

Introduction

- Bord na Móna have ceased extracting peat for energy, fuel and growing media in Ireland.
- A very ambitious scheme to re-wet 33,000 ha of cutaway peatlands is underway
- Different sites have different starting points and will have different trajectories.
- On some sites where there is reasonable residual peat depths, it is feasible to re-wet and expect development of Sphagnum-rich vegetation and eventually acidic bog vegetation.
- For other sites where there has been significant volumes of peat removed, the environmental characteristics have changed radically and different outcomes are expected.
- The main objective for climate action is to re-wet as much residual peat as possible and set sites on a trajectory towards naturally functioning peatland ecosystems.



Oughter Bog – extensive re-wetting in 2021

Oughter Bog

- 50 years of industrial peat extraction.
- Ceased in 2021 across much of the site
- Shallow residual peat, exposed and underlying lacustrine marl
- Strong alkaline influence on ground-water
- Ecological indicators of rich fen appearing, Saw Sedge, Black Bog-rush, brown mosses
- Pioneer vegetation dominated by Common Bog Cotton, sedges and Birch.
- Main objective – re-wet the residual peat – support the development of fen habitats
- Rewetting carried out in 2021. Water levels at or just above the peat surface the main target.



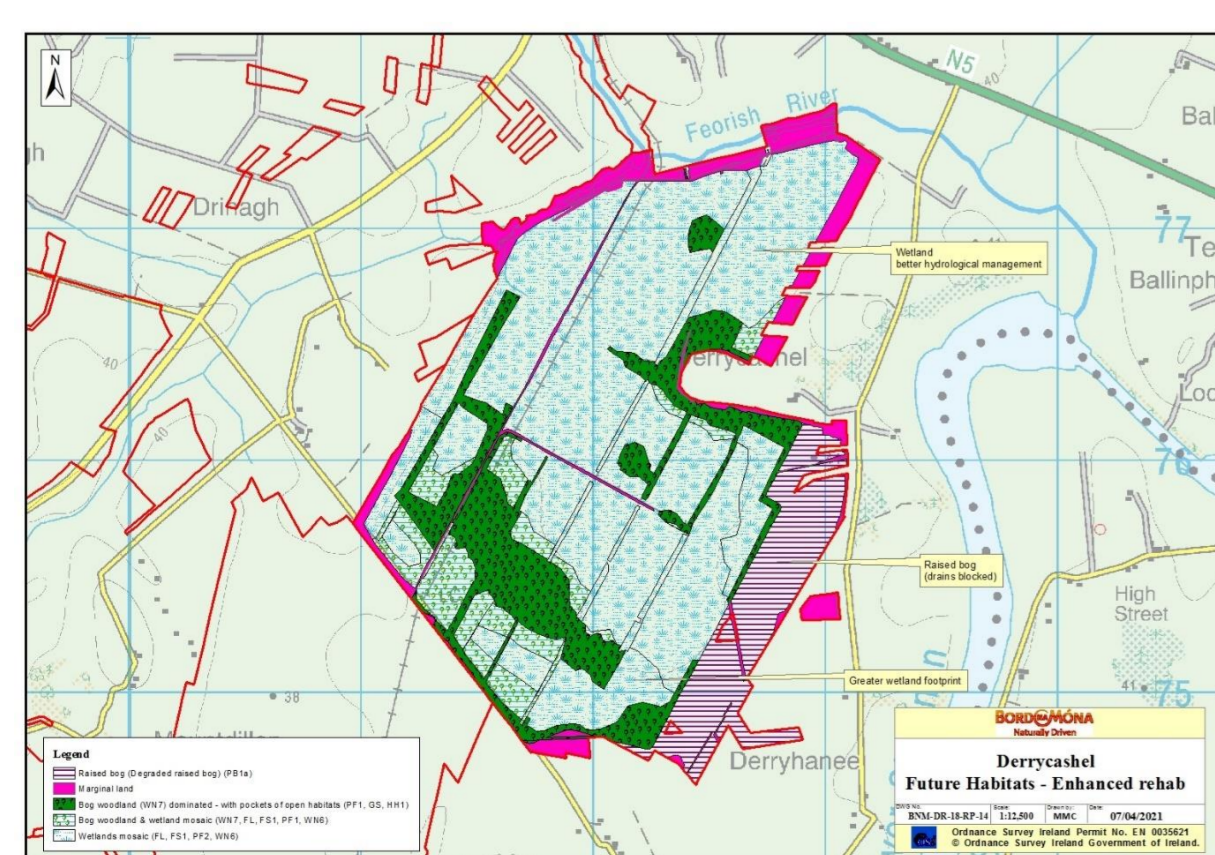
Oughter Bog – Saw Sedge – indicator of fen ecology



