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Pg 1

From:
Sent: 24 November 2021 17:39
To:
Cc:
Subject: RE: Dalradian - Habitats Regulations Assessment Process [ID=]
Attachments: WMU Hab Regs Note.vf1 complete with Appendices (November 2021).pdf

Dear

I enclose for your attention a copy of a Briefing Note prepared by Ecology Solutions addressing the application of the tests associated with the Habitats Regulations when determining the acceptability of the proposed discharge criteria. The Appendix to the note highlights and summarises the information which is required to address the application of the tests. This has been prepared to assist the Department in its ongoing considerations.

I confirm that the provisions within the note dealing with the legislative framework have been reviewed by Cleaver Fulton Rankin and senior counsel and are fully endorsed by us.

Regards

Cleaver Fulton Rankin

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will not accept responsibility if you transfer money into the incorrect bank account.

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8991: Curraghinalt Mine

Habitats Regulations Assessment Process

Ref: Water Quality Matters

Introduction

1. This briefing note addresses matters concerning discharge criteria proposed in relation to the Curraghinalt and Pollanroe burns. Specifically, this note addresses the application of the tests of the Habitats Regulations when determining the acceptability of the proposed discharge criteria.

2. The note considers the application of the relevant tests of the Habitats Regulations, with reference to relevant case law where appropriate.

Assessment process

3. The protection afforded to SPAs and SACs derives from Article 6 of the Habitats Directive. The requirements of the Habitats Directive are transposed into Northern Ireland domestic legislation through The Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended).

4. Article 6(2) of the Habitats Regulations requires member states to take appropriate steps to avoid the deterioration of natural habitats and disturbance of species for which the sites have been designated, in so far as the disturbance could be significant in relation to the objectives of the Directive. Article 6(3) and Article 6(4) together set out a process known as Habitat Regulations Assessment ("HRA"). HRA comprises between one and five steps, depending on the outcome of assessments for each project.

5. The five stages require the decision-maker to:

    1. Assess whether there would be a Likely Significant Effect ("LSE") on any European site (Step 1); and, if such an effect cannot be excluded,
    2. Determine whether there would be an adverse effect on the integrity of any European site (Step 2); and, if so,
    3. Consider whether there are any feasible alternative solutions that would be less damaging or avoid damage to the site (Step 3); and, if not,
    4. Determine whether there are Imperative Reasons of Overriding Public Interest ("IROPI") why the development should proceed (Step 4); and, if so,

5. Consider whether all necessary compensatory measures have been secured to fully compensate for the negative effects of the proposal. The compensatory measures must not have a negative effect on the national network of European sites as a whole (Step 5).

6. Under the Habitats Regulations, Competent Authorities have a duty to ensure that all the activities they regulate have no adverse effect on the integrity of any of the European sites. Regulation 43 of the Habitats Regulations 1995 (as amended) is concerned with stages 1 and 2 (set out above). Regulation 43 requires that:

> *"43(1) A competent authority before deciding to undertake, or give any consent, permission or other authorisation for a plan or project, which: -*
>
> *a) is likely to have a significant effect on a European site in Great Britain (either alone or in combination with other plans or projects) and*
> *b) is not directly connected with or necessary for the management of the site,*
>
> *shall make an appropriate assessment of the implications for the site in view of that site's conservation objectives.*
>
> *...*
>
> *43(5) In light of the conclusions of the assessment, and subject to regulation 44, the authority shall agree to a plan or project only after having ascertained that it will not adversely affect the integrity of the European site.*
>
> *...*
>
> *43(6) In considering whether a plan or project will adversely affect the integrity of the site, the authority shall have regard to the manner in which it is proposed to be carried out or to any conditions or restrictions subject to which they propose that the consent, permission or other authorisation should be given.*
>
> *..."*

7. Consistent with Regulation 43, the first test is to determine whether the plan / project is likely to have a significant effect on the European site, the second test (if applicable) is to determine through the undertaking of an Appropriate Assessment, whether the plan / project will affect the integrity of the European site.

8. In view of the above, the full HRA process can be viewed as having three key stages:

    1. **Screening**;

    2. **Appropriate Assessment**; and

    3. **Derogation**: This comprises Steps 3 – 5 above. If an appropriate assessment is undertaken and a proposed development fails to meet the

integrity test then permission can only be granted if it passes all three of the legal tests that are required to qualify for a derogation: i.e.

(i) no feasible alternative solutions;
(ii) IROPI; and
(iii) delivery of any necessary compensatory measures.

9. The table below sets out the main stages of assessment together with relevant notes, and is provided as a guide to assist the HRA process. Some key concepts associated with the relevant legal tests have been clarified through case law and reference is made to key case law in the table below.

HRA Stage	**Notes**
Screening / LSE	
Is the project likely to have a significant effect on the designated site, alone or in-combination with other plans/projects? If **No**, consent / authorisation can be given. If **yes**, or there is a lack of certainty, proceed to stage 2 (appropriate assessment).	This is a very broad sieving stage which effectively poses the question "*do we need to look further*?" having established the nature of the proposals and the possible interaction with the designated site and its qualifying interest features. Mitigation measures cannot be taken into consideration at the Screening / LSE stage. ***Ref case (*** It is important to consider the proposal's integral design features and characteristics, such as location, layout and timing. If the risk of a significant effect cannot be ruled out, then an appropriate assessment is needed. Authorities should only consider real risk, and not hypothetical risk. ***Ref case [ ] EWCA***
Appropriate Assessment	
Are there any implications for the designated site's Conservation Objectives? If **No**, consent / authorisation can be given. If **Yes**, or there is a lack of certainty - *Can it be ascertained beyond reasonable scientific doubt, that the proposal will not adversely affect the integrity of the site?*	Integrity is defined[1] as the coherent sum of the site's ecological structure, function and ecological processes, across its whole area, which enables it to sustain the habitats, complex of habitats and / or populations of the species for which the site is designated. Effects must be identified in the light of the best scientific knowledge in the field and conclusions must be based upon objective information. ***Ref Case C-***

[1] Definition taken from: Managing Natura 2000 Sites – The provisions of Article 6 of the habitats Directive 92/43/EEC (2019)

Where it cannot be ascertained beyond reasonable scientific doubt, that the proposal will not adversely affect the integrity of the designated site, then the appropriate assessment test is failed and the Derogation tests (below) will apply where consent or authorisation remains intended.	Absolute certainty is not required, but the decision taker must be confident beyond reasonable scientific doubt that no adverse effect on Integrity arises. ***Ref cases] UKS(1 WLR ind C .*** In combination effects should be considered. An appropriate assessment must catalogue the entirety of habitat types and species for which a site is protected. It must also identify and examine the implications of the project for those species present on the protected site, (but which are not interest features), and the implications for habitat types and species to be found outside the boundaries of the protected site, provided that those implications are liable to affect the Conservation Objectives. ***Ref Case*** A precautionary approach to assessment should be followed. ***Ref case C*** However, the risk must be real and not fanciful or hypothetical. ***Ref Cases 0] EWCA Ci and] EWCA Civ*** At this stage of the assessment, any proposed mitigation or avoidance measures should be taken into account. Where necessary / appropriate, consideration should be given to whether the application of conditions or other restrictions would enable the proposal to pass the integrity test.
Derogation	
Are there alternative solutions? If **Yes**, revised project proposals should be subject to a further appropriate assessment. If **No**, assess whether a priority habitat or species on the site be adversely affected by the proposal. - If **No**, *are there IROPI, which in this instance may include those of a social or economic nature?*	Before deciding if reasons constitute IROPI, the Department shall consult the following, and have regard to their opinion: a) the Joint Nature Conservation Committee; b) the Secretary of State; c) the Scottish Ministers; d) the Welsh Ministers; and e) any other person the Department considers appropriate.

