

# Baseline Ecology Survey of Bord na Móna's Bogs



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## Outline

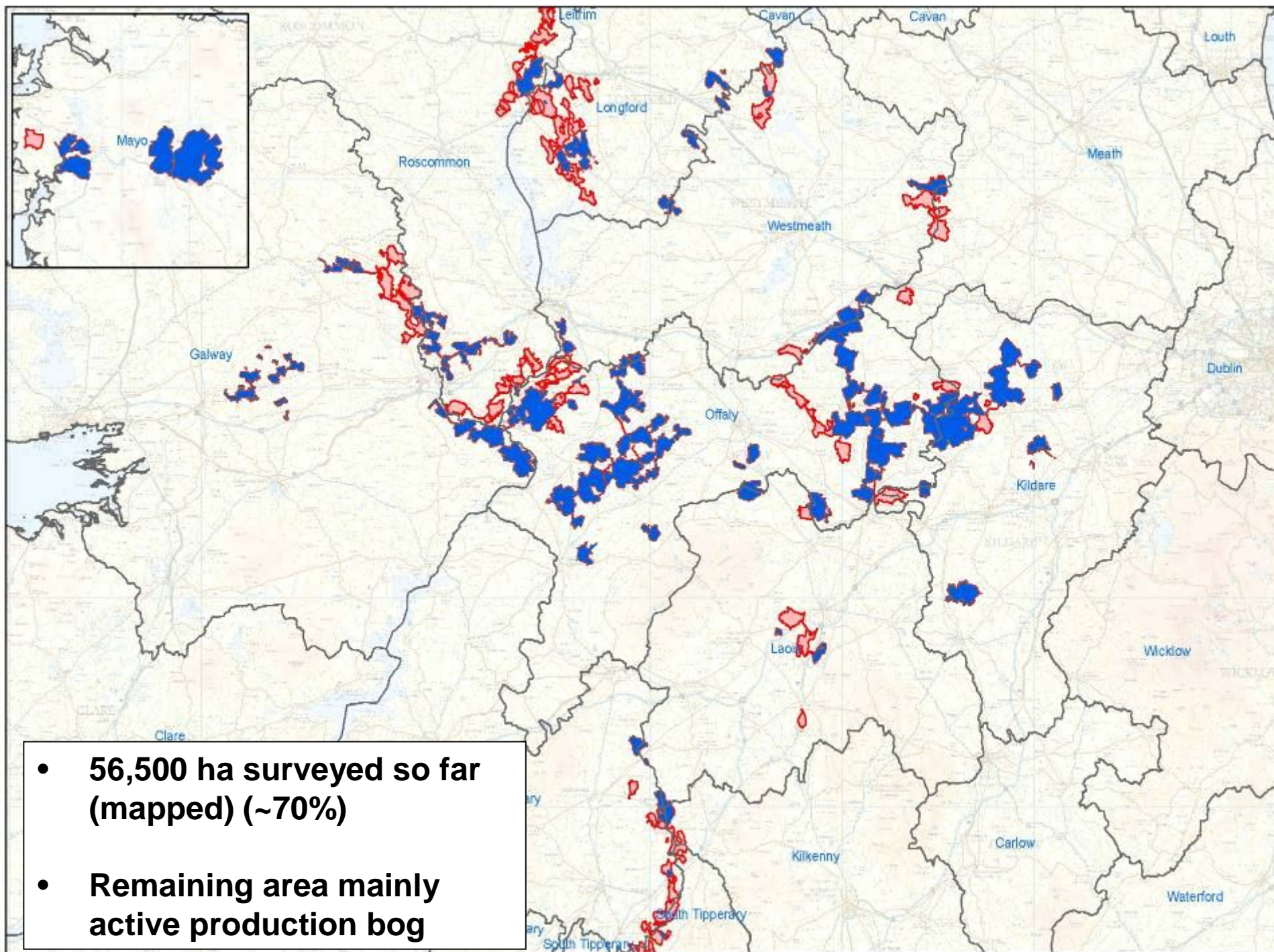
- Extent of the survey so far
- Review of pioneer cutaway habitats
- Future picture of the cutaway
  - aid planning for rehabilitation and after-use
- Accumulation of baseline data - distribution of habitats and species
- Oweninny survey 2011
  - how has rehabilitation of Oweninny progressed?

## **A baseline ecological survey – Why?**

- The backbone of rehabilitation planning
- Identify important biodiversity areas (objective of BAP)
- Baseline ecological data will also aid after-use projects, e.g.,
  - Mountlucas windfarm project
  - amenity and biodiversity projects such as Ballydangan Red Grouse project)

## **Progress so far**





## What are we finding?

- Pioneer cutaway habitats dominated by
  - Rush-dominated poor fen communities,
  - Birch scrub/bog woodland,
  - wetland communities,
  - dry heath,
  - dry grassland communities
- Pioneer habitat development dependant on environmental factors
  - depth of remaining peat (exposed subsoil)
  - pH of remnant peat – generally fen peat with pH 5
  - Nutrient status of remaining substrate (peat/marl/sub soil)
  - hydrology and height of water table (some pumped bogs)
  - Local topography (wet basins, dry mounds)
- No prospects for significant development of ombrotrophic peat-forming communities in near future (no significant re-growth of bogs!)



