

**An Coimisiún Pleanála Case reference: PAX19.324161**

Name: Noeleen Hamilton

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Date: 21<sup>st</sup> May 2026

**Development Description:** Lemanaghan Wind Farm Designated Activity Company

The proposed development of 15 no. wind turbines, a permanent 220kV on-site substation, and associated infrastructure is located in the townlands of Cooldorragh, Kilnagarnagh, Cappanalosset, Tumbleagh, Killaghintober, Castlearmstrong, Leabeg, Cornafurris and Corrabeg, Lemanaghan, Kilnagoolny, Straduff, Lisdermot, Derrica More, Rosfaraghan, Rashinagh, CorMor and Cor Beg, Corbane, and Ballindown, Co. Offaly — Noeleen Hamilton

The Secretary

An CoimisiunPleanala

64 Marlborough Street

Dublin 1

DO1 V902

Dear sir/madam, I Noeleen Hamilton, of the above address, wish to make this submission/observation/objection on the above application. Please acknowledge receipt of this submission and keep me informed of your decision, on the above email.

Yours Faithfully Noeleen Hamilton **Email:** noeleenhamilton@gmail.com

**To: An Coimisiún Pleanála**

**Re: Lemanaghan Wind Farm SID Planning Application**

**Objection on bird protection**

**Objection on bat ecology grounds**

**Objection on biodiversity — Marsh Fritillary**

**Objection on peat carbon loss, bog hydrology and ecological damage**

**Submission Seeking Refusal: Lemanaghan Wind Farm, Co. Offaly**

I object to this planning application and request that permission be refused because the applicant's own EIA identifies the site as important for birds of high conservation concern, including Annex I species, SPA-linked species, raptors, wetland species and multiple Birds of Conservation Concern in Ireland Red-listed species.

The proposal is for 15 no. turbines with a rotor height of up to 220m and a 35-year operational life. The proposal includes permanent turbine bases, hardstands, access roads, drainage works, cabling, a 220kV substation, peat-handling areas, borrow pits and other associated infrastructure. In my view, the proposal has not been adequately assessed in light of the ecological sensitivity of Lemanaghan Bog and the protected species and habitats recorded within and around the site.

Under Article 3 of the EIA Directive, the environmental impact assessment must identify, describe and assess the direct and indirect significant effects of the project on population and human health, biodiversity, land, soil, water, air, climate, material assets, cultural heritage, landscape, and the interaction between those factors. Particular attention must be given to species and habitats protected under the EU Habitats Directive and the EU Birds Directive.

This proposed development is not simply a renewable-energy project. It is a major industrial development on a sensitive peatland landscape. Its effects on birds, bats, protected insects, peat, water, carbon storage, drainage and habitat connectivity must be assessed together and not treated as isolated topics.

Ireland's nature protection obligations and policy duties arise under the EU Birds Directive, the EU Habitats Directive, the Wildlife Acts, the European Communities (Birds and Natural Habitats) Regulations 2011, and the National Biodiversity Action Plan 2023–2030. Public bodies are required to have regard to the objectives and targets in the National Biodiversity Action Plan under the biodiversity duty introduced by the Wildlife (Amendment) Act 2023. I submit that An Coimisiún Pleanála should apply a precautionary approach to this application because of the level of ecological uncertainty and the presence of legally protected and declining species.

## **1. Objection on Bird Protection Grounds**

Chapter 7 and Appendix 7-6 of the EIAR contain the applicant's Collision Risk Assessment. The applicant's own Bird Monitoring Programme lists the following Key Ornithological Receptors recorded during surveys:

Crane, Curlew, Golden Plover, Hen Harrier, Kingfisher, Merlin, Peregrine, Whooper Swan, Barn Owl, Kestrel, Lapwing, Snipe, Woodcock, Buzzard and Sparrowhawk.

