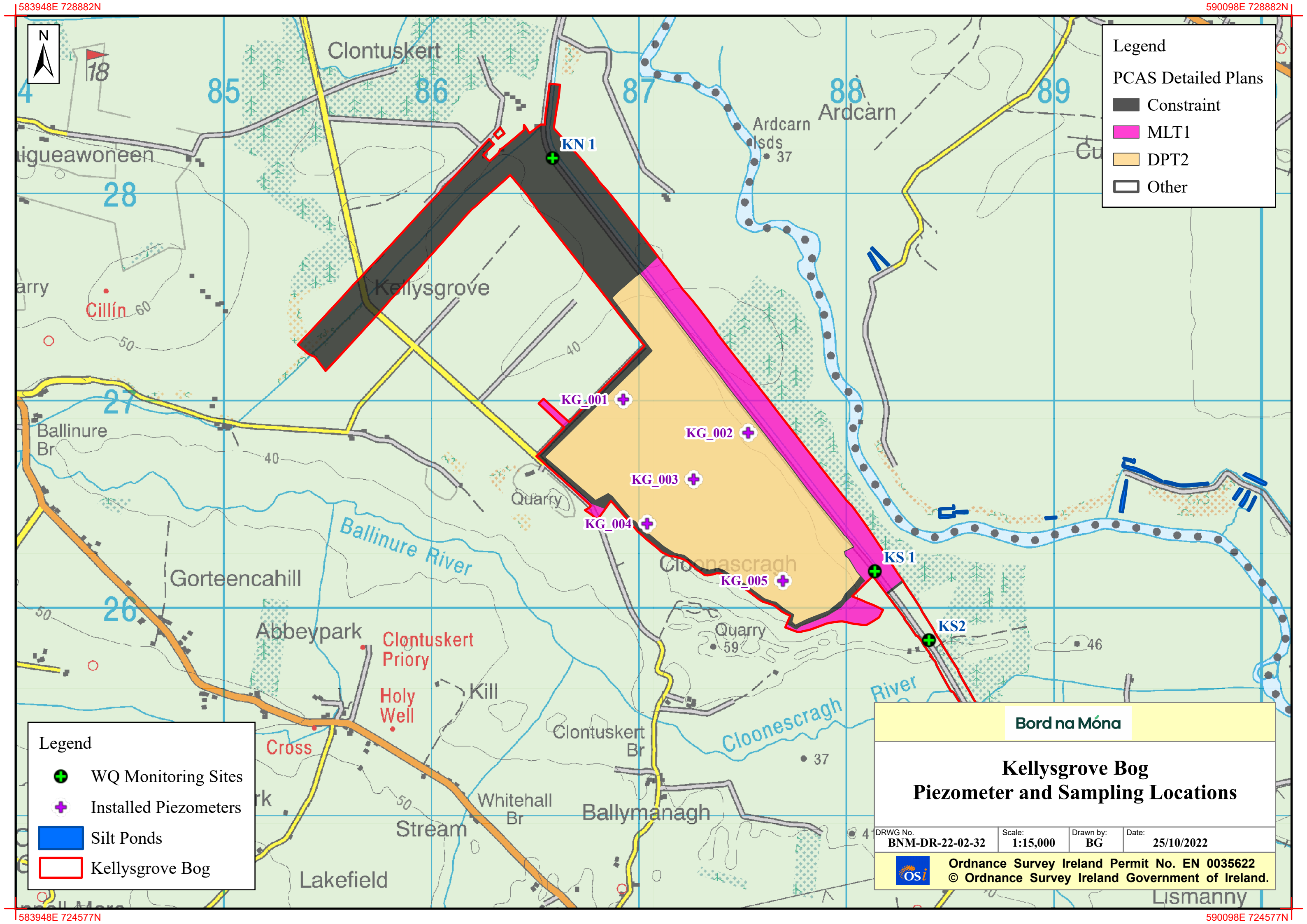
**Legend**

 BnM Boundary

DWG No.	Scale:	Drawn by:	Date:
BNM-ECO-17-24-03	1:49,828	AC	05/02/2020

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**Legend**

PCAS Detailed Plans

- Constraint
- MLT1
- DPT2
- Other

**Legend**

- ⊕ WQ Monitoring Sites
- ⊕ Installed Piezometers
- Silt Ponds
- Kellysgrove Bog

**Bord na Móna**

**Kellysgrove Bog  
Piezometer and Sampling Locations**

DRWG No. <b>BNM-DR-22-02-32</b>	Scale: <b>1:15,000</b>	Drawn by: <b>BG</b>	Date: <b>25/10/2022</b>
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583948E 728882N

590098E 728882N

583948E 724577N

590098E 724577N




Appendix E1 - Kellysgrove Bog - Hydrological Monitoring

Site Name	Well ID	S/D	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)
Kellysgrove	KG_001_S	S	20/07/2021 10:02	-25	26/01/2022 15:08	1	16/08/2022 14:34	-18
Kellysgrove	KG_002_S	S	20/07/2021 10:45	-22	26/01/2022 14:52	-1	N/A	N/A
Kellysgrove	KG_003_S	S	20/07/2021 10:27	-15	26/01/2022 14:21	-5	16/08/2022 14:52	-15
Kellysgrove	KG_004_S	S	20/07/2021 11:00	-13	26/01/2022 14:11	0	N/A	N/A
Kellysgrove	KG_005_S	S	20/07/2021 11:16	-15	26/01/2022 14:34	-2	16/08/2022 14:56	-15

\*Note 9999= well has been destroyed / 8888 = well was inaccessible at the time of the survey



**Legend**

-  Bog boundary
- Transects
-  CBS and Breeding Waders
-  Breeding Waders

**Bord na Móna**

**Kellysgrove Bog  
Ecology Transects**

DRWG No. <b>BNM-DR-22-02-33</b>	Scale: <b>1:10,883</b>	Drawn by: <b>JG</b>	Date: <b>20/10/2022</b>
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Appendix E3 - Kellysgrove Bog - Surface Water Quality

	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	2/2/22	2/3/22	2/4/22	1/5/22	1/6/22	1/7/22
KN 1	2			11	2	4	2		3		2	4	2	2	2	2	2	4	4	2	2	2	2
KS 1	2			5	2	4	2		2	4	3	8	8	2	2	2	1	2	2	2	2	6	2
Monthly rainfall (mm)	90.3	168	148.1	151.6	167.3	113.4	102.1	23.9	95.7	29.8	58.5	84.8	91.1	164	78.9	114.7	56.9	143.1	39	51.6	78.9	79.4	66
Rehabilitation								20															
	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour
SW Code -GIS	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co
	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22
KN 1	86.4			67.3	42	62.9	46.8		81.6		60	50.9	44	172	186	110	122	142	44.5	182	573	172	353
KS 1	84.3			69.9	43	59.7	45.3		81	93.9	107	120	90.7	336	286	265	174	194	171	181	165	134	220
Monthly rainfall (mm)	90.3	168	148.1	151.6	167.3	113.4	102.1	23.9	95.7	29.8	58.5	84.8	91.1	164	78.9	114.7	56.9	143.1	39	51.6	78.9	79.4	66
	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22
KN 1	42			32	24	21	25		53		20	11	10	53	57	42	61	40	13	55	15	47	87
KS 1	39			33	19	23	26		55	75	28	32	25	85	77	77	51	45	42	54	47	52	51
Monthly rainfall (mm)	90.3	168	148.1	151.6	167.3	113.4	102.1	23.9	95.7	29.8	58.5	84.8	91.1	164	78.9	114.7	56.9	143.1	39	51.6	78.9	79.4	66

	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH
SW Code -GIS	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units
	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22
KN 1	8			7.7	7.7	7.1	7.8		7.5		8	8.2	8.2	7.9	7.6	7.8	7.8	7.8	8	7.8	8	7.4	7.6
KS 1	8			7.7	7.9	6.9	7.9		7.5	8.5	7.9	8.1	8	6.7	6.1	6.6	6.2	6.3	7.1	7.7	7.4	4.2	7.7
Monthly rainfall (mm)	90.3	168	148.1	151.6	167.3	113.4	102.1	23.9	95.7	29.8	58.5	84.8	91.1	164	78.9	114.7	56.9	143.1	39	51.6	78.9	79.4	66
Rehabilitation								9															

	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/8/20	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22
KN 1		<0.05			<0.05	<0.05	<0.05	<0.05		<0.05		0.05	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	<0.05
KS 1		<0.05			<0.05	<0.05	<0.05	<0.05		<0.05	<0.05	0.05	0.08	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.07	<0.05
Monthly rainfall (mm)	90.3	168	148.1	151.6	167.3	113.4	102.1	23.9	95.7	29.8	58.5	84.8	91.1	164	78.9	114.7	56.9	143.1	39	51.6	78.9	79.4	66

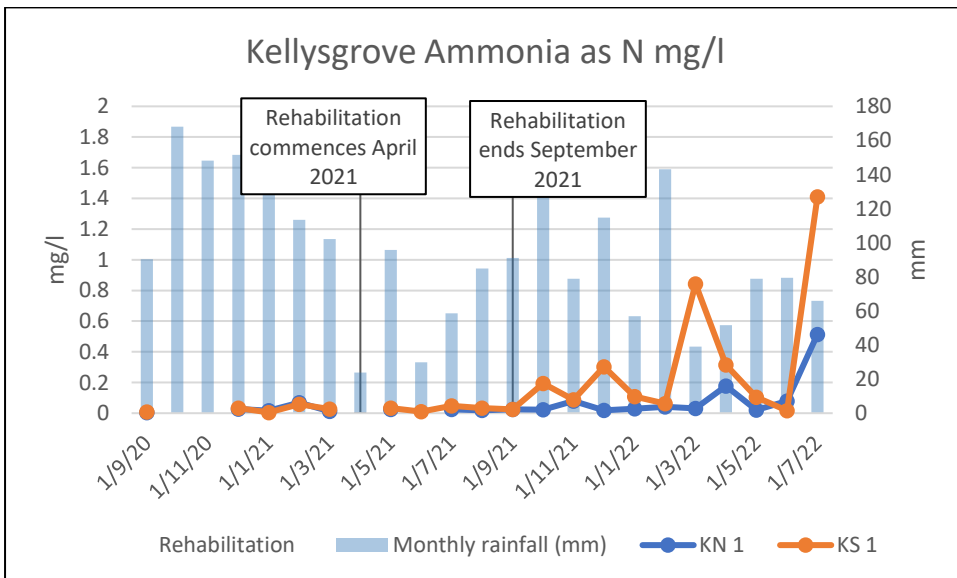
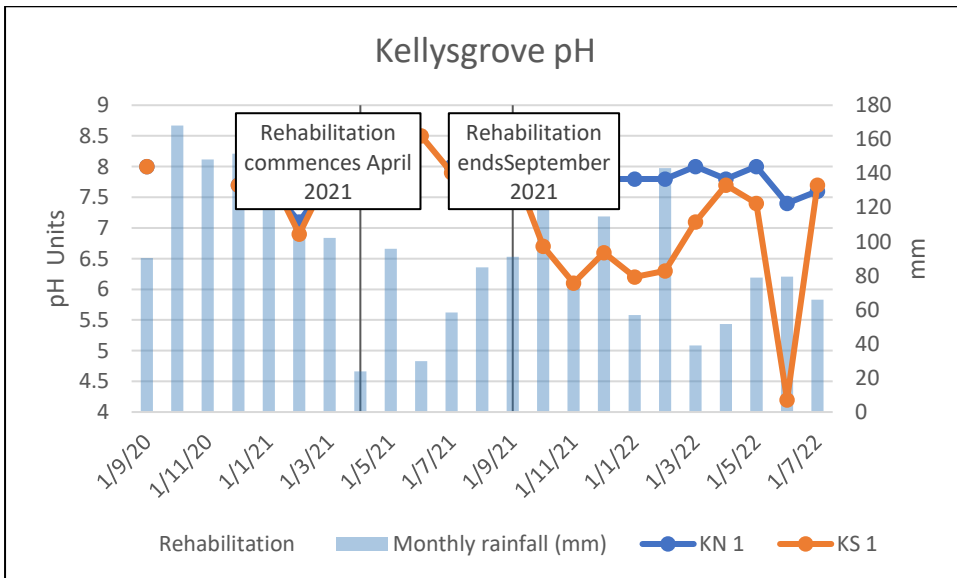
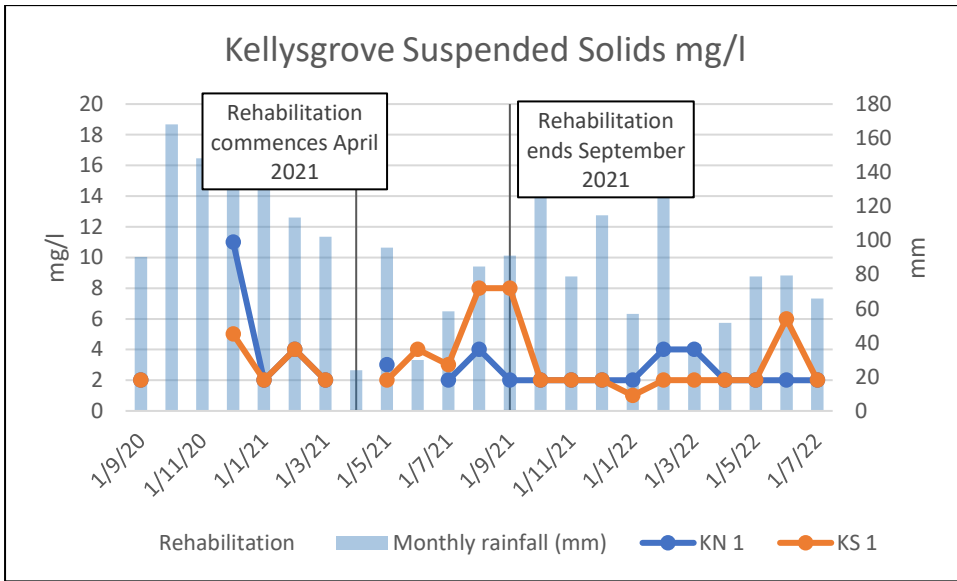
	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS
<b>SW Code -GIS</b>	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22
KN 1	333			179	344	252	244		265		415	191	476	539	406	442	429	377	409	69	418	189	333
KS 1	308			386	329	283	221		273	256	343	323	417	133	180	79	98	175	97	314	185	85	253
Monthly rainfall (mm)	90.3	168	148.1	151.6	167.3	113.4	102.1	23.9	95.7	29.8	58.5	84.8	91.1	164	78.9	114.7	56.9	143.1	39	51.6	78.9	79.4	66

	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N
<b>SW Code -GIS</b>	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22
KN 1	0.005			0.028	0.016	0.069	0.012		0.026		0.024	0.019	0.026	0.023	0.080	0.018	0.030	0.042	0.031	0.177	0.021	0.080	0.514
KS 1	0.008			0.034	0.005	0.058	0.028		0.034	0.011	0.048	0.033	0.025	0.193	0.087	0.303	0.108	0.063	0.842	0.316	0.105	0.016	1.410
Monthly rainfall (mm)	90.3	168	148.1	151.6	167.3	113.4	102.1	23.9	95.7	29.8	58.5	84.8	91.1	164	78.9	114.7	56.9	143.1	39	51.6	78.9	79.4	66
Rehabilitation								2						2									

	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC
<b>SW Code -GIS</b>	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22
KN 1	16			15.8	10.8	9.45	9.47		18.4		8.02	5.81	81.6	22.5	23.3	16.60	16.20	17.60	6.81	22.20	9.16	20.80	35.00
KS 1	15.4			15.6	10.7	10.5	9.16		18.4	23.8	11.3	11.9	76.9	32.8	30.2	27.3	18.1	30.00	17.80	21.40	19.00	19.10	19.00
Monthly rainfall (mm)	90.3	168	148.1	151.6	167.3	113.4	102.1	23.9	95.7	29.8	58.5	84.8	91.1	164	78.9	114.7	56.9	143.1	39	51.6	78.9	79.4	66

Blank spaces - No results available during times of the year when rivers are in flood or during extended dry spells

## Kellysgrove Trend Graphs



## **Appendix F: Kilmacshane Bog**

Appendix F0 - Kilmacshane Bog - Maps

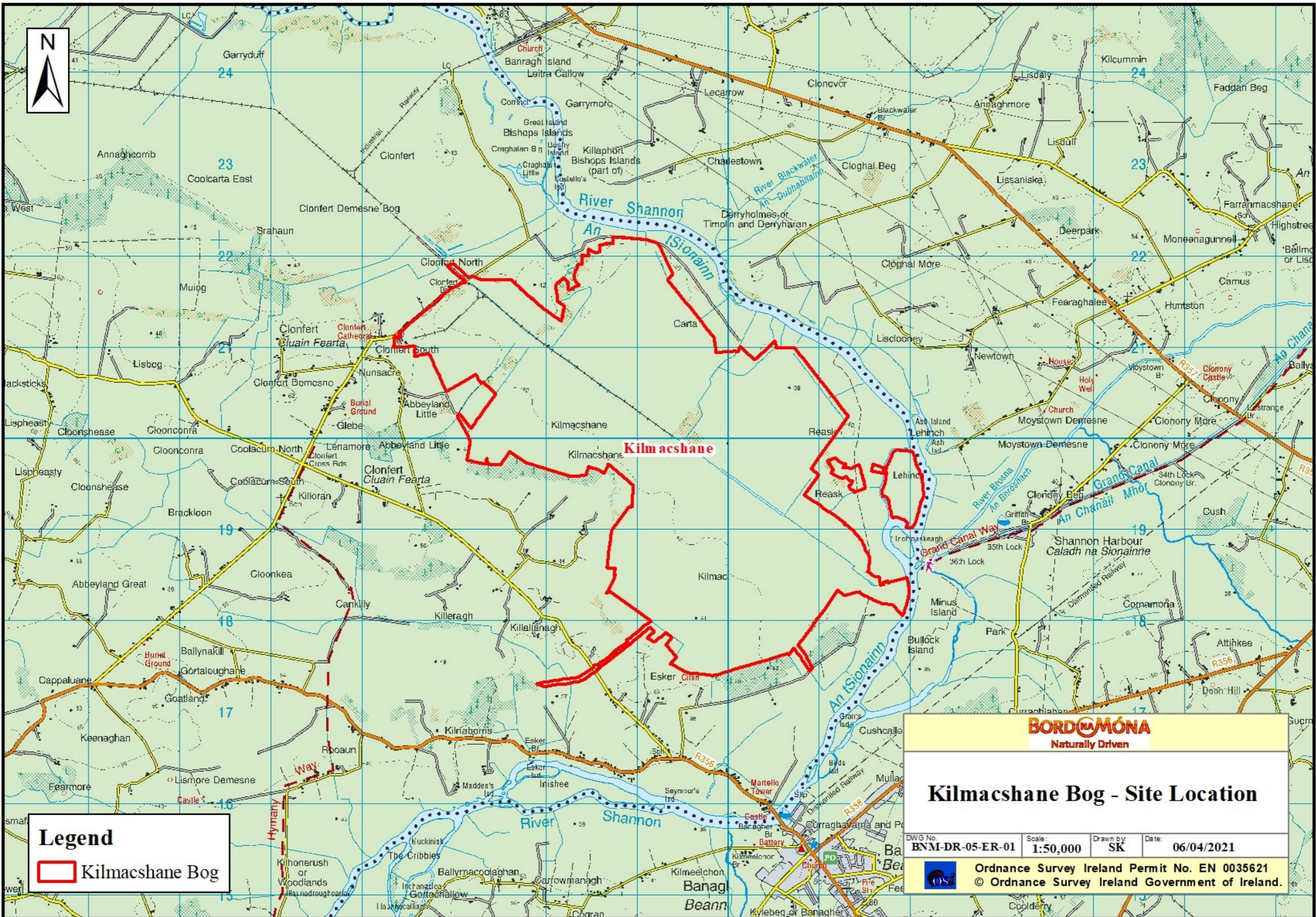
- Kilmacshane Bog Site Location: DRWG No. BNM-DR-05-ER-01
- Kilmacshane Piezometer and Sampling Locations: DRWG No. BNM-DR-22-05-32

Appendix F1 – Kilmacshane Bog - Hydrological Monitoring

Appendix F2 - Kilmacshane Bog – Biodiversity (including Drawings)

- DWG No. BNM-DR-22-05-33: Kilmacshane Bog – Ecology Transects

Appendix F3 – Kilmacshane Bog - Surface Water Quality



**Legend**  
[Red outline] Kilmacshane Bog

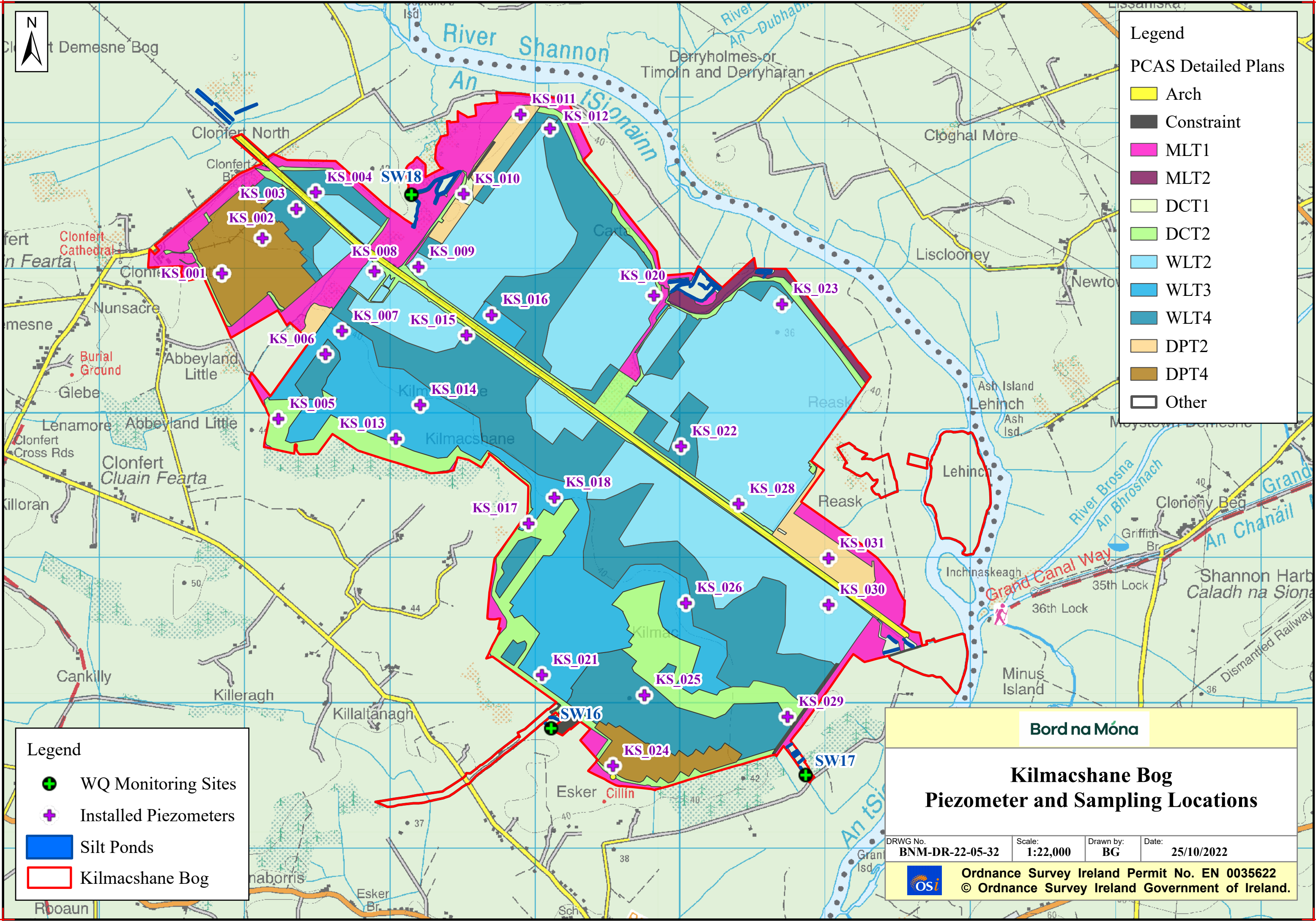
**BORDOMÓNA**  
Naturally Driven

### Kilmacshane Bog - Site Location

DWG No. **BNM-DR-05-ER-01** Scale: **1:50,000** Drawn by **SK** Date: **06/04/2021**

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**Legend**

**PCAS Detailed Plans**

- Arch
- Constraint
- MLT1
- MLT2
- DCT1
- DCT2
- WLT2
- WLT3
- WLT4
- DPT2
- DPT4
- Other

**Legend**

- WQ Monitoring Sites
- Installed Piezometers
- Silt Ponds
- Kilmacshane Bog

**Bord na Móna**

**Kilmacshane Bog  
Piezometer and Sampling Locations**

DRWG No. <b>BNM-DR-22-05-32</b>	Scale: <b>1:22,000</b>	Drawn by: <b>BG</b>	Date: <b>25/10/2022</b>
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**Ordnance Survey Ireland Permit No. EN 0035622**  
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Appendix F1 - Kilmacshane Bog - Hydrological Monitoring

Site Name	Well ID	S/D	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)
Kilmacshane	KS_029_S	S	18/05/2021 08:31	-47	04/08/2021 08:26	-59	26/01/2022 16:26	-31	17/08/2022 14:43	-86
Kilmacshane	KS_017_S	S	18/05/2021 10:25	-22	04/08/2021 10:20	-27	27/01/2022 09:27	-6	17/08/2022 13:43	-56
Kilmacshane	KS_026_S	S	18/05/2021 11:21	-19	04/08/2021 09:40	-24	27/01/2022 10:56	-4	17/08/2022 15:37	-50
Kilmacshane	KS_014_S	S	18/05/2021 13:54	-8	04/08/2021 10:52	-8	27/01/2022 11:49	-7	17/08/2022 12:33	-22
Kilmacshane	KS_031_S	S	18/05/2021 09:00	-18	04/08/2021 09:04	-24	26/01/2022 16:43	3	17/08/2022 13:37	-19
Kilmacshane	KS_001_S	S	19/05/2021 09:05	-41	03/08/2021 16:23	-20	27/01/2022 09:24	8888	17/08/2022 10:49	-16
Kilmacshane	KS_021_S	S	18/05/2021 10:46	-14	04/08/2021 10:05	-15	27/01/2022 09:04	11	17/08/2022 14:48	-16
Kilmacshane	KS_015_S	S	18/05/2021 13:41	-14	04/08/2021 11:09	-16	27/01/2022 11:40	8888	17/08/2022 12:02	-2
Kilmacshane	KS_023_S	S	18/05/2021 12:07	-15	03/08/2021 11:43	-27	27/01/2022 10:20	1	17/08/2022 12:42	22
Kilmacshane	KS_016_S	S	18/05/2021 13:27	-4	04/08/2021 13:46	-7	27/01/2022 11:33	8888	17/08/2022 13:10	8888
Kilmacshane	KS_012_S	S	19/05/2021 09:42	-8	04/08/2021 13:22	-21	27/01/2022 11:10	9999	17/08/2022 11:06	9999
Kilmacshane	KS_002_S	S	19/05/2021 08:56	-60	03/08/2021 16:15	-46	27/01/2022 09:19	8888	N/A	N/A
Kilmacshane	KS_003_S	S	19/05/2021 08:50	-25	03/08/2021 16:50	-43	27/01/2022 09:14	8888	N/A	N/A
Kilmacshane	KS_004_S	S	19/05/2021 08:37	-19	04/08/2021 12:31	-23	27/01/2022 09:09	-4	N/A	N/A
Kilmacshane	KS_005_S	S	19/05/2021	9999	03/08/2021 15:39	-8	27/01/2022 09:00	9999	N/A	N/A
Kilmacshane	KS_006_S	S	19/05/2021 08:16	-31	04/08/2021 11:35	-25	27/01/2022 10:02	8888	N/A	N/A
Kilmacshane	KS_007_S	S	19/05/2021 08:11	-12	04/08/2021 11:40	-13	27/01/2022 10:08	-3	N/A	N/A
Kilmacshane	KS_008_S	S	19/05/2021 07:55	-6	04/08/2021 12:09	-16	27/01/2022 10:20	8	N/A	N/A
Kilmacshane	KS_009_S	S	19/05/2021 08:29	-5	04/08/2021 12:40	-13	27/01/2022 10:26	-3	N/A	N/A
Kilmacshane	KS_010_S	S	18/05/2021 14:29	-40	04/08/2021 12:55	well dry	27/01/2022 10:39	-13	N/A	N/A

Kilmacshane	KS_011_S	S	19/05/2021 09:37	-18	04/08/2021 13:11	-20	27/01/2022 10:59	-9	N/A	N/A
Kilmacshane	KS_013_S	S	18/05/2021 14:03	-1	04/08/2021 10:47	-9	27/01/2022 11:54	0	N/A	N/A
Kilmacshane	KS_018_S	S	18/05/2021 10:13	-61	04/08/2021 10:30	-68	27/01/2022 09:35	-25	N/A	N/A
Kilmacshane	KS_020_S	S	18/05/2021 12:30	-10	03/08/2021 11:27	-14	27/01/2022 10:02	8888	N/A	N/A
Kilmacshane	KS_022_S	S	18/05/2021 11:48	-19	04/08/2021 14:06	well dry	27/01/2022 10:37	4	N/A	N/A
Kilmacshane	KS_024_S	S	18/05/2021 11:02	-45	04/08/2021 08:14	-34	27/01/2022 11:21	8888	N/A	N/A
Kilmacshane	KS_025_S	S	18/05/2021 11:12	-25	04/08/2021 09:53	-28	27/01/2022 11:10	8888	N/A	N/A
Kilmacshane	KS_028_S	S	18/05/2021 11:36	-9	04/08/2021 14:13	-22	27/01/2022 10:48	-2	N/A	N/A
Kilmacshane	KS_030_S	S	18/05/2021 08:49	-32	04/08/2021 08:44	-50	26/01/2022 16:37	-19	N/A	N/A

\*Note 9999= well has been destroyed / 8888 = well was inaccessible at the time of the survey

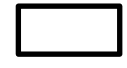

## Appendix F2 - Kilmacshane Bog - Biodiversity

Table 1: Kilmacshane Quadrat Data

<b>Name</b>	Kilmacshane	Kilmacshane	Kilmacshane	Kilmacshane	Kilmacshane
<b>Surveyor</b>	SD	SD	SD	SD	SD
<b>Survey Date</b>	11/06/2021	11/06/2021	11/06/2021	11/06/2021	11/06/2021
<b>Quadrat</b>	1	2	3	4	5
<b>Current Habitat Description</b>	PB1	RB	PB1	PB1	PB1
<b>Sphagnum Cover</b>	51-75%	26-33%	04-10%	51-75%	04-10%
<b>Bare Peat</b>	0%	11-25%	0%	11-25%	04-10%
<b>Open Water</b>	<4% (many individuals)	0%	0%	0%	0%
<b>Vegetation Height</b>	20	20	15	15	12
<b>Andro polif</b>	<4% (few individuals)	Not Observed	Not Observed	<4% (few individuals)	Not Observed
<b>Callu vulga</b>	26-33%	26-33%	11-25%	11-25%	11-25%
<b>Carex panic</b>	Not Observed	Not Observed	Not Observed	Not Observed	04-10%
<b>Clado porte</b>	<4% (few individuals)	<4% (many individuals)	<4% (several individuals)	<4% (several individuals)	<4% (several individuals)
<b>Drose rotun</b>	<4% (several individuals)	<4% (few individuals)	Not Observed	<4% (several individuals)	<4% (many individuals)
<b>Erica tetra</b>	<4% (many individuals)	04-10%	04-10%	04-10%	04-10%
<b>Eriop angus</b>	04-10%	Not Observed	51-75%	04-10%	Not Observed
<b>Eriop vagin</b>	11-25%	04-10%	Not Observed	04-10%	<4% (several individuals)
<b>Narth ossif</b>	<4% (many individuals)	<4% (many individuals)	Not Observed	<4% (several individuals)	<4% (many individuals)
<b>Rhynch alba</b>	<4% (many individuals)	04-10%	Not Observed	Not Observed	<4% (few individuals)
<b>Sphag capil</b>	26-33%	11-25%	04-10%	34-50%	04-10%
<b>Sphag papil</b>	11-25%	11-25%	Not Observed	11-25%	04-10%
<b>Sphag subni</b>	04-10%	<4% (few individuals)	04-10%	04-10%	Not Observed
<b>Trich cespi</b>	Not Observed	04-10%	<4% (few individuals)	11-25%	04-10%
<b>Dactylorhiza maculata</b>	Not Observed	Not Observed	Not Observed	<4% (few individuals)	Not Observed
<b>Comment</b>	Flat slope. Soil type = bog peat. Potentially peat form. Soft ground. Moisture = wet.	Flat slope. Soil type = bog peat. Peat Form = No. Firm ground. Moisture = intermediate.	Flat slope. Soil type = bog peat. Peat Form = No. Firm ground. Moisture = intermediate.	Flat slope. Soil type = bog peat. Peat Form = Potentially. Soft ground. Moisture = wet.	Flat slope. Soil type = bog peat. Peat Form = No. Firm ground. Moisture = intermediate.
<b>Note1</b>	degraded RB, quite wet, near drain	DRB, quite dry with some dried-out <i>Sphagnum</i>		wet area of drained high bog, recently disturbed	
<b>Note2</b>	raised bog capable of regen	DRB	DRB	DRB	DRB



**Legend**

-  Bog boundary
- Transects
-  CBS

**Bord na Móna**

**Kilmacshane Bog  
Ecology Transects**

DRWG No. <b>BNM-DR-22-05-33</b>	Scale: <b>1:19,681</b>	Drawn by: <b>JG</b>	Date: <b>19/10/2022</b>
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SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	2/2/22	2/3/22	2/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW16	<0.05	<0.05		0.011	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		<0.05	<0.05	<0.05	0.07	<0.05	<0.05	0.11	<0.05	0.21	<0.05	<0.05
SW17	<0.05	<0.05	<0.05	<0.05	0.05	0.12	0.12	0.09	0.09	<0.05		<0.05	0.06	<0.05	0.11	0.05	0.11	0.22	0.16	<0.05	0.07	0.12
SW18	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.05	<0.05		<0.05	<0.05	0.06	0.07	0.06	<0.05	<0.05	<0.05	0.09	0.17	<0.05
Monthly rainfall (mm)	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1

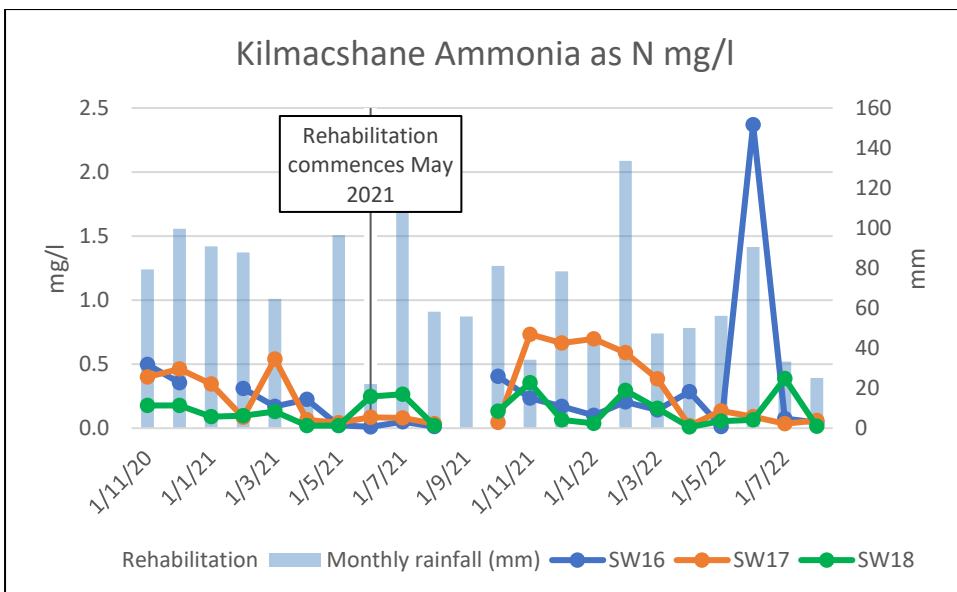
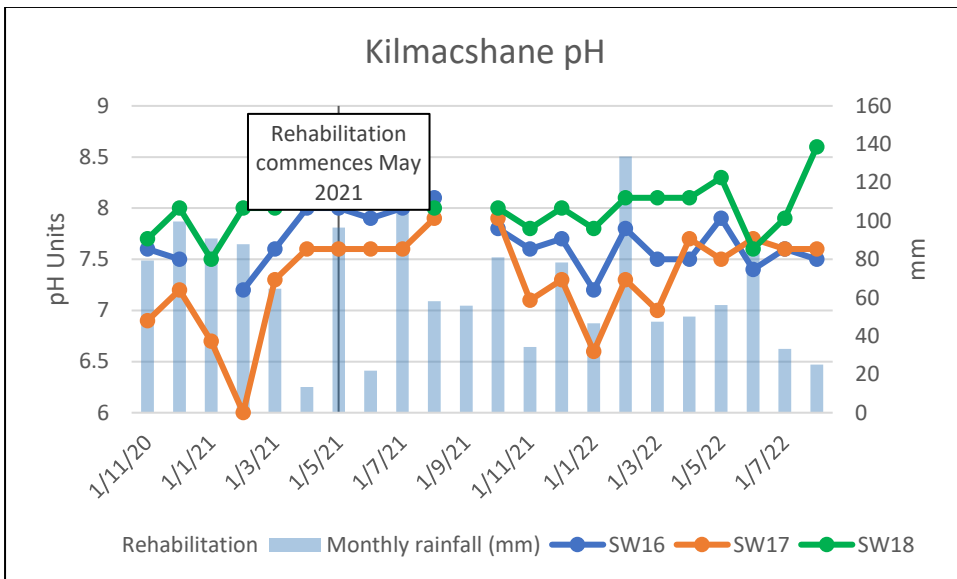
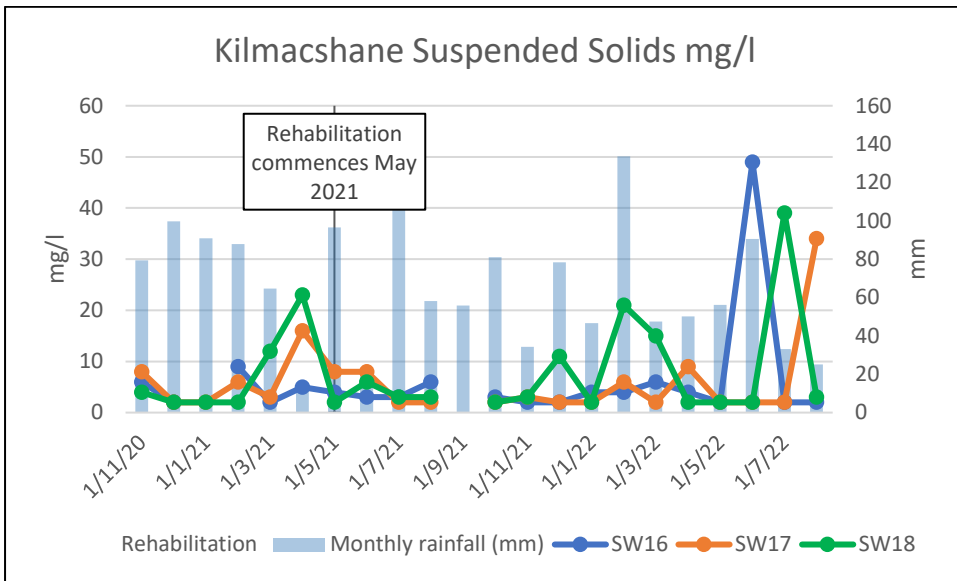
	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	2/2/22	2/3/22	2/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW16	300	263		380	270	326	308	321	345	312		261	244	259	526	247	282	481	256	491	272	305
SW17	140	80	94	160	282	279	253	301	269	267		336	165	152	117	106	144	218	285	279	315	400
SW18	366	262	254	253	207	309	315	432	462	299		358	229	449	401	366	302	535	334	330	363	278
Monthly rainfall (mm)	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1

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SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	2/2/22	2/3/22	2/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW16	0.497	0.354		0.309	0.169	0.226	0.023	0.011	0.050	0.013		0.404	0.234	0.170	0.099	0.206	0.143	0.285	0.012	2.370	0.074	0.046
SW17	0.399	0.463	0.344	0.084	0.541	0.065	0.043	0.085	0.080	0.035		0.044	0.733	0.665	0.697	0.589	0.386	0.020	0.134	0.091	0.034	0.059
SW18	0.178	0.177	0.09	0.098	0.130	0.020	0.019	0.247	0.266	0.020		0.132	0.354	0.066	0.038	0.294	0.154	0.009	0.054	0.065	0.388	0.016
Monthly rainfall (mm)	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1
Rehabilitation								2.5														

	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	2/2/22	2/3/22	2/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW16	30.1	32.2		39.5	28.6	26.8	26.8	28.1	27.9	70.4		27.6	27	29.6	37.3	32.6	35.8	32.4	32.1	23.1	28.6	25.7
SW17	20.3	19.2	15.6	31.5	22.9	20.7	19.4	26	22.1	62.3		20.1	31.7	29.2	25.8	20.4	23.2	32.6	32.4	28.3	29.3	25.6
SW18	22.7	20	15.3	16.4	13	17.8	20	10.9	11.2	68		23.1	18.8	24.3	23	18.8	18.2	24.1	18.3	29.5	22.8	25.2
Monthly rainfall (mm)	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1

Blank spaces - No results available during times of the year when rivers are in flood or during extended dry spells

## Kilmacshane Trend Graphs





## **Appendix G: Boora Bog**

### Appendix G0 - Boora Bog - Maps

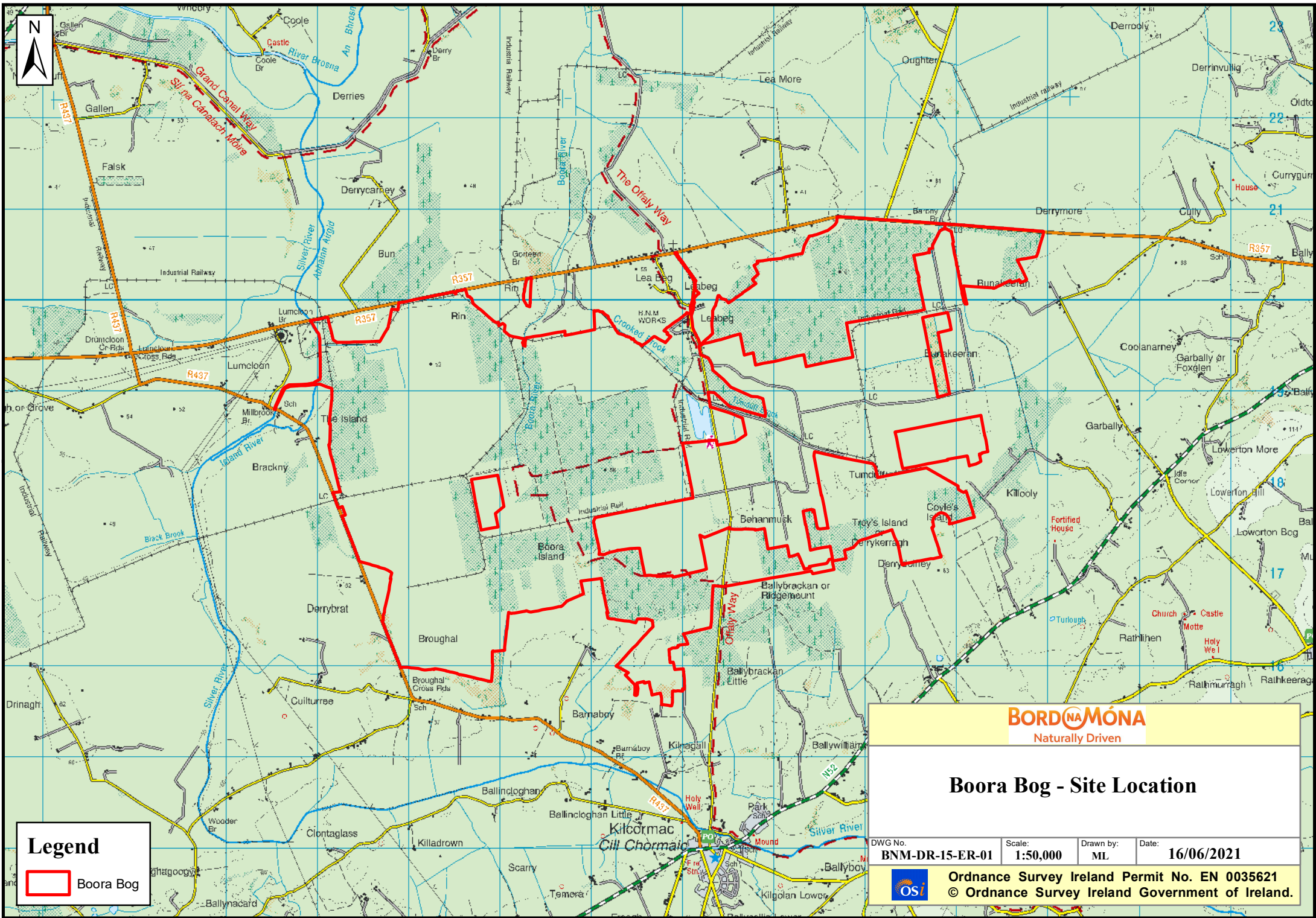
- Boora Bog Site Location: DRWG No. BNM-DR-15-ER-01
- Boora Piezometer and Sampling Locations: DRWG No. BNM-DR-22-15-32

### Appendix C1 - Boora Bog - Hydrological Monitoring


### Appendix C2 – Boora Bog – Biodiversity (including Drawings)

- DWG No. BNM-DR-22-15-33: Boora Bog – Ecology Transects

### Appendix C3 – Boora Bog - Surface Water Quality




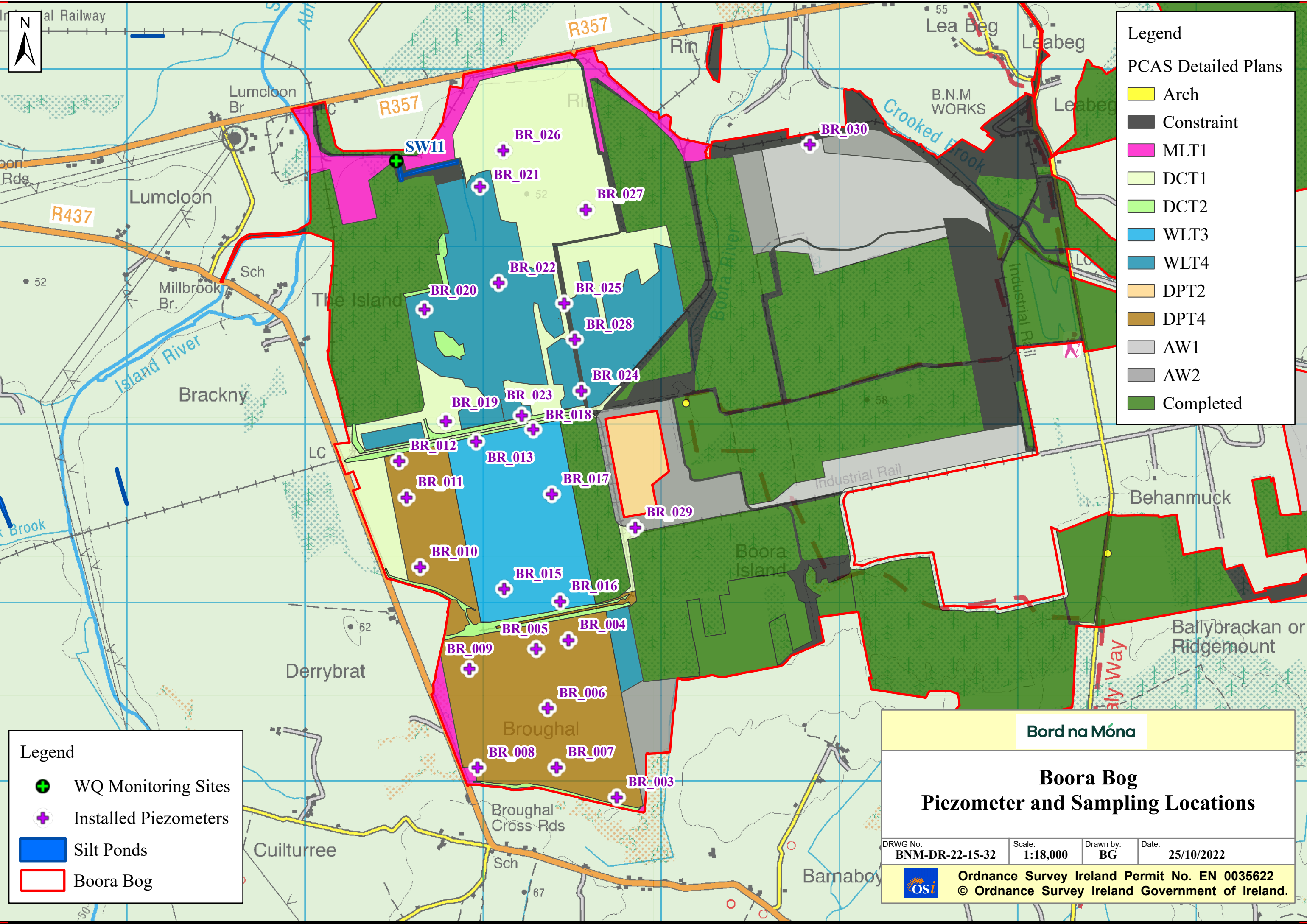
**Legend**

 Boora Bog

**BORD NA MÓNA**  
Naturally Driven

**Boora Bog - Site Location**

DWG No. <b>BNM-DR-15-ER-01</b>	Scale: <b>1:50,000</b>	Drawn by: <b>ML</b>	Date: <b>16/06/2021</b>
 <b>Ordnance Survey Ireland Permit No. EN 0035621</b> © Ordnance Survey Ireland Government of Ireland.			



