

Biodiversity Action Plan Review 2014

Bord na Móna Raised Bog Restoration Project



Mark McCorry

2nd February 2015

Background

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pro

Ballydangan/Cuckoo Hill

Derrydoo-Woodlough

Abbeyleix Bog

on

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at

Background – Abbeyleigh Bog



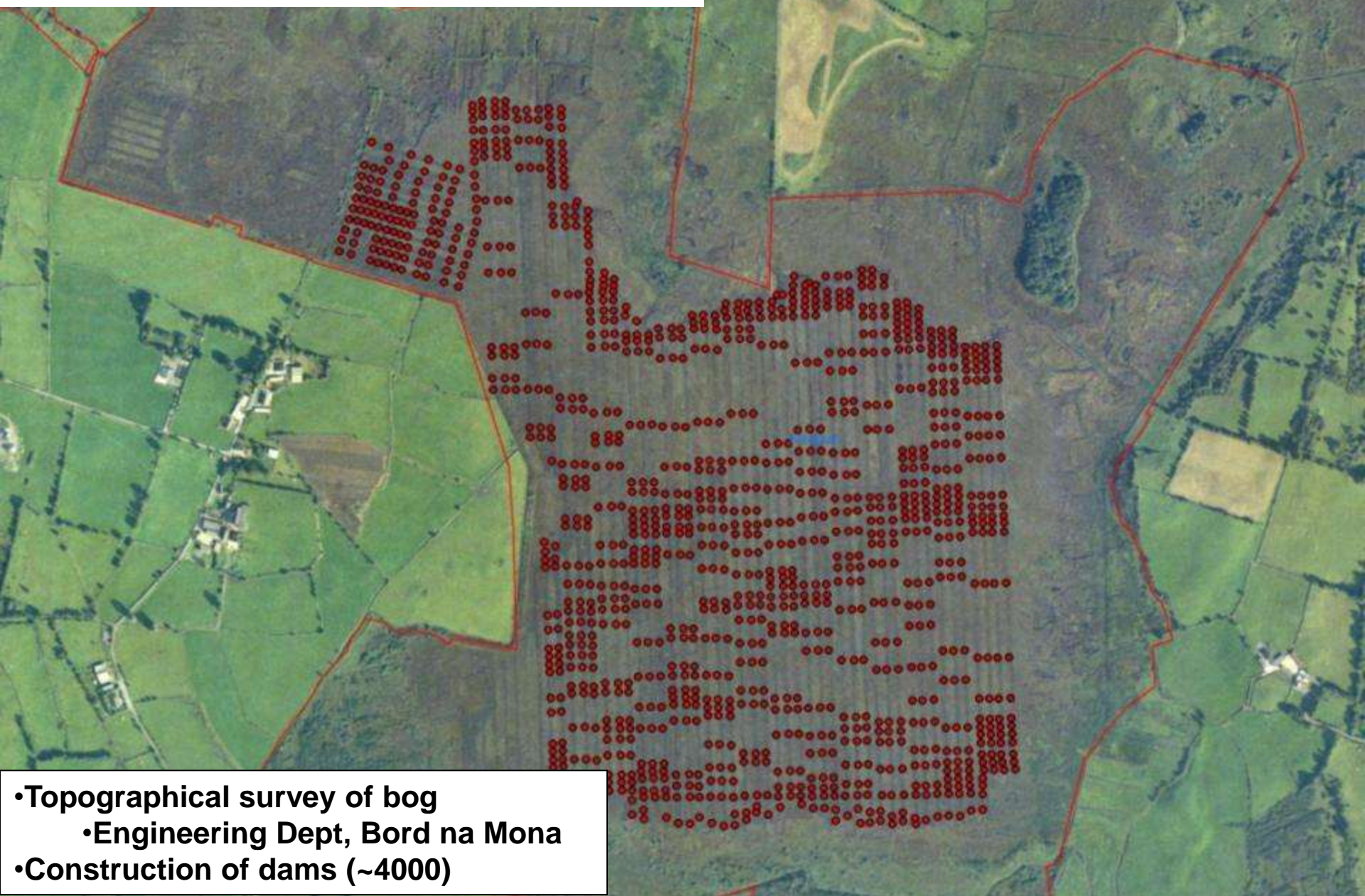
Baseline condition



Methodology – use of peat dams



Methodology – Topographical survey



- Topographical survey of bog
 - Engineering Dept, Bord na Mona
- Construction of dams (~4000)