It identifies Golden Plover, Barn Owl, Kestrel, Lapwing, Snipe and Woodcock as BoCCI Red-listed species, while Crane is listed as Annex I under the EU Birds Directive. BirdWatch Ireland's BoCCI4 list records the current 2020–2026 Red and Amber List framework for Ireland.

The presence of these species is not incidental. Chapter 7 identifies Golden Plover wintering and Lapwing wintering as "Very High Sensitivity" receptors, and Crane as a "High Sensitivity" receptor due to a nationally important population. This is a strong refusal ground. A wind farm should not be permitted where the applicant's own evidence shows nationally and internationally important ornithological receptors within the zone of influence.

The Birds Directive and the Wildlife Acts require serious protection of wild birds, their nests, eggs, breeding areas and habitats. Section 22 of the Wildlife Act 1976, as amended, makes it an offence to wilfully destroy, injure or mutilate the eggs or nest of a protected wild bird, or to wilfully disturb a protected wild bird on or near a nest containing eggs or unflown young. This reinforces the need for the planning authority to take a precautionary approach where protected, Red-listed, Annex I or SPA-linked bird species are recorded within the zone of influence of the proposed turbines.

The Collision Risk Assessment itself states that collision modelling is theoretical and must be interpreted with caution. It also lists major uncertainties, including limited information on night-time activity, observer bias in flight-height estimates, turbine details differing from those modelled, and limited firm information on avoidance behaviour. These uncertainties are especially serious for Red-listed, Annex I and high-sensitivity species.

Collision-risk modelling may be a useful assessment tool, but it is not, by itself, a legal answer to uncertainty. The planning authority must still be satisfied, on the basis of complete and reliable information, the likely significant effects on protected birds, SPA-linked species, Red-listed species and their habitats have been properly identified, assessed and avoided.

Mitigation is not a substitute for avoidance. Appendix 7-7 proposes post-construction monitoring in operational years 1, 2, 3, 5, 10 and 15 and collision monitoring for bird fatalities. Monitoring after permission is granted does not prevent harm; it merely records it after the development is built.

Where protected and declining species are concerned, I submit that An Coimisiún Pleanála should refuse permission, or at a minimum require a materially revised layout that avoids the ornithological receptors and their habitats.

## Key Chapter and Document References

Document	Chapter / Section	Page / Reference	
Chapter 7 Birds	Table of Contents: baseline, receptor evaluation, impacts, mitigation, monitoring, cumulative effects	p.2	
Chapter 7 Birds	Project description: 15 turbines, 220m rotor height, 35-year operational life	p.5	
Chapter 7 Birds	Legislation, guidance and policy context	pp.5–7	
Chapter 7 Birds	Consultation responses	p.8	
Chapter 7 Birds	Potential impacts and sensitivity of KORs	p.77 / section 7-74	
Appendix 7-6	Collision Risk Assessment methodology and caution	p.3	
Appendix 7-6	Collision-risk uncertainty	p.26	
Appendix 7-7	Key Ornithological Receptors table	pp.3–4	
Appendix 7-7	Monitoring programme / post-consent monitoring	pp.3–6	

### Collision Modelling Should Not Be Treated as Definitive Proof of No Impact

While collision-risk modelling is accepted as a standard assessment tool by European regulators and by planning systems used in Ireland and the UK, it is not accepted as definitive proof that impacts are insignificant.

That distinction is important.

The Lemanaghan EIAR itself states that the Collision Risk Model is the NatureScot-recommended method and that the results are "theoretical predictions" that "must be interpreted with a degree of caution."

BirdWatch Ireland does not reject collision modelling outright, but it has repeatedly argued that:

- impacts on birds are often underestimated;

- cumulative impacts are inadequately assessed;
- uncertainty is high;
- and precaution should apply for protected and Red-listed species.

The European Commission also accepts collision-risk modelling as part of environmental assessment for wind-energy projects under the Birds and Habitats Directives, but requires:

- high-quality survey data;
- precautionary assessment;
- cumulative impact assessment;
- and protection of Natura 2000 / SPA species.