**Legend**

**PCAS Detailed Plans**

- Arch
- Constraint
- MLT1
- DCT1
- DCT2
- WLT3
- WLT4
- DPT2
- DPT4
- AW1
- AW2
- Completed

**Legend**

- WQ Monitoring Sites
- Installed Piezometers
- Silt Ponds
- Boora Bog

**Bord na Móna**

**Boora Bog  
Piezometer and Sampling Locations**

DRWG No. <b>BNM-DR-22-15-32</b>	Scale: <b>1:18,000</b>	Drawn by: <b>BG</b>	Date: <b>25/10/2022</b>
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Appendix G1 - Boora Bog - Hydrological Monitoring

Site Name	Well ID	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)
Boora	BR_003_S	10/05/2021 13:52	-79	07/07/2021 09:07	-69	01/02/2022 00:00	9999	N/A	N/A
Boora	BR_004_S	10/05/2021 14:35	-22	07/07/2021 08:26	-18	01/02/2022 12:39	-36	N/A	N/A
Boora	BR_005_S	10/05/2021 14:22	-31	07/07/2021 08:33	-35	01/02/2022 12:35	1	28/07/2022 12:59	8888
Boora	BR_006_S	10/05/2021 14:14	-63	07/07/2021 08:44	-15	01/02/2022 14:31	-22	28/07/2022 13:07	-52
Boora	BR_007_S	10/05/2021 14:04	-27	07/07/2021 08:55	-26	01/02/2022 14:18	-3	28/07/2022 13:43	-15
Boora	BR_008_S	10/05/2021 13:37	-13	07/07/2021 09:21	-29	01/02/2022 14:15	-11	N/A	N/A
Boora	BR_009_S	10/05/2021 13:21	-20	07/07/2021 09:29	-14	01/02/2022 12:27	-13	N/A	N/A
Boora	BR_010_S	10/05/2021 13:08	-27	07/07/2021 11:00	-21	01/02/2022 12:13	-25	N/A	N/A
Boora	BR_011_S	10/05/2021 13:01	-42	07/07/2021 11:06	-8	01/02/2022 12:11	9999	N/A	N/A
Boora	BR_012_S	10/05/2021 12:49	-20	07/07/2021 11:09	-16	01/02/2022 12:05	-20	28/07/2022 10:55	-15
Boora	BR_013_S	10/05/2021 16:13	-20	07/07/2021 10:31	-12	01/02/2022 13:01	-13	N/A	N/A
Boora	BR_015_S	10/05/2021 15:58	-9	07/07/2021 10:48	-9	01/02/2022 12:53	-10	N/A	N/A
Boora	BR_016_S	10/05/2021 15:37	-2	07/07/2021 09:43	-9	01/02/2022 12:46	-14	28/07/2022 12:17	-15
Boora	BR_017_S	10/05/2021 15:22	-21	07/07/2021 09:59	-7	01/02/2022 13:38	-20	28/07/2022 11:37	-40
Boora	BR_018_S	10/05/2021 15:11	-65	07/07/2021 10:16	-63	01/02/2022 13:07	-61	28/07/2022 11:01	-65
Boora	BR_019_S	10/05/2021 08:59	-71	07/07/2021 07:35	-70	01/02/2022 14:20	-53	28/07/2022 11:22	-57
Boora	BR_020_S	10/05/2021 09:21	-57	07/07/2021 12:34	-17	01/02/2022 14:31	-33	N/A	N/A
Boora	BR_021_S	10/05/2021 10:14	-19	07/07/2021 13:09	-24	01/02/2022 13:43	-23	28/07/2022 13:53	-16
Boora	BR_022_S	10/05/2021 10:26	-15	07/07/2021 12:53	-9	01/02/2022 14:00	-11	28/07/2022 12:09	-13
Boora	BR_023_S	10/05/2021 10:40	-75	07/07/2021 07:54	-15	01/02/2022 12:25	-38	N/A	N/A
Boora	BR_024_S	10/05/2021 10:48	-28	07/07/2021 13:53	-27	01/02/2022 12:33	-22	N/A	N/A
Boora	BR_025_S	10/05/2021 11:00	-52	07/07/2021 14:03	-47	01/02/2022 12:46	-55	28/07/2022 12:45	-46
Boora	BR_026_S	10/05/2021 09:56	-29	07/07/2021 13:23	-28	01/02/2022 13:33	-7	28/07/2022 13:44	9999
Boora	BR_027_S	10/05/2021 11:15	-70	07/07/2021 14:25	-22	01/02/2022 13:04	-15	N/A	N/A

Boora	BR_028_S	10/05/2021 10:55	-75	07/07/2021 13:58	-72	01/02/2022 12:41	-66	N/A	N/A
Boora	BR_029_S	10/05/2021 14:47	-33	07/07/2021 08:13	-36	01/02/2022 13:17	-25	N/A	N/A
Boora	BR_030_S	10/05/2021 17:18	-6	07/07/2021 15:35	-9	02/02/2022 10:08	-6	N/A	N/A

\*Note 9999= well has been destroyed / 8888 = well was inaccessible at the time of the survey



**Legend**

 Bog boundary

Transects

 CBS

**Bord na Móna**

**Boora Bog  
Ecology Transects**

DRWG No. <b>BNM-DR-22-15-33</b>	Scale: <b>1:21,785</b>	Drawn by: <b>JG</b>	Date: <b>19/10/2022</b>
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	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW11	<0.05			<0.05	<0.05	<0.05	0.09	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	<0.05	<0.05	<0.05	<0.05	<0.05
Monthly rainfall (mm)	52.7	103.1	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1

	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW11	428			310	431	250	491	439	468	483	359	468	442	353	415	425	425	359	276	396	417	417	440	407
Monthly rainfall (mm)	52.7	103.1	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1

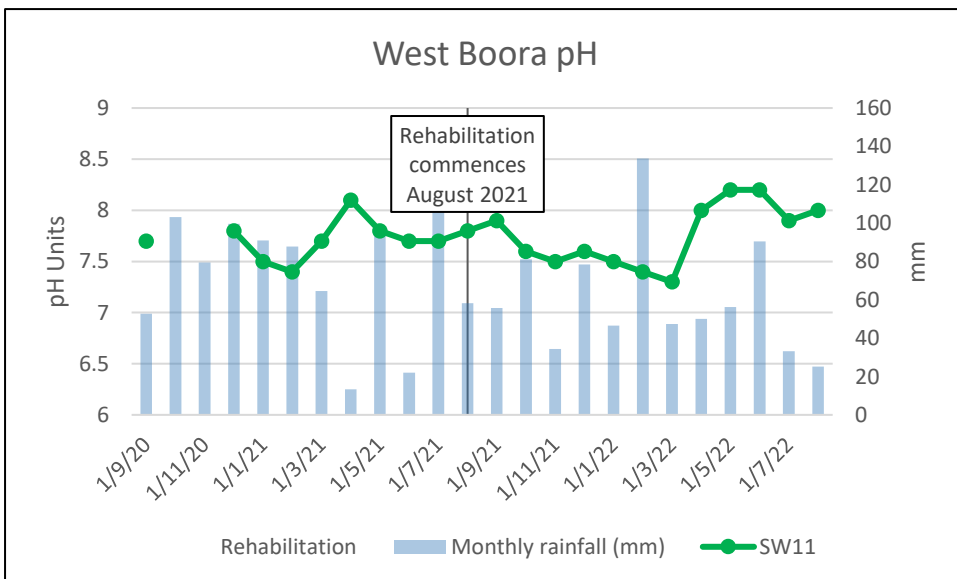
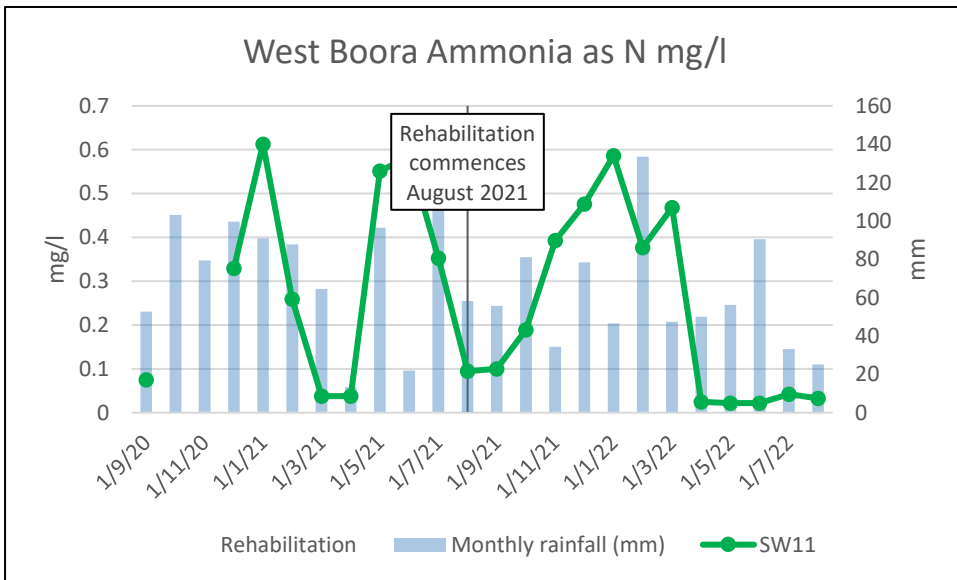
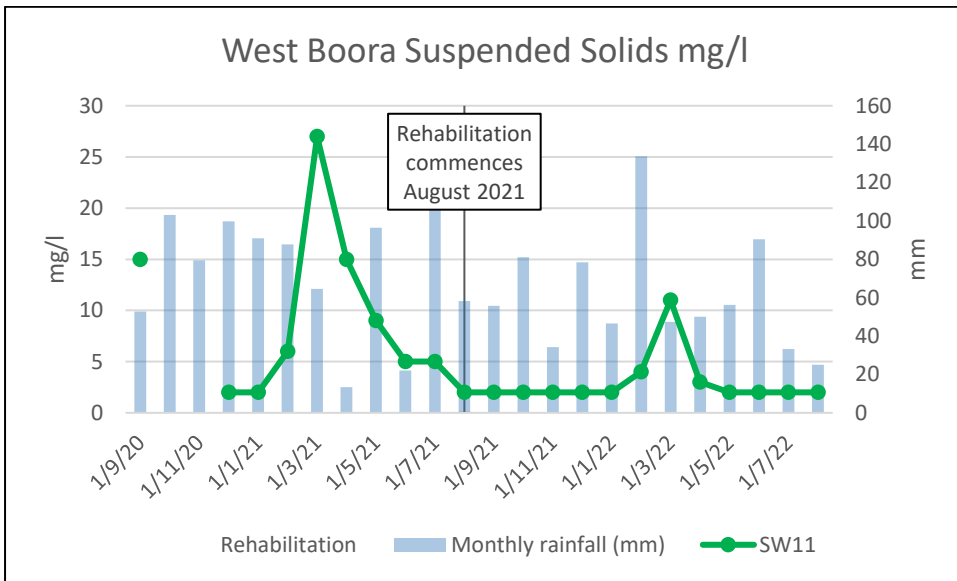
	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW11	0.075			0.329	0.613	0.259	0.038	0.038	0.551	0.584	0.353	0.095	0.100	0.189	0.393	0.476	0.586	0.377	0.468	0.025	0.022	0.022	0.042	0.033
Monthly rainfall (mm)	52.7	103.1	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1
Rehabilitation												0.7												

	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW11	16.5			20.4	29.7	28.4	7.32	5.32	19.5	84	20.1	71.2	79.3	24	27.5	24.7	23.8	28.4	33.8	6.79	5.85	5.85	18.3	17.7
Monthly rainfall (mm)	52.7	103.1	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1

Blank spaces - No results available during times of year when rivers are in flood or during extended dry spells



## Boora Trend Graphs



## **Appendix H: Derries Bog**

### Appendix H0 - Derries Bog - Maps

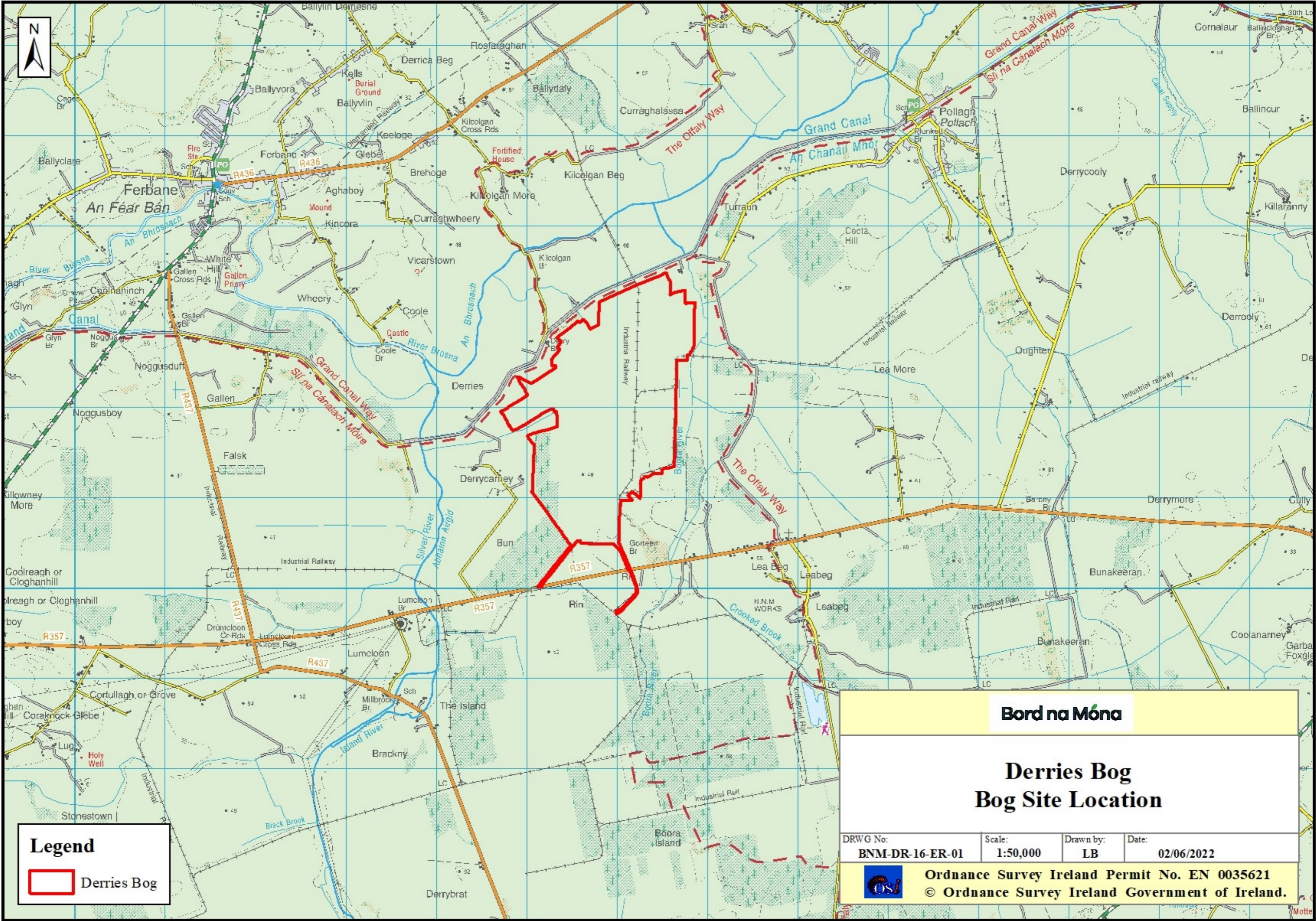
- Derries Bog Site Location: DRWG No. BNM-DR-168-ER-01
- Derries Piezometer and Sampling Locations: DRWG No. BNM-DR-22-16-32

### Appendix H1 - Derries Bog - Hydrological Monitoring


### Appendix H2 – Derries Bog – Biodiversity (including Drawings)

- DWG No. BNM-DR-22-16-33: Derries Bog – Ecology Transects

### Appendix H3 – Derries Bog - Surface Water Quality




**Legend**

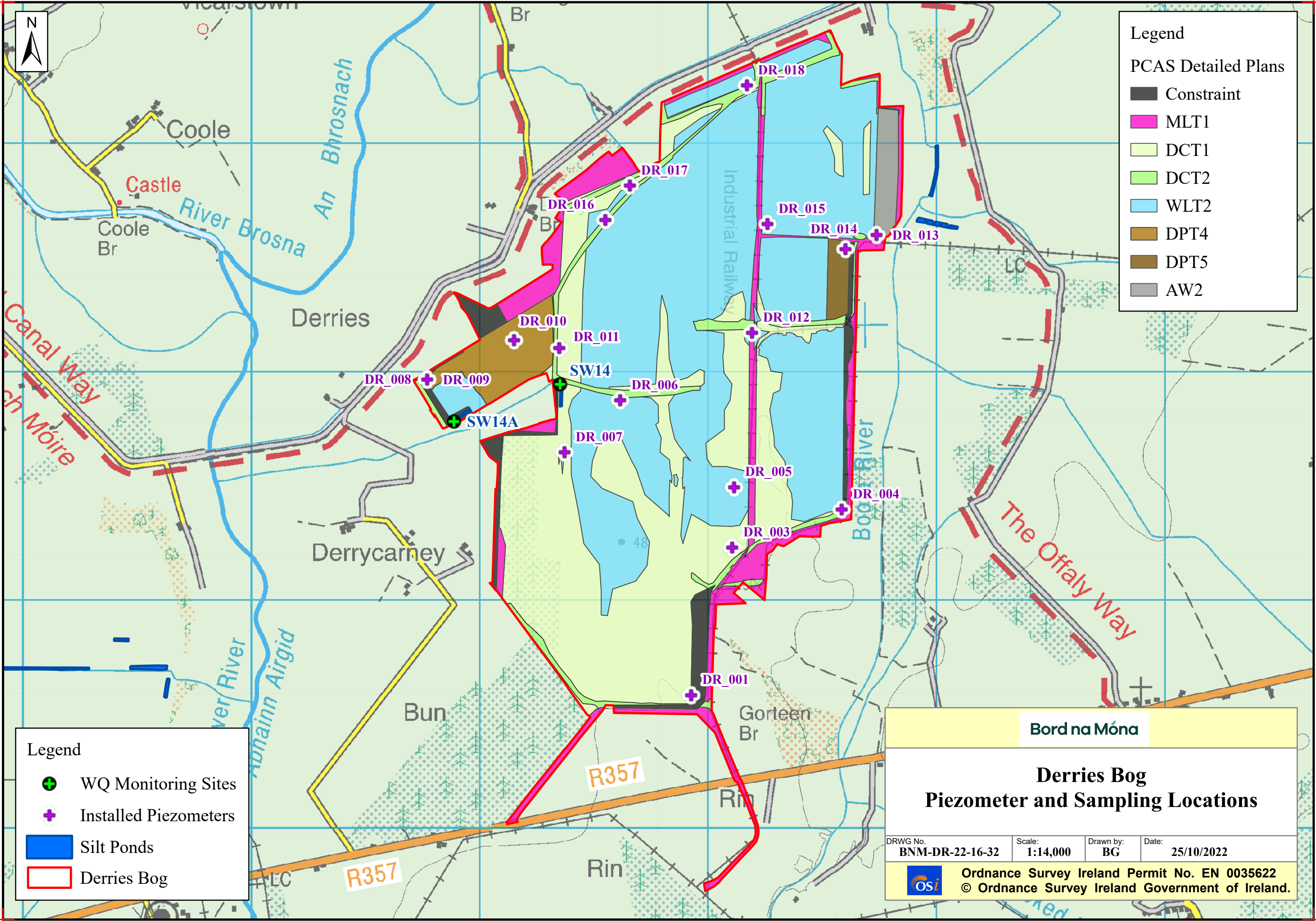
 Derries Bog

**Bord na Móna**

**Derries Bog Bog Site Location**

DRWG No: BNM-DR-16-ER-01	Scale: 1:50,000	Drawn by: LB	Date: 02/06/2022
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**Legend**

PCAS Detailed Plans

- Constraint
- MLT1
- DCT1
- DCT2
- WLT2
- DPT4
- DPT5
- AW2

**Legend**

- ⊕ WQ Monitoring Sites
- ⊕ Installed Piezometers
- Silt Ponds
- Derries Bog

**Bord na Móna**

**Derries Bog  
Piezometer and Sampling Locations**

DRWG No. <b>BNM-DR-22-16-32</b>	Scale: <b>1:14,000</b>	Drawn by: <b>BG</b>	Date: <b>25/10/2022</b>
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Appendix H1 - Derries Bog - Hydrological Monitoring

Site Name	Well ID	S/D	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)
Derries	DR_001_S	S	11/05/2021 11:45	-33	20/07/2021 13:50	8888	31/01/2022 16:20	-23	24/08/2022 15:29	-25
Derries	DR_003_S	S	11/05/2021 11:00	-16	21/07/2021 13:50	-25	31/01/2022 16:35	-19	N/A	N/A
Derries	DR_004_S	S	11/05/2021 11:16	-98	21/07/2021 14:13	-22	31/01/2022 16:06	-20	24/08/2022 15:35	-41
Derries	DR_005_S	S	11/05/2021 10:52	-86	21/07/2021 13:55	-28	31/01/2022 16:38	-22	N/A	N/A
Derries	DR_006_S	S	11/05/2021 07:58	-18	22/07/2021 10:01	-59	01/02/2022 10:07	-11	24/08/2022 16:20	-5
Derries	DR_007_S	S	11/05/2021 08:14	0	22/07/2021 09:40	-13	01/02/2022 10:19	1	N/A	N/A
Derries	DR_008_S	S	11/05/2021 07:13	-2	22/07/2021 09:07	-16	01/02/2022 11:23	-11	N/A	N/A
Derries	DR_009_S	S	11/05/2021 07:06	-24	22/07/2021 09:05	-78	01/02/2022 09:39	17	N/A	N/A
Derries	DR_010_S	S	11/05/2021 07:27	-6	22/07/2021 09:14	-20	01/02/2022 09:47	8888	24/08/2022 16:56	-35
Derries	DR_011_S	S	11/05/2021 07:39	-66	22/07/2021 09:29	-72	01/02/2022 09:56	-63	N/A	N/A
Derries	DR_012_S	S	11/05/2021 10:32	-1	21/07/2021 16:30	-10	31/01/2022 16:48	0	N/A	N/A
Derries	DR_013_S	S	11/05/2021 10:11	-1	21/07/2021 16:17	-11	31/01/2022 17:07	4	N/A	N/A
Derries	DR_014_S	S	11/05/2021 10:00	-2	21/07/2021 16:09	-14	31/01/2022 15:50	-20	24/08/2022 15:43	-64
Derries	DR_015_S	S	11/05/2021 09:48	0	21/07/2021 15:54	-3	31/01/2022 16:58	5	24/08/2022 16:06	9999
Derries	DR_016_S	S	11/05/2021 09:23	0	22/07/2021 10:42	-24	01/02/2022 10:34	0	24/08/2022 16:43	-9
Derries	DR_017_S	S	11/05/2021 09:13	-45	22/07/2021 10:28	-40	01/02/2022 10:43	-41	24/08/2022 16:54	-36
Derries	DR_018_S	S	11/05/2021 09:01	-14	21/07/2021 16:44	-32	01/02/2022 10:52	-12	24/08/2022 16:20	-56

\*Note 9999= well has been destroyed / 8888 = well was inaccessible at the time of the survey



**Legend**

-  Bog boundary
- Transects
-  NA

**Bord na Móna**

**Derries Bog  
Ecology Transects**

DRWG No. <b>BNM-DR-22-16-33</b>	Scale: <b>1:14,482</b>	Drawn by: <b>JG</b>	Date: <b>20/10/2022</b>
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SW Code -GIS	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units
	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW14	6.9					7.2	7.2	7.6	7.7	7.8	4.6	7.6	7.8	7	7.1	7.2	7.2	6.8	7.3	7.8	7.3	7.3	7.7	7.3
SW14A	7.3					7.2	7.3	7.6	7.4	7.7	4.6	7.6	7.7	7	7.1	7.2	7.3	7.2	7.2	7.8	7.3	7.3	7.8	7.4
Monthly Rainfall (mm)	52.7	103.1	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1
Rehabilitation							9																	

	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW14	0.045					0.05	<0.05	<0.05	0.16	<0.05	0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	<0.05	0.11	0.11	<0.05	0.26
SW14A	<0.05					<0.05	<0.05	<0.05	0.1	<0.05	0.09	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.05	0.12	0.12	<0.05	<0.05	0.29
Monthly Rainfall (mm)	52.7	103.1	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1

	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW14	254					250	287	291	372	324	186	380	304	342	324	356	274	319	300	353	481	481	643	505
SW14A	361					243	297	275	326	321	184	332	273	416	360	330	302	326	555	278	479	479	541	580
Monthly Rainfall (mm)	52.7	103.1	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1

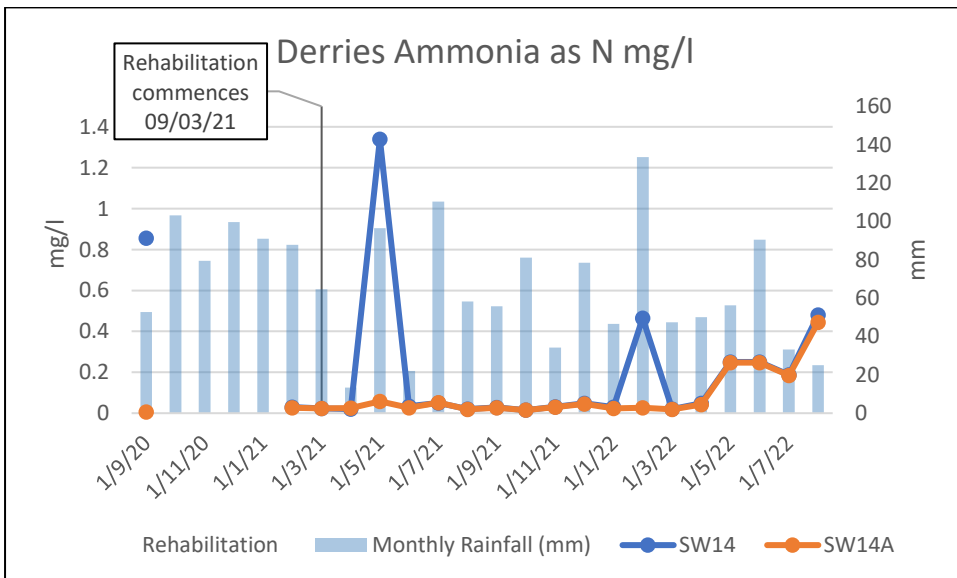
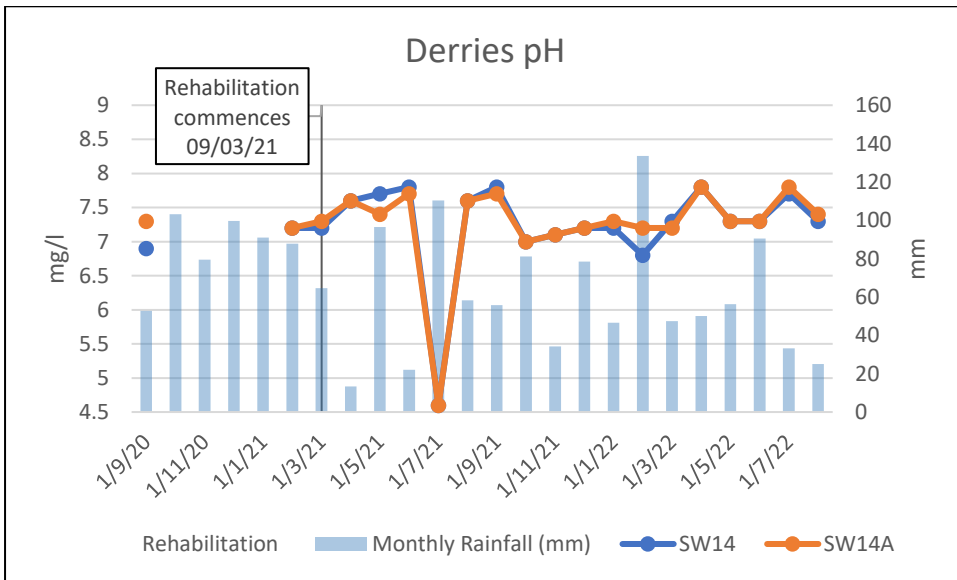
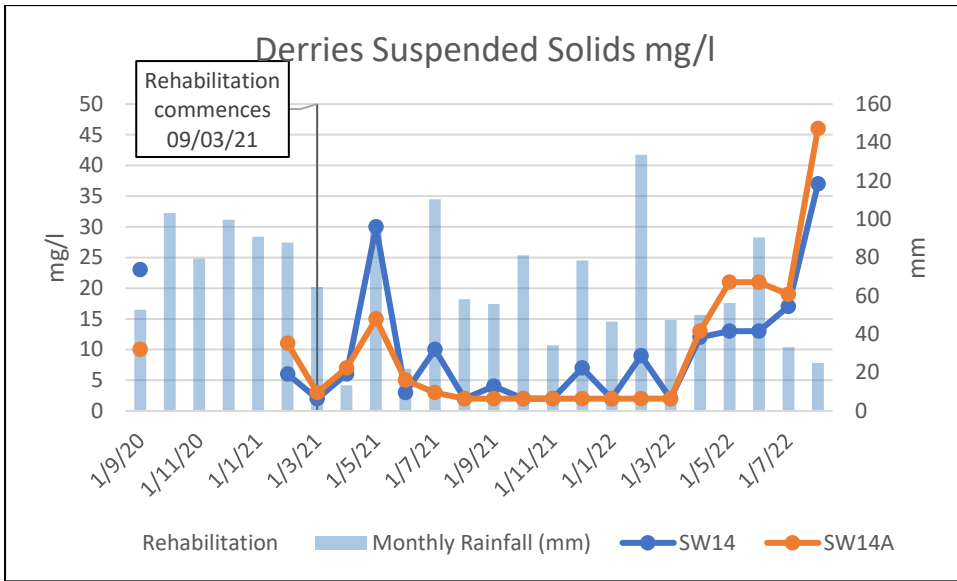


	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW14	0.856					0.029	0.023	0.021	1.34	0.035	0.050	0.020	0.028	0.015	0.031	0.049	0.029	0.465	0.020	0.049	0.251	0.251	0.188	0.481
SW14A	0.006					0.027	0.024	0.025	0.058	0.027	0.052	0.018	0.027	0.015	0.030	0.046	0.024	0.027	0.019	0.042	0.248	0.248	0.184	0.444
Monthly Rainfall (mm)	52.7	103.1	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1
Rehabilitation							1.5																	

	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW14						38.2	37	32.5	26.2	47.3	58.3	63.9	72.4	43.8	45.6	38.6	36.2	39.2	37.6	35.9	94.8	94.8	9.29	80.1
SW14A	48					38.5	37.6	33.6	33.2	47.5	61.4	64.4	72.2	43.6	44.5	39.1	36.6	38.7	37.6	35.5	95.4	95.4	8.8	80
Monthly Rainfall (mm)	52.7	103.1	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1

Blank spaces - No results available during times of the year when rivers are in flood or during extended dry spells

## Derries Trend Graphs



## **Appendix I: Oughter Bog**

Appendix I0 - Oughter Bog - Maps

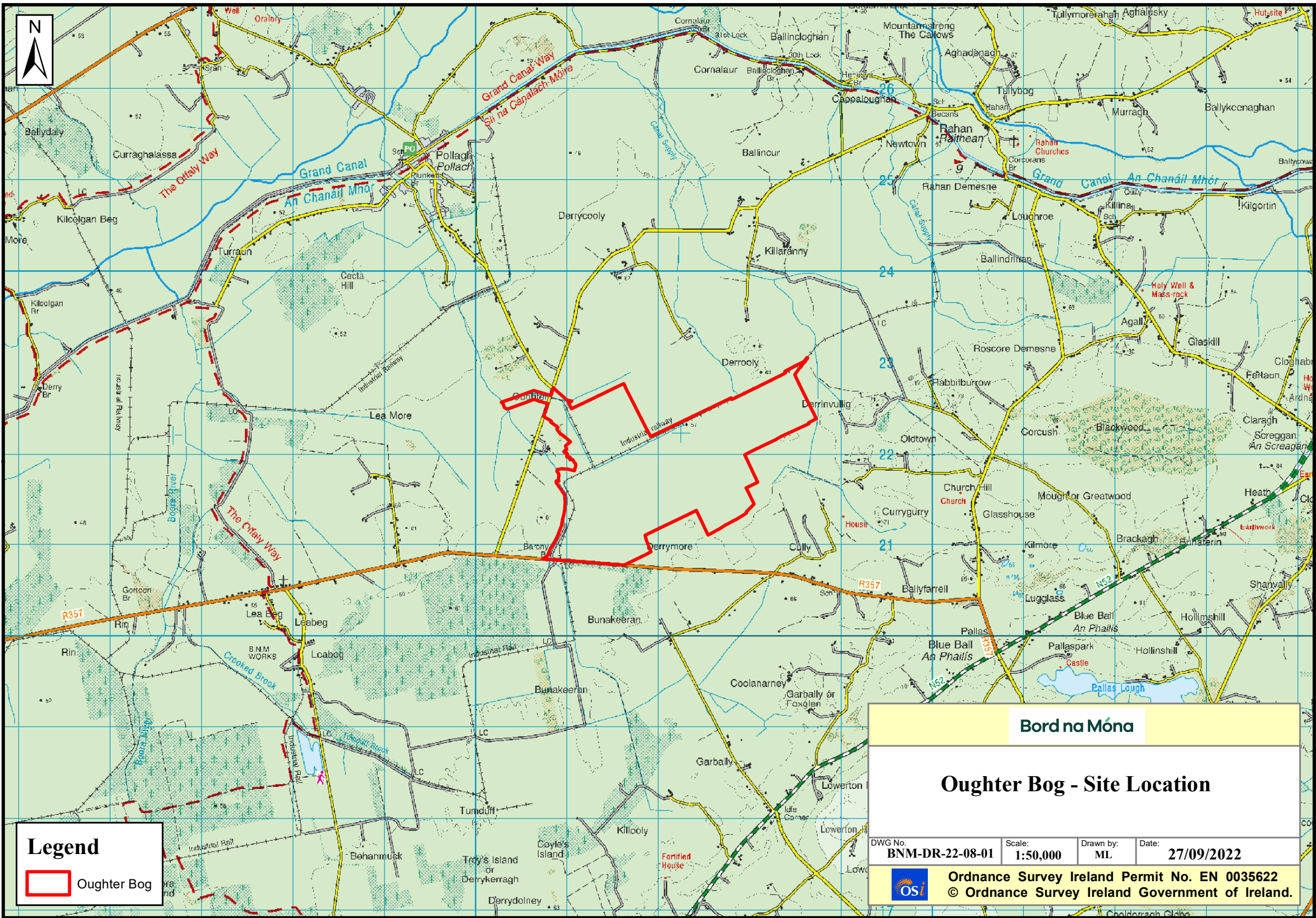
- Oughter Bog Site Location: DRWG No. BNM-DR-22-08-01
- Oughter Piezometer and Sampling Locations: DRWG No. BNM-DR-22-08-32

Appendix I1 – Oughter Bog - Hydrological Monitoring


Appendix I2 – Oughter Bog – Biodiversity (including Drawings)

- DWG No. BNM-DR-22-08-33: Oughter Bog – Ecology Transects

Appendix I3 – Oughter Bog - Surface Water Quality




**Legend**

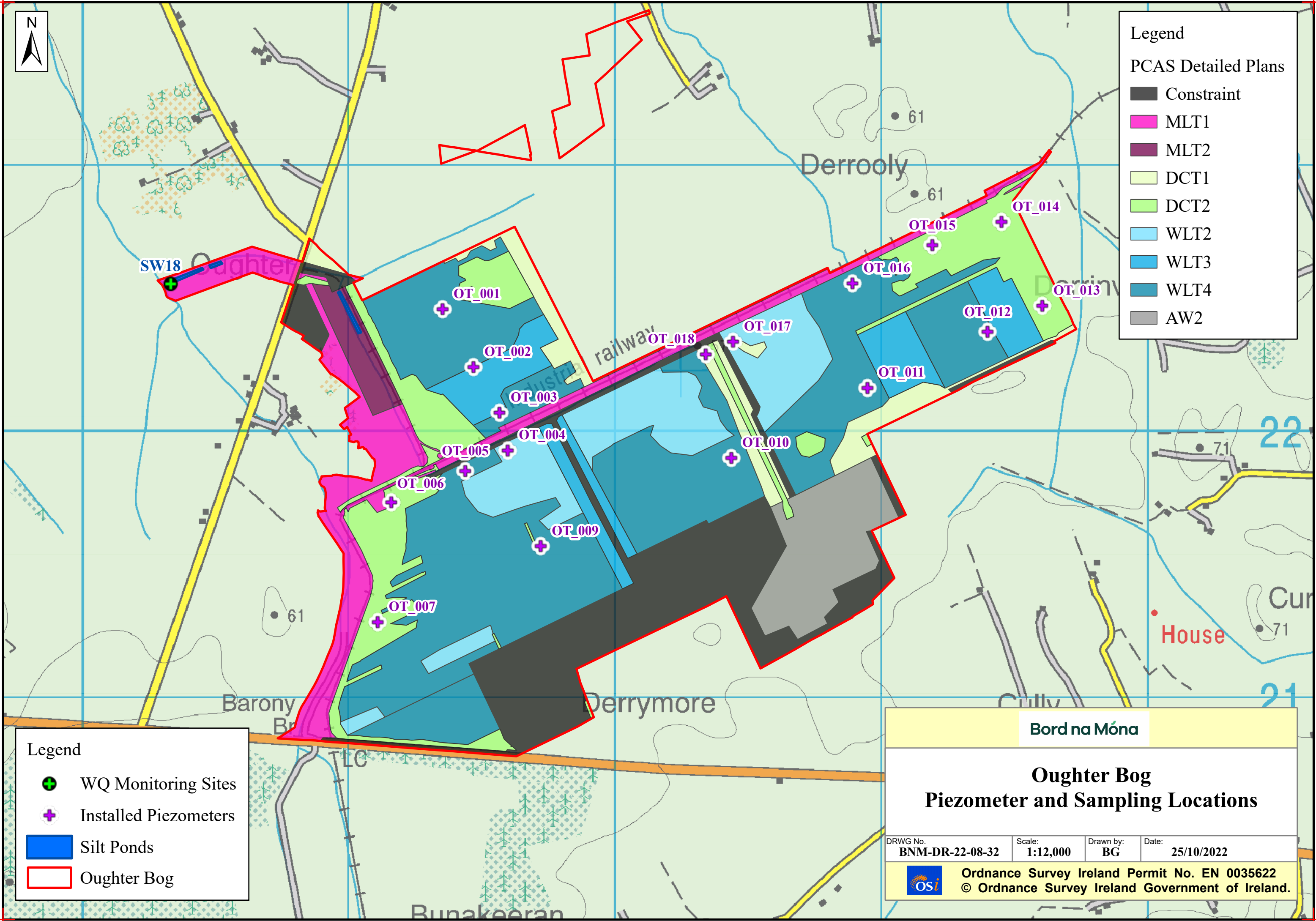
 Oughter Bog

**Bord na Móna**

**Oughter Bog - Site Location**

DWG No. <b>BNM-DR-22-08-01</b>	Scale: <b>1:50,000</b>	Drawn by: <b>ML</b>	Date: <b>27/09/2022</b>
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**Legend**

PCAS Detailed Plans

- Constraint
- MLT1
- MLT2
- DCT1
- DCT2
- WLT2
- WLT3
- WLT4
- AW2


**Legend**

- WQ Monitoring Sites
- Installed Piezometers
- Silt Ponds
- Oughter Bog

**Bord na Móna**

**Oughter Bog**  
**Piezometer and Sampling Locations**

DRWG No. BNM-DR-22-08-32	Scale: 1:12,000	Drawn by: BG	Date: 25/10/2022
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Appendix I1 - Oughter Bog - Hydrological Monitoring

Site Name	Well ID	S/D	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)
Oughter	OT_018_S	S	12/05/2021 10:32	-76	01/07/2021 14:31	-49	31/01/2022 13:35	-35	26/08/2022 11:12	-71
Oughter	OT_003_S	S	12/05/2021 11:02	-28	01/07/2021 14:10	-34	31/01/2022 13:53	-27	26/08/2022 12:25	-57
Oughter	OT_014_S	S	12/05/2021 10:05	-68	01/07/2021 14:48	-52	31/01/2022 13:03	-10	26/08/2022 12:13	-56
Oughter	OT_004_S	S	12/05/2021 10:52	-23	01/07/2021 14:26	-48	31/01/2022 14:03	3	26/08/2022 10:58	-52
Oughter	OT_001_S	S	12/05/2021 11:50	-24	01/07/2021 14:02	-33	31/01/2022 13:29	-21	26/08/2022 12:01	-27
Oughter	OT_007_S	S	12/05/2021 09:01	-49	01/07/2021 15:55	-46	31/01/2022 12:45	-47	26/08/2022 12:46	-10
Oughter	OT_010_S	S	12/05/2021 09:29	-5	01/07/2021 15:19	-15	31/01/2022 13:29	-4	26/08/2022 11:45	-8
Oughter	OT_002_S	S	12/05/2021 12:07	-24	01/07/2021 13:57	-48	31/01/2022 13:41	-20	N/A	N/A
Oughter	OT_005_S	S	12/05/2021 12:20	-30	01/07/2021 14:23	-32	31/01/2022 14:08	-27	N/A	N/A
Oughter	OT_006_S	S	12/05/2021 12:26	-82	01/07/2021 14:20	-57	31/01/2022 14:16	-16	N/A	N/A
Oughter	OT_008_S	S	12/05/2021	9999	01/07/2021 15:45	9999	31/01/2022 15:07	9999	N/A	N/A
Oughter	OT_009_S	S	12/05/2021 09:13	-32	01/07/2021 16:00	-46	31/01/2022 13:02	17	N/A	N/A
Oughter	OT_011_S	S	12/05/2021 09:42	-1	01/07/2021 15:07	-12	31/01/2022 13:19	6	N/A	N/A
Oughter	OT_012_S	S	12/05/2021 09:52	-13	01/07/2021 14:59	-15	31/01/2022 13:14	9999	N/A	N/A
Oughter	OT_013_S	S	12/05/2021 09:57	-28	01/07/2021 14:51	-45	31/01/2022 13:06	3	N/A	N/A
Oughter	OT_015_S	S	12/05/2021 10:13	-20	01/07/2021 14:43	-28	31/01/2022 13:52	-17	N/A	N/A
Oughter	OT_016_S	S	12/05/2021 10:19	-15	01/07/2021 14:38	-18	31/01/2022 13:50	-6	N/A	N/A
Oughter	OT_017_S	S	12/05/2021 10:28	-28	01/07/2021 14:33	-45	31/01/2022 13:42	9999	N/A	N/A

\*Note 9999= well has been destroyed / 8888 = well was inaccessible at the time of the survey

Appendix I2 - Oughter Bog - Biodiversity

Table 1: Oughter Quadrat Data

Name	Oughter	Oughter	Oughter	Oughter	Oughter
<b>Quadrat</b>	1	2	3	4	5
<b>Surveyor</b>	DMcN	DMcN	DMcN	DMcN	DMcN
<b>Survey Date</b>	23/06/2021	23/06/2021	23/06/2021	23/06/2021	23/06/2021
<b>Current Habitat Description</b>	WS1	PB4	PB4		PB4
<b>Polytrichum commune</b>	<4% (many individuals)	Not Observed	Not Observed	<4% (several individuals)	Not Observed
<b>Bare Peat</b>	04-10%	91-100%	91-100%	10-15%	51-75%
<b>Campylopus introflexus</b>	<4 (many individuals)	Not Observed	Not Observed	<4 (many individuals)	11-25%
<b>Cladonia portentosa</b>	<4% (many individuals)	Not Observed	Not Observed	Not Observed	Not Observed
<b>Molinia caerulea</b>	<4% (many individuals)	Not Observed	Not Observed	<4% (many individuals)	Not Observed
<b>Betula pubescens</b>	51-75%	Not Observed	Not Observed	<4% (several individuals)	<4% (many individuals)
<b>Eriophorum angustifolium</b>	Not Observed	Not Observed	<4% (few individuals)	51-75%	34-50%
<b>Juncus effusus</b>	Not Observed	Not Observed	Not Observed	Not Observed	<4% (few individuals)
<b>Holcus lanatus</b>	5%	Not Observed	Not Observed	Not Observed	Not Observed
<b>Cirsium palustre</b>	<4% (few individuals)	Not Observed	Not Observed	Not Observed	Not Observed
<b>Chamaenerion angustifolium</b>	<4% (several individuals)	Not Observed	Not Observed	Not Observed	Not Observed
<b>Hypnum cupressiforme</b>	<4% (few individuals)	Not Observed	Not Observed	Not Observed	Not Observed
<b>Hypnum cupressiforme</b>	<4% (few individuals)	Not Observed	Not Observed	Not Observed	Not Observed
<b>Viola riviniana</b>	<4% (few individuals)	Not Observed	Not Observed	Not Observed	Not Observed
<b>Rumex acetosella</b>	<4% (few individuals)	Not Observed	Not Observed	Not Observed	Not Observed
<b>Hypochaeris radicata</b>	<4% (few individuals)	Not Observed	Not Observed	Not Observed	Not Observed
<b>Hypericum pulchrum</b>	<4% (few individuals)	Not Observed	Not Observed	Not Observed	Not Observed
<b>Luzula campestris</b>	<4% (few individuals)	Not Observed	Not Observed	Not Observed	Not Observed
<b>Cladonia chlorophaea</b>	<4% (few individuals)	Not Observed	Not Observed	Not Observed	Not Observed
<b>Rubus fruticosus</b>	15	Not Observed	Not Observed	Not Observed	<4% (few individuals)
<b>Salix repens</b>	Not Observed	Not Observed	Not Observed	4	Not Observed

<b>Equisetum fluviatile</b>	Not Observed	Not Observed	<4% (few individuals)	Not Observed	Not Observed
<b>Equisetum arvense</b>		<4% (few individuals)	Not Observed	Not Observed	Not Observed
<b>Juncus articulatus</b>	Not Observed	Not Observed	Not Observed	<4% (few individuals)	Not Observed
<b>Vegetation Height</b>	20cm	0	0	15cm	15cm
<b>Comment</b>	Flat slope. Soil type = bog peat. Firm ground. Moisture = dry.	Slight slope. North aspect. Soil type = bog peat. Firm ground. Moisture = dry.	Steep slope. West aspect. Soil type = bog peat. Firm ground. Moisture = dry.	Flat slope. Soil type = bog peat. Firm ground. Moisture = intermediate.	Flat slope. Soil type = bog peat. Firm ground.
<b>Note1</b>		Adjacent to recolonising bare ground dominated by marsh thistle, <i>juncus effusus</i> , <i>Salix cinerea</i> , <i>Leontodon hispidus</i> & <i>Holcus lanatus</i> .			





