

Rivers with muddy banks with
Chenopodium rubri p.p. and Bidentation
p.p. vegetation [3270]
Survey of selected sites in 2025



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Reference: Mulcahy, H. (2025) Rivers with muddy banks with *Chenopodium rubri p.p.* and *Bidention p.p.* vegetation [3270] survey of selected sites in 2025. National Parks and Wildlife Service report, DHLGH.

Front page image: *Limosella aquatica* in Annahalla, The Gearagh, September 2025. Image by Hannah Mulcahy

1 INTRODUCTION

Surveys were conducted in 2025 at a selected number of sites previously surveyed for *Chenopodium rubri p.p.* and *Bidenton p.p.* vegetation [3270] by Conaghan and Fuller (2018), as well as an potential new site in Co Cork. The purpose of this report is to summarise the surveys and note the condition of 3270 habitat from the 2025 surveys. These 2025 surveys were conducted in-house by NPWS staff by turlough ecologist Hannah Mulcahy with assistance from NPWS staff, Conservation Rangers and independent ecologists. This report is written by Hannah Mulcahy.

2 SITES SURVEYED FOR 3270 IN 2025

Surveying was carried out in an informal and opportunistic fashion waiting for water levels to lower. The sites were walked over targeting areas of exposed mud. Maps, descriptions and other data were used from previous surveys to inform the surveying.

Seven sites contained 3270 habitat were visited during 2025 included in the table below.

3270 Site	Date (2025)	Surveyor accompanying HM
Glenamaddy Turlough (SAC, pNHA 00301)	19th June, 20th August	Dr John Conaghan and Raedan Doyle, revisit with Matthew Jones
The Gearagh, Amenity Boating Area	22nd September	Dr Áine O'Connor, Louis O'Sullivan, Claire Deasy
The Gearagh, Rooves Bridge, Co. Cork		
The Gearagh, Annahala Bridge		
Gearagh, Knockannacrohy / Dunisky	23rd September	Louis O'Sullivan, Claire Deasy
Gearagh, Picnic site, South Hartnetts Cross		
Bateman's Lough (pNHA)		
Kilcolman Bog, Co Cork SPA 004095 & Nature Reserve	7th October	Louis O'Sullivan, Claire Deasy

3 SURVEY RESULTS

3.1 GLENAMADDY TURLOUGH (SAC, PNHA 00301)

Grid ref	M 6384 6129
Date of survey	19th June 2025, 20 th August 2025
Designation	Lough Lurleen Bog/Glenamaddy Turlough SAC (00301)
Surveyors	Hannah Mulcahy, John Conaghan, Raedan Doyle, Matt Jones
Conaghan & Fuller (2018) site no.	No. 17

This survey site was surveyed twice in 2025: on 19th June 2025 by Hannah Mulcahy and John Conaghan, with ranger Raedan Doyle; and on 20th August for Heritage Week talk with Geological Survey Ireland and Tidy towns. Site visit conducted by Hannah Mulcahy and ecologist Matthew Jones.

The Turlough was very low this year and had completely dried out with large expanse of un-vegetated muds by June. This is in contrast to previous two years where the turlough did not empty, in which Conaghan (2024) had attempted to survey it, and in 2018 when Conaghan and Fuller (2018) also attempted to survey 3270 habitat, but levels were too high.

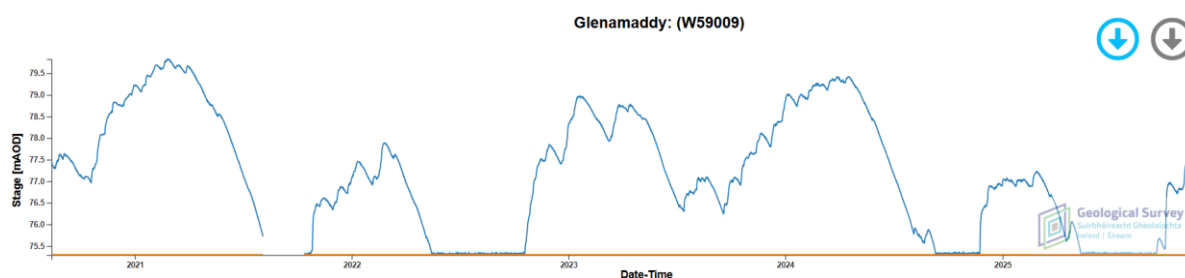


Figure 1 Water levels from 2021 to 2025 from <https://gwlevel.ie/>



Figure 2 Extensive exposed muds in Glenamaddy Turlough in June 2025

There was a small number of cattle with calves grazing to the north east and another group of cattle on the southern side. Lapwing and Redshank were both observed and potentially breeding on southern side of turlough.