## Active production bog



## Bare peat



## Pioneer cutaway habitats



**Soft Rush-  
dominated poor fen**



**Bog Cotton  
-dominated poor fen**

**Wetlands  
& Open water**



**Dry Heath**



**Birch scrub**



**Dry calcareous grassland**



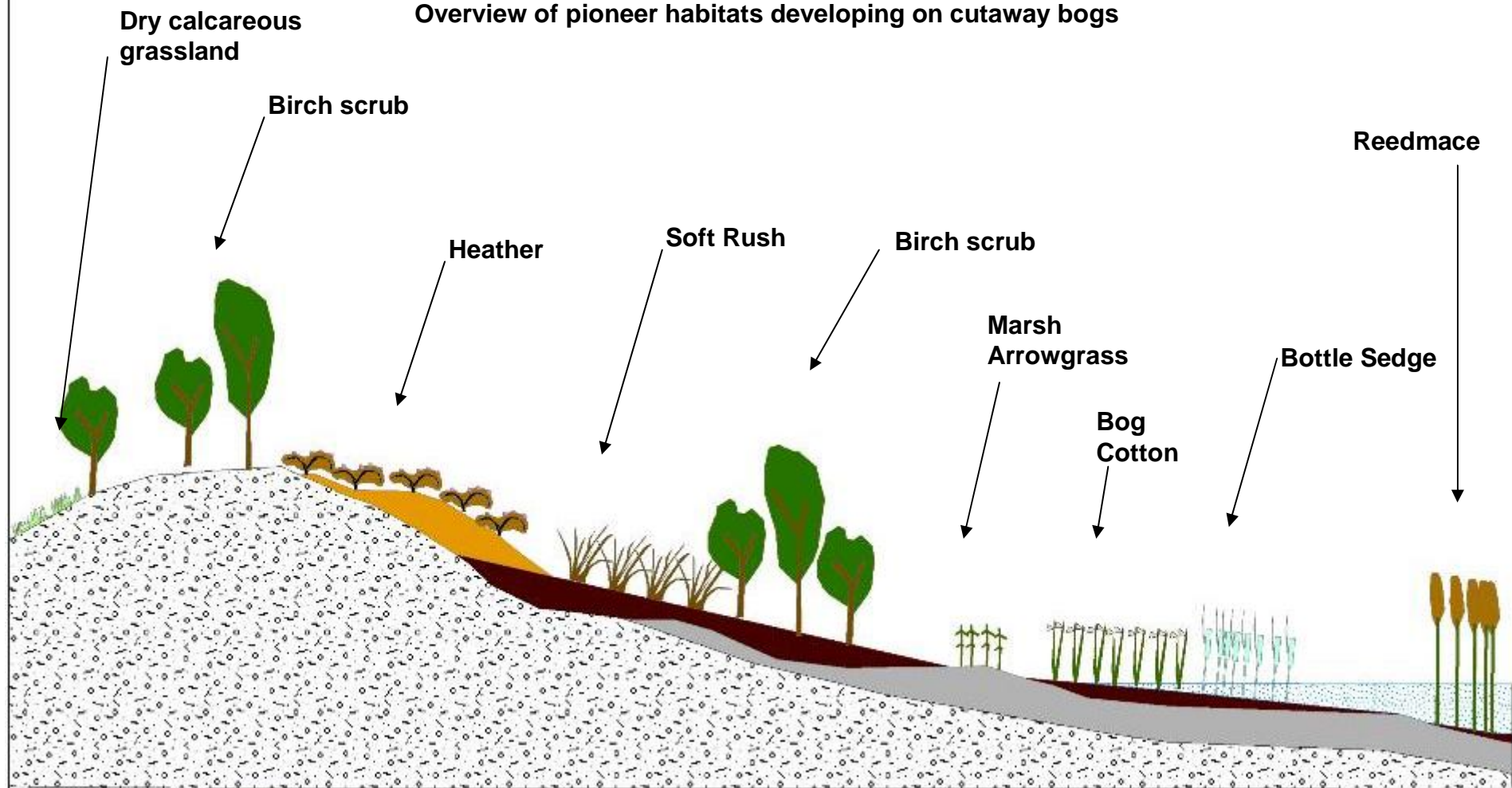