Collision modelling contains substantial uncertainty and cannot reliably exclude significant adverse impacts on Annex I and Red-listed birds.

That argument is supported by both the scientific literature and the EIAR itself.

The applicant's own Appendix 7-6 acknowledges uncertainties, including:

- uncertainty in flight-height estimation;
- uncertainty in nocturnal activity;
- uncertainty in avoidance behaviour;
- turbine specification assumptions;
- and variability in bird behaviour.

BirdWatch Ireland has consistently highlighted concerns about the inadequate assessment of wind-farm impacts on birds.

While collision-risk modelling is widely used in wind-farm assessment, it is only a predictive tool based on assumptions and avoidance-rate estimates. The applicant's own EIAR acknowledges significant uncertainty in the model outputs. In circumstances where Annex I species and multiple BoCCI Red-listed species are present, the precautionary principle must apply, and consent should not be granted where significant effects cannot be scientifically excluded.

## **2. Ireland's Biodiversity Crisis and the Need for a Precautionary Approach**

Ireland already has one of the weakest biodiversity records in Europe, and the planning authority must consider this application in that wider environmental context.

According to the National Parks and Wildlife Service and the European Environment Agency, Ireland has failed to halt biodiversity decline, with many protected habitats and species in unfavourable conservation status. The EPA has repeatedly warned that biodiversity loss in Ireland is continuing and that peatlands, wetlands and farmland bird populations are under severe pressure.

Bird populations associated with wetlands, bogs and farmland have experienced major long-term declines in Ireland. This is directly relevant to the proposed development, which is located within a landscape supporting Annex I species, SPA-associated species and multiple BoCCI Red-listed species, including Crane, Golden Plover, Lapwing, Snipe, Barn Owl and Woodcock.

The applicant's own EIAR acknowledges the presence of species protected under the EU Birds Directive and species on the Red List of Birds of Conservation Concern in Ireland. The existence of several Red-listed bird species within the study area should be regarded as a matter of national conservation significance, not as a minor or routine planning issue.

The applicant relies heavily on collision-risk modelling and future monitoring. However, the Collision Risk Assessment itself states that the model produces "theoretical predictions" and that results must be interpreted "with a degree of caution." Monitoring after construction cannot reverse bird mortality or displacement once it has occurred.

This application therefore raises broader issues than a standard infrastructure proposal. It concerns the continued erosion of Ireland's biodiversity and the cumulative industrialisation of landscapes used by protected and declining bird species.

The planning authority should not approve a development that introduces long-term collision, displacement and disturbance risk into an area supporting:

- Annex I species;
- SPA-associated species;
- raptors sensitive to wind farms;
- wetland and bog species;
- and multiple Red-listed bird populations already in decline nationally.

In light of Ireland's ongoing biodiversity emergency and the State's poor conservation status record, permission should be refused unless the absence of significant adverse effects can be established beyond reasonable scientific doubt.

### **3. Objection on Bat Ecology Grounds**

I request that permission be refused for the proposed Lemanaghan Wind Farm. The application is for 15 turbines up to 220 metres blade-tip height, with approximately 17.1 km of new internal access roads and other associated infrastructure.

The applicant's planning website confirms that the EIAR, NIS and supporting environmental reports are part of the application, including Chapter 6 Biodiversity and Appendix 06-1 Bat Survey Report. However, the independent bat survey uploaded with this submission shows that the receiving environment is of exceptional local importance for bats.

The August 2024 Lemanaghan Bog Bat Survey recorded seven of Ireland's nine resident bat species using the surrounding peatland, including:

- Brown long-eared bat;
- Leisler's bat;
- Soprano pipistrelle;
- Common pipistrelle;
- Daubenton's bat;
- Natterer's bat;
- and Whiskered bat.

