

**OBSERVATION/SUBMISSION TO PLANNING APPLICATION Case  
Reference: 323761**

**Damien Stone  
Hillsbrook,  
Barnaderg,  
Tuam,  
Co. Galway**

**To: An Coimisiún Pleanála,  
64 Marlborough Street,  
Dublin 1 D01 V90**

**DATE:19/11/2025**

**Re: Observation/Submission to proposed wind energy development at Cooloo Wind Farm  
Location: Cloondahamper, Cloonascragh, Elmhill, Cooloo, Lecarrow, Dangan Eighter,  
Lissavally, Slievegorm- Co. Galway**

**Applicant: Neoen Renewables Ireland Limited**

**Planning Objection: Cooloo Wind Farm (Co. Galway)**

To Whom It May Concern,

My name is Damien Stone. I have lived most of my life in this area. I moved home 2 years ago after a work placement transfer allowed me to do so. I have lived in big cities and towns throughout my life for educational, and work purposes. Although urban living was convenient, I could never envisage myself setting roots permanently in any of those places, as I know and appreciate the benefits of living in a rural tightknit community. Living in a place like this is

worth the extra commute and extra work required to get a sufficient mortgage to self-build in my honest opinion. This is an area of pristine countryside, with a diverse mixture of productive farmland, hedgerows, marshes, bogland, forestry, streams, rivers, lakes, turloughs and pockets and native woodland regeneration. Although it is a rural area, there is substantial housing density in the area, compared to other rural areas. A drive around the country roads adjacent the proposed windfarm site would pay testament to this. Because of this dynamic, there is a thriving community in this area. There is high social amenity value in the area because of this also. I could not think of a better place to live and raise a family in my opinion.

I moved home with the intention of self-building on a site that was being gifted to me by my parents. Although I had heard there was a possibility of a windfarm in the area, it was still a prospect that wasn't set in stone. The Public Consultation night, in January 2024, hosted by MKO in the Barnadreg Community centre confirmed that it was in fact going ahead. The scale and industrial nature of this development then became apparent. The adversely large turbines, and the proximity to a large number of residences became apparent. Over 400 houses within 2km of these proposed turbines became apparent.

I have always been a supporter of green energy, and an advocate for native biodiversity conservation. I have a BA in Geography which I obtained from NUI Galway in 2012. I wrote a thesis on the Effects of Invasive Species on Native Biodiversity. I studied modules on Renewable Energy, which included case studies of Community Windfarm Initiatives. This approach, of community led co-ops hasn't materialised, with the exemption of a few around the country, unfortunately. However, the current approach of the large-scale wind farm industrialisation of the countryside is not the answer. Wind Energy has its merits, when implemented in a strategic way. However, it is intermittent and unreliable by its very nature and the government's current policy of putting all its eggs in one basket is doomed to fail. The approach of relying on wind and solar to meet our green energy targets is unrealistic and not achievable. The 2030 targets of "Net Zero" will not be met by investing and permitting an inundation of wind and solar developments across the country. A more progressive, nuanced approach is required.

As part of my submission, I have attached a UBS stick with contains video footage of Whooper Swans(Annex 1 Birds) flying through the Proposed Windfarm site. It also contains footage of an Owl less that 200 metres from the proposed site.

I wish to formally object to the proposed Cooloo Wind Farm, comprising nine turbines up to 180m in height, on a number of grounds:

1. Property Devaluation
2. Access to Mortgage's/Planning
3. Visual Amenity
4. Adverse Health Impacts
5. Not Compliant with Galway County Development Plan
6. Water Security Concerns
7. Project Splitting (BESS not included in application)
8. Ornithological Importance of our Area
9. Impact on Annex 1 Habitats (Bogs)
10. Lack of Oversight Upon Cooloo Windfarm Completion
11. Conclusion

### **1.PROPERTY DEVALUATION**

A study by the University of Galway School of Economics found that wind turbines can have a significant negative effect on property prices, particularly for houses that are within close proximity to windfarms. Results “suggest a strong, significant, negative price effect of -14.7% on houses within 0-1km of a wind turbine” (Gillespie et al, 2023 pg 15)

There was an even greater devaluation of houses when the turbine height was greater than 125m. The study found that “turbine height is influential on house price within 1km, with turbines taller than 125m incurring a greater discount (-22.9%) compared to medium sized turbines (-14.4%).”(Gillespie et al,2023, pg18)

Table 4: The effect of turbine height on house price.

<90m	0-1km	1-2km	2-3km	3-4km	4-5km	5-15km
<b>Estimate</b>	-0.064	-0.020	-0.017	0.022	0.008	Base
SE	0.072	0.042	0.027	0.027	0.024	
<b>90m-125m</b>						
<b>Estimate</b>	-0.144	0.011	-0.055	-0.046	0.024	Base
SE	0.055	0.036	0.042	0.032	0.027	
	***					
<b>&gt;125m</b>						
<b>Estimate</b>	-0.229	-0.084	-0.034	-0.010	-0.027	Base
SE	0.069	0.068	0.035	0.030	0.021	
	***					
***=99%	**=95%	*=90%				

As depicted above it quite clear that wind turbines have a significant negative effect on house prices within 1km. The 22% negative offset applies top turbines bigger than 125m. The study highlights a clear negative correlation between wind turbine height and property value. As the proposed turbines for the Cooloo Windfarm are anticipated to be between 180-185m in height it is fair and rational to assume that house well beyond 1km will experience devaluation, and house within 1km will experience a substantial devaluation.

The applicants have failed to provide any mitigation or address this serious issue. This study was omitted from the literature they used. Instead they consulted a study from Scotland which is attached in Appendix 5-2 of the Planning Application. This study is from 2016, when wind turbines were of a much smaller size. The study in fact makes no reference to the size of the turbines.

As the size of the turbines proposed form Cooloo Windfarm are adversely large and yet to be built anywhere in Ireland, its fair to deduct that there was no turbines that large in Scotland prior to 2016.

Perhaps the applicants should have consulted with a study that more local and relatable, with more accurate data such as the Gillespi et al, 2023 study.

I would ask An Coimisiun Pleanala to consider the *Gillespie T, McHale P (2023) Wind Turbines and House Prices Along the West of Ireland: A Hedonic Pricing Approach, Centre for Economic*

*Research on Inclusivity and Sustainability (CERIS) Working Paper Series, 2023/1*, research as an important study that the applicants should have referenced and taken into account. Perhaps this should be pointed out as an issue that needs to be addressed by the applicants?

## **2.ACCESS TO MORTGAGE AND PLANNING**

“A renewable energy company has appealed a Tipperary County Council decision to grant planning permission for a home for a local woman and her family.

Brenda Campion applied to the local authority for planning permission to build a single-storey detached home in Rossestown, just outside Thurles.

Last month, Tipperary County Council granted permission to Ms Campion, subject to 14 conditions, including that the house be Ms Campion’s place of permanent residence for at least seven years, that all cables for electricity, TV and internet be routed underground, and that hedgerows around the land be maintained at all times.

However, renewable energy company Orsted Onshore have appealed the grant of permission to An Coimisiún Pleanála, questioning Ms Campion’s eligibility to build a home in a rural area.”

Orsted Onshore have cited a range and planning laws and regulations to stop her building at the site.

This is a very concerning precedent being set by Orsted, and this could be a tactic employed by other RE energy companies around the country to prevent one off housing, which may disrupt their plans to build windfarms. (O’Donovan, Irish Independent, 2025)

The applicants have not given any commitment that they will not do the same. This is now a possible hurdle that people may have to face if they plan to build in a location that a RE company plan to develop.

A serious concern I have also is that if I decide to buy in the area or build close to this proposed development that I will be refused a mortgage. It has become common knowledge in the last number of weeks that banks are now realising the scale and magnitude of the wind farms that are currently at planning stage with ACP and Galway County Council. They have acknowledged

the credible threat a 185m wind turbine poses to a property's value. In recent times 2 people have been refused mortgages on account of that. One person had applied for a loan to build within 2km of the Proposed Shancloon Windfarm, while the other individual had applied for a loan to purchase a property in Ballyedmond, Clonbern, adjacent to the Clonberne Windfarm. Both were turned down by their respective banks. The individual in Kilconly that applied for a mortgage to build was told by their bank that the Shancloon Windfarm if constructed may affect future saleability, marketability and mortgageability of properties in the surrounding area. A person getting a loan to build a modest house for a cost of €350,000 could be put into negative equity instantly, if built beside a planned or constructed windfarm. This is why it imperative that the 2006 Guidelines are updated.

### **3.VISUAL AMENITY**

I am very concerned about the potential adverse effects this development will have on the landscape of the area. The area is flat and very little topography off significance. The nearest high point is Knockroe Hill in Abbeyknockmoy which is 168m above sea level. It can be seen for miles. It is situated to the south of us here in Hillsbrook, Barnaderg Tuam, approximately 12km away. This Turbines will be higher than that hill.

The sheer size and scale of these structure's will be disproportionately large and intrusive on a flat gentle landscape. We are faced with 9 turbines to the east of our home within 2km of us and the potential of a further 11 Turbines of similar height approximately 6 km to the north of us, if the Clonberne Windfarm proceeds. There is also two exiting turbines in Clonlusk/Gortbeg which is within the parish. The planned developments in Laurclavagh in Belclare, Shancloon in Kilconly, , Clonbern Windfarm, Gannow Windfarm in Killimordaly, and one here locally will have a severe impact on the landscape. If all of these go ahead there will a ring of steel of enormous turbines, 185m in height, of approximately 49 turbines encompassing the area, with more in the pipeline. There are numerous other wind farm developments anticapted for the area which have yet to go to planning. One such one is Derryfada in Ahascragh. There is another development in Killure Ahascragh that is at pre-planning application status. There is another planned for Newforest on the Kilkerrin-Newbridge border. It is anticipated that east Galway will have to shoulder the burden of

approximately 220 wind turbines to meet a required 1350MW output for the county to meet its net zero requirements. Most of the areas in the west of the county are excluded from Wind Development as the set out in the LARES country development plan. This means the productive agricultural part of the county will be inundated with potential windfarms. The residents here and around the rest of east Galway will be surrounded by a ring of steel of gargantuan towers with spinning blades, with a diameter bigger than Croke Park (159m-162m Rotatory diameter) The communities of East Galway will be the sacrificial lambs upon the alter of “Net Zero” if this madness is allowed to prevail.

#### **4.ADVVERSE HEALTH IMPACTS**

I am concerned by the adverse side effects that are posed by this wind farm. A number of years ago I went for a leisurely stroll around the Galway Wind farm walking route. A few minutes in, while in amongst the turbines I felt a weird sensation in my ears, a build-up of pressure one might say. It was quite annoying, but not debilitating. Then last year I felt the same sensation while walking around the Cloghan Wind Farm, but it was more severe, to the point where I quickly abandoned the walk and went back to my car. This prompted me to do some research into why I was feeling that way, or was it unique to me.

My research led me to conclude that these symptoms I was experiencing was as a result of infrasound emitted by the turbines blades cutting through such a large area. Infrasound and Low Frequency Noise Low frequency noise is noise that is dominated by frequencies less than 200 Hz. It is audible to the human ear, can travel large distances and is difficult to attenuate. Infrasound is typically described as sound at frequencies below 20 Hz. This is below the threshold of human hearing. The unique thing about infrasound is that it spreads over large distances and can penetrate walls and buildings without being muted.