**Reedbeds**










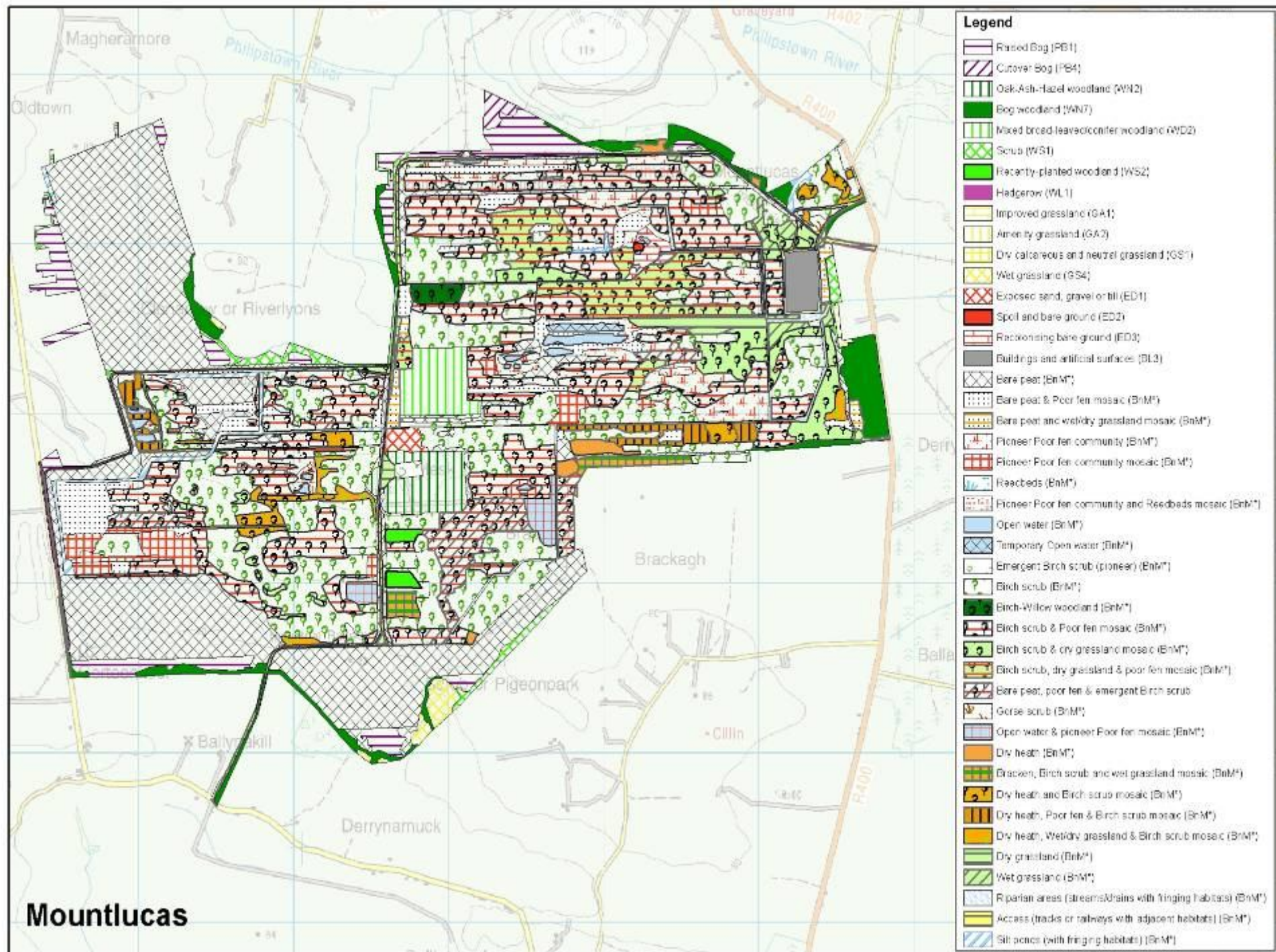


## Overview of pioneer habitats developing on cutaway bogs



### Legend

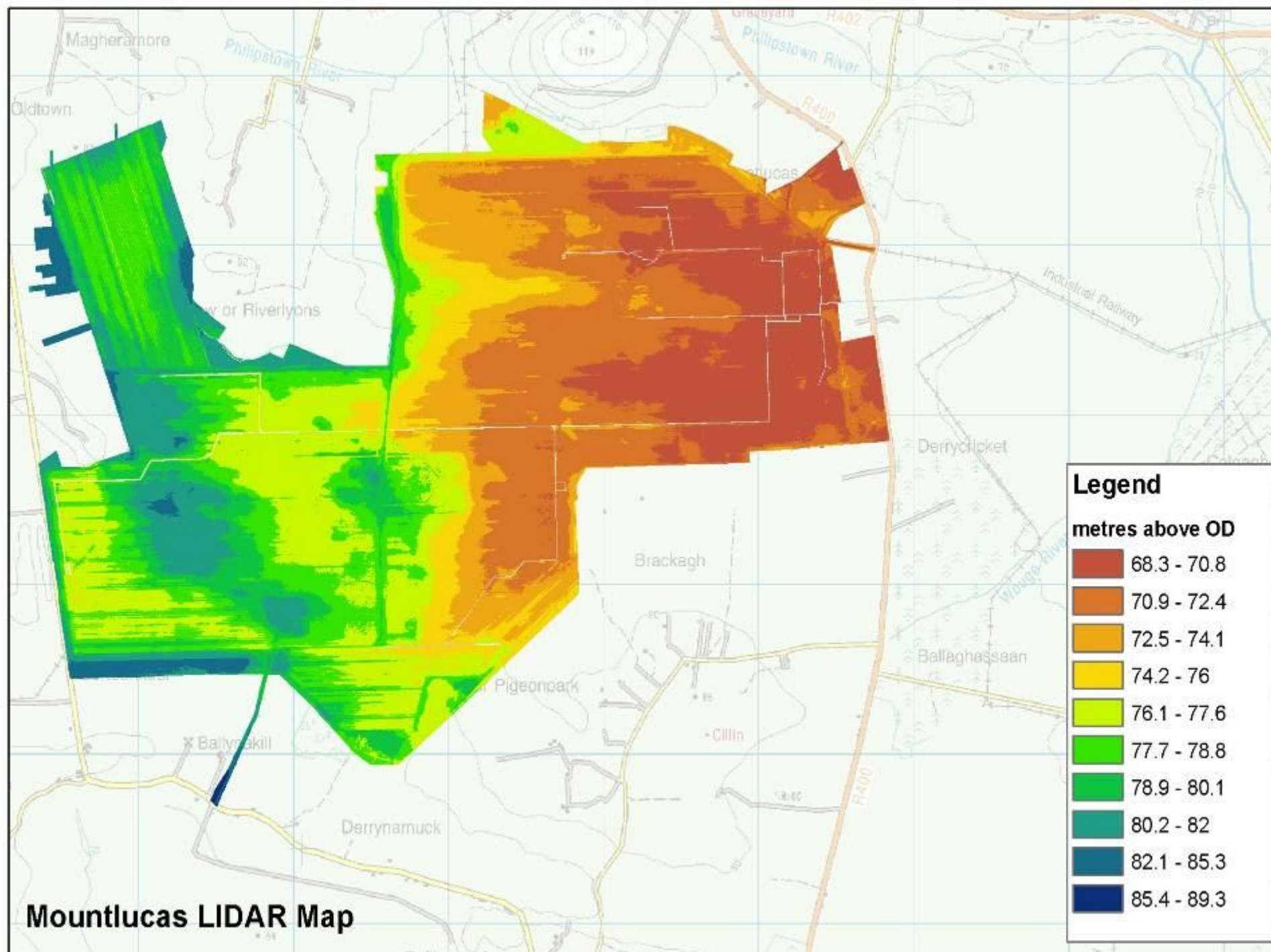
-  Raised bog peat
-  Fen peat
-  Lake marl
-  Calcareous sub-soil
-  Open water