- New excavator purchased by BnM Ecology Team solely for high bog drain-blocking works
- Modified for use on high bog
- Operated by Feedstock, Bord na Mona



Methodology - approach



Drains blocked to raise water levels

**Cuckoo Hill –
after drain-blocking**



re-wetting the bog and



**aiding the natural development of *Sphagnum*-rich
plant communities (active raised bog) and peatland
habitat function.**



Derrydoo-Woodlough

- Draft rehabilitation plan developed 2011
 - Part of compliance with IPC licensing administered by EPA
- Consultation - winter-spring 2012
BnM, NPWS, EPA, Birdwatch Ireland, IPCC, An Taisce, local communities etc
- Consultation - site visit with NPWS (Feb 2012)
- Final plan developed April 2012
- Planning - spring 2012
Machinery/HR (BnM Feedstock)
Drainage survey (BnM Surveyor Team)
Access
- Rehabilitation begins June 2012

Bord na Móna

Derrydoo-Woodlough Rehabilitation Plan

Rehabilitation Plan

This rehabilitation plan is developed under Condition 10 of IPPC Licence Ref. 502. It outlines the measures that will provide for stabilisation of the bog area. Rehabilitation can comprise natural colonisation with or without targeted management, and in some instances will incorporate other after-uses (development of sites for nature conservation, amenity, renewable energy, forestry and/or other commercial developments) deemed compatible with the site as outlined under the Bord na Móna Land Use Framework document 2011.

Bog Name:	Derrydoo-Woodlough Bog group	Area (ha):	Total approx. 469 Ha (comprises a cluster of sites of variable size) Moyne Wood Bog 188ha Linnaneagh Bog 102ha Pauha Lough Bog 143ha Gortnahulla 38ha
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Works Name:	Attymon	County:	Galway
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Author(s):	CF, MMC & DF	Survey Date(s):	Site survey dates: 8 th & 9 th April 2010; June 2011
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Maps:	Rehabilitation map
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Review status: finalised March 29th 2012

Background

The Derrydoo-Woodlough Bog group is comprised of a cluster of four sub-sites, each of which is an example of degraded raised bog with associated marginal habitats. These bogs were ditched (drained) in the early 1980s but were never industrially harvested for peat and the surface vegetation remained largely intact. Derrydoo-Woodlough bog is part of the Attymon - Blackwater 502 bog group. This plan is a specific rehabilitation plan for the Derrydoo-Woodlough Bog group and outlines:

- criteria which define the successful rehabilitation,
- consultation with interested parties,
- main issues for rehabilitation,
- proposed rehabilitation programme,
- and proposed timeframe to implement this programme, and associated aftercare, maintenance and monitoring.

The basis for the proposed approaches and implementation is the experience gained in 40 years of research on the after-use development and rehabilitation of the Bord na Móna outway bogs (see reference documents).

Scope

The scope of the rehabilitation plan seeks to address issues of concern as identified by Bord na Móna and the consultees. The key issues identified are:

- Categorisation of the habitats developing on Derrydoo-Woodlough Bog group (outlined in Appendix 1)
- Environmental stabilisation of the former peat production areas (N/A)
- Maintenance of drainage and silt control through the site
- Remediation of water courses where necessary (decommissioning)
- The timeframe for bog rehabilitation/restoration
- The impact of any other proposed development on the site and rehabilitation plan