Several studies suggest that infrasound can cause a range of negative health effects such as insomnia, migraines, high blood pressure and heart problems. One of the most worrying aspects of infrasound is its long range. Unlike audible sound, infrasound is not dampened in the same way by the atmosphere, but can travel very long distances without reducing in intensity. I have provided an abstract from a study by Alun Evans which appeared in the Open Journal of Social Sciences in 2017; “Wind turbines produce a range of sound but it is the

Infrasound and low frequency noise which deserves special attention. Infrasound is considered to be below the range of human hearing so it is not measured in routine noise assessments in the wind farm planning process. There is, however, evidence that many can register it and a sizeable minority is sensitive, or becomes sensitised to it. The actual route of transmission still requires elucidation. The net effect of the entire range of noise produced is interference with sleep and sleep deprivation. Sleep, far from being a luxury is vitally important to health and insufficient sleep, in the long term, is associated with a spectrum of diseases, particularly Cardiovascular. The physiological benefits of sleep are reviewed, as is the range of diseases which the sleep-deprived are predisposed to. Governments, anxious to meet Green targets and often receiving most of their advice on health matters from the wind industry, must commission independent studies so that the Health and Human Rights of their rural citizens is not infringed. Public Health, in particular, must remember its roots in Utilitarianism which condoned the acceptance of some Collateral Damage provided that the greatest happiness of the greatest number was ensured. The degree of Collateral Damage caused by wind farms should be totally unacceptable to Public Health which must, like good government, fully exercise the Precautionary Principle.”(Evans, A, 2017, pg 80)

Sleep disturbance caused by infrasound, when persistent and chronic leads to sleep deprivation. Sleep deprivation then leads to a whole myriad of health complications as one can only imagine. “Cardiovascular Diseases (CVD), obesity, diabetes, and poor memory consolidation [1]. In an up-to-date meta-analysis of 160,867 subjects, in whom 11,702 cases occurred, insomnia symptoms were shown to be significantly associated with the risk of cardio-cerebral vascular events [18]; and even some cancers [19]. On top of this, inadequate sleep in children is associated with impaired memory and learning, poor cognitive function, mental health disorders, and obesity [20]”(Evans, A , 2017, pg 83)

Evans elaborates further that “ The major adverse health effects caused by wind turbines seem to be due to sleep disturbance and deprivation, with the main culprits identified as loud noise in the auditory range and low frequency noise, particularly Infrasound. This is in audible in the conventional sense, and is propagated over large distances and penetrates the fabric of dwellings, where it may become amplified by resonance. A report [32] commissioned by the Scottish Government, which is investing in wind energy to a heroic degree, grudgingly accepts that wind turbine noise interferes with sleep. A recent Swedish study, conducted [33] on

healthy volunteers in a sleep laboratory, has shown that the noise produced by wind turbines, particularly low frequency band amplitude modulation, is disruptive to sleep. This was indicated by an increase in electro-physiological awakenings, lighter sleep with more wakefulness, and reduced deep sleep and Rapid Eye Movement sleep.” (Evans, A, 2017, pg 84).

What is outlined above makes for concerning reading. This infrasound may be the elephant in the room that politicians, health professionals, and Wind Energy companies do not, or refuse, to acknowledge.

Unsurprisingly this study was not included in the applicants Literature, Policy and Guidelines Section in Noise and Vibration in Chapter 12 of the EIAR. Additionally, the issue of Infrasound is not discussed, investigated, or addressed anywhere in the applicant’s submission.

## **5. CONTRAVENTION OF COUNTY DEVELOPMENT PLAN**

According to the Galway County Council Local Authority Renewable Energy Strategy wind deployment zone designations, 3 turbines of the proposed Cooloo Windfarm are situated in an area deemed “Generally to be Discouraged”. This was also noted in the inspectors report of the pre-planning application consultation with An Coimisiun Pleanala. On page 3 of the Inspectors Report( ABP-316466-23), the inspector noted that “The applicant indicates that of the 9 proposed turbines 6 are located within an area identified in the Galway County Development Plan as being 'open to consideration' with the remaining 3 located in an 'area generally discouraged.” I have attached same below in excerpt from the Inspectors Report;

- All ancillary works and apparatus.

3.2. The applicant sets out that proposed grid connection (on site 110kV electricity substation and underground grid connection cabling route to the existing Cloon 110kV substation, Co Galway) will be subject to a separate Section 182A application at a later stage (subject of pre-planning consultation under ABP-316477-23).

3.3. The applicant indicates that of the 9 proposed turbines 6 are located within an area identified in the Galway County Development Plan as being 'open to consideration' with the remaining 3 located in an 'area generally discouraged.'

ABP-316466-23

An Coimisiún Pleanála

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#### 4.0 Planning History

4.1. No relevant planning history.

#### 5.0 Precedent Decisions

5.1. The following table outlines a sample of other SID pre-application determinations for

In the Galway LARES document “Areas generally to be Discouraged” are defined as “Areas where Wind Energy development is unlikely to be favourably considered on account of potential to adversely effect protected landscape, water, ecological resources and residential amenity.” (pg 71, of LARES document) I’ve attached below:

## 12. Interpretation of Deployment Zone Classification

The Key Deployment Zones for each Renewable Energy types are shown on

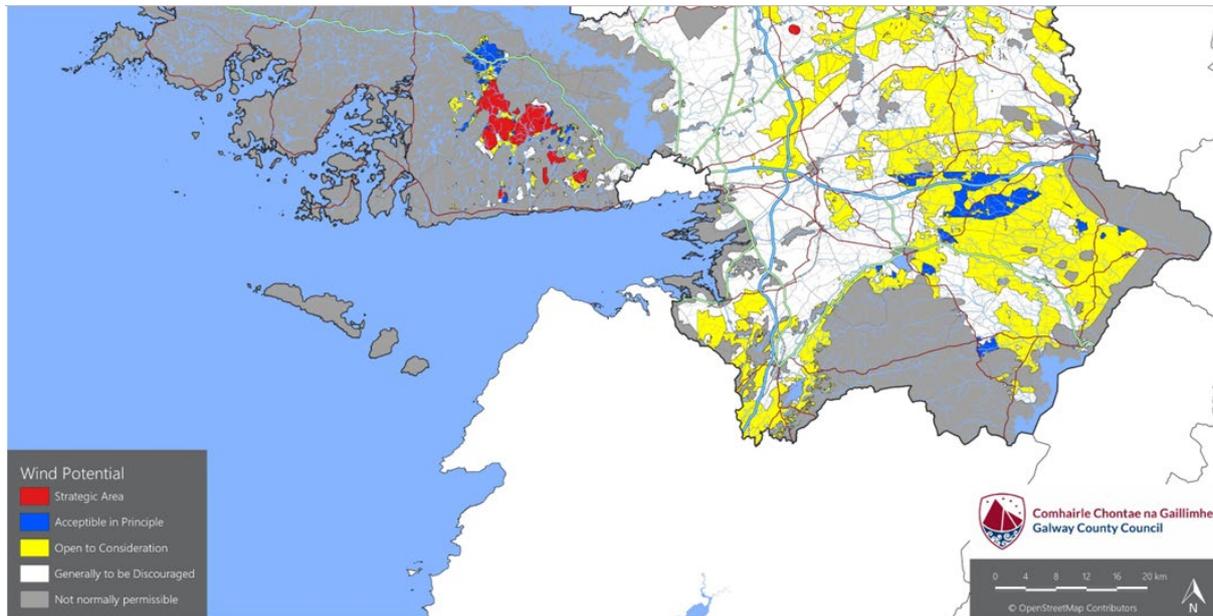
Map 15 and Map 16. The table below describes the Meaning of each Type along with a note summarising the methodology used to determine each:

*Table 9 Wind Energy Deployment Zones Description*

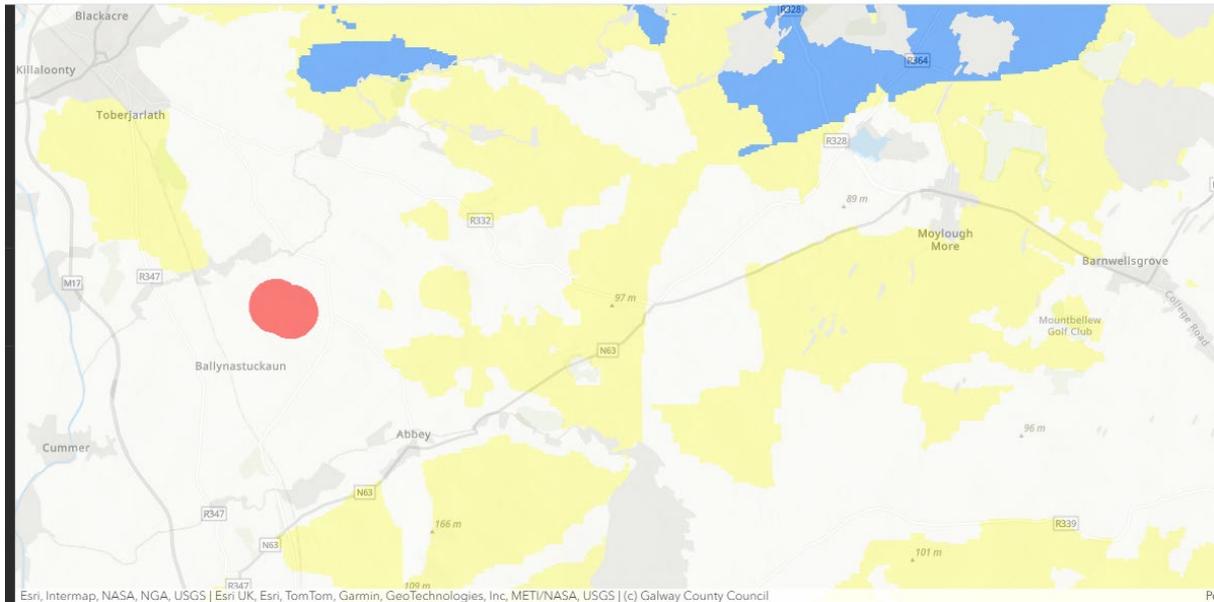
Mapping Key	Meaning [to be read in conjunction with Policies in Section 19]	Method of calculation
<b>Wind Potential</b>		
Strategic Areas	Areas where existing wind developments are situated. These areas have already been subjected to detailed legal and development management processes – both by the local authority – as well as an Bord Pleanála in many cases. Such sites represent important assets that need to be recognised and protected. A further consideration is that many of these sites will be subject of new planning applications for renewal, re-powering or extension.	Areas of existing wind developments with a 600m buffer zone around each.
Acceptable in Principle	Areas where Wind Energy development will be facilitated as an appropriate	The highest scoring bracket from the combination of wind

	to control the development of new uses that would reduce the viability of Wind Energy in these areas.	sensitivity weighting scores.
Open to Consideration	Areas where Wind Energy development is likely to be favourable considered - subject to the results of more detailed assessment of policies and potential effects.	The middling scoring bracket from the combination of wind opportunity and sensitivity weighting scores.
Generally to be Discouraged	Areas where Wind Energy development is unlikely to be favourably considered on account of potential to adversely effect protected landscape, water, ecological resources and residential amenity.	The lowest scoring bracket from the combination of wind opportunity and sensitivity weighting scores.
Not Open to Consideration	Areas where Wind Energy Projects, would be likely to conflict with policies of the council to protect landscape, water, ecological resources and residential amenity. Such areas may also include areas and species protected by the Habitats Directive.	Areas excluded due to Natura sites, Iconic and Special Landscape Sensitivity, Geological Heritage sites and Settlements.