**Legend**

 Bog boundary

Transects

 CBS and Breeding Waders

 Birds-Waders-Pollinators

**Bord na Móna**

**Oughter Bog  
Ecology Transects**

DRWG No.  
**BNM-DR-22-08-33**

Scale:  
**1:10,759**

Drawn by:  
**JG**

Date:  
**19/10/2022**



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	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW18	0.08					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	<0.05	<0.05	<0.05	<0.05	<0.05
Monthly Rainfall (mm)	52.7	103.1	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1

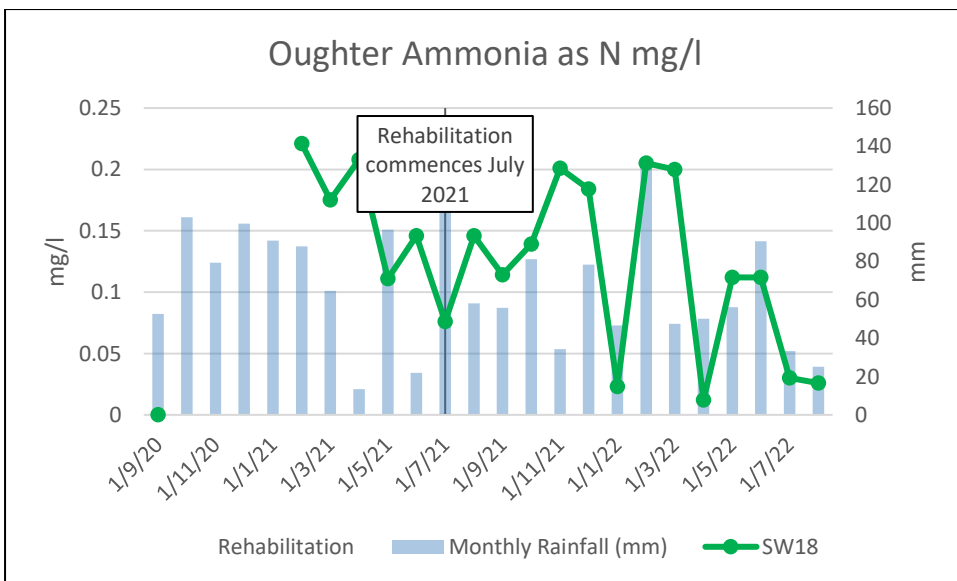
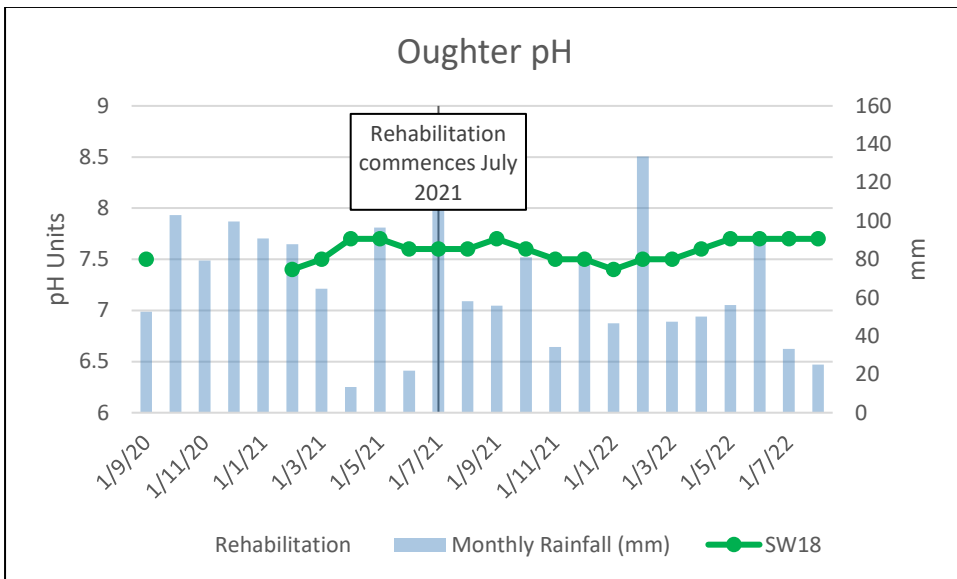
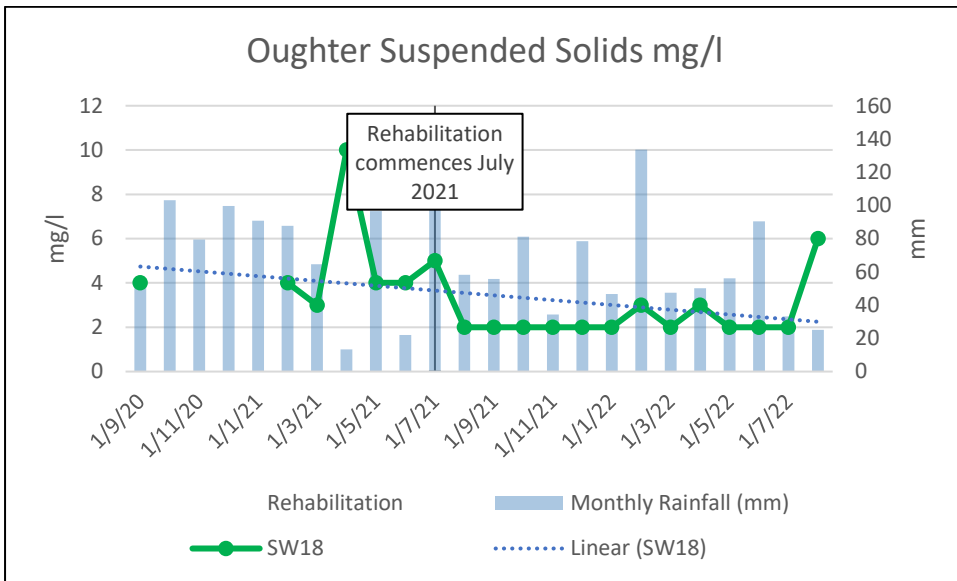
	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW18	450					286	426	468	473	482	372	540	543	478	377	439	422	328	449	455	476	476	480	501
Monthly Rainfall (mm)	52.7	103.1	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1

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SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW18	0					0.221	0.175	0.208	0.111	0.146	0.076	0.146	0.114	0.139	0.201	0.184	0.023	0.205	0.200	0.012	0.112	0.112	0.030	0.026
Monthly Rainfall (mm)	52.7	103.1	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1
Rehabilitation											0.25													

	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW18	10.3					27.4	15.5	11.5	11.3	81	17.3	80.8	85.4	17.2	17.5	17	17.1	21.2	21	13.6	10.8	10.8	7.98	7.64
Monthly Rainfall (mm)	52.7	103.1	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1

Blank spaces - No results available during times of the year when rivers are in flood or during extended dry spells

### Oughter Trend Graphs



## **Appendix J: Pollagh Bog**

### Appendix J0 - Pollagh Bog - Maps

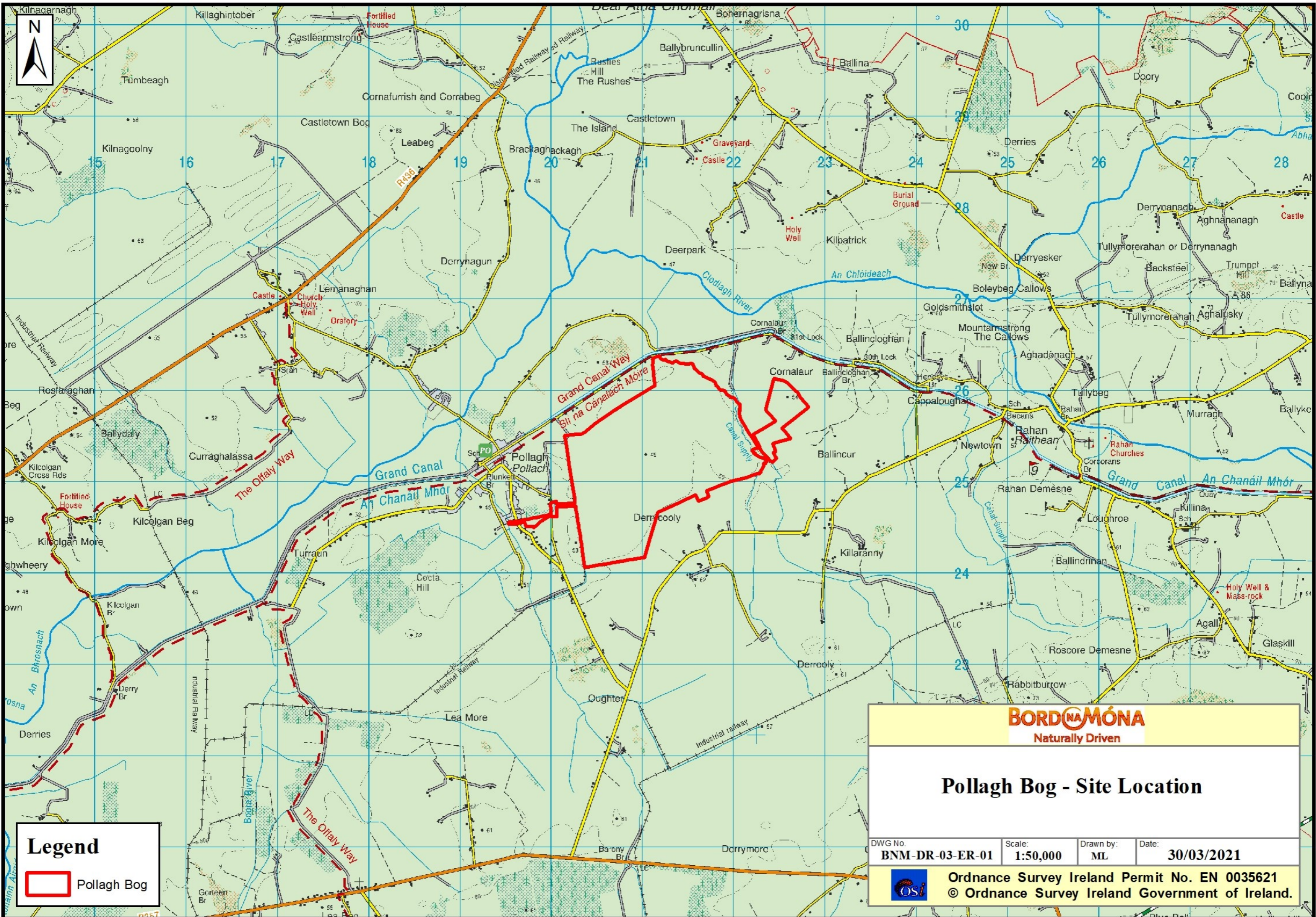
- Pollagh Bog - Site Location: DRWG No. BNM-DR-03-ER-01
- Pollagh Bog Piezometer and Sampling Locations: DRWG No. BNM-DR-22-03-32

### Appendix J1 – Pollagh Bog - Hydrological Monitoring

### Appendix J2 – Pollagh Bog – Biodiversity (including Drawings)

- DWG No. BNM-DR-22-03-33: Pollagh Bog – Ecology Transects

### Appendix J3 – Pollagh Bog - Surface Water Quality



**Legend**

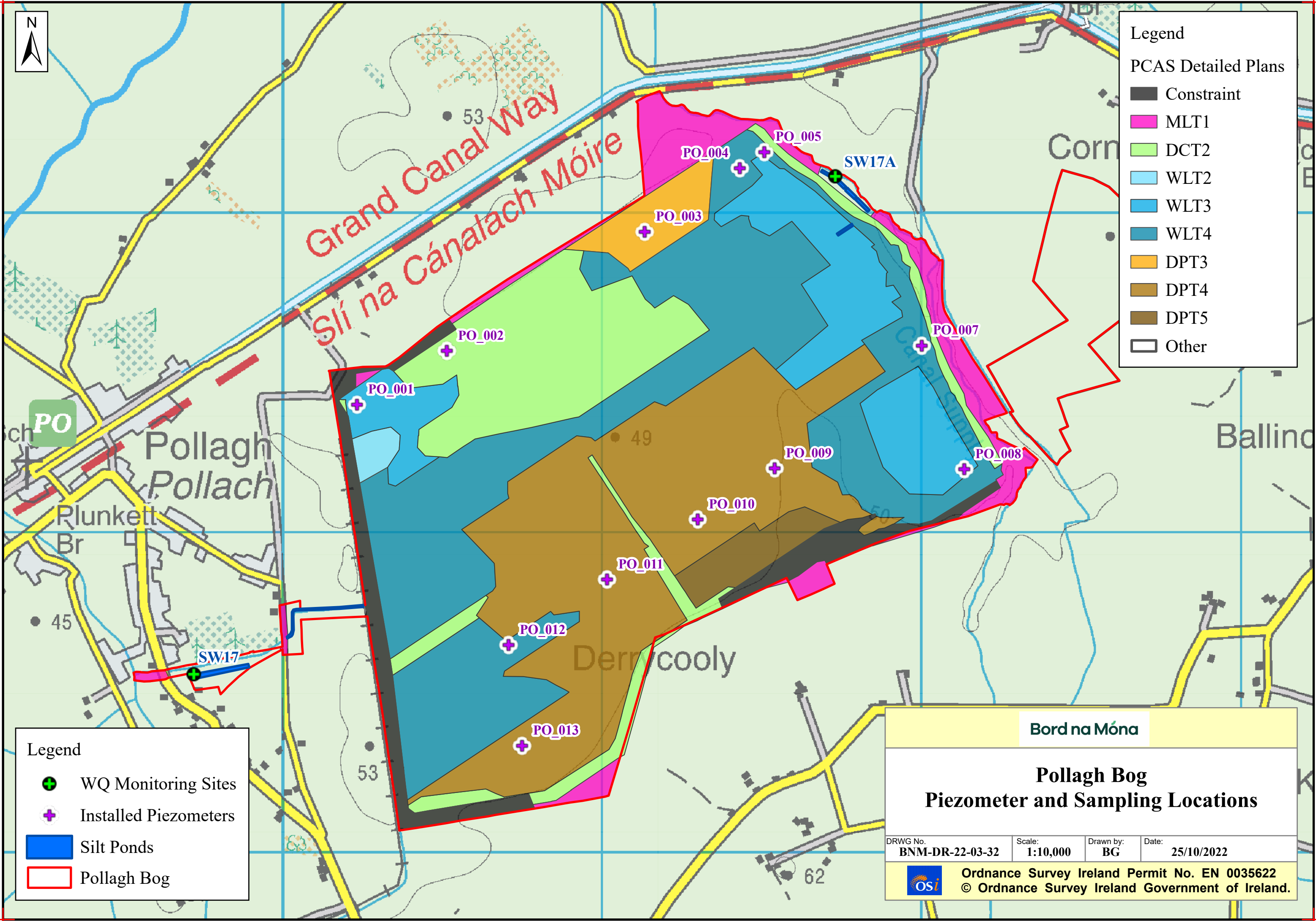
Pollagh Bog

**BORD NA MÓNA**  
Naturally Driven

**Pollagh Bog - Site Location**

DWG No. <b>BNM-DR-03-ER-01</b>	Scale: <b>1:50,000</b>	Drawn by: <b>ML</b>	Date: <b>30/03/2021</b>
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**Legend**

PCAS Detailed Plans

- Constraint
- MLT1
- DCT2
- WLT2
- WLT3
- WLT4
- DPT3
- DPT4
- DPT5
- Other

**Legend**

- ⊕ WQ Monitoring Sites
- ⊕ Installed Piezometers
- Silt Ponds
- Pollagh Bog

**Bord na Móna**

**Pollagh Bog**  
**Piezometer and Sampling Locations**

DRWG No. BNM-DR-22-03-32	Scale: 1:10,000	Drawn by: BG	Date: 25/10/2022
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Appendix J1 - Pollagh Bog - Hydrological Monitoring

Site Name	Well ID	S/D	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)
Pollagh	PO_009_S	S	12/05/2021 06:52	-13	01/07/2021 09:48	-30	12/01/2022 11:15	-8	26/08/2022 08:25	-67
Pollagh	PO_011_S	S	12/05/2021 06:35	-18	01/07/2021 09:35	-40	12/01/2022 10:38	-9	26/08/2022 08:08	-63
Pollagh	PO_012_S	S	12/05/2021 06:25	-24	01/07/2021 09:29	-48	12/01/2022 10:31	-5	26/08/2022 07:49	-45
Pollagh	PO_005_S	S	11/05/2021 18:15	-13	01/07/2021 10:20	-38	12/01/2022 12:11	0	26/08/2022 08:50	-39
Pollagh	PO_002_S	S	11/05/2021 17:52	-4	01/07/2021 08:53	-15	12/01/2022 12:31	8	26/08/2022 09:23	-10
Pollagh	PO_001_S	S	11/05/2021 17:39	-8	01/07/2021 08:31	-8	12/01/2022 12:53	6	N/A	N/A
Pollagh	PO_003_S	S	11/05/2021 18:06	-11	01/07/2021 10:28	-26	12/01/2022 12:18	19	N/A	N/A
Pollagh	PO_004_S	S	11/05/2021 18:12	-5	01/07/2021 10:21	-23	12/01/2022 12:12	10	N/A	N/A
Pollagh	PO_007_S	S	12/05/2021 07:07	-32	01/07/2021 10:06	-31	12/01/2022 11:43	-16	N/A	N/A
Pollagh	PO_008_S	S	12/05/2021 07:16	-2	01/07/2021 09:59	-31	12/01/2022 11:33	6	N/A	N/A
Pollagh	PO_010_S	S	12/05/2021 06:45	-20	01/07/2021 09:42	-39	12/01/2022 11:09	-22	N/A	N/A
Pollagh	PO_013_S	S	12/05/2021 06:13	-19	01/07/2021 09:22	-54	12/01/2022 10:11	-23	N/A	N/A

\*Note 9999= well has been destroyed / 8888 = well was inaccessible at the time of the survey

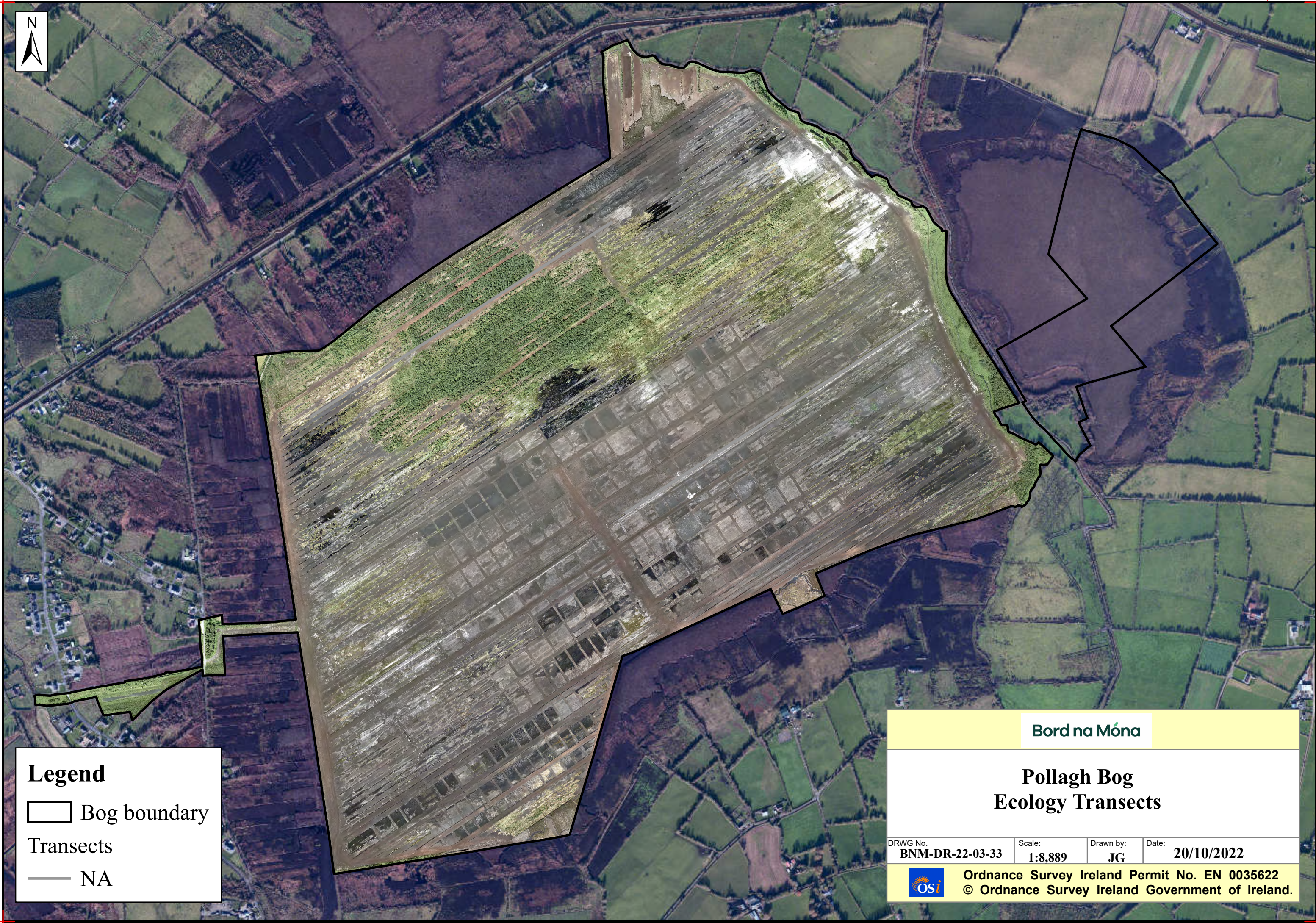


Appendix J2 - Pollagh Bog - Biodiversity



Table 1: Pollagh Quadrat Data

Name	Pollagh/ Cornalaur	Pollagh/ Cornalaur	Pollagh/ Cornalaur	Pollagh/ Cornalaur	Pollagh/Cornalaur
<b>Surveyor</b>	CC	CC	CC	DMcN	DMcN
<b>Survey Date</b>	18/06/2021	18/06/2021	18/06/2021	23/06/2021	21/07/2021
<b>Quadrat</b>	1	2	3	4	5
<b>BnM_CutHab</b>	pioneer open habitats	pioneer open habitats	pioneer open habitats	pioneer open habitats & scrub	pioneer open habitats & scrub
<b>Current Habitat Description</b>	pb4	pb4 pioneering	pb4	Mosaic of E.ang fen and scrub establishment	Mosaic of E.ang fen and scrub establishment
<b>Bare Peat</b>	91-100%	34-50%	91-100%		
<b>Veg Height</b>		15		25cm	25cm
<b>Betul pubec</b>	Not Observed	Not Observed	Not Observed	11-25%	11-25%
<b>Callu vulga</b>	Not Observed	Not Observed	Not Observed	11-25%	11-25%
<b>Equis arven</b>	Not Observed	Not Observed	<4% (several individuals)	Not Observed	Not Observed
<b>Erica tetra</b>	Not Observed	Not Observed	Not Observed	<4% (few individuals)	<4% (few individuals)
<b>Eriop angus</b>	Not Observed	Not Observed	Not Observed	51-75%	51-75%
<b>Eriop vagin</b>	Not Observed	Not Observed	Not Observed	Not Observed	04-10%
<b>Holcu lanat</b>	Not Observed	Not Observed	Not Observed	Not Observed	<4% (few individuals)
<b>Hydro vulga</b>	Not Observed	Not Observed	Not Observed	Not Observed	<4% (many individuals)
<b>Juncu effus</b>	Not Observed	Not Observed	Not Observed	Not Observed	<4% (few individuals)
<b>Menth aquat</b>	Not Observed	Not Observed	Not Observed	Not Observed	<4% (many individuals)
<b>Molin caeru</b>	Not Observed	Not Observed	Not Observed	34-50%	04-10%
<b>Salix ciner</b>	Not Observed	Not Observed	Not Observed	Not Observed	04-10%
<b>Trich cespi</b>	Not Observed	Not Observed	<4% (few individuals)	Not Observed	Not Observed
<b>Hypericum tetrapterum</b>	Not Observed	Not Observed	Not Observed	<4% (few individuals)	
<b>Leontodon</b>	Not Observed	Not Observed	Not Observed	<4% (few individuals)	Not Observed
<b>Cirsium palustre</b>	Not Observed	Not Observed	Not Observed	<4% (few individuals)	Not Observed
<b>Galium palustre</b>	Not Observed	Not Observed	Not Observed	<4% (few individuals)	Not Observed
<b>Dactylorhiza fuchsii</b>	Not Observed	Not Observed	Not Observed	<4% (few individuals)	Not Observed
<b>Tussilago farfara</b>	Not Observed	11-25%	Not Observed	Not Observed	Not Observed

<b>Holcus lanatus</b>	Not Observed	11-25%	Not Observed	Not Observed	Not Observed
<b>Calliergonella cuspidata</b>	Not Observed	11-25%	Not Observed	Not Observed	Not Observed
<b>Bellis perennis</b>	Not Observed	<4% (several individuals)	Not Observed	Not Observed	Not Observed
<b>Daucus carota</b>	Not Observed	11-25%	Not Observed	Not Observed	Not Observed
<b>Crepis vesicaria</b>		11-25%			
<b>Hypochaeris radicata</b>	Not Observed	11-25%	Not Observed	Not Observed	Not Observed
<b>Comment</b>	Flat slope. South aspect. Soil type = bog peat. Firm ground. Moisture = dry.	Flat slope. East aspect. Firm ground. Moisture = dry.	Flat slope. South aspect. Firm ground. Moisture = dry.	Flat slope. Firm ground. Moisture = damp.	Flat slope. Firm ground. Moisture = damp.
<b>Note1</b>	No vegetation	Pioneering veg Quadrat		On lower ground to adjacent high field.	On lower ground to adjacent high field.



**Legend**

-  Bog boundary
- Transects
-  NA

**Bord na Móna**

**Pollagh Bog  
Ecology Transects**

DRWG No. <b>BNM-DR-22-03-33</b>	Scale: <b>1:8,889</b>	Drawn by: <b>JG</b>	Date: <b>20/10/2022</b>
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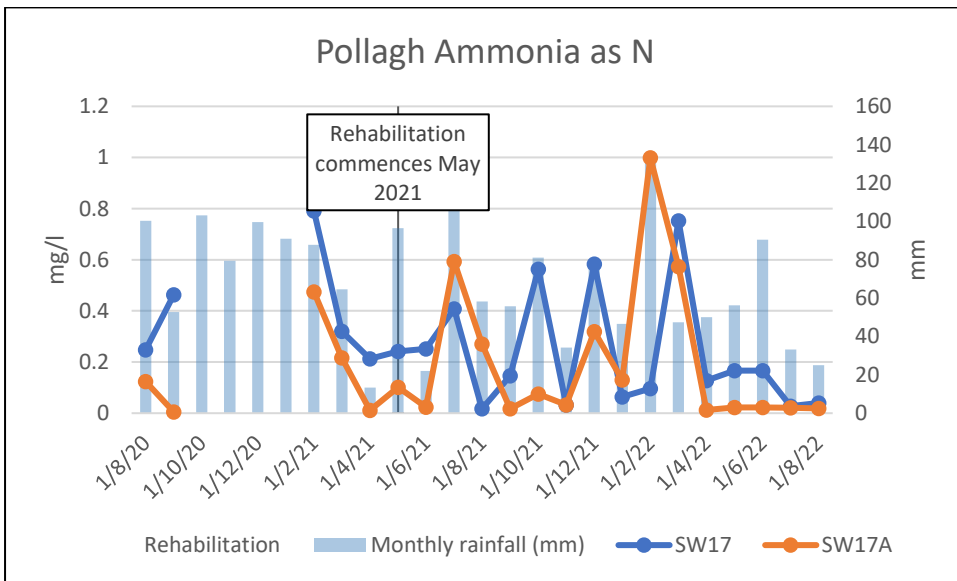
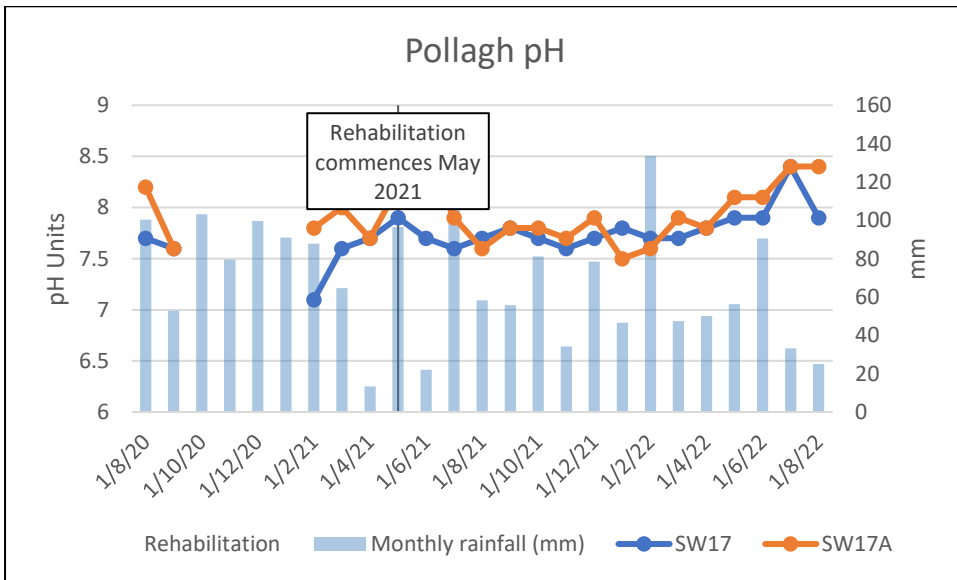
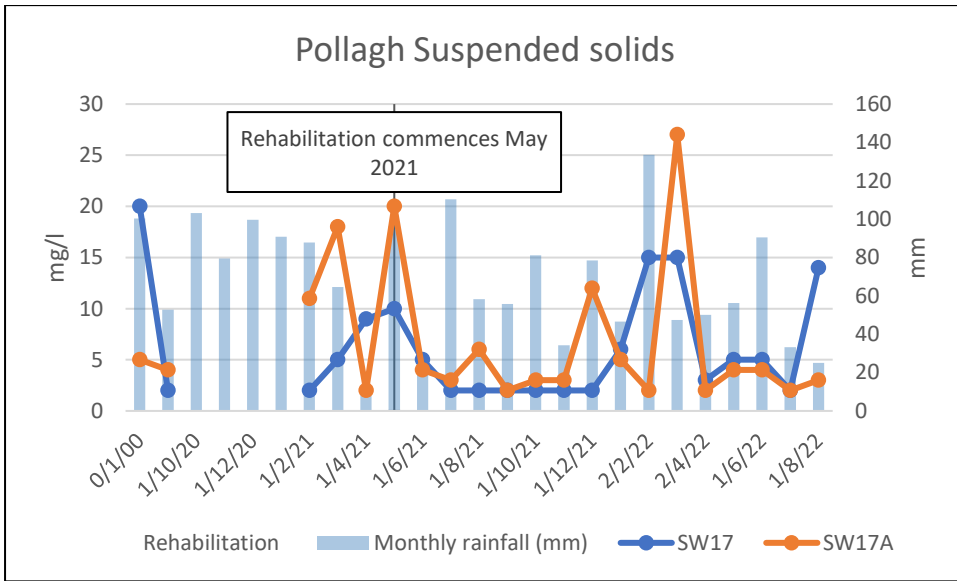
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<b>SW Code -GIS</b>	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/8/20	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW17	<0.05	<0.05					0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	<0.05	0.06	<0.05	<0.05	<0.05	<0.05	0.16
SW17A	<0.05	<0.05					<0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	<0.05	<0.05	<0.05	<0.05	0.22
Monthly rainfall (mm)	100.3	52.7	103.1	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1

	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS
<b>SW Code -GIS</b>	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/8/20	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW17	472	387					172	407	424	466	451	402	533	461	363	431	396	422	416	326	434	502	502	362	473
SW17A	423	445					291	254	426	391	385	349	552	451	504	536	402	405	292	268	361	443	443	447	377
Monthly rainfall (mm)	100.3	52.7	103.1	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1

	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N
<b>SW Code -GIS</b>	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/8/20	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW17	0.248	0.463					0.791	0.320	0.213	0.242	0.251	0.408	0.017	0.146	0.563	0.032	0.583	0.064	0.096	0.753	0.128	0.167	0.167	0.028	0.040
SW17A	0.124	0.005					0.474	0.216	0.011	0.102	0.024	0.594	0.270	0.017	0.075	0.032	0.319	0.130	0.999	0.574	0.013	0.023	0.023	0.021	0.019
Monthly rainfall (mm)	100.3	52.7	103.1	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1
Rehabilitation										1.2															

	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC
<b>SW Code -GIS</b>	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/8/20	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW17		13.8					25.9	14.8	9.36	8.15	71.4	11.3	71.3	76.1	12.1	10.6	10.5	9.22	16.4	15.7	8.53	5.85	5.85	8.45	4.27
SW17A		10.5					15.5	10.1	5.7	8.79	67.8	16.9	67.6	76.7	9.98	10.3	11.8	12.1	15.3	13.4	6.24	5.98	5.98	8.15	7.97
Monthly rainfall (mm)	100.3	52.7	103.1	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1

## Pollagh Trend Graphs



## **Appendix K: Turraun Bog**

### Appendix K0 - Turraun Bog - Maps

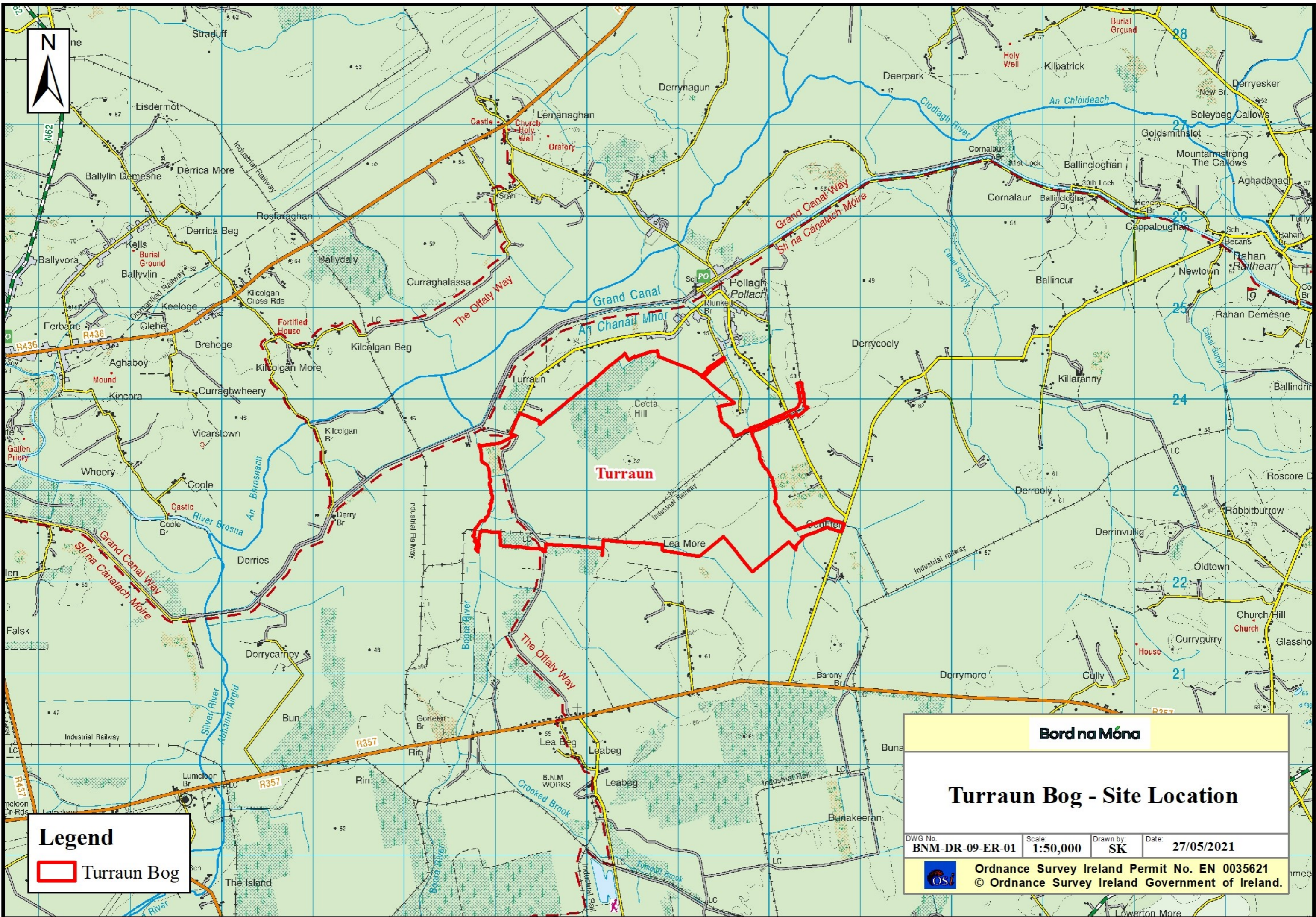
- Turraun Bog Site Location: DRWG No. BNM-DR-09-ER-01
- Turraun Bog Piezometer and Sampling Locations: DRWG No. BNM-DR-22-09-32

### Appendix K1 – Turraun Bog - Hydrological Monitoring

### Appendix K2 – Turraun Bog – Biodiversity (including Drawings)

- DWG No. BNM-DR-22-09-33: Turraun Bog – Ecology Transects

### Appendix K3 – Turraun Bog - Surface Water Quality



**Legend**  
 Turraun Bog

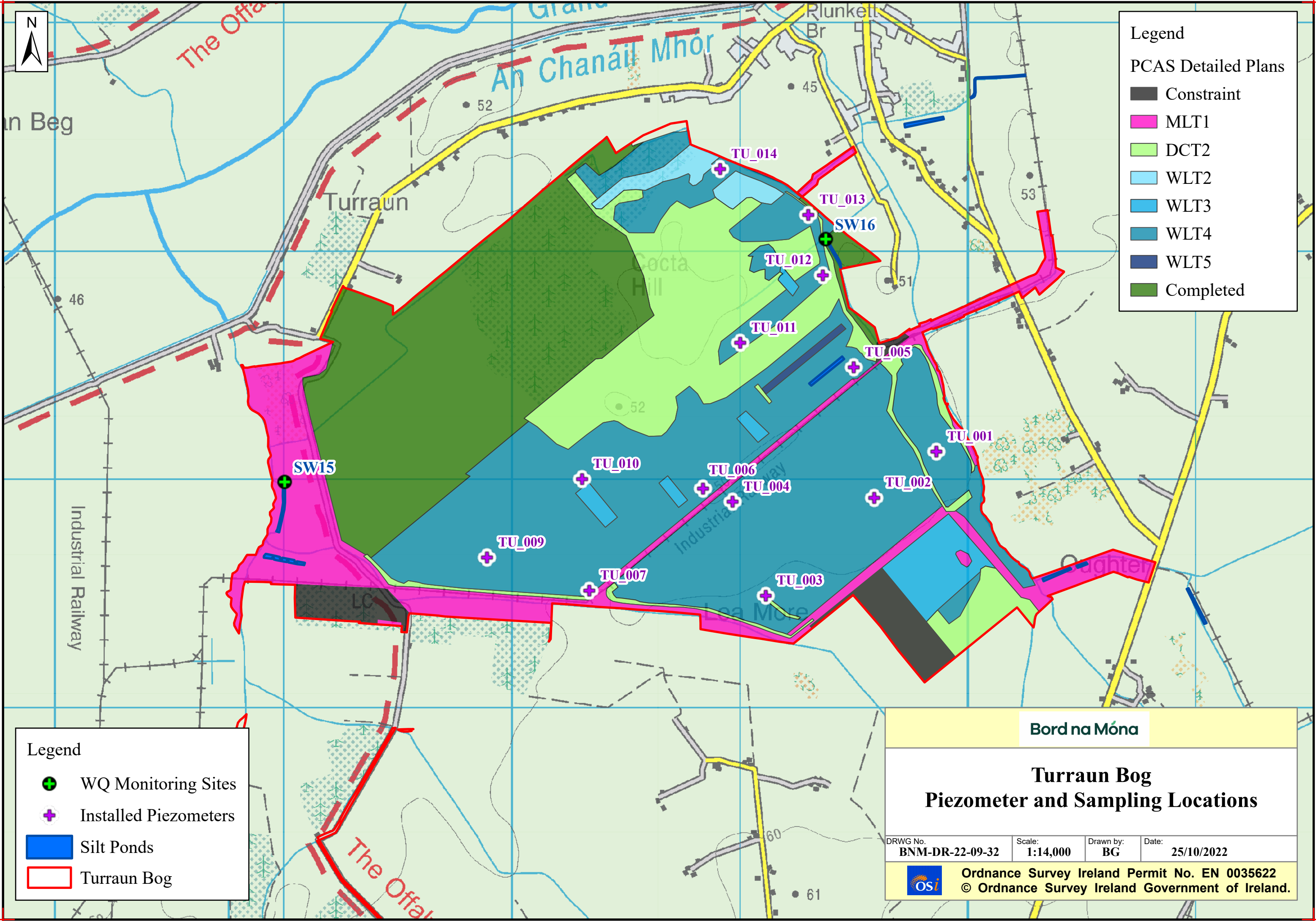
**Bord na Móna**

**Turraun Bog - Site Location**

DWG No. <b>BNM-DR-09-ER-01</b>	Scale: <b>1:50,000</b>	Drawn by: <b>SK</b>	Date: <b>27/05/2021</b>
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**Legend**

PCAS Detailed Plans

- Constraint
- MLT1
- DCT2
- WLT2
- WLT3
- WLT4
- WLT5
- Completed

**Legend**

- ⊕ WQ Monitoring Sites
- ⊕ Installed Piezometers
- Silt Ponds
- ▭ Turraun Bog

**Bord na Móna**

**Turraun Bog  
Piezometer and Sampling Locations**

DRWG No. BNM-DR-22-09-32	Scale: 1:14,000	Drawn by: BG	Date: 25/10/2022
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Appendix K1 - Turraun Bog - Hydrological Monitoring

Site Name	Well ID	S/D	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)
Turraun	TU_014_S	S	11/05/2021 16:35	-30	01/07/2021 12:47	-56	31/01/2022 15:24	-45	26/08/2022 09:39	-56
Turraun	TU_004_S	S	11/05/2021 14:28	-24	01/07/2021 13:04	-44	31/01/2022 16:35	-4	26/08/2022 08:50	-37
Turraun	TU_007_S	S	11/05/2021 14:00	-28	01/07/2021 12:11	-30	31/01/2022 16:18	-11	26/08/2022 08:57	-37
Turraun	TU_005_S	S	11/05/2021 15:45	-17	01/07/2021 13:14	-25	31/01/2022 15:09	-24	26/08/2022 10:35	-25
Turraun	TU_001_S	S	11/05/2021 15:26	-27	01/07/2021 13:35	-33	01/02/2022 09:00	-32	26/08/2022 07:56	-24
Turraun	TU_011_S	S	11/05/2021 16:14	-14	01/07/2021 12:36	-32	31/01/2022 15:40	-23	26/08/2022 09:40	9999
Turraun	TU_002_S	S	11/05/2021 15:14	-14	01/07/2021 13:31	-36	01/02/2022 09:09	-9	N/A	N/A
Turraun	TU_003_S	S	11/05/2021 15:00	-28	01/07/2021 13:23	-44	01/02/2022 09:13	-18	N/A	N/A
Turraun	TU_006_S	S	11/05/2021 14:18	-40	01/07/2021 13:01	-65	31/01/2022 16:30	-39	N/A	N/A
Turraun	TU_009_S	S	11/05/2021 13:23	-21	01/07/2021 12:01	-45	31/01/2022 16:06	-23	N/A	N/A
Turraun	TU_010_S	S	11/05/2021 13:37	-14	01/07/2021 11:55	-32	31/01/2022 15:56	-16	N/A	N/A
Turraun	TU_012_S	S	11/05/2021 15:57	-31	01/07/2021 12:40	-34	31/01/2022 15:14	-25	N/A	N/A
Turraun	TU_013_S	S	11/05/2021 16:27	-25	01/07/2021 12:51	-27	31/01/2022 15:19	-32	N/A	N/A