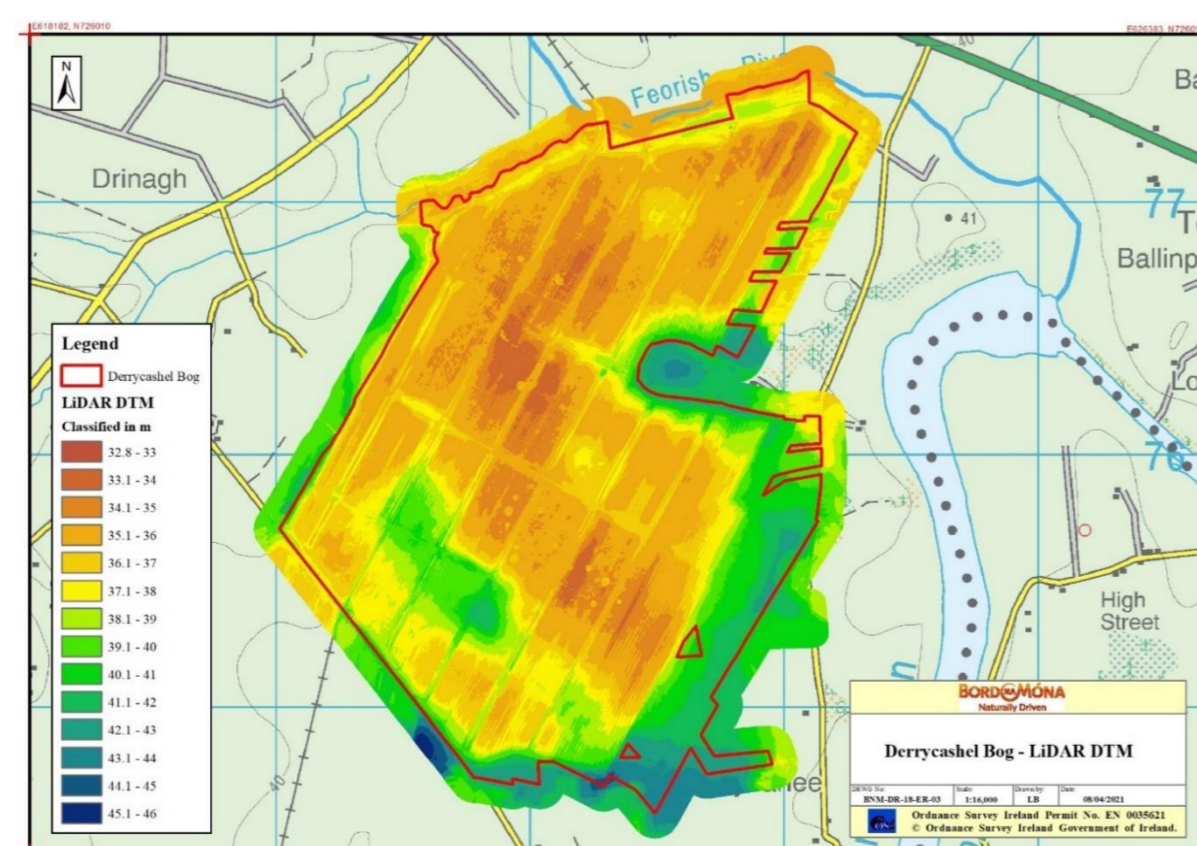
Castlegar Bog – cell bunding to re-wet peat across a slope. Some trial drain blocking on the right side.