Also attached is maps of the deployment zones, which apply to the locality.



tential (This map can be viewed at a larger size on <http://galwaycoco.maps.arcgis.com/apps/webappviewer/index.tbc>)



I hope that An Coimisiuin Pleanála take this in account when adjudicating on the matter. It is'n't acceptable for a company to contravene a County development Plan. Perhaps the 3 turbines located in this area could be moved or omitted from the development to ensure compliance and good governance.

## **6.WATER SECURITY CONCERNS**

I use the water from Barnaderg Gortbeg Group Water Scheme as my main source of drinking water for my household. The water is of excellent quality and I am very concerned that pollution of various types such as silt, sediment and other contaminants will enter the water source, causing me and my family harm. With the location of two Turbines within the Source Protection Area (SPA) I believe the Cooloo Windfarm should not be granted permission whatsoever, especially in such a highly karsified and hydrologically sensitive area. Construction within the source protection area, will undoubtedly cause disturbance to the delicate underground aquifer system, risks contamination and the entire water supply.

The water within the source protection area originates in Summerville Lough. This water is used by the Barnaderg Gortbeg GWS, the Brairfield GWS, and the Mid Galway Public Water Scheme.

“A swallow hole occurs at the southeastern edge of the peat flanking the lake basin, just north of Moylough Castle. The water sinking into this swallow hole was dye-traced in 2011, and the water emerged at public water supply springs at Barnaderg and (adjacent) ‘mid-Galway’ springs, almost 10 km to the southwest, in Derreen Townland. The lake therefore drains at high water levels into this swallow hole and subsurface, and via conduits, to the distant southwest.” (Galway County Geological Site Report)

An Coimisiun Pleanála need to access the over all impact on the common good. Does the potential of green energy out weigh the importance of access to a secure and safe water supply for over 10,000 households?

## **7.PROJECT SPLITTING**

**The applicants have not applied to build a substation or BESS within this development.**

This is evident from the site notice placed in newspapers, on site notice locations etc.

If the wind-farm, substation and the BESS are part of one project (e.g., using the same grid connection, access roads, site infrastructure, landholding), then submitting the BESS and Substation separately may fragment the overall development, making it difficult for the planning authority (and the public) to assess the full environmental and cumulative impacts together.

- The guidance for BESS in Ireland notes that many storage installations are co-located with renewable generation and form part of the same planning application.
- In the case of separate submission, there is a risk that the BESS will avoid proper assessment of its connection to the wind-farm, shared infrastructure (access, cabling, grid export, transformers) and combined impacts (noise, traffic, visual, ecology).
- Therefore, the BESS should be considered together to ensure transparency, avoid “piecemeal” consent and allow full public participation and assessment of cumulative effects.

- Because the BESS may generate additional environmental/health/safety impacts (for example fire risk, chemical hazards, large battery bank), it's important these are considered in context of the wind farm's infrastructure.
- In one case the inspector's report(see Coimisiun Pleanala 305739) for a BESS application flagged concerns about inefficiency, safety (fire/explosion), and lack of full assessment when it was treated separately. Excerpt from inspectors report below:
  - Clarification (ii) of this information was sought with respect to the following:
    - A construction environment management plan,
    - A hazard analysis and risk assessment,
    - Fire suppression systems,
    - Firewater run-off assessment,
    - Site layout and fire spread risk, and
    - On-site fire-fighting water supplies.

A leak from a BESS can lead to chemical contaminants (heavy metals such as lithium and cadmium) and toxic organics entering the soil and groundwater. A leak can be a fire risk, with the combustion of battery materials releasing toxic byproducts into the environment.

In the event of a fire, the fire crews in Tuam or Mountbellew are not in a position to deal with a fire at a BESS.

There has already been two fires at the Xerotech facility in the Claregalway Corporate Park. On Friday the 16/09/2022 a fire erupted. Incident reported in Irish Times below:

<https://www.irishtimes.com/ireland/2022/09/16/three-fire-crews-deal-with-major-blaze-at-galway-battery-technology-facility/>

A second such fire occurred there again in January of this years. “ The incident outside Xerotech at Claregalway Corporate Park is now in its third day. It started early on Wednesday morning in a shipping container which held industrial batteries. Yesterday, the corporate park itself was

evacuated, as were two nearby schools, and around a dozen homes at Lakeview. The difficulty hasn't been in extinguishing a conventional fire – but in keeping extremely volatile batteries cooled down so they don't reignite. Crews have now isolated those batteries from the shipping container and placed them a skip of water. There have been concerns over lithium contamination, and several firefighters were taken to hospital as a precaution after showing mild physical symptoms. Air quality testing will determine if businesses can return to the corporate park later today – but emergency services will likely remain on-site for the foreseeable future.”

<https://connachttribune.ie/battery-fire-incident-in-claregalway-now-contained/>

## **8. ORNITHOLOGICAL IMPORTANCE OF THE AREA**

I wish to formally object to the proposed Cooloo Wind Farm, on the grounds that the Environmental Impact Assessment Report (EIAR) — particularly *Chapter 7: Birds* — fails to demonstrate that the project will not have significant adverse effects on protected bird species and designated conservation sites. This along with my own observation forms the basis of this objection.

I have attached video and photographic evidence, in the attached USB, of my own personal observations of whooper swans, and owls in the area to verify this. The owl, which I can't identify, is either a barn owl or short eared owl. Its plumage was more like that of a short eared owl than that of a barn owl. The location where I observed the owl is less than 200m from Cooloo Windfarm site. I have confirmed this with evidence of location from google maps and it is attached in the USB also. This is the same location I seen the Whooper Swans Flying across the wind farm site also.

I captured these pieces of footage on the following dates:

- OWL: On the 8/10/25 between 02:48am and 02:55am at Dangan Eighter
- Whooper Swans in Flight: On the 1/11/25 at 07:35am at Dangan Eighter
- Whooper Swans feeding: On the 5/11/2025 between 1:55pm and 2:05pm at Dangan Eighter.

It would be greatly appreciated if you could take the time to view the evidence I have attached.

**OBJECTION:**

Our area is home to a multitude of birds and wildlife due to the array of habitats they get to enjoy in the area. The waterways, lakes, turloughs, forestry and peatland play host to an array of species such as whopper swans, golden plover, merlins, hen harrier and peregrine falcon.

I am very concerned by the impacts this proposed development will have on the area's biodiversity, in particular its impacts on Key Ornithological receptors.

Windfarms accelerate the degradation of environment for KOR'S through habitat loss and the displacement.

Habitat loss is caused by construction phase (removal of trees, hedges, ditches, bog etc to be replaced with concrete and gravel)

Displacement through indirect loss of habitat if disturbance causes birds to avoid the wind farm and surrounds

Displacement can include barrier effects in which birds are deterred from using their normal routes to feeding or roosting grounds and death through collision or interaction with turbine blades

From reading the EIAR submitted by MKO, and from my own observations, it is very evident how important this area is for Key Ornithological receptors.

Golden Plover

Chapter 7 page 27 of the EIAR states that "Golden plover was recorded 108 times during vantage point surveys, or on average once every 6 hours of winter and passage season surveys. Of these records, 68 were within 500m of the proposed turbine locations. Between 1 and 2,100 individuals were observed during the winter and passage (April) seasons. The average flock size was 167 birds."

Chapter 7 page 28 of the EIAR states that “Four records were within 500m of the proposed turbine locations, within the Proposed Wind Farm site. These were of birds flying and travelling. One was comprised of several flocks adding up to ~2,500 birds flying around the Derrybaun area in the western section of the Proposed Wind Farm site. The remaining 12 records were in the wider surroundings. This included a flock of 147 birds foraging at Horseleap Lough.

“Flocks up to 2,500 birds were recorded at the Proposed Wind Farm site and wider surroundings during surveys. Thus, the wintering golden plover population at the Proposed Wind Farm site is considered to be of National Importance.”(pg 47 of Chapter 7 of EIAR)

Golden Plover has been recorded as the species with the highest collision risk during winter and passage season. “The highest collision risk has been calculated at 197.810 collisions per year (196.200 collisions associated with random flight activity, and 1.610 associated with regular flight activity of birds travelling to or from Horseleap Lough). Annual mortality of adult golden plover has been calculated at 27% per annum (Sandercock, 2003). If 197.810 collisions were to occur per year, it would mean that the losses at the Proposed Wind Farm would increase the annual mortality of the county population (c.5,895) by 12%. The magnitude of the predicted collision risk is medium.” (see Section 7.5.2.1 of Chapter 7 of the EIAR) As the magnitude of collision risk was deemed medium, a Bird Mitigation Plan was prepared for Golden Plover Specifically by MKO.

#### BIRD MITIGATION PLAN: APPENDIX 7-7

- Achieved by introducing measures to reduce flight activity of golden plover in the vicinity of the operating turbines
- The mitigation approach is to deter birds from flying into these fields. Tethered bird control kites will be erected in the fields to provide visual deterrents.
- The measure is to erect tethered bird control kites in the areas of each mitigation field that golden plover are using to deter birds from foraging in them.

- The bird control kites will be imitations of raptor birds (eg. hawks, falcons) and attached to a tether approximately 8m in length, in turn attached to a pole approximately 10m in length, that is secured to the ground near the centre of the field to maximise the effect

The source they consulted to prepare this mitigation approach is *O'Shea, W., Coughlan, N.E., Mitham, N. and Nicholson, H. (2020). Line of sight: simulated aerial avian predators can reduce problematic bird flyovers of airfields. Human-Wildlife Interactions, 14(3): 358-364.* "Bird control kites are widely used to deter birds from crops, businesses and gardens and have been shown to reduce the number of birds present in agricultural fields" (pg 6, Appendix 7-7, Bird Mitigation Plan). This mitigation approach proposed by MKO has many shortcomings. There is no evidence presented to say that this approach will be effective on the target species (Golden Plover) The study used to justify their mitigation approach isn't applicable to the EIAR study area. The study is applicable to air-fields, not windfarms. Additionally the mitigation approach that MKO plan to employ is essentially to displace and disturb the Golden Plover from using the grounds in and around the Proposed site, through the use of imitation raptor bird kites. This should not be an appropriate method employed in mitigation. The area in and around the Proposed development obviously has unique qualities that make it favourable to Golden Plover. A large segment of the proposed windfarm site falls within an area designated as a Farmland Breeding Wadder Hotspot, which may be a factor which makes the area favourable to Golden Plover. The approach to displace and deter them from using the area in the hope that they'll find other suitable foraging and roosting grounds isn't and shouldn't be acceptable.

