



APPENDIX 11

TRITURUS ENVIRONMENTAL RESPONSE

Clonberne Wind Farm submissions - Aquatic ecology

The following submissions responses have been prepared by Triturus Environmental Ltd. Upon request by MKO to respond to a Further Information Request from An Coimisiún Pleanála regarding the proposed Clonberne Wind Farm, Co. Galway (ACP Planning ABP-320089-24). For clarity, these submissions responses have been grouped by theme.

- Limitations of surveys
 - i. Limited number of sites
 - ii. Short duration of survey
 - iii. Lack of detail on site selection
 - iv. Potential bias in electrofishing technique
 - v. Absence of longitudinal data
 - vi. No mention of control site
 - vii. Limited scope of species consideration
 - viii. Inadequate description of data collection
 - ix. Potential seasonal bias
 - x. Unclear objective alignment
 - xi. “River eel” remains recorded on Levally Stream at 53.55626806, -8.69468912 in May 2023
 - xii. Absence of dedicated amphibian/reptile surveys
 - xiii. Potential impacts to aquatic QIs of Lough Corrib SAC and lack of consideration in aquatic baseline report
 - xiv. “Sub-optimal” conditions during aquatic surveys

Responses:

i) The initial site selection of 8 no. survey sites in August 2021 was considered a robust survey approach in the collation of a broad overview of fisheries sensitivities in the hydrologically connected sub-catchment(s) of the Proposed Project. However, to expand upon the initial survey effort the 2024 fisheries/electro-fishing surveys were undertaken at 11 no. survey sites (see Figure 1 below). The aim of the baseline surveys was not to cover entire catchments but to provide an overview of key fisheries sensitivities within the potential zone of influence (Zoi) of the Proposed Project, i.e. within the immediate river sub-catchments. More expansive survey effort is beyond the scope of typical baseline surveys that are undertaken in accordance with industry best practice. The survey effort applied, in alignment with best practice, is commensurate to the level of detail required to establish the primary fisheries related constraints within the study area, to adequately inform mitigation for the Proposed Project.

ii) Surveys were completed by Triturus staff on the 18-19th August 2021 and the 19th, 20th and 21st September 2024 (2 x teams). The completion of fisheries surveys in late season

(August/September) is preferred as it avoids particularly sensitive and small life stages of salmonids, lamprey and European eel (among other fish species). Whilst 5 or 10-minute CPUE electro-fishing is a widely accepted non-destructive (non-lethal) fish census technique, temporal repetition of survey effort would result in unnecessary risk to fish populations, potentially increasing stress, and does not align with current fisheries best practice.

Baseline fisheries surveys typically aim to provide a robust assessment of fish communities within the footprint/vicinity of a Proposed Project or project, with focus on identifying the presence of high conservation value species such as Atlantic salmon or European eel to best inform mitigation and protect said species. This also extends to all other fish species. It is not the aim of such baseline surveys to temporally quantify exact numbers of fish at a catchment or river level but rather identify fisheries sensitivities, inclusive of habitat suitability for various species groups (including but not limited to salmonids, lamprey & eel).

The fisheries data collated August 2021 broadly corroborated with the re-survey in September 2024, supporting the chosen survey approach and efficacy. A comparison of the data between the two periods is provided in Table 1 below.

iii) Site selection was based on the collation of data from lower order (smaller) channels in closer proximity to the Proposed Project (site boundary) in addition to downstream higher order (larger) channels to best detect any potential longitudinal changes in fisheries habitats and fish population composition. Some sites were primarily selected on the basis of proposed infrastructure, e.g. proposed turbine access or grid cable route crossings. This comprehensive approach ensured that a wide variation in channel widths, depths, morphologies and fisheries habitats etc. was surveyed, thus reducing potential bias in site selection (which could occur, for example, when only selecting riffle areas downstream of road crossings).

It should be noted that targeted fisheries data for the survey watercourses was not available prior to the August 2021 surveys (i.e. only downstream connecting watercourses such as the Sinking River or Grange River).

Table 1 Comparison of fish recorded via electro-fishing in 2022 and 2024 at sites in vicinity of the proposed Clonberne wind farm

			Fish species recorded	
Site no. (2024)	Watercourse	EPA code	August 2021	September 2024
A1	Unnamed stream	n/a	n/a – not surveyed	Three-spined stickleback
A2	Unnamed stream	n/a	n/a – not surveyed	Three-spined stickleback
A3	Unnamed stream	n/a	Three-spined stickleback	Atlantic salmon, stone loach, three-spined stickleback