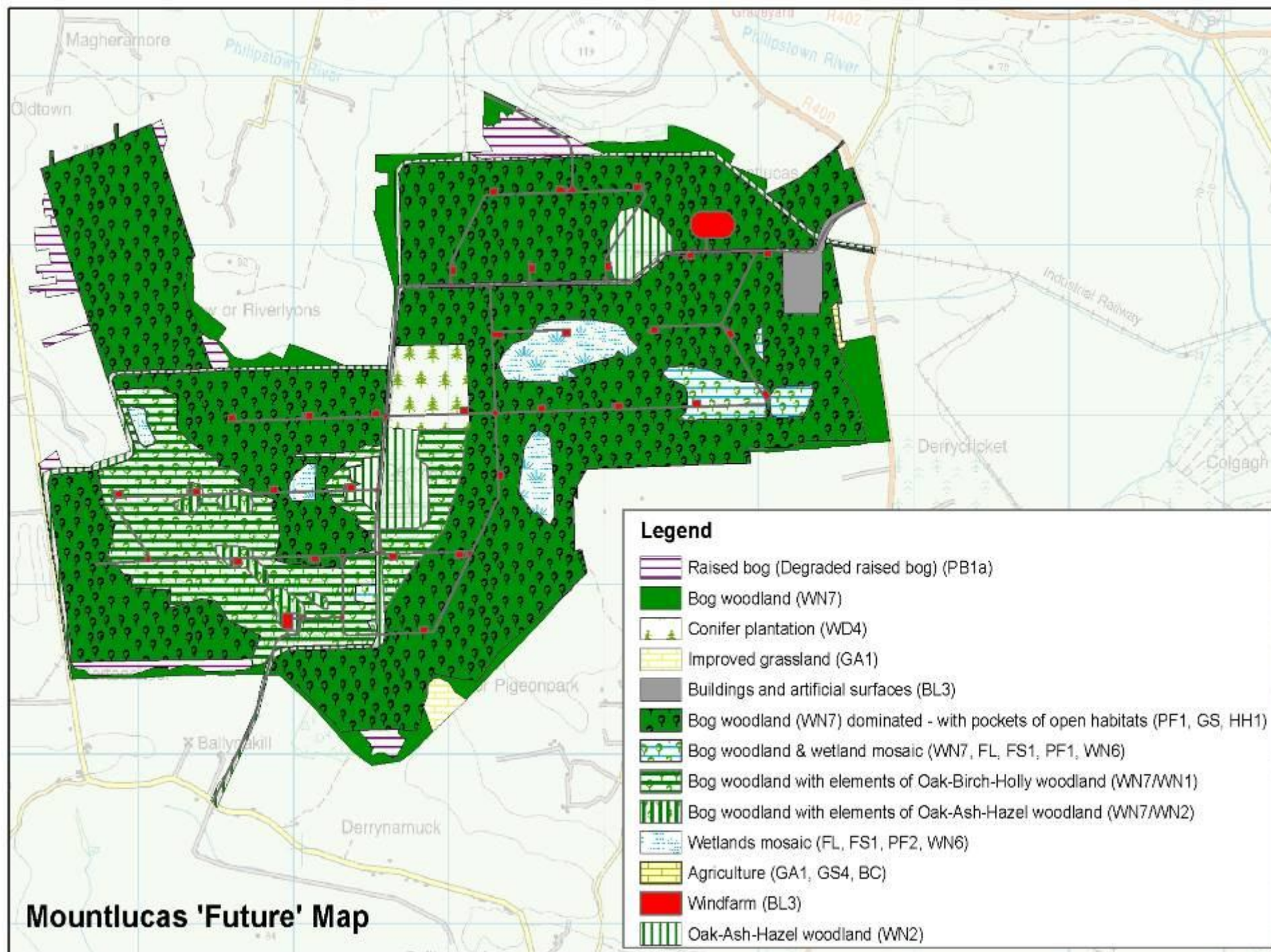


## **Future picture of the cutaway**

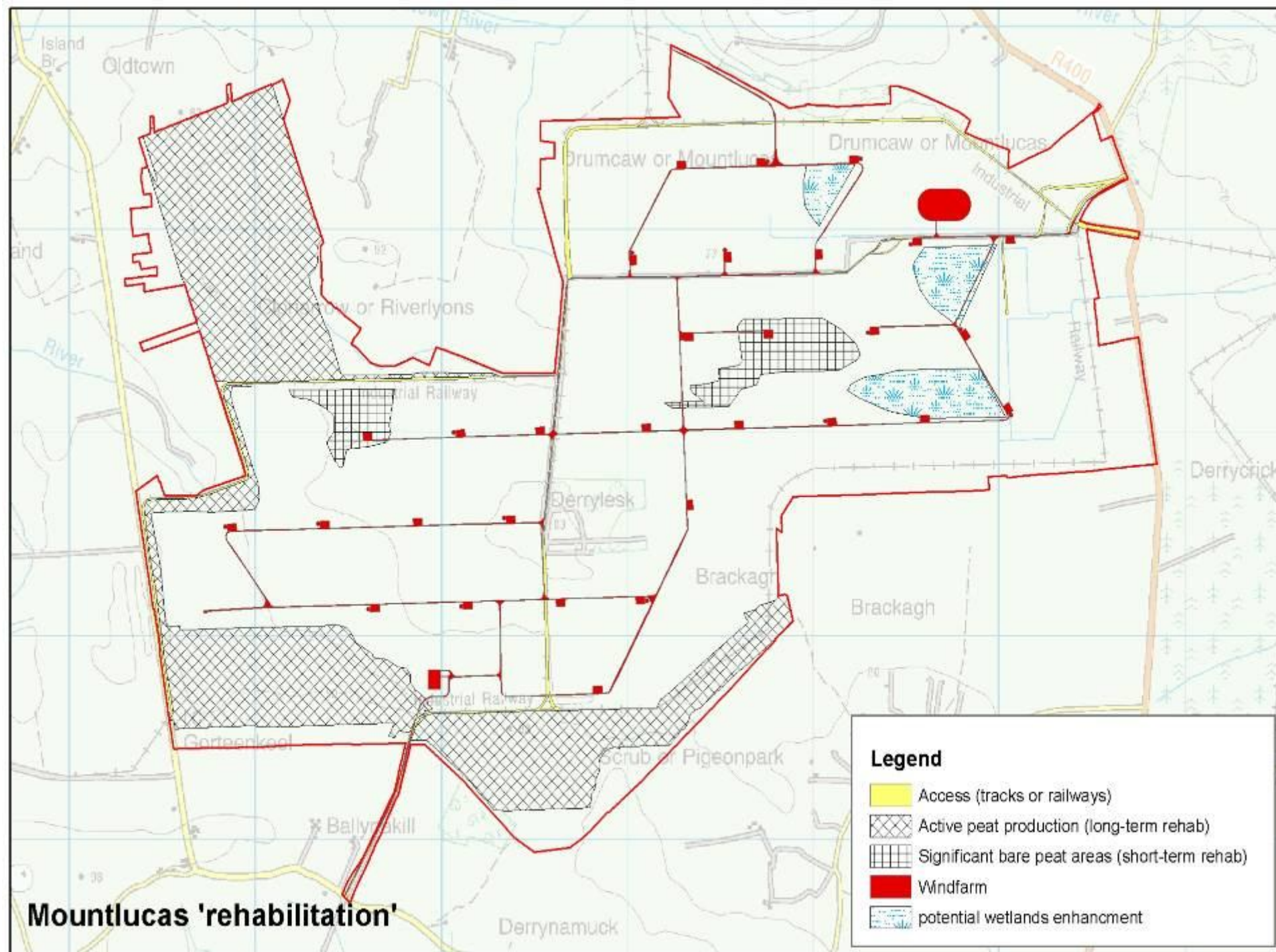
- BnM cutaway is still at a relatively young stage of development
  - Turraun one of the 'oldest' sites – 1970's since production
- Habitats and landscapes likely to continue to develop and mature into the future
- Hypothetical model – expected future habitats of the cutaway
- Future landscape also dependant on BnM after-use plans, industrial development, external influences etc
- E.g. Mountlucas windfarm development and rehabilitation of site













## **Analysis of hypothetical 'future' habitats of BnM property**

**(based on area surveyed so  
far)**

Main expected default cutaway  
habitats of the future include:

- Birch-dominated bog woodland  
(some Pine dominated)
- Wetland mosaics
  - (open water, Reedbeds,  
emergant poor fen  
communities, wet Willow-  
dominated woodland (carr  
type)

Habitat	Area (ha)	% area
Hedgerow & treeline	11.8	< 0.1
Transition mire	15.6	< 0.1
Dry grassland	21.5	< 0.1
Wet grassland	82.5	0.2
Rich fen	110.7	0.2
Water-courses	139.4	0.3
Agriculture	485.0	1.0
Built & disturbed land	521.7	1.1
Lakes & open water	605.1	1.2
Cutover bog	1030.9	2.1
Heath	2497.7	5.2
Raised bog	5639.7	11.6
Wetlands mosaic	6915.5	14.3
Woodland	30398.8	62.7

## Species found on cutaway/production bogs





## **Species using the cutaway**

- Ecological baseline survey – accumulation of baseline data
  - Distribution of species and habitats
- Aids planning for after-use and development, identifies important biodiversity areas
  - E.g. Mountlucas windfarm development
- Distribution maps of various species of conservation interest on BnM property



## Plant Species of conservation significance

Blue Fleabane  
(Red Data Book Species)