Derrycashel Bog

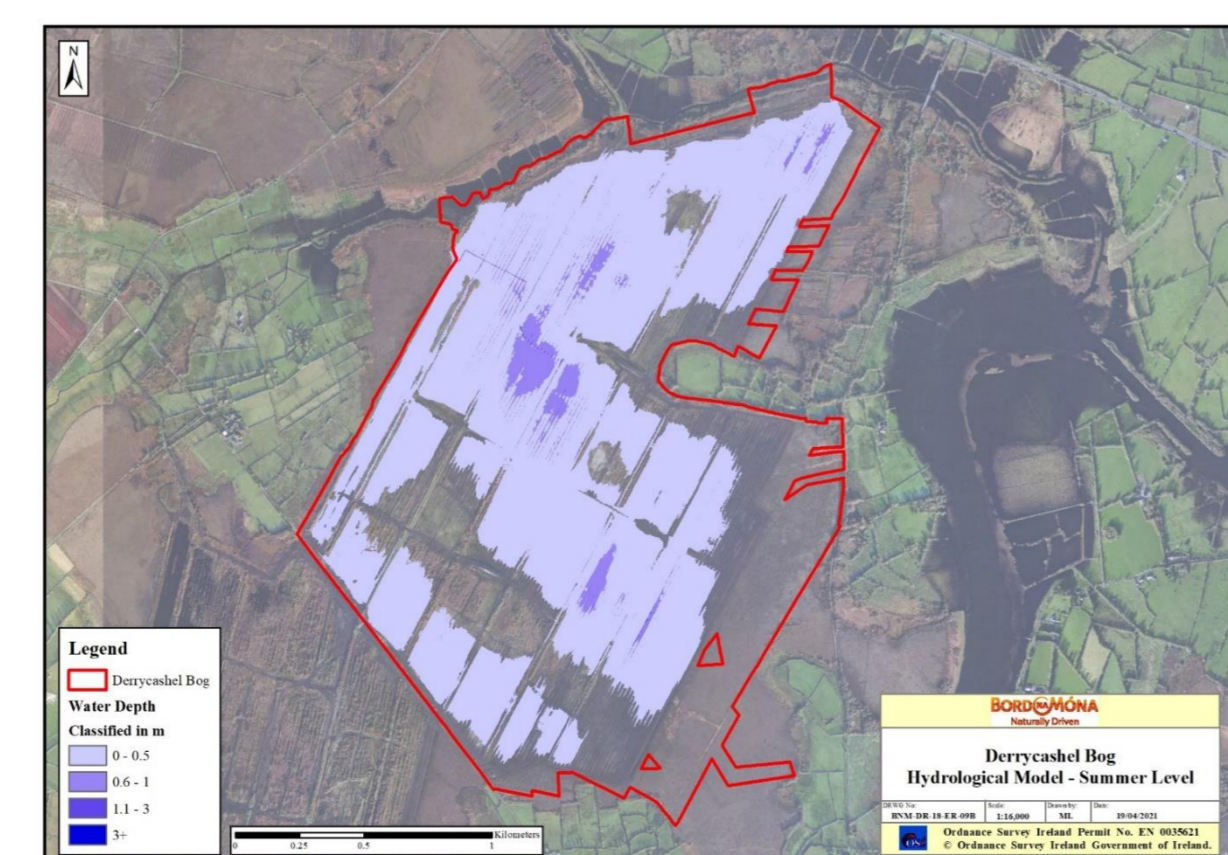
- Pumped drainage – adjacent to Shannon.
- 50 years of peat extraction – only residual shallow peat.
- Relatively deep basin topography.
- Seasonal inundation expected.
- Likely to develop permanent wetland when pumping completely ceases.
- Rehab measures focused on optimising summer water levels at wetland sites.
- Main target is shallow water levels to encourage emergent wetland vegetation, where possible.



Expected habitat development at Derrycashel.