The survey states that the presence of seven species is "significant" and that five of the seven species were located around the peatlands.

The survey also states that the peatland, hedgerows, treelines, drains, tracks and edge habitats are important for bats foraging and commuting, and that mature and dying trees may support roosting bats at different times of year. This is not marginal bat habitat. It is an active bat landscape.

All Irish bat species are strictly protected under the Habitats Directive and Irish law. NPWS bat mitigation guidance confirms that all nine bat species in Ireland are protected under Annex IV of the Habitats Directive, with the lesser horseshoe bat also listed under Annex II.

The European Communities (Birds and Natural Habitats) Regulations 2011 require a strict protection system for Annex IV species. Regulation 51 makes it an offence to deliberately capture or kill protected fauna, deliberately disturb such species, particularly during breeding, rearing, hibernation and migration, or damage or destroy breeding sites or resting places.

In this context, the recorded presence of seven bat species, together with commuting routes, foraging habitat, drains, treelines and edge habitats, should be treated as a serious legal and ecological constraint, not as a matter to be left to operational monitoring after permission is granted.

NatureScot wind-turbine guidance, widely used in wind-farm bat assessment, identifies wind farms as requiring survey, assessment and mitigation to minimise risk to bats. The relevant risks include not only direct collision and barotrauma at turbines, but also:

- fragmentation of commuting corridors;
- loss or degradation of foraging habitat;
- lighting impacts on dark corridors;
- disturbance to possible tree roosts;
- cumulative impacts across the peatland and edge habitats;
- and long-term changes to the functioning of the bat landscape.

Permission should be refused because the proposal would introduce large turbines, new roads, drainage, construction activity, lighting and long-term operational disturbance into a landscape already demonstrated to be heavily used by protected bat species.

The uploaded survey expressly recommends maintaining commuting and foraging corridors and providing appropriate buffers around linear features. The proposed development, by its scale and infrastructure footprint, is incompatible with that recommendation unless An Coimisiún Pleanála can be satisfied beyond reasonable scientific doubt that bat habitats, flightlines and roost opportunities will not be adversely affected.

On the evidence available, that certainty is absent.

I therefore ask An Coimisiún Pleanála to refuse permission on the grounds that the development would pose unacceptable risks to strictly protected bat species and their habitats, and that the application has not demonstrated that these risks can be avoided, mitigated or monitored to the standard required by EU and Irish nature conservation law.

#### **4. Request for Refusal on Biodiversity Grounds — Marsh Fritillary**

I request that permission be refused because the application documents themselves identify habitat and ecological conditions of significance for Marsh Fritillary butterfly and other invertebrates, and the proposed mitigation / enhancement is not a safe substitute for avoiding damage to existing or potential habitat.

The application is for a 15-turbine wind farm at Lemanaghan Bog, with turbines up to 220m and associated roads, substation and works. The planning website confirms that the EIAR includes Chapter 6 Biodiversity, Chapter 7 Birds and Appendix 6-5 Biodiversity Management and Enhancement Plan.

#### **Key Document References**

<b>Document</b>	<b>Chapter / Section</b>	<b>Page</b>	<b>Issue</b>
EIAR	Chapter 6 Biodiversity	Listed in the EIAR index	Biodiversity is a core topic in the application
Appendix 6-5	Section 2.2 Fauna	pp.4–5	The site is suitable for protected species, including invertebrates; Marsh Fritillary habitat and inactive larval webs recorded
Appendix 6-5	Section 3.1.1 Marsh Fritillary Habitat Enhancement	p.6	Applicant accepts suitable habitat exists and that the site may contribute to the wider Marsh Fritillary habitat network
Appendix 6-5	Section 3.1.1 Implementation and Management	pp.6–7	Devil's-bit Scabious may take years to establish; enhancement is uncertain and delayed
Appendix 6-5	Section 1.3 Objectives	p.3	Proposed 6.7 ha of potential Marsh Fritillary habitat is mitigation / enhancement, not evidence that impacts are avoided

## Grounds for Refusal

Marsh Fritillary is not an ordinary species. NPWS states that it is the only Irish insect listed on Annex II of the EU Habitats Directive. It is also a colonial butterfly, with many individuals remaining in discrete habitat patches, and its foodplant, Devil's-bit Scabious, is an essential habitat component.