- If **Yes**, *are there IROPI relating to human health, public safety or important environmental benefits, or are there other reasons which the Department consider to be IROPI?* Where in accordance with the above, there are determined to be IROPI, authorisation may be granted subject to the securing of any necessary compensation measures which ensure that the overall coherence of the European sites network is protected.	

10. In applying the legal tests, the Competent Authority (under the Habitats Regulations) will need to:

    a) Understand the qualifying interest features of the relevant designated site (see Appendix 1, para 40).
    b) Understand the formal Conservation Objectives for the relevant designated site (see Appendix 1 para 41).
    c) Understand any supporting information relating to the formal conservation objectives, such as feature condition objectives / targets (see Appendix 1 paragraphs 47 and 48, and Section 8 of 2017 Conservation Objectives document at Annex 4 of Appendix 1).
    d) Have regard to relevant baseline information and seek information regarding existing threats or pressures associated with the designated site (see summary of 2021 Loughs Agency survey data at Appendix 1 paragraphs 74 – 78 and 93 – 100, and Section 5 of the updated project sHRA 2020. Also see for example Section 11 of annexed 2017 Conservation Objectives document).
    e) Consider all possible effects of the proposal, at every phase, on the qualifying interest features of the site. Consider impacts that are direct and indirect, temporary and permanent (see Section 5 of the updated project sHRA 2020 and also Appendix 1 for further context).
    f) Consider possible in combination effects with reference to other relevant plans or projects (see Section 5 of the updated project sHRA 2020).
    g) Use the best available (objective and scientific) information to make confident decisions.
    h) Consider the advice of the relevant Statutory Nature Conservation Body.
    i) Present a detailed written record of the HRA which gives clear justifications for decisions and precise conclusions.

Ecology Solutions
November 2021

APPENDIX 1

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Water Quality Matters

Appendix 1

Executive Summary

1. This briefing note has been prepared by Ecology Solutions Ltd on behalf of Dalradian Gold Limited. It has been specifically prepared in order to highlight and summarise information which is required to address the application of the tests associated with Habitats Regulations, as relevant to the proposed discharge criteria.

2. The decision as to whether the integrity of the Owenkillew River Special Area of Conservation (SAC) is adversely affected must be focussed upon the qualifying interest features of the SAC and its formal conservation objectives. Only where the conservation objectives of the SAC are undermined could an adverse effect on integrity arise.

3. Importantly, when applying the relevant legal tests and considering whether it would be appropriate to invoke the precautionary principle, in line with jurisprudence, if there is an assertion of a risk, the party asserting must back that up with credible objective evidence. Such decisions must not aim at zero risk and there must be credible evidence that there is a real, rather than a hypothetical, risk.

4. The formal Conservation Objectives for the SAC require the maintenance or restoration (where appropriate) of the qualifying interest features to favourable condition. SAC (interest feature) component condition objectives support the formal Conservation Objectives and describe a series of specific targets. What is required, is the maintenance of the populations and maintenance of water quality at favourable condition. Significantly, case law has established that the enhancement or improvement of baseline conditions, be that population expansion or improvements in water quality, are expressly not required under the relevant component condition objectives by an applicant.

5. In assessing implications for the qualifying interest features of the SAC, it is necessary to assess both direct and indirect effects and also, to look beyond the boundary of the designated site itself. The legal test however, remains focussed upon the Conservation Objectives for the designated site.

6. Insofar as water quality matters are concerned, the focus is upon implications for aquatic species / habitats; Fresh Water Pearl Mussel (FWPM), Otter, Atlantic Salmon, and 'Water courses of plain to montane levels with the *Ranunculus fluitans* and *Callitricho-Batrachion* vegetation'.

7. Curraghinalt Burn and Pollanroe Burn are not recognised for their value to FWPM. Considerations relevant to this species are focused upon any effects which arise at the confluence between the Owenkillew River and the Curraghinalt burn and / or Owenreagh River. Thus, insofar as FWPM are concerned, the end of pipe discharge effects within the two burns is not an important consideration, when applying the relevant tests of the Habitats Regulations. The same is true for 'Water courses of plain to montane levels with the *Ranunculus fluitans* and *Callitricho-Batrachion* vegetation'.

8. The detailed suite of survey / monitoring work demonstrates consistent presence of Otter within the Owenkillew and Owenreagh rivers. However, in relation to the burns, the detailed survey work demonstrates only sporadic evidence for use of Pollanroe Burn. It remains the conclusion that the minor tributaries, including the Curraghinalt and Pollanroe burns are not important for the local Otter population.

9. Regarding Atlantic Salmon, the recent data obtained by the Loughs Agency does not support the proposition that Atlantic Salmon use the Curraghinalt Burn. Loughs Agency survey results do show use of the Pollanroe Burn by both Atlantic Salmon and Brown Trout. The data does not support the proposition that the burn is used by breeding (spawning) Atlantic Salmon. It does show that a breeding population of Brown Trout are present, however this species is not a qualifying interest feature of the SAC.

10. In relation to Total Suspended Solids (TSS), a target value of 10mg/l is considered protective of the FWPM interest feature (with reference to unpublished NIEA guidance from 2013 regarding FWPM in the Owenkillew catchment). For Atlantic Salmon, any application of a comparable target would only be of relevance to spawning Atlantic Salmon. Positive evidence exists in relation to no spawning Atlantic Salmon being present within either burn. As previously agreed with NIEA NED, a discharge limit of 50mg/l within the Curraghinalt burn is protective of the FWPM interest feature within the SAC and this would equally apply in the case of Atlantic Salmon.

11. Significantly biological water quality in the Owenkillew and Owenreagh rivers has consistently been recorded as being of 'Good' or 'High' quality and this is in the context of existing (consented) discharges from the mine site into the Owenkillew via the Curraghinalt Burn.

12. In view of the objective evidence, it is concluded that the discharge criteria as proposed, are considered to be protective of the aquatic environment associated with the Owenreagh River ASSI and Owenkillew River SAC. Further, it is concluded that the proposed discharges will not give rise to an adverse effect on the integrity of the SAC.

Introduction

13. This briefing note addresses matters concerning discharge criteria proposed in relation to the Curraghinalt and Pollanroe burns. Specifically, this note highlights and summarises key information required to addresses the application of the tests of the Habitats Regulations when determining the acceptability of the proposed discharge criteria.

14. Where appropriate, reference is made to detailed survey work undertaken by the Loughs Agency in 2021 and other relevant baseline information. Indeed, it is primarily in the context of the Loughs Agency 2021 survey data (discussed further below) that this note has been produced and it should be noted that other detailed baseline information is relevant to the overall HRA process, such as that cited within the updated project sHRA (2020).