The use of imitation kites could inadvertently increase the risk of collision with turbine blades, by preventing them from landing in their usual feeding grounds and causing them to change flight path, potentially towards the turbine blades. Will the use of imitation kites deter other bird species from foraging and roosting in the area? This hasn't been discussed or investigated.

In addition, MKO have failed to provide any case study to show that this approach will be effective in reducing the collision risk. Perhaps there is no peer reviewed study, survey or publication which shows that this will be effective. Therefore, what MKO are suggesting as a mitigation approach here is essentially conjecture. It is a theoretical approach that has yet to

be proven or disproven. A reliable, proven mitigation plan hasn't been put in place to protect this Annex I redlisted species of National Importance.

Overall, the Mitigation plan fails to provide any Specific mitigation thresholds that would trigger turbine shutdowns during peak migration or roosting activity. No long-term monitoring commitment linked to adaptive management has been suggested. Additionally, no independent ecological oversight has been suggested to monitor the mitigation measures. Without independent ecological oversight, these measures remain aspirational and cannot be relied upon to prevent significant effects.

It is clearly evident that the area in, on and around the proposed site is used by this species. Golden Plover are Listed on Annex I of the EU Birds Directive (2009/147/EC). The Birds Directive (Directive 79/409/EEC) was adopted in 1979. It is one of the first pieces of environmental legislation to be adopted by the EU. It was amended in 2009 ([Directive 2009/147/EC](#)) - changes were made to Annex II part B due to the accession of new Member States. The Birds Directive requires all Member States to protect all wild bird species and protect and restore their habitats. The primary legislation transposing the Nature Directives (Birds and Habitats Directives) into Irish law is the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011), as amended. The Golden Plover is also a Red-Listed Species of Conservation Concern (Gilbert et al. 2021) The Red Lists are an assessment of the risk of extinction of each species and not just an assessment of their rarity. Therefore, its incumbent upon An Coimisiún Pleanála to refuse permission to develop Cooloo Windfarm, as allowing it to proceed would displace, disturb, and threaten this protected species.

## Hen Harrier

Pages 28-29 of chapter 7 of EIAR states that “Hen harrier was recorded 37 times during vantage point surveys, or on average once every 17 hours of winter and passage season surveys. Of these records, 27 were within 500m of the proposed turbine locations. Single birds were observed in the winter and post-breeding (September) seasons. A ringtail (female or juvenile) was observed roosting on the bog one evening in February 2024. The bird was within the Proposed Wind Farm site at Cloonascragh, approximately 420m from the proposed turbine locations. A bird was seen travelling across the bog in the same general area early in the morning in September 2024, and it is possible that it emerged from a roost in the bog”

The EIAR also reports that “Birds were also using the Proposed Wind Farm site for hunting, particularly the bog at Cloonascragh. Males, females and ringtails were observed hunting over bog, grassland and rushy fields on ten separate occasions, sometimes more than once over the course of a survey. Birds were also perched resting for periods of time (over 30 mins) on the bog and in trees on two occasions, multiple times in the same day, including within the Proposed Wind Farm site”

It was also reported that “Winter Walkover Hen harrier was recorded twice during winter walkover surveys, on 2 of the 20 survey dates (10%). Both of these records were within the Proposed Wind Farm site. Single birds were observed. 7-28 Cooloo Wind Farm, Co. Galway Ch 7 Birds F – 2025.09.26 - 190723 A female and ringtail were using bog and grassland habitat within the Proposed Wind Farm site for hunting. Hunting was observed in December 2019 and March 2022”

It was concluded that “there was a regularly used roost in a bog at Cloonboo More (HH-1) that was utilised by at least two individuals. The roost was outside the Proposed Wind Farm site and greater than 700m from the nearest proposed turbine location. Hen harrier was also observed roosting at Derrybaun (within 600m of the proposed turbine locations) and Cloonascragh (within the Proposed Wind Farm site, approximately 420m from the proposed turbine locations)”

Observations confirmed at least two Hen Harrier hunting on the Proposed site and due to the presence of at least two, the threshold for population of County importance is met. 3-4 birds are required to qualify as National Importance (pg 47 of Chapter 7 of EIAR). Additionally, as highlighted above, The Cloonboo More Hen Harrier roost lies just over 700m from turbines, within the recognised 1km disturbance buffer recommended by the Irish Hen Harrier Winter Roost Survey. Despite the ample evidence presented, the applicant (MKO) has failed to provide any mitigation measures for Hen Harrier in the area.

It is clearly evident that the area in and around the Proposed Windfarm Development is frequented and used by Hen Harrier. Hen Harrier are Listed on Annex I of the EU Birds Directive (2009/147/EC). As a result of this, it is therefore crucial that An Coimisiún Pleanála refuse permission to develop Cooloo Windfarm. This is a bird species of high conservational importance with dwindling populations. Therefore any area that is used by this species should be protected and enhanced to sustain and increase the Hen Harrier population.

### Whooper Swan

“Whooper swan was recorded 226 times during vantage point surveys, or on average once every 3 hours of winter and passage season survey. Of these records, 77 were within 500m of the proposed turbine locations. Between 1 and 114 individuals were observed during the winter and passage (April) seasons. The average flock size was 14 birds.”(pg 32 of chapter 7 of EIAR)

There were “118 observations were of birds flying or travelling through the Proposed Wind Farm site and surrounding area” (pg33 of chapter 7 EIAR) The surveyor has not however quantified how many observations were of birds flying through the Proposed Site.

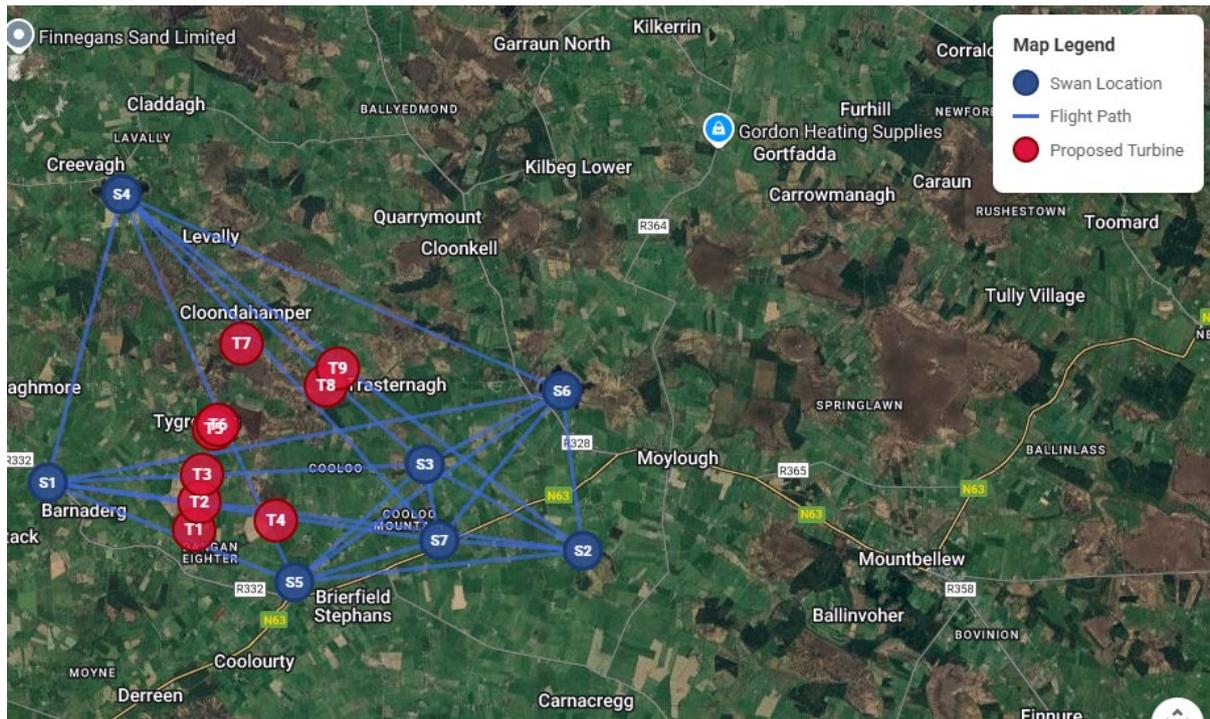
During a winter walkover survey Whooper swans were recorded 11 times on 6 of the 20 dates, 30%. Of the observations 3, 50%, were “within or partially within the Proposed Wind Farm site” (pg 33 of chapter 7 of EIAR)

“Between 2 and 86 individuals were observed. The average flock size was 16 birds. Whooper swan was recorded foraging and roosting on three occasions. In January 2020, 33 birds were

foraging and resting at Cooloo, some within the Proposed Wind Farm site.” (pg 33 of chapter 7 of EIAR). The author of the report have deemed the population of whooper swans frequenting the area to be of County Importance. A recurring flock size of 145 birds is required to be deemed of National Importance. In this case the recurring flock size was deemed to be 142. 3 Birds short of being a flock of National Importance.(pg 49 of Chapter 7 of EIAR) “Birds were recorded using the Proposed Wind Farm site for foraging. The potential for direct habitat loss cannot be excluded. Birds were recorded within 500m of the proposed turbine locations. The potential for disturbance/displacement cannot be excluded. Birds were recorded flying at PCH(potential collision height) within 500m of the proposed turbine locations during vantage point surveys. The potential for collision risk cannot be excluded.”(pg 57 of Chapter 7 of EIAR). On page 32 of Chapter 7 of EIAR it is stated that “Whooper swan was observed in the winter and passage season. Raw survey data and maps are provided in Appendix 7-4. Survey data and maps relating to roosts are provided in Confidential Appendix 7-5.” However this isn’t true. There is no raw survey data or maps provided in Appendix 7-4 pertaining to Whooper Swans. Additionally, there is no flight path study carried out or illustrated, which shows movement between the water bodies. It is stated that there were “118 observations were of birds flying or travelling through the Proposed Wind Farm site and surrounding area” (pg 33 of chapter 7 EIAR) however no diagrams or maps of the flight paths was provided. The proposed windfarm study lies in the middle of 6 significant water bodies: Horesleap Lough, Summerville Lough, Barnaderg Turlough, Levally Lough, Gerteenlahard Turlough, Carrownabo Turlough. This is highlighted in the EIAR in the waterbird distribution survey of whooper swans“There were 13 records of flocks within 500m of the proposed turbine locations, occurring over 11 survey days. Flocks between 5 and 83 birds were foraging and roosting on grassland. The remaining 127 records were in the wider surroundings. The majority of these birds were associated with waterbodies in the wider surroundings (Barnaderg Turlough, Carrownabo Turlough, Gorteenlahard Turlough, Levally Lough, Horseleap Lough and Summerville Lough), but there were also observations in fields, such as at Mullaghmore. They were recorded swimming, roosting and foraging and in maintenance behaviours such as preening”(pg 33 of Chapter 7 of EIAR). As I already pointed out, no flight path maps or survey data was provided to take into account the movement of whooper swans between these water bodies and feeding grounds. A robust survey of the whooper swans movement on the site and the adjoining waterbodies, using GPS trackers should have been carried out, to