List of consultees

Bord na Móna Senior Management; NPWS, IPCC; BWI; Golden Eagle Trust; An Taisce, Collite; EPA, local county council, Heritage Officer, local communities

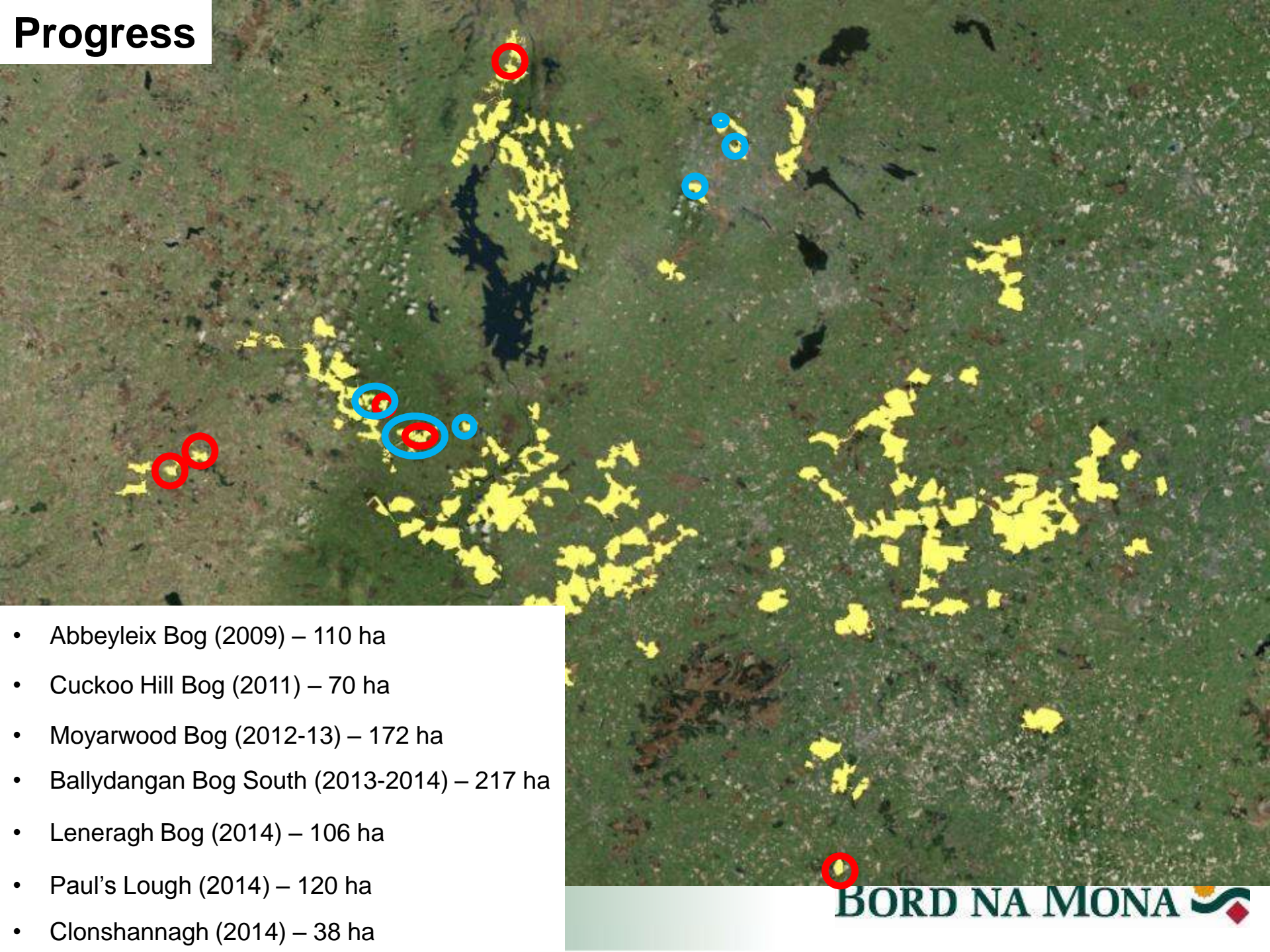
Ballydangan

- Part of the draft Clonboley 1 rehabilitation plan - 2011
- On-going consultation
- Development of community project with Moore Gun-club – lease signed in 2010
- Site visit with NPWS (June 2013)
- Circulate draft plan to EPA, NPWS, IPCC, An Taisce, local community and other stakeholders for comment ~ Spring 2015
- Final plan 2015