\*Note 9999= well has been destroyed / 8888 = well was inaccessible at the time of the survey



**Legend**

 Bog boundary


Transects

 CBS

**Bord na Móna**

**Turraun Bog  
Ecology Transects**

DRWG No. <b>BNM-DR-22-09-33</b>	Scale: <b>1:12,372</b>	Drawn by: <b>JG</b>	Date: <b>19/10/2022</b>
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Appendix K3 - Turraun Bog - Surface Water Quality

	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	
<b>SW Code -GIS</b>	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	
	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	2/2/22	2/3/22	2/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW15	5				5	5	4	6	3	2	2	2	2	2	2	2	6	2	6	2	2	16	5	
SW16	11				6	6	4	17	4	2	2	2	2	2	2	24	2	7	3	2	2	2	4	
Monthly Rainfall (mm)	52.7	103.1	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1
Rehabilitation											30													

	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	
<b>SW Code -GIS</b>	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	
	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW15	55.4				329	165	124	89.2	89.6	296	75	71.2	190	101	139	70.6	270	155	58.1	84.8	84.8	41.5	39.4	
SW16	122				310	128	125	130	103	101	109	101	118	125	114	143	416	165	114	105	105	83.1	74.8	
Monthly Rainfall (mm)	52.7	103.1	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1

	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	
<b>SW Code -GIS</b>	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	
	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW15	28				60	67	50	49	52	76	46	64	66	40	52	34	57	46	30	37	37	30	19	
SW16	42				74	46	42	44	52	47	63	40	52	50	42	<10	69	48	35	31	31	42	37	
Monthly Rainfall (mm)	52.7	103.1	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1

	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH
SW Code -GIS	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units
	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW15	7.5					7.2	7.7	7.8	7.7	7.6	7.3	7.7	7.8	7.4	7.4	7.4	7.3	7.5	7.3	7.4	7.8	7.8	7.7	7.7
SW16	7.4					7.5	7.7	7.7	7.6	7.5	7.5	7.4	7.4	7.5	7.5	7.6	7.6	5.2	7.6	7.6	7.5	7.5	7.4	7.4
Monthly Rainfall (mm)	52.7	103.1	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1
Rehabilitation											9													

	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW15	<0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.05	<0.05	
SW16	<0.05					0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
Monthly Rainfall (mm)	52.7	103.1	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1

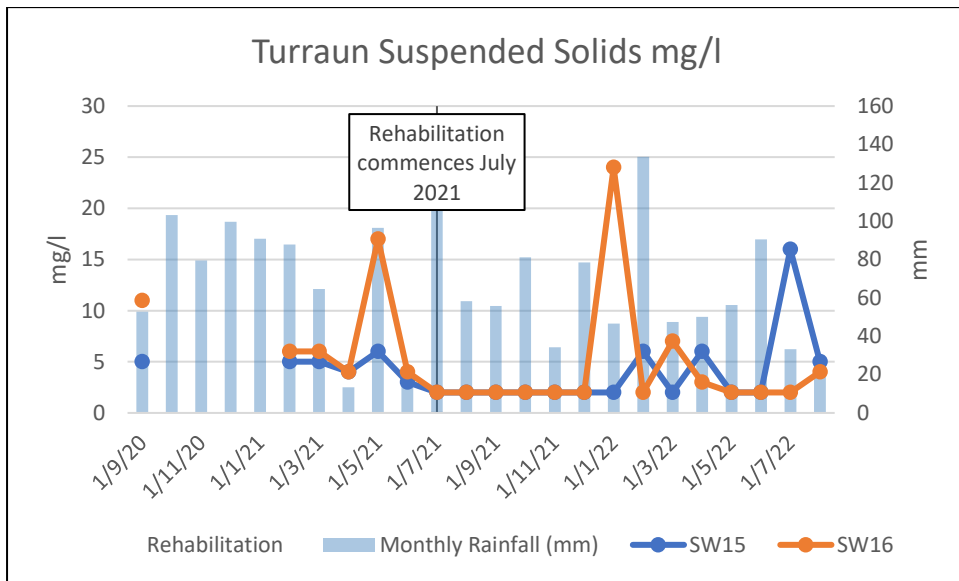
	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW15	546					357	428	412	473	536	380	542	473	386	507	394	503	361	400	541	490	490	592	614
SW16	477					349	386	487	475	547	385	556	464	460	450	459	500	92	466	536	486	486	499	413
Monthly Rainfall (mm)	52.7	103.1	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1

	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	
<b>SW Code -GIS</b>	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW15	0.112					0.091	0.066	0.059	0.069	0.069	0.104	0.054	0.067	0.140	0.075	0.089	0.074	0.190	0.079	0.046	0.063	0.063	0.187	0.223
SW16	0.153					0.193	0.146	0.308	0.378	0.289	0.200	0.268	0.283	0.335	0.171	0.219	0.201	0.028	0.211	0.061	0.480	0.480	0.165	0.086
Monthly Rainfall (mm)	52.7	103.1	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1
Rehabilitation											0.8													

	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC
<b>SW Code -GIS</b>	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW15	10.3					26.5	22.4	17.3	17	83.5	26.9	78.4	86.7	26	16.7	18.6	13.6	23.3	18.9	10.7	16.2	16.2	8.59	9.36
SW16	15.6					27.3	15.2	14.9	14.6	80.3	15.7	75	84.6	20.2	17.9	16.9	15.8	24.3	21.3	15.8	16.1	16.1	15.1	15.8
Monthly Rainfall (mm)	52.7	103.1	79.4	99.7	90.9	87.8	64.6	13.4	96.5	22	110.4	58.2	55.8	81.1	34.3	78.4	46.6	133.6	47.4	50.1	56.2	90.5	33.2	25.1

Blank spaces - No results available during times of the year when rivers are in flood or during extended dry spells

### Turraun Trend Graphs



## **Appendix L: Castlegar Bog**

### Appendix L0 - Castlegar Bog - Maps

- Castlegar Bog Site Location: DRWG No. BNM-DR-01-ER-01
- Castlegar Bog Piezometer and Sampling Locations: DRWG No. BNM-DR-22-01-32

### Appendix L1 – Castlegar Bog - Hydrological Monitoring

### Appendix L2 – Castlegar Bog – Biodiversity (including Drawings)

- DWG No. BNM-DR-22-01-33: Castlegar Bog – Ecology Transects

### Appendix L3 – Castlegar Bog - Surface Water Quality





Gowla

Derryfadda

Killeglan


Castlegar

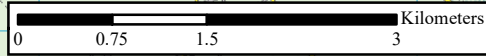
Killeglan

Newtown/Loughgore

Cloonboyley 1


**Legend**

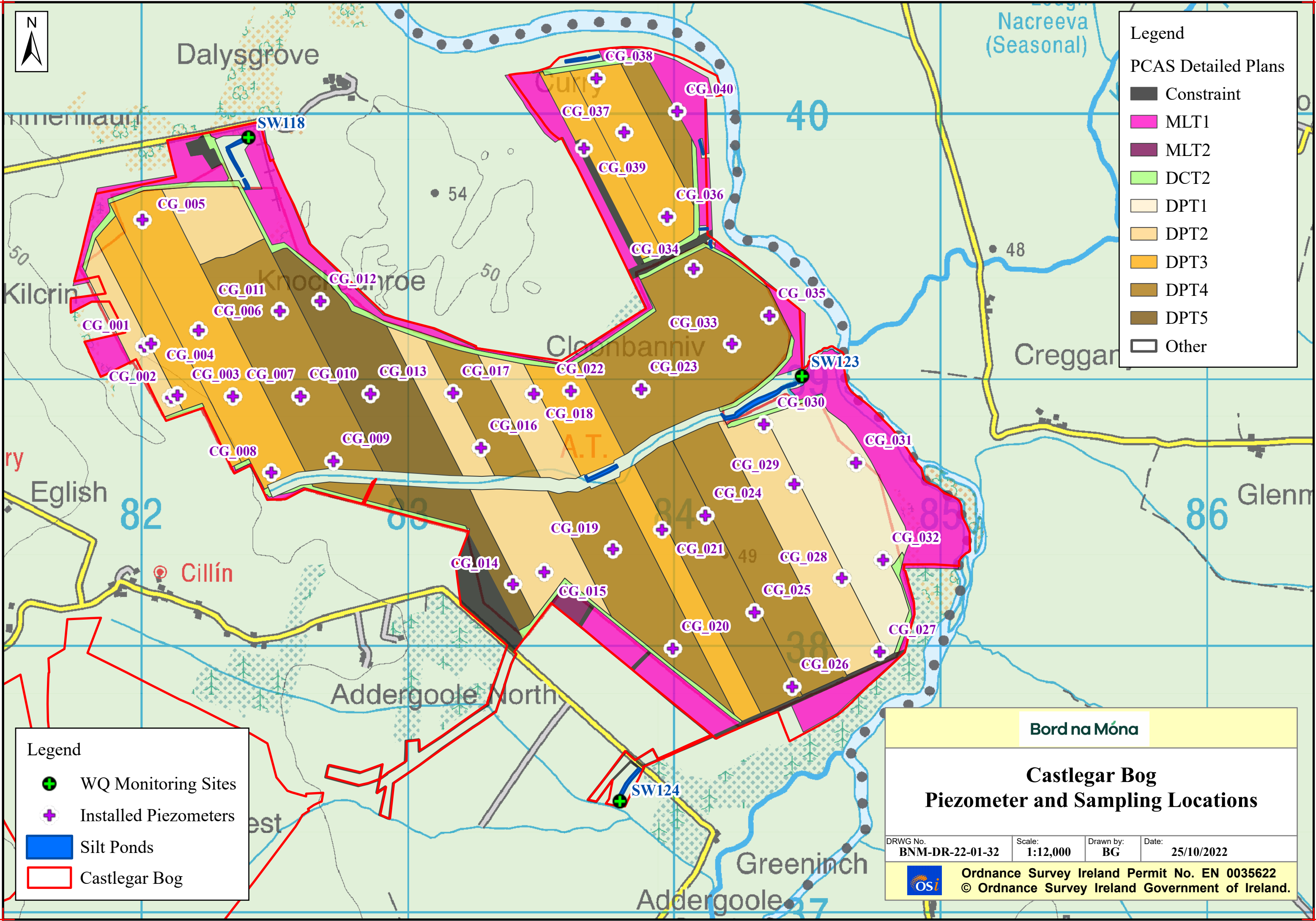
 BnM Boundary



**BORD NA MÓNA**  
Naturally Driven

**Castlegar Bog  
Bog Site Location**

DRWG No: <b>BNM-DR-01-ER-01</b>	Scale: <b>1:60,000</b>	Drawn by: <b>LB</b>	Date: <b>22/04/2021</b>
 <b>Ordnance Survey Ireland Permit No. EN 0035621</b> © Ordnance Survey Ireland Government of Ireland.			



**Legend**

PCAS Detailed Plans

- Constraint
- MLT1
- MLT2
- DCT2
- DPT1
- DPT2
- DPT3
- DPT4
- DPT5
- Other

**Legend**

- WQ Monitoring Sites
- Installed Piezometers
- Silt Ponds
- Castlegar Bog

**Bord na Móna**

**Castlegar Bog**  
**Piezometer and Sampling Locations**

DRWG No. BNM-DR-22-01-32	Scale: 1:12,000	Drawn by: BG	Date: 25/10/2022
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Appendix L1 - Castlegar Bog - Hydrological Monitoring

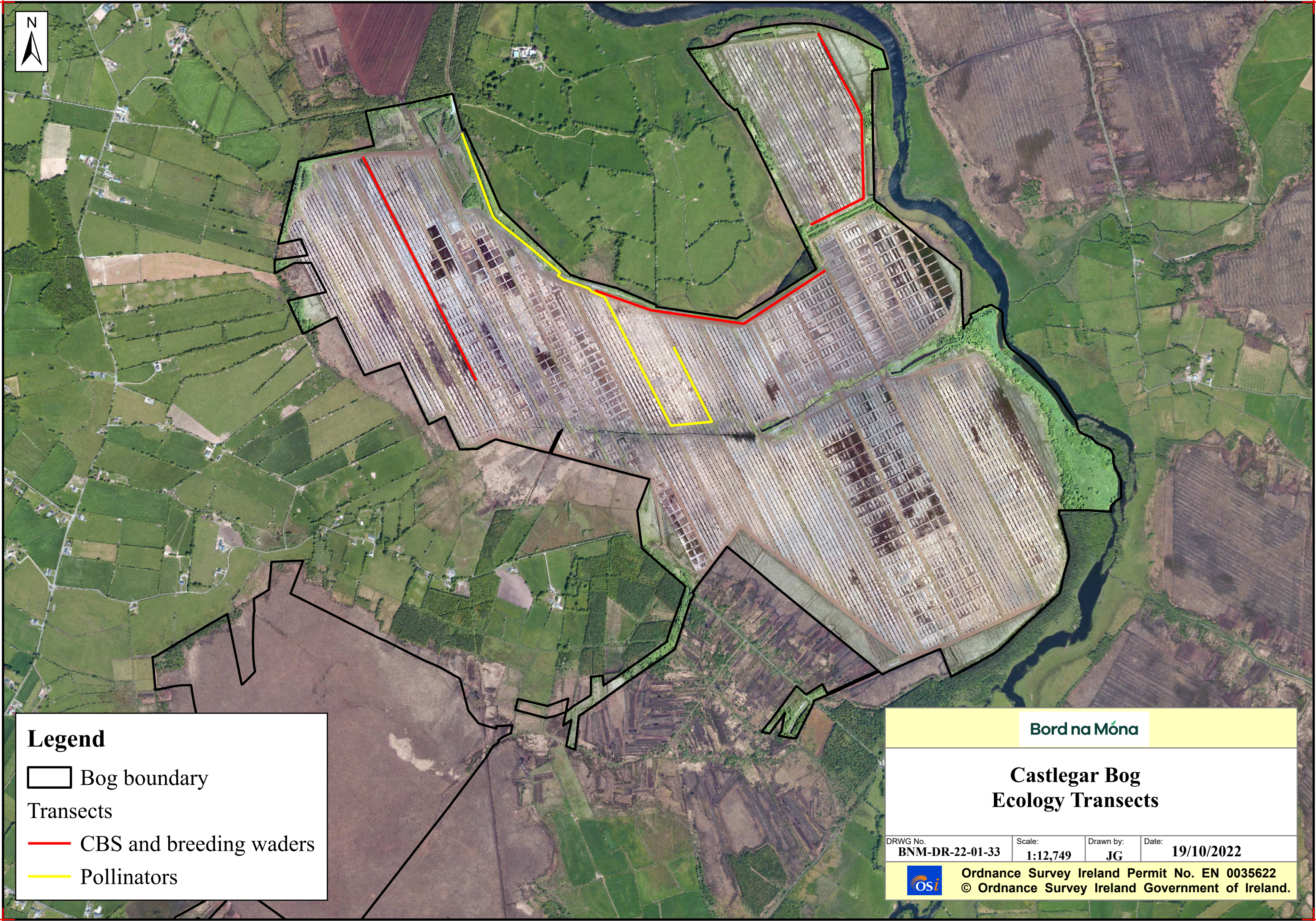
Site Name	Well ID	Date & Time of Water Level Survey	Phreatic Water Level (mm)	Date & Time of Water Level Survey	Phreatic Water Level (mm)	Date & Time of Water Level Survey	Phreatic Water Level (mm)
Castlegar	CG_001_S	09/08/2021	-480	25/01/2022	-320	08/08/2022	-360
Castlegar	CG_002_S	09/08/2021	-140	25/01/2022	-120	16/08/2022	-390
Castlegar	CG_003_S	09/08/2021	-460	25/01/2022	-200	16/08/2022	-440
Castlegar	CG_004_S	09/08/2021	-350	25/01/2022	-210	16/08/2022	-460
Castlegar	CG_005_S	09/08/2021	-220	25/01/2022	9999	08/08/2022	9999
Castlegar	CG_006_S	09/08/2021	-360	25/01/2022	-80	16/08/2022	-460
Castlegar	CG_007_S	09/08/2021	-180	25/01/2022	10	08/08/2022	-180
Castlegar	CG_008_S	09/08/2021	-140	25/01/2022	-30	08/08/2022	-170
Castlegar	CG_009_S	10/08/2021	-600	25/01/2022	-30	08/08/2022	-390
Castlegar	CG_010_S	10/08/2021	-90	25/01/2022	-30	16/08/2022	-270
Castlegar	CG_011_S	10/08/2021	-770	25/01/2022	8888	16/08/2022	-660
Castlegar	CG_012_S	10/08/2021	-560	25/01/2022	-160	08/08/2022	-350
Castlegar	CG_013_S	10/08/2021	-250	25/01/2022	8888	08/08/2022	-200
Castlegar	CG_014_S	09/08/2021	-570	25/01/2022	-680	08/08/2022	-440
Castlegar	CG_015_S	09/08/2021	-180	25/01/2022	-80	16/08/2022	-350
Castlegar	CG_016_S	10/08/2021	-220	25/01/2022	-40	08/08/2022	-210
Castlegar	CG_017_S	10/08/2021	-320	25/01/2022	-100	08/08/2022	-340
Castlegar	CG_018_S	10/08/2021	-120	25/01/2022	0	08/08/2022	-320
Castlegar	CG_019_S	09/08/2021	-260	25/01/2022	-60	08/08/2022	-330
Castlegar	CG_020_S	09/08/2021	-520	25/01/2022	-50	08/08/2022	-430
Castlegar	CG_021_S	09/08/2021	-240	25/01/2022	230	16/08/2022	-300
Castlegar	CG_022_S	10/08/2021	-550	25/01/2022	8888	16/08/2022	-640
Castlegar	CG_023_S	10/08/2021	-520	25/01/2022	8888	16/08/2022	9999
Castlegar	CG_024_S	09/08/2021	-140	25/01/2022	-10	08/08/2022	-160
Castlegar	CG_025_S	09/08/2021	-530	25/01/2022	-290	08/08/2022	-590
Castlegar	CG_026_S	09/08/2021	-900	25/01/2022	-500	08/08/2022	-800
Castlegar	CG_027_S	09/08/2021	-120	25/01/2022	-10	08/08/2022	9999
Castlegar	CG_028_S	09/08/2021	-30	25/01/2022	-170	08/08/2022	-400
Castlegar	CG_029_S	09/08/2021	-490	25/01/2022	-190	08/08/2022	-440
Castlegar	CG_030_S	09/08/2021	-480	25/01/2022	-140	08/08/2022	-460
Castlegar	CG_031_S	09/08/2021	-260	25/01/2022	8888	08/08/2022	8888
Castlegar	CG_032_S	09/08/2021	-190	25/01/2022	0	08/08/2022	-320
Castlegar	CG_033_S	10/08/2021	-620	25/01/2022	8888	08/08/2022	-250
Castlegar	CG_034_S	10/08/2021	-520	25/01/2022	60	08/08/2022	-580
Castlegar	CG_035_S	10/08/2021	-420	25/01/2022	10	08/08/2022	-90
Castlegar	CG_036_S	10/08/2021	-300	25/01/2022	80	08/08/2022	-300
Castlegar	CG_037_S	11/08/2021	-520	25/01/2022	-90	08/08/2022	-410
Castlegar	CG_038_S	11/08/2021	-840	25/01/2022	-280	08/08/2022	-500
Castlegar	CG_039_S	11/08/2021	-610	25/01/2022	-430	08/08/2022	-550
Castlegar	CG_040_S	10/08/2021	-520	25/01/2022	-100	08/08/2022	-380

\*Note 9999= well has been destroyed / 8888 = well was inaccessible at the time of the survey




Appendix L2 - Castlegar Bog - Biodiversity

Table 1: Castlegar Quadrat Data

<b>Name</b>	Castlegar	Castlegar	Castlegar	Castlegar	Castlegar
<b>Surveyor</b>	SD	SD	SD	SD	SD
<b>Survey Date</b>	15/06/2021	15/06/2021	15/06/2021	15/06/2021	15/06/2021
<b>Quadrat</b>	1	2	3	4	5
<b>Current Habitat Description</b>	Bare peat	Bare peat	Bare peat	Bare peat	Bare peat
<b>Sphagnum Cover</b>	0%	0%	0%	0%	0%
<b>Bare Peat</b>	91-100%	91-100%	91-100%	91-100%	91-100%
<b>Comment</b>	Flat. Bog Peat. Firm. Dry.	Flat. Bog Peat. Firm. Dry.	Flat. Bog Peat. Firm. Intermediate.	Flat. Bog Peat. Firm. Dry.	Flat. Bog Peat. Firm. Dry.
<b>Note1</b>	Dry post-production peat, slight camber		Drains blocked, getting wet already	Dry and slight camber on field	



**Legend**

-  Bog boundary
- Transects
-  CBS and breeding waders
-  Pollinators

**Bord na Móna**

**Castlegar Bog  
Ecology Transects**

DRWG No. <b>BNM-DR-22-01-33</b>	Scale: <b>1:12,749</b>	Drawn by: <b>JG</b>	Date: <b>19/10/2022</b>
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Appendix L3 - Castlegar Bog - Surface Water Quality

	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	2/2/22	2/3/22	2/4/22	1/5/22	1/6/22	1/7/22
SW118		3	2	2	2	2	4	2	2	2	3	2	2	10	11	2	5	2	2	2	2
SW123						2	5	2	2	9	2	2	2	2	7	11	3	2	2	3	3
SW124		6	13	5	2	13	4	3	2	2	5	2	2	2	2	6	2	2	2	2	2
Monthly rainfall (mm)	148.1	151.6	167.3	113.4	102.1	23.9	95.7	29.8	58.5	84.8	91.1	164	78.9	114.7	56.9	143.1	39	51.6	78.9	79.4	66
Rehabilitation																					

	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour
SW Code -GIS	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co
	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22
SW118		277	275	271	279	166	218	196	224	269	193	265	265	282	231	261	170	112	187	123	180
SW123						152	182	190	224	430	260	301	270	332	432	321	175	130	166	121	309
SW124		257	270	272	307	402	252	202	204	267	168	361	368	238	300	275	211	245	200	166	289
Monthly rainfall (mm)	148.1	151.6	167.3	113.4	102.1	23.9	95.7	29.8	58.5	84.8	91.1	164	78.9	114.7	56.9	143.1	39	51.6	78.9	79.4	66

	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22
SW118		42	48	48	51	47	67	65	76	83	72	81	76	62	65	52	42	55	56	35	63
SW123						44	65	58	65	94	73	84	78	79	66	46	51	56	47	77	77
SW124		45	67	44	56	72	72	69	63	66	72	81	93	56	73	43	51	70	55	46	64
Monthly rainfall (mm)	148.1	151.6	167.3	113.4	102.1	23.9	95.7	29.8	58.5	84.8	91.1	164	78.9	114.7	56.9	143.1	39	51.6	78.9	79.4	66

	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH
SW Code -GIS	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units
	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22
SW118		6.5	7	7.2	7.1	7.7	7.4	7.3	7.3	7.4	7.3	6.8	6.9	6.6	7.4	7.2	7.6	7.6	7.5	7.7	7.7
SW123						7.6	7.4	7.6	7.5	7.3	7.6	7	7.1	6.7	6.1	7.4	7.6	7.6	7.7	7.5	7.4
SW124		6.5	6.6	6.6	6.6	7.1	6.7	7.7	7.5	7.6	7.8	7.1	7.2	5.5	7	6.9	7.1	7.4	7.3	7.8	7.5
Monthly rainfall (mm)	148.1	151.6	167.3	113.4	102.1	23.9	95.7	29.8	58.5	84.8	91.1	164	78.9	114.7	56.9	143.1	39	51.6	78.9	79.4	66

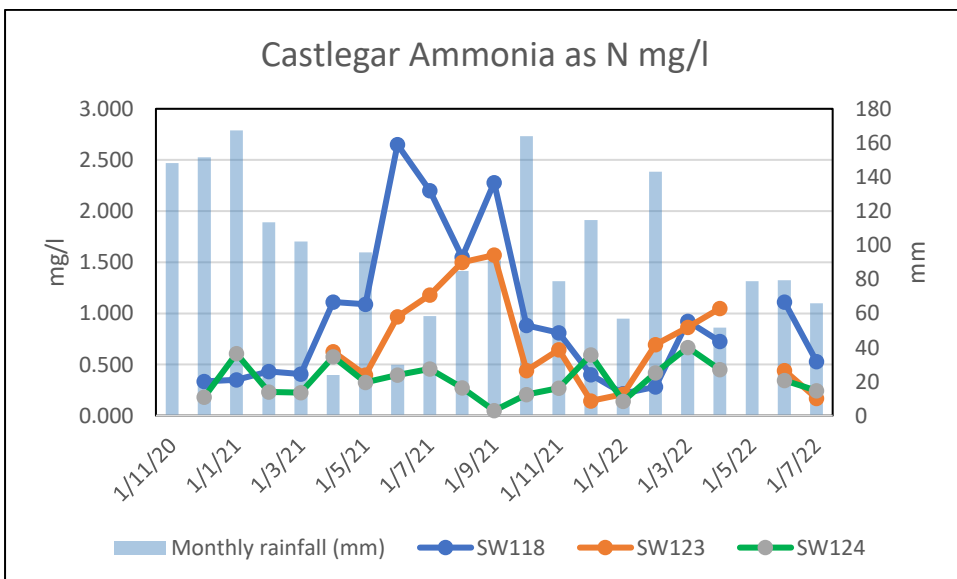
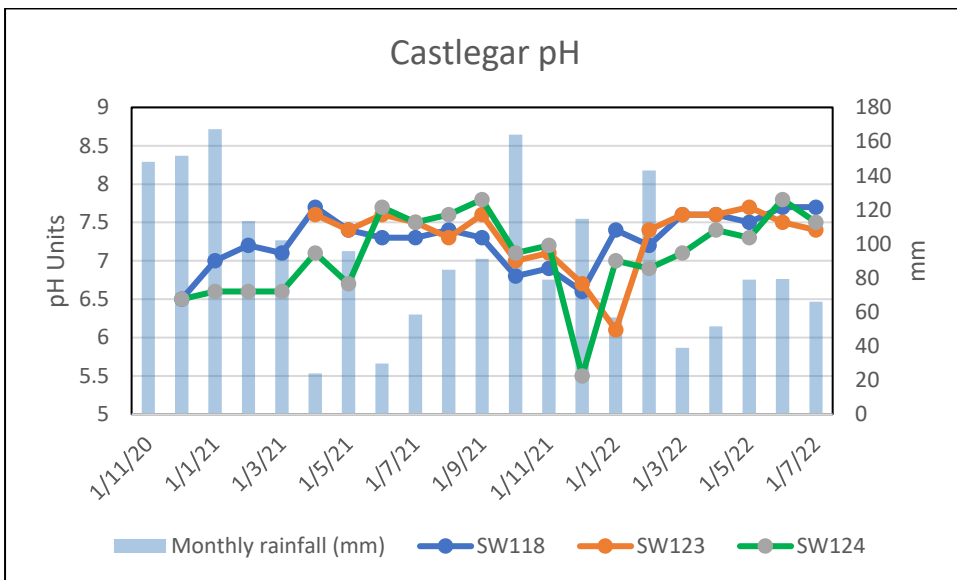
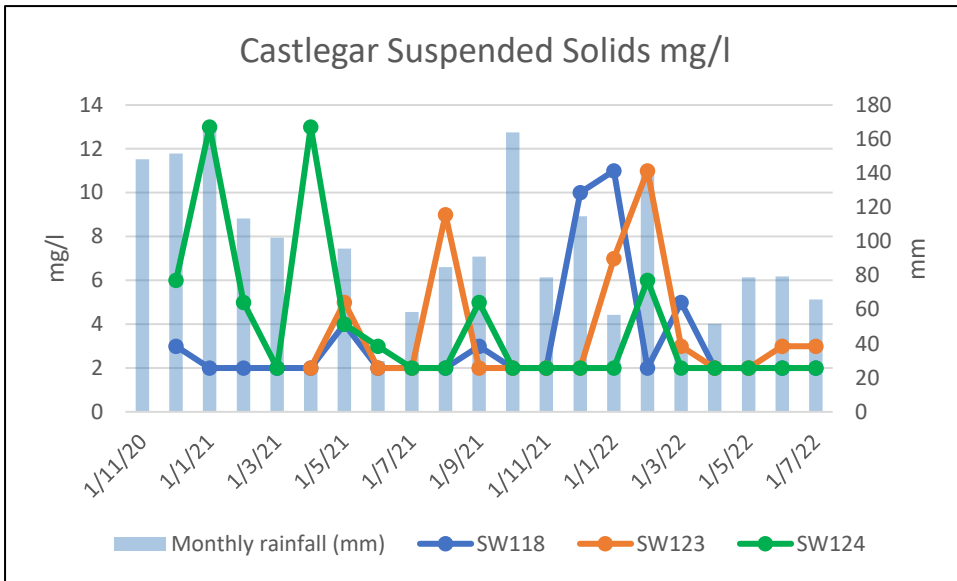
	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P
<b>SW Code -GIS</b>	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22
SW118		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	<0.05	<0.05	0.06
SW123						<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.05	0.16	0.06	<0.05	0.14
SW124		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.1	<0.05	<0.05	0.12
Monthly rainfall (mm)	148.1	151.6	167.3	113.4	102.1	23.9	95.7	29.8	58.5	84.8	91.1	164	78.9	114.7	56.9	143.1	39	51.6	78.9	79.4	66
	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS
<b>SW Code -GIS</b>	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22
SW118		89	65	156	144	274	196	232	197	178	245	158	110	133	91	154	244	333	244	343	313
SW123						256	206	264	224	198	215	459	211	6.3	77	146	221	301	268	246	275
SW124		73	104	96	97	173	111	255	216	215	202	285	254	136	90	139	168	195	288	272	245
Monthly rainfall (mm)	148.1	151.6	167.3	113.4	102.1	23.9	95.7	29.8	58.5	84.8	91.1	164	78.9	114.7	56.9	143.1	39	51.6	78.9	79.4	66

	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N
<b>SW Code -GIS</b>	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22
SW118		0.336	0.352	0.432	0.406	1.110	1.090	2.650	2.200	1.550	2.280	0.883	0.812	0.402	0.216	0.281	0.924	0.725		1.110	0.530
SW123						0.627	0.399	0.967	1.180	1.500	1.570	0.441	0.645	0.145	0.210	0.696	0.863	1.050		0.440	0.168
SW124		0.183	0.606	0.231	0.224	0.575	0.325	0.397	0.457	0.273	0.049	0.208	0.269	0.594	0.140	0.421	0.667	0.451		0.344	0.245
Monthly rainfall (mm)	148.1	151.6	167.3	113.4	102.1	23.9	95.7	29.8	58.5	84.8	91.1	164	78.9	114.7	56.9	143.1	39	51.6	78.9	79.4	66

	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC
<b>SW Code -GIS</b>	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22
SW118		16.4	16.9	17.4	17	16.5	23.1	18.4	20.1	42.2	22	26.2	21.9	18.4	18.5	21.00	16.00	15.50	19.40	18.20	18.90
SW123						15.3	21.2	18.5	21.2	46.5	24.9	28.4	24.3	17.7	19.8	15.10	15.80	15.30	16.60	27.20	25.90
SW124		18.1	17.7	16.9	18.4	20.1	25.4	19.6	21.7	44.7	20	33.5	30	27.5	26.9	15.20	18.50	20.90	20.10	19.40	23.10
Monthly rainfall (mm)	148.1	151.6	167.3	113.4	102.1	23.9	95.7	29.8	58.5	84.8	91.1	164	78.9	114.7	56.9	143.1	39	51.6	78.9	79.4	66

Blank spaces - No results available during times of the year when rivers are in flood or during extended dry spells

### Castlegar Trend Graphs





## **Appendix M: Cavemount Bog**

### Appendix M0 - Cavemount Bog - Maps

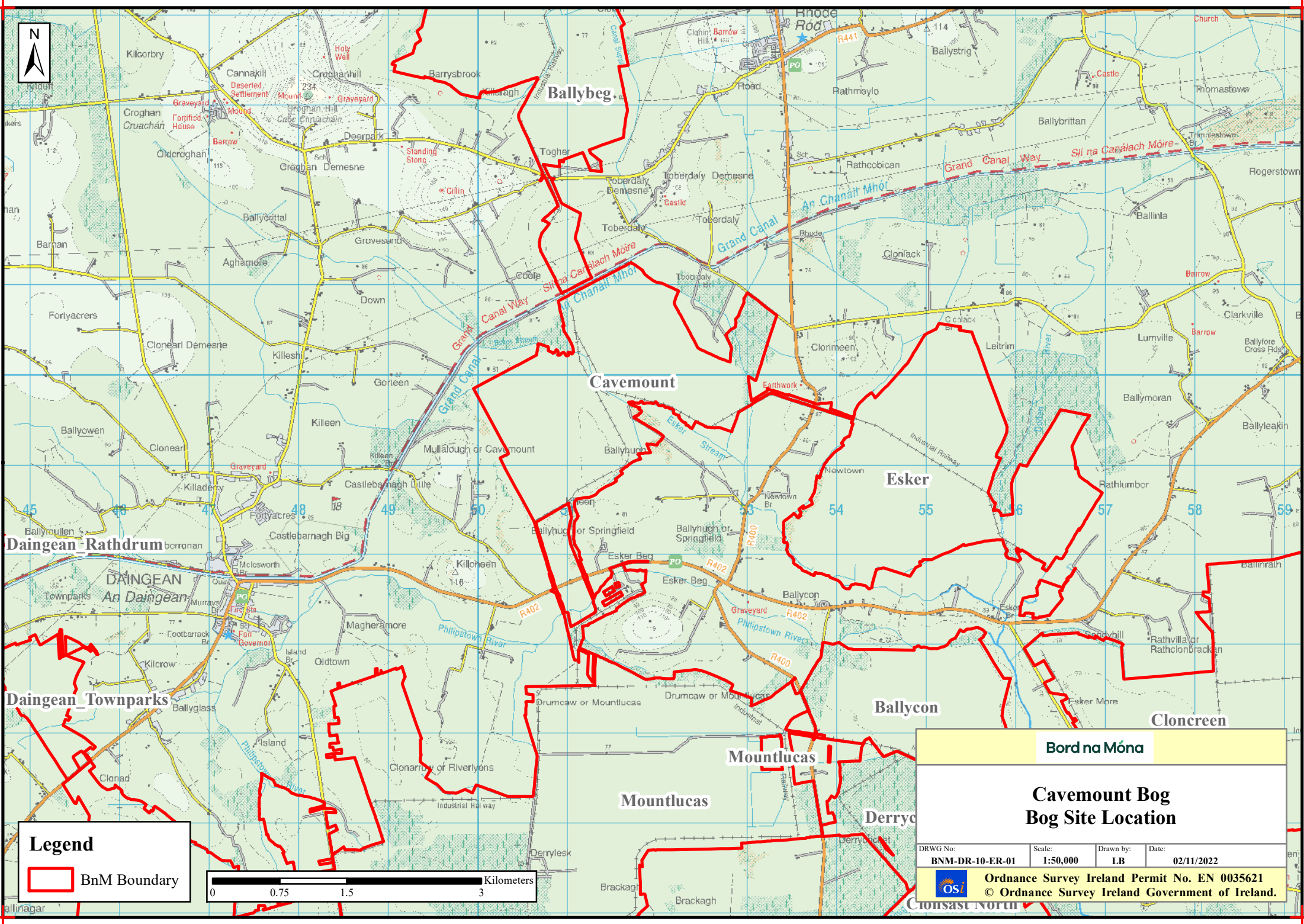
- Cavemount Bog Site Location: DRWG No. BNM-DR-
- Cavemount Bog Piezometer and Sampling Locations: DRWG No. BNM-DR-22-10-32

### Appendix M1 – Cavemount Bog - Hydrological Monitoring


### Appendix M2 – Cavemount Bog – Biodiversity (including Drawings)

- DWG No. BNM-DR-22-10-33: Cavemount Bog – Ecology Transects

### Appendix M3 – Cavemount Bog - Surface Water Quality



**Legend**


 BnM Boundary

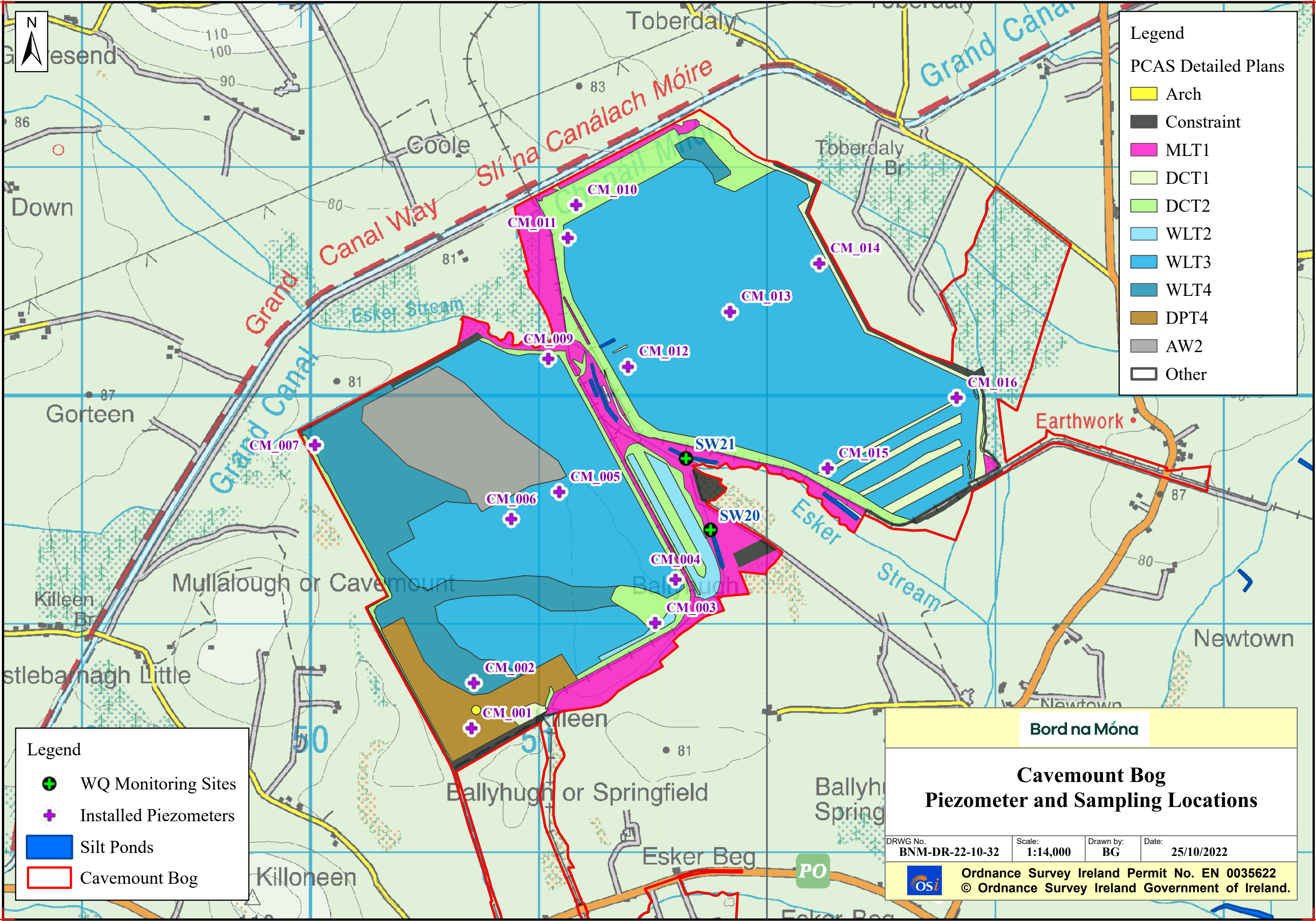


**Bord na Móna**

**Cavemount Bog Bog Site Location**

DRWG No:	Scale:	Drawn by:	Date:
BNM-DR-10-ER-01	1:50,000	LB	02/11/2022

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**Legend**

PCAS Detailed Plans

- Arch
- Constraint
- MLT1
- DCT1
- DCT2
- WLT2
- WLT3
- WLT4
- DPT4
- AW2
- Other

**Legend**

- WQ Monitoring Sites
- Installed Piezometers
- Silt Ponds
- Cavemount Bog

**Bord na Móna**

**Cavemount Bog  
Piezometer and Sampling Locations**

DRWG No. BNM-DR-22-10-32	Scale: 1:14,000	Drawn by: BG	Date: 25/10/2022
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Appendix M1 - Cavemount Bog - Hydrological Monitoring

Site Name	Well ID	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)
Cavemount	CM_001_S	21/04/2021 12:37	-22	21/07/2021 14:43	-37	10/02/2022 11:19	8888	31/08/2022 11:05	-22
Cavemount	CM_002_S	21/04/2021 12:49	-11	21/07/2021 14:54	-25	10/02/2022 11:29	1	31/08/2022 11:36	-27
Cavemount	CM_003_S	21/04/2021 12:22	-13	21/07/2021 15:15	-32	10/02/2022 10:46	-1	31/08/2022 10:35	-43
Cavemount	CM_004_S	21/04/2021 12:14	-2	21/07/2021 15:26	-11	10/02/2022 10:36	-3	N/A	N/A
Cavemount	CM_005_S	21/04/2021 12:02	-11	21/07/2021 13:41	-23	10/02/2022 12:27	-14	N/A	N/A
Cavemount	CM_006_S	21/04/2021 11:55	-7	21/07/2021 13:46	-27	10/02/2022 12:21	-1	N/A	N/A
Cavemount	CM_007_S	21/04/2021 11:28	-25	21/07/2021 14:14	-38	10/02/2022 11:58	-15	N/A	N/A
Cavemount	CM_009_S	21/04/2021 11:01	-15	21/07/2021 13:28	-30	10/02/2022 12:39	-1	N/A	N/A
Cavemount	CM_010_S	21/04/2021 10:45	-19	21/07/2021 13:10	-37	10/02/2022 12:51	2	31/08/2022 11:12	-4
Cavemount	CM_011_S	21/04/2021 10:41	-14	21/07/2021 13:05	-26	10/02/2022 12:48	-5	N/A	N/A
Cavemount	CM_012_S	21/04/2021 10:22	-44	21/07/2021 12:45	-57	10/02/2022 13:06	-35	31/08/2022 10:24	-67
Cavemount	CM_013_S	21/04/2021 10:11	-55	21/07/2021 12:38	-62	10/02/2022 13:14	-30	N/A	N/A
Cavemount	CM_014_S	21/04/2021 10:04	-12	21/07/2021 12:32	9999	10/02/2022 13:19	9999	N/A	N/A
Cavemount	CM_015_S	21/04/2021 09:41	-17	21/07/2021 15:45	-30	10/02/2022 13:49	-29	N/A	N/A
Cavemount	CM_016_S	21/04/2021 09:29	-37	21/07/2021 12:11	-59	10/02/2022 13:36	-37	31/08/2022 12:06	-35

\*Note 9999= well has been destroyed / 8888 = well was inaccessible at the time of the survey




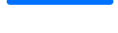
Appendix M2 - Cavemount Bog - Biodiversity

Table 1: Cavemount Quadrat Data

Name	Cavemount	Cavemount	Cavemount	Cavemount	Cavemount
Surveyor	DMN	DMN	DMN	DMN	DMN
Survey Date	15/06/2021	15/06/2021	15/06/2021	15/06/2021	15/06/2021
Quadrat	1	2	3	4	5
Vegetation Height	0	0	0	0	0
Bare Peat	91-100%	91-100%	91-100%	91-100%	91-100%
<i>Eriop vagin</i>	Not Observed	Not Observed	<4% (few individuals)	Not Observed	Not Observed
<i>Juncu bulbo</i>	Not Observed	Not Observed	<4% (few individuals)	Not Observed	Not Observed
<i>Salix ciner</i>	Not Observed	<4% (few individuals)	<4% (few individuals)	Not Observed	Not Observed
Sphagnum Cover	0%	0%	0%	0%	0%
<i>Betul pubec</i>	Not Observed	Not Observed	Not Observed	<4% (few individuals)	<4% (few individuals)
<i>Campy intro</i>	<4% (few individuals)	<4% (few individuals)	Not Observed	<4% (many individuals)	Not Observed
<i>Eriop angus</i>	Not Observed	<4% (many individuals)	Not Observed	<4% (many individuals)	<4% (few individuals)
<i>Leontodon hispidus</i>	Not Observed	Not Observed	Not Observed	Not Observed	<4% (few individuals)
<i>Juncus articulatus</i>	Not Observed	Not Observed	Not Observed	Not Observed	<4% (few individuals)
<i>Rubus fruticosus</i> agg.	Not Observed	Not Observed	Not Observed	<4% (few individuals)	<4% (few individuals)
<i>Chamaenerion angustifolium</i>	Not Observed	Not Observed	Not Observed	Not Observed	<4% (few individuals)
<i>Agrostis stolonifera</i>	<4% (few individuals)	Not Observed	Not Observed	Not Observed	Not Observed
Comment	Flat slope. North aspect. Firm ground. Moisture = dry.	Flat slope. North aspect. Firm ground. Moisture = dry.	Flat slope. West aspect. Firm ground. Moisture = intermediate.	Soil type = bog peat. Moisture = intermediate.	Soil type = bog peat. Moisture = dry.
Note1	Piezo in SW corner	Piezo is SW corner	Piezo is NW corner		Dip well on se corner due to adjacent deep water
Note			Tide line from winter flooding through the quadrat		



**Legend**

-  Bog boundary
- Transects
-  CBS and Breeding Waders
-  Pollinators
-  Pollinators (2021)

**Bord na Móna**

**Cavemount Bog Ecology Transects**

DRWG No. <b>BNM-DR-22-10-33</b>	Scale: <b>1:11,905</b>	Drawn by: <b>JG</b>	Date: <b>19/10/2022</b>
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Appendix M3 - Cavemount Bog - Surface Water Quality

	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	
SW Code - GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	
	1/9/20	1/10/20	1/10/20	1/10/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/13/21	1/14/21	1/15/21	1/16/21	1/17/21	1/18/21	1/19/21	1/20/21	
SW20	2	2	2	2	3	5	2	3	5	2	2	62	2	2	2	2	2	2	3	5	2	2	2	5	2
SW21	2	2	2	2	2	4	5	2	5	2	2	5	4	2	2	2	3	4	6	5	2	2	2	2	2
Monthly Rainfall (mm)	68.3	131.8	87.7	89.3	126.9	80.3	80.9	25.5	107.4	17.4	74.9	142.1	58.1	97.7	41.6	128	47.6	131.8	46.2	48.7	53.4	100.6	31.6	35.2	104.1
Rehabilitation												70													

