Iascach Intíre Éireann
Inland Fisheries Ireland

Windfarm Scoping Document (draft)

Please find below our initial concerns and recommendations in relation to this and other similar types of development. We require that an EIA will be produced and an EIS prepared for the development to measure and identify its potential impacts on the aquatic environment and mitigate against these to ensure that any impact is minimal or nonexistent.

The Environmental Impact Statement prepared in support of planning applications should be viewed as a working document and provide information e.g. on the aquatic environment in such detail that it can by itself or with further addition provide adequate data to inform on baseline conditions pre development. This inflation will then be further augmented by monitoring during and post site construction to provide a comprehensive assessment of the overall effects of the development. Ongoing results of water chemistry and biological monitoring will also provide an indication of deteriorating ambient environmental water quality and should be used in conjunction with Environmental Quality Performance Limits which are then used to initiate appropriate remedial actions

Inland Fisheries Ireland (IFI) has concerns over the siting and the sustainable construction of wind farms. If wind farms are sited incorrectly this can give rise to water pollution (both point source chronic and diffuse) and loss of aquatic habitat and damage/mortalities of fish and other aquatic species. IFI are particularly concerned about potential risks to the aquatic environment in the construction phase.

Caution must be exercised in relation to other activities associated with wind farm construction, these include turbulence clear felling and instability and removal of trees, site drainage, turbine base construction and network road construction and drainage.

IFI cautions against the blanket identification of areas suitable for wind farm development, whilst this approach may be applicable in terms of windspeeds. This approach does not adequately consider geology or the presence of protected species and other environmental factors. In addition to the identification and protection of Natura 2000 Sites, waterbodies which contain protected species, including Pollan, salmon, crayfish, lamprey and freshwater pearl mussel should be identified within the strategy. These species are protected under the Habitat's Directive and are protected wherever they occur, not just in SAC's or NHA's. Cognisance must be paid in selecting sites for wind farms to the aquatic species present, protected and otherwise (in both the site and in watercourses downstream), not just the presence of protected sites. The Water Framework Directive requires that the ecological status of all waters is conserved and prevents any deterioration in ecological status, including any loss of habitat.

It is paramount to consider the network of tributaries which whilst not sited in SAC's and SPA's flow into them, there is a need to emphasise the connectivity of these watercourses on a catchment basis, instead of considering them as isolated areas. The drainage networks, rivers and streams can become a vector for pollution and the flow of material from landslides, when they occur.

Clear reference should be made in the strategy and definition of Ecology to show that ecology relates to aquatic as well as terrestrial habitats. A dedicated section should consider the protection aquatic habitat, fish and aquatic species (including protected species).
Many wind farm development sites are built on mountain sites close to sources of tributaries streams, it is in these upper reaches that salmonid spawning takes place, adult spawning fish are vulnerable at this time, as are eggs and juvenile fish and require good water quality.

For wind energy and wind farms to be environmentally sustainable they must be planned and constructed in an environmentally sustainable manner.

It is imperative that during construction there is no interference with groundwater, in terms of any reduction in water quality or to flow paths. Groundwater often has a significant contribution to water flows in rivers (especially in times of low precipitation) and lakes. This is particularly relevant in Karst or limestone areas.
Any consideration of areas of ecological sensitivity, should also include reference to habitats of protected species.

Proposals which are in proximity to SACs, SPAs will need assessments appropriate to their location. Reference to protected species should also be included as there is a need for appropriate assessment for protected species, not just for SAC's and Spa's.

Sections concerning Ecological heritage should include reference to terrestrial and aquatic habitat

Buffer zones around watercourses should be agreed with IFI and must take account of the connectivity of rivers and lakes, and the nature of run off soils through drains.

Any section detailing construction impacts of Wind farms should be expanded to cover the range of construction concerns detailed within this letter.

A peat management plan should be submitted as part of the planning application detailing how excavated peat will be stored and how peat areas will be drained. IFI also requires consultation in relation to any proposals to utilise borrow pits for peat storage and details of how these pits will be drained.
Consideration should be given to the use of multipoint drainage, with careful selection of a discharge point in order to prevent any mobilisation of peat.

Attenuation should be provided to reduce nutrient losses to sensitive waters, by controlling the discharge of waters, providing sufficient settlement time maintaining the drainage network and silt traps. A site specific drainage plan should be shown for sites on peat soils, utilising geo-technical expertise to suggest suitable measures where necessary.

The extent of the fisheries assessment should agreed with IFI and include the determination of the upstream limit for fish within the site, this to provide information on which to decide the appropriate location and design of watercourse crossings and avoid over design where appropriate.