15. Before discussing the results and relevance of the Loughs Agency 2021 survey data and other matters concerning baseline data, this note sets out guidance and case law of direct relevance to the application of the legal tests of the Habitats Regulations in this instance. Annexed to this note are the following documents:

    1. A copy of the document titled Communication from the Commission on the Precautionary Principle" (2000), published by the European Commission.
    2. Copy of [2009] EWCA Civ 1061.
    3. Copy of [2015] UKSC 52, [2015] 1 WLR 3710.
    4. Copy of the Owenkillew River SAC Conservation Objectives document (2017).
    5. Copy of guidance document WAT-SG-90 published by SEPA.
    6. Extracts from: Owenkillew, Owenreagh East and Tributaries Catchment Status Report (2010).
    7. Extracts from Owenkillew River, Owenreagh East and Tributaries Catchment Status Reports, 2011, 2015 and 2018.
    8. Annotated map of the Owenkillew River SAC showing proposed discharge locations.

Discussion on Key Relevant Guidance and Case Law

Defining "integrity"

16. The Managing Natura 2000 guidance document[1] contains helpful guidance as to the meaning of "integrity" for the purpose of addressing the provision of Article 6 of the Habitats Directive. It states at section 4.6.4 that:

> *"The 'integrity of the site' can be usefully defined as the coherent sum of the site's ecological structure, function and ecological processes, across its whole area, which enables it to sustain the habitats, complex of habitats and / or populations of the species for which the site is designated."*

17. The text box at the foot of page 47 of the Managing Natura 2000 guidance document goes on to state:

[1] Managing Natura 2000 Sites – The provisions of Article 6 of the habitats Directive 92/43/EEC (2019)

"The integrity of the site involves its constitutive characteristics and ecological functions. The decision as to whether it is adversely affected should focus on and be limited to the habitats and species for which the site has been designated and the site's conservation objectives."

18. Section 4.6.4 is also helpful in defining the types of effect which could constitute an adverse effect on integrity. It is stated:

"It is clear from the context and from the purpose of the Directive that the 'integrity of a site' relates to the site's conservation objectives (see point 4.6.3 above). For example, it is possible that a plan or project will adversely affect the site only in a visual sense or only affect habitat types or species other than those listed in Annex I or Annex II for which the site has been designated. In such cases, the effects do not amount to an adverse effect for purposes of Article 6(3).

In other words, if none of the habitat types or species for which the site has been designated is significantly affected then the site's integrity cannot be considered to be adversely affected.

However, if just one of them is significantly affected, taking into account the site's conservation objectives, then the site integrity is necessarily adversely affected."

19. It is further stated that:

"The integrity of the site involves its constitutive characteristics and ecological functions. The decision as to whether it is adversely affected should focus on and be limited to the habitats and species for which the site has been designated and the site's conservation objectives."

20. It is also necessary to note the Holohan judgment. That judgment emphasises that it may be necessary to look wider than the listed interest features when assessing against integrity. In that case the ECJ stated:

"Article 6(3) of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora must be interpreted as meaning that an 'appropriate assessment' must, on the one hand, catalogue the entirety of habitat types and species for which a site is protected, and, on the other, identify and examine both the implications of the proposed project for the species present on that site, and for which that site has not been listed, and the implications for habitat types and species to be found outside the boundaries of that site, provided that those implications are liable to affect the conservation objectives of the site."

[emphasis added]

21. This judgment underlines the importance of the assessment and ultimate judgment being related to the conservation objectives of the site.

22. It is important to recognise that the species for which sites are protected (at any level) do not recognise arbitrary boundaries and for many species / groups they

will be reliant on different habitats or areas, in parts of their natural range for different stages of their life cycle, or at different times of year (e.g. as a response to seasonal climatic changes). A protected site may serve a 'protective function' for only part, or all of a species life cycle. It remains however, necessary to examine, with reference to available scientific data the quality and importance of those habitats within the natural range of the species (e.g. those outside of the protected site) when forming judgments on whether potential implications are liable to affect the conservation objectives of the site.

Conservation status

23. The term "conservation status of a species" is defined within the Habitats Directive at Article 1(i):

> *"conservation status of a species means the sum of the influences acting on the species concerned that may affect the long-term distribution and abundance of its populations within the territory referred to in Article 2:*
>
> *The conservation status will be taken as 'favourable' when:*
>
> - *Population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and*
> - *The natural range of the species is neither being reduced nor is it likely to be reduced for the foreseeable future, and*
> - *There is and will probably continue to be a sufficiently large habitat to maintain its populations on a long-term basis."*

24. In the current instance, it is necessary to have regard to the extent to which affects arising from the proposed discharges could have a real (as opposed to hypothetical) adverse effect on the SAC population of Atlantic Salmon (among other features). On the evidence, the burns cannot be considered as important watercourses within the range of the Atlantic Salmon population and the evidence does not point to impacts arising on habitat of importance for the breeding cycle of Atlantic Salmon. Whilst 'conservation status' in the context of the above guidance goes further than considerations relating to the specific focus of the proposals, it can be concluded that the proposals would not fetter the ability of the Atlantic Salmon population to reproduce and maintain itself as a viable component of its natural habitats. Nor would the proposals reduce the natural range of the species (note this interpreted on a broader geographical scale, as opposed to narrower, site-based considerations) and sufficiently large areas of suitable habitat are considered to exist to maintain the population. The presence of Atlantic Salmon within the burns is discussed further below.

Objectives to improve baseline conditions

25. In this instance, when undertaking the HRA, specific consideration should be given to SAC component condition objectives relating to water quality issues. This is a matter discussed in detail further below in relation to the SAC Conservation Objectives and individual qualifying interest features of the SAC. This section of the note is concerned specifically with how a desire to improve baseline conditions should be interpreted in the context of the application of the legal tests of the Habitats Regulations.

26. Useful guidance is provided within Mr Justice Jay's judgment in R (Wyatt) v Fareham BC [2021] EWHC 1434 (Admin). In broad terms that case centred upon the acceptability (in HRA terms) of the use of a (Natural England approved) methodology for assessing project level impacts of nitrogen discharges to an SPA / SAC / Ramsar site. The methodology facilitates a nitrogen budget calculation, and where nitrogen neutrality can be demonstrated, a conclusion of no adverse effect on integrity can be arrived at. This is in the context of a baseline condition which is viewed as unfavourable / deteriorating. At paragraph 42 of the judgment, the Court held:

> *"Self-evidently, the concept of neutrality indicates that the ambition of the Advice Note* ***is limited to not making things worse****. Mr Jones latched onto this apparent limitation and* ***forcefully submitted that it is flawed for that very reason****, not least because the environmental condition of some of the protected areas is deteriorating. Article 6(2) of the Habitats Directive requires member states (and now the United Kingdom through a different legal pathway) to take appropriate measures to avoid any deterioration. As was pointed out in the Dutch Nitrogen case, the perpetuation of an existing activity is capable of falling within article 6(2). However, I agree with Mr Mould that Mr Jones' submission rather misses the point. Competent authorities are precluded by the terms of the Habitats Directive from sanctioning development which is environmentally harmful. No doubt Natural England and other statutory bodies are taking other steps to avoid further deterioration for the purposes of article 6(2), all of which are outside the scope of this application for judicial review.* ***The authorisation of an individual project which is no more than environmentally neutral is not inimical to the language and intendment of the Habitats Directive and/or the Habitats Regulations****."*
>
> (emphasis added)

27. Mr Justice Jay considered the proposition that the determining authority was under an obligation to 'make things better' (deliver improved water quality). His conclusions include an acceptance that the issue of deterioration is wider than the narrow focus of one project and that statutory bodies will be taking relevant steps where necessary to address issues. Significantly and importantly, Mr Justice Jay recognises that it is '*environmentally harmful*' developments which are precluded by the terms of the Habitats Directive. The Court concluded that it is not for the individual project to deliver improvements to the baseline, but rather it is a necessity to demonstrate that the project will not make things worse.