	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	
SW Code - GIS	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	
	1/9/20	1/10/20	1/10/20	1/10/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/13/21	1/14/21	1/15/21	1/16/21	1/17/21	1/18/21	1/19/21	1/20/21	
SW20	301	272	278	281	208	256	260	226	155	190	182	132	138	103	387	116	196	345	191	144	151	195	299	125	116
SW21	346	119	266	266	92	106	75.1	76.2	104	106	115	166	123	138	158	104	143	128	110	103	103	94.2	160	67.5	129
Monthly Rainfall (mm)	68.3	131.8	87.7	89.3	126.9	80.3	80.9	25.5	107.4	17.4	74.9	142.1	58.1	97.7	41.6	128	47.6	131.8	46.2	48.7	53.4	100.6	31.6	35.2	104.1

	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD
SW Code - GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/9/20	1/10/20	1/10/20	1/12/20	1/12/21	1/22/21	1/32/21	1/42/21	1/52/21	1/62/21	1/72/21	1/82/21	1/92/21	1/10/21	1/11/21	1/12/21	1/13/21	1/14/21	1/15/21	1/16/21	1/17/21	1/18/21	1/19/21	1/20/21	1/21/21
SW20	95	84	76	73	49	57	66	59	59	65	71	138	78	58	99	49	75	91	55	59	58	62	88	59	40
SW21	98	38	84	84	26	25	65	18	27	25	31	50	50	47	51	35	41	34	27	25	29	10	50	17	35
Monthly Rainfall (mm)	68.3	131.8	87.7	89.3	126.9	80.3	80.9	25.5	107.4	17.4	74.9	142.1	58.1	97.7	41.6	128	47.6	131.8	46.2	48.7	53.4	100.6	31.6	35.2	104.1

	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH
SW Code - GIS	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units
	1/9/20	1/10/20	1/10/20	1/12/20	1/12/21	1/22/21	1/32/21	1/42/21	1/52/21	1/62/21	1/72/21	1/82/21	1/92/21	1/10/21	1/11/21	1/12/21	1/13/21	1/14/21	1/15/21	1/16/21	1/17/21	1/18/21	1/19/21	1/20/21	1/21/21
SW20	7.2	7.4	7.4	7.5	8	7.4	7.4	7.8	7.6	7.6	7.5	7.6	7.3	7.4	7.3	7.4	7.5	7.3	7.5	7.7	7.5	7.5	7.5	7.4	7.3
SW21	7	7.9	7	7	8.1	8	8.2	8.3	8.3	8.1	7.9	7.9	7.8	7.9	7.7	8	7.9	8	8	8.3	8	8	8	7.9	7.7
Monthly Rainfall (mm)	68.3	131.8	87.7	89.3	126.9	80.3	80.9	25.5	107.4	17.4	74.9	142.1	58.1	97.7	41.6	128	47.6	131.8	46.2	48.7	53.4	100.6	31.6	35.2	104.1
Rehabilitation												9													

	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P
SW Code - GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/9/20	1/10/20	1/10/20	1/12/20	1/12/21	1/22/21	1/32/21	1/42/21	1/52/21	1/62/21	1/72/21	1/82/21	1/92/21	1/10/21	1/11/21	1/12/21	1/13/21	1/14/21	1/15/21	1/16/21	1/17/21	1/18/21	1/19/21	1/20/21	1/21/21
SW20	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
SW21	0.07	0.05	0.11	0.11	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Monthly Rainfall (mm)	68.3	131.8	87.7	89.3	126.9	80.3	80.9	25.5	107.4	17.4	74.9	142.1	58.1	97.7	41.6	128	47.6	131.8	46.2	48.7	53.4	100.6	31.6	35.2	104.1

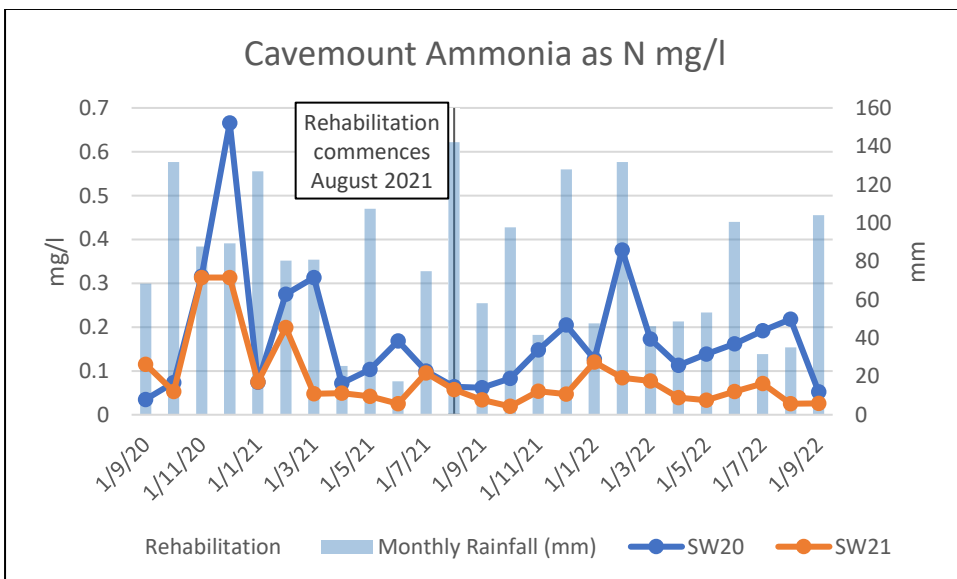
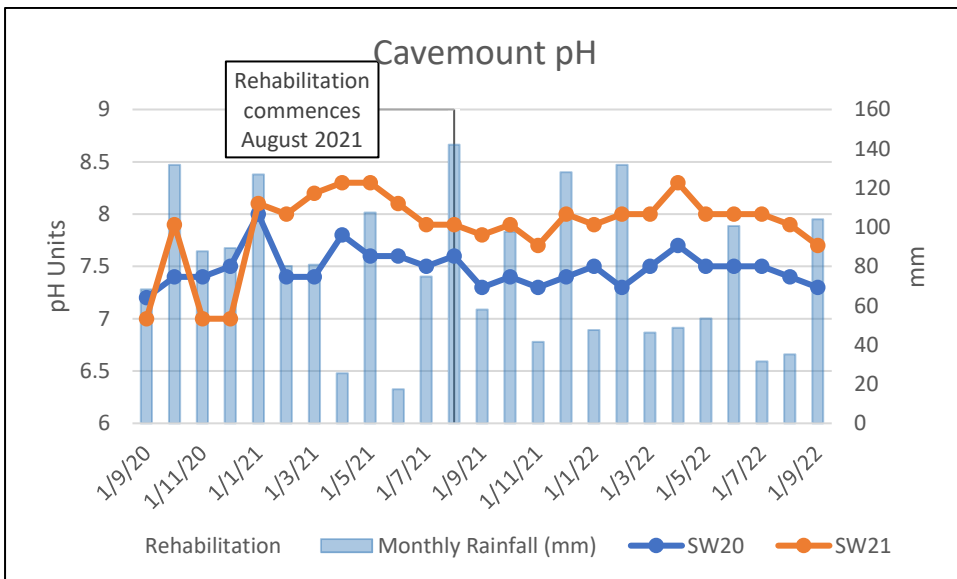
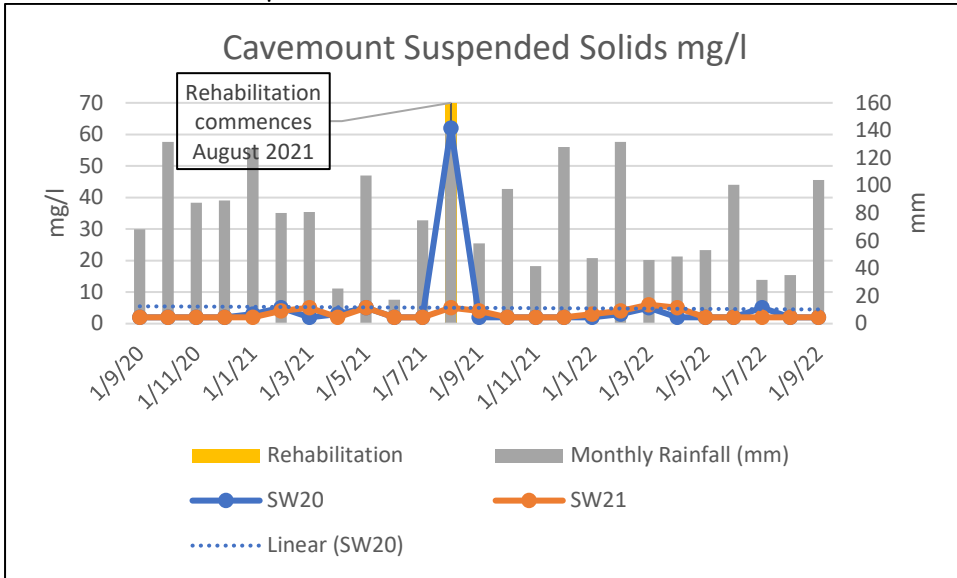




	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC
SW Code - GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/9/20	1/10/20	1/11/20	1/12/20	1/13/21	1/14/21	1/15/21	1/16/21	1/17/21	1/18/21	1/19/21	1/20/21	1/21/21	1/22/21	1/23/21	1/24/21	1/25/21	1/26/21	1/27/21	1/28/21	1/29/21	1/30/21	1/31/21	1/1/22	1/2/22
SW20	36.1	33.5	29.9	25.2	18.6	21.1	19.7	21.7	21.3	26.2	25.4	48.9	51.5	20.8	38.3	21.1	27.2	31	24.6	22.4	20.9	27.1	30	24.5	16.1
SW21	37.2	14.6	33.2	33.2	9.6	12.1	7.6	7.7	9.9	11.6	12.1	67.1	72	18.3	18.7	14.2	13.7	13.6	11.4	10.4	12	11.4	17.6	8.3	15.2
Monthly Rainfall (mm)	68.3	131.8	87.7	89.3	126.9	80.3	80.9	25.5	107.4	17.4	74.9	142.1	58.1	97.7	41.6	128	47.6	131.8	46.2	48.7	53.4	100.6	31.6	35.2	104.1

Blank spaces - No results available during times of the year when rivers are in flood or during extended dry spells

### Cavemount Trend Graphs



## **Appendix N: Clonad Bog**

### Appendix N0 - Clonad Bog – Maps

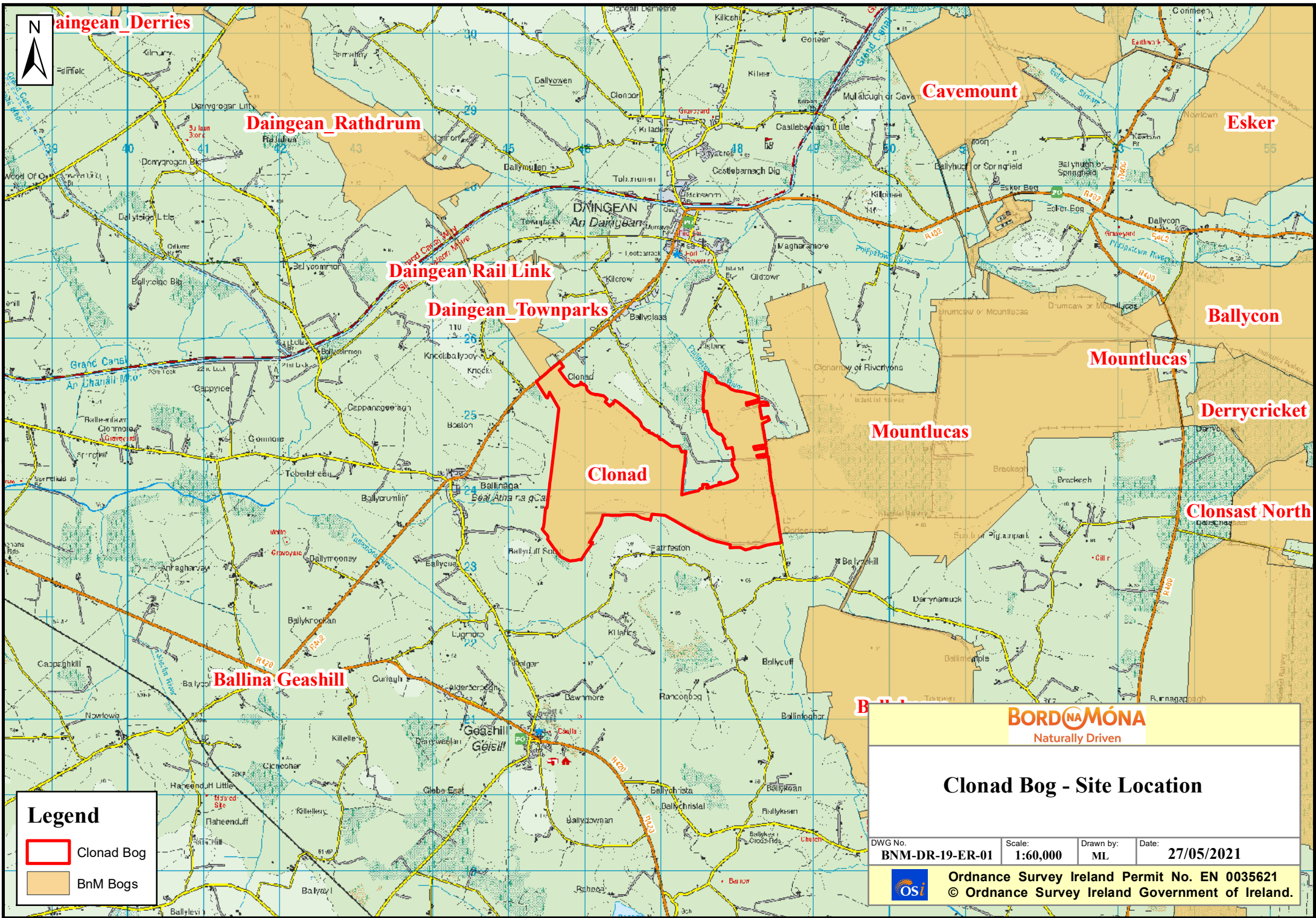
- Clonad Bog Site Location: DRWG No. BNM-DR-19-ER-01
- Clonad Bog Piezometer and Sampling Locations: DRWG No. BNM-DR-22-19-32

### Appendix N1 – Clonad Bog - Hydrological Monitoring

### Appendix N2 – Clonad Bog – Biodiversity (including Drawings)

- DWG No. BNM-DR-22-19-33: Clonad Bog – Ecology Transects

### Appendix N3 – Clonad Bog - Surface Water Quality



**Legend**

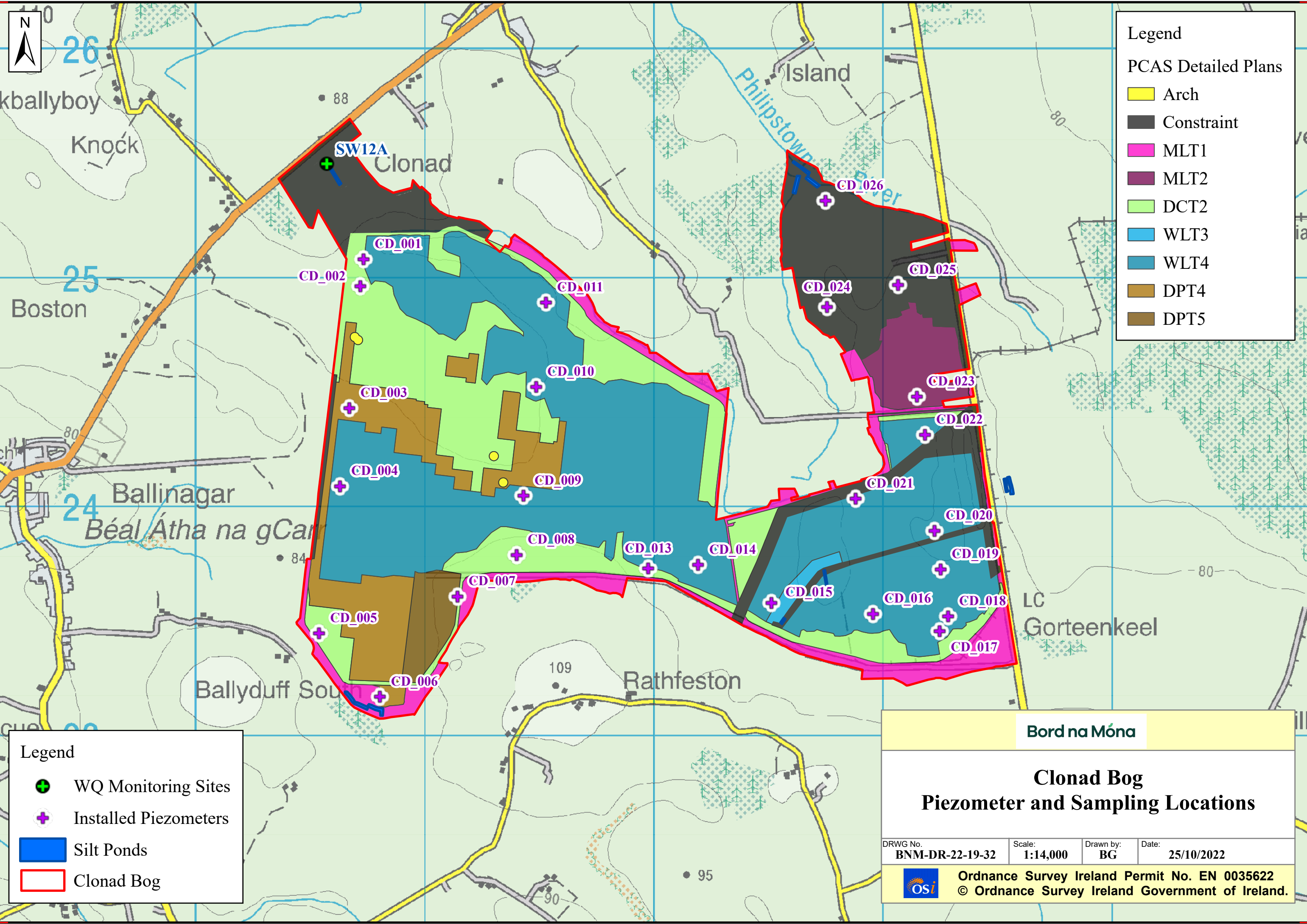
- Clonad Bog
- BnM Bogs

**BORD NA MÓNA**  
Naturally Driven

**Clonad Bog - Site Location**

DWG No. <b>BNM-DR-19-ER-01</b>	Scale: <b>1:60,000</b>	Drawn by: <b>ML</b>	Date: <b>27/05/2021</b>
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**Legend**

PCAS Detailed Plans

- Arch
- Constraint
- MLT1
- MLT2
- DCT2
- WLT3
- WLT4
- DPT4
- DPT5

**Legend**

- WQ Monitoring Sites
- Installed Piezometers
- Silt Ponds
- Clonad Bog

**Bord na Móna**

**Clonad Bog  
Piezometer and Sampling Locations**

DRWG No. <b>BNM-DR-22-19-32</b>	Scale: <b>1:14,000</b>	Drawn by: <b>BG</b>	Date: <b>25/10/2022</b>
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Appendix N1 - Clonad Bog - Hydrological Monitoring

Site Name	Well ID	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)
Clonad	CD_001_S	22/04/2021 07:51	-106	03/08/2021 08:57	-60	08/02/2022 13:59	-60	24/08/2022 09:59	9999
Clonad	CD_002_S	22/04/2021 07:56	-69	03/08/2021 08:47	-50	08/02/2022 14:01	-41	24/08/2022 09:59	9999
Clonad	CD_003_S	22/04/2021 08:05	-67	03/08/2021 08:35	-85	08/02/2022 14:05	-11	24/08/2022 09:29	-52
Clonad	CD_004_S	22/04/2021 08:13	-67	03/08/2021 09:05	8888	08/02/2022 14:13	-6	N/A	N/A
Clonad	CD_005_S	22/04/2021 18:23	-83	03/08/2021 09:43	-117	08/02/2022 14:19	-37	24/08/2022 08:58	-99
Clonad	CD_006_S	22/04/2021 18:16	-51	03/08/2021 09:55	-84	08/02/2022 14:28	9999	N/A	N/A
Clonad	CD_007_S	21/04/2021 18:02	-94	03/08/2021 13:10	-107	08/02/2022 14:36	-8	24/08/2022 08:21	-109
Clonad	CD_008_S	21/04/2021 17:55	-38	03/08/2021 12:59	-33	08/02/2022 14:45	-8	24/08/2022 08:31	-42
Clonad	CD_009_S	21/04/2021 17:45	-79	03/08/2021 13:22	-59	08/02/2022 14:50	-61	N/A	N/A
Clonad	CD_010_S	21/04/2021 17:36	-34	03/08/2021 13:25	-28	08/02/2022 14:54	-7	24/08/2022 08:52	-37
Clonad	CD_011_S	21/04/2021 17:26	-31	03/08/2021 13:40	-46	08/02/2022 15:02	-12	24/08/2022 08:44	-22
Clonad	CD_013_S	21/04/2021 16:58	-44	03/08/2021 12:27	-51	08/02/2022 14:58	-18	24/08/2022 08:20	-53
Clonad	CD_014_S	21/04/2021 16:53	-34	04/08/2021 13:00	8888	08/02/2022 14:51	16	N/A	N/A
Clonad	CD_015_S	21/04/2021 16:42	-45	03/08/2021 11:56	-46	08/02/2022 14:32	-45	24/08/2022 09:32	-43
Clonad	CD_016_S	21/04/2021 16:22	8888	03/08/2021 12:00	8888	08/02/2022 14:10	-1	N/A	N/A
Clonad	CD_017_S	21/04/2021 15:54	-27	03/08/2021 12:19	-50	08/02/2022 10:39	-8	N/A	N/A
Clonad	CD_018_S	21/04/2021 15:57	-42	03/08/2021 12:25	-62	08/02/2022 10:41	-7	24/08/2022 09:46	-53
Clonad	CD_019_S	21/04/2021 16:04	-60	03/08/2021 12:34	-66	08/02/2022 10:43	-29	N/A	N/A
Clonad	CD_020_S	21/04/2021 16:07	-40	03/08/2021 12:37	-40	08/02/2022 10:53	18	N/A	N/A
Clonad	CD_021_S	21/04/2021 16:16	-25	03/08/2021 12:43	-66	08/02/2022 14:20	1	N/A	N/A
Clonad	CD_022_S	21/04/2021 15:35	-24	21/04/2021 15:00	8888	08/02/2022 11:50	10	24/08/2022 10:37	-25
Clonad	CD_023_S	21/04/2021 15:31	-19	03/08/2021 15:09	-31	08/02/2022 11:54	-10	N/A	N/A
Clonad	CD_024_S	21/04/2021 15:05	-25	03/08/2021 14:26	-54	08/02/2022 12:09	-8	24/08/2022 11:13	-51
Clonad	CD_025_S	21/04/2021 15:15	-47	03/08/2021 14:59	-103	08/02/2022 12:03	-17	24/08/2022 10:51	-87
Clonad	CD_026_S	21/04/2021 15:56	-37	03/08/2021 14:36	-63	08/02/2022 12:12	-21	24/08/2022 11:16	-59

\*Note 9999= well has been destroyed / 8888 = well was inaccessible at the time of the survey

Appendix N2 - Clonad Bog - Biodiversity

Table 1: Clonad Quadrat Data


<b>Name</b>	Clonad	Clonad	Clonad	Clonad	Clonad
<b>Surveyor</b>	CC	CC	CC	CC	CC
<b>Survey Date</b>	03/06/2021	15/06/2021	15/06/2021	15/06/2021	15/06/2021
<b>Quadrat</b>	1	2	3	4	5
<b>Current Habitat Description</b>	Cutaway (PB4)	Degraded raised bog (PB1)	Cutaway (PB4)	Cutaway (PB4)	Cutaway (PB4)
<b>Sphagnum Cover</b>	0%	34-50%	0%	0%	0%
<b>Bare Peat</b>	91-100%	0%	91-100%	91-100%	91-100%
<b>Open Water</b>	0%	0%	0%	0%	
<b>Vegetation Height</b>		20		0	
<b>Andro polif</b>	Not Observed	<4% (many individuals)	Not Observed	Not Observed	Not Observed
<b>Campy intro</b>	Not Observed	<4% (few individuals)	Not Observed	Not Observed	Not Observed
<b>Clado porte</b>	Not Observed	<4% (few individuals)	Not Observed	Not Observed	Not Observed
<b>Drose rotun</b>	Not Observed	<4% (few individuals)	Not Observed	Not Observed	Not Observed
<b>Erica tetra</b>	Not Observed	<4% (many individuals)	Not Observed	Not Observed	Not Observed
<b>Eriop angus</b>	Not Observed	<4% (many individuals)	Not Observed	<4% (few individuals)	Not Observed
<b>Eriop vagin</b>	Not Observed	<4% (many individuals)	Not Observed	Not Observed	Not Observed
<b>Hypnu jutla</b>	Not Observed	<4% (few individuals)	Not Observed	Not Observed	Not Observed
<b>Juncu bulbo</b>	<4% (few individuals)	Not Observed	<4% (few individuals)	Not Observed	<4% (few individuals)
<b>Narth ossif</b>	Not Observed	<4% (many individuals)	Not Observed	Not Observed	Not Observed
<b>Sphag capil</b>	Not Observed	26-33%	Not Observed	Not Observed	Not Observed
<b>Sphag uspi</b>	Not Observed	<4% (several individuals)	Not Observed	Not Observed	Not Observed
<b>Sphag papil</b>	Not Observed	<4% (few individuals)	Not Observed	Not Observed	Not Observed
<b>Typha latifolia</b>	Not Observed	Not Observed	Not Observed	Not Observed	<4% (few individuals)
<b>Tussilago farfara</b>	Not Observed	Not Observed	<4% (few individuals)	Not Observed	<4% (few individuals)
<b>Leontodon hispidus</b>	Not Observed	Not Observed		Not Observed	<4% (few individuals)
<b>Triglochin palustris</b>	Not Observed	Not Observed	<4% (few individuals)	<4% (few individuals)	<4% (few individuals)



<b>Leontodon hispidus</b>	Not Observed	Not Observed	<4% (few individuals)	Not Observed	
<b>Note1</b>	Photo aspect se	Degraded raised bog still capable of regeneration			Piezometer is SW corner
<b>Note2</b>	Flat. Soil type = bog peat. Firm ground. Moisture = dry.	Slight slope. South aspect. Soil type = bog peat. Soft ground. Moisture = intermediate.	Flat. North aspect. Soil type = bog peat. Firm ground. Moisture = dry.	Soil type = bog peat. Firm ground. Moisture = dry.	Flat. North aspect. Firm ground. Moisture = dry.



**Legend**

 Bog boundary

Transects

 CBS

 Pollinators

 Pollinators (2021)

**Bord na Móna**

**Clonad Bog  
Ecology Transects**

DRWG No. <b>BNM-DR-22-19-33</b>	Scale: <b>1:11,589</b>	Drawn by: <b>JG</b>	Date: <b>19/10/2022</b>
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	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22	1/9/22
SW12A	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.07	0.05	0.06
Monthly Rainfall (mm)	87.7	89.3	126.9	80.3	80.9	25.5	107.4	17.4	74.9	142.1	58.1	97.7	41.6	128	47.6	131.8	46.2	48.7	53.4	100.6	31.6	35.2	104.1

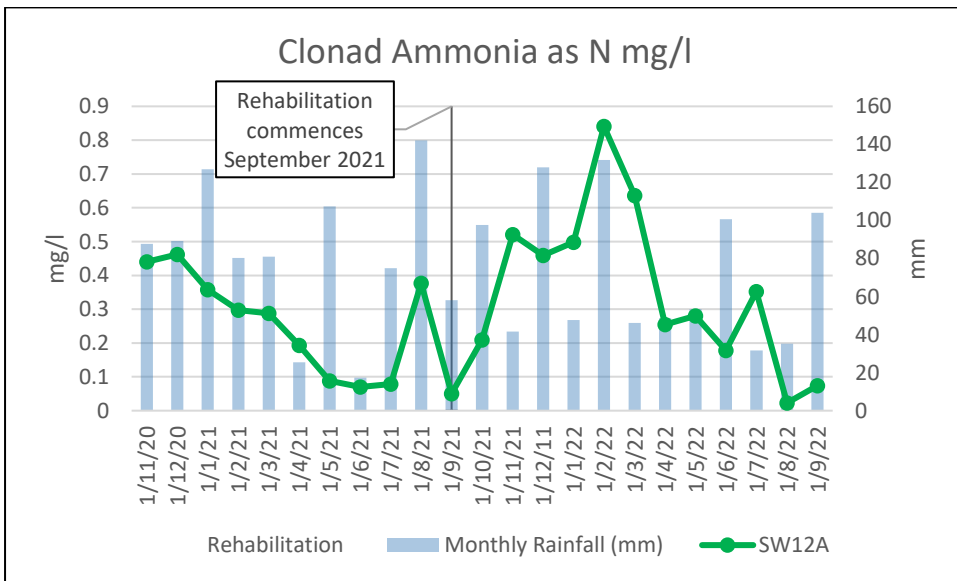
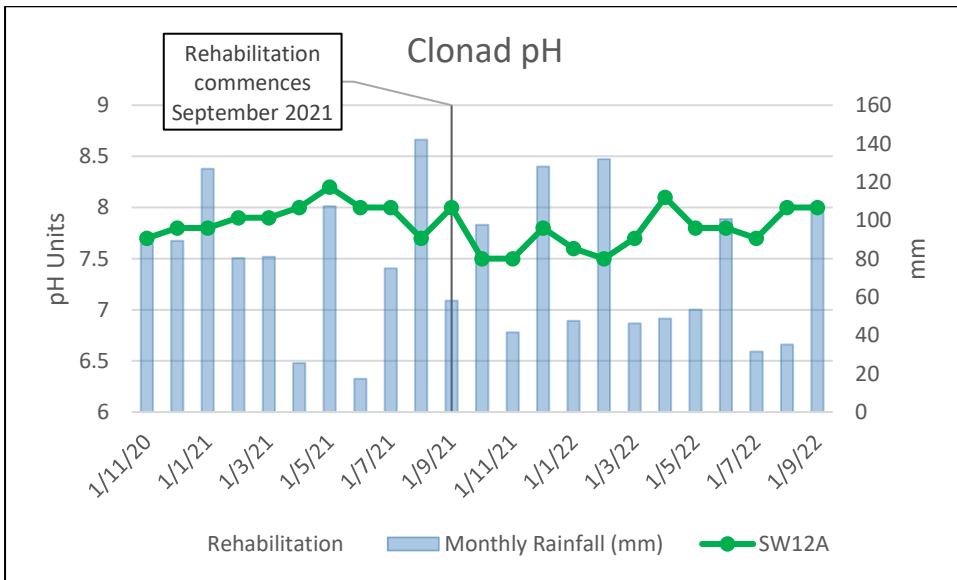
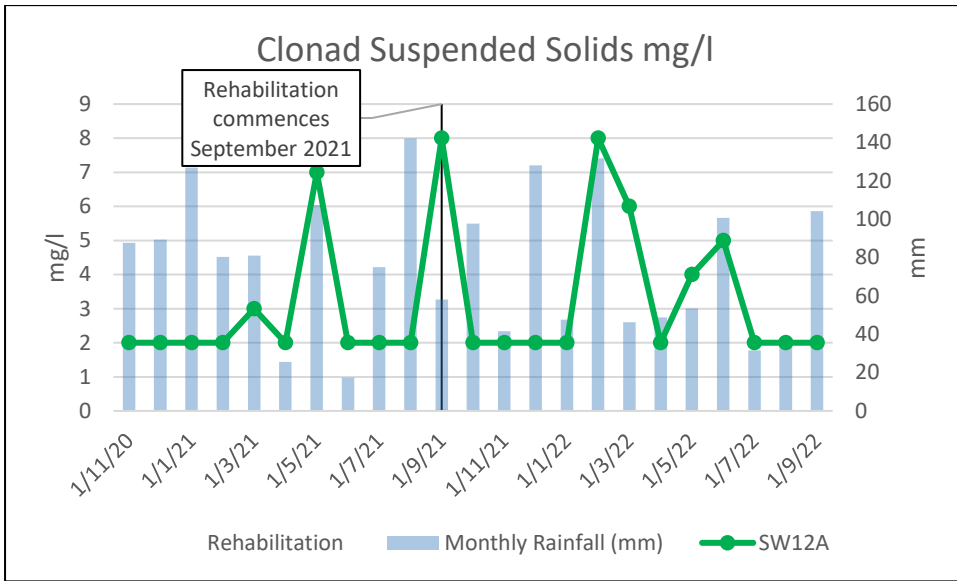
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SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22	1/9/22
SW12A	273	338	358	259	389	389	392	345	336	252	290	307	313	266	342	283	312	379	356	317	345	277	293
Monthly Rainfall (mm)	87.7	89.3	126.9	80.3	80.9	25.5	107.4	17.4	74.9	142.1	58.1	97.7	41.6	128	47.6	131.8	46.2	48.7	53.4	100.6	31.6	35.2	104.1

	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22	1/9/22
SW12A	0.44	0.462	0.358	0.297	0.288	0.193	0.088	0.07	0.079	0.377	0.05	0.209	0.521	0.459	0.498	0.841	0.636	0.255	0.28	0.178	0.352	0.023	0.074
Monthly Rainfall (mm)	87.7	89.3	126.9	80.3	80.9	25.5	107.4	17.4	74.9	142.1	58.1	97.7	41.6	128	47.6	131.8	46.2	48.7	53.4	100.6	31.6	35.2	104.1
Rehabilitation											0.9												

	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22	1/9/22
SW12A	25.6	20.7	14.1	14.9	10.2	10.6	9.7	17.4	11.5	49.4	64	28	34.6	22	22.2	26.1	19.9	13.4	14.6	17.2	25.9	16.7	13.9
Monthly Rainfall (mm)	87.7	89.3	126.9	80.3	80.9	25.5	107.4	17.4	74.9	142.1	58.1	97.7	41.6	128	47.6	131.8	46.2	48.7	53.4	100.6	31.6	35.2	104.1

Blank spaces - No results available during times of the year when rivers are in flood or during extended dry spells

### Clonad Trend Graphs



## **Appendix O: Esker Bog**

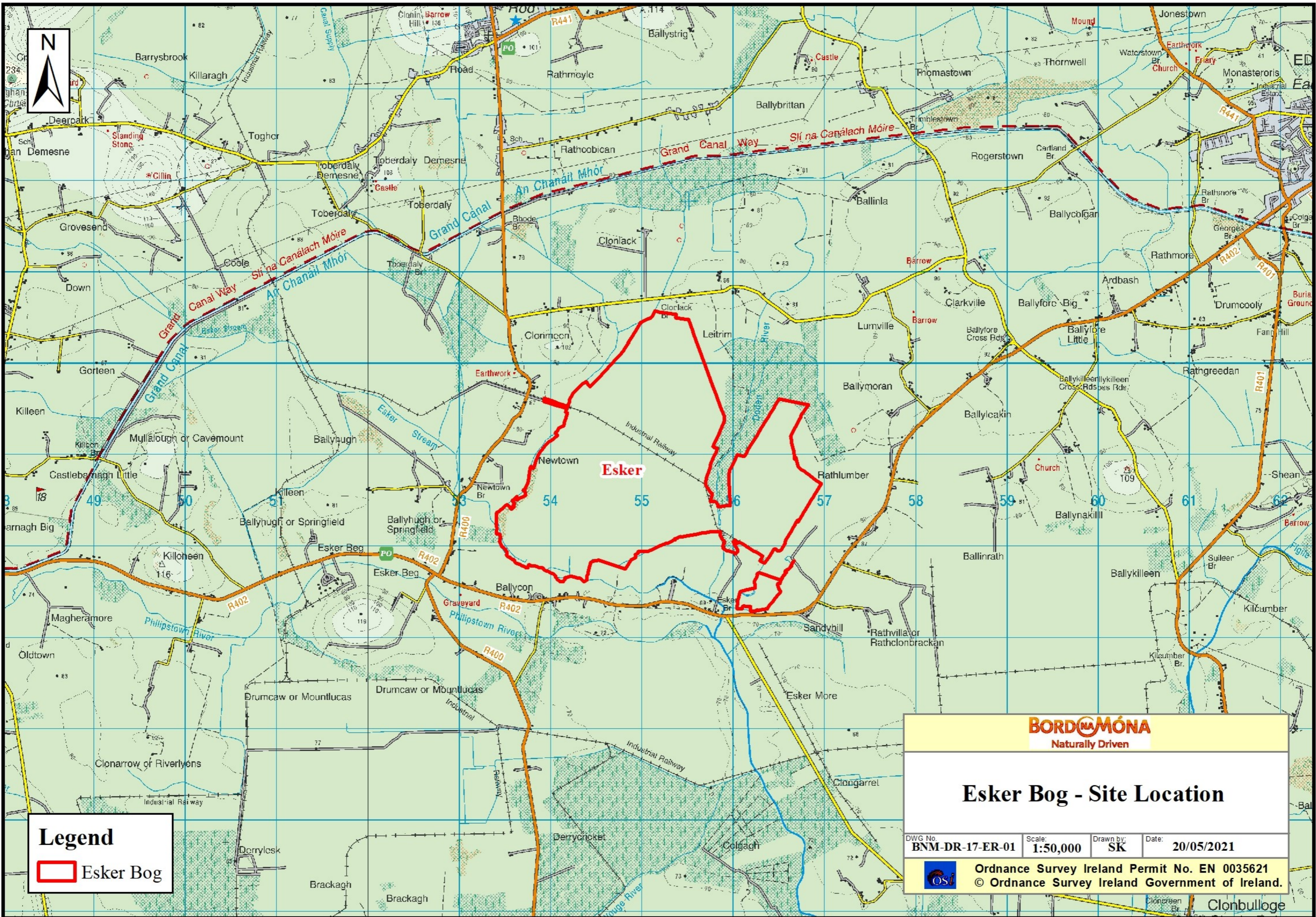
Appendix O0 - Esker Bog - Maps

- Esker Bog Site Location: DRWG No. BNM-DR-17-ER-01
- Esker Bog Piezometer and Sampling Locations: DRWG No. BNM-DR-22-17-32

Appendix O1 – Esker Bog - Hydrological Monitoring

Appendix O2 – Esker Bog – Biodiversity (including Drawings) – not applicable on this bog

Appendix O3 – Esker Bog - Surface Water Quality



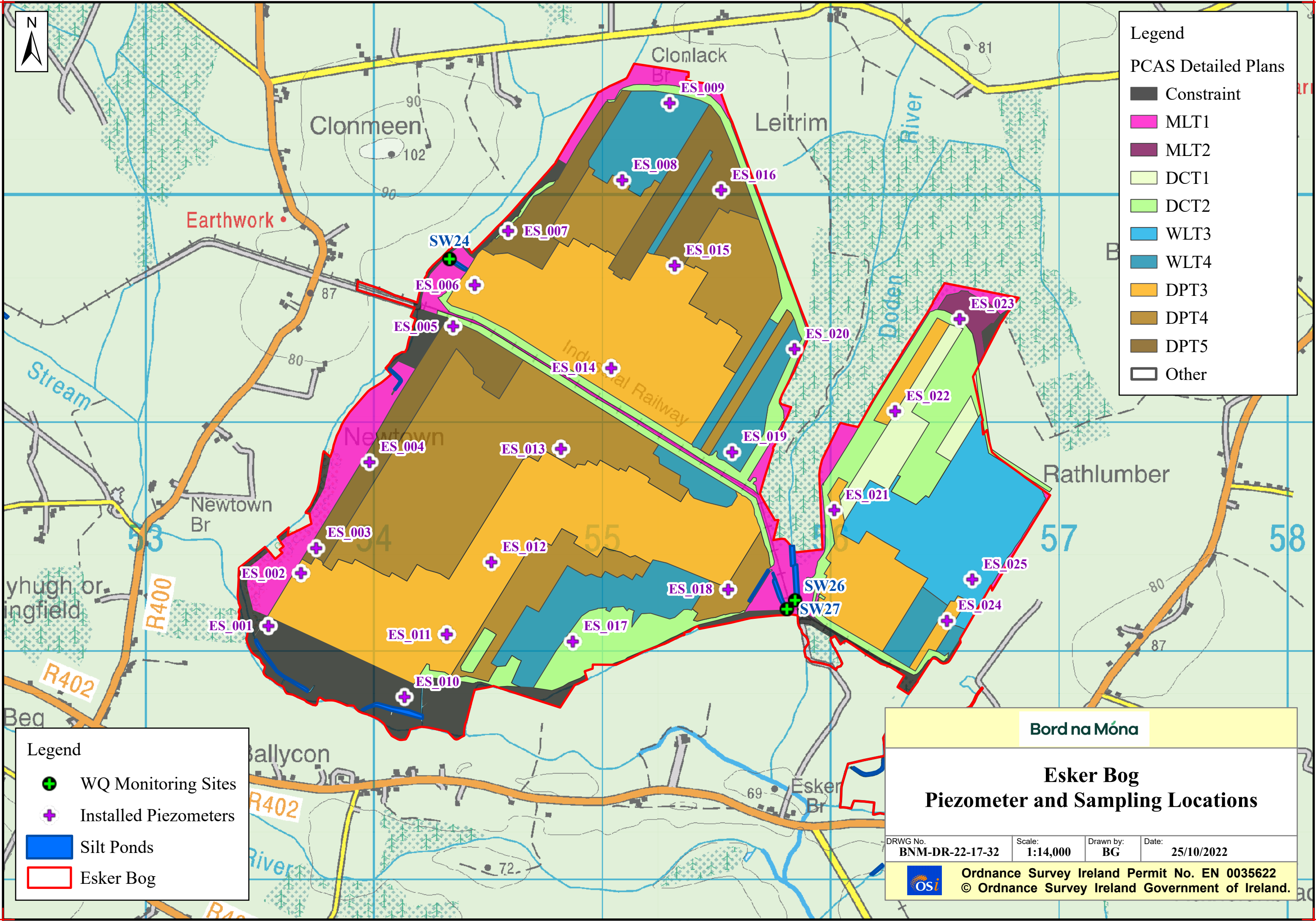
**Legend**  
 Esker Bog

**BORDA MÓNA**  
 Naturally Driven

**Esker Bog - Site Location**

DWG No. <b>BNM-DR-17-ER-01</b>	Scale: <b>1:50,000</b>	Drawn by: <b>SK</b>	Date: <b>20/05/2021</b>
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**Legend**

PCAS Detailed Plans

- Constraint
- MLT1
- MLT2
- DCT1
- DCT2
- WLT3
- WLT4
- DPT3
- DPT4
- DPT5
- Other

**Legend**

- WQ Monitoring Sites
- ⊕ Installed Piezometers
- Silt Ponds
- Esker Bog

**Bord na Móna**

**Esker Bog  
Piezometer and Sampling Locations**

DRWG No. BNM-DR-22-17-32	Scale: 1:14,000	Drawn by: BG	Date: 25/10/2022
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Appendix O1 - Esker Bog - Hydrological Monitoring

Site Name	Well ID	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)
Esker	ES_001_S	22/04/2021 11:23	-62	20/07/2021 15:33	-59	10/02/2022 15:32	-24	N/A	N/A
Esker	ES_002_S	22/04/2021 11:30	-45	20/07/2021 15:20	-47	10/02/2022 15:24	-1	31/08/2022 14:02	-18
Esker	ES_003_S	22/04/2021 11:34	-66	20/07/2021 15:15	-72	10/02/2022 15:41	-55	N/A	N/A
Esker	ES_004_S	22/04/2021 11:40	-56	20/07/2021 14:55	-66	10/02/2022 15:13	-8	31/08/2022 13:27	-40
Esker	ES_005_S	22/04/2021 11:54	-32	20/07/2021 14:39	-34	10/02/2022 15:01	5	31/08/2022 12:48	-48
Esker	ES_006_S	22/04/2021 12:00	-3	21/07/2021 08:05	-33	10/02/2022 14:41	9999	N/A	N/A
Esker	ES_007_S	22/04/2021 12:05	-84	21/07/2021 08:10	-64	10/02/2022 14:34	13	N/A	N/A
Esker	ES_008_S	22/04/2021 12:28	-22	21/07/2021 08:28	-27	10/02/2022 14:19	8888	N/A	N/A
Esker	ES_009_S	22/04/2021 12:35	-30	21/07/2021 08:33	-31	10/02/2022 14:14	-18	31/08/2022 15:54	-35
Esker	ES_010_S	22/04/2021 13:32	-93	20/07/2021 15:42	-77	10/02/2022 13:03	-17	N/A	N/A
Esker	ES_011_S	22/04/2021 13:26	-5	20/07/2021 15:49	-28	10/02/2022 13:09	8888	31/08/2022 14:42	-22
Esker	ES_012_S	22/04/2021 13:19	-41	20/07/2021 16:12	-40	10/02/2022 13:15	-8	N/A	N/A
Esker	ES_013_S	22/04/2021 13:10	-77	20/07/2021 16:20	-81	10/02/2022 13:26	-8	31/08/2022 15:40	9999
Esker	ES_014_S	22/04/2021 13:01	-47	21/07/2021 08:58	-45	10/02/2022 13:44	6	N/A	N/A
Esker	ES_015_S	22/04/2021 12:51	-55	21/07/2021 08:52	-51	10/02/2022 13:52	-21	N/A	N/A
Esker	ES_016_S	22/04/2021 12:46	-9	21/07/2021 08:46	-23	10/02/2022 14:01	3	N/A	N/A
Esker	ES_017_S	22/04/2021 13:44	-23	20/07/2021 16:04	-45	10/02/2022 12:41	-1	N/A	N/A
Esker	ES_018_S	22/04/2021 13:56	-79	21/07/2021 09:45	-75	10/02/2022 12:17	-16	N/A	N/A
Esker	ES_019_S	22/04/2021 14:06	-55	21/07/2021 09:16	-59	10/02/2022 11:47	4	31/08/2022 15:06	-57
Esker	ES_020_S	22/04/2021 14:15	-21	21/07/2021 09:29	-26	10/02/2022 11:59	8888	N/A	N/A
Esker	ES_021_S	22/04/2021 10:07	-33	21/07/2021 10:52	-48	10/02/2022 10:40	8888	31/08/2022 13:15	0
Esker	ES_022_S	22/04/2021 10:16	-35	21/07/2021 10:38	-47	10/02/2022 10:52	-16	31/08/2022 14:29	-65
Esker	ES_023_S	22/04/2021 10:25	-49	21/07/2021 10:32	-83	10/02/2022 11:05	-16	N/A	N/A
Esker	ES_024_S	22/04/2021 09:50	-21	21/07/2021 10:06	-31	10/02/2022 10:07	8888	31/08/2022 13:49	-15
Esker	ES_025_S	22/04/2021 09:46	-41	21/07/2021 10:17	-47	10/02/2022 10:21	9999	N/A	N/A

\*Note 9999= well has been destroyed / 8888 = well was inaccessible at the time of the survey