Positive Indicator species for 3270 and other species recorded on the exposed muds include: *Oxybasis (Chenopodium) rubra*, *Gnaphalium uliginosum*, *Sparganium emersum*, *Riccia cavernosa*, *Callitriche palustris*, *Persicaria amphibia*, *Persicaria maculosa*, *Alisma plantago-aquatica*, *Rorippa sp.*, *Helosciadium inundatum*.

Plant species recorded in wider turlough area include: *Viola stagnina*, *Ophiglossum vulgatum*, *Salix repens*, *Lysimachia vulgaris*, *Hydrocotyle vulgaris*, *Mentha aquatica*, possible *Mentha arvensis*, *Agrostis stolonifera*, *Galium palustre*, *Ranunculus flammula*, *Lythrum salicaria*, *Molinia caerulea*, *Linum catharticum*, *Lotus corniculatus*, *Carex hirta*, *Carex flacca*, *Carex nigra*, *Veronica scutellata*, *Littorella uniflora*, *Equisetum arvense* (possible hybrid), *Scorzonoroides autumnalis*, *Potentilla anserina*, *Vicia cracca*, *Filipendula ulmaria*, *Jacobaea aquatica*, *Poa trivialis*, *Potentilla anglica*.

Another visit by Hannah Mulcahy and Matt Jones to the turlough in August 2025, re-found *Callitriche palustris* with seeds. This was later confirmed by photograph by aquatic plant specialist Richard Landsdown as the correct species. Interestingly, the *Riccia cavernosa* and *Oxybasis rubra* was no longer present on the exposed muds by August survey.



Figure 3 *Callitriche palustris* with typical black seeds (L) and *Oxybasis rubra* and *Gnaphalium uliginosum* (R) in Glenamaddy turlough

3.1.1 Condition notes of Glenamaddy Turlough

Approximately 1.7 hectares of *Chenopodium rubri* and *Bidention* vegetation occurred at the site (Goodwillie, 1992). When the site was visited in 2018 the water levels were very high and no areas of the vegetation/habitat were noted. The site was revisited in 2024 by Conaghan (2025) and water levels were also too high this year and areas suitable for the development of *Chenopodium rubri* and *Bidention* vegetation were not found.

The turlough basin had completely emptied in June 2025, where the area of 3270 habitat recorded in 2025 in the northern area is 1.6 ha. However it is likely there was much more of the habitat present on the exposed muds. A rough estimate of exposed muds present in Glenamaddy is 15.5 Ha, but a complete walkover was not carried out.



Figure 4 Area in orange of 3270 surveyed in 2025 (google imagery, 2025)

The condition of 3270 habitat in Glenamaddy Turlough in 2025 was excellent with many positive indicators present. No obvious management threats were observed on the day. Cattle were grazing but did not have any impact on the habitat.

3.2 THE GEARAGH, AMENITY BOATING AREA

Grid ref	W 52029 72859
Date of survey	22nd September 2025
Designation	None
Surveyors	Hannah Mulcahy, Áine O Connor, Louis O'Sullivan, and Claire Deasy
Conaghan & Fuller (2018) site no.	Site No. 13

This site was surveyed on 22nd September by Hannah Mulcahy, Áine O Connor, Louis O'Sullivan, and Claire Deasy. This site was previously surveyed by Janice Fuller and John Conaghan 13th September 2018. The water levels on the day was much higher than 2018 survey, so only a marginal area of habitat was recorded either side of the boat slip, but good suite of species present for 3270 habitat. However, no *Limosella aquatica* was recorded (previously recorded in 2018 survey), but it is likely this is present at lower water levels than present on this day. No *Oxybasis rubra* (*Chenopodium rubrum*) was re-recorded. *Cyperus eragrostis* is still present but only occasional. *Rorippa islandica* was recorded, this is a new record for Hectad W57. *Myriophyllum alterniflorum* was recorded (drift material), a new record for hectad W57.