We wish to expand on the above points as follows

1. All watercourses that will receive drainage from the construction sites of the turbines or the access roads must be assessed in terms of aquatic biodiversity with particular

emphasis on fish, the food of fish, spawning grounds and fish habitat in general. In this regard changes to river morphology should be avoided unless such changes are approved in advance with Inland Fisheries Ireland (IFI) and the National Parks and Wildlife Service.

2. The aquatic habitat and physical nature of any watercourse affected by the development must be fully described in detail. This includes areas of open water, pool riffle glide sequences, density and types of aquatic vegetation, description of riparian zones to depth of at least 10 metres on either bank etc. The extent of the surveys should be sufficiently long enough so as to be representative of the habitat contained in that watercourse. There should be a particular focus on sections upstream and downstream of any point where an impact on the watercourse is likely to arise. It may be appropriate to survey a tributary stream and the larger more important streams it joins, and assess the effect the discharge might further have on biodiversity and fisheries in the larger streams. Surveys of un-impacted (control) streams should also be included in the Environmental Impact Assessment.

3. Electrofishing surveys will be required for all waters. Quantitative data in relation to all fish species should be compiled. The presence of salmonid species, crayfish and lamprey species will be of particular concern. In undertaking the electrofishing survey only experienced personnel should be employed. Appropriate permits for electrofishing must be obtained from the Department of Communications, Energy and Natural Resources. Authorised personnel must ensure that they comply with all the conditions contained in the permit.

4. We are concerned about soils, their structure and types around all the turbines, associated access roads and site development. In particular we have concerns about the stability of the soils and the impact that works on both the turbines and access roads will have either directly or by vibration on the stability of the soils. The Board will be very concerned where it is proposed to construct wind turbines on peat soils especially if these peat soils are located on upland areas. Extra caution will be required to prevent deleterious discharges to waters.

5. IFI strongly recommends that specialist personnel are employed to assess soil strength and suitability of the ground at each site and along any proposed access road. This is particularly important in relation to peat soils. From our experiences we will have serious difficulties with developments on peat soils where there is excessive slope and or where the peat depth exceeds one metre. Excessive slopes will be an issue with all wind farm proposals regardless of soil type. The potential for soil movement and landslides should be assessed fully within the EIS.

6. Particular attention should be paid to the hydrology of any site where excavations including excavations for road construction are being undertaken. It is important that natural flow paths are not interrupted or diverted in such a manner as to give rise to erosion or instability of soils caused by an alteration in water movement either above or below ground.

7. Attention should be paid to drainage during both the construction phase and the operational phase. This includes waters being pumped from foundations or other excavations. It is particularly important during the construction phase that sufficient retention time in the settlement pond is available to ensure no deleterious matter is discharged to any waters. We strongly recommend that settlement ponds are maintained, where appropriate, during the operational phase to allow for the adequate settlement of suspended solids and sediments and prevent any deleterious matter from discharging into any natural waters. In constructing and designing silt

traps particular attention should be paid to rainfall levels and intensity. The silt traps should be designed to minimise the movement of silt especially during intense precipitation events where the trap maybe hydraulically overloaded. It is essential that they are located with good access to facilitate monitoring sampling and maintenance. A license to discharge to waters may be required from the local authority.

8. IFI has serious concerns about the construction of roads as these will tend to provide preferential flow paths for surface waters. Considerable attention to detail must be provided in relation to the interception of surface water flows. Our concerns in relation to deleterious matter have been referred to above, but we also have concerns in relation to the flow patterns and to ensuring that normal flows are maintained both during and after construction. Situations can arise where water transportation is significantly increased in certain watercourses thereby putting additional pressures on watercourses and interfering with the sustained flow of water particularly during dry weather. This should be avoided.
9. Serious consideration must be given to the disposal of all waste materials such that they will not give rise to any risk. In terms of risk, the placing of soils on adjacent ground should not be permitted unless all the area has been the subject of an in-depth risk assessment. This is of particular concern where peat soils are encountered. Furthermore drainage from disturbed and stockpiled soils will have to be considered in advance. It may be necessary to carry out soil stockpiling operations in confined areas only but in any event it would be essential vegetate the soils with suitable plants which will promote stability. Consideration must be given to leachate from any stockpiles.
10. Details in relation to site offices and the services necessary for the site offices should form part of the EIA. In addition details relating to operations during the construction phase to contain pollutants should also be considered. It should be noted that cement leachate, hydrocarbon oils and other toxic poisonous materials will require full containment and should not be permitted to discharge to any waters. Please note that physical pollution of watercourses in terms of dumping of unsuitable gravel material or other construction debris in or stockpiling such materials near watercourses is not acceptable as this will interfere with the aquatic habitat.
11. The use of sedimentary rocks, such as shale, in road construction should be avoided. This type of material has poor tensile strength and is liable to be crushed by heavy vehicles thereby releasing fine sediment materials into the drainage system which are difficult to precipitate and may give rise to water pollution. We recommend that specialist expertise should advise on the type of material required for road construction bearing in mind the pressures that will arise during the construction phase and the necessity to avoid pollution due to fines washing out into the roadside drainage.
12. In relation to watercourse crossings please be advised that IFI will require to be consulted well in advance in relation to all crossings of any watercourse or the use of any temporary diversions. We strongly recommend that these crossings should be kept to a minimum. We will also require that any instream structures or bridge crossings are approved by IFI Limerick... In particular in designing crossings the length, slope and width of any instream structure will be important. Clear span bridges are the preferred option for all crossings especially in upland areas.
13. Please also note that any instream works or other works which may impact directly on a watercourse should only be carried out during the open season which is from 1st May to 30th of September in each year (so as to avoid impacting on the aquatic habitat during the spawning season.) It would be important that appropriate scheduling of works is allowed for.