	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22	1/9/22
SW24	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.09	0.05	0.05	0.05
SW26	0.05	0.05	0.05	0.08	0.05	0.08	0.05	0.05	0.05	0.05	0.06	0.05	0.05	0.05	0.05	0.06	0.08	0.08	0.06	0.05	0.05	0.1	0.05
SW27	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.05	0.05	0.06	0.05	0.05	0.05	0.1	0.07	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Monthly Rainfall (mm)	87.7	89.3	126.9	80.3	80.9	25.5	107.4	17.4	74.9	142.1	58.1	97.7	41.6	128	47.6	131.8	46.2	48.7	53.4	100.6	31.6	35.2	104.1

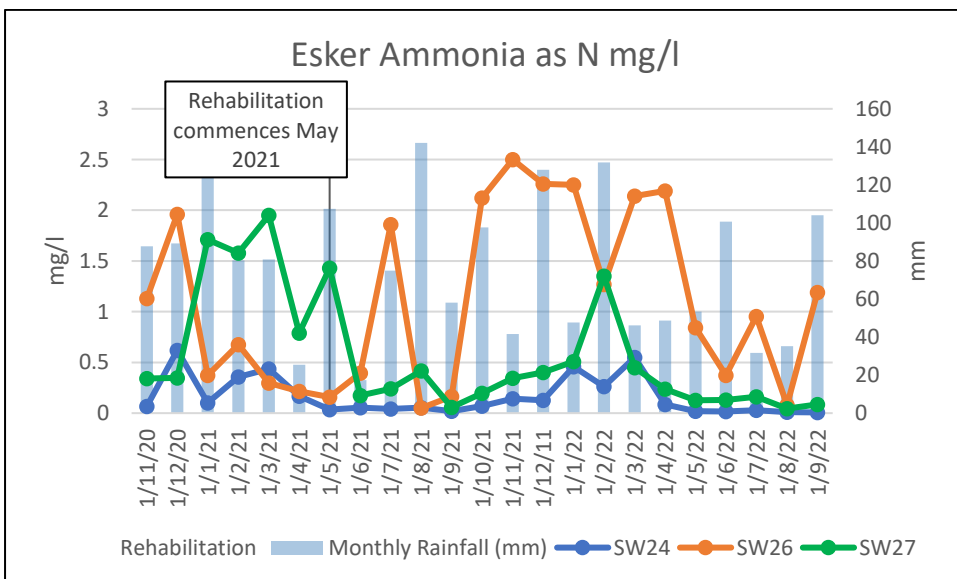
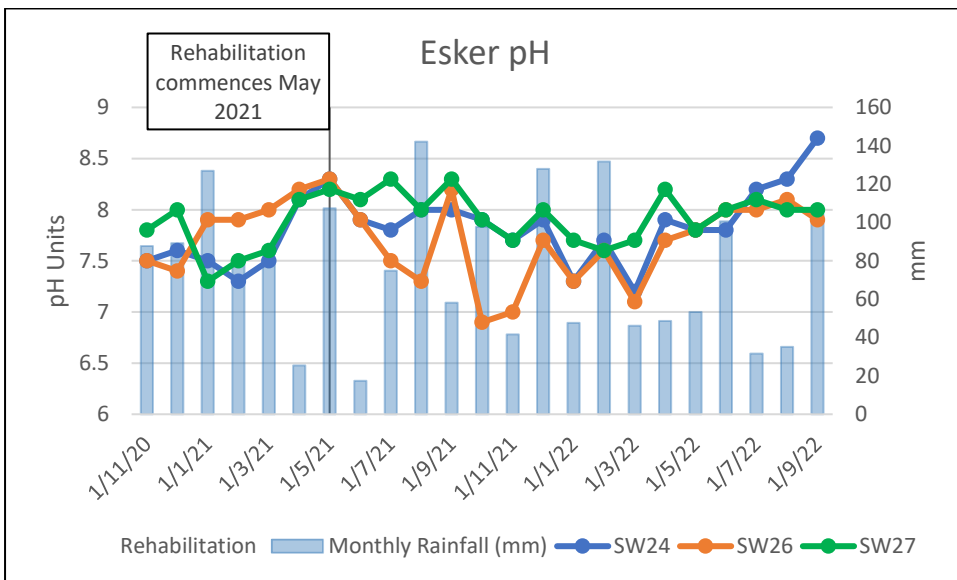
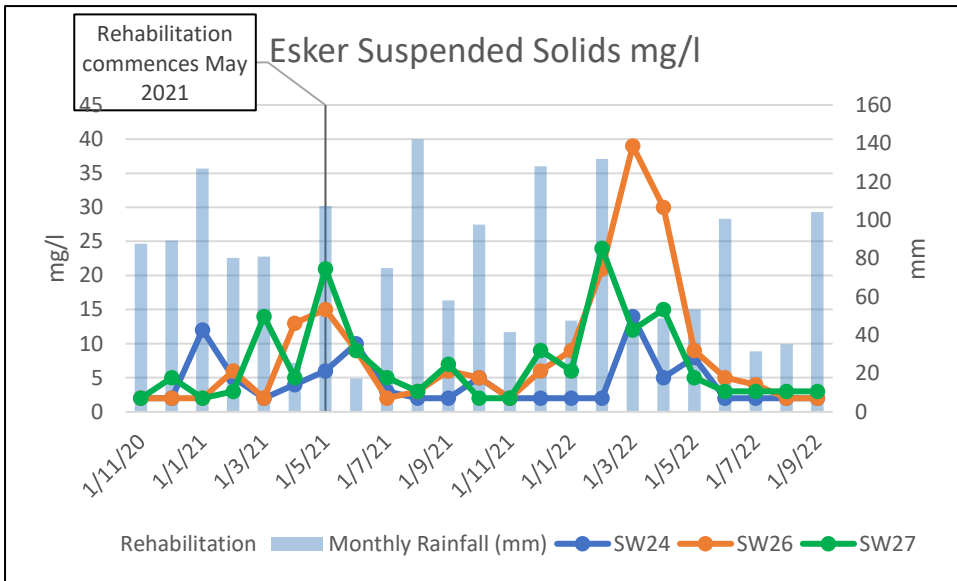
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SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22	1/9/22
SW24	515	164	503	169	181	247	275	264	411	233	289	249	273	201	169	208	152	186	441	412	417	387	248
SW26	290	170	445	292	448	426	443	323	216	175	431	232	272	91	191	339	222	272	323	316	342	315	360
SW27	387	392	207	174	234	271	245	438	397	345	441	397	253	367	413	278	235	493	427	386	436	394	373
Monthly Rainfall (mm)	87.7	89.3	126.9	80.3	80.9	25.5	107.4	17.4	74.9	142.1	58.1	97.7	41.6	128	47.6	131.8	46.2	48.7	53.4	100.6	31.6	35.2	104.1

	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22	1/9/22
SW24	0.067	0.62	0.1	0.358	0.435	0.167	0.036	0.053	0.041	0.053	0.019	0.069	0.143	0.128	0.457	0.264	0.551	0.086	0.018	0.016	0.029	0.01	0.007
SW26	1.13	1.96	0.372	0.676	0.298	0.214	0.158	0.396	1.86	0.05	0.166	2.12	2.5	2.26	2.25	1.27	2.14	2.19	0.842	0.373	0.955	0.078	1.19
SW27	0.341	0.349	1.71	1.58	1.95	0.789	1.43	0.174	0.239	0.418	0.056	0.195	0.343	0.4	0.508	1.35	0.449	0.238	0.126	0.13	0.162	0.045	0.085
Monthly Rainfall (mm)	87.7	89.3	126.9	80.3	80.9	25.5	107.4	17.4	74.9	142.1	58.1	97.7	41.6	128	47.6	131.8	46.2	48.7	53.4	100.6	31.6	35.2	104.1
Rehabilitation							3																

	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22	1/9/22
SW24	28.8	24.6	20	20.7	17	17.6	19.2	24.5	6.47	48.9	54	20.6	23.5	24.3	28.1	23.9	20.8	21.7	14.4	8.01	17.3	16.5	15.2
SW26	24.1	20.1	13.6	18.7	9.41	7.54	7.75	15.8	24.2	38.8	63.6	29.8	29.8	22.4	27.2	16.6	22.3	18.9	13.2	14.8	18	10.8	21.1
SW27	20.4	14.7	19.1	17.9	13.8	17.1	16.7	10.3	9.83	60.8	68.1	16.2	20.3	14.1	19.1	16.8	15.4	9.61	11.9	9.68	10.8	6.55	11.9
Monthly Rainfall (mm)	87.7	89.3	126.9	80.3	80.9	25.5	107.4	17.4	74.9	142.1	58.1	97.7	41.6	128	47.6	131.8	46.2	48.7	53.4	100.6	31.6	35.2	104.1

Blank spaces - No results available during times of the year when rivers are in flood or during extended dry spells

### Esker Trend Graphs



## **Appendix P: Mountlucas Bog**

### Appendix P0 - Mountlucas Bog - Maps

- Mountlucas Bog Site Location: DRWG No. BNM-DR-11-ER-01
- Mountlucas Bog Piezometer and Sampling Locations: DRWG No. BNM-DR-22-11-32

### Appendix P1 – Mountlucas Bog - Hydrological Monitoring

### Appendix P2 – Mountlucas Bog – Biodiversity (including Drawings)

- DWG No. BNM-DR-22-11-33: Mountlucas Bog – Ecology Transects

### Appendix P3 – Mountlucas Bog - Surface Water Quality



**Daingean\_Rathdrum**

**Daingean\_Rail Link**

**Daingean\_Townparks**

**DAINGEAN  
An Daingean**

**Clonad**

**Cavemount**

**Esker**

**Ballycon**

**Cloncreen**

**Mountlucas**

**Derrycricket**

**Mountlucas**

**Clonsast North**

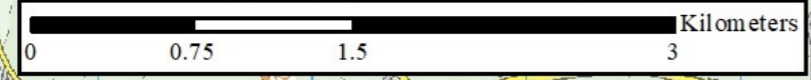
**Ballykeane**

**BORD NA MÓNA**  
Naturally Driven

### Mountlucas Bog Bog Site Location

#### Legend

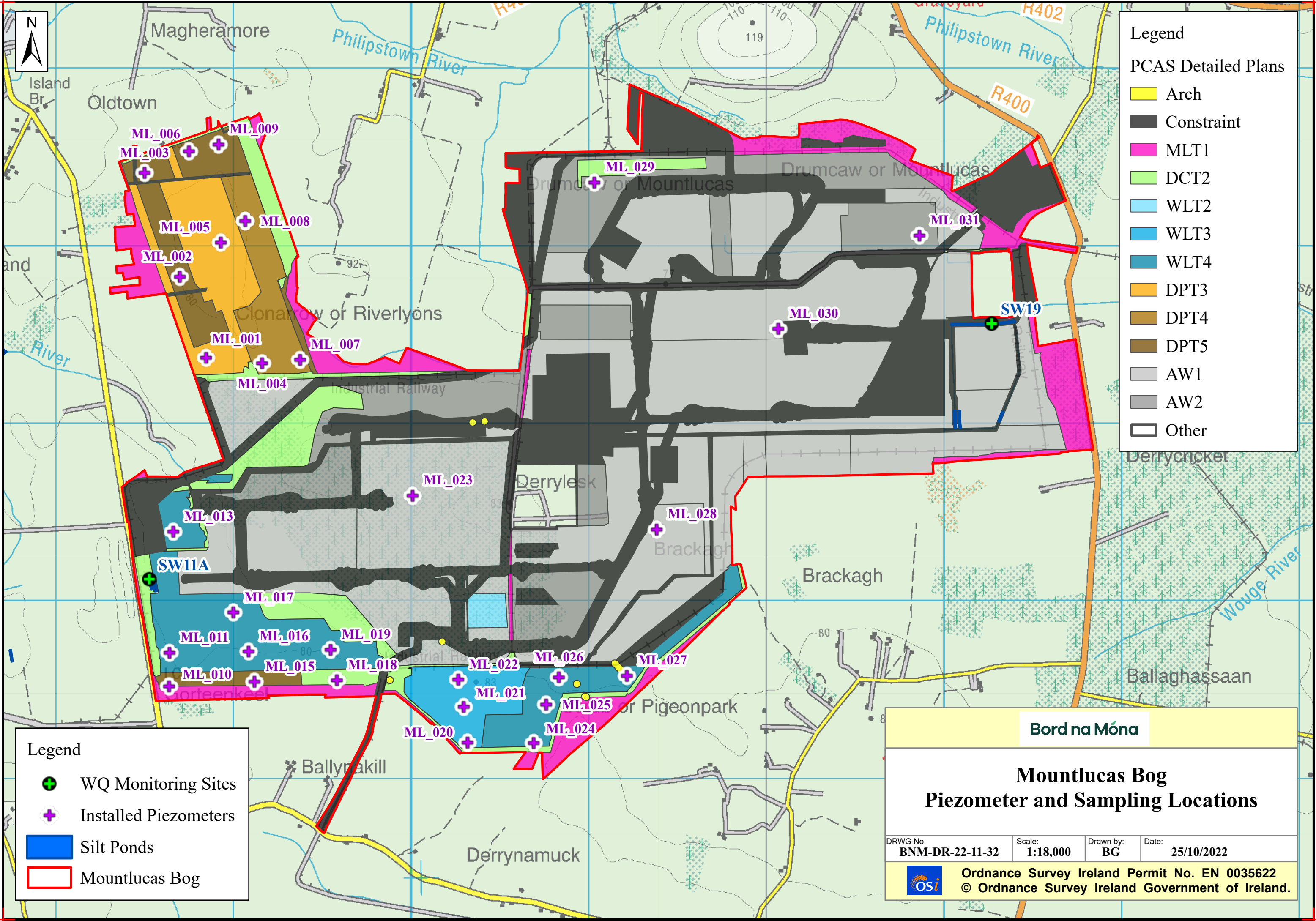
 BnM Boundary



DRWG No: <b>BNM-DR-11-ER-01</b>	Scale: <b>1:50,000</b>	Drawn by: <b>LB</b>	Date: <b>27/04/2021</b>
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**Legend**

PCAS Detailed Plans

- Arch
- Constraint
- MLT1
- DCT2
- WLT2
- WLT3
- WLT4
- DPT3
- DPT4
- DPT5
- AW1
- AW2
- Other

**Legend**

- WQ Monitoring Sites
- Installed Piezometers
- Silt Ponds
- Mountlucas Bog

**Bord na Móna**

**Mountlucas Bog  
Piezometer and Sampling Locations**

DRWG No. <b>BNM-DR-22-11-32</b>	Scale: <b>1:18,000</b>	Drawn by: <b>BG</b>	Date: <b>25/10/2022</b>
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**Ordnance Survey Ireland Permit No. EN 0035622**  
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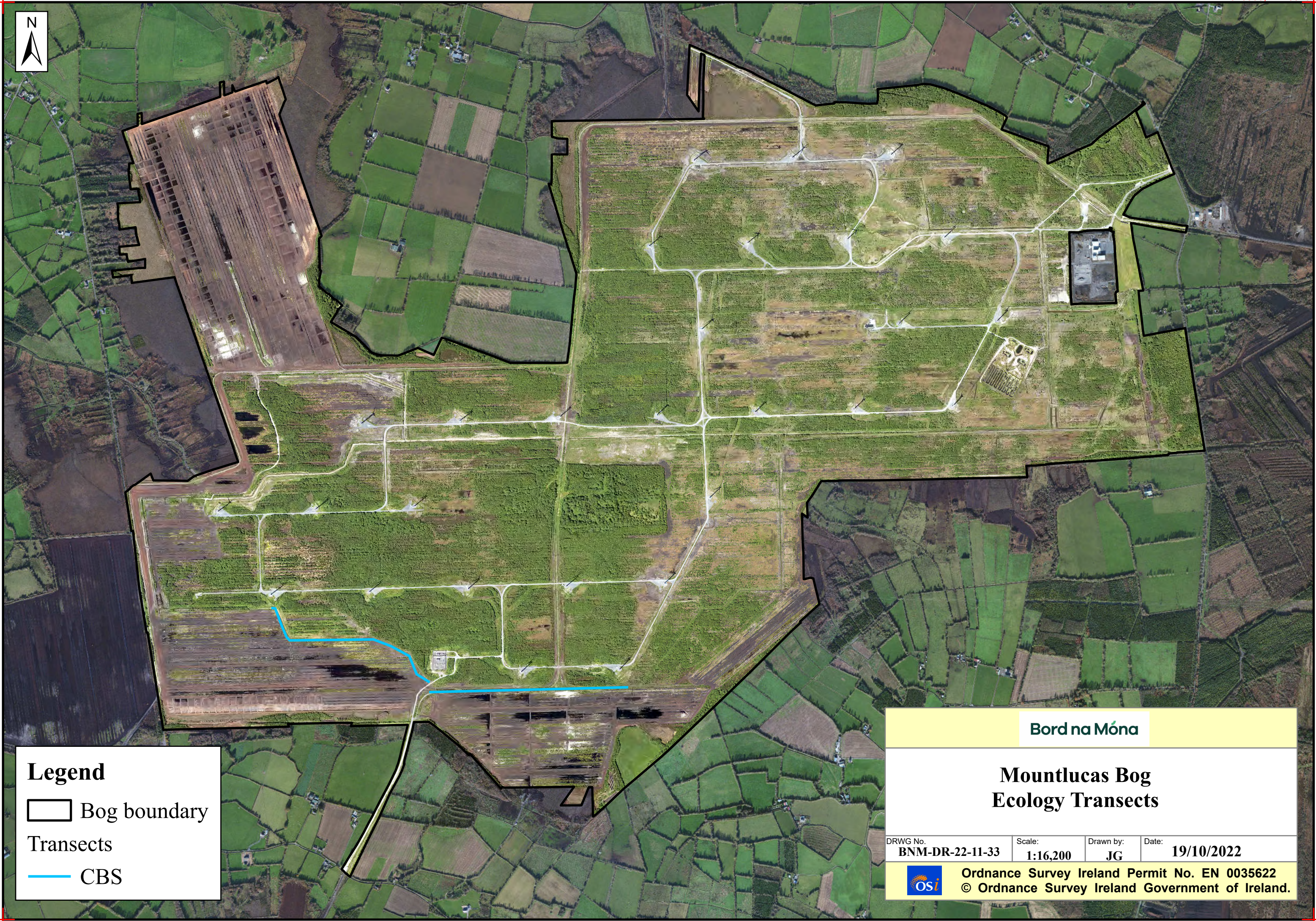
Appendix P1 - Mountlucas Bog - Hydrological Monitoring

Site Name	Well ID	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)
Mount Lucas	ML_001_S	25/05/2021 11:22	-20	04/08/2021 12:30	9999	08/02/2022 11:31	-34	14/09/2022 10:47	-52
Mount Lucas	ML_003_S	25/05/2021 11:38	-17	04/08/2021 12:57	-35	08/02/2022 11:47	0	N/A	N/A
Mount Lucas	ML_004_S	25/05/2021	9999	04/08/2021 12:22	9999	08/02/2022 12:39	13	N/A	N/A
Mount Lucas	ML_005_S	25/05/2021 12:09	-32	04/08/2021 12:57	-67	08/02/2022 12:18	20	14/09/2022 10:19	-9
Mount Lucas	ML_006_S	25/05/2021 11:45	-21	04/08/2021 13:09	9999	08/02/2022 11:56	22	N/A	N/A
Mount Lucas	ML_007_S	25/05/2021 12:21	-49	04/08/2021 13:41	-119	08/02/2022 12:31	14	14/09/2022 09:03	-16
Mount Lucas	ML_008_S	25/05/2021 12:01	-79	04/08/2021 13:28	-112	08/02/2022 12:10	-5	14/09/2022 09:30	-44
Mount Lucas	ML_009_S	25/05/2021	9999	04/08/2021 13:16	9999	08/02/2022 12:02	19	N/A	N/A
Mount Lucas	ML_010_S	25/05/2021 10:01	-32	04/08/2021 11:21	-74	08/02/2022 10:19	-18	14/09/2022 11:18	-41
Mount Lucas	ML_011_S	25/05/2021 10:08	-16	N/A	N/A	08/02/2022 10:30	-5	N/A	N/A
Mount Lucas	ML_013_S	25/05/2021 10:37	-26	04/08/2021 11:47	-58	08/02/2022 10:28	-7	14/09/2022 11:19	-27
Mount Lucas	ML_015_S	25/05/2021 09:54	-30	04/08/2021 10:49	-75	08/02/2022 10:17	-2	N/A	N/A
Mount Lucas	ML_016_S	25/05/2021 09:49	-19	04/08/2021 11:03	-29	08/02/2022 10:13	-1	14/09/2022 11:54	-3
Mount Lucas	ML_017_S	25/05/2021 09:42	-3	04/08/2021 11:00	-26	08/02/2022 10:07	12	14/09/2022 12:11	10
Mount Lucas	ML_018_S	25/05/2021 09:19	-55	04/08/2021 10:27	-80	08/02/2022 09:46	-8	14/09/2022 10:44	-29
Mount Lucas	ML_019_S	25/05/2021 09:24	-30	04/08/2021 10:41	-74	08/02/2022 09:47	8888	14/09/2022 12:31	-9
Mount Lucas	ML_020_S	25/05/2021 08:39	-24	04/08/2021 10:03	-46	08/02/2022 09:14	-27	N/A	N/A
Mount Lucas	ML_021_S	25/05/2021 08:49	-7	04/08/2021 09:59	-57	08/02/2022 09:21	-6	N/A	N/A
Mount Lucas	ML_022_S	25/05/2021 08:53	-22	04/08/2021 09:53	-56	08/02/2022 09:24	9999	14/09/2022 10:37	9999
Mount Lucas	ML_023_S	25/05/2021 12:07	-15	04/08/2021 09:26	-16	08/02/2022 10:09	5	14/09/2022 07:53	-11
Mount Lucas	ML_024_S	25/05/2021 08:35	-19	04/08/2021 09:52	-47	08/02/2022 09:11	8888	14/09/2022 10:09	0
Mount Lucas	ML_025_S	25/05/2021 08:27	-17	04/08/2021 09:48	-37	08/02/2022 09:02	-2	N/A	N/A
Mount Lucas	ML_026_S	25/05/2021 09:04	-30	04/08/2021 09:45	-68	08/02/2022 08:52	9999	N/A	N/A



Mount Lucas	ML_027_S	25/05/2021 08:20	-2	04/08/2021 10:04	-65	08/02/2022 08:54	-19	14/09/2022 09:40	-25
Mount Lucas	ML_028_S	25/05/2021 07:52	-9	04/08/2021 09:10	-55	08/02/2022 09:38	-6	14/09/2022 09:06	-17
Mount Lucas	ML_029_S	25/05/2021 07:36	-1	04/08/2021 08:56	-21	08/02/2022 09:26	1	14/09/2022 08:29	-3
Mount Lucas	ML_030_S	25/05/2021 07:23	-1	04/08/2021 08:42	-1	08/02/2022 08:59	21	N/A	N/A
Mount Lucas	ML_031_S	25/05/2021 07:16	-5	04/08/2021 08:32	48	08/02/2022 08:46	-3	N/A	N/A

\*Note 9999= well has been destroyed / 8888 = well was inaccessible at the time of the survey



**Legend**

 Bog boundary

Transects

 CBS

**Bord na Móna**

**Mountlucas Bog  
Ecology Transects**

DRWG No.  
**BNM-DR-22-11-33**

Scale:  
**1:16,200**

Drawn by:  
**JG**

Date:  
**19/10/2022**



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Appendix P3 - Mountlucas Bog - Surface Water Quality

	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids
SW Code - GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22	1/9/22
SW11A	2	6	2	2	2	4	2	2	2	3	2	2	2	2	2	2	4	6	8	6	2	12	4	3	2
SW19	3	3		2	2	3	2	4	2	2	2	2	2	2	16	2	2	8	14	4	4	7	3	3	2
Monthly Rainfall (mm)	68.3	131.8	87.7	89.3	126.9	80.3	80.9	25.5	107.4	17.4	74.9	142.1	58.1	97.7	41.6	128	47.6	131.8	46.2	48.7	53.4	100.6	31.6	35.2	104.1
Rehabilitation										18															

	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour
SW Code - GIS	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co
	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22	1/9/22
SW11A	82.2	269	151	95.8	118	142	86.6	84.9	83.1	96.8	70.4	93.5	63.3	124	175	124	155	167	205	108	124	107	157	89.2	124
SW19	78.2	88		106	104	119	107	10.6	146	132	119	108	94	74.3	94	72.3	98	188	251	141	147	122	154	77.2	62.7
Monthly Rainfall (mm)	68.3	131.8	87.7	89.3	126.9	80.3	80.9	25.5	107.4	17.4	74.9	142.1	58.1	97.7	41.6	128	47.6	131.8	46.2	48.7	53.4	100.6	31.6	35.2	104.1

	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD
SW Code - GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22	1/9/22
SW11A	32	46	47	37	45	39	36	34	26	37	29	52	33	48	64	44	61	49	44	37	48	17	53	37	27
SW19	46	47		46	51	44	50	47	39	52	40	52	42	44	52	44	55	63	45	44	49	14	51	29	23
Monthly Rainfall (mm)	68.3	131.8	87.7	89.3	126.9	80.3	80.9	25.5	107.4	17.4	74.9	142.1	58.1	97.7	41.6	128	47.6	131.8	46.2	48.7	53.4	100.6	31.6	35.2	104.1

	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH
SW Code - GIS	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units
	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22	1/9/22
SW11A	7.9	7.7	7.8	8	7.5	8.1	7.9	8	8	7.9	8	7.6	7.7	7.6	7.5	7.7	7.7	7.8	7.8	8	7.7	7.8	7.8	7.8	8
SW19	7.7	7.6		7.7	7.5	7.7	7.6	7.6	7.8	7.8	8	7.7	7.7	7.8	7.5	7.6	7.6	7.7	7.7	7.8	7.7	7.9	7.7	7.9	8
Monthly Rainfall (mm)	68.3	131.8	87.7	89.3	126.9	80.3	80.9	25.5	107.4	17.4	74.9	142.1	58.1	97.7	41.6	128	47.6	131.8	46.2	48.7	53.4	100.6	31.6	35.2	104.1
Rehabilitation										9															

	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P
SW Code - GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22	1/9/22
SW11A	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
SW19	0.05	0.05		0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Monthly Rainfall (mm)	68.3	131.8	87.7	89.3	126.9	80.3	80.9	25.5	107.4	17.4	74.9	142.1	58.1	97.7	41.6	128	47.6	131.8	46.2	48.7	53.4	100.6	31.6	35.2	104.1

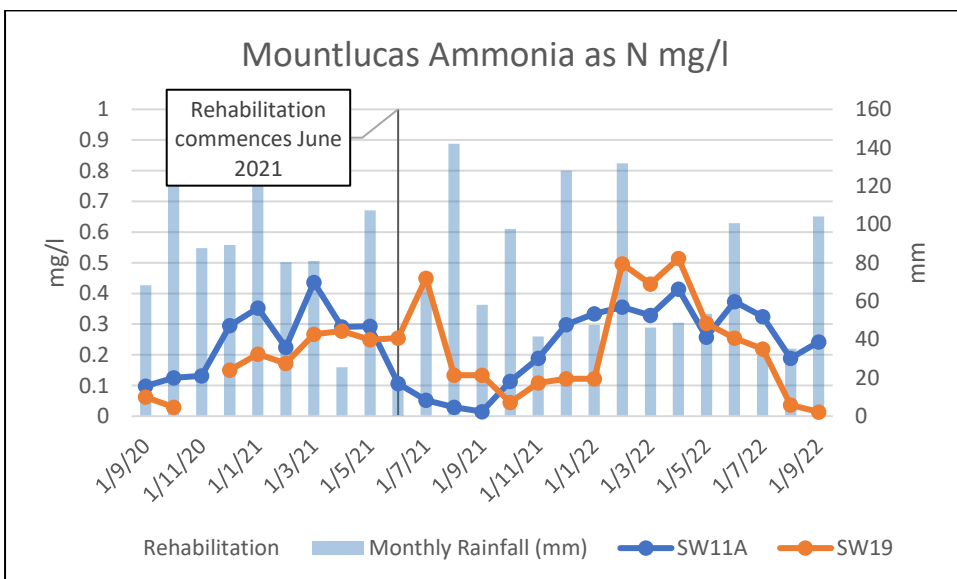
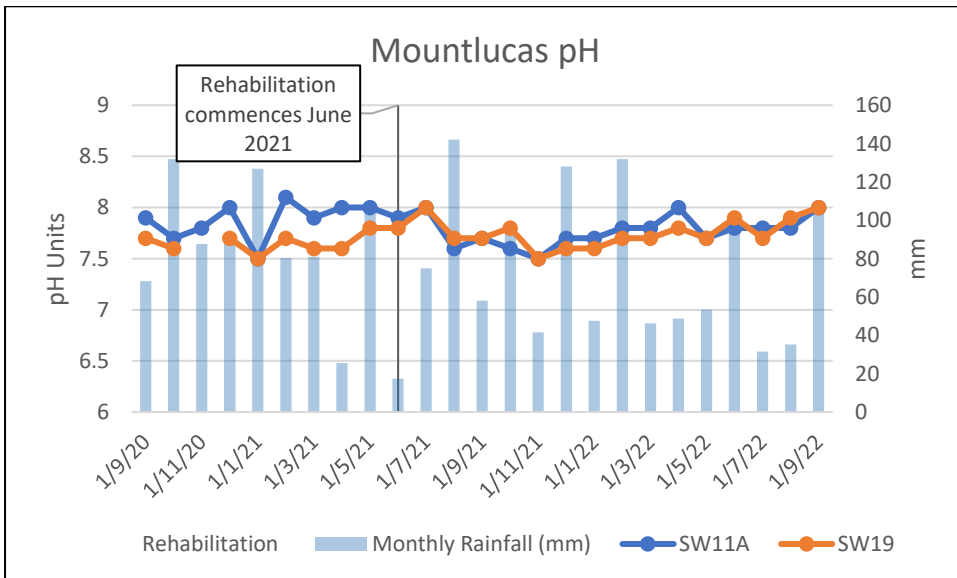
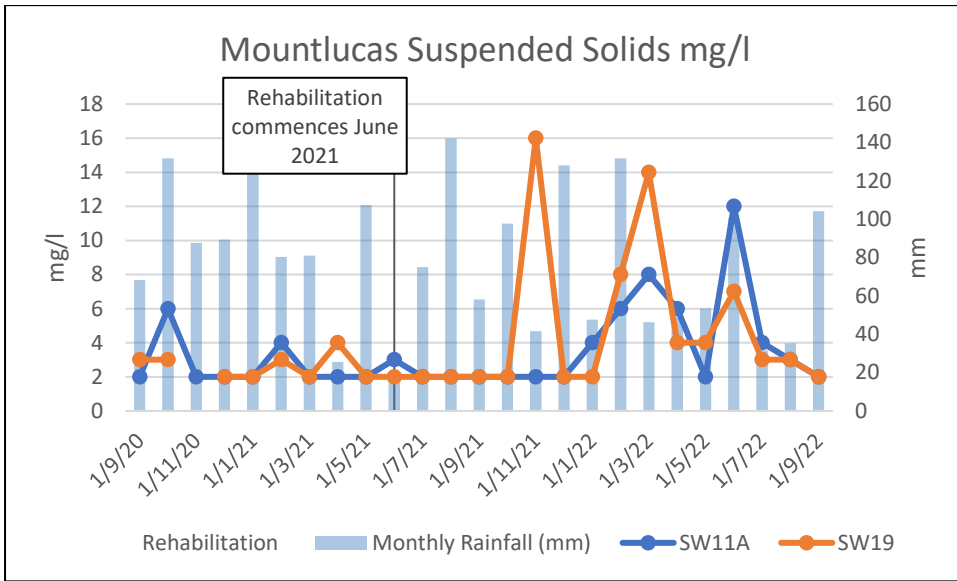
	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS
SW Code - GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22	1/9/22	
SW11A	438	408	327	395	189	308	421	399	412	447	410	358	468	423	399	345	362	269	395	414	354	433	445	396	328	
SW19	382	336		298	295	244	367	358	387	424	395	328	367	251	414	336	375	364	342	409	364	446	390	435	375	
Monthly Rainfall (mm)	68.3	131.8	87.7	89.3	126.9	80.3	80.9	25.5	107.4	17.4	74.9	142.1	58.1	97.7	41.6	128	47.6	131.8	46.2	48.7	53.4	100.6	31.6	35.2	104.1	

	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N
SW Code - GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22	1/9/22
SW11A	0.098	0.125	0.131	0.295	0.353	0.224	0.436	0.291	0.293	0.106	0.052	0.029	0.015	0.114	0.189	0.298	0.334	0.356	0.329	0.414	0.258	0.374	0.324	0.189	0.242
SW19	0.063	0.029		0.15	0.202	0.172	0.267	0.278	0.249	0.255	0.45	0.133	0.133	0.045	0.108	0.122	0.122	0.497	0.431	0.514	0.303	0.255	0.219	0.036	0.014
Monthly Rainfall (mm)	68.3	131.8	87.7	89.3	126.9	80.3	80.9	25.5	107.4	17.4	74.9	142.1	58.1	97.7	41.6	128	47.6	131.8	46.2	48.7	53.4	100.6	31.6	35.2	104.1
Rehabilitation										1															

	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC
SW Code - GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22	1/9/22
SW11A	13.6	18.2	19.2	14.6	16.3	16.1	12	12.2	13.6	13.5	11.1	58.8	65.7	19.4	24	18.2	20.7	18.3	18.3	14.3	16.8	14.6	18	14.2	18.4
SW19	17.7	20.1		20	19.3	19.8	16.6	17	20.6	19.1	15.3	57.4	75.2	18.3	20.1	19.3	20.5	34	20.6	15	18.5	14.4	17.8	12.4	11.4
Monthly Rainfall (mm)	68.3	131.8	87.7	89.3	126.9	80.3	80.9	25.5	107.4	17.4	74.9	142.1	58.1	97.7	41.6	128	47.6	131.8	46.2	48.7	53.4	100.6	31.6	35.2	104.1

No results available during times of the year when Rivers are in flood or during extended dry spells.

## Mountlucas Trend Graphs



## **Appendix Q: Ummeras Bog**

### Appendix Q0 - Ummeras Bog - Maps

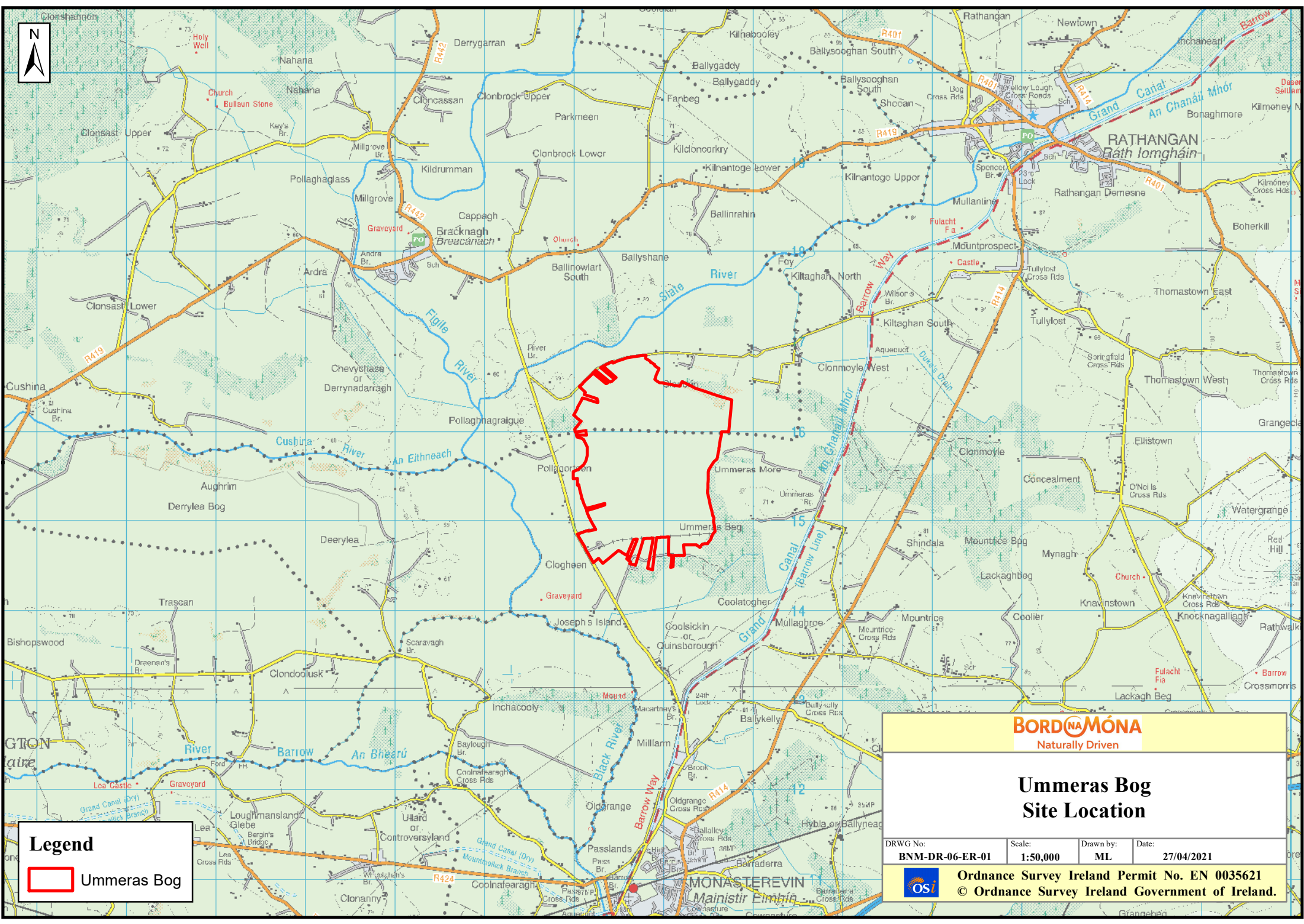
- Ummeras Bog Site Location: DRWG No. BNM-DR-11-ER-01
- Ummeras Bog Piezometer and Sampling Locations: DRWG No. BNM-DR-06-ER-32

### Appendix Q1 – Ummeras Bog - Hydrological Monitoring


### Appendix Q2 – Ummeras Bog – Biodiversity (including Drawings)

- DWG No. BNM-DR-22-06-33: Ummeras Bog – Ecology Transects

### Appendix Q3 – Ummeras Bog - Surface Water Quality




**Legend**

 Ummeras Bog

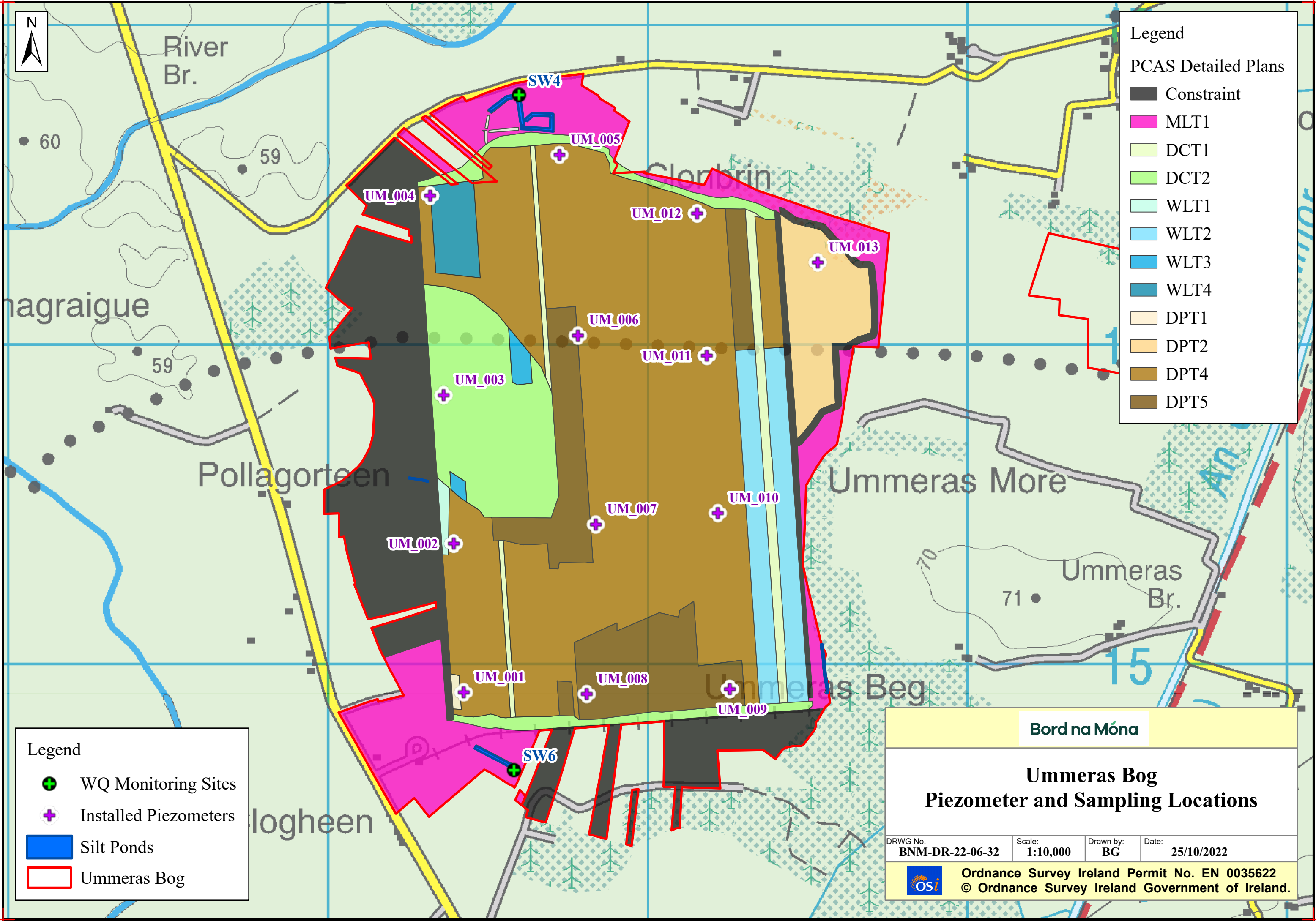
**BORD NA MÓNA**  
Naturally Driven

**Ummeras Bog  
Site Location**

DRWG No:	Scale:	Drawn by:	Date:
<b>BNM-DR-06-ER-01</b>	<b>1:50,000</b>	<b>ML</b>	<b>27/04/2021</b>

 **Ordnance Survey Ireland Permit No. EN 0035621**  
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**Legend**

PCAS Detailed Plans

- Constraint
- MLT1
- DCT1
- DCT2
- WLT1
- WLT2
- WLT3
- WLT4
- DPT1
- DPT2
- DPT4
- DPT5

**Legend**

- ⊕ WQ Monitoring Sites
- ⊕ Installed Piezometers
- Silt Ponds
- Ummeras Bog

**Bord na Móna**

**Ummeras Bog**  
**Piezometer and Sampling Locations**

DRWG No. BNM-DR-22-06-32	Scale: 1:10,000	Drawn by: BG	Date: 25/10/2022
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Appendix Q1 - Ummeras Bog - Hydrological Monitoring

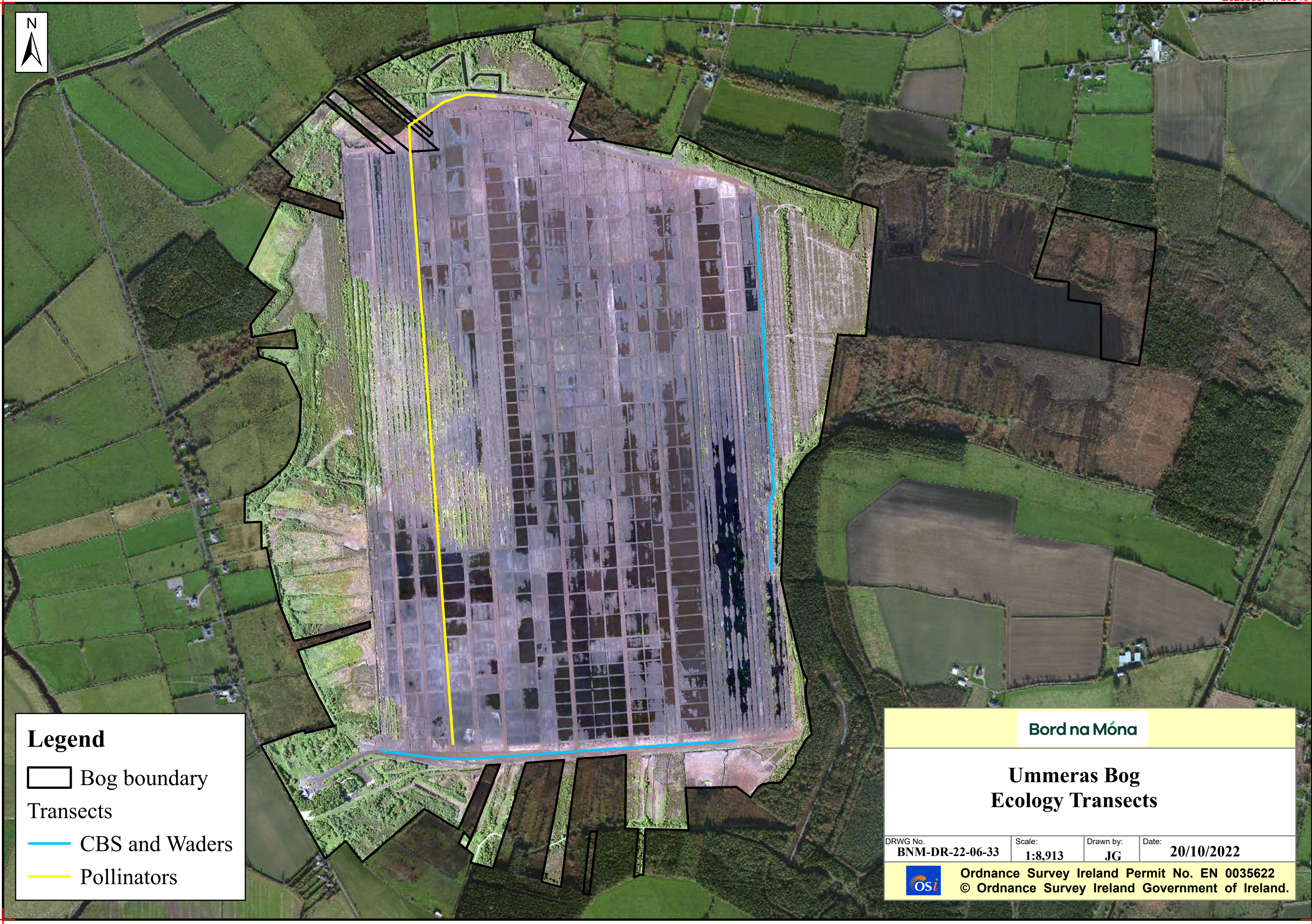
Site Name	Well ID	S/D	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)
Ummeras	UM_013_S	S	20/04/2021 15:50	-64	20/07/2021 12:16	-80	13/01/2022 11:21	-42	02/09/2022 12:58	-78
Ummeras	UM_003_S	S	20/04/2021 13:21	-55	20/07/2021 10:02	-63	13/01/2022 10:22	-1	02/09/2022 12:47	-64
Ummeras	UM_011_S	S	20/04/2021 15:20	-57	20/07/2021 11:53	-74	13/01/2022 10:32	-7	02/09/2022 13:38	-62
Ummeras	UM_005_S	S	20/04/2021 13:51	-64	20/07/2021 10:41	-65	13/01/2022 11:26	-21	02/09/2022 13:33	-53
Ummeras	UM_009_S	S	20/04/2021 14:54	-49	20/07/2021 11:23	-63	12/01/2022 15:20	28	02/09/2022 13:58	-32
Ummeras	UM_004_S	S	20/04/2021 13:38	-51	20/07/2021 10:27	-22	13/01/2022 10:51	-41	02/09/2022 13:15	9999
Ummeras	UM_001_S	S	20/04/2021 13:02	-60	20/07/2021 09:38	-79	13/01/2022 10:02	-41	N/A	N/A
Ummeras	UM_002_S	S	20/04/2021 13:12	-24	20/07/2021 09:54	-33	13/01/2022 10:11	-29	N/A	N/A
Ummeras	UM_006_S	S	20/04/2021 14:18	-78	20/07/2021 10:55	-81	13/01/2022 11:54	-39	N/A	N/A
Ummeras	UM_007_S	S	20/04/2021 14:28	-33	20/07/2021 11:04	-36	13/01/2022 12:03	16	N/A	N/A
Ummeras	UM_008_S	S	20/04/2021 14:42	-54	20/07/2021 11:13	-43	13/01/2022 10:07	0	N/A	N/A
Ummeras	UM_010_S	S	20/04/2021 15:09	-54	20/07/2021 11:38	-62	13/01/2022 10:24	9999	N/A	N/A
Ummeras	UM_012_S	S	20/04/2021 15:39	-85	20/07/2021 12:07	-89	13/01/2022 11:23	9999	N/A	N/A