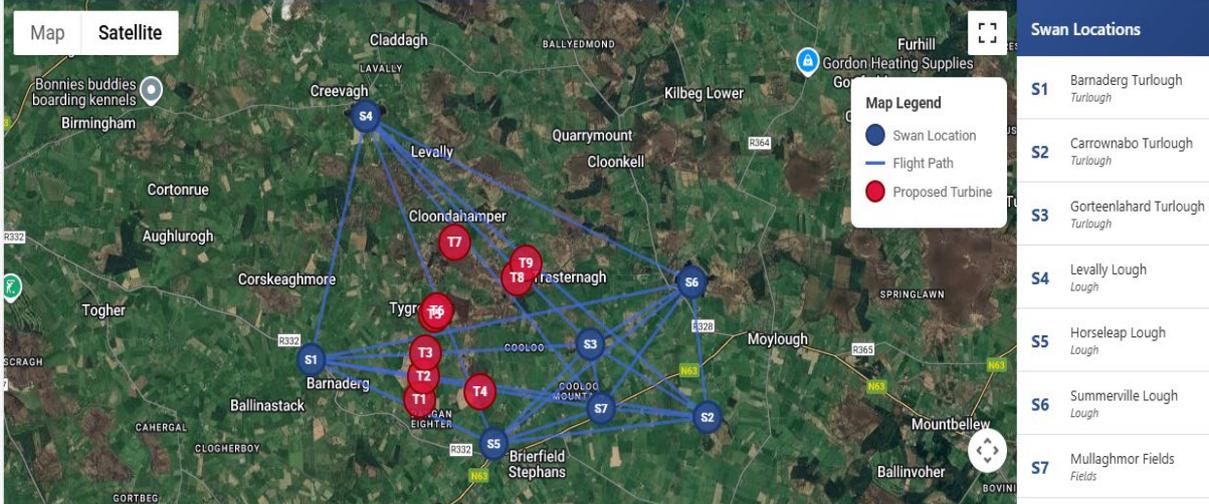
conclusively verify the movements between the different feeding and roosting areas and the loughs/turloughs.

Below a number of maps are provided(not by MKO) to highlight the potential flight paths of the Whooper Swans between the different water bodies, highlighted in the Waterbird distribution Survey.



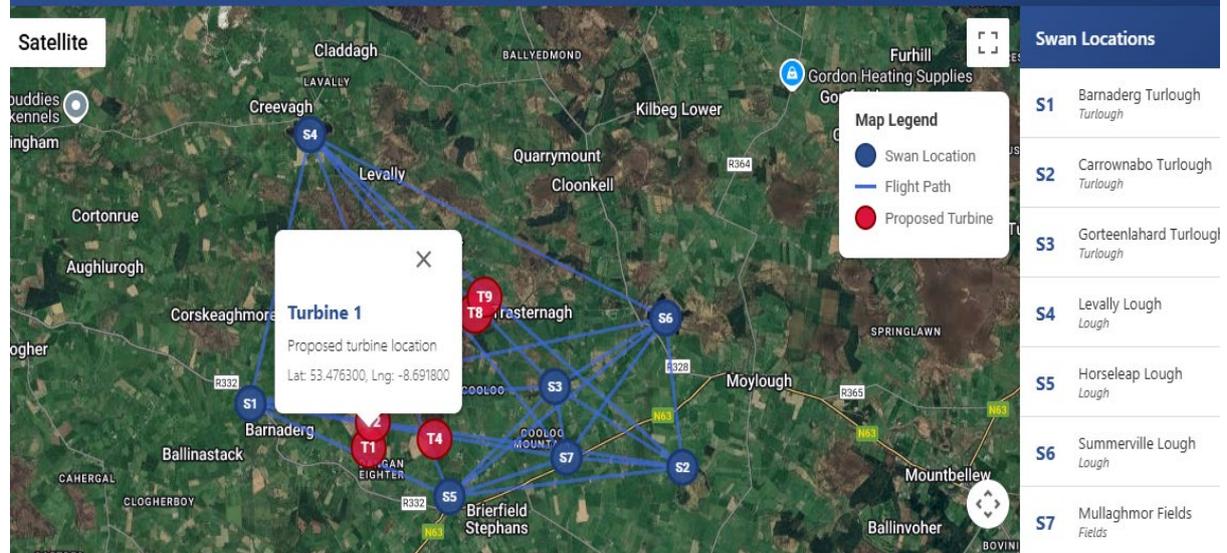
# Cooloo Wind Farm - Whooper Swan Flight Paths

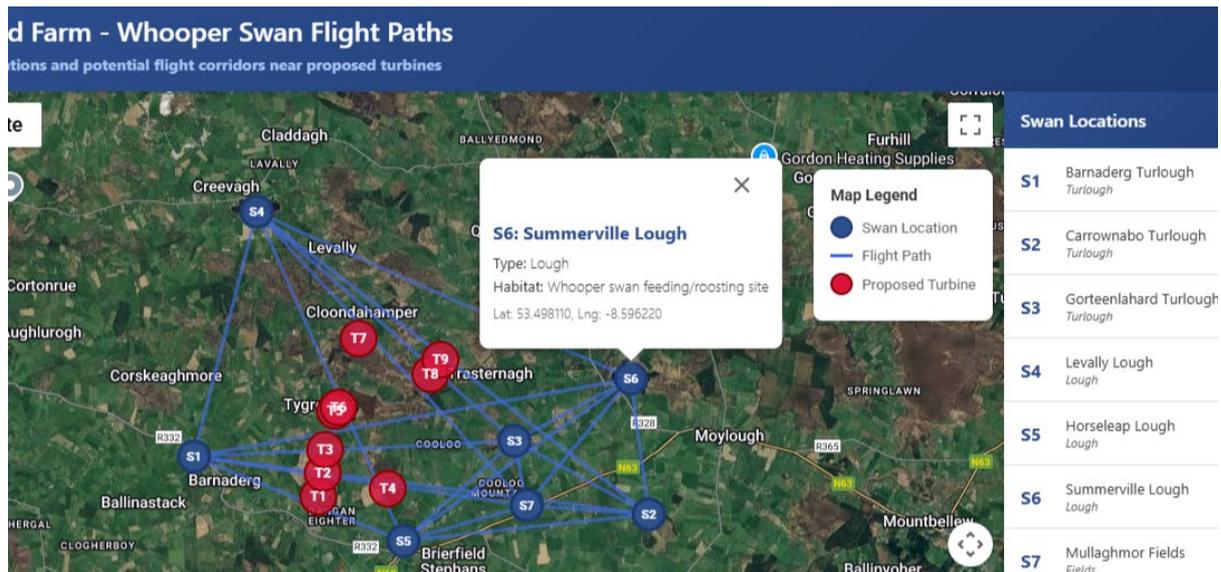
Observed swan locations and potential flight corridors near proposed turbines



# Cooloo Wind Farm - Whooper Swan Flight Paths

Observed swan locations and potential flight corridors near proposed turbines





The above maps illustrate the exact locations of the proposed turbine locations. They were inputted into the above maps using the verified longitude and latitude GPS coordinates. Below is a table of the latitude and longitude coordinates of the respective proposed turbine locations.

### Cooloo Wind Farm - Location Coordinates

#### Turbine Locations

Code	Name	Latitude	Longitude
T1	Turbine 1	53.4763	-8.6918
T2	Turbine 2	53.4807	-8.6905

T3	Turbine 3	53.4850	-8.6898
T4	Turbine 4	53.4778	-8.6705
T5	Turbine 5	53.4922	-8.6868
T6	Turbine 6	53.4928	-8.6858
T7	Turbine 7	53.5055	-8.6795
T8	Turbine 8	53.4988	-8.6575
T9	Turbine 9	53.5015	-8.6545

#### Whooper Swan Locations

Code	Name	Type	Latitude	Longitude
S1	Barnaderg Turlough	Turlough	53.48378	-8.73006
S2	Carrownabo Turlough	Turlough	53.47319	-8.59078
S3	Gorteenlahard Turlough	Turlough	53.48661	-8.63175
S4	Levally Lough	Lough	53.52864	-8.71086
S5	Horseleap Lough	Lough	53.46828	-8.66592
S6	Summerville Lough	Lough	53.49811	-8.59622

S7	Mullaghmor Fields	Fields	53.47483	-8.62800
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Case Reference: An Coimisiún Pleanála 323761

Coordinate System: WGS84 Decimal Degrees

Generated: November 2025

Additionally, no mitigation measures were presented by the applicant (MKO). Whooper Swans are Listed on Annex I of the EU Birds Directive (2009/147/EC), which requires member states to protect these birds and their habitats. The applicant in this case has failed to acknowledge the potential for serious disturbance to this species, and has not offered to implement any mitigation measures.

### Merlin

“Birds were recorded using the Proposed Wind Farm site for hunting during winter. The potential for direct habitat loss cannot be excluded. Birds were recorded within 500m of the proposed turbine locations. The majority of activity was in the winter season: there was a single observation of a merlin within 500m of the proposed turbine locations during three breeding seasons of survey. The potential for disturbance/displacement cannot be excluded for the wintering population; however, it is limited for the breeding season population. Birds were recorded flying at PCH within 500m of the proposed turbine locations during vantage point surveys. The potential for collision risk cannot be excluded” (pg 56-57, Chapter 7 of EIAR) Merlin Listed on Annex I of the EU Birds Directive (2009/147/EC). No mitigation measures are presented by MKO to lower the potential for collision risk, as their theoretical calculations deem the collision risk to be negligible (appendix 7-6, pg 14)

## LAPWING

“Flocks of up to 1,000 lapwing were recorded during winter surveys. These flocks were using waterbodies in the wider surroundings and were not birds using the Proposed Wind Farm site. However, there were flocks recorded using and travelling over the Proposed Wind Farm site. These birds are likely to be associated with those from the wider surroundings. Thus, the lapwing population at the Proposed Wind Farm site is a wintering population of National Importance.”(pg 51, chapter 7 of EIAR) Thus the potential for habitat loss cannot be excluded. Similarly the potential for displacement/ disturbance and collision risk cannot be excluded for the wintering population. The Lapwing was declared Ireland National Bird by the Irish Wildbird Conservancy, now known as Birdwatch Ireland, in 1990. It is a Red Listed Species of Conservational Concern.

## BARN OWL

There was “evidence of previous barn owl occupation was found in a derelict building during surveys in May 2021. This building is in Cooloo, within the Proposed Wind Farm site (labelled as BO-1 in the map in Appendix 7 5).”

“There were four incidental records of barn owl during vantage point surveys. Single birds were observed travelling or flushed in May 2020, November and December 2023, and in February 2025. All observations were outside the Proposed Wind Farm site (three to the north and one to the south)” (pg 34 of chapter 7 of EIAR). The bird surveyor in this instance fails to give the distance from the proposed site. There is a lot of ambiguity around the proximity to the site where these birds were observed. Barn Owl is a “red listed” species of concern in Ireland according to the Birds of Conservational Concern in Ireland study (Gilbert et al. 2021) On account of this there should have been more data and details collected.