Species list from site. Species in bold are species associated with 3270

<i>Cyperus eragrostis</i>	<i>Myriophyllum alterniflorum</i>	<i>Stachys palustris</i>
<i>Rorippa palustris</i>	<i>Potentilla anserina</i>	<i>Juncus articulatus</i>
<i>Rorippa islandica s.s.</i>	<i>Plantago major</i>	<i>Spergula arvensis</i>
<i>Bidens tripartita</i>	<i>Cardamine flexuosa</i>	<i>Lythrum salicaria</i>

<i>Gnaphalium uliginosum</i>	<i>Phalaris arundinacea</i>	<i>Epilobium palustre</i>
<i>Littorella uniflora</i>	<i>Rumex crispus</i>	<i>Myosotis scorpioides</i>
<i>Ranunculus flammula</i>	<i>Mentha aquatica</i>	<i>Polygonum aviculare</i> agg.
<i>Persicaria maculosa</i>	<i>Juncus bufonius</i> agg.	<i>Sonchus oleraceus</i>
<i>Poa annua</i>	<i>Alopecurus geniculatus</i>	



Figure 5 3270 habitat recorded in 2018 (L), 3270 surveyed in 2025 (R)

3.2.1 Condition notes of 3270 habitat at Amenity Boating area

The 3270 habitat was not recorded in same area as 2018, instead species were recorded at water's edge as levels were much higher in 2025. Therefore the species composition is not quite comparable to 2018 survey. No threats or management issues to this habitat were observed locally at the site.



Figure 6 Amenity boat area water levels in September 2025, with stony muds recently revealed

3.3 THE GEARAGH, ROOVES BRIDGE, CO. CORK

Grid ref	W45857150
Date of survey	22nd September 2025
Designation	None
Surveyors	Hannah Mulcahy, Áine O Connor, Louis O'Sullivan, and Claire Deasy
Conaghan & Fuller (2018) site no.	Site No. 12

This site was surveyed on 22nd September by Hannah Mulcahy, Áine O Connor, Louis O'Sullivan, and Claire Deasy. It was surveyed by Janice Fuller and John Conaghan 13th September 2018. The water levels seemed to have come up recently, inundating plants at edge of the shore. Water levels were much lower during 2018 survey, exposing a larger area than present in 2025 survey.

No *Limosella aquatica* or *Elatine hexandra* were found, both recorded in 2018 survey. No *Oxybasis rubra* (*Chenopodium rubrum*) was re-recorded. Washed-up pondweed possibly *Potamogeton pectinatus*. First hectad record for *Myriophyllum alterniflorum* in Hectad W47.

Species list from site. Species in bold are species associated with 3270

<i>Eleocharis palustris</i>	<i>Cardamine flexuosa</i>
<i>Phalaris arundinacea</i>	<i>Littorella uniflora</i>
<i>Persicaria maculosa</i>	<i>Myriophyllum alterniflorum</i>
<i>Persicaria hydropiper</i>	<i>Ranunculus flammula</i>
<i>Polygonum aviculare</i> agg.	<i>Rorippa palustris</i>
<i>Spergula arvensis</i>	<i>Bidens tripartita</i>
<i>Mentha aquatica</i>	<i>Stachys palustris</i>
<i>Eleocharis palustris</i>	<i>Stellaria media</i> s.s.
<i>Mentha aquatica</i>	



Figure 7 Rooves bridge habitat in September 2025, water levels were too high at this site for 3270 to emerge

3.3.1 Condition assessment for 3270 at Rooves Bridge

2018 assessment recorded 0.85 ha. for this habitat. 2025 did not find this habitat present due to high water levels at time of the survey therefore condition assessment could not be determined.

Positive indicator species were not re-found, however other indicator species *Rorippa palustris*, *Bidens tripartita* were present.

3.4 THE GEARAGH, ANNAHALA BRIDGE

Grid ref	W 33095 71225
Date of survey	22nd September 2025
Designation	The Gearagh SAC (000108)
Surveyors	Hannah Mulcahy, Áine O Connor, Louis O'Sullivan, and Claire Deasy
Conaghan & Fuller (2018) site no.	Site No. 8

This survey was carried out on 22nd September 2025 by Hannah Mulcahy, Áine O Connor, Louis O'Sullivan, and Claire Deasy. This site was previously surveyed for 3270 by Janice Fuller and John Conaghan 13th September 2018. In 2025, two areas were accessed off the causeway to the east on to the muds (survey locations in Figure 9 below). Although there was a large area of exposed muds, many plants were still emerging and the mud still very wet and inaccessible. *Limosella aquatica* was found emerging and flowering at location 2. *Elatine hexandra* found at location 1. No *Cyperus eragrostis* was seen here, although noted in 2018. Three White-tailed Sea Eagle were observed passing overhead heading downstream of the Lee.