Application of the "Precautionary Principle"

28. Relevant case law makes it clear that in applying the relevant tests of the Habitats Regulations, there is a need for certainty (or the absence of reasonable scientific doubt)[2][3], both regarding the nature and extent of predicted effects on integrity and in relation to the effectiveness of any preventative measures relied upon. Furthermore, enshrined within the Habitats Directive and Regulations (though not explicitly set out in either), based upon article 191 of the Treaty on the Functioning of the European Union, is the need to apply the Precautionary Principle when assessing the risks posed to the integrity of the site/s. If a risk of significant effect to the integrity of a site cannot be excluded on the basis of objective information,

[2] C-127/02: Waddenzee Judgment (2004)
[3] C-258/11 Sweetman Case (2011)

then application of the precautionary principle requires no consent to be given for such a project. The Precautionary Principle is not however without limits. It cannot be based on a purely hypothetical approach founded simply on conjecture. A preventive measure may be taken only if the risk appears nevertheless to be adequately backed up by scientific data available at the time the measure is taken.

29. The document titled "Communication from the Commission on the Precautionary Principle" (2000) provides useful guidance in relation to the application of the Precautionary Principle in relation to European sites issues. Paragraph 6 sets out the six key matters for consideration when applying the Precautionary Principle. Paragraph 6 states:

> *"Where action is deemed necessary, measures based on the precautionary principle should be, inter alia:*
>
> - *proportional to the chosen level of protection,*
> - *non-discriminatory in their application,*
> - *consistent with similar measures already taken,*
> - *based on an examination of the potential benefits and costs of action or lack of action (including, where appropriate and feasible, an economic cost/benefit analysis),*
> - *subject to review, in the light of new scientific data, and*
> - *capable of assigning responsibility for producing the scientific evidence necessary for a more comprehensive risk assessment."*

30. Under these bulleted points, the guidance gives specific definitions in relation to each of the above at pages 4 and 5, with further detail provided within section 6 (see Annex 1 of this note).

31. In accordance with the Communication from the Commission that, when deemed necessary, risk reduction measures should be proportionate and must not aim at zero risk. Section 6.3.1 of the Communication from the Commission states that:

> *"The measures envisaged must make it possible to achieve the appropriate level of protection. Measures based on the precautionary principle must not be disproportionate to the desired level of protection and must not aim at zero risk, something which rarely exists. However, in certain cases, an incomplete assessment of the risk may considerably limit the number of options available to the risk managers."*
>
> (emphasis added)

32. With reference to not aiming "at zero risk", the judgement of the Court of Appeal in Morge vs Hampshire County Council [2010] EWCA Civ 608 is relevant (see Annex 3). Lord Justice Ward considered what level of disturbance was required in addressing Article 12(1)(b), and at paragraph 35 he described the level or risk of threatened habitat and species stating that:

> *"... It must be certain, that is to say, identifiable. It must be real, not fanciful."*

33. This means that for the level of risk to be real and identifiable, it must be based upon objective evidence to substantiate the risk.

34. The judgment in the case of Boggis v Natural England[4] (see Annex 2) also assists in determining when it would be appropriate to invoke the precautionary principle and conclude that the objective information needed, is simply not available.

35. Paragraph 37 of the judgment states:

> "...*a claimant who alleges that there was a risk which should have been considered by the authorising authority so that it could decide whether that risk could be "excluded on the basis of objective information", must produce credible evidence that there was a real, rather than a hypothetical, risk which should have been considered.*"
>
> (emphasis added)[5]

36. Also of relevance is the case of R (Champion) v. North Norfolk District Council[6] (see Annex 3), where at paragraph 41, Lord Carnwath makes it clear that Article 6(3) does not require absolute certainty of no adverse effect and it is ultimately an issue of judgment for the decision maker. It is stated:

> *"As the court itself indicated in Waddenzee the context implies a high standard of* investigation. *However, as Advocate General Kokott said in Waddenzee [2005] All ER (EC) 353, para 107:*
>
> > *"The necessary certainty cannot be construed as meaning absolute certainty since that is almost impossible to attain. Instead, it is clear from the second sentence of article 6(3) of the Habitats Directive that the competent authorities must take a decision having assessed all the relevant information which is set out in particular in the appropriate assessment. The conclusion of this assessment is, of necessity, subjective in nature. Therefore, the competent authorities can, from their point of view, be certain that there will be no adverse effects even though, from an objective point of view, there is no absolute certainty"*
>
> *In short, no special procedure is prescribed, and, while a high standard of investigation is demanded, the issue ultimately rests on the judgment of the authority."*

37. It is important to recognise that the species for which sites are protected (at any level) do not recognise arbitrary boundaries and for many species / groups they will be reliant on different habitats or areas, in parts of their natural range for different stages of their life cycle, or at different times of year (e.g. as a response to seasonal climatic changes). A protected site may serve a 'protective function' for only part, or all of a species life cycle.

38. Regarding European designated sites, Article 4.1 of the Habitats Directive is of direct relevance on this point. It states:

> *"For animal species ranging over wide areas these sites shall correspond to the places within the natural range of such species*

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[4] [2009] EWCA Civ 1061

[5] And cited with approval In re Blackwood [2018] NIQB 87, para [65]

[6] [2015] UKSC 52, [2015] 1 WLR 3710,

which present the physical or biological factors essential to their life and reproduction. For aquatic species which range over wide areas, such sites will be proposed only where there is a clearly identifiable area representing the physical and biological factors essential to their life and reproduction."

(emphasis added)

39. The presence of a species within a site and the population number at a point in time is an important consideration in determining the quality and importance of the site to the species in question. However, in real terms, value judgments on site quality are made in relation to the contribution the site (e.g. SAC) makes to the favourable conservation status of the species generally. A reduction in numbers of a qualifying or other (e.g. typical) species within an SAC may not jeopardise the contribution the SAC makes to the sustainability of the species more generally.

Information relevant to the project HRA

Owenkillew River SAC Conservation Objectives

40. The current formal Conservation Objectives for the SAC (published 27th July 2017) are included at Annex 4. Table 1 at Section 6 of the Conservation Objectives document confirms that the qualifying interest features for the SAC are:

- Fresh Water Pearl Mussel *Margaritifera margaritifera*
- Water courses of plain to montane levels with the *Ranunculus fluitans* and *Callitricho-Batrachion vegetation*
- Old Sessile Oak woods with *Ilex* and *Blechnum* in the British Isles
- Bog Woodland
- Otter *Lutra lutra*
- Atlantic Salmon *Salmo salar*

41. With reference to section 7 of the document included at Annex 4, the Conservation Objectives are as follows:

"The Conservation Objective for this site is:

To maintain (or restore where appropriate) the

- *Fresh Water Pearl Mussel Margaritifera margaritifera*
- *Water courses of plain to montane levels with the Ranunculus fluitans and Callitricho-Batrachion vegetation*
- *Old Sessile Oak woods with Ilex and Blechnum in the British Isles*
- *Bog Woodland*
- *Otter Lutra lutra*
- *Atlantic Salmon Salmo salar*

to favourable condition."

42. It is stated within the formal Conservation Objectives document, that Brook Lamprey *Lampetra planeri* is listed as a species which is present, but not at a level which merits listing as an SAC qualifying interest feature.

