

Curlew Monitoring on Lodge Bog, Co. Kildare, 2021

Irish Peatland Conservation Council



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Front Cover: GIS Map of Curlew and other noted species recorded on 6/4/2021 during the survey.

Acknowledgments

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Introduction

Lodge Bog is a 35ha raised bog remnant of the Lullymore Bog which was once the largest complex of raised bogs within the Bog of Allen but is now mostly cutaway as a result of industrial development for electricity generation, domestic fuel and horticultural substrates. Lodge Bog is managed by the Irish Peatland Conservation Council for biodiversity and the other eco-system benefits that peatland has to offer such as carbon protection and climate change mitigation. It is located in Lullymore between Rathangan and Allenwood along the R414 and is used by the Irish Peatland Conservation Council to demonstrate best practice in raised bog management/restoration and to raise awareness of the importance of peatland as a keystone habitat within the environmental landscape of Ireland.

Lodge Bog has supported a small population of Eurasian Curlew (*Numenius arquata*) during the breeding season since at least 2005 when ownership of Lodge Bog was transferred to the Irish Peatland Conservation Council from Bord na Móna and preliminary faunal surveys took place as part of the preparation of the Lodge Bog Management Plan 2005-2010 (Hurley, C, 2005). A further study in 2012 which was sponsored by Kildare County Council identified 3 Curlew (1 breeding pair and juvenile) and reported evidence of breeding behaviour. The study also highlighted that the Curlew which utilise Lodge Bog have a strong preference for the site returning every year (O Corcora, T, 2012).

Curlew are Ireland's largest wader and are a relatively long-lived bird (~15 years). Unlike the large migrant population of Curlew which arrive in Ireland's coastlines and inland wetlands to over-winter the harsh weather of Scotland or Scandinavia before returning to their home country to breed, the native population do not leave Ireland. The indigenous population predominately arrive at their home site in March (as they show high site fidelity) to attempt their natural breeding behaviours, which if successful, is usually completed by mid-July (The Curlew Task Force, 2019). It is generally thought that the native population, once the nesting season has finished, will over-winter on the coasts or at inland wetland sites.

The population of Eurasian Curlew within the Republic of Ireland has seriously deteriorated. It is estimated that during the 1980s there were as many as 3500-5500 resident breeding pairs but between 2015 and 2017 only 138 breeding pairs were identified during the first ever national breeding Curlew survey commissioned by the National Parks & Wildlife Service. This defines a 96% decline in the national population over a period of approximately 35 years (O'Donoghue, B.G. and Carey J.G.J., 2020). Curlew are red-listed within the Birds of Conservation Concern in Ireland and are the only Irish bird to be red-listed within the IUCN red-listed species. Curlew are listed as an Annex II Species under the EU Birds Directive (2009/147/EC) and also avail of national protection under the Irish Wildlife Act and the Birds and Natural Habitats Regulations 2011.

The Irish Peatland Conservation Council have been formally monitoring the annual return and behaviour of Curlew on Lodge Bog since 2015. In 2021 the National Parks & Wildlife Service has sponsored the monitoring and data collection of Curlew behaviour on Lodge Bog during the nesting season of 2021 and the digitization of 5 years of data into a modern