## OTHER RED LISTED SPECIES

There was also observations of other notable red listed species on and around the proposed site. The following species were identified in the area;

- Curlew
- Snipe
- Greywagtail
- Meadow Pipit
- Kestrel
- Woodcock
- Shoveler
- Redwing
- Swift

In addition to this there was evidence of species using the site for breeding, feeding and roosting. The kestrel for example was recorded 163 times during vantage point surveys. “Kestrel used the Proposed Wind Farm site for breeding. In breeding season 2020, kestrel was observed mating in Cloonascragh in February. Later, in April, a male was observed carrying food and displaying near Cloondahamper (outside the Proposed Wind Farm site) suggesting a nest in this area (labelled as K-1 in the map in Appendix 7-5).....Finally, in breeding season 2024, kestrel was observed carrying prey in June and July, and a juvenile was seen with an adult male, near Cloonascragh, in the northern section of the Proposed Wind Farm site (K-2). Kestrel was also using the Proposed Wind Farm site for hunting. There were 120 records of kestrel hunting over bog and grassland and perched or eating prey. Much of the activity was within the northern section of the Proposed Wind Farm site”(pg 36 of chapter 7 of EIAR)

## CUMULATIVE IMPACT

The applicants have failed to address or acknowledge the cumulative impact of two potential windfarms situated near two significant water bodies; Levally Lough and Summerville Lough. They have failed to investigate the impact this will have on the Key Ornithological Receptors that roost, forage and move between the two Loughs. The two Lough's have been sited in Chapter 7 of the EIAR of the Cooloo Windfarm and in Chapter 7 of the Clonberne Windfarm application. The two loughs were used in the waterbird distribution surveys and are referenced in the respective appendixes of both applications in the Survey Effort appendix.

I have researched the documents from both EIAR and have verified the distances in relation to the two proposed developments;

- Summerville Lough is 6.5km from Proposed Clonberne Windfarm
- Summerville Lough is 3.1km from the nearest proposed turbine in Cooloo Windfarm
- Levally Lough is 2km south west from proposed Clonberne Windfarm
- Levally is 3.9km north west of the proposed Cooloo Windfarm

#### LEVALLY LOUGH

Levally Lough is a turlough, or periodically dry lake, located in County Galway, approximately 9 km east of Tuam. It is a SAC(Special Area of Conservation) known for its unique ecosystem, especially its rich birdlife and aquatic vegetation, and is also popular for fishing for species like salmon and pike. It is one of the wettest turloughs in Ireland, often remaining flooded for long periods or even not emptying fully in some years.

#### Geographic and ecological features

- Type of body of water: Levally Lough is classified as a turlough, a karst feature that can be submerged for long periods.
- Location: It is situated in the northeast of County Galway, about 9 km east of Tuam.
- Size: The lough is approximately 1.9 km long and 1.1 km wide, covering an area of about 1.23 km<sup>2</sup>.
- Ecological status: It is designated as a Special Area of Conservation (SAC) due to its ecological significance.

- Water and vegetation: The lough often has a high water level and contains marl (precipitated calcium carbonate) and aquatic vegetation, including willows.
- Birdlife: It is particularly noted for its diverse and rich birdlife, supporting both wintering and summer waterfowl.

## SUMMERVILLE LOUGH

This is a lake that is being considered by the National Parks and Wildlife Service for designation as a potential NHA (site code 001319). As an ecological habitat it is important, with whooper swan, wildfowl and otters residing here. Geologically it is certainly of County Geological Site importance owing to the long distance the sinking water traced from its basin travels underground: an impressive 10 Km.

A swallow hole occurs at the southeastern edge of the peat flanking the lake basin, just north of Moylough Castle. The water sinking into this swallow hole was dye-traced in 2011, and the water emerged at public water supply springs at Barnaderg and (adjacent) 'mid-Galway' springs, almost 10 km to the southwest, in Derreen Townland. The lake therefore drains at high water levels into this swallow hole and subsurface, and via conduits, to the distant southwest.

## LIMITATIONS TO CUMULATIVE IMPACT ASSESMENT

The applicants in their planning application have failed to provide any maps or diagrams to show the proximity of windfarms to the proposed Cooloo Windfarm. They have stated that the Proposed Clonberne Windfarm will be 5.2km from the Proposed Cooloo Windfarm and that is where ended.

They have failed to explore what effects the two developments will have on flight paths of birds etc. Will the development of two large wind farms with turbines or unprecedented sizes disturb or deter sensitive species from using the two sites? This is a potential that has not been addressed or investigated by the applicants.

They applicants have just gave a synopsis of what the EIARs have stated in other planned developments within 25km radius. They have not provided any studies or evidence to prove

that several windfarms within close proximity to this proposed development, will have not have adverse effects on Key Ornithological receptors.

#### LIMITATIONS IN SURVEY DATA (APPENDIX 7-1) AND IN BIRDS(CHAPTER 7)

- The Barn Owl Surveys locations were all the northern segment of the proposed development site. None appeared to be carried out in southern segment adjacent to Turbine 1 and Turbine 2.(Figure 7-1-10)
- Hen Harrier Roost Surveys were carried out in the northern segment of the proposed site. Similarly no surveys were carried out in Southern Segment. A large area was omitted from these surveys. (Figure 7-1-8)
- The Wintering and Breeding Walkover Survey was carried out in easily accessible locations. It would appear the walkovers were done via the road network. A large area of bog between turbines 7, 6 and 9 was excluded from the survey, as there is no road access available. The walk over survey ended where the road ended.(Figure 7-1-6 & Figure 7-1-5) Should a comprehensive walkover survey not include the actual land, and bog within the proposed site?
- “It was not possible to achieve total coverage of the 500m turbine radius during vantage point surveys due to the nature of the landscape.” (Section 7.2.5.3 of chapter 7)
- This limitation is critical. Incomplete vantage point coverage directly affects the accuracy of the collision risk model (Band Model), particularly for low-flying species such as Hen Harrier and Golden Plover. The assumption of “random distribution” of bird flights, used to compensate for this gap, is speculative and inconsistent with site-specific flight path data required under NatureScot (2017) and EPA) guidelines.

### LIMITATIONS/OMISSIONS in EIAR Legislation, Guidance and Policy Section 7.1.2

The Guidance and Policy section outlines the academic, legal and Policy information that was used by the applicants in drafting their EIAR.

I have included the Breeding Farmland Wadder Hotspot Report as it provides data to show how important the area is to species such as Lapwing, Redshank and Snipe. This area, between Barnaderg and Moylough, designated as a hotspot for these species is within much of the Proposed Cooloo Windfarm Site.

The academic materials that were consulted and referenced are selective and any study that had findings that did not conclude in favour of wind farms was omitted. I have included one such source below (Tovanen et al, 2023)

#### BREEDING FARMLAND WADDER HOTSPOT

Farmland Bird Hotspot Mapping Phase 2 Project Report John Kennedy | John Lusby | Kathryn Finney | Oonagh Duggan | Anita Donaghy 28 November 2022

Sets out that “The Farmland Bird Hotspot Mapping Project aims to produce indicative maps of areas of importance for farmland birds of conservation concern in Ireland, by collating and mapping records from a wide range of data sources. It has been implemented in two Phases. Phase 1 was the initiation and set up phase, which produced a broad map of farmland bird hotspots in Ireland at the 10km level. In Phase 2, an enhanced set of maps was produced, indicating locations of particular importance for both individual species and groups of species.

28 species of birds of conservation concern with a particular dependence on farmland habitat were considered”

Scientifically validated records of almost 2.5 million observations of birds were gathered from 27 datasets. Over 130,000 of these records are of the 28 species of interest. All datasets were restructured into a consistent format and coordinate reference system. This standardized format includes the level of breeding evidence if available and the season of the observation (Winter, Breeding or Other). The assigned season comprehends out-of-season breeding where species-specific breeding evidence justifies it. A comprehensive scoring scheme was applied to each of these records. Scoring parameters included species, season, level of breeding evidence, and recentness of record. For records with point locations, scores are allocated to regions surrounding the record, based on species-specific and season-specific home ranges, with the precise score also depending on distance to the point location. To produce the maps, the country was divided into grids of both 10km and 1km square resolution. A final score was calculated for each species in each grid cell. These scores provided the basis for species-specific maps. For maps of groups of species, normalised species scores were consolidated using a weighting of relative species importance. These weights were derived from species trends documented in *Birds of Conservation Concern in Ireland 2020-2026* (Gilbert et al. 2021). The hotspots were considered to be the top scoring cells for each species or group of species. They comprise a percentile of all grid cells, selected to include the recent records of the relevant species or group of species. In most cases, the 15% of cells with the highest score—the 85th percentile—was selected. The resulting maps identify the most important locations in Ireland for both individual species and groups of species, based on the available data that was included in this project.” (Kennedy et al. 2022, pg 2.)

The publication of the *Birds of Conservation Concern in Ireland 2020-2026* highlighted continued declines in a range of farmland birds in Ireland, with ground nesting birds faring particularly badly. Aware of the significant number of datasets relating to farmland birds that have been compiled in recent years, BirdWatch Ireland recognized that developing farmland bird hotspot maps through the collation of these datasets could provide valuable spatial information to help target conservation measures for farmland birds at a national, regional and local level. This report presents a set of hotspot maps for both individual species and

groups of species which were generated by the collation of these available datasets. As a first step, those species dependent on farmed habitats for part or all of their life cycle and which are of conservation concern were identified, resulting in a list of twenty-eight species including ground-nesting waders such as the Redshank, Golden Plover, Lapwing and Curlew, wider countryside passerines such as the Yellowhammer, Tree Sparrow and Twite, and birds of prey including the Barn Owl, Kestrel, and Hen Harrier” (Kennedy et al. 2022, pg 4)

28 species of Birds of Conservation Concern were selected for the project. They are listed below

Table 1: Species of farmland bird included in this analysis

BoCCI Status	Species	Scientific Name
Red	Barn Owl	<i>Tyto alba</i>
	Bewick's Swan	<i>Cygnus columbianus</i>
	Corncrake	<i>Crex crex</i>
	Curlew	<i>Numenius arquata</i>
	Dunlin	<i>Calidris alpina</i>
	Golden Plover	<i>Pluvialis apricaria</i>
	Grey Partridge	<i>Perdix perdix</i>
	Kestrel	<i>Falco tinnunculus</i>
	Lapwing	<i>Vanellus vanellus</i>
	Meadow Pipit	<i>Anthus pratensis</i>
	Quail	<i>Coturnix coturnix</i>
	Red Grouse	<i>Lagopus lagopus</i>
	Redshank	<i>Tringa totanus</i>
	Snipe	<i>Gallinago gallinago</i>
	Stock Dove	<i>Columba oenas</i>
	Twite	<i>Linaria flavirostris</i>
Whinchat	<i>Saxicola rubetra</i>	
Yellowhammer	<i>Emberiza citrinella</i>	
Amber	Barnacle Goose	<i>Branta leucopsis</i>
	Brent Goose	<i>Branta bernicla</i>
	Chough	<i>Pyrrhocorax pyrrhocorax</i>
	Greenland White-fronted Goose	<i>Anser albifrons</i>
	Greylag Goose	<i>Anser anser</i>
	Hen Harrier	<i>Circus cyaneus</i>
	Skylark	<i>Alauda arvensis</i>
	Spotted Crake	<i>Porzana porzana</i>
	Tree Sparrow	<i>Passer montanus</i>
Whooper Swan	<i>Cygnus cygnus</i>	

FIG.1 (Kennedy et al. 2022, pg 6)

Maps of the findings of this comprehensive study, gathered from 27 data sets, are available to view on the birdwatch Ireland website:

<https://birdwatchireland.ie/our-work/species-habitat-conservation/countryside-wetlands/hotspot-mapping/>

There are two maps categorised by 1. Farmland Bird Hotspots, and 2. Breeding Farmland Wader Hotspots. What is of huge significance here is that it is clearly evident that the proposed Cooloo Windfarm Site is directly infringing upon a Hotspot for Breeding Farmland Waders. Below is a view of the map taken from the BirdWatch Ireland website which applies to the proposed Cooloo Windfarm Site. Fig.3 below is taken directly from the Cooloo Windfarm website. It is clearly evident that the windfarm will be located inside a designated hotspot for Breeding Farmland Waders.