\*Note 9999= well has been destroyed / 8888 = well was inaccessible at the time of the survey

Appendix Q2 - Ummeras Bog - Biodiversity

Table 1: Ummeras Quadrat Data

<b>Name</b>	Ummeras	Ummeras	Ummeras	Ummeras	Ummeras
<b>Surveyor</b>	DMcN	DMcN	DMcN	DMcN	DMcN
<b>Survey Date</b>	10/06/2021	10/06/2021	16/06/2021	10/06/2021	10/06/2021
<b>Quadrat</b>	1	2	3	4	5
<b>BnM_CutHab</b>					
<b>Current Habitat Description</b>	cutover bog	cutover bog	cutover bog	Bog remnant	cutover bog
<b>Sphagnum Cover</b>	0%	0%	Not Observed	04-10%	Not Observed
<b>Bare Peat</b>	91-100%	91-100%	91-100%	04-10%	76-90%
<b>Vegetation Height</b>				30	
<b>Betul pubec</b>	Not Observed	Not Observed	Not Observed	<4% (few individuals)	Not Observed
<b>Callu vulga</b>	Not Observed	Not Observed	Not Observed	76-90%	Not Observed
<b>Clado porte</b>	Not Observed	Not Observed	Not Observed	<4% (few individuals)	Not Observed
<b>Dacty glome</b>	Not Observed	Not Observed	Not Observed	Not Observed	Not Observed
<b>Eriop angus</b>	<4% (few individuals)	Not Observed	Not Observed	<4% (several individuals)	11-25%
<b>Eriop vagin</b>	Not Observed	<4% (few individuals)	Not Observed	Not Observed	11-25%
<b>Holcu lanat</b>	Not Observed	Not Observed	Not Observed	Not Observed	Not Observed
<b>Hypnu jutla</b>	Not Observed	Not Observed	Not Observed	11-25%	Not Observed
<b>Rhynch alba</b>	Not Observed	Not Observed	Not Observed	Not Observed	Not Observed
<b>Sphag capil</b>	Not Observed	Not Observed	Not Observed	Not Observed	Not Observed
<b>Sphag papil</b>	Not Observed	Not Observed	Not Observed	Not Observed	Not Observed
<b>Typha latif</b>	<4% (few individuals)	<4% (few individuals)	Not Observed	Not Observed	Not Observed
<b>Juncus bulbosus</b>	<4% (few individuals)	<4% (few individuals)	Not Observed		Not Observed
<b>Cladonia floerkeana</b>	Not Observed	Not Observed	Not Observed	<4% (few individuals)	Not Observed
<b>Note</b>		Bare peat dominated	2 Conifer seedlings Some <i>Eriophorum angustifolium</i> outside south of quadrat	Very dry, <i>Calluna vulgaris</i> dominated high bog <i>Sphagnum capilifolium</i> observe in wider area	



**Legend**

 Bog boundary

Transects

 CBS and Waders

 Pollinators

**Bord na Móna**

**Ummeras Bog  
Ecology Transects**

DRWG No. <b>BNM-DR-22-06-33</b>	Scale: <b>1:8,913</b>	Drawn by: <b>JG</b>	Date: <b>20/10/2022</b>
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Appendix Q3 - Ummeras Bog - Surface Water Quality

	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	
<b>SW Code -GIS</b>	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	
	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22	1/9/22	
<b>SW4</b>	3	2	2	5	3	2	2	2	13	2	2	5	3	5	2	2	3	18	3	16	2	2	3	2	
SW6	2	2	2	2	2	2	2	10	2	2	13	3	2	2	2	2	2	4	3	16	5	2	3	2	
Monthly rainfall (mm)	131.8	87.7	89.3	126.9	80.3	80.9	25.5	107.4	17.4	74.9	142.1	58.1	97.7	41.6	128	47.6	131.8	8	46.2	48.7	53.4	100.6	31.6	35.2	104.1
Rehabilitation										20															

	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	
<b>SW Code -GIS</b>	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	
	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22	1/9/22	
<b>SW4</b>	417	418	290	384	354	271	233	373	303	248	361	244	292	279	197	268	294	685	248	526	193	231	184	332	
SW6	477	447	444	489	470	436	330	524	381	237	266	175	234	414	351	495	496	487	305	326	252	207	183	164	
Monthly rainfall (mm)	131.8	87.7	89.3	126.9	80.3	80.9	25.5	107.4	17.4	74.9	142.1	58.1	97.7	41.6	128	47.6	131.8	8	46.2	48.7	53.4	100.6	31.6	35.2	104.1

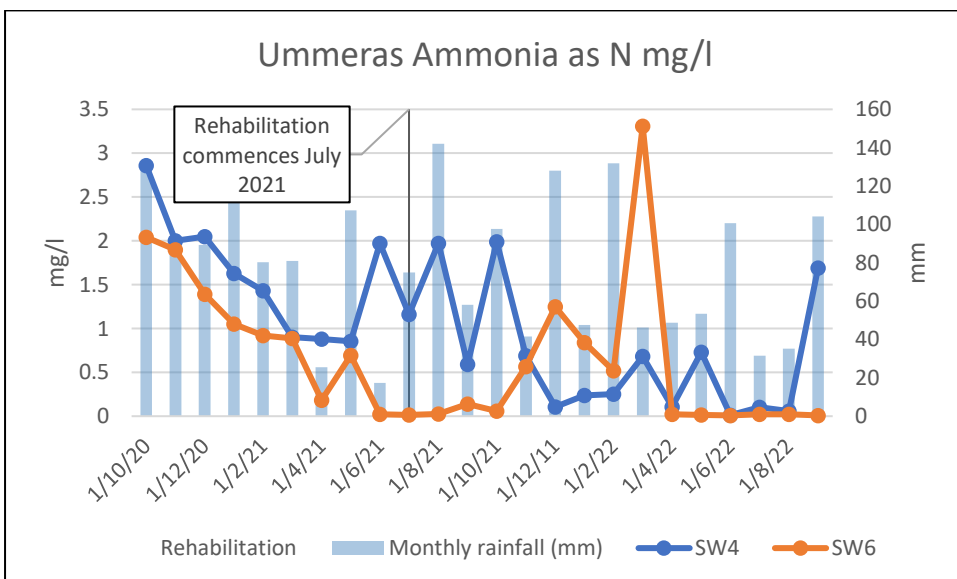
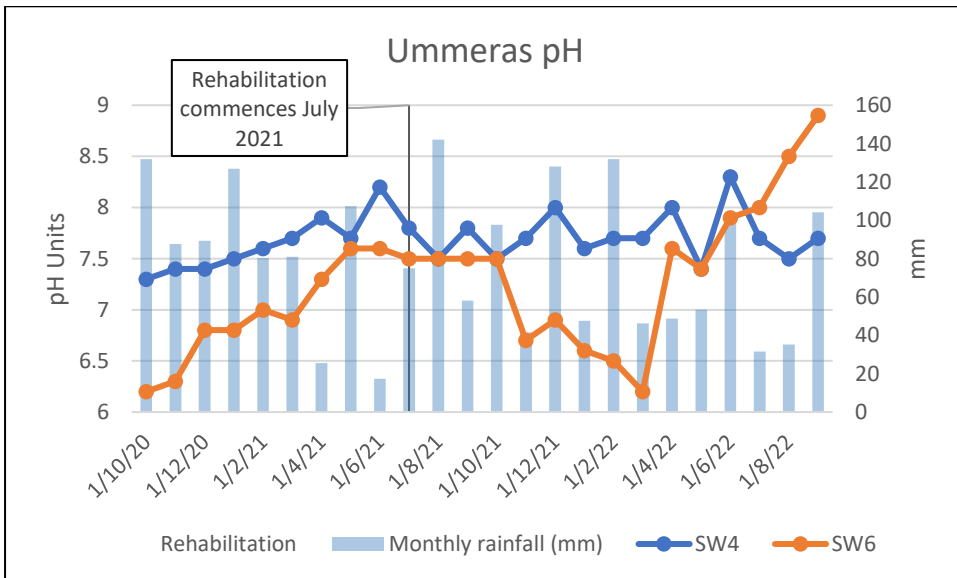
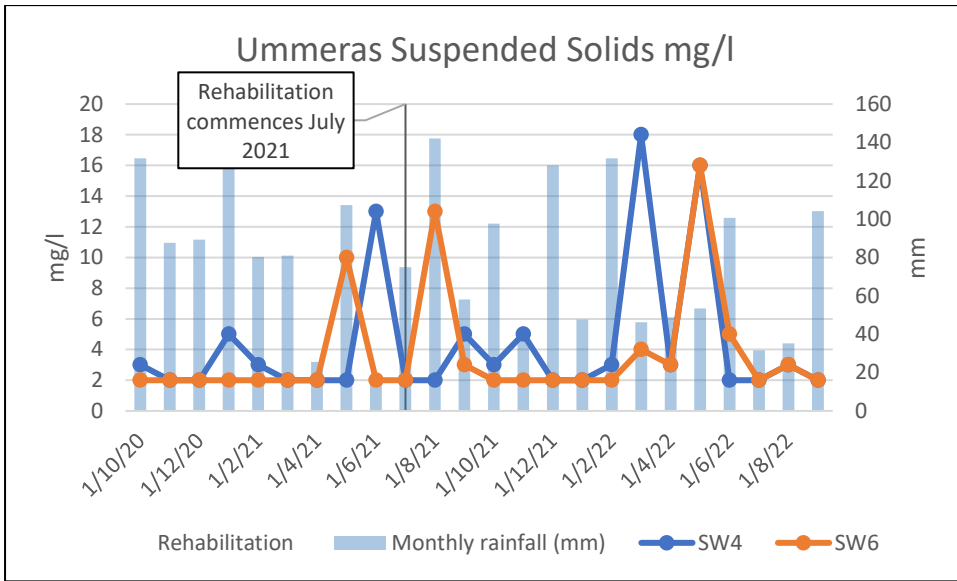
	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	
<b>SW Code -GIS</b>	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	
	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22	1/9/22	
<b>SW4</b>	94	91	81	83	75	67	65	94	101	84	94	56	95	77	62	88	75	104	76	102	78	83	84	102	
SW6	115	90	106	94	87	87	87	105	125	113	93	41	97	114	95	147	135	88	107	125	102	91	93	85	
Monthly rainfall (mm)	131.8	87.7	89.3	126.9	80.3	80.9	25.5	107.4	17.4	74.9	142.1	58.1	97.7	41.6	128	47.6	131.8	8	46.2	48.7	53.4	100.6	31.6	35.2	104.1



	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/10/ 20	1/11/ 20	1/12/ 20	1/1/ 21	1/2/ 21	1/3/ 21	1/4/ 21	1/5/ 21	1/6/ 21	1/7/ 21	1/8/ 21	1/9/ 21	1/10/ 21	1/11/ 21	1/12/ 21	1/1/ 22	1/2/ 22	1/3/ 22	1/4/ 22	1/5/ 22	1/6/ 22	1/7/ 22	1/8/ 22	1/9/ 22
<b>SW4</b>	38	33.2	27.8	33	30.3	23.6	24.5	34.2	33.7	28.9	57.4	33.5	34.4	30.1	27.2	32.3	27.7	28.5	31.8	31.4	31.4	30.6	30.6	36.4
SW6	46.6	39.2	41.4	36.5	35.5	35.6	34.6	37.4	49.1	38.6	72.3	32.3	34.7	44.4	40.5	56.7	52.4	27.4	47.9	43.8	40.1	35.8	35.8	33.4
Monthly rainfall (mm)	131.8	87.7	89.3	126. 9	80.3	80.9	25.5	107. 4	17.4	74.9	142. 1	58.1	97.7	41.6	128	47.6	131. 8	46.2	48.7	53.4	100. 6	31.6	35.2	104. 1

Blank spaces - No results available during times of the year when rivers are in flood or during extended dry spells

## Ummeras Trend Graphs





## **Appendix R: Derrycashel Bog**

### Appendix R0 - Derrycashel Bog - Maps

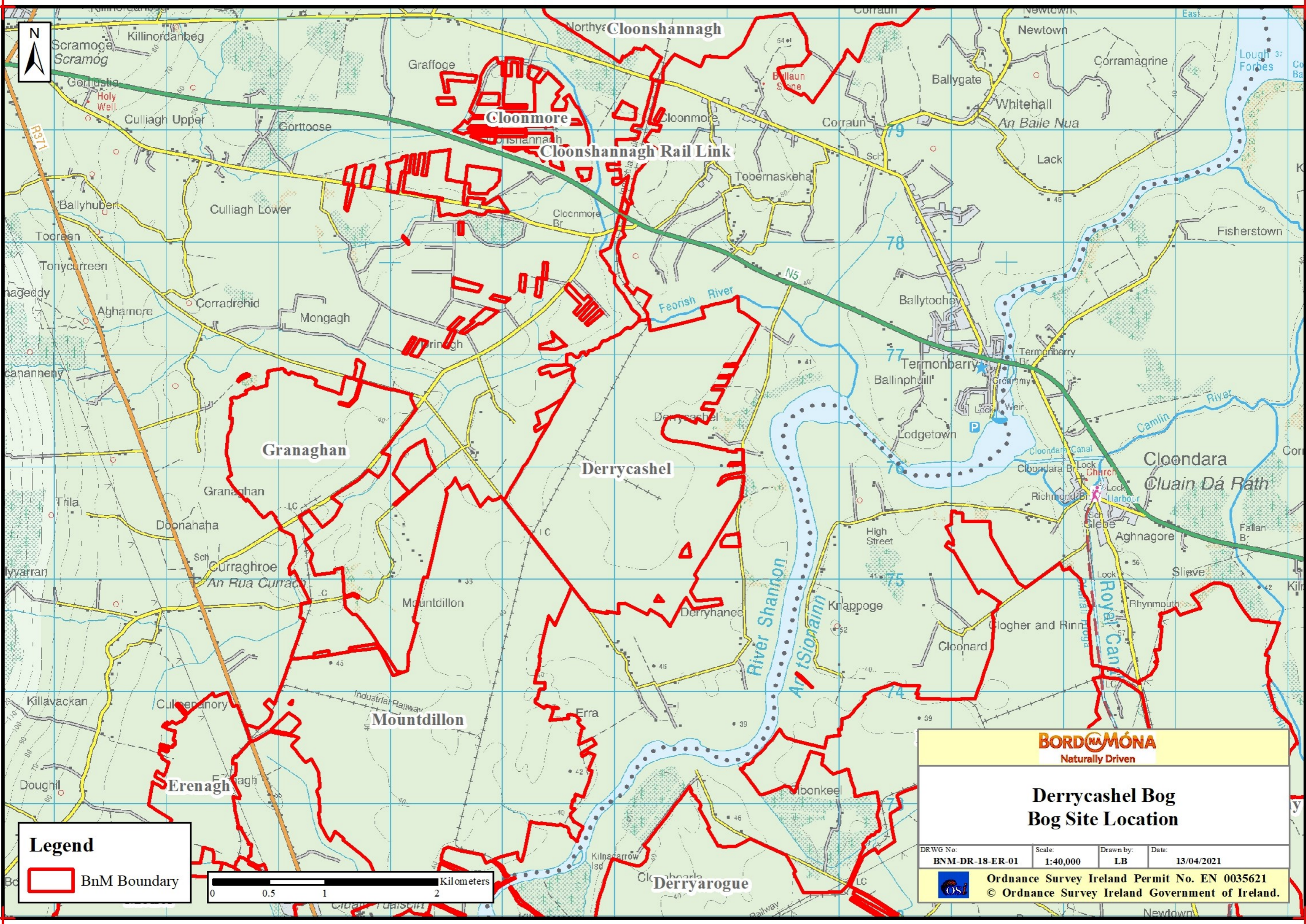
- Derrycashel Bog Site Location: DRWG No. BNM-DR-18-ER-01
- Derrycashel Bog Piezometer and Sampling Locations: DRWG No. BNM-DR-22-18-32

### Appendix R1 – Derrycashel Bog - Hydrological Monitoring

### Appendix R2 – Derrycashel Bog – Biodiversity (including Drawings)

- DWG No. BNM-DR-22-18-33: Derrycashel Bog – Ecology Transects

### Appendix R3 – Derrycashel Bog - Surface Water Quality



**Legend**

 BnM Boundary



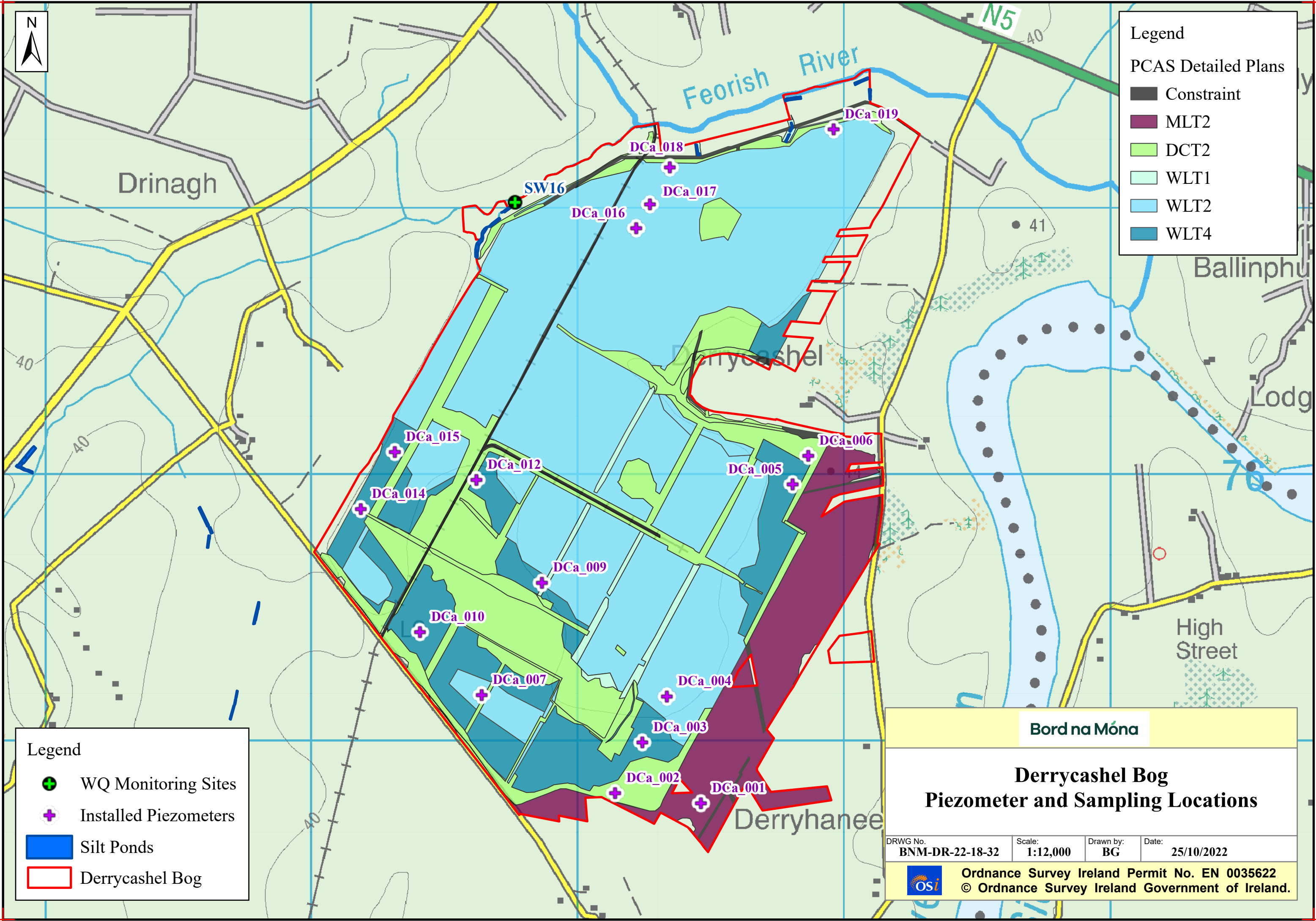
**BORD NA MÓNA**  
Naturally Driven

**Derrycashel Bog  
Bog Site Location**

DRWG No: **BNM-DR-18-ER-01** Scale: **1:40,000** Drawn by: **LB** Date: **13/04/2021**



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**Legend**

PCAS Detailed Plans

- Constraint
- MLT2
- DCT2
- WLT1
- WLT2
- WLT4

**Legend**

- ⊕ WQ Monitoring Sites
- ⊕ Installed Piezometers
- Silt Ponds
- Derrycashel Bog

**Bord na Móna**

**Derrycashel Bog**  
**Piezometer and Sampling Locations**

DRWG No. BNM-DR-22-18-32	Scale: 1:12,000	Drawn by: BG	Date: 25/10/2022
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**Legend**

 Bog boundary

Transects

 CBS

**Bord na Móna**

**Derrycashel Bog  
Ecology Transects**

DRWG No.  
**BNM-DR-22-18-33**

Scale:  
**1:11,281**

Drawn by:  
**JG**

Date:  
**19/10/2022**



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Appendix R1 - Derrycashel Bog - Hydrological Monitoring

Site Name	Well ID	S/D	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)
Derrycashel	DCa_009_S	S	24/05/2021 13:40	-54	05/08/2021 11:31	-40	07/02/2022 09:16	-8	01/08/2022 13:37	-41
Derrycashel	DCa_003_S	S	24/05/2021 12:11	-35	05/08/2021 12:22	-11	07/02/2022 11:35	-1	01/08/2022 14:13	-15
Derrycashel	DCa_006_S	S	24/05/2021 11:24	-16	05/08/2021 12:42	-22	07/02/2022 10:32	3	01/08/2022 15:13	-15
Derrycashel	DCa_001_S	S	24/05/2021 11:54	0	05/08/2021 13:07	-7	07/02/2022 11:10	-1	01/08/2022 14:46	-6
Derrycashel	DCa_010_S	S	24/05/2021 12:49	-2	05/08/2021 09:38	-2	07/02/2022 10:41	5	01/08/2022 12:38	-3
Derrycashel	DCa_019_S	S	24/05/2021 10:15	-10	05/08/2021 10:54	-7	07/02/2022 09:11	-2	01/08/2022 15:35	-3
Derrycashel	DCa_017_S	S	24/05/2021 10:37	-1	05/08/2021 10:34	-7	07/02/2022 09:53	30	01/08/2022 15:48	-2
Derrycashel	DCa_015_S	S	24/05/2021 13:07	-18	05/08/2021 10:07	-22	07/02/2022 10:02	-22	01/08/2022 13:12	9999
Derrycashel	DCa_002_S	S	24/05/2021 11:44	-55	05/08/2021 12:18	-8	07/02/2022 11:31	-3	N/A	N/A
Derrycashel	DCa_004_S	S	24/05/2021 12:05	-15	05/08/2021 12:30	-12	07/02/2022 11:49	-6	N/A	N/A
Derrycashel	DCa_005_S	S	24/05/2021 11:18	-68	05/08/2021 12:40	-18	07/02/2022 10:31	-4	N/A	N/A
Derrycashel	DCa_007_S	S	24/05/2021 13:50	-10	05/08/2021 11:39	-12	07/02/2022 09:07	8888	N/A	N/A
Derrycashel	Dca_012_S	S	24/05/2021 13:27	-32	05/08/2021 11:18	-34	07/02/2022 09:54	-8	N/A	N/A
Derrycashel	DCa_014_S	S	24/05/2021 13:01	-84	05/08/2021 10:00	-61	07/02/2022 10:29	-24	N/A	N/A
Derrycashel	DCa_016_S	S	24/05/2021 10:46	-2	05/08/2021 10:43	-6	07/02/2022 09:54	8888	N/A	N/A
Derrycashel	DCa_018_S	S	24/05/2021 10:29	1	05/08/2021 10:31	-12	07/02/2022 09:32	45	N/A	N/A

\*Note 9999= well has been destroyed / 8888 = well was inaccessible at the time of the survey



	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	
	1/8/20	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22	
SW16									0.05	0.05	0.07	0.14	0.11	0.24	0.05							0.05	0.05	0.06	0.05	0.07
Monthly Rainfall (mm)	112.7	73.8	159.7	110.2	116.8	129	88.3	102	24.2	105.1	25.7	57.8	96.9	78	143	49.6	116.4	52.4	140	33.5	59.4	76.9	103.7	33.7	66.3	

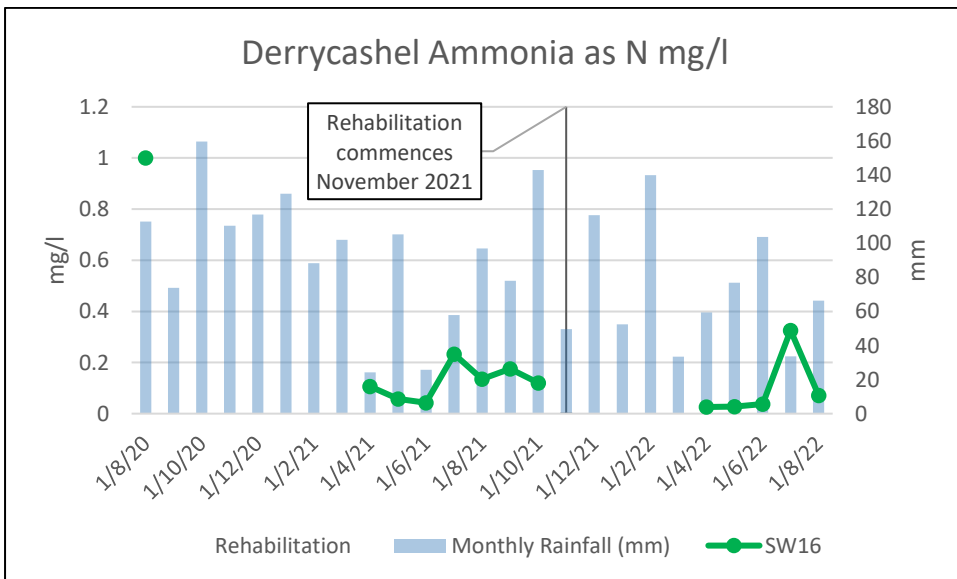
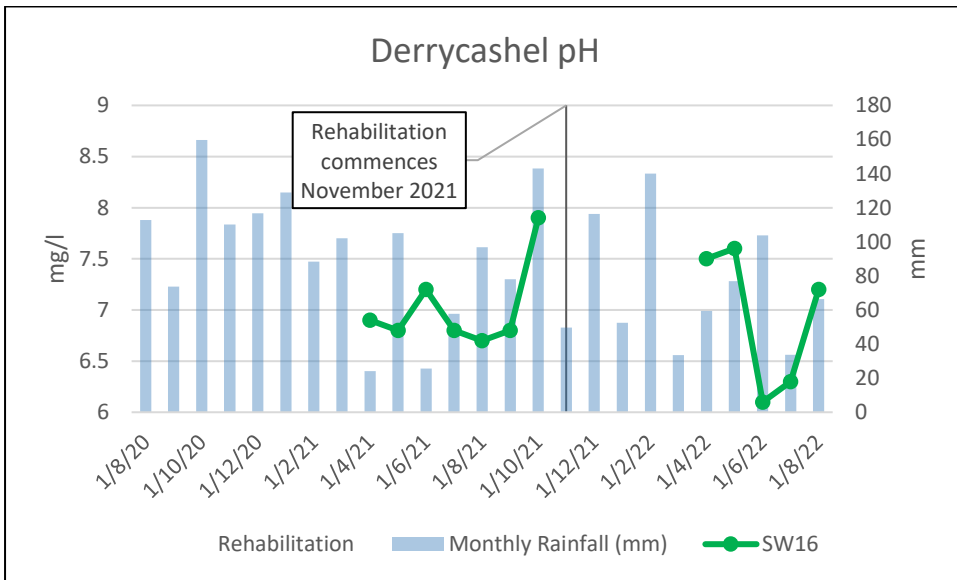
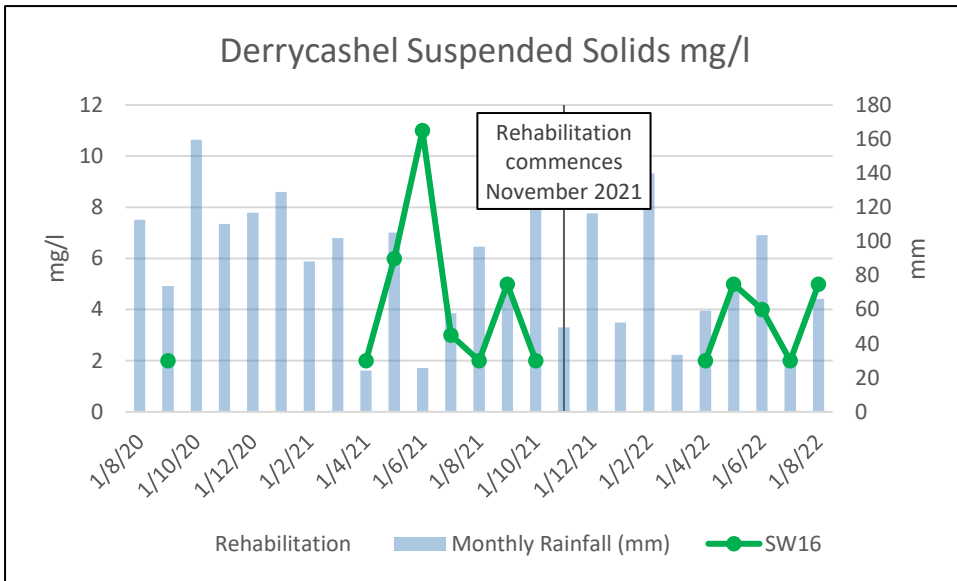
	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	
	1/8/20	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22	
SW16									147	121	175	209	208	205	324							271	249	119	191	161
Monthly Rainfall (mm)	112.7	73.8	159.7	110.2	116.8	129	88.3	102	24.2	105.1	25.7	57.8	96.9	78	143	49.6	116.4	52.4	140	33.5	59.4	76.9	103.7	33.7	66.3	

	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	
	1/8/20	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22	
SW16	1								0.107	0.058	0.042	0.233	0.135	0.175	0.12							0.026	0.027	0.037	0.326	0.071
Monthly Rainfall (mm)	112.7	73.8	159.7	110.2	116.8	129	88.3	102	24.2	105.1	25.7	57.8	96.9	78	143	49.6	116.4	52.4	140	33.5	59.4	76.9	103.7	33.7	66.3	
Rehabilitation																1.2										

	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	
	1/8/20	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22	
SW16									21.52	22	22.6	25.3	42.5	41.9	19.1							26.1	28.5	26.6	30.8	33
Monthly Rainfall (mm)	112.7	73.8	159.7	110.2	116.8	129	88.3	102	24.2	105.1	25.7	57.8	96.9	78	143	49.6	116.4	52.4	140	33.5	59.4	76.9	103.7	33.7	66.3	

Blank spaces - No results available during times of the year when rivers are in flood or during extended dry spells

## Derrycashel Trend Graphs





## **Appendix S: Derrycolumb Bog**

Appendix S0 - Derrycolumb Bog - Maps

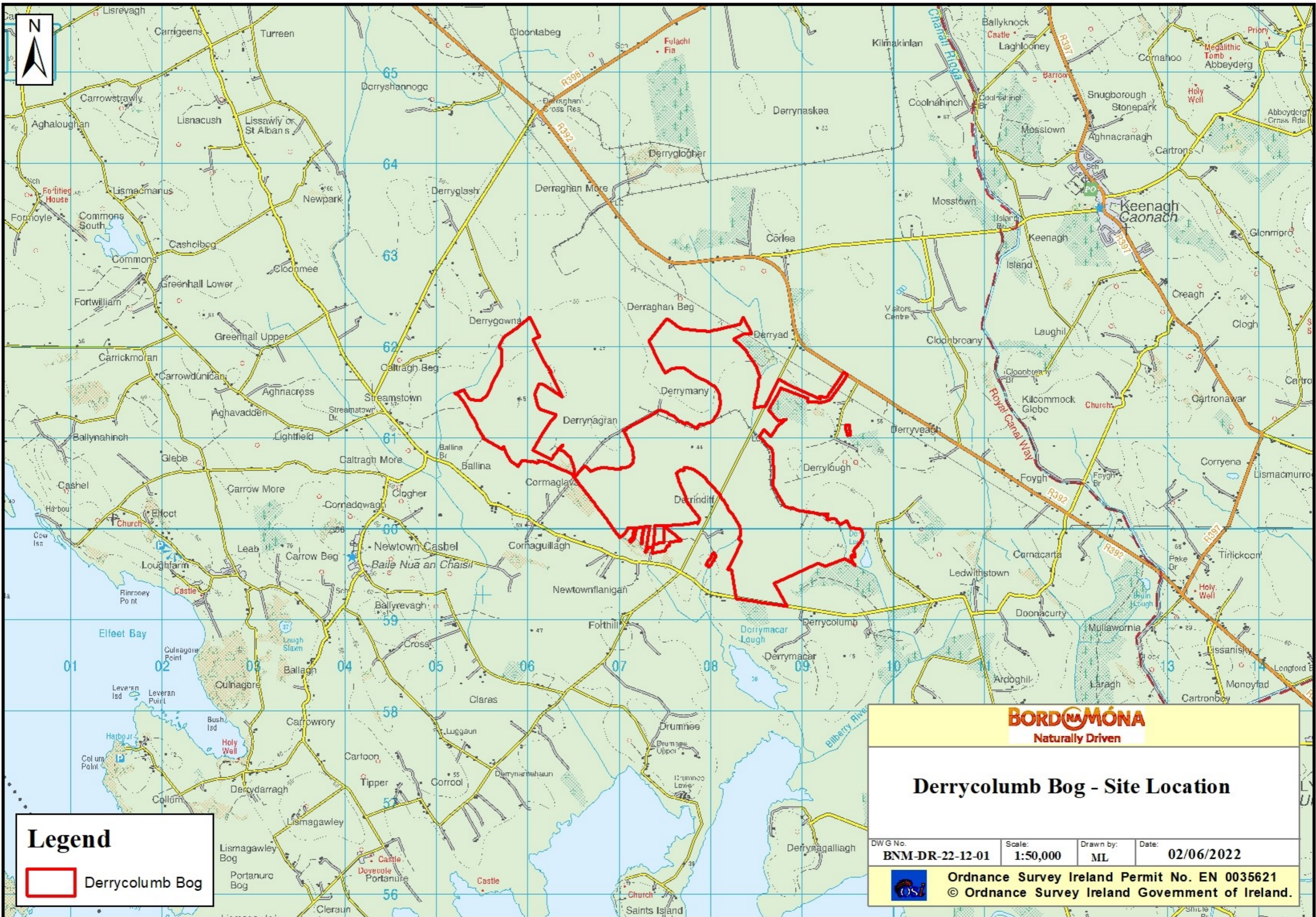
- Derrycolumb Bog Site Location: DRWG No. BNM-DR-22-12-01
- Derrycolumb Bog Piezometer and Sampling Locations: DRWG No. BNM-DR-22-12-32

Appendix S1 – Derrycolumb Bog - Hydrological Monitoring

Appendix S2 – Derrycolumb Bog – Biodiversity (including Drawings)

- DWG No. BNM-DR-12-13-33: Derrycolumb Bog – Ecology Transects

Appendix S3 – Derrycolumb Bog - Surface Water Quality



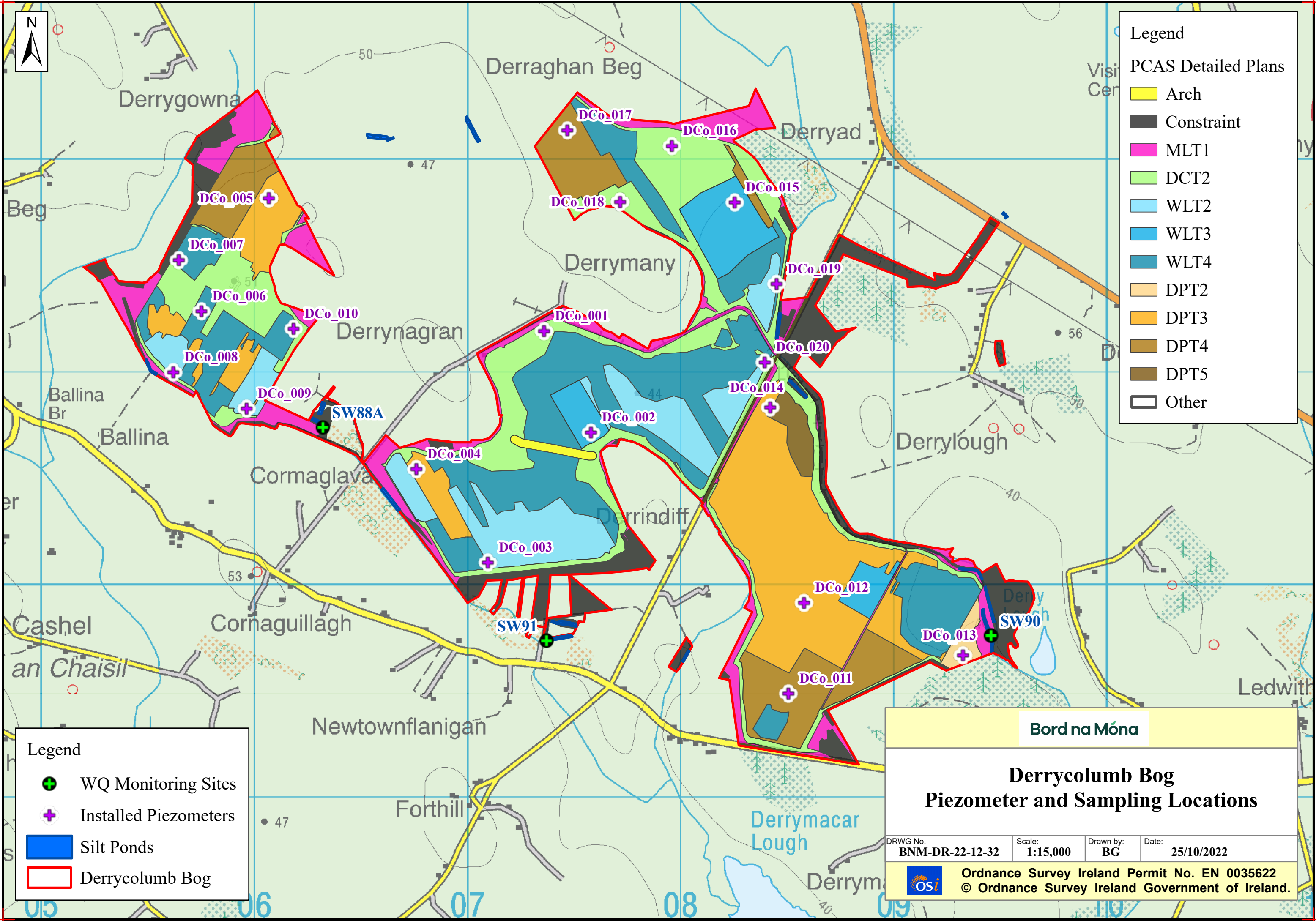
**Legend**

Derrycolumb Bog

**BORD NA MÓNA**  
Naturally Driven

**Derrycolumb Bog - Site Location**

DWG No. <b>BNM-DR-22-12-01</b>	Scale: <b>1:50,000</b>	Drawn by: <b>ML</b>	Date: <b>02/06/2022</b>
<b>Ordnance Survey Ireland Permit No. EN 0035621</b> © Ordnance Survey Ireland Government of Ireland.			



**Legend**

PCAS Detailed Plans

- Arch
- Constraint
- MLT1
- DCT2
- WLT2
- WLT3
- WLT4
- DPT2
- DPT3
- DPT4
- DPT5
- Other

**Legend**

- WQ Monitoring Sites
- Installed Piezometers
- Silt Ponds
- Derrycolumb Bog

**Bord na Móna**

**Derrycolumb Bog  
Piezometer and Sampling Locations**

DRWG No. BNM-DR-22-12-32	Scale: 1:15,000	Drawn by: BG	Date: 25/10/2022
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 © Ordnance Survey Ireland Government of Ireland.