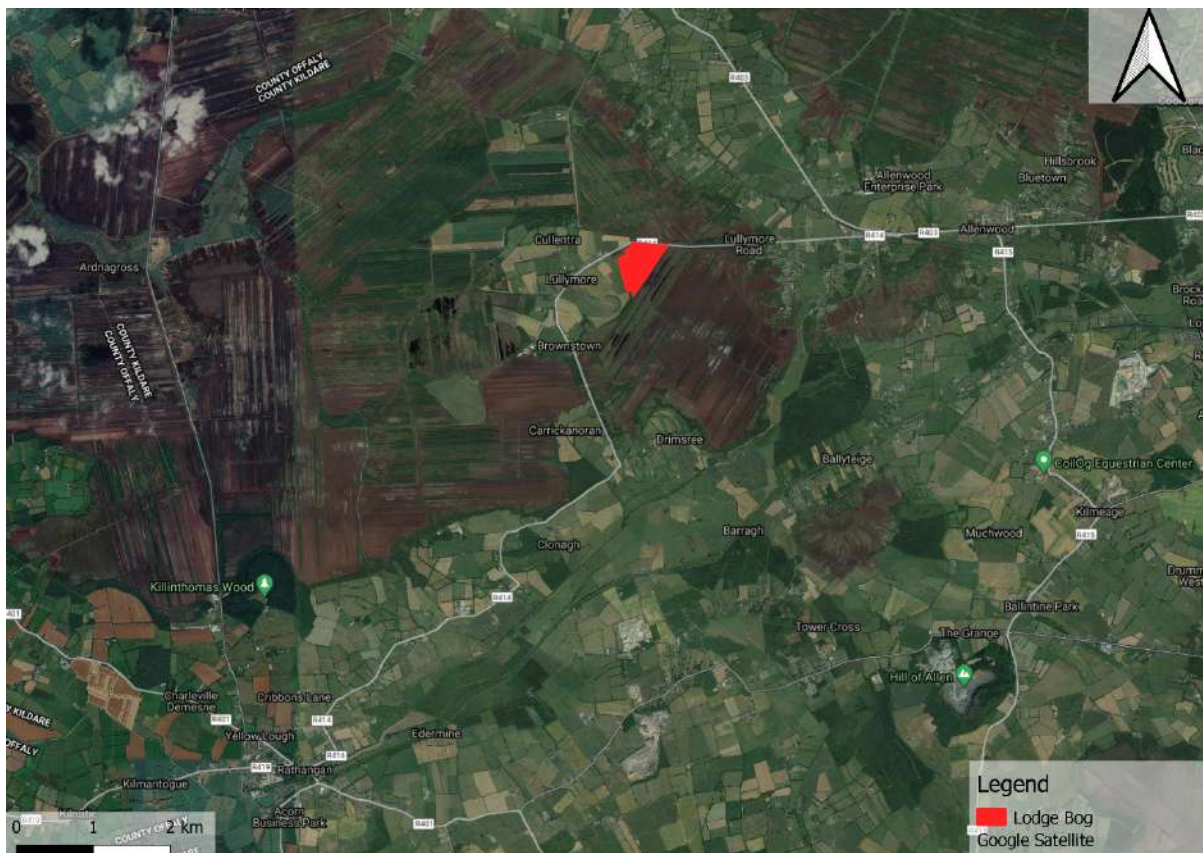
Geographical Information System format which can be used in further research feeding into the national effort to learn more about the ecological requirements and issues surrounding Curlew conservation.

Methods

Study Area: Lodge Bog Co. Kildare

Grid Ref: N 71351 26274

Figure 1: Aerial imagery showing the location of Lodge Bog (in red) situated along the R414 between Rathangan and Allenwood in Co, Kildare.



Lodge Bog was never industrially developed, but it was ditched in preparation by Bord na Móna. Since ownership was transferred to the Irish Peatland Conservation Council in 2005 over 200 dams have been installed within 4km of drains. This is to raise the water table and restore the hydrological and ecological functioning of the raised bog. [Figure 2](#) shows that to the North the bog is bounded by the R414 and the industrial cutaway. To the East Bord na Móna have begun re-wetting cutaway and there is now open water all year round. To the West Lodge Bog slopes to meet the agricultural land of Lullymore Island.