The applicant's own Appendix 6-5 records that targeted surveys found inactive larval webs in 2023, with scattered suitable habitat on the site, mainly along grassy verges and access tracks. It also states that the species occurs in the wider landscape, including bogs in the Boora Bog Group, and that the site has the potential to contribute to Marsh Fritillary habitat availability.

The proposed development includes extensive new access roads and infrastructure across a peatland landscape. The risk is not just direct land-take. The risk includes:

- habitat fragmentation;
- drainage alteration;
- construction disturbance;
- loss of verge habitat;
- dust;
- scrub / vegetation change;
- traffic;
- and long-term amenity and operational use.

These are exactly the types of pressures that can damage small, patchy Marsh Fritillary habitat networks.

The issue is not limited to direct land-take. Marsh Fritillary depends on a functioning habitat network, including suitable grassland, larval web areas, Devil's-bit Scabious, appropriate grazing or vegetation structure, and connectivity between habitat patches.

A proposal to create or enhance replacement habitat over time cannot be treated as equivalent to protecting existing suitable habitat unless the timing, location, management, legal delivery and ecological certainty of that replacement are demonstrated before consent is granted.

The mitigation is inadequate because the applicant proposes to create or enhance 6.7 ha of grassland habitat, but also admits that Devil's-bit Scabious may take several years to mature and may take 5–6 years to germinate from seed. This means the development could proceed before the replacement habitat is ecologically functional.

The proposed habitat enhancement is therefore uncertain, delayed and not an adequate substitute for avoiding damage to existing or potential Marsh Fritillary habitat.

The application should therefore be refused unless and until the applicant can demonstrate, beyond reasonable scientific doubt, that all existing and potential Marsh Fritillary habitat,

larval web areas, Devil's-bit Scabious stands, and associated invertebrate habitat networks will be fully avoided, buffered, protected and monitored before any works begin.

### **Conclusion on Marsh Fritillary**

Because Marsh Fritillary is a rare and legally significant butterfly, because the applicant's own documents identify suitable habitat and previous larval web evidence, and because the proposed mitigation depends on uncertain future habitat creation, I submit that the development presents an unacceptable risk to rare butterflies and insects of conservation significance.

Permission should be refused.

### **5. Submission Requesting Refusal on Peat Carbon Loss, Bog Hydrology and Ecological Damage**

I request that permission be refused for the proposed Lemanaghan Wind Farm.

The proposed wind farm consists of 15 no. turbines with a blade-tip height of 220 metres, and associated foundations and hard-standing areas, one meteorological mast, approximately 17.1 km of internal roads, five no. temporary construction compounds, four no. borrow pits, underground cabling, peat deposition areas, site drainage, amenity track and all ancillary works and apparatus.

Climate benefits from renewable energy cannot be assessed in isolation from the loss or disturbance of peat carbon, hydrology, water quality and biodiversity.

Under the EIA Directive, climate, land, soil, water, biodiversity and the interaction between those factors must all be assessed. The applicant must therefore demonstrate, with clear evidence, that the proposed roads, hardstands, borrow pits, drainage works, cabling, substation, turbine bases and peat-handling works will not undermine the bog's carbon storage, water regulation or recovering ecological function.

The Water Framework Directive is also relevant because peat drainage, sediment release, altered flow paths and polluted runoff can affect surface water and groundwater. The Directive is aimed at halting deterioration in the status of EU water bodies and achieving good status for rivers, lakes and groundwater. Any uncertainty about drainage, sediment, iron-stained runoff, dissolved organic carbon or downstream water effects should therefore be resolved before permission is granted, not left to later construction-stage plans.