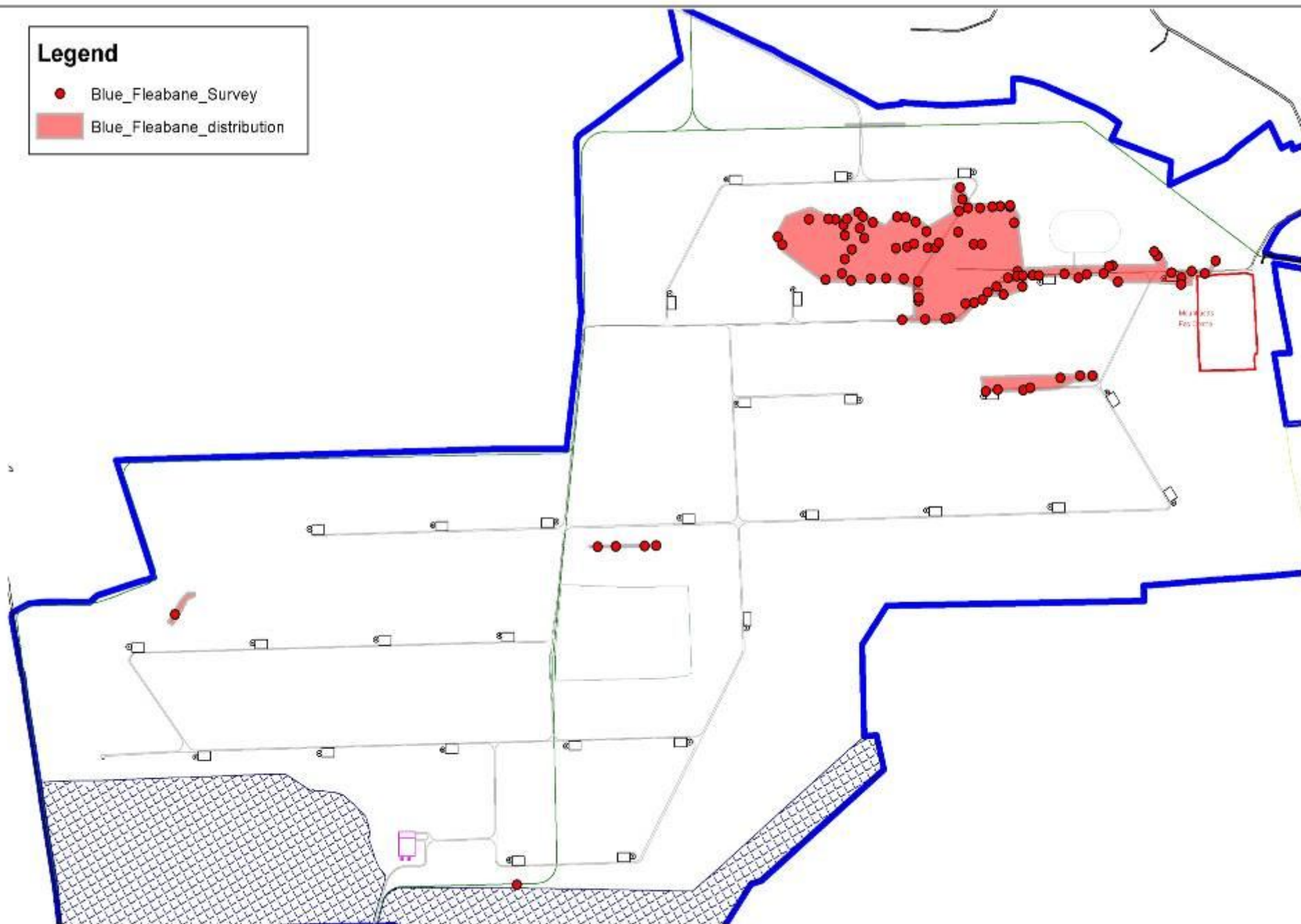
Esker species  
Likes gravel and disturbance

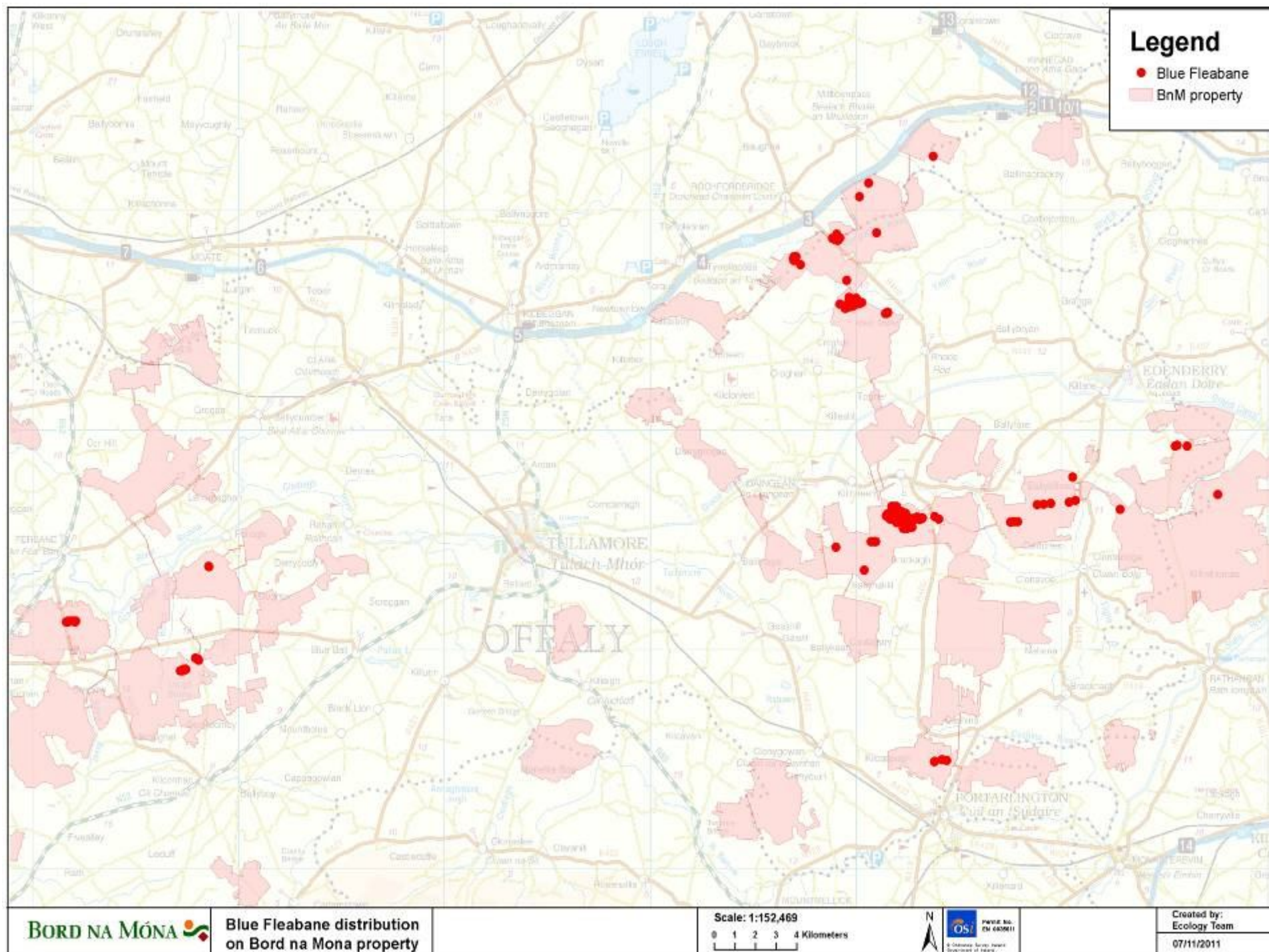




## Legend

- Blue\_Fleabane\_Survey
- Blue\_Fleabane\_distribution









## Kingfisher

Annex I (Birds Directive)