Species list from site. Species in bold are species associated with 3270

Location 1 (south)	Location 2 (north)
<i>Elatine hexandra</i> ,	<i>Myosotis</i> sp.
<i>Elodea nuttalli</i>	<i>Helosciadium inundatum</i> ,
<i>Littorella uniflora</i> ,	<i>Nasturtium officinale</i>
<i>Callitriche</i> sp.	<i>Littorella uniflora</i>
<i>Sparganium</i> sp.,	<i>Limosella aquatica</i>
<i>Juncus bufonius</i> ,	<i>Potamogeton natans</i>
<i>Alisma plantago-aquatica</i>	<i>Fontinalis antipyretica</i> ,
<i>Ranunculus flammula</i>	<i>Persicaria minor</i> (ID not certain)

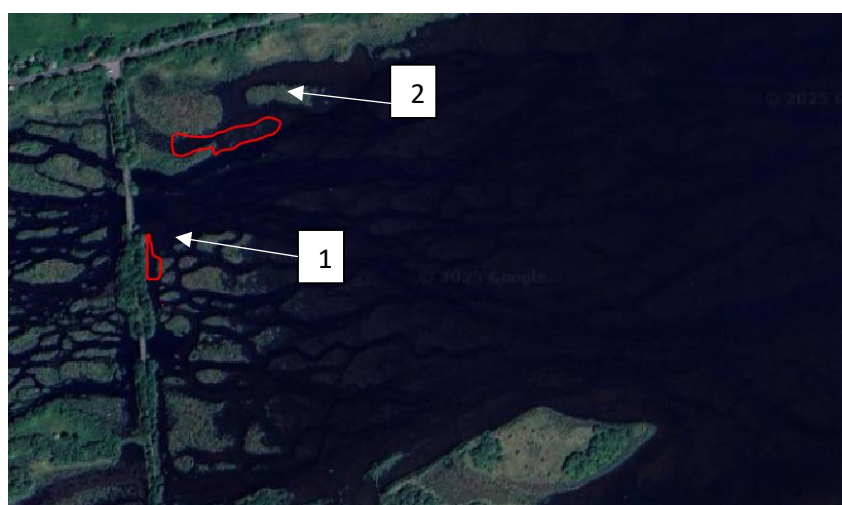


Figure 8 Survey site locations on exposed muds in 2025 at Annahalla bridge site



Figure 9 View of the muds at Annahala from survey location 2 in 2025 survey

3.4.1 Condition assessment for 3270 at Annahala

An area of 39ha of this habitat was recorded in 2018 but a max 50 ha. Estimated to be present here. In 2025, the level of growth and colonisation was still emerging as the water levels had recently dropped but there was already a good coverage of 3270 habitat, particularly of *Limosella aquatica*. There was an extensive amount of muds exposed being colonised by 3270 habitat, but less muds exposed than in 2018 survey which was a particularly dry year.

There was no evidence of any grazing or poaching by livestock, and no *Cyperus eragrostis* was observed. The habitat appeared to be in good condition with no obvious threats. The water levels are controlled by ESB via hydroelectric dam at Inniscara.

3.5 THE GEARAGH, KNOCKANNACROHY / DUNISKY

Grid ref	W 38439 68406
Date of survey	23rd September 2025
Designation	None
Surveyors	Hannah Mulcahy, Louis O'Sullivan, and Claire Deasy
Conaghan & Fuller (2018) site no.	Site No. 9

The survey of this habitat was carried out on 23rd September by Hannah Mulcahy, Louis O'Sullivan, and Claire Deasy. This site was visited by Janice Fuller and John Conaghan 13th September 2018 but could not be accessed at this time, where the 3270 habitat including presence of *Limosella aquatica* was observed through binoculars.