### **Bogs — One of Ireland's Most Important Natural Carbon Stores**

Bogs store vast amounts of carbon. It is widely accepted that peatlands are among the most important natural carbon stores on earth. Damage to bogs by way of drainage, excavation and associated works can release stored carbon with serious consequences for climate, biodiversity and water systems.

## **Sphagnum Moss and Carbon Storage**

Sphagnum moss is a type of moss that grows in wet, boggy areas and plays a major role in storing carbon. It absorbs large amounts of water, creating acidic and oxygen-poor conditions that slow down decay.

Because dead plant material does not fully decompose, it builds up over time as peat, locking carbon from the atmosphere into the soil for hundreds to thousands of years. Through photosynthesis, sphagnum continuously removes carbon dioxide from the air, making peatlands one of the world's most important natural carbon sinks.

## **Irreversible Carbon Loss**

When peatlands are drained to allow wind farms to be established, the stored carbon is released into the atmosphere as CO<sub>2</sub>, turning a carbon sink into a major carbon source.

In their natural state, peatlands act as long-term sinks for atmospheric carbon dioxide. A persistently high water table is necessary for this function. Bord na Móna are draining our bog to build turbines, which in turn drastically reduces biodiversity by destroying unique, water-dependent ecosystems.

A lowered water table causes specialised plants like sphagnum moss to die and be replaced by common dry-land species. This habitat loss forces out rare flora and fauna, including specialised insects and birds.

Sphagnum moss requires very stable environmental conditions to grow and successfully restore bogs. It thrives only where the ground remains constantly wet, undisturbed and low in nutrients. Stable water levels are the most important factor. Sphagnum must stay damp but not flooded, as even small drainage changes can stop growth.

The moss also needs an intact peat surface, because disturbance from digging, peat movement or heavy machinery breaks the delicate structure that allows water to remain near the surface.

Since sphagnum grows slowly, usually only a few millimetres each year, recovery after damage takes a long time. When conditions remain stable, sphagnum spreads across the bog surface, rebuilds peat layers, raises water tables, supports wildlife, filters water and gradually restores the bog's ability to store carbon.

## **Bogs and Sphagnum Moss Act as Natural Water Filters**

Sphagnum moss works like a living sponge. It absorbs and holds large amounts of rainwater, slowing water movement through the bog.

As water passes through the moss and peat layers, several cleaning processes happen:

- **Physical filtration:** moss and peat trap soil particles and sediments.
- **Chemical filtration:** sphagnum releases natural acids that bind pollutants such as heavy metals and excess nutrients.
- **Biological filtration:** microbes living in peat break down organic waste and contaminants.

Because water moves slowly through peatlands, impurities settle or are removed before the water flows into rivers and groundwater. This helps improve water quality, reduce flooding, and regulate stream flow during dry periods.

However, when bogs are drained or damaged, they lose this filtering ability and can instead release sediments, dissolved organic carbon and pollutants into waterways.

The photographs attached to this submission show iron-stained surface water and drainage patterns visible across sections of Lemanaghan Bog, illustrating the altered hydrological condition of the peatland landscape. They also show fragmented rail sections, naturally regenerating vegetation, flooded cuttings, woodland regeneration, and other visual evidence that this is a recovering and hydrologically sensitive peatland landscape, not empty or valueless land.

### **Conclusion on Peat Carbon, Water and Bog Damage**

Sphagnum moss is essential for healthy bog ecosystems because it needs stable, wet and undisturbed conditions to grow. When peatlands remain intact, sphagnum moss can slowly rebuild peat, store large amounts of carbon, regulate water and support biodiversity.

However, disturbance such as drainage, peat movement, road construction, turbine foundations, cabling, borrow pits and heavy machinery can damage the moss and disrupts bog recovery.