Rehabilitation Plan																					
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Bog Name:	<u>Clonboley 1 & 2</u>	Area (ha):	Total approx. 941 ha (comprises a cluster of sites of variable size, based on 2013 data)																		
			<table><tr><td>Clonboley 1</td><td>Total Area ha</td></tr><tr><td>Ballydangan</td><td>252</td></tr><tr><td>Ballydangan North</td><td>187</td></tr><tr><td>Cranberry Lough Bog</td><td>106</td></tr><tr><td>Other</td><td>204</td></tr><tr><td> </td><td> </td></tr><tr><td>Clonboley 2</td><td> </td></tr><tr><td>Clera Island</td><td>191</td></tr><tr><td>Other</td><td>28</td></tr></table>	Clonboley 1	Total Area ha	Ballydangan	252	Ballydangan North	187	Cranberry Lough Bog	106	Other	204			Clonboley 2		Clera Island	191	Other	28
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Other	28																				
Works Name:	Derryfadda	County:	Roscommon																		
Author(s):	CF, MMC & DF	Survey Date(s):	Site survey dates: 26 th , 28 th & 29 th January 2010; April, July 2011 NPWS site visits: December 2008; 2011, 2013																		
Maps:	Habitats Map Rehabilitation map																				
Review status: updated January 9 th 2011 (updated January 31 st 2013)																					
Remaining work:																					