Appendix S1 - Derrycolumb Bog - Hydrological Monitoring

Site Name	Well ID	S/D	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)
Derrycolumb	DC_010_S	S	n/a	n/a	08/07/2021 10:28	-55	04/02/2022 14:43	9999	n/a	n/a
Derrycolumb	DC_018_S	S	10/06/2021 08:54	-74	08/07/2021 12:35	-73	04/02/2022 12:40	9999	10/08/2022 14:45	9999
Derrycolumb	DC_004_S	S	10/06/2021 07:56	-46	08/07/2021 11:28	N/A	04/02/2022 10:58	3	10/08/2022 15:36	9999
Derrycolumb	DC_016_S	S	10/06/2021 09:07	-23	08/07/2021 11:55	-21	04/02/2022 10:44	3	n/a	n/a
Derrycolumb	DC_013_S	S	10/06/2021 10:19	-5	06/07/2021 13:18	0	04/02/2022 09:21	2	n/a	n/a
Derrycolumb	DC_007_S	S	09/06/2021 14:26	-31	08/07/2021 09:15	-28	04/02/2022 13:45	0	n/a	n/a
Derrycolumb	DC_003_S	S	10/06/2021 08:06	-35	08/07/2021 08:28	-39	04/02/2022 11:08	-3	n/a	n/a
Derrycolumb	DC_019_S	S	10/06/2021 09:29	-40	08/07/2021 11:36	-43	04/02/2022 10:33	-3	n/a	n/a
Derrycolumb	DC_015_S	S	10/06/2021 09:22	-33	08/07/2021 11:44	-33	04/02/2022 10:36	-6	n/a	n/a
Derrycolumb	DC_009_S	S	09/06/2021 15:51	-22	08/07/2021 08:52	-16	04/02/2022 13:23	-10	n/a	n/a
Derrycolumb	DC_006_S	S	09/06/2021 15:33	-24	08/07/2021 09:07	-25	04/02/2022 13:38	-16	n/a	n/a
Derrycolumb	DC_002_S	S	10/06/2021 08:31	-49	08/07/2021 10:56	-44	04/02/2022 11:50	-22	n/a	n/a
Derrycolumb	DC_008_S	S	10/06/2021 08:43	-61	08/07/2021 08:59	-54	04/02/2022 13:32	-34	n/a	n/a
Derrycolumb	DC_012_S	S	10/06/2021 11:11	-18	06/07/2021 13:38	-12	04/02/2022 09:14	17	10/08/2022 15:07	6
Derrycolumb	DC_005_S	S	09/06/2021 14:14	-55	08/07/2021 09:56	-22	04/02/2022 11:50	-6	10/08/2022 15:56	-19
Derrycolumb	DC_014_S	S	10/06/2021 09:43	-70	06/07/2021 14:36	-44	04/02/2022 10:06	-20	10/08/2022 15:22	-4
Derrycolumb	DC_011_S	S	10/06/2021 11:19	-61	06/07/2021 13:59	-54	04/02/2022 09:04	-18	10/08/2022 14:50	-16
Derrycolumb	DC_001_S	S	10/06/2021 08:27	-82	08/07/2021 10:37	-65	04/02/2022 11:42	-17	10/08/2022 15:14	-30
Derrycolumb	DC_020_S	S	10/06/2021 09:38	-46	06/07/2021 15:03	-40	04/02/2022 10:03	-26	11/08/2022 16:57	-41
Derrycolumb	DC_017_S	S	10/06/2021 11:55	-66	08/07/2021 12:12	-61	04/02/2022 10:53	-44	10/08/2022 14:55	-46

\*Note 9999= well has been destroyed / 8888 = well was inaccessible at the time of the survey

Appendix S2 - Derrycolumb Bog - Biodiversity

Table 1: Derrycolumb Quadrat Data

<b>Name</b>	Derrycolumb	Derrycolumb	Derrycolumb	Derrycolumb	Derrycolumb
<b>Surveyor</b>	SD	SD	SD	SD	SD
<b>Survey Date</b>	28/06/2021	28/06/2021	28/06/2021	28/06/2021	28/06/2021
<b>Quadrat</b>	1	2	3	4	5
<b>BnM_CutHab</b>	bare peat	cutover bog	cutover bog	bare peat	bare peat
<b>Current Habitat Description</b>	bare peat	Pioneer poor fen and scrub	bare peat	bare peat	bare peat
<b>Sphagnum Cover</b>	Not Observed	Not Observed	Not Observed	Not Observed	Not Observed
<b>Bare Peat</b>	91-100%	0%	Not Observed	Not Observed	Not Observed
<b>Open Water</b>	Not Observed	0%	Not Observed	Not Observed	Not Observed
<b>Vegetation Height</b>	Not Observed	40%	Not Observed	Not Observed	Not Observed
<b>Betul pubec</b>	Not Observed	04-10%	Not Observed	Not Observed	Not Observed
<b>Chama angus</b>	Not Observed	<4% (several individuals)	Not Observed	Not Observed	Not Observed
<b>Cirsi palus</b>	Not Observed	<4% (few individuals)	Not Observed	Not Observed	Not Observed
<b>Crepi capil</b>	Not Observed	<4% (several individuals)	Not Observed	Not Observed	Not Observed
<b>Equis arven</b>	Not Observed	<4% (few individuals)	Not Observed	Not Observed	Not Observed
<b>Holcu lanat</b>	Not Observed	04-10%	Not Observed	Not Observed	Not Observed
<b>Juncu effus</b>	Not Observed	34-50%	Not Observed	Not Observed	Not Observed
<b>Molin caeru</b>	Not Observed	04-10%	Not Observed	Not Observed	Not Observed
<b>Rubus fruti</b>	Not Observed	04-10%	Not Observed	Not Observed	Not Observed
<b>Salix capre</b>	Not Observed	<4% (few individuals)	Not Observed	Not Observed	Not Observed
<b>Succi prate</b>	Not Observed	<4% (few individuals)	Not Observed	Not Observed	Not Observed
<b>Trigl palus</b>	Not Observed	Not Observed	<4% (few individuals)	Not Observed	Not Observed
<b>Alopecurus geniculatus</b>	Not Observed	10%	Not Observed	Not Observed	Not Observed
<b>Comment</b>	BP camber still on field		BP camber still present on field	BP camber still on field	Drain blocks in place, dry



**Legend**

 Bog boundary

Transects

 CBS and Breeding Waders

 Pollinators

 Pollinators (2021)

 Breeding Waders

**Bord na Móna**

**Derrycolumb Bog  
Ecology Transects**

DRWG No. <b>BNM-DR-22-12-33</b>	Scale: <b>1:14,160</b>	Drawn by: <b>JG</b>	Date: <b>19/10/2022</b>
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Appendix S3 - Derrycolumb Bog - Surface Water Quality

	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids
<b>SW Code - GIS</b>	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/8/20	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW88A	1	2	2	2		4			7	7	2	2	4	7	2	7	5	10	2	6	5	6	8	4	9
SW90	5	2	5	2		4			2	4	2	2	2		2	6	2	4	3		3	5	7	3	2
SW91	4	3	4	2		2			2	4	2	2	2	2	2	6	2	5	4	2	2	3	5	2	2
Rainfall (mm)	112.7	73.8	159.7	110.2	116.8	129	88.3	102	24.2	105.1	25.7	57.8	96.9	78	143	49.6	116.4	52.4	140	33.5	59.4	76.9	103.7	33.7	66.3
Rehabilitation										12															

	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour
<b>SW Code - GIS</b>	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co
	1/8/20	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW88A	197	64	197	160		158			136	144	102	107	87	222	197	276	122	241	157	166	118	107	77.5	174	94.8
SW90	200	137	200	185		182			168	182	129	140	99		178	285	127	208	130		128	184	164	186	129
SW91	185	121	185	252		300			169	146	199	158	178	151	375	466	200	359	221	231	155	128	133	307	169
Rainfall (mm)	112.7	73.8	159.7	110.2	116.8	129	88.3	102	24.2	105.1	25.7	57.8	96.9	78	143	49.6	116.4	52.4	140	33.5	59.4	76.9	103.7	33.7	66.3

	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD
<b>SW Code - GIS</b>	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/8/20	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW88A	59	22	59	49		48			39	45	53	42	29	89	66	66	51	76	53	37	44	40	14	59	38
SW90	59	40	59	54		47			43	57	53	52	38		53	71	48	65	43		53	56	35	59	42
SW91	<10	46	10	64		65			12	43	52	49	60	54	90	93	62	86	60	47	44	37	16	82	53
Rainfall (mm)	112.7	73.8	159.7	110.2	116.8	129	88.3	102	24.2	105.1	25.7	57.8	96.9	78	143	49.6	116.4	52.4	140	33.5	59.4	76.9	103.7	33.7	66.3
	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH
<b>SW Code - GIS</b>	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units
	1/8/20	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW88A	7.7	7.7	7.7	7.7					7.8	8	7.8	7.9	8	7.3	7.4	7.5	7.8	7.6	7.8	7.9	7.8	8	8.1	7.8	8.1

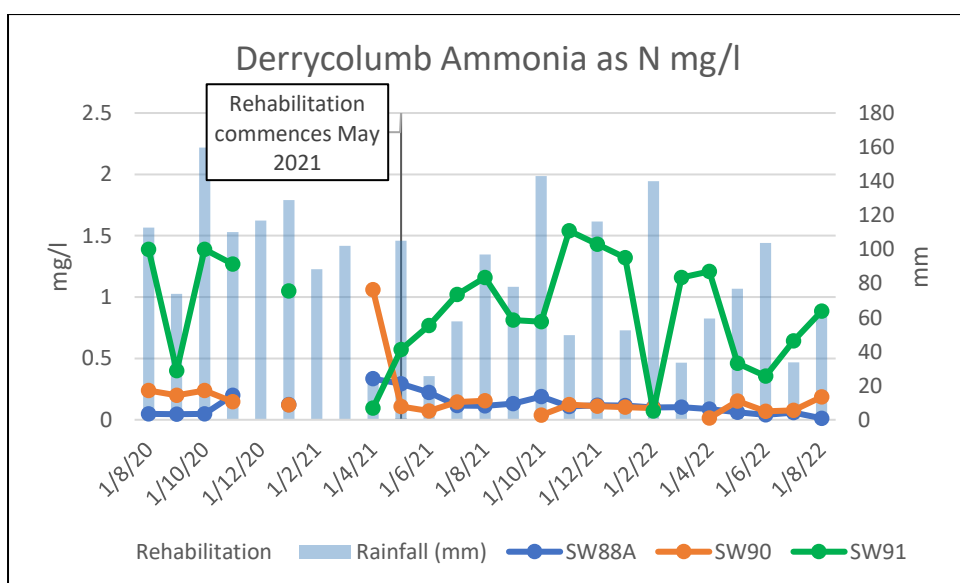
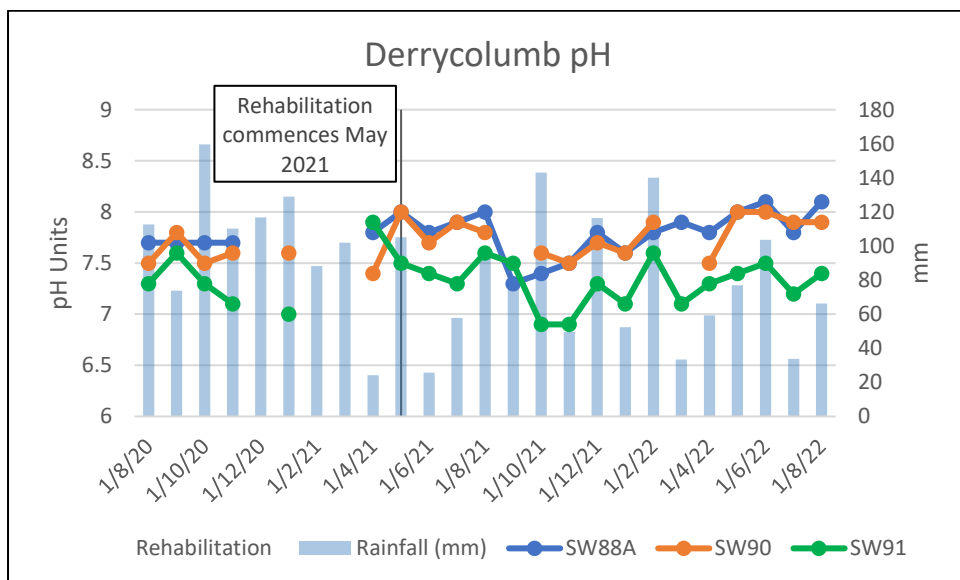
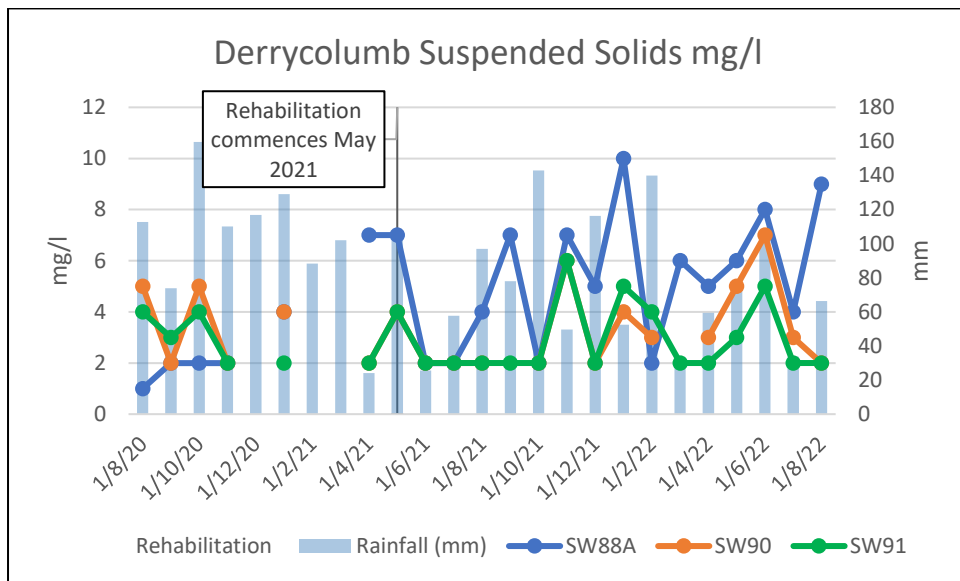




	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC
SW Code - GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/8/20	1/9/20	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	1/7/22	1/8/22
SW88A	22.9	9.85	22.9	20.7		19.1			15.9	17.5	16	14.7	10.9	25	23.7	26.9	17.8	23.6	21.1	20.2	14.4	16.6	12.6	22.3	14.9
SW90	21	18	21	21.3		18.7			16	19.5	16.1	17.5	14.4		21.3	27	17	21.1	14.7		15	21.2	19.9	22.2	17.4
SW91	20.1	18.1	20.1	25.3		24.7			18.6	14.7	20	16.5	21.5	16.4	33.3	36	21.3	28.4	22.5	22.5	15.4	17.4	13.9	30.6	20.4
Rainfall (mm)	112.7	73.8	159.7	110.2	116.8	129	88.3	102	24.2	105.1	25.7	57.8	96.9	78	143	49.6	116.4	52.4	140	33.5	59.4	76.9	103.7	33.7	66.3

Blank spaces - No results available during times of the year when rivers are in flood or during extended dry spells

## Derrycolumb Trend Graphs



## **Appendix T: Edera Bog**

### Appendix T0 - Edera Bog - Maps

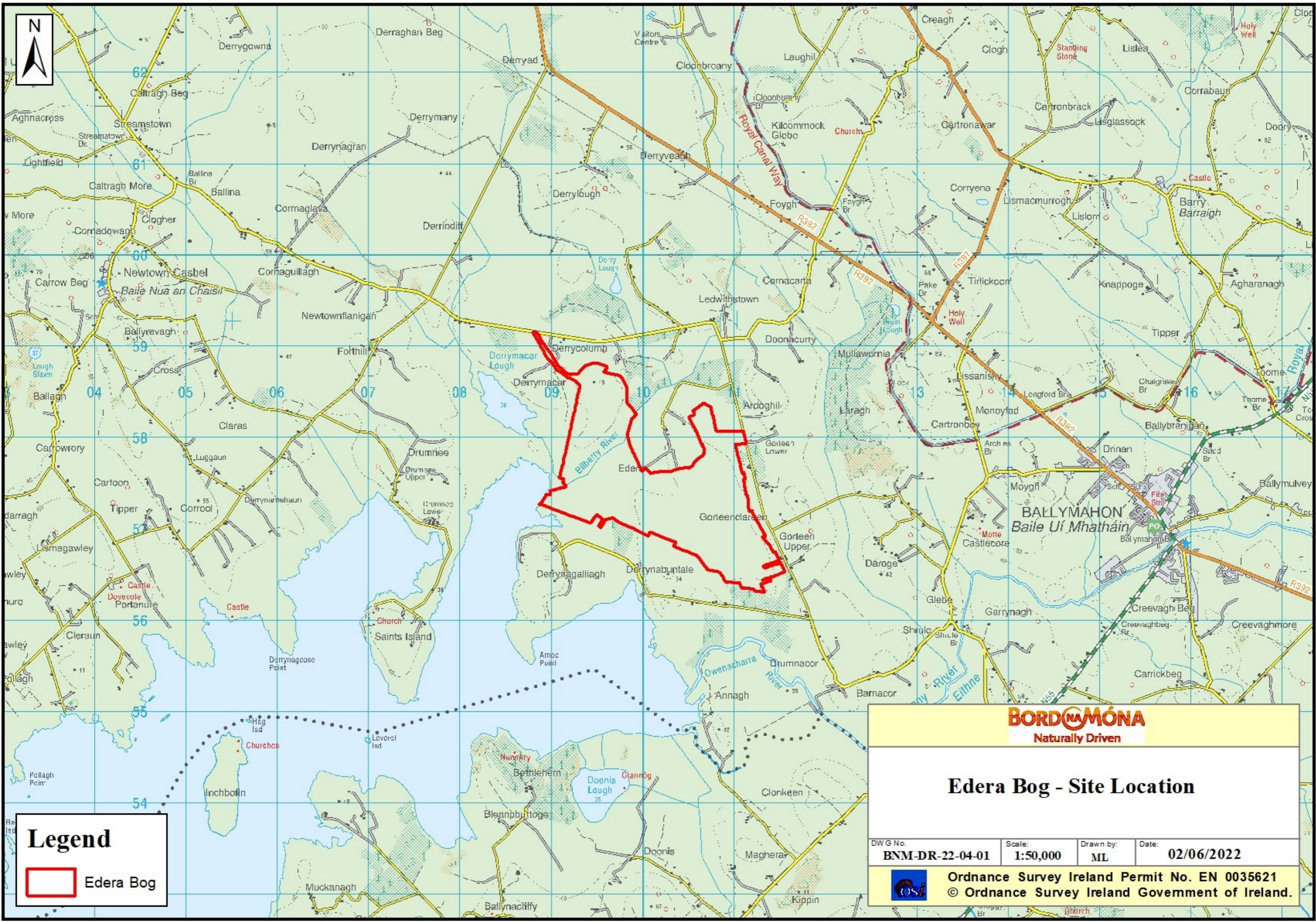
- Edera Bog Site Location: DRWG No. BNM-DR-22-04-01
- Edera Bog Piezometer and Sampling Locations: DRWG No. BNM-DR-22-04-32

### Appendix T1 – Edera Bog - Hydrological Monitoring


### Appendix T2 – Edera Bog – Biodiversity (including Drawings)

- DWG No. BNM-DR-22-04-33: Edera Bog – Ecology Transects

### Appendix T3 – Edera Bog - Surface Water Quality



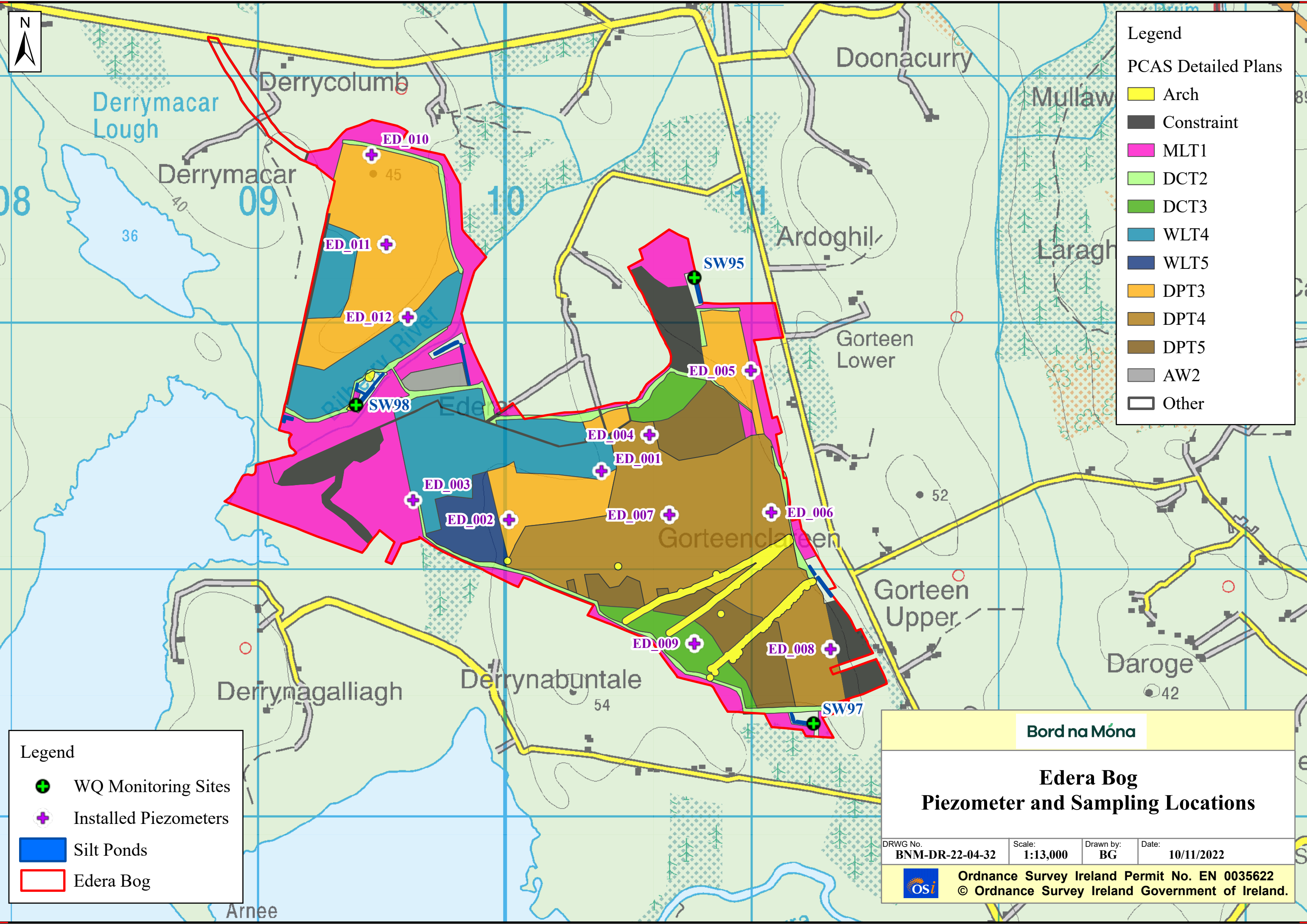
**Legend**

 Edera Bog

**BORD NA MÓNA**  
Naturally Driven

**Edera Bog - Site Location**

DWG No. <b>BNM-DR-22-04-01</b>	Scale: <b>1:50,000</b>	Drawn by: <b>ML</b>	Date: <b>02/06/2022</b>
 <b>Ordnance Survey Ireland Permit No. EN 0035621</b> © Ordnance Survey Ireland Government of Ireland.			



**Legend**

PCAS Detailed Plans

- Arch
- Constraint
- MLT1
- DCT2
- DCT3
- WLT4
- WLT5
- DPT3
- DPT4
- DPT5
- AW2
- Other

**Legend**

- WQ Monitoring Sites
- Installed Piezometers
- Silt Ponds
- Edera Bog

**Bord na Móna**

**Edera Bog  
Piezometer and Sampling Locations**

DRWG No. <b>BNM-DR-22-04-32</b>	Scale: <b>1:13,000</b>	Drawn by: <b>BG</b>	Date: <b>10/11/2022</b>
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Appendix T1 - Edera Bog - Hydrological Monitoring

Site Name	Well ID	S/D	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)	Date & Time of Water Level Survey	Phreatic Water Level (cm)
Edera	ED_009_S	S	09/06/2021 11:19	-80	06/07/2021 09:03	-59	03/02/2022 16:55	-15	29/07/2022 08:03	-60
Edera	ED_001_S	S	09/06/2021 12:53	-49	06/07/2021 09:49	-34	03/02/2022 16:08	-17	29/07/2022 07:31	-35
Edera	ED_006_S	S	09/06/2021 10:52	-66	06/07/2021 08:23	-54	03/02/2022 16:24	-3	29/07/2022 07:43	-34
Edera	ED_002_S	S	09/06/2021 13:08	-42	06/07/2021 10:28	-37	03/02/2022 16:22	0	29/07/2022 07:47	-29
Edera	ED_011_S	S	09/06/2021 13:13	-45	06/07/2021 11:10	-49	04/02/2022 09:43	1	29/07/2022 08:25	-23
Edera	ED_003_S	S	09/06/2021 12:31	-29	06/07/2021 10:45	-34	03/02/2022 16:22	-11	N/A	N/A
Edera	ED_004_S	S	09/06/2021 11:40	-57	06/07/2021 09:40	-45	03/02/2022 16:38	-18	N/A	N/A
Edera	ED_005_S	S	09/06/2021 10:37	-58	06/07/2021 08:10	-33	03/02/2022 16:32	-9	N/A	N/A
Edera	ED_007_S	S	09/06/2021 11:31	-29	06/07/2021 09:32	-21	03/02/2022 16:54	8888	N/A	N/A
Edera	ED_008_S	S	09/06/2021 11:04	-65	06/07/2021 08:50	-46	03/02/2022 16:13	8888	N/A	N/A
Edera	ED_010_S	S	09/06/2021 13:21	-54	06/07/2021 11:28	-45	04/02/2022 09:32	8888	N/A	N/A
Edera	ED_012_S	S	09/06/2021 13:04	-47	06/07/2021 10:59	-40	03/02/2022 16:52	-8	N/A	N/A

\*Note 9999= well has been destroyed / 8888 = well was inaccessible at the time of the survey

Appendix T2 - Edera Bog - Biodiversity

Table 1: Edera Quadrat Data





Name	Edera	Edera	Edera	Edera	Edera
<b>Surveyor</b>	DMcN	DMcN	DMcN	DMcN	DMcN
<b>Survey Date</b>	17/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021
<b>Quadrat</b>	1	2	3	4	5
<b>Current Habitat Description</b>	Cutover bog	Cutover bog	Pioneering open habitat/wetland	Pioneering open habitat/wetland	Cutover bog
<b>Sphagnum Cover</b>	Not Observed	Not Observed	Not Observed	Not Observed	Not Observed
<b>Bare Peat</b>	91-100%	91-100%	91-100%	51-75%	91-100%
<b>Open Water</b>	0%	0%	0%	04-10%	0%
<b>Tussilago farfara</b>	Not Observed	Not Observed	<4% (few individuals)	Not Observed	Not Observed
<b>Carex echinata</b>	Not Observed	Not Observed	<4% (few individuals)	Not Observed	Not Observed
<b>Hippuris vulgaris</b>	Not Observed	Not Observed	<4% (few individuals)	Not Observed	Not Observed
<b>Molinia caerulea</b>	Not Observed	Not Observed	<4% (few individuals)	Not Observed	Not Observed
<b>Triglochin palustris</b>	Not Observed	Not Observed	5%	<4% (few individuals)	
<b>Holcus lanatus</b>	Not Observed	Not Observed	<4% (few individuals)	Not Observed	Not Observed
<b>Rubus fruticosus</b>	Not Observed	Not Observed	<4% (few individuals)	Not Observed	Not Observed
<b>Poa annua</b>	Not Observed	Not Observed	<4% (few individuals)	Not Observed	Not Observed
<b>Betula pubescens</b>	Not Observed	Not Observed	<4% (few individuals)	Not Observed	Not Observed
<b>Pilosella officinarum</b>	Not Observed	Not Observed	<4% (few individuals)	Not Observed	Not Observed
<b>Creeping bent</b>	Not Observed	Not Observed	<4% (few individuals)	Not Observed	Not Observed
<b>Cirsium palustre</b>	Not Observed	Not Observed	<4% (few individuals)	Not Observed	Not Observed
<b>Potentilla erecta</b>	Not Observed	Not Observed	<4% (few individuals)	Not Observed	Not Observed
<b>Carex rostrata</b>	Not Observed	Not Observed	Not Observed	20	Not Observed

<p><b>Note1</b></p>	<p>Adjacent drain contains some <i>Juncus bulbosus</i> and <i>Calluna vulgaris</i> + <i>Agrostis stolonifera</i> + <i>Molinia caerulea</i> + Likely to spread into quadrat in time.</p>	<p>Adjacent drain contains some <i>J. bulbosus</i> and <i>C. vulgaris</i>, <i>Agrostis stolonifera</i>, <i>Molinia caerulea</i>, <i>Carex echinata</i>, <i>Hydrocotyle vulgaris</i>. <i>Silene flos-cuculi</i>. <i>Salix cinerea</i> seedlings. <i>Triglochin palustris</i>. Likely to spread into quadrat in time.</p>			
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**Legend**

-  Bog boundary
- Transects
-  CBS and Breeding Waders
-  Pollinators
-  Breeding Waders

**Bord na Móna**

**Edera Bog  
Ecology Transects**

DRWG No. <b>BNM-DR-22-04-33</b>	Scale: <b>1:11,989</b>	Drawn by: <b>JG</b>	Date: <b>19/10/2022</b>
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 **Ordnance Survey Ireland Permit No. EN 0035622**  
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Appendix T3 - Edera Bog - Surface Water Quality

	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids	Suspended Solids
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22
SW98							5	7		4	8	6		4					2	2	2
SW95	5	2		3			2	2	2	2	4	2	2	3	2	3	2	5	2	2	2
SW97	2	2		2			2	2	2	2	2	2	2	2	3	5	13	2	8	3	10
Monthly Rainfall (mm)	159.7	110.2	116.8	129	88.3	102	24.2	105.1	25.7	57.8	96.9	78	143	49.6	116.4	52.4	140	33.5	59.4	76.9	103.7
Rehabilitation								20									20				

	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour	Colour
SW Code -GIS	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co	mg/l Pt Co
	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22
SW98							174	172		160	249	114		532					187	115	197
SW95	276	162		129			102	121	65.6	107	98.8	83.5	177	296	120	225	230	80.1	68.6	66.2	70.4
SW97	359	451		303			382	292	337	158	236	237	218	686	457	376	470	409	455	290	263
Monthly Rainfall (mm)	159.7	110.2	116.8	129	88.3	102	24.2	105.1	25.7	57.8	96.9	78	143	49.6	116.4	52.4	140	33.5	59.4	76.9	103.7
Rehabilitation								10													

	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD	COD
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22
SW98							62	59		51	61	54		135					54	41	37
SW95	71	51		41			37	40	37	39	37	43	66	83	45	65	62	24	43	30	13
SW97	84	98		64			78	69	86	42	74	84	73	201	114	87	72	96	117	77	66
Monthly Rainfall (mm)	159.7	110.2	116.8	129	88.3	102	24.2	105.1	25.7	57.8	96.9	78	143	49.6	116.4	52.4	140	33.5	59.4	76.9	103.7

	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH
SW Code -GIS	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units
	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22
SW98							7.4	7.7		7.5	7.7	7.9		7					7.9	7.7	7.7
SW95	7.5	7.6		7.6			7.6	7.7	7.8	7.8	7.6	7.9	7.6	7.4	7.7	7.5	7.4	7.6	7.7	7.7	7.8
SW97	7.1	6.2		6.1			6.8	7.3	7.4	7.7	7.5	7.9	7.3	6	6.9	6.3	5.9	6.2	6.7	7.4	7.1
Monthly Rainfall (mm)	159.7	110.2	116.8	129	88.3	102	24.2	105.1	25.7	57.8	96.9	78	143	49.6	116.4	52.4	140	33.5	59.4	76.9	103.7
Rehabilitation								9									9				

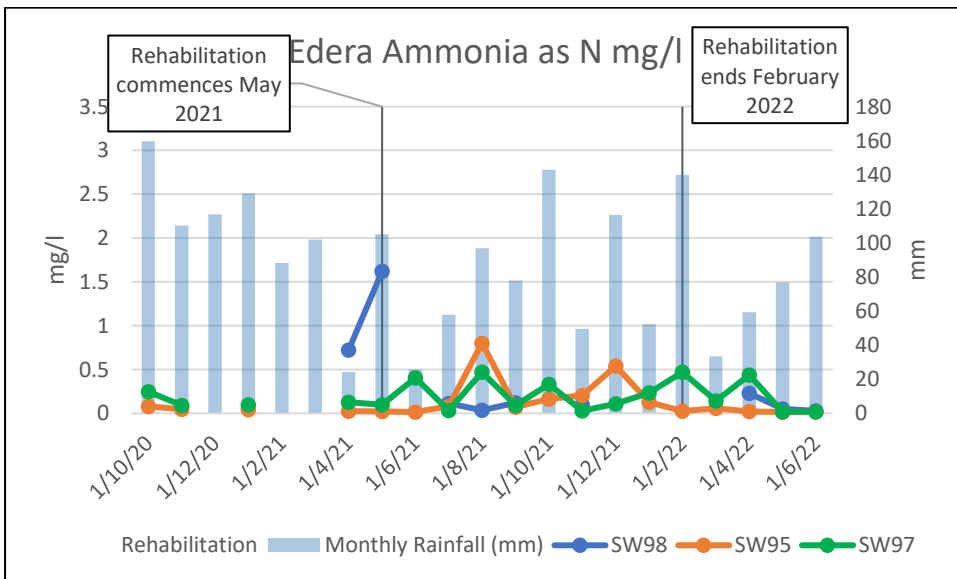
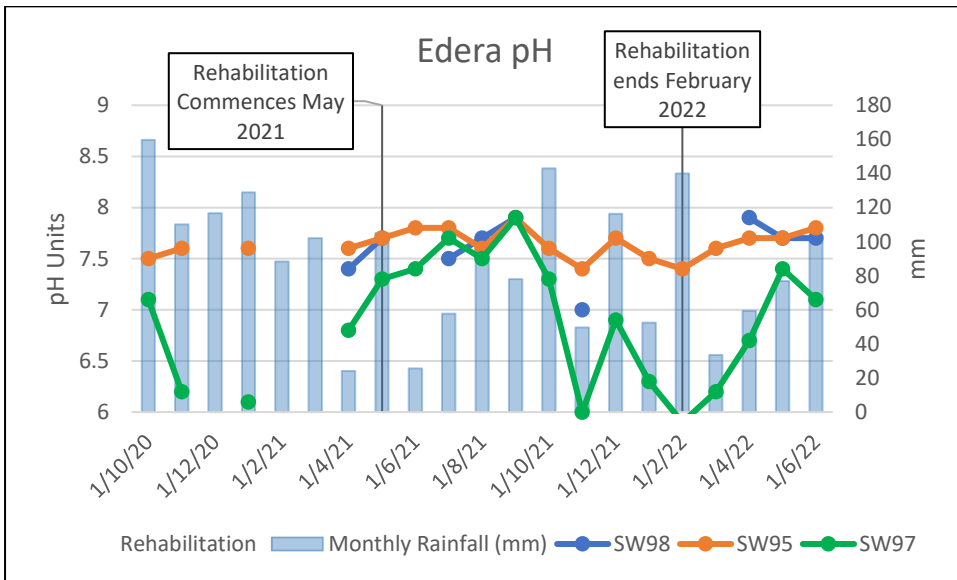
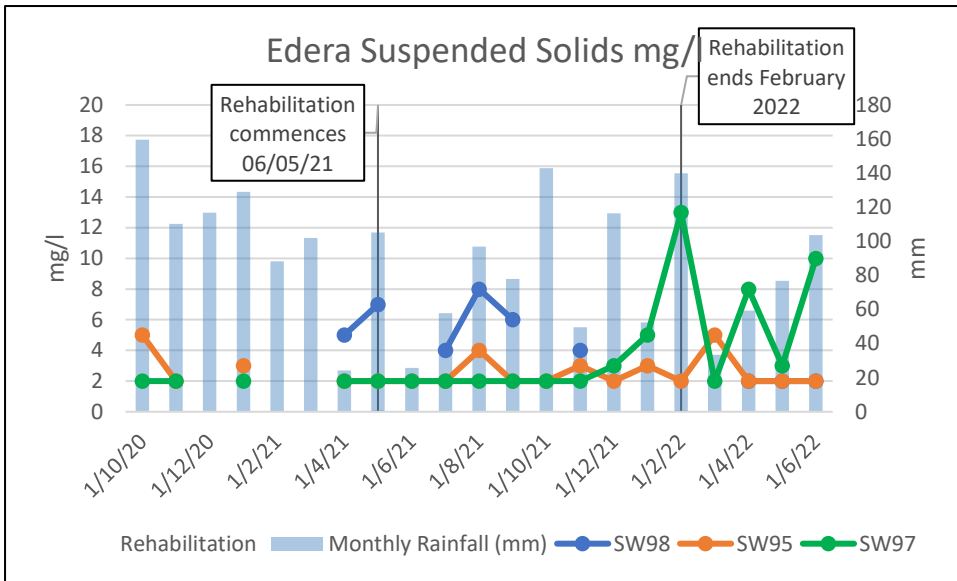
	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	TP as P	
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	
	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/22	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22	
SW98							0.05	0.05		0.07	0.07	0.08		0.05					0.05	0.08	0.06	
SW95	0.05	0.05		0.05			0.05	0.05	0.05	0.05	0.05	0.07	0.05	0.05	0.05	0.06	0.05	0.05	0.05	0.05	0.06	0.05
SW97	0.05	0.05		0.05			0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.05	0.05	0.12	0.06	0.13	
Monthly Rainfall (mm)	159.7	110.2	116.8	129	88.3	102	24.2	105.1	25.7	57.8	96.9	78	143	49.6	116.4	52.4	140	33.5	59.4	76.9	103.7	
Rehabilitation																						

	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22
SW98							269	245		286	303	396		408					434	335	247
SW95	328	416		462			431	429	507	455	495	469	569	409	459	395	207	437	487	502	505
SW97	164	163		116			161	183	212	239	311	301	258	319	233	150	115	175	235	266	246
Monthly Rainfall (mm)	159.7	110.2	116.8	129	88.3	102	24.2	105.1	25.7	57.8	96.9	78	143	49.6	116.4	52.4	140	33.5	59.4	76.9	103.7
Rehabilitation																					

	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N	Ammonia as N
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22
SW98							0.724	1.62		0.113	0.036	0.119		0.097					0.232	0.051	0.029
SW95	0.081	0.046		0.044			0.025	0.022	0.016	0.081	0.801	0.074	0.163	0.203	0.54	0.129	0.026	0.059	0.021	0.016	0.019
SW97	0.25	0.092		0.098			0.129	0.098	0.407	0.032	0.47	0.092	0.331	0.029	0.111	0.233	0.47	0.143	0.44	0.019	0.018
Monthly Rainfall (mm)	159.7	110.2	116.8	129	88.3	102	24.2	105.1	25.7	57.8	96.9	78	143	49.6	116.4	52.4	140	33.5	59.4	76.9	103.7
Rehabilitation								3.5									3.5				
	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC
SW Code -GIS	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	1/10/20	1/11/20	1/12/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/1/22	1/2/22	1/3/22	1/4/22	1/5/22	1/6/22
SW98							20.7	20.1		16.2	22.4	66.7		60					17.9	16.5	20.1
SW95	27.2	19.1		17.1			13.5	16.8	11.3	13	14.2	11.6	24	36.2	17.5	23.5	24.2	13	12.3	14.5	11.7
SW97	31.9	39.2		22.6			28.9	25.8	29.9	23.4	25.9	25.4	25.3	81.9	42.1	28.4	20.2	38	39.8	30.7	27.1
Monthly Rainfall (mm)	159.7	110.2	116.8	129	88.3	102	24.2	105.1	25.7	57.8	96.9	78	143	49.6	116.4	52.4	140	33.5	59.4	76.9	103.7
Rehabilitation								100											100		

Blank spaces - No results available during times of the year when rivers are in flood or during extended dry spells

## Edera Bog Trend Graphs



## **Appendix U: Aerial Imagery/ Lidar**

Summary of aerial imagery and LiDAR survey dates.

<b>Bog</b>	<b>Pre-Rehab LiDAR</b>	<b>Post Rehab LiDAR</b>	<b>Pre-Rehab Imagery</b>	<b>Post Rehab Imagery</b>
<b>Belmont</b>	22/12/2020	21/06/2022	15/04/2020	21/06/2022
<b>Boora</b>	04/11/2020	18/07/2022	15/04/2020	18/07/2022
<b>Castlegar</b>	22/11/2020	21/06/2022	17/07/2017	21/06/2022
<b>Cavemount</b>	06/11/2020	21/06/2022	15/04/2020	21/06/2022
<b>Clonad</b>	06/11/2020	21/06/2022	15/04/2020	21/06/2022
<b>Derries</b>	04/11/2020	18/07/2022	15/04/2020	18/07/2022
<b>Derrycashel</b>	26/09/2020	21/06/2022	21/04/2020	21/06/2022
<b>Derrycolumb</b>	26/09/2020	21/06/2022	13/05/2020	21/06/2022
<b>Edera</b>	26/09/2020	21/06/2022	14/05/2020	21/06/2022
<b>Esker</b>	06/11/2020	21/06/2022	15/04/2020	21/06/2022
<b>Garryduff</b>	22/12/2020	21/06/2022	15/04/2020	21/06/2022
<b>Kellygrove</b>	22/12/2020	21/06/2022	18/07/2017	21/06/2022
<b>Kilmacshane</b>	22/12/2020	21/06/2022	15/04/2020	21/06/2022
<b>Mountlucas</b>	06/11/2020	21/06/2022	15/04/2020	21/06/2022
<b>Oughter</b>	04/11/2020	18/07/2022	15/04/2020	18/07/2022
<b>Pollagh</b>	04/11/2020	18/07/2022	15/04/2020	18/07/2022
<b>Turraun</b>	04/11/2020	18/07/2022	15/04/2020	18/07/2022
<b>Ummeras</b>	26/09/2020	21/06/2022	15/04/2020	21/06/2022



EDRRS Web Dashboard layout showing Aerial imagery. Figures on the left are interactive with the map location.



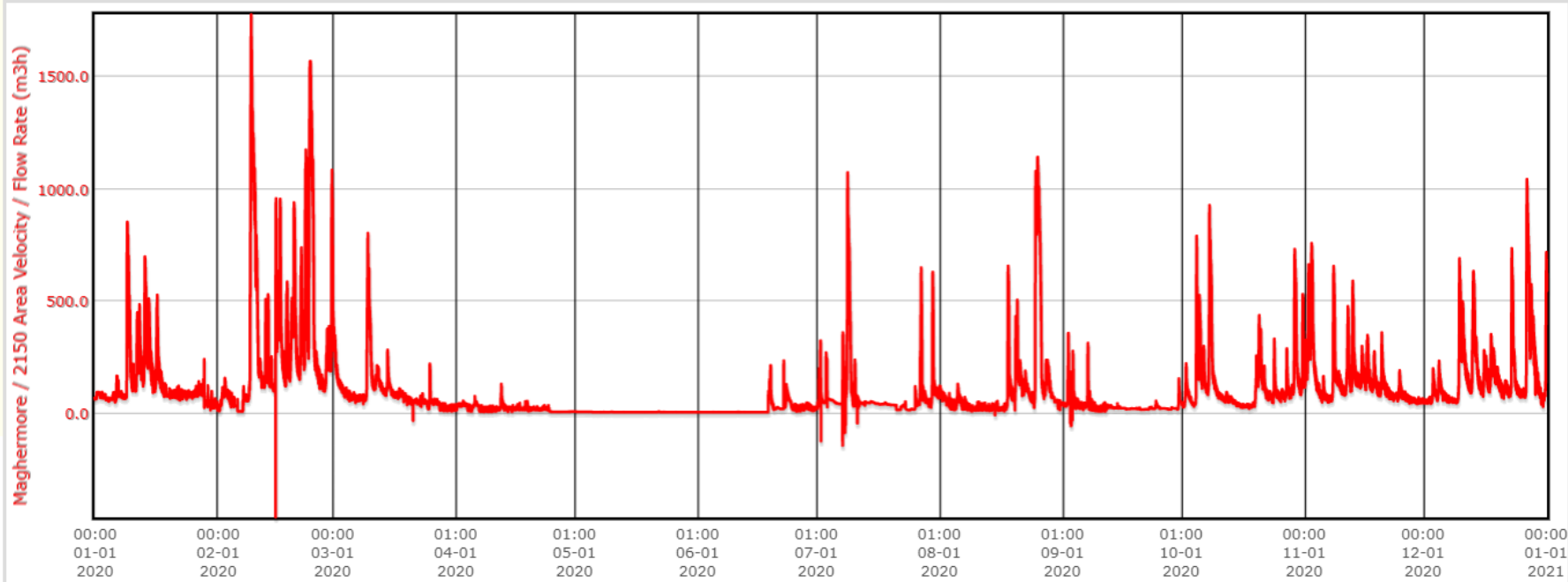


## **Appendix V: Flow Monitoring Data**

Mountlucas Bog: Data from Meaghermore probe

Interval: 1 Year

Absolute



Wednesday, January 1 2020 00:00 - Friday, January 1 2021 00:00

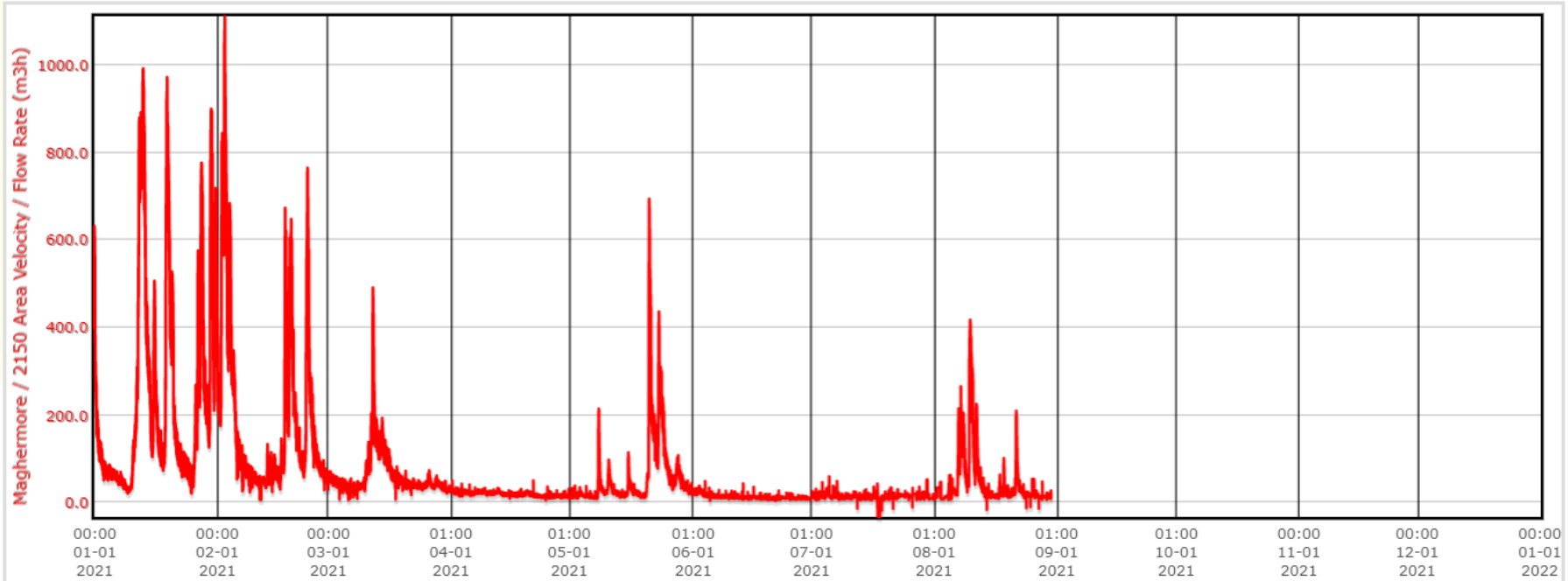


	Sunday, February 9 2020 17:30	Reading
	Maghermore / 2150 Area Velocity / Flow Rate	1210.4 m3h

Meaghermore Flow Data: 1<sup>st</sup> Jan 2020 to 31<sup>st</sup> December 2020

Interval: 1 Year

Absolute



Friday, January 1 2021 00:00 - Saturday, January 1 2022 00:00

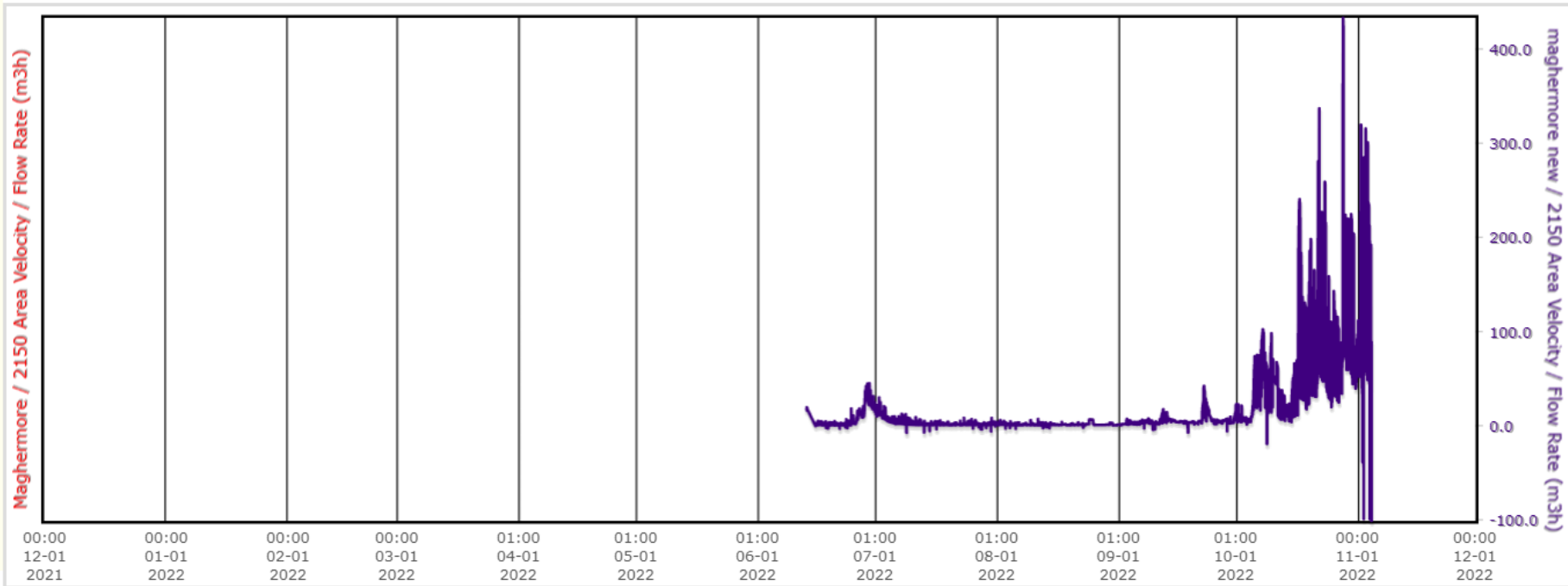


	Friday, January 1 2021 06:10	Reading
	Maghermore / 2150 Area Velocity / Flow Rate	277.2 m3h

Meaghermore Flow Data: 1<sup>st</sup> Jan 2021 to 30<sup>th</sup> August 2021

Interval: 1 Year

End of Data



Wednesday, December 1 2021 00:00 - Thursday, December 1 2022 00:00



Thursday, November 3 2022 23:44		Reading
	Maghermore / 2150 Area Velocity / Flow Rate	---
	maghermore new / 2150 Area Velocity / Flow Rate	-98.4 m3h