43. Section 6 of the document included at Annex 4 describes the SAC selection features with reference to the 'Global Status' of each feature. It is stated that:

> *"There is therefore a distinction between the principal features for which sites have been selected (those graded A or B) and those which are only of secondary interest (those graded C). This is a useful distinction but it is important to note that all three grades are qualifying SAC interest features."*

44. FWPM, Water courses of plain to montane levels with the *Ranunculus fluitans and Callitricho-Batrachion* vegetation and Old Sessile Oak woods are all listed as being of global status B. In defining global status B, it is stated:

> "*Sites holding excellent stands of the habitat, significantly above the threshold for SSSI/ASSI notification but of somewhat lower value than grade A sites".*

45. Bog Woodland, Otter and Atlantic Salmon are cited as being of global status C. In defining global status C, it is stated:

> *"Examples of the habitat which are of at least national interest (i.e. usually above the threshold for SSSI/ASSI notification on terrestrial sites) but not significantly above this. These habitats are not the primary reason for SACs being selected."*

46. Insofar as matters concern Atlantic Salmon (and also Otter and Bog Woodland), it is necessary to assess implications for these features when applying the tests of the Habitats Regulations. It is however to be noted that these are not primary reason for SACs being selected.

47. At Section 7 of the document included at Annex 4, a series of component objectives are defined. In the case of Salmon, these are defined as:

- *Maintain and if possible, expand existing population numbers and distribution*
- *Maintain and where possible, enhance the extent and quality of suitable Salmon habitat, in particular the chemical and biological quality of the water.*

48. These second-tier objectives can be viewed as guiding principles to achieving the overarching formal Conservation Objectives and demonstrating 'favourable condition'. Maintenance of the population numbers and their distribution, and maintenance of the extent and quality of suitable habitat (including the chemical and biological quality of the water) is what is actually required to meet these objectives. Enhancement or improvement of baseline conditions, be that population expansion or improvements in water quality are desirable outcomes, but these are not expressly required under the objectives. This is plainly clear by virtue of the wording "where possible". This fits squarely with Mr Justice Jays judgment in relation to case R (Wyatt) v Fareham BC, discussed above.

Broad points

49. Insofar as water quality matters are concerned, the focus is upon implications for aquatic species / habitats. Implications for Sessile Oak woods and Bog Woodland can be simply screened out when addressing Regulation 43 (1)[7].

50. In assessing implications for the qualifying interest features of the SAC, it is necessary to assess both direct and indirect effects and also, to look beyond the boundary of the designated site itself. Regarding matters concerning the boundary of a designated site, it is recognised that certain (faunal) interest features have large 'home ranges' and may be dependent upon habitat spread over a very large area, significantly beyond the boundary of a designated site. This would include, in particular, certain species of bird and fish. The term 'functional linkage' is often used to describe habitat which lies beyond the boundary of a designated site, on which a qualifying interest species population is dependent in order to maintain its favourable conservation status (a term which is discussed further below).

51. Functional linkage is an important consideration in the context of the proposed discharges to the two burns in this instance.

52. Curraghinalt Burn and Pollanroe Burn are not recognised for their value to FWPM. It is common ground between NIEA NED and the Applicant that the species is only relevant to the Owenkillew River. Thus, considerations relevant to this species are focused upon any effects which arise at the confluence between the Owenkillew River and the Curraghinalt burn and / or Owenreagh River. Thus, insofar as FWPM are concerned, the end of pipe discharge effects within the two burns is not an important consideration, when applying the relevant tests of the Habitats Regulations.

53. Brown Trout, which have been recorded in both burns, are not qualifying interest features of the SAC. Insofar as Otter is concerned, it is noted that the "Otter Survey, Surveillance and Evaluation Report" (2017)[8] states that

> *"Based on the survey evidence, it is considered likely that the Owenreagh River forms part of the same territory of the otters using the Owenkillew River. Otters may well use the Owenreagh more during any run of salmon as these fish are likely to be easier to catch in this river when compared to the larger Owenkillew River."*

54. Detailed Otter surveys have been undertaken (by SLR) since 2012. As stated in the 2017 Otter report[9]:

> *"The smaller tributaries, including the Pollanroe Burn and un-named tributary of the Owenreagh River flowing through the proposed infrastructure site, do not appear to be used by otter with these providing negligible foraging opportunities and do not provide connective routes to any other watercourses or waterbodies. It is considered therefore that these tributaries within the study area are not important or critical to local otter population."*

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[7] As is clear from Section 5 of the 2020 updated sHRA and the cited reference to Table 15 of the 2017 Ecological Impact Assessment within the sHRA, implications from changes to water quality are considered only in relation to aquatic habitats and species.

[8] Appendix C8 at Annex G of the 2017 ES.

[9] Section 4.1 of Appendix C8 at Annex G of the 2017 ES

55. The detailed suite of survey / monitoring work demonstrates consistent presence of Otter within the Owenkillew and Owenreagh rivers, with (potential) holts and lie-ups as well as spraints and footprints recorded during every survey. However, only sporadic evidence exists for use of the relevant tributaries has been recorded during the course of the survey work. Prior to 2018 no evidence for the presence of Otter was recorded at the Pollanroe Burn. In 2018 survey work a single spraint was recorded close to the Pollanroe Burn Bridge and in 2019, survey work identified three spraints (of different age categories) under Pollanroe Burn Bridge. No other evidence for the presence of Otter was recorded during these surveys. In 2020, consistent with survey work undertaken in years preceding the 2018 update, no Otter evidence was recorded in 2020. Regarding the Curraghinalt Burn, an Otter spraint was recorded on rocks at the confluence with the Owenkillew River in 2015, however the burn itself is determined to be suboptimal for Otter. It remains the conclusion that the minor tributaries, including the Curraghinalt and Pollanroe burns are not important (certainly not critical) for the local Otter population.

56. Regarding Total Suspended Solids (TSS), a target value of 10mg/l is considered protective of the FWPM interest feature (with reference to unpublished NIEA guidance from 2013 regarding FWPM in the Owenkillew catchment). In relation to Atlantic Salmon, any application of a comparable target would only be of relevance to spawning Atlantic Salmon. Positive evidence exists in relation to no spawning Atlantic Salmon being present within either burn. It has previously been accepted by NIEA NED that a discharge limit of 50mg/l within the Curraghinalt burn is protective of the FWPM interest feature within the SAC (main river). This would equally apply in the case of Atlantic Salmon.

57. It is relevant to consider guidance published by the Scottish Environment Protection Agency titled; "Supporting Guidance (WAT-SG-90) Application of environmental standards in assessing risks to river and loch Natura 2000 interests" (October 2016), a copy of which is included at Annex 5. This guidance describes the process which SEPA will follow when assessing likely significant effects relating to interest features of SACs / SPAs, including Atlantic Salmon and FWPM. This document is available on the SEPA website as part of its "Guidance" resource[10]. Several key points arise:

    1) Table 1(a) presents a series of step-wise tests associated with determining whether likely significant effects can be ruled out in relation to FWPM. With the exception of 'test 1' all other steps consider a situation where water quality standards are exceeded (to varying degrees) within the SAC, yet at these further steps it still remains possible to conclude no significant effect.
    2) Table 1(a) specifically considers (at step 6) the use of existing discharge locations (relevant to the Curraghinalt burn) and continuity in terms of the length of the mixing zone (step 7), with no likely significant effect concluded where the answer to both questions is 'yes'.
    3) Table 1(a) also recognises at steps 8 and 9, that an absence of suitable habitat for FWPM or positive evidence of no FWPM presence, allow a conclusion of no likely significant effect.
    4) In relation to outfall design (page 9) it is confirmed that improved initial mixing is encouraged in order to shorten the mixing zone length. It is stated that:

[10] Following a lengthy period during which the SEPA website was not operational due to a ransomware attack, the website was 're-built' before going live again and so conscious decisions would have been made in relation to those guidance documents which were to be uploaded and made available as guidance to be relied upon.