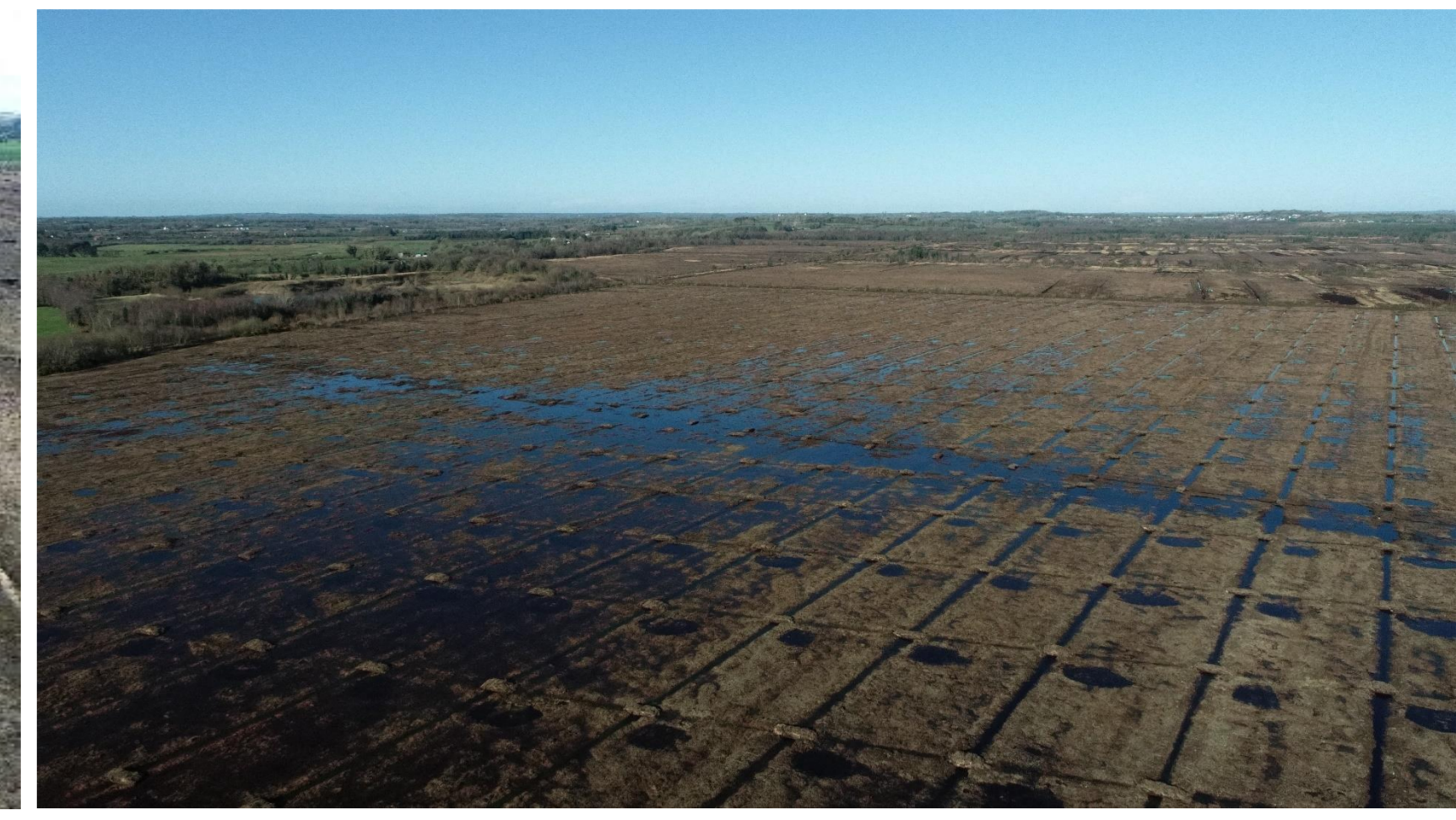
Topography – red areas indicate lower ground, blue/green areas indicate higher ground.



Hydrological model – expected summer water levels.