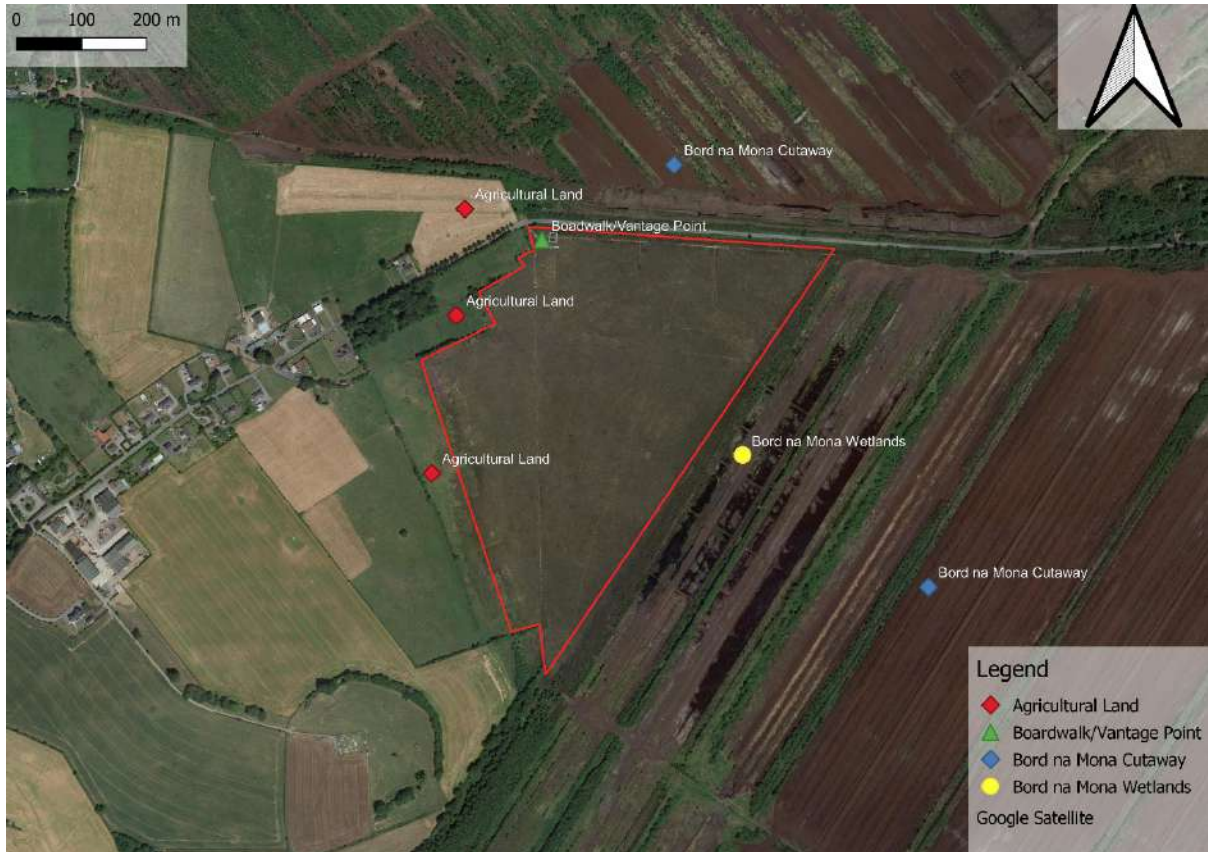


Figure 2: Aerial imagery showing the boundary of Lodge Bog and the location of the boardwalk where daily surveys took place. To the East of Lodge Bog is the re-wet Bord na Mona Wetlands while to the West the raised bog meets the mineral agricultural soil of Lullymore Island. The North is bounded by industrial cutaway, only separated by the R414.

2021 Survey Methods


The boardwalk at the Northern entrance to Lodge Bog, accessed by the R414, was the location of the daily Vantage Point survey.

Between 8.30am and 9am Monday to Friday qualitative weather descriptions, visible and audible bird/animal sightings and threats/predators were recorded using the Survey Sheet (Figure 3).

Number of individuals and their behaviour were recorded along with flight paths. This information was recorded on the Survey Sheet map.

Pentax SP 10x50 Binoculars were used.

Curlew sightings from IPCC staff and volunteers during field work at different times was also recorded.



Curlew Survey 2021

Date :		Time :	
Recorders:		Survey No.:	
Temp:	Wind:	Rain:	<small>Weather attributes marked (normal) to (basic).</small>
Sun:	Clouds:	Weather Desc:-	

SightNo.	Species	Behaviour	No. of Individ.

Threats:

Figure 3: The 2021 Curlew Monitoring Survey Sheet.

Digitisation Methods

The textual information recorded from each record was transferred to an Excel sheet for each year, from 2017-2021.

The species records and flight paths noted on each survey sheet over the 5 years was input into a Geographical Information System Database using QGIS (v3.14 initially but as it is open source and has an active development base it is updated regularly).

For each year, a Shapefile is provided for the species recorded showing their locations, the flightpaths and other features noted during the surveys such as the transect taken when looking for evidence of a Curlew nest.