"The mixing zone length over which environmental standards are exceeded can be shortened by maximising initial mixing. SEPA will:

i. consider proposals to improve initial mixing where it would otherwise conclude that a discharge would be likely to have a significant effect on freshwater pearl mussels; and
ii. in all cases, encourage developers to take such steps as are reasonably practical to promote rapid initial mixing of continuous discharges."

5) The quotation above, emphasises the point that localised exceedances of environmental standards can be found to be acceptable in HRA terms.
6) In the case of the project (discharge application) the discharge to each burn will deliver reduced point concentrations at the main rivers (e.g. the Owenkillew) when compared to a direct discharge to the main river. This is similar to the 'initial mixing' as actively encouraged by SEPA within its guidance.

58. Specific technical guidance on mixing zones was issued by the European Commission in 2010[11]. Several important points arise and these are discussed below.

59. A key principle of this guidance is that that measures, compliant with best available techniques (BAT), must be taken and it is considered that the proposed Reverse Osmosis (RO) plant certainly accords with BAT, and it is also considered that the proposal to cite the discharge location outside of the main rivers themselves (SAC / ASSI and ASSI) also accords with BAT.

60. Specifically regarding mixing zones, on pages 9 and 10 of the EU guidance it is stated:

"Restriction of the extent of the mixing zone should also be considered if the exceedance of the EQS for substance in Annex A of Directive 2008/105/EC has a negative impact on sensitive area such as a spawning area for fish. In Paragraph 5.3 this is further elaborated. The potential for, extent, degree, duration and reversibility of any adverse effects within the mixing zone (e.g. on amenity value or on any of the quality elements of 2000/60/EC (Annex V)) are key elements in the decision making process. The aim should be to limit adverse effects in the mixing zone especially any acute impact from the discharge concerned."

61. On page 11 of the EU guidance, it is stated:

"The Competent Authority is responsible for the designation and development of mixing zones under Directive 2008/105/EC and will need to deliver a risk-based, proportionate approach such that all relevant factors are considered in appropriate detail."

62. It is considered that the proposals have a positive effect in relation to mixing (restrict the mixing zone) and are arrived at following a risk based and proportionate approach. In relation to 'proportionality', a guiding principle in the

[11] Technical Guidelines for the Identification of Mixing Zones Pursuant to art. 4(4) of the Directive 2008/105/ec, European Commission (2010)

application of the precautionary principle it is relevant to consider that a proportionate approach must not look to achieve zero risk.

63. Turning to matters concerning the Atlantic Salmon population itself, it is important to recognise the fact that the Atlantic Salmon population, for which the SAC is designated, has a huge range (including marine environments) throughout its life cycle, with significant stretches of habitat in use for different purposes (e.g. foraging, spawning, nursery). It is relevant to highlight survey and assessment work undertaken by the Loughs Agency in this regard. Included at Annex 6 are a series of plans showing Atlantic Salmon fry electrofishing data from 2010[12]. Included at Annex 7 are a series of plans showing Salmonid fry electrofishing data (including data for Atlantic Salmon) from 2011, 2015, 2018[13]. These plans illustrate the following points:

    1) The size of the Foyle Salmonid catchment, of which the Owenkillew and Owenreagh are only part;

    2) The variations, over time, in numbers of fry sampled throughout the catchment, with losses in some river systems / specific locations, and gains in others.

64. Specifically, regarding the strength of the Atlantic Salmon population in the Foyle catchment, the 2018 Status Report states at section 2.7:

> *"As outlined above Atlantic salmon have a complex lifecycle which can be impacted upon by many factors. The impacts cannot always be quantified making it difficult to accurately estimate the number of returning adult salmon/grilse to our rivers each year. An analysis of cohort/age class strength throughout its lifecycle from egg to spawning adult is complicated by numerous factors. These include varying egg survival rates, differing age at smolting, marine survival rates, time spent at sea/age at spawning and number of spawning migrations made.*
>
> *It is extremely difficult to infer from one life history stage or stages what the strength of any returning cohort will be. This is currently exacerbated by extremely low marine survival rates possibly as a result of altered marine food webs and oceanic prey distribution all in the context of climate change."*

65. It is also relevant to note that whilst net fisheries appear not to have operated (legally) in recent years, angling is still undertaken throughout the catchment. The 2018 Status Report states at section 2.0:

> *"Total declared Atlantic salmon rod catch for the Foyle and Carlingford area in 2018 was 1598. Voluntary catch and release for the Foyle and Carlingford areas was 66%."*

66. This equates to a reported release (not guaranteed survival) of 1055 Atlantic Salmon, with 543 taken.

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[12] Extracts from: Owenkillew, Owenreagh East and Tributaries Catchment Status Report (2010), published by the Loughs Agency of the Foyle Carlingford and Irish Lights Commission

[13] Extracts from: Owenkillew River, Owenreagh East and Tributaries Catchment Status Reports, 2011, 2015 and 2018 published by the Loughs Agency of the Foyle Carlingford and Irish Lights Commission

67. There very clearly are a range of factors which have implications for the Atlantic Salmon population within the Foyle catchment (and more generally). As stated by the Loughs Agency, "*extremely low marine survival rates*" are a critical factor and it is noted that it remains possible to actively seek out and remove Atlantic Salmon through angling.

68. In the light of the above, any implications for Atlantic Salmon arising as a result of the proposed discharge consents must be viewed in the context of the following:

    1) The extremely small / localised area/s of habitat in question (the burns), infinitesimally small in view of both the Owenkillew sub-catchment and wider Foyle catchment;
    2) The evidence which shows this habitat as not being important for the Atlantic Salmon population (discussed below);
    3) 'Sanctioned' losses through angling.

69. To give further context, included at Annex 8 is a copy of the Owenkillew River SAC boundary map (2005), published on the DAERA website[14]. This map has been annotated to show the two proposed discharge locations (at the Curraghinalt Burn and Pollanroe Burn). For clarity, the Owenkillew SAC covers 42km of the Owenkillew River and its associated habitats, with an overall (designated) site area of 213.46ha. As can be seen from the map included at Annex 8, discharges associated with the Curraghinalt Burn are close to the SAC boundary but any effect would be very localised when considered against the 42km of designated river channel habitat. It is also clear from the map at Annex 8 that the discharge point associated with the Pollanroe Burn is significantly removed from the SAC, a matter explored in detail below at paragraphs 89 to 103.

70. Matters concerning the individual burns are discussed in detail below, but as a headline point, it is considered that purported implications for the Atlantic Salmon population would in fact be indiscernible again the baseline, nugatory.

Curraghinalt Burn

SAC Boundary

71. The boundary of the Owenkillew River SAC extends to include part of the Curraghinalt Burn. However, the discharge location associated with the Curraghinalt mine project lies outside of the SAC boundary.