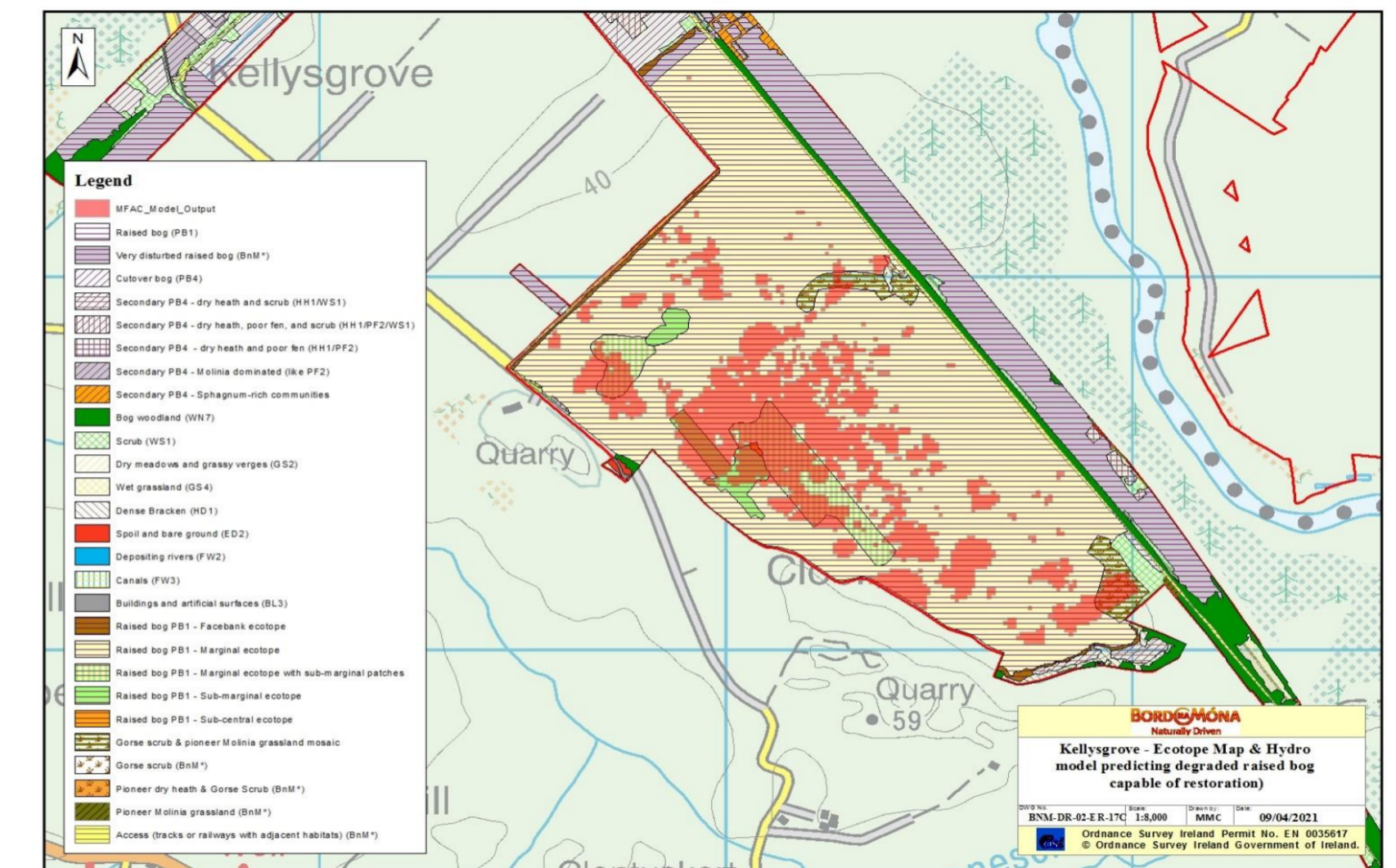
Raised bog restoration at Kellysgrove in 2021