Each Species Record can be paired to the qualitative information by creating a relationship using the Excel field "Record No", including the Flightpath layers, allowing one to filter visible layers by date or Record No. and/or species etc.

Results

In 2021 Curlew were recorded in 55 locations over or utilising Lodge Bog and surrounding habitats. There are 58 Survey records in total for 2021.

1st sighting = 24/3/2021 and last sighting = 25/5/2021.

Breakdown of Max Curlew Sightings at One Time

1 Curlew	=	20 Surveys
2 Curlew	=	8 Surveys
3 Curlew	=	2

Other species recorded during the surveys include Meadow Pipit, Skylark, Wheatear, Cuckoo, Red Poll, Snipe, Stone Chat, Swallow, Yellow Hammer, Mallard and Lapwing.

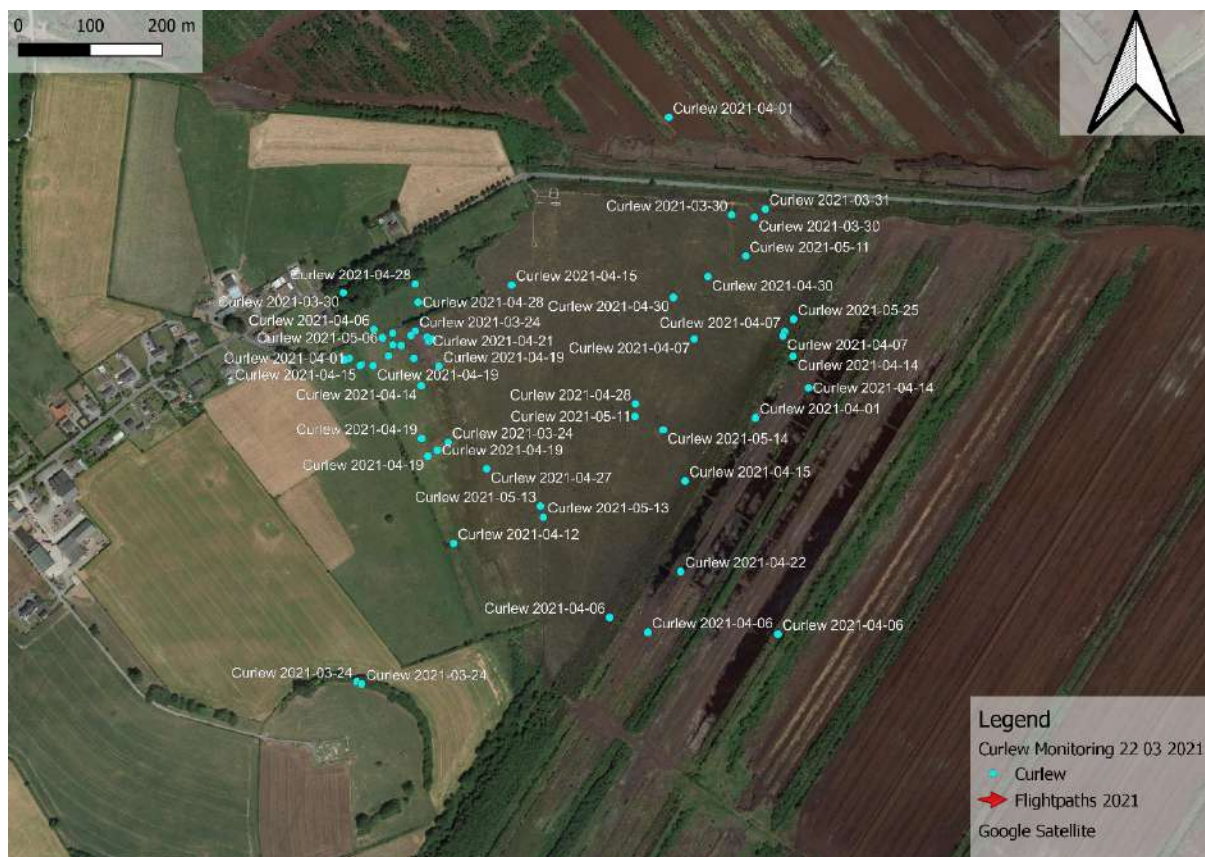


Figure 4: All Curlew sightings recorded on Lodge Bog during the Surveys between 22/3/2021 and 4/6/2021