A4	Unnamed river	n/a	Atlantic salmon, brown trout, <i>Lampetra</i> sp., stone loach, three-spined stickleback	Atlantic salmon, brown trout, three-spined stickleback
B1	Levally Stream	30L07	Atlantic salmon, brown trout, three-spined stickleback	Brown trout, three-spined stickleback
B2	Levally Stream	30L07	Brown trout, three-spined stickleback	Brown trout, three-spined stickleback
B3	Lomaunaghroe Stream	30L35	Three-spined stickleback	Brown trout, three-spined stickleback, ten-spined stickleback
B4	Dunblaney Stream	30D34	n/a – not surveyed	Three-spined stickleback, ten-spined stickleback
B5	Levally Stream	30L07	Atlantic salmon, brown trout, <i>Lampetra</i> sp., three-spined stickleback	Brown trout, <i>Lampetra</i> sp., three-spined stickleback
B6	Levally Stream	30L07	Atlantic salmon, brown trout, <i>Lampetra</i> sp., stone loach, three-spined stickleback	Atlantic salmon, brown trout, stone loach, pike, three-spined stickleback
C1	Unnamed river	n/a	n/a – not surveyed	Atlantic salmon, brown trout, three-spined stickleback

iv) Triturus use Smith-Root LR24 electro-fishing backpack units for all electro-fishing surveys. The use of the most advanced electro-fishing backpack on the European market offers a high degree of control regarding voltage, frequency and current/pulse type settings. This allows operators to tailor the backpack to safely target species and size classes (including juveniles) according to site-specific characteristics, e.g. high conductivity, low conductivity, greater depths etc. This informed approach maximises the chance of target species capture and using the 10-minute CPUE (industry best practice) maximised the area of channel that can effectively surveyed compared with, for example, multiple pass depletion (the latter increases the risk of fish damage/stress, especially among younger year classes).

v) Surveys were completed by Triturus staff on the 18-19th August 2021 and repeated (with 3 no. extra sites) on the 19th, 20th and 21st September 2024. Sites were selected in both upper and lower sub-catchments. This approach was designed to capture any changes in longitudinal data. Furthermore, the emphasis of the survey was not to complete a catchment-wide eel census but rather provide a robust overview of fisheries related constraints (i.e. presence/absence of eel) within the development Zol.

vi) Upstream control sites in the context of the Proposed Project would provide relatively little benefit in terms of identifying constraints given the small size of the survey watercourses. Such sites in the upper reaches of watercourses/catchments (heavily modified/degraded) would be of inherently low fisheries value and do not provide an opportunity for effective comparison with larger downstream sites of higher fisheries value.

Furthermore, given all survey sites were surveyed pre-construction (twice), all effectively act as control sites with which fisheries data collected during the construction and operation of the wind farm can be compared with in the future.

vii) Whilst electro-fishing surveys typically target high conservation value species groups such as salmonids, lamprey and eel, other fish species (e.g. coarse fish), it is highly unlikely than non-target species present in the survey watercourses would not be detected by the electro-fishing settings used. Indeed, this was corroborated by our data (Table 1; e.g. stickleback, stone loach, pike and throughout hundreds of other electro-fishing surveys undertaken by Triturus staff nationwide).

viii) Full detailed electro-fishing methodology has been provided in the accompanying fisheries report (Appendix A of baseline report). This clearly outlines all settings used in addition to fish processing and the survey effort (CPUE) applied at each survey location. Thus, any competent fisheries ecologist would be able to replicate the standard survey approach to enable effective future data comparison.

The electro-fishing survey methodology was in accordance with the section 14 authorisation method statement submitted to and approved by Inland Fisheries Ireland. The approach fully aligned with industry best practice and is consistent with our standard survey approach as national experts in backpack electro-fishing techniques.

ix) It should be noted that electro-fishing is only permissible (under licence) in the fisheries open season (i.e. July 1st to September 30th inclusive). This restricted period is in place to avoid particularly sensitive life stages of juvenile fish (e.g. salmonids). Surveys are further constrained by suitable/safe environmental conditions and flows and it is often not possible to undertake sub-catchment surveys over multiple time periods.

Nonetheless, the fisheries surveys completed provide a robust determination of the main fisheries related constraints associated with Proposed Project, in order to inform appropriate mitigation.

x) As outlined previously, the purpose of the survey was to identify the main fisheries related constraints within the ZOI of the Proposed Project rather than identifying catchment-wide trends in eel or other species, which is, incidentally, beyond the scope of any industry norms for such developments. However, it is considered that the data collated (over two periods) provides a robust overview of eel populations within the respective survey sub-catchments (i.e. low eel density), in support of other fisheries surveys undertaken in the wider catchment(s) (e.g. O'Briain et al., 2019; Prodöhl, 2017).

xi) Regarding the observation of a “river eel” at 53.55626806, -8.69468912; whilst we did not record eel in this area during our 2021 or 2024 surveys, we noted that “*Despite some good suitability, no European eel were recorded (although these may have been present in deeper pool areas).*” It is presumed this comment refers to European eel (*Anguilla anguilla*) and not lamprey (sometimes referred to colloquially as river eel) based on poor habitat suitability for the latter.