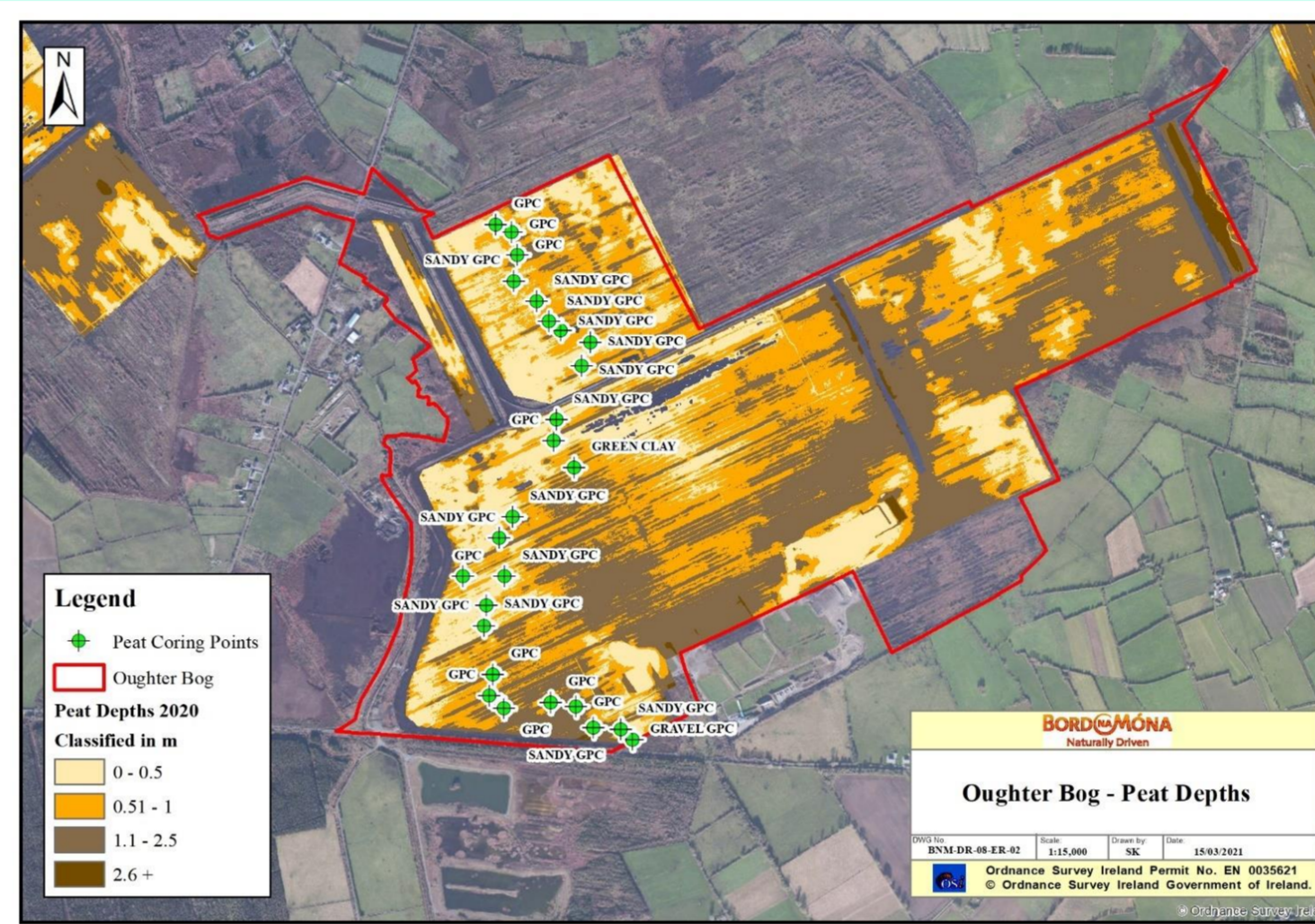
Re-wetting has been very effective – photo from March 2022

Kellysgrove Bog

- Key objective – Raised bog restoration.
- This bog was drained but never used for peat extraction.
- Drains were blocked in 2021 and rewetting has been successful.
- Hydrological modelling indicates there is potential for 27 ha of Annex I Active raised bog to develop.
- Monitoring in 2022 found that it is a refuge for Large Heath and Marsh Fritillary butterfly.
- Kellysgrove is part of a network of over 25 BnM raised bog sites that have been restored – contributing over 3500 ha of restored raised bog to support Ireland's commitments under the EU Habitats Directive.