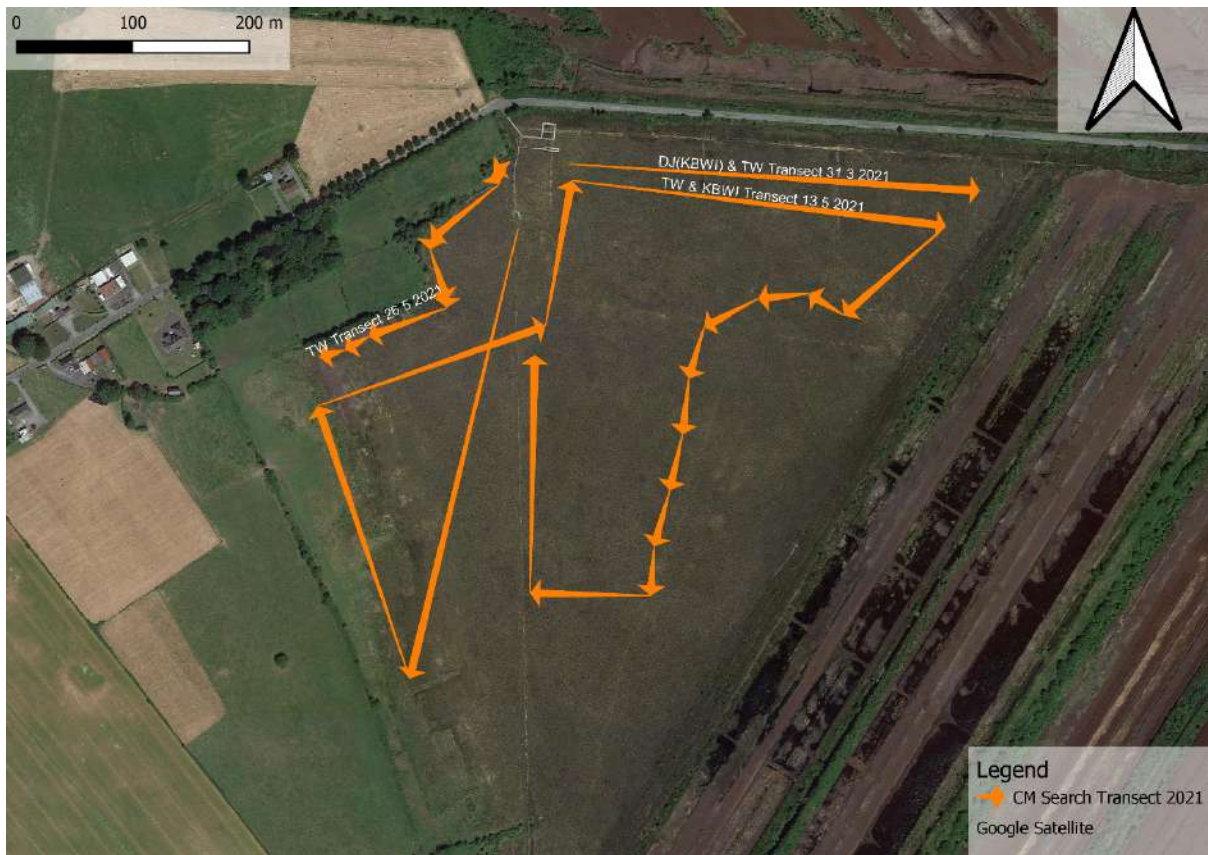


Figure 5: This map shows the transects taken over the 2021 survey period.

Transects

On the 31/3/2021 Dennis Judge (Kildare BirdWatch Ireland) and Tristram Whyte (IPCC) walked the North edge of Lodge Bog as we had both either heard or saw a possible Curlew. No bird was risen while walking the transect.

On 13/5/2021 TW and Kildare BirdWatch Ireland (7 individuals in total) walked a long transect in an effort to find evidence of nesting. No nest was found throughout the site inspection but 2 Curlew rose from the South West area of Lodge and flew away East over the Bord na Móna Wetlands. They showed no mobbing behaviour and it was consensus that no nest or chicks were present (see Record No. 41).