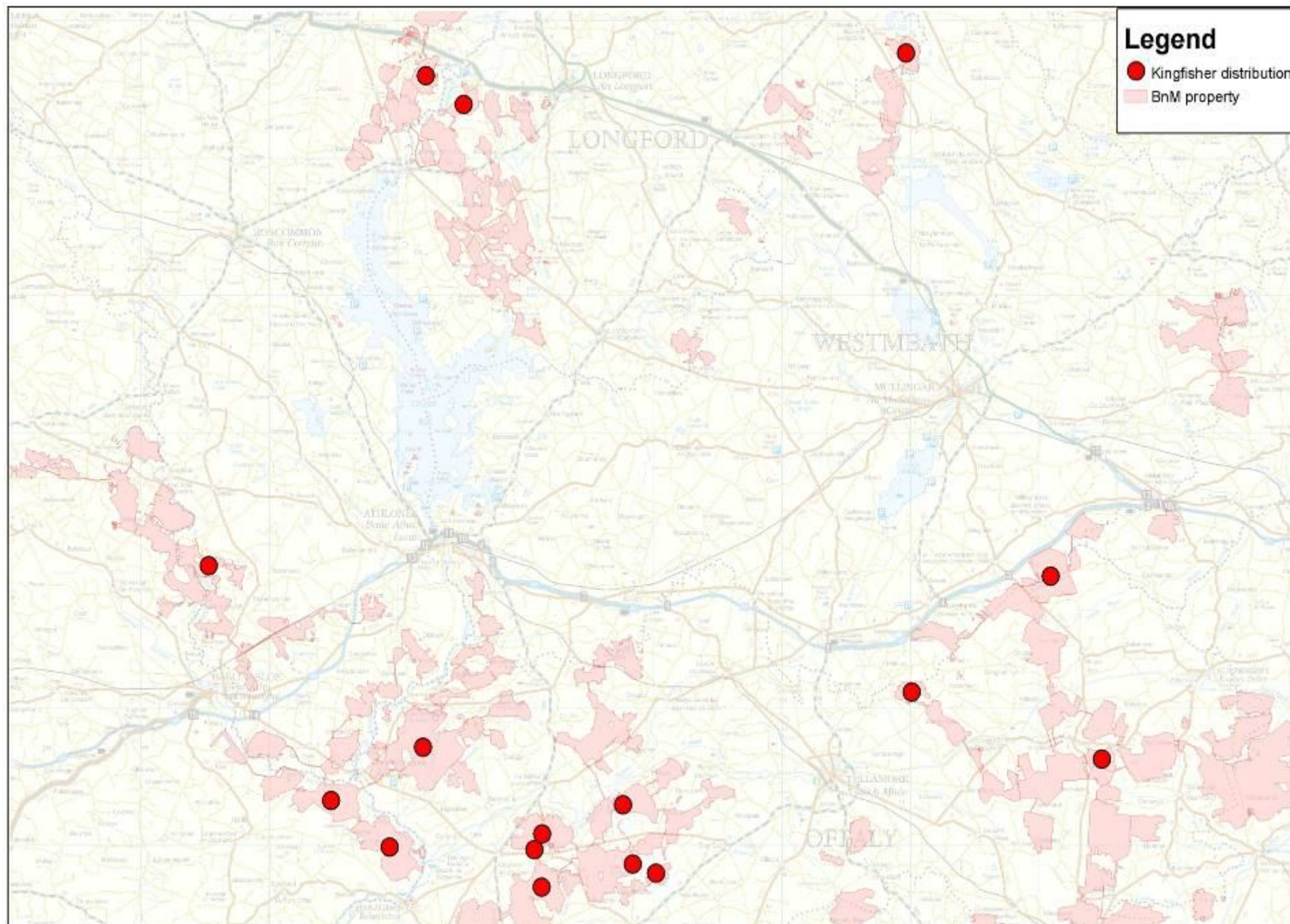
Occasionally visits silt ponds/drains

Possible breeder?



## Legend

- Kingfisher distribution
- BnM property







## River Suck floodplain

Garryduff/Kilmacshane/  
Blackwater  
(winter flooding 2009)

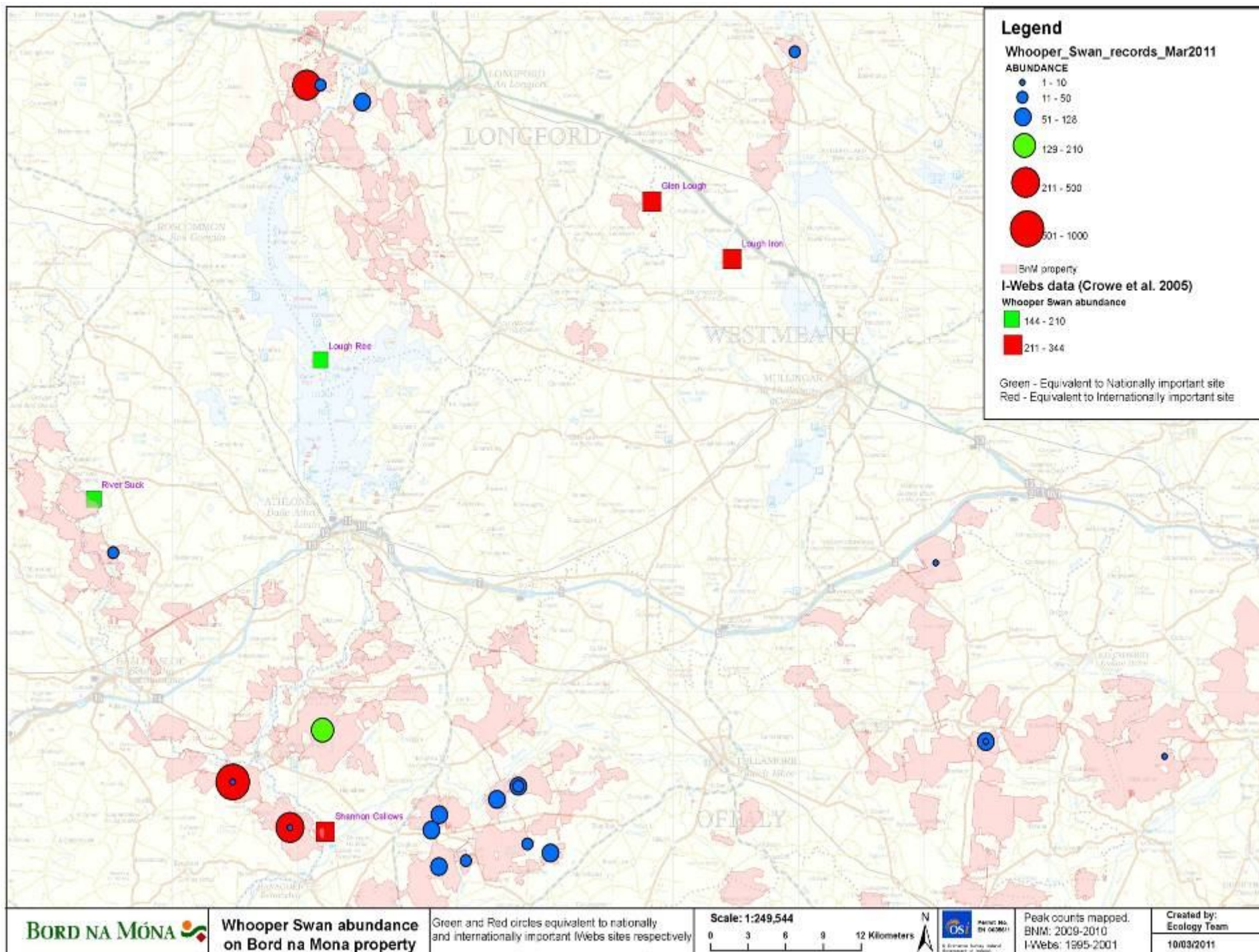
## Whooper Swan

950 in 2009/2010

Internationally important  
numbers

(Annex I, EU Birds Directive  
species)