14. The EIS should indicate proposals to monitor the impact on all watercourses within the "building site". In the event that environmental damage to the aquatic habitat and associated riparian zone is caused, the EIS should indicate the steps that may be taken to rectify any damage to the aquatic habitat including liaison with the appropriate authorities. In relation to wind farm structures and infrastructure it is important that a sufficient bank side riparian zone is maintained to absorb and attenuate overland flows. In deciding the extent of this riparian zone the following factors would be important.
    1. Type of soil and its depth and strength especially if the development is on an upland peat bog area.
    2. Stock piling or spreading of spoil on unstable soils especially if the soil is peat with a depth greater than 1 meter thick. (geotec. survey and assessment at every stage of operation is essential)
    3. Degree or extent of the slope.
    4. Variations in the topography that will give rise to point flows (keep flow as diffuse as possible).
    5. Extent and nature of catchment above the area of operation. In particular meticulous care should be paid to avoid interfering with the catchment and altering the direction of flow, perhaps to another catchment.
    6. The importance of the water in fisheries and biodiversity terms. With reference to the aquatic habitat the impact over a distance downstream must also be kept in mind.
    7. Any other factors that will cause a deleterious effect to the watercourse.
    8. The extent and proven efficacy of water treatment in relation to the structure.

With the above in mind for small streams in upland areas a distance of at least 15 meters should be considered as a bare minimum for a riparian zone. This should be more if the factors above are involved and will require ground truthing and site specific survey.

We suggest that this type of development will comprise works at a number of locations but the entire development should be considered as a single building site. We strongly recommend that discussions should take place with the Environmental Section of the relevant County Council with a view to obtaining a licence to discharge trade effluent from the "building site" to waters. In this regard we consider that drainage waters particularly during the construction phase should be regarded as trade effluent. All effluent should comply with appropriate quality standards.

The discharge of polluting or deleterious matter to any watercourse except under and in accordance with a license may be an offense under the Fisheries Acts and/or under the Water Pollution Acts. It should be noted that even if an effluent does generally comply with the quality standards contained in a license it may still cause pollution if the receiving water cannot provide sufficient assimilative capacity. With this in mind the environment impact assessment should also focus on the physical characteristics of watercourses and their ability to assimilate any pollutants discharged from the site including the discharge of water from any foundation works etc.

Should works be approved a detailed method statement addressing the issues outlined above, including all mitigations measures, precautions and environmental incident procedures must be forwarded to IFI before works commence.

The above comments and observations are generic and the specific requirements will vary with each application. It should not be considered that addressing all of the above issues will influence IFI in any decision it may make in relation to any development. Our concern is to protect the aquatic habitat, including water quality and the related riparian

zone which is important in relation to the food of fish. IFI reserves the right to request additional information in relation to the development should further points arise.

At all times the precautionary principle should be applied throughout for the entire development. Particular attention should be paid to the various environmental directives including the Water Framework Directive. The Fisheries Acts in particular and the Local Government (Water Pollution) Acts and all other environmental legislation should be considered as appropriate. As indicated in some of the points above site management and environmental plans will be important issues especially during the construction phase and we recommend that these issues should also receive consideration when preparing and EIA.

For nationally important angling lakes IFI requires that a photomontage of views of significant natural features from the lake should be included.

We recommend that the above issues should be amongst the issues addressed in a comprehensive manner in the EIA.