On 26/5/2021 Tristram Whyte checked the electric fence to ensure it was still working. Fox tracks were witnessed.

Predator Management

Possible predators that have been recorded include, Grey Heron, Rook, Buzzard, Jackdaw, Magpie and Kestrel. One Fox was seen.

Predators have been managed by Kildare BirdWatch Ireland and the National Parks & Wildlife Service. A Ladder (17/2/21) and Larsen (4/3/21) trap were installed on Lodge Bog similar to previous years where in 2021 33 Grey Crow and 7 Magpies were removed from

site by Kildare BirdWatch Ireland while the National Parks & Wildlife Service removed 5 Foxes on the night of 2/2/21 and a further 2 Vixen by 5/2/21. On 18/2/21 National Parks & Wildlife Service removed a further 2 Foxes. A Fox was also removed from site 3/3/21.

On 1/3/2021 during the survey a Fox was witnessed investigating the Ladder Trap. On the 23/3/2021 a Buzzard was witnessed investigating the Ladder Trap.

While Buzzards have been recorded during the surveys they were not as prominent as previous years.

Threats

During decommissioning works of Bord na Móna diggers have been operating within the industrial cutaway which may be an audible disturbance.

Cattle managed within the private agricultural land to the west of Lodge Bog numbered over 20 at times, this could be a danger to ground nesting birds and causing habitat degradation.

An electric fence was installed (22/3/2021) as in previous years to stop horses and ponies using the paddock to the North West moving onto the bog which could possibly disrupt the ground nesting behaviour of birds. On the 26/5/2021 fox tracks were found along the electric fence.

Conclusion

No full nesting behaviour was witnessed during the survey period. Evidence from Kildare BirdWatch on the behaviour seen hints that while the male was attempting to encourage the female (whiter rump, pers. com. Tom McCormack, KBWI) to nest (scraping) she showed no interest and instead preferred to feed in the North West agricultural/bog lag zone. The Curlew did not spend much time on the bog surface as recorded in previous years (The Curlew were also not recorded utilising the agricultural area across the R414 which was used quite a lot in previous years.). This could be due to a number of factors. Food availability in the agricultural area (due to poaching and over-grazing) maybe be affected by intensive farming, abundance of predators may have dissuaded them or halted any attempt to breed early on (no nest/scrapes or predated eggs were found) and the Curlew may be showing signs of senescence as this has been recorded across some of the remaining Curlew conservation areas in Ireland in 2021 and previous years (pers. com Barry O'Donoghue, NPWS). Predators were managed early on before the Curlew arrived but Grey Crows, Magpies, Buzzards, and Foxes could still be found on site right throughout the ground nesting period. The scrub zones and occasional tree on the private portion of Lodge Bog is also facilitating predator vantage points.

As the Curlew were first officially recorded in 2005 the breeding pair could be over 15 years old reaching the end of their lifespan. The once juvenile Curlew that has joined them in previous years has not been recorded as much this year but anecdotal evidence suggests

that it was spending more time with another population towards the Slate River (Dave O'Brien, NPWS).

Disturbance from tourists, educational visits and birdwatchers was kept to a minimum in 2021 due to the Covid pandemic and was out of range of the movement restrictions for most citizens. This should have helped increase nesting viability but maybe counteracted by the age profile of the Curlew. Bord na Móna have been seen bird surveying the area as they have proposed a windfarm consisting of 50 turbines for the Lullymore Bog Complex (Ballydermot Works) with 2 turbines proposed within 2km of Lodge Bog to the South. This will have implications for the viability of this population of Curlew in the future and has to be taken into account as it has been reported in previous studies that Curlew are susceptible to disturbance of turbines (Pierce-Higgins et al, 2012).

The GIS database and qualitative spreadsheets accompanying this report of the last 5 years of Curlew activity and other species recorded on Lodge Bog should be used to investigate species interactions (including predators), habitat preferences/issues and also behavioural and ecological implications of senescence on Curlew. The Irish Peatland Conservation Council will keep monitoring the Curlew and extend the data collected for use in research of indigenous Curlew where ecological knowledge is still falling short in an Irish context for the species.

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