72. The extension of the SAC boundary to include a section of the Curraghinalt Burn is understood to be on the basis of the woodland habitat which boarders the banks of the burn in this location. From a simple review of the SAC boundary in this location, it is clear that the SAC boundary follows (rather precisely) the boundary of the woodland which borders the river. It is noted that whilst the SAC boundary deviates from the main channel and banks in many areas, this is consistent with the inclusion of adjoining woodland, with minor watercourses / tributaries excluded. The formal Conservation Objectives document (2017), included at Annex 4, also assists on the point. It is stated at Section 5.1 (at page 5) of that document:

[14] https://www.daera-ni.gov.uk/publications/reasons-designation-special-area-conservation-owenkillew-river

> *"The lateral boundary beyond the river channel follows the same guidelines as that for all ASSIs, which is dependent on the type and quality of adjacent habitat. Much of the SAC has limited adjacent habitat. Therefore, the boundary is frequently restricted to the top of the riverbank. However, in places,* ***there is significant adjoining woodland interest, and this is generally included****. In addition the SAC includes both Drumlea and Mullan Woods ASSI and the Owenkillew and Glenelly Woods ASSI."*
>
> (emphasis added)

73. The above points to the fact that the SAC boundary is not reflective of any purported ecological value of the burn itself.

Atlantic Salmon

74. The survey report regarding the electrofishing survey, produced by the Loughs Agency states:

> *"In the case of the Curraghinalt Burn the range of habitat which was accessible to fish was small, but nevertheless it was felt that it would at the very least provide a refuge for juvenile salmonids in times of spate in the main Owenkillew River. The Pollanroe Burn was deemed to have a greater expanse of suitable habitat capable of providing spawning, nursery and pockets of holding. Therefore all three habitat types required for Salmonids to complete their life cycle were judged to be present in the lower section of the Pollanroe Burn."*

75. As reported by the Loughs Agency, the Curraghinalt Burn has a limited range of habitat available to (salmonid) fish, with only its potential to provide a refuge for juvenile salmonids (under very specific conditions within the main river) cited in terms of suitability. Furthermore, additional detailed survey work was nonetheless undertaken and this was specifically focussed upon determining 'actual presence' through electrofishing. In other words, the survey work went beyond habitat analysis, where judgements are made on the likelihood of a species being present, to a fish capture exercise where raw data in terms of fish presence (species, age class) is documented.

76. Raw survey data was requested by the applicant in order to assist with understanding the survey information presented in the survey report. Survey Data Sheets were subsequently provided by the Loughs Agency.

77. The relevant survey data sheet confirms that in terms of habitat suitability, for spawning, nursery and holding habitat, a score of "3" is given for each. With reference to the Advisory Leaflet titled "The Evaluation of Habitat for Salmon and Trout", this grading puts the habitat "well outside grade 1 on one or more counts" (i.e. in terms of nursery habitat) and "failing" in respect of suitability for spawning and holding habitat (where anything outside of grade 1 is considered to be failing when considered against the relevant parameters described).

78. The detailed survey work did not provide any evidence of the presence of Atlantic Salmon (qualifying interest feature of the SAC). Only two Brown Trout (age class 1+ only) were recorded over the survey period.

79. Any ecological survey can be viewed as a snap-shot in time. It is therefore important to use other data and contextual information when analysing survey

information and forming judgements. In this instance, the habitat quality data, bed morphology information and electrofishing data all point to the fact that Curraghinalt Burn is not important for Salmonid fish species. Specifically, regarding bed morphology, it is important to have regard to the fact that there is a significant (circa 2m) level change at the head of the burn, making fish passage into the burn extremely difficult, and very unlikely under most main river conditions.

80. The data does not support the proposition that this burn is of value, let alone importance, to Atlantic Salmon. The habitat is documented as being sub-optimal (at best) in respect of nursery, spawning and holding habitat and no Atlantic Salmon, at any life stage, were recorded during the detailed surveys. It is clear that Curraghinalt Burn does not provide habitat on which the qualifying SAC population of Atlantic Salmon are in any way reliant in terms of maintaining favourable conservation status.

81. It is considered that matters of functional linkage, with particular regard to Atlantic Salmon, are not relevant to the Curraghinalt Burn and that maintaining or indeed improving water quality within the burn itself would have no discernible effect on the species.

82. The discharge criteria as proposed are considered to be protective of the aquatic environment associated with the Owenkillew River SAC. In part, this conclusion is reached in view of the mixing and dilution which occurs between the end of pipe discharge into the Curraghinalt Burn and the confluence with the Owenkillew River.

83. It is noted that the relevant section of the Curraghinalt Burn is designated as part of the SAC, however, for an adverse effect on Integrity to occur, the effect must be one which undermines (or has the potential to undermine) the Conservation Objectives of the SAC. In assessment terms, one is not looking simply for 'any effect', the effect must be significant and capable of undermining the Conservation Objectives for the site (see paragraph 41 above).

84. Whilst the maintenance and (where possible) enhancement of water quality is referenced within the Conservation Objectives document, it is not an actual 'conservation objective' in its own right (see above). It is in fact a 'component objective', relevant to Atlantic Salmon as well as *Ranunculus fluitans* and *Callitricho-Batrachion* vegetation, FWPM and also Otter.

85. Following from the above, for the Conservation Objectives to be undermined, the proposed project (in this case the relevant discharges) would need to adversely affect the objective of maintaining or restoring to favourable condition, the qualifying interest features (see paragraph 40 above). As part of the assessment process, one should have regard to the feature component objective targeted at "maintenance and (where possible) enhancement" of water quality as relevant to Atlantic Salmon, *Ranunculus fluitans* and *Callitricho-Batrachion* vegetation, FWPM and Otter. It is not however appropriate in assessment terms, to adopt an approach which assesses the (proposed) discharges simply in view of the SAC boundary. The correct approach is to assesses against the Conservation Objectives, with reference to the various component objectives.

86. In terms of baseline conditions, it is important to have regard to the fact that insofar as water quality objectives are concerned, the stretch of the Owenkillew adjacent to the project site is currently of Good status. Indeed, it has previously been confirmed by the Water Management Unit that "*all objectives for the Owenkillew*

are Good for 2021". The HRA process must recognise that the baseline includes existing discharges which have already been consented, and which are not showing to adversely effect water quality within the SAC.

87. Specifically in relation to biological water quality, detailed monitoring reports are available which relate to the existing discharge consent (commencement in November 2014) and which are relevant to the project. Assessment reports from January 2013, September 2017 and August 2019 are in the public domain and were submitted in support of the 2013 discharge consent application, the 2017 planning application, and as part of the Addendum to the Environmental Statement in 2019 as relevant to the 2017 planning application, respectively. These assessment reports show that the biological water quality (as assessed with reference to aquatic macroinvertebrate sampling and the application of biotic indices) of the Owenkillew River has not degraded during the course of consented discharges into the Curraghinalt burn. It remains of "Good" / "High" status. Indeed, specifically regarding the sample point immediately downstream of the confluence between the Curraghinalt burn and the Owenkillew River, the results have consistently shown the biological water quality to be of "Good" / "High" status.

88. The evidence does not support any assertion that any of the SAC qualifying interest features have been, or could be, adversely affected by discharges into the Curraghinalt Burn.

Pollanroe Burn

89. Some of the points raised above are equally relevant to the Pollanroe Burn. Where appropriate, reference is made to information presented above.

90. In the case of the Pollanroe Burn, hydrological connectivity does exist with the Owenkillew River SAC, but unlike with the Curraghinalt Burn, this is via another main river, the Owenreagh River. The effects of mixing and dilution in relation to effects at the SAC itself, would be even greater than in the case of discharges to the Curraghinalt Burn.