In 2025 the site was accessible from an agricultural field of a farm to the south, with permission from the landowner. The landowner informed us that the water had dropped quickly in last two weeks, which was unusual as normally water is lowered by ESB in late October, but had been carried out a few weeks earlier. Water levels appeared to be similar to 2018 survey with lots of exposed muds.

During the survey the muds were dominated by a cover of *Limosella aquatica* which was just emerging and not flowering yet. Also present was a high cover of *Callitriche* sp., but with no fruits present.

Snipe were flushed and Otter scat and prints were noted.

Species list from site. Species in bold are species associated with 3270

<i>Limosella aquatica</i>	<i>Apium nodiflorum</i>
<i>Callitriche</i> sp.	<i>Mentha aquatica</i>
<i>Juncus</i> sp. Likely <i>J. bufonius</i>	<i>Myriophyllum spicatum</i>
<i>Myosotis scorpioides</i>	<i>Cardamine pratensis</i>
<i>Phalaris arundinacea</i>	<i>Ranunculus flammula</i>
<i>Rorippa</i> sp. (likely <i>palustris</i>)	



Figure 10 3270 habitat in Knockannycrohy, named locally as Dunisky with emergent *Limosella aquatica* and *Callitriche* sp.

3.5.1 Condition assessment of 3270 at Knockaunnacroh

This habitat could not be accessed due to extensive soft muds in 2018, but *Limosella aquatica* was observed with binoculars with area of 1.3ha of 3270 measured. During the 2025 survey this site could be accessed and extensive areas of *Limosella aquatica* were found. The habitat is likely slight larger than 1.3 ha. in this area and extends more north-west.

3.6 GEARAGH, PICNIC SITE, SOUTH HARTNETTS CROSS

Grid ref	W 35834 70957
Date of survey	23rd September 2025
Designation	None
Surveyors	Hannah Mulcahy, Louis O'Sullivan, and Claire Deasy
Conaghan & Fuller (2018) site no.	Site No. 11

This site was surveyed on 23rd September 2025 by Hannah Mulcahy, Louis O'Sullivan and Claire Deasy. This site is very difficult to access now due to new layout of Macroom Bypass constructed

since 2018 survey. We managed to open the security gates and walk down to river edge but the muds were too wet to walk on at this time. However no emergent plants were observed.

The 2018 survey described the site as: “quite variable, but is generally dominated by varying proportions of *Cyperus eragrostis*, *Rorippa palustris*, *Juncus articulatus* and *Limosella aquatica*. *Limosella* is locally abundant both on muddy and stony areas”. None of these species recorded were on the day in 2025, muds appear too freshly exposed.

Five Glossy Ibis were present here.



Figure 11 3270 Habitat mapped in 2018 (R) extracted from Conaghan & Fuller (2018) and aerial showing new Macroom Bypass built in 2022 (R) (Google satellite, 2025).



Figure 12 2025 photo facing north standing on Bypass roundabout (L) and exposed muds facing South-east from bypass (R).

3.6.1 Condition assessment

This habitat was not present nor accessible in 2025, as muds were too soft. No vegetation had emerged recently and the bypass road has made it inaccessible. Therefore a condition assessment could not be made at the time. The recent construction of the N22 Macroom Bypass has resulted in an estimated loss of 1ha (min) to 3ha (max) of this habitat and unknown loss of mapped *Limosella aquatica* plants at this site. It is estimated, based on aerial imagery, there may be 1ha (min) to 2.8ha (max) of the habitat remaining, based on likely direct and indirect loss at this site. The 2.8ha maximum is based on the mapped area in Conaghan and Fuller (2018) that lies outside of the infrastructure built since then. This represents 43-75% area loss at that site.

3.7 BATEMAN'S LOUGH, BALLINASCARTY, CO CORK

Grid ref	W 40587 46117
Date of survey	23rd September 2025
Designation	pNHA
Surveyors	Hannah Mulcahy, Louis O'Sullivan, and Claire Deasy

This site was surveyed on the 23rd September by Hannah Mulcahy, Claire Deasy and Louis O'Sullivan. It has not been surveyed for 3270 habitat before and it is a potential new site for 3270 habitat.

This site is designated as a pNHA located south-west of Ballinascarty, near Clonakilty on private land. It includes a large pond within a dairy farm. The pond is fenced off except for an area to the south where cows have access for drinking water.