**Marsh Arrowgrass sward**

## Turraun Butterfly transect

- A typical picture of butterfly biodiversity on cutaway
- 15 species (low diversity? – 21 species recorded at Lullybeg)
- Small Heath and Dingy Skipper are ‘near threatened’
- food plants of several unrecorded species are present at Turraun
- Expect to record a few more species in the future
- Marsh Fritillary known from 3 BnM sites in Offaly, Kildare and Tipperary

Green-veined White
Large White
Small White
Orange Tip
Common Blue
Small Copper
Dingy Skipper
Ringlet
Speckled Wood
Meadow Brown
Small Heath
Red Admiral
Small Tortoiseshell
Peacock
Silver-washed Fritillary





### Oweninny survey (Mayo)

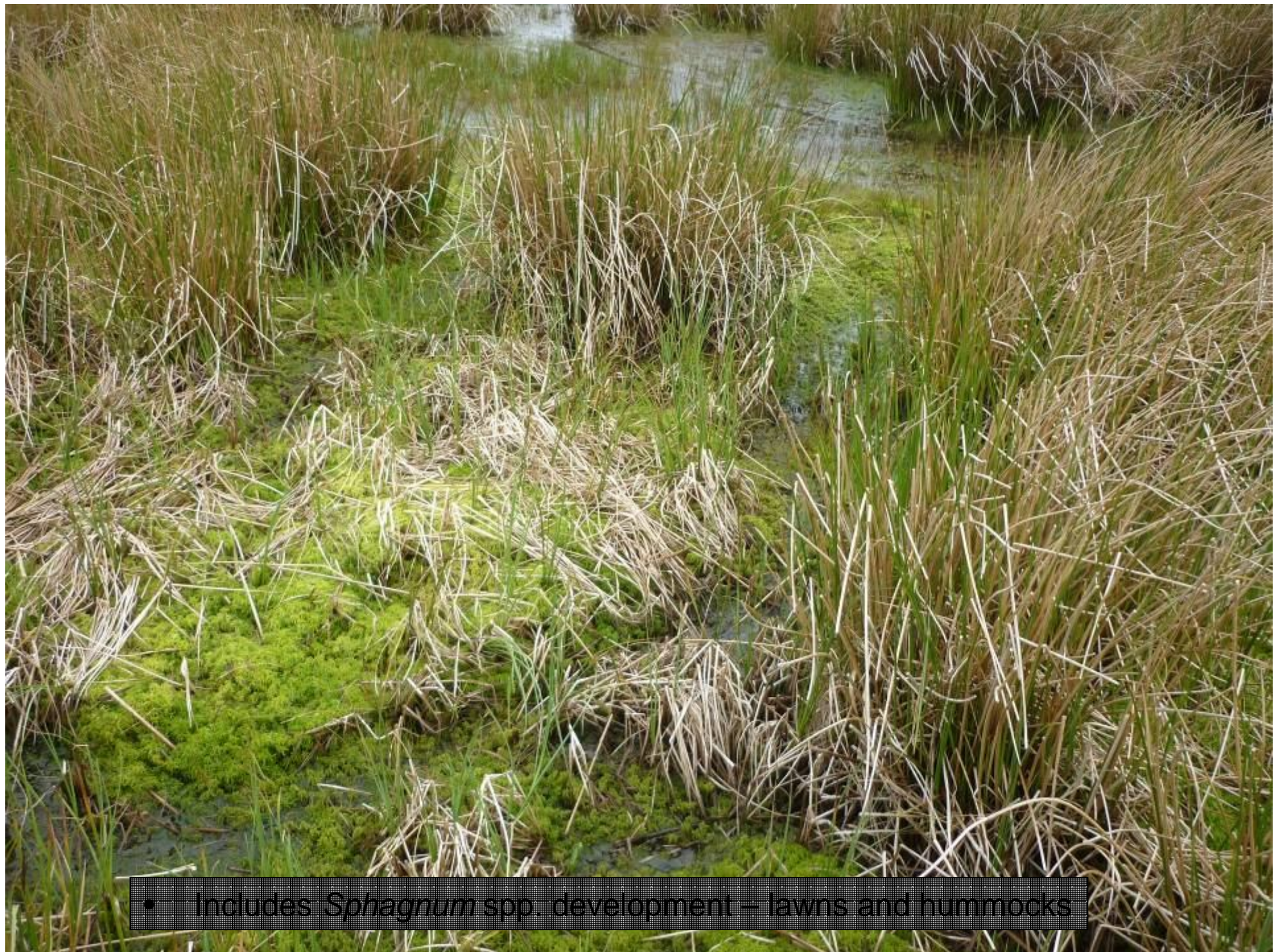
- How successful has rehabilitation been at Oweninny?
- How has the cutaway developed since rehabilitation finished (2005)?





- Re-vegetation dominated by Rush-dominated poor fen (+/- moss rich) and pioneer Bog Cotton-dominated communities