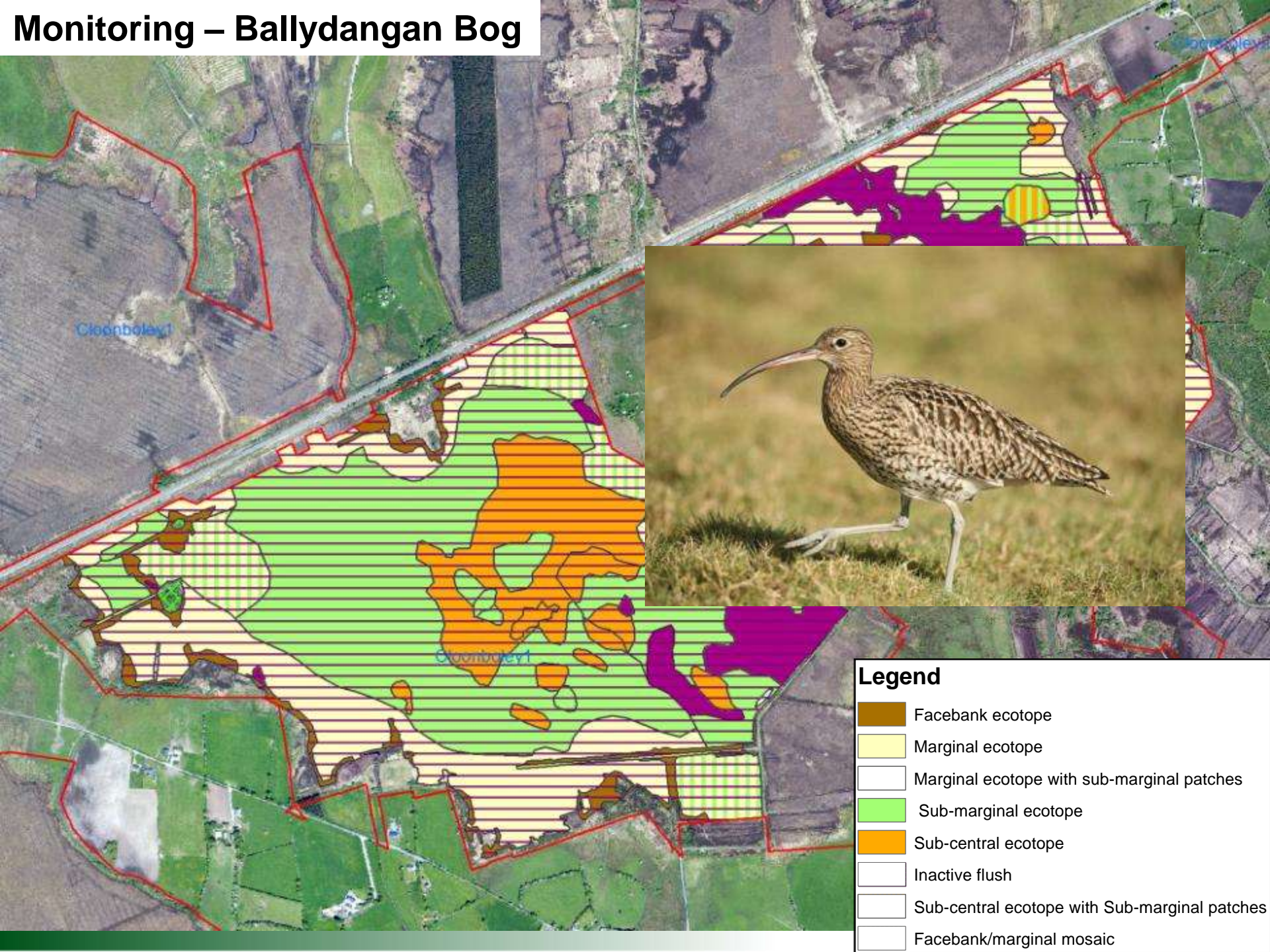


Progress



- Abbeyleix Bog (2009) – 110 ha
- Cuckoo Hill Bog (2011) – 70 ha
- Moyarwood Bog (2012-13) – 172 ha
- Ballydangan Bog South (2013-2014) – 217 ha
- Leneragh Bog (2014) – 106 ha
- Paul's Lough (2014) – 120 ha
- Clonshannagh (2014) – 38 ha

Monitoring – Ballydangan Bog



Monitoring

Permanent quadrats Cuckoo Hill

Overall <i>Sphagnum</i> cover	Permanent Quadrats				
	1	2	3	4	5
2011	10-20%	5-10%	20-30%	20-30%	1%
2013	50%	5-10%	30%	30-40%	<5%