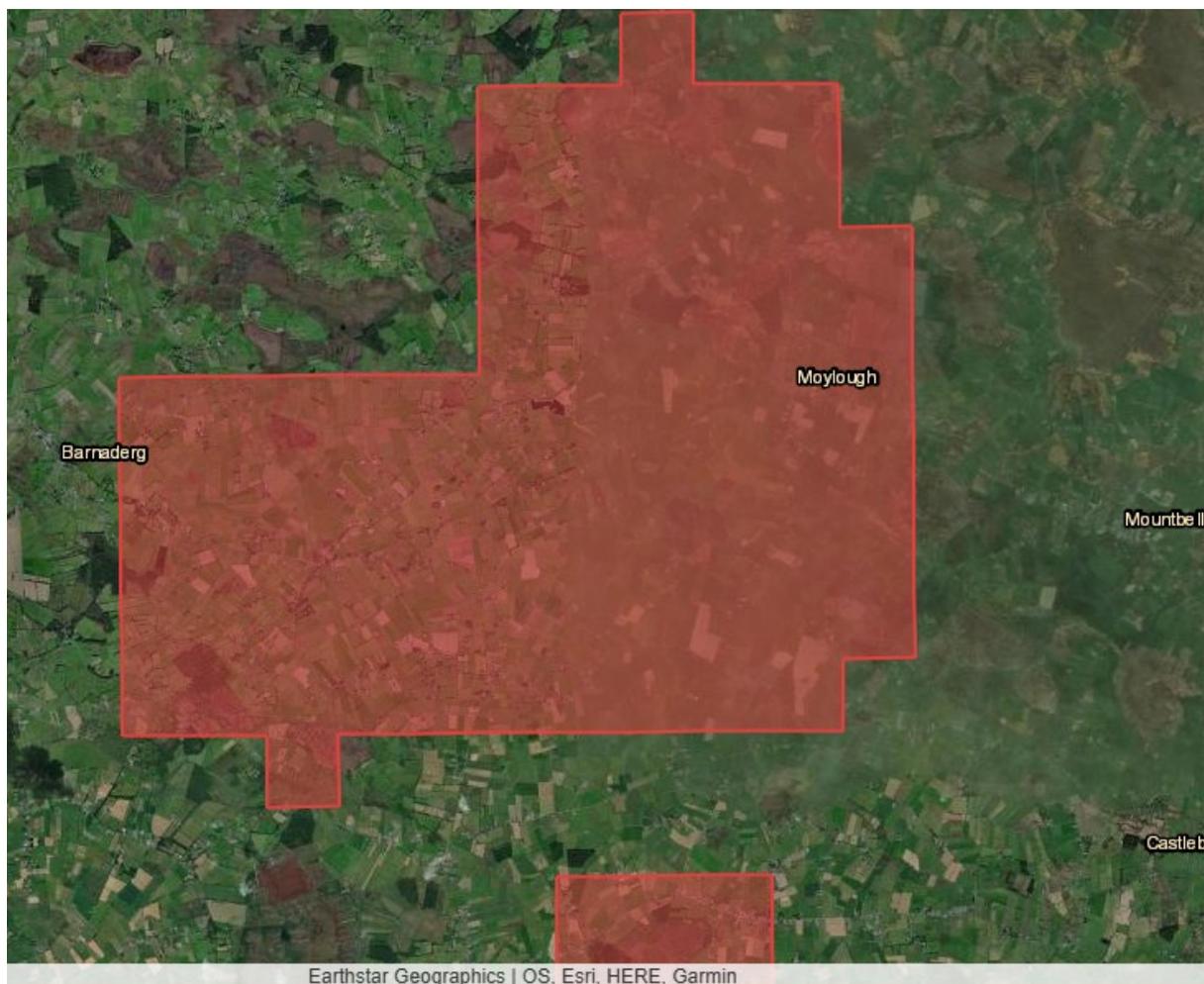


FIG.2(<https://birdwatchireland.ie/our-work/species-habitat-conservation/countryside-wetlands/hotspot-mapping/>)

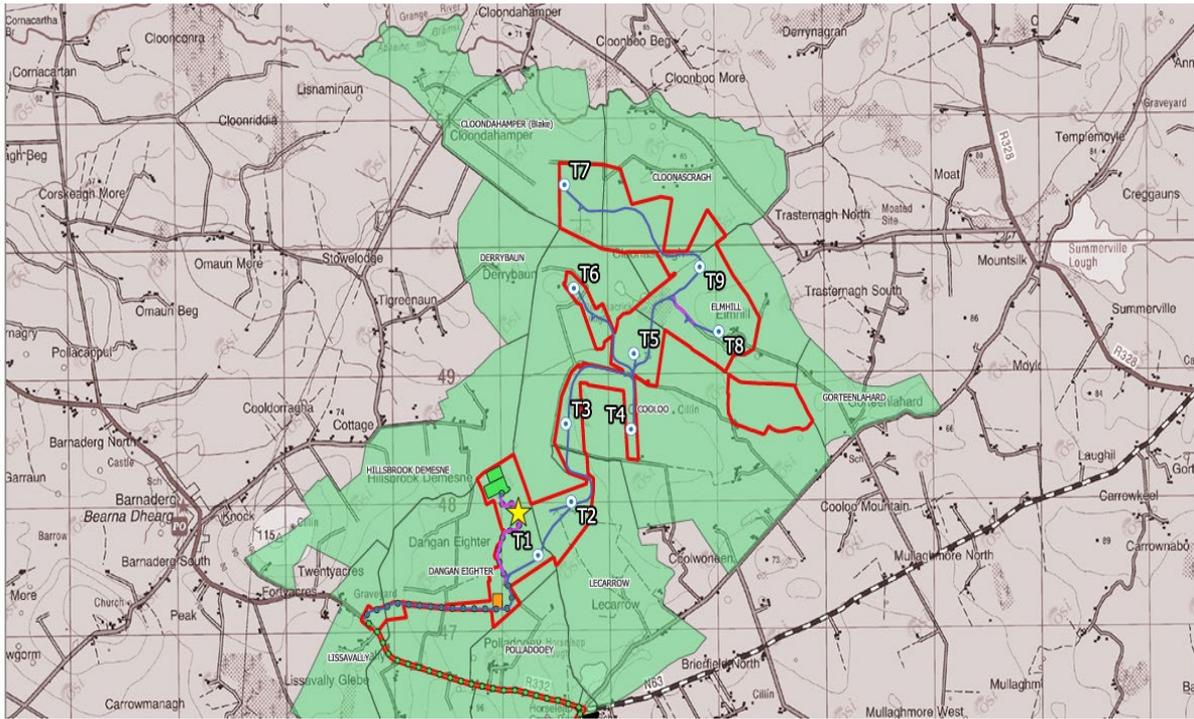


FIG.3 Source ([Figure+3.pdf](#), Cooloo Windfarm website)



FIG.4(<https://birdwatchireland.ie/our-work/species-habitat-conservation/countryside-wetlands/hotspot-mapping/>)

As you can see from figure 3, the townlands of Dangan Eighter, Polladooey, Slievegorm and Horseleap are present in the designated Hotspots for Farmland Breeding Waders.

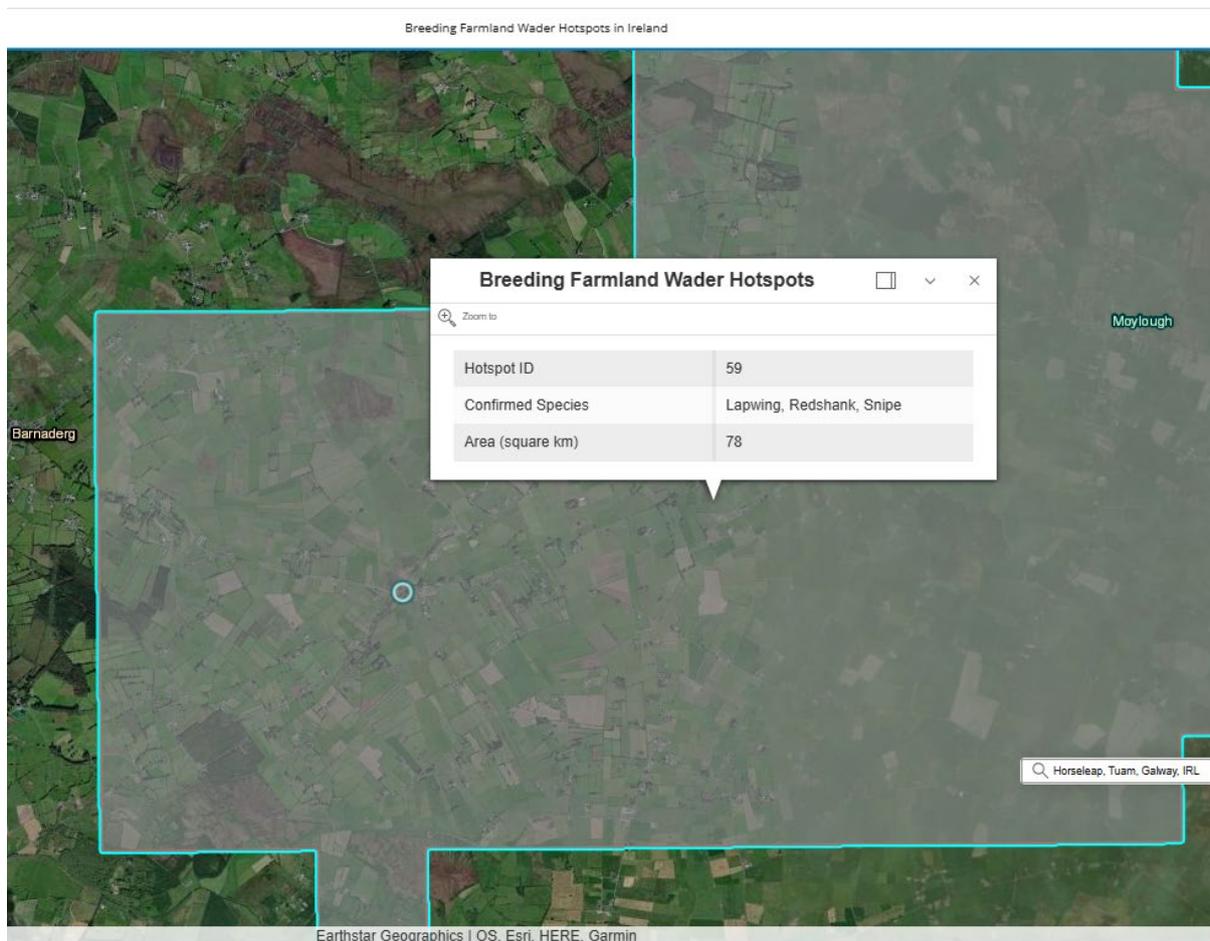


FIG.5(<https://birdwatchireland.ie/our-work/species-habitat-conservation/countryside-wetlands/hotspot-mapping/>)

As you can see from the above image, the species of ornithological concern that are confirmed in the area; Lapwing, Redshank and Snipe. These species are Red Listed in the BoCCI ( Birds of Conservation Concern in Ireland 2020-2026 (Gilbert et al. 2021). You can also see this in figure 1 above which has Red Listed and Amber Listed Species of Conservational Concern (Kennedy et al. 2022) which was compiled in the “Farmland Bird Hotspot Mapping Phase 2 Project Report”.