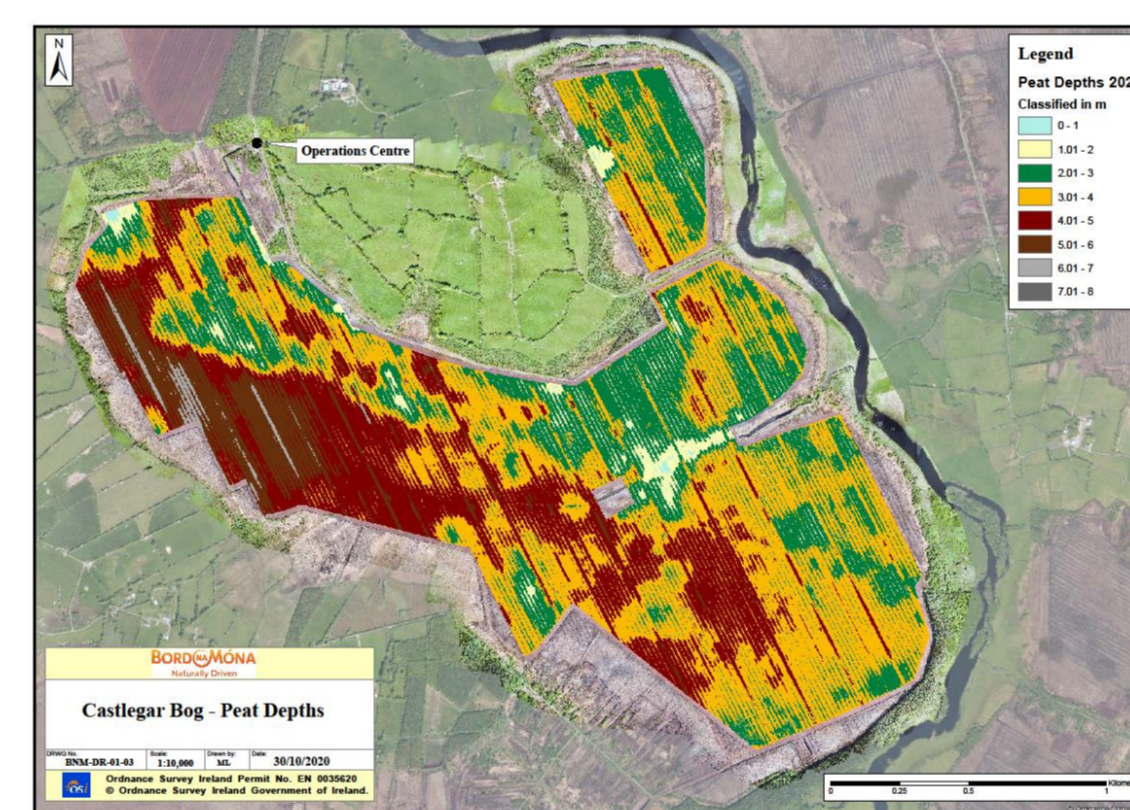
Hydrological model – active raised bog expected to develop in the flattest areas of the overall bog.