Sphagnum subnitens

Abbeyleix Bog

2014 Ecotope map
with ecotope GPS
map-points

Legend

Facebank ecotope

Marginal ecotope

Marginal ecotope with sub-marginal patches

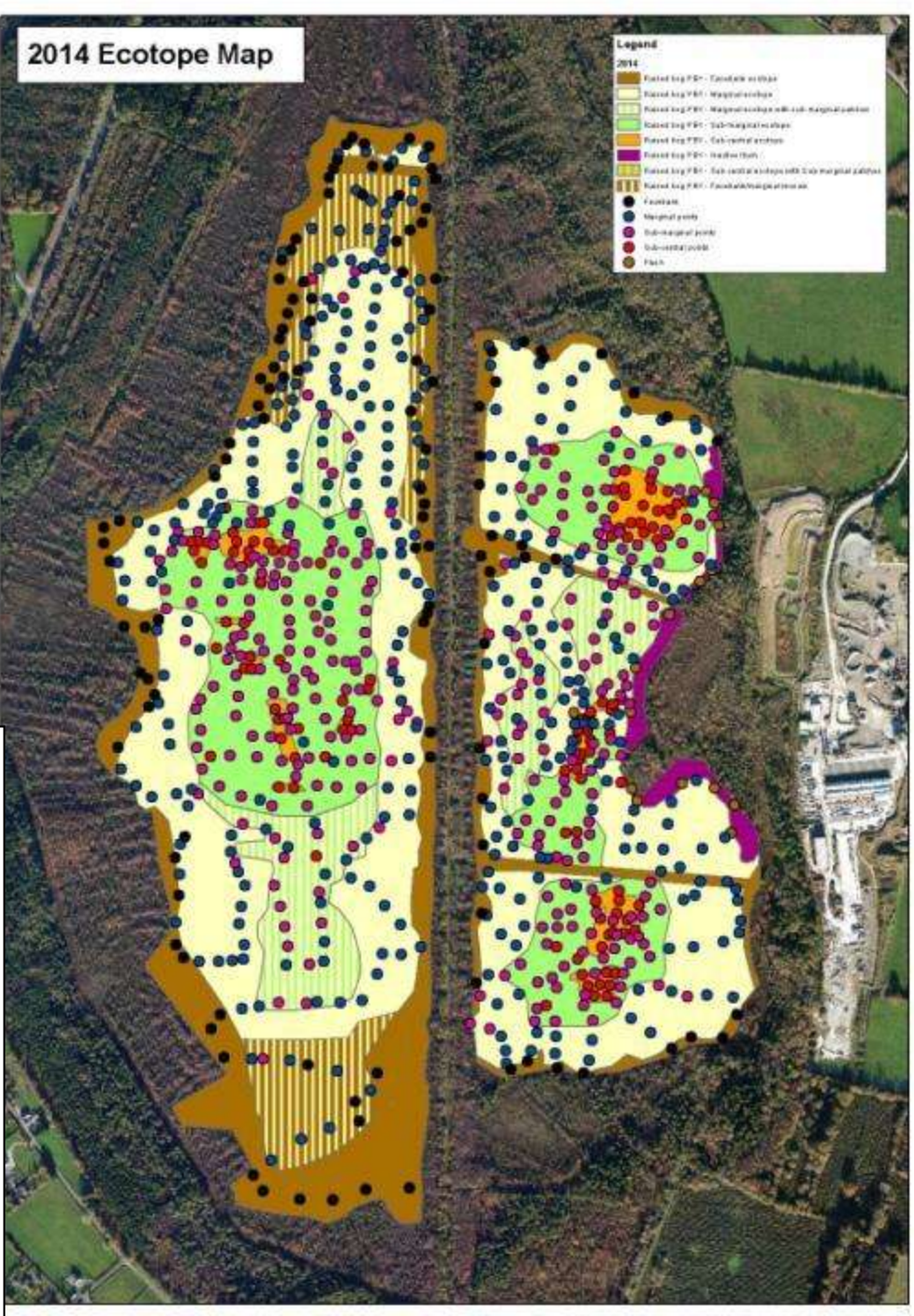
Sub-marginal ecotope

Sub-central ecotope

Inactive flush

Sub-central ecotope with Sub-marginal patches

Facebank/marginal mosaic











Comparison of 2009 and 2014 Ecotope maps

Active bog habitat

- 2009 – 0.99 ha
- 2014 – 3.2 ha
- Drain-blocking in 2009 has had positive impact on bog condition
- Increase in *Sphagnum* cover
- Increase in 'active bog' habitat

Legend

	Facebank ecotope
	Marginal ecotope
	Marginal ecotope with sub-marginal patches
	Sub-marginal ecotope
	Sub-central ecotope
	Inactive flush
	Sub-central ecotope with Sub-marginal patches
	Facebank/marginal mosaic





Cloonshannagh Bog





Lessons learned

- These bogs have significant nature conservation value and bog restoration potential
- Consultation and engagement with local communities and other stakeholders important
- Drain-blocking using peat-dam method very effective
- Initial monitoring results positive – *Sphagnum* cover and active peat-forming bog habitat increasing
- Will have significant contribution to Ireland's biodiversity and nature conservation targets
- Huge opportunities for developing natural capital (biodiversity/carbon etc) value of these sites!



Thank
You