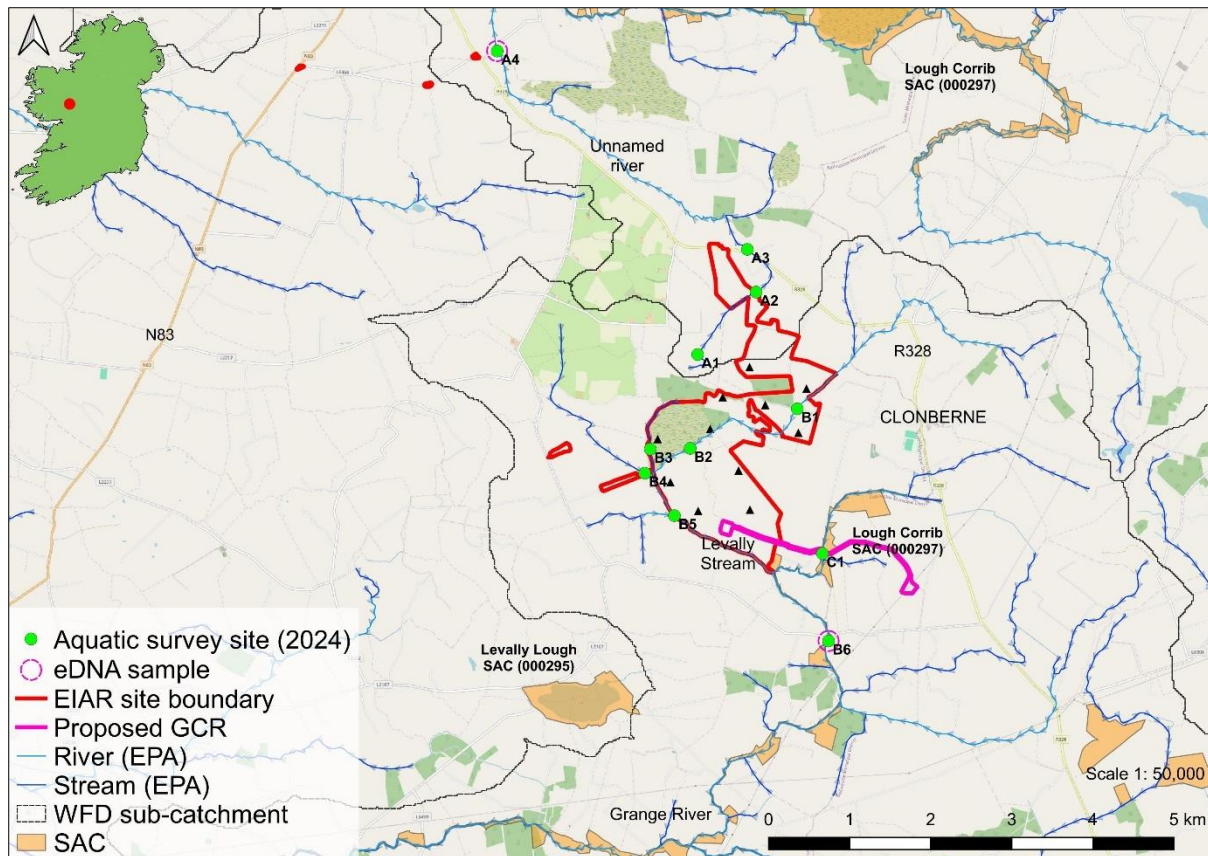


Figure 1 Location of 2024 survey sites (additional 3 no. sites compared with 2021)

xii) To briefly touch on this, in relation to common frog and smooth newt, there are no proposed changes to river morphology and no in-stream works are required for the Proposed Project. Based on the results of the ecological surveys undertaken, which did not identify populations of these species of greater than local importance utilising the site, and the presence of other suitable habitat for these species within the Site, no potential pathway for significant impacts on populations of these species at any geographical scale are anticipated. This has issue has been comprehensively addressed in Section 2.2.9 of the RFI document.

xiii) Comments of potential impacts to QIs of Lough Corrib SAC, potential pollution of local streams/ivers, suspended solids and WFD compliance are addressed in the impact assessment, not the baseline reports.

xiv) Whilst the electro-fishing surveys coincided with low summer flows (2021 and 2024), this was unavoidable given i) seasonal licencing constraints and ii) the heavily modified/degraded nature of the survey watercourses. Furthermore, the electro-fishing surveys were commissioned alongside other aquatic baseline surveys which require a summer survey period (e.g. macrophytes/aquatic bryophyte and Annex I habitat surveys).