This study, (Kennedy et al, 2023) referenced in the bibliography was not included by MKO as a guidance document or tool, (see pg 3 of chapter 7 of EIAR) in their Legislation, Guidance and Policy Context section 7.1.2.

Another peer reviewed study that was overlooked in the EIAR Legislation, Guidance and Policy Context section was a recently published study from the Biological Conservation Journal. *Biological Conservation* is a leading international journal in the discipline of conservation science. The journal publishes articles spanning a diverse range of fields that contribute to the biological, sociological, ethical and economic dimensions of conservation. The primary aim of *Biological Conservation* is the publication of high-quality papers that advance the science and practice of conservation, or which demonstrate the application of conservation principles and policy. In a research paper published in 2023 titled *How far are birds, bats, and terrestrial mammals displaced from onshore wind power development? -A systematic review*, Tovanen et al, made a number of important findings. The paper examines the distances at which wildlife life is displaced by operating wind energy facilities. The investigation involved review of post-construction data at projects located in the US, Spain, the United Kingdom, and Norway. The research found that Cranes and owls were displaced on average up to 5 km. What Tovanen et al. purport is that the area within 5km of wind energy developments is essentially abandoned by these species. They also found that Waterfowl (6/7 cases), raptors (24/30), passerines (16/32) and waders (8/19) were displaced on average up to 500 m. The researcher's concluded that "Displacement-induced population decline could be mitigated by situating wind power in low-quality habitats, minimizing the small-scale habitat loss and collisions, and creating high-quality habitats to compensate for habitat loss".(Tovanen et al, 2023)

## **CONCLUSION**

Several Key ornithological Receptor species I have outlined above (Hen Harrier, Golden Plover, Whooper Swans in particular) are Listed on Annex I of the EU Birds Directive (2009/147/EC). The Birds Directive (Directive 79/409/EEC) was adopted in 1979. It is one of the first pieces of environmental legislation to be adopted by the EU. It was amended in 2009 ([Directive](#)

[2009/147/EC](#)) - changes were made to Annex II part B due to the accession of new Member States. The Birds Directive requires all Member States to protect all wild bird species and protect and restore their habitats. It is therefore incumbent upon An Coimisin Pleanala to protect the foraging, roosting, and feeding grounds of these endangered species. It is clear from the evidence I have provided, and taken from the EIAR report, that the area in and the around the proposed Cooloo Windfarm Site, is of immense importance to these protected species.

### **9. Impact on Annex 1 Habitats (Bogs)**

The SEA Environmental Report for the Galway County Development Plan 2022-2028 page 51 states

*...Raised bogs and cutaway raised bogs are found mainly in the eastern areas of the County with blanket bog common to the west of the Corrib. Active blanket bogs and active raised bogs are priority habitats, listed on Annex I of the EU Habitats Directive. Ombrotrophic (rain-fed) and minerotrophic (groundwater fed) peat soils are often indicative of areas that are the most sensitive to development due to ecological sensitivities and impeded drainage issues. Many of these peat areas are also subject to ecological designations.*

Windfarm development clearly is contrary to these aims. In 2019 Ireland declared a climate and biodiversity emergency. The government has acknowledged that our country needs to act with urgency on the causes and impacts of climate change. Peatlands are highly significant in the global efforts to combat climate change. The protection and restoration of peatlands is vital in the transition towards a climate resilient and a climate neutral economy.

Peatlands are home to a high proportion of Ireland's biodiversity. While only 10% of Ireland's biodiversity has been assessed it is known that 15% of the original flora of Ireland are peatland plants; 14% (59 species) bird species have been recorded on peatland; 49% of all endangered

birds in Ireland occur on peatlands, most as breeding species; 26% of Ireland's animal species are dependent on peatlands in some phase of their life cycle.; and 23 of the 35 butterfly species found in Ireland are found on peatlands. Many of these require isolated and tranquil settings to forage and breed and it is important that these habitats are protected and conserved.

In Ireland peatland biodiversity is protected under the EU Habitats Directive, EU Birds Directive and the Irish Wildlife (Amendment) Act, 2000. The 2030 Biodiversity Strategy builds upon and goes beyond the existing EU Birds and Habitats Directives and the EU Natura 2000 Network of protected areas. It sets ambitious EU targets and commitments for 2030 to achieve healthy and resilient ecosystems.

Bogs are wetlands made of a combination of peat, plants and water. Just one hectare of peatland can contain 5,000 tonnes of carbon that starts to be released into the atmosphere when wind turbines are installed. Intact peatlands can store three times as much carbon as forests, however when a peatland is cut it becomes a source of carbon. The deeper the soil, the more carbon will be emitted during construction, which also rapidly decomposes the peat and creates large holes in the land. As the surrounding peat drains into the holes, the peatland dries out, and huge quantities of carbon dioxide are released.

Raised bogs are (or were) common in Ireland and scarce in Europe. They occur in few other places in the world. Raised bog habitats need protecting, just like tropical rainforests. When raised bogs disappear, we lose a natural environmental regulator. Bogs hold rainwater, consequently, they sequester water during heavy rainfall, thereby reducing flooding, and release water during droughts. The introduction of stone, gravel, concrete etc associated with windfarm development, is incompatible with the existing environment of raised bog and will have detrimental effects on its intrinsic characteristics and ability to function. Originally there was 300,000ha of raised bog in Ireland. According to the Irish Peatland Council over the past 50 years Ireland has witnessed a 77% loss in peatland habitat.

What is if concern in relation to the development of Cooloo Windafarm is that 580 metres of access road crosses Active Raised Bog. The EIAR submitted by the applicants confirms that the bog habitat is there and that it will be disturbed and altered. 39,530 cubic metres of peat is planned to be excavated. The scale of this amount of peat excavation is massive.

According to EU habitats Directive, the only justification for destruction of these habitats is if there are “imperative reasons of overriding public interest” and no alternative is available. I don’t believe the applicant has proven this.

### **10.Lack of Oversight Upon Cooloo Windfarm Completion**

According to EIAR the post construction monitoring of Biodiversity enhancement, and mitigation measures “will be undertaken in partnership between the Developer, the Project Ecologist and the Landowners.”(Appendix 6-4, Biodiversity Management and Enhancement Plan) Is this a reliable approach to ensure that hedges that are removed, or trees felled, are re-planted. This is just a small example of the environmental destruction that has the potential to occur. Is there any independent oversight to ensure that the commitments given to implement biodiversity enhancement, re-planting, mitigation measures etc. are actually carried out? I’m aware that any it is the responsibility of the local Planning Authority to ensure the applicants carry out the conditions of the planning permission. But who’s responsibility is it to inform the Local Planning Authority if conditions are not met?

Other sectors must ensure compliance with various regulations governing their specific sector. For example, a supermarket has to abide by Health and Food Safety Standards, and there are subject to on the spot inspections to ensure their compliance.

Is there any independent body tasked with the responsibility to ensure that windfarms and other SID’s comply with the commitments they gave in their planning application?

## **11.CONCLUSION**

In light of the serious concerns outlined above I respectfully urge An Coimisiún Pleanála to refuse permission for this development. The proposal is not compatible with the EU Habitats Directive(94/43/EEC), the EU Birds Directive (2009/147/EC) or the EU Water Framework Directive(2000/60/EC). This development poses too much of a danger to the water supply of 10,000 households, and to Protected Habitats and Species, which I have outlined above.

Thank you for taking the time to read this submission,

Yours sincerely

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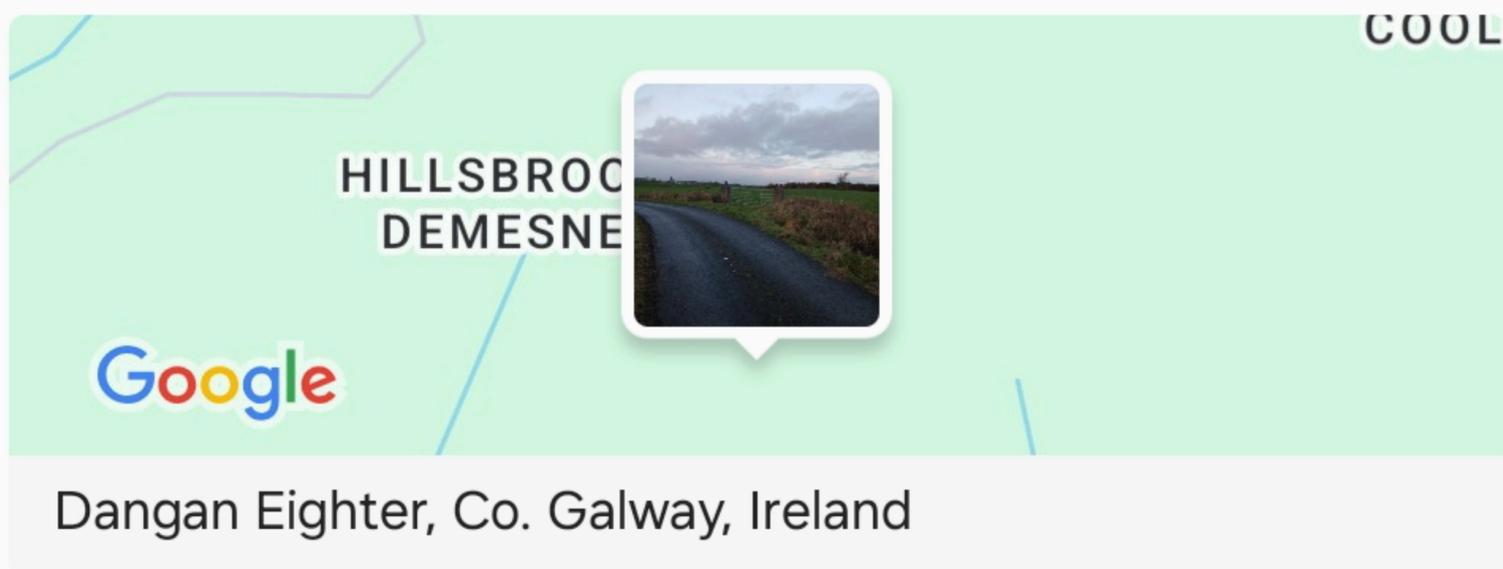
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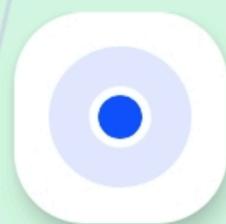
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