The water appeared very clear, with not much presence of algae except for some blown to the western edge. The water appears to be quite basic due to presence of *Chara* sp. in the pond. Many birds were present including little grebe, Mute swan, and many Coot. This is a potential location for *Bolboschoenus laticarpus*, which would be a new species recorded in Ireland, awaiting confirmation.



Figure 13 Bateman's Lough, Co Cork (L) and possible record of *Bolboschoenus laticarpus* (TBC).

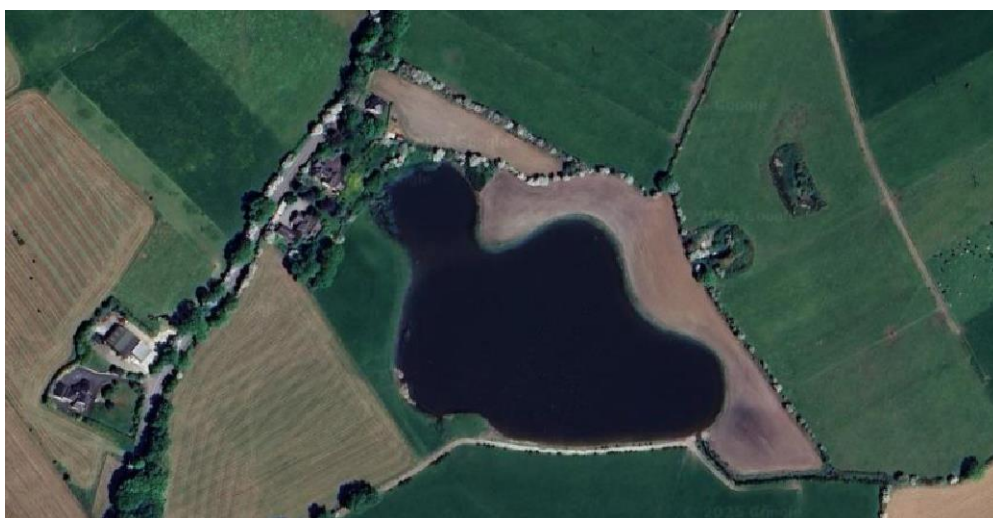


Figure 14 Aerial imagery (Google 2025) of Bateman's Lough

A survey of Bateman's Lough by Roger Goodwillie in 1980s described the pond as 'small fluctuating lake' (Goodwillie 1986). Limited information was given and the flora was not described in this account.

Species list from site. Species in bold are species associated with 3270

<i>Chamaemelum nobile</i>	<i>Lotus pedunculatus</i>	<i>Plantago major</i>
<i>Lycopus europaeus</i>	<i>Galium palustre</i>	<i>Alisma plantago-aquatica</i>
<i>Juncus articulatus</i>	<i>Schoenoplectus lacustris</i>	<i>Epilobium palustre</i>
<i>Bidens cernua</i>	<i>Bolboschoenus maritimus</i> agg OR <i>B. laticarpus</i>	<i>Cerastium fontanum</i>
<i>Elodea nuttalli</i>	<i>Myosotis laxa</i>	<i>Bidens tripartita</i>
<i>Lemna minor</i>	<i>Potentilla anserina</i>	<i>Gnaphalium uliginosum</i>
<i>Hydrocotyle vulgaris</i>	<i>Eleocharis palustris</i>	<i>Oxybasis rubra</i>
<i>Rumex crispus</i>	<i>Ranunculus flammula</i>	<i>Stachys palustris</i>
<i>Mentha aquatica</i>	<i>Polygonum aviculare</i> agg.	<i>Veronica serpyllifolia</i>
<i>Veronica beccabunga</i>	<i>Ranunculus sceleratus</i>	<i>Equisetum fluviatile</i>
<i>Juncus bufonius</i> agg.	<i>Sagina procumbens</i>	<i>Chenopodium album</i> agg.
<i>Persicaria maculosa</i>	<i>Poa annua</i>	<i>Cardamine flexuosa</i>
<i>Lepidium didymum</i>	<i>Sparganium erectum</i>	<i>Persicaria hydropiper</i>

3.7.1 Assessment of Bateman's Lough for 3270 habitat

Positive indicator species for 3270 habitat at this site include *Gnaphalium uliginosum* and *Oxybasis rubra*. Additional indicator species include *Bidens tripartita*, *Juncus bufonius* agg, and *Persicaria hydropiper*. This pond fluctuates by 1-2 metres, and appears to be alkaline indicating some groundwater influence. The drop in water levels reveal a narrow band of stony and muddy habitat to the south of the pond where *Gnaphalium uliginosum* and *Oxybasis rubra* and *Bidens tripartita* were recorded.