- Includes *Sphagnum* spp. development – lawns and hummocks





- *Sphagnum* development associated with hydrology/water-logging



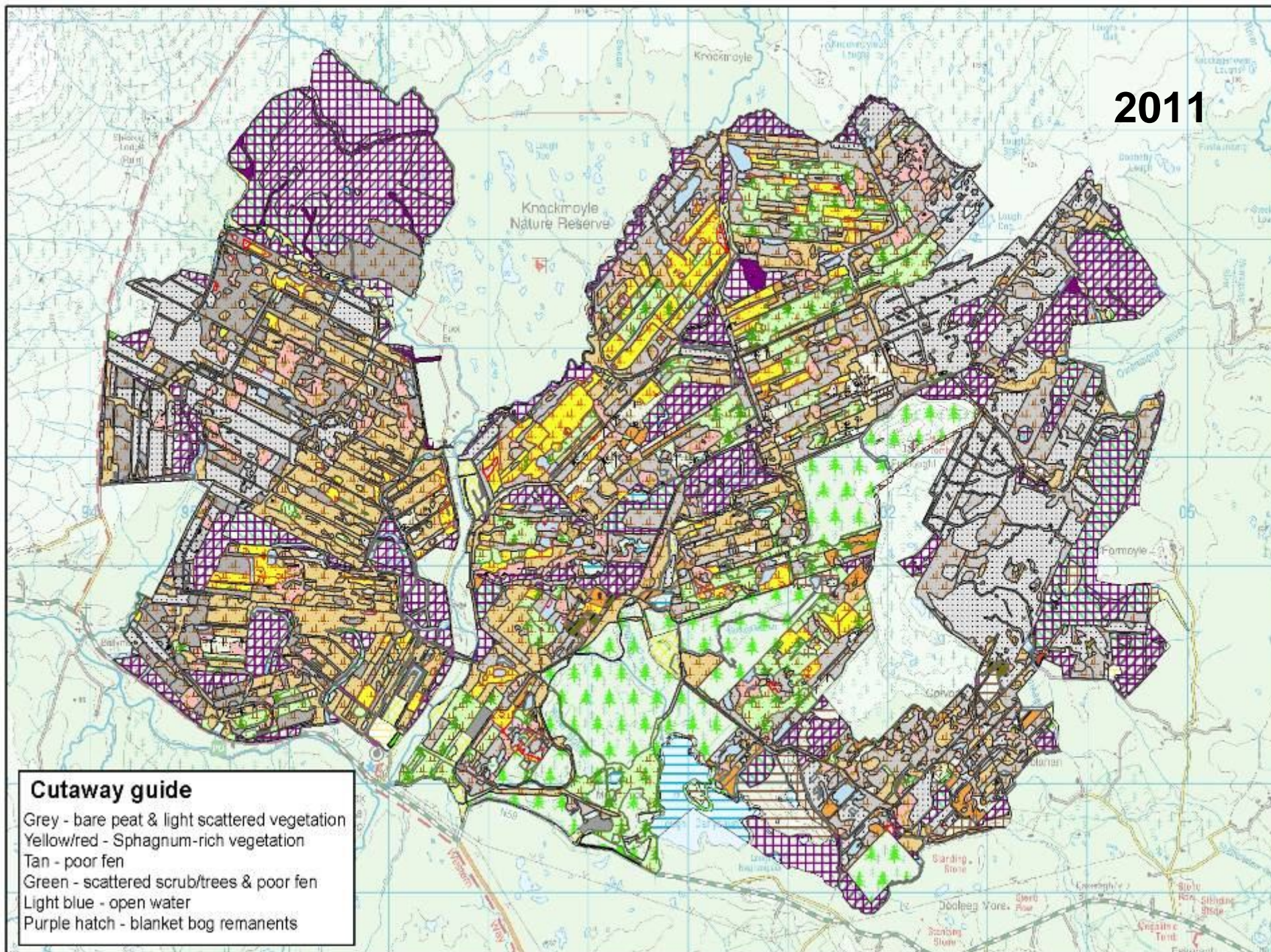


Substantial proportion of  
cutaway still relatively bare  
peat or gravel





2011

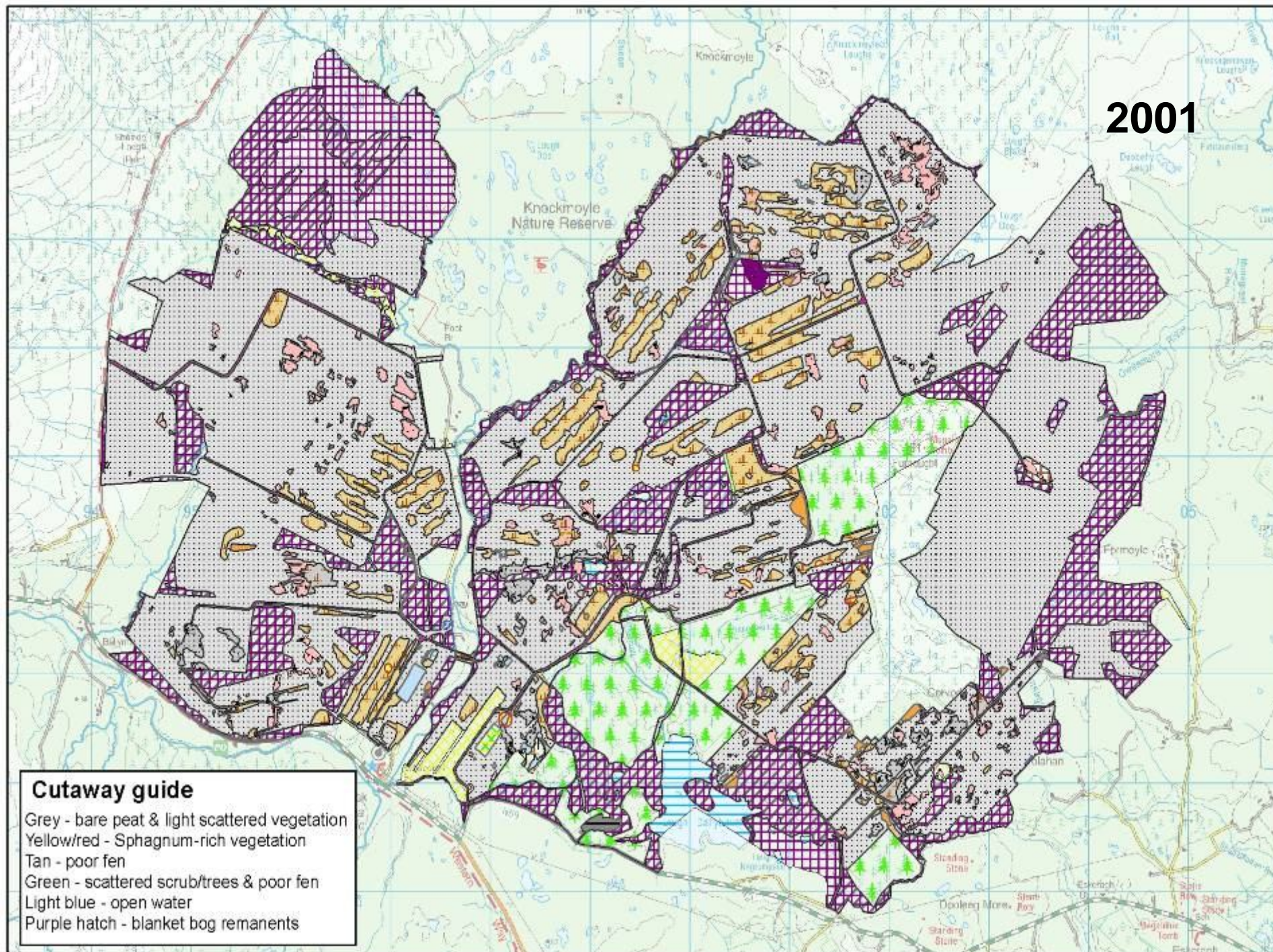




2001

### Cutaway guide

Grey - bare peat & light scattered vegetation  
Yellow/red - Sphagnum-rich vegetation  
Tan - poor fen  
Green - scattered scrub/trees & poor fen  
Light blue - open water  
Purple hatch - blanket bog remanents





**Thank You**