Protecting stable peatland conditions is therefore crucial for successful bog restoration and long-term climate and environmental benefits.

Permission should be refused on the grounds that peatlands and bogs are among Ireland's most important natural carbon stores, and the applicant has not demonstrated that the carbon, hydrological and biodiversity consequences of constructing this industrial-scale wind farm on drained and recovering peatland have been fully and safely assessed.

## **6. Final Overall Conclusion and Request for Refusal**

I respectfully submit that this application does not give An Coimisiún Pleanála the level of certainty required to grant permission.

The EIAR and supporting documents identify protected birds, Annex IV bats, Marsh Fritillary habitat, peatland carbon, drainage sensitivity and biodiversity risk. However, the proposed response relies heavily on modelling, mitigation, monitoring and future management.

Where protected species, peatland hydrology, water quality and biodiversity are at stake, the assessment must be complete, precise and reliable before consent is granted.

Post-consent monitoring should not be used to fill gaps in the assessment. It cannot undo bird collision, bat mortality, habitat fragmentation, peat disturbance, drainage damage or biodiversity loss after the development has already been built.

For these reasons, I respectfully request that An Coimisiún Pleanála refuse permission for the proposed Lemanaghan Wind Farm.

Yours faithfully,

Noeleen Hamilton





Golden Plover



Curlew



Lapwing



Brown Long Eared Bat



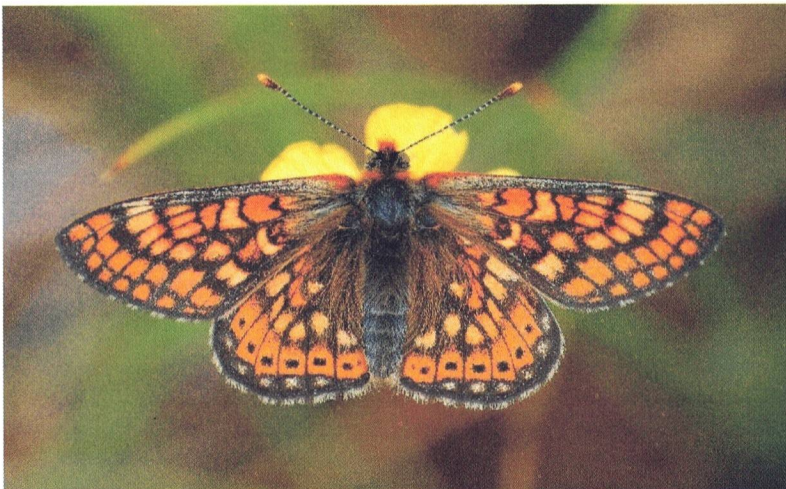
Soprano Pipistrelle



Natterer's Bat



Abandoned Bord na Móna locomotive standing on a section of the former industrial railway network at Lemanaghan Bog, being reclaimed by Nature.



**Marsh Fritillary Butterfly** listed on the **Annex II** of the Habitats Directive found in Lemanaghan Bog.



The **Devil's-bit scabious** is a key wildflower of Irish **bogs, wet grasslands, and peatland margins**, easily recognised by its soft purple-blue flower heads, seen on Lemanaghan Bog 2025



Natural regrowth adjacent to a former railway alignment and artificial drainage channel within the former peat extraction landscape at Lemanaghan Bog. The self-seeded conifer tree, together with surrounding heather, grasses and wetland vegetation, illustrates the gradual natural recolonisation and ecological recovery now emerging across previously disturbed peatland areas.



Flooded rail cutting with naturally regenerating birch and heath vegetation encroaching on the former narrow-gauge railway alignment.

Iron-stained surface water and drainage patterns visible across sections of Lemanaghan Bog, illustrating the altered hydrological condition of the peatland Landscape .



Fragmented rail sections scattered across the Recovering Peat Surface adjacent to former industrial infrastructure within Lemanaghan Bog. Wind monitoring infrastructure is visible in the background.