91. It is noted that the survey report and detailed survey results provided by the Loughs Agency shows use of the Pollanroe Burn by both Atlantic Salmon and Brown Trout.

92. In the case of Brown Trout, both juvenile and adult trout were recorded, and the evidence points to a breeding population of Brown Trout being present within the burn. As previously discussed however (see paragraphs 28 and 41 above), Brown Trout are not a qualifying interest feature of the Owenkillew River SAC. It is relevant that, as reported by the Loughs Agency[15], whilst there is some recognised cross-over in terms of habitat requirements, the general trend within the Foyle catchment is that Atlantic Salmon dominate the main river and swifter water, while trout dominate the smaller tributaries. This is borne out by the Loughs Agency's own survey data for the two burns.

93. Atlantic Salmon were recorded in the Pollanroe Burn. This species is a qualifying interest feature of the SAC and as discussed, connectivity exists between the Pollanroe Burn and the SAC. Context is however important to the assessment process when reaching judgments in relation to whether the Conservation

[15] Foyle Area and Tributaries Catchment Status Report 2015 (2016), Loughs Agency of the Foyle Carlingford and Irish Lights Commission

Objectives for the SAC would be undermined and when determining the implications for the SAC insofar as maintaining the integrity of the designated site.

94. In view of the survey data sheets provided by the Loughs Agency, the habitat grades associated with the habitat suitability for Salmonid species along surveyed lengths of this burn were higher than for the Curraghinalt burn. However, the habitat was concluded not to be of the highest grade (Grade 1).

95. Survey site POLL 001 was graded as follows:

- Spawning 2
- Nursery 2
- Holding 3

96. Survey site POLL 002 was graded as follows:

- Spawning 3
- Nursery 2
- Holding 3

97. Survey site POLL 003 was graded as follows:

- Spawning 3
- Nursery 2
- Holding 3

98. In the light of the above gradings, and with reference to the Advisory Leaflet discussed above at paragraph 77, each of the burn sections can be categorised as sub-optimal in respect of all three habitat elements.

99. Whilst, unlike for the Curraghinalt burn, Atlantic Salmon were recorded in the Pollanroe Burn. These were all recorded at survey site 1, closest to the confluence with the Owenreagh River. No Atlantic Salmon were recorded at survey site 2 and no fish at all were recorded at site 3.

100. Importantly, the Atlantic Salmon recorded during the surveys were all Salmon parr. No fry or adult Salmon were recorded. The data does not show that the Pollanroe Burn is a breeding site for Atlantic Salmon.

101. In terms of baseline water quality within the Owenreagh River, this was assessed as "Good" or "High" across all sample points in 2019[16], with the data over the three assessment years (2015, 2018 and 2019) showing conditions to be relatively stable, and certainly with no downward trend in biological water quality.

102. As discussed above in relation to the Curraghinalt Burn, a target value of 10mg/l is considered protective of FWPM, and for Atlantic Salmon any application of a comparable target would only be of relevance to spawning Atlantic Salmon. Positive evidence exists in relation to no spawning Atlantic Salmon being present within the Pollanroe Burn. A discharge limit of 50mg/l (within Curraghinalt burn) has previously been accepted by NIEA NED as protective of the FWPM interest feature within the Owenkillew River SAC. It follows that this would equally apply in the case of Atlantic Salmon using the Owenreagh River.

[16] Biological Water Quality Assessment (2019) included at Appendix C.8 of FEI submission 1 (in 2019)

103. Given the foregoing, the burn is not considered important in the context of maintaining the favourable conservation status of the species. Any effects are very localised within the context of the Salmon population range, and the evidence does not point to adverse effects which could diminish the ability of Atlantic Salmon to maintain population levels.

Conclusions:

104. The discharge criteria as proposed are considered to be protective of the aquatic environment associated with the Owenreagh River ASSI and Owenkillew River SAC.

Ecology Solutions
November 2021

ANNEXES

ANNEX 1

Copy of Communication from the Commission on the Precautionary Principle" (2000)

COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 2.2.2000
COM(2000) 1 final

COMMUNICATION FROM THE COMMISSION

on the precautionary principle

SUMMARY

1. The issue of when and how to use the precautionary principle, both within the European Union and internationally, is giving rise to much debate, and to mixed, and sometimes contradictory views. Thus, decision-makers are constantly faced with the dilemma of balancing the freedom and rights of individuals, industry and organisations with the need to reduce the risk of adverse effects to the environment, human, animal or plant health. Therefore, finding the correct balance so that the proportionate, non-discriminatory, transparent and coherent actions can be taken, requires a structured decision-making process with detailed scientific and other objective information.

2. The Communication's fourfold aim is to:

   - outline the Commission's approach to using the precautionary principle,
   - establish Commission guidelines for applying it,
   - build a common understanding of how to assess, appraise, manage and communicate risks that science is not yet able to evaluate fully, and
   - avoid unwarranted recourse to the precautionary principle, as a disguised form of protectionism.

   It also seeks to provide an input to the ongoing debate on this issue, both within the Community and internationally.

3. The precautionary principle is not defined in the Treaty, which prescribes it only once - to protect the environment. But *in practice*, its scope is much wider, and specifically where preliminary objective scientific evaluation, indicates that there are reasonable grounds for concern that the potentially dangerous effects on the *environment, human, animal or plant health* may be inconsistent with the high level of protection chosen for the Community.

   The Commission considers that the Community, like other WTO members, has the right to establish the level of protection - particularly of the environment, human, animal and plant health, - that it deems appropriate. Applying the precautionary principle is a key tenet of its policy, and the choices it makes to this end will continue to affect the views it defends internationally, on how this principle should be applied.

4. The precautionary principle should be considered within a structured approach to the analysis of risk which comprises three elements: risk assessment, risk management, risk communication. The precautionary principle is particularly relevant to the management of risk.

   The precautionary principle, which is essentially used by decision-makers in the management of risk, should not be confused with the element of caution that scientists apply in their assessment of scientific data.

Recourse to the precautionary principle presupposes that potentially dangerous effects deriving from a phenomenon, product or process have been identified, and that scientific evaluation does not allow the risk to be determined with sufficient certainty.

The implementation of an approach based on the precautionary principle should start with a scientific evaluation, as complete as possible, and where possible, identifying at each stage the degree of scientific uncertainty.

5. Decision-makers need to be aware of the degree of uncertainty attached to the results of the evaluation of the available scientific information. Judging what is an "acceptable" level of risk for society is an eminently *political* responsibility. Decision-makers faced with an unacceptable risk, scientific uncertainty and public concerns have a duty to find answers. Therefore, all these factors have to be taken into consideration.

In some cases, the right answer may be not to act or at least not to introduce a binding legal measure. A wide range of initiatives is available in the case of action, going from a legally binding measure to a research project or a recommendation.

The decision-making procedure should be transparent and should involve as early as possible and to the extent reasonably possible all interested parties.

6. Where action is deemed necessary, measures based on the precautionary principle should be, *inter alia*:

- *proportional* to the chosen level of protection,
- *non-discriminatory* in their application,
- *consistent* with similar measures already taken,
- *based on an examination of the potential benefits and costs* of action or lack of action (including, where appropriate and feasible, an economic cost/benefit analysis),
- *subject to review,* in the light of new scientific data, and
- *capable of assigning responsibility for producing the scientific evidence* necessary for a more comprehensive risk assessment.

Proportionality means tailoring measures to the chosen level of