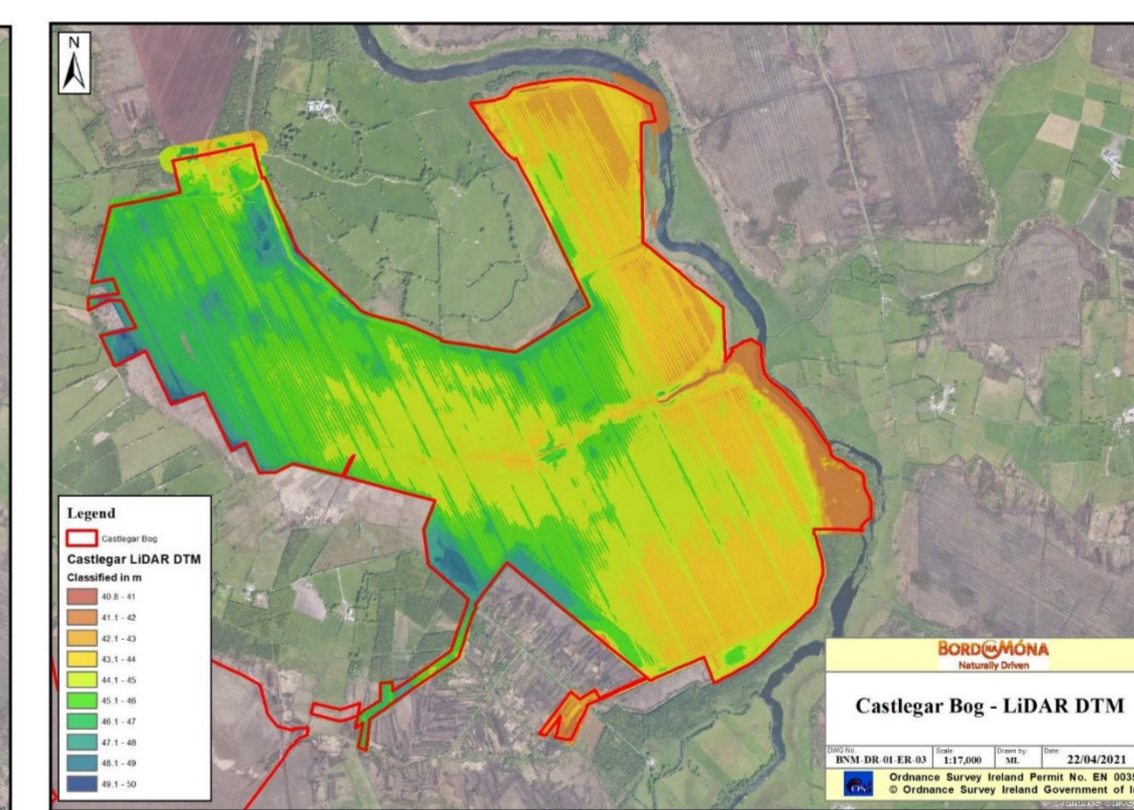
Oughter Bog – shallow residual peat



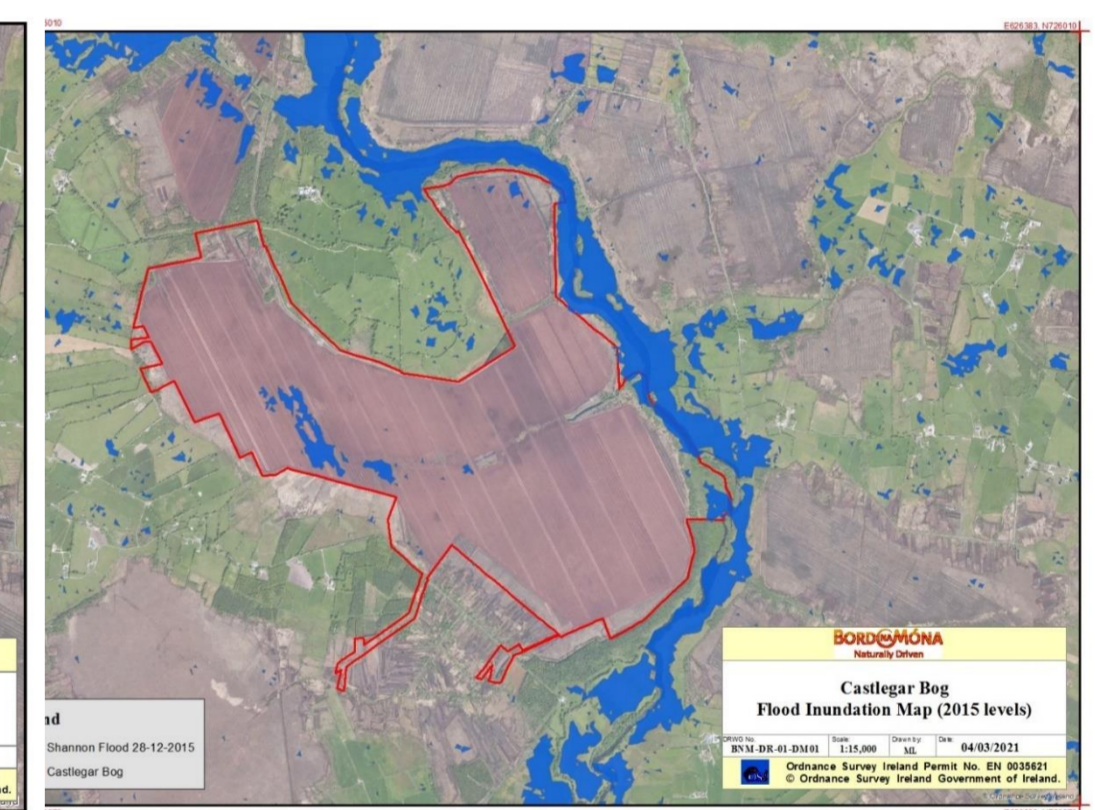
Oughter Bog – Pioneer fen vegetation developing



Castlegar Peat depths – red indicates 4-5m depth



Topography – variable levels



Seasonal flooding risk - low

Castlegar Bog

- About 20 years of industrial peat extraction.
- Significant residual deep peat left.
- Variable topography.
- Rehab Measures planned to retain suitable water levels on higher parts of the site
- Optimising the re-wetted footprint.
- Ecological indicators – Sphagnum appearing in drains.
- Main objective – re-wet site to develop Sphagnum-rich vegetation.
- Some planting of Sphagnum plugs is proposed for this site – BedaMoss – target area about 20 ha out of 250 ha.



Drains at Castlegar – Sphagnum already present



Expected future Sphagnum-rich vegetation – already developed after 30 years on a similar site



Derrycashel Bog – Drone shot from Nov 2021 – Significant seasonal inundation and wetland development – pumping not completely ceased.