3.8 KILCOLMAN BOG, CO CORK

Grid ref	R582111
Date of survey	7th October 2025
Designation	Kilcolman Bog SPA (004095)
Surveyors	Hannah Mulcahy, Louis O'Sullivan, and Claire Deasy
Conaghan & Fuller (2018) site no.	Site No. 1

Site surveyed on 7th October 2025 by Hannah Mulcahy, Louis O'Sullivan, and Claire Deasy. This site was also visited by NPWS staff Aoife Delaney & Domhnall Finch on 18 September 2023 (internal survey note). It was surveyed by Conaghan and Fuller (2018) on 19/9/2018 with condition assessment as 'poor quality' represented of this habitat. They gave estimate area of 0.2 ha. for 3270.

The site is easily accessed beyond the bird hides. There are two ponds with ground water influence, with presence of *Chara* spp. The bog contains a large wetland area of fen habitat.

The Flora Protection Order (FPO) grass Orange Foxtail *Alopecurus aequalis* was recorded at this site for the first time. A specimen was confirmed by BSBI grass referee Michael Wilcox.



Figure 15 Pond in Kilcolman Bog Nature Reserve (L) and *Alopecurus aequalis* recorded for the first time at this site.

Species list from site. Species in bold are species associated with 3270

<i>Agrostis stolonifera</i>	<i>Bidens tripartita</i>
<i>Rorippa amphibia</i>	<i>Rorippa palustris</i>
<i>Lythrum salicaria</i>	<i>Oenanthe aquatica</i>
<i>Alisma plantago-aquatica</i>	<i>Helosciadium inundatum</i>
<i>Ranunculus sceleratus</i>	<i>Persicaria amphibia</i>
<i>Carex acutiformis</i>	<i>Eleocharis palustris</i>
<i>Phalaris arundinacea</i>	<i>Veronica catenata</i>
<i>Bidens cernua</i>	<i>Alopecurus aequalis</i>

3.8.1 Condition assessment

The habitat around the ponds appears to be of similar condition described in 2018 report with similar area although perhaps better developed than was previously described. Only *Rorippa palustris* present is a positive indicator species although *Bidens tripartita* and *Bidens cernua* and have an association with the habitat. The discovery of *Alopecurus aequalis*, listed by Conaghan and Fuller (2018) as typical species for 3270 further confirms the presence and importance of this site for 3270 habitat.

4 3270 IN OTHER TURLOUGH SITES

Other turloughs that contains 3270 habitat were also visited in 2025, however, at the time of the survey, the 3270 habitat was not present predominately due to too high water levels at the time, or was not the focus of the survey at the time. These sites include:

- Lough Croan (Co Roscommon),
- Lough Gash (Co Clare),
- Coole Lough (Co Galway),
- Lough Funshinagh (Co Roscommon)
- Blackrock/Peterswell-Bullaunagh (Turloughnacloghdoo) (Co Galway)
- Garryland (Co Galway)
- Caherglassaun (Co Galway)
- Hawkhill (Co Galway)

5 FURTHER ACTIONS AND RECOMMENDATIONS

1. A revisit to any sites where *Callitriche sp.* could not be determined to species due to lack of seeds. These sites might contain new records for *Callitriche palustris*
2. Further surveying of *Alopecurus aequalis* in Kilcolman bog to map location and extent of FPO plant.
3. Revisit the Gearagh sites around the Macroom bypass site to see if vegetation develops at all or whether muds might now be too soft and unconsolidated since construction of the bypass road.
4. Accurately map the extent of 3270 habitat in Glenamaddy if water levels allow.
5. Attempt revisit of 3270 habitat in turloughs listed in Section 4, dependant on water levels
6. Focus survey effort on 3270 sites that have not been surveyed since Conaghan & Fuller (2018) such as Rathbaun (Co Galway), Mountpleasant Turlough (Mayo), and Loughans (Kilkenny).
7. There may be more locations for 3270 in the Gearagh for this habitat upon further investigation when levels are low in late summer.

6 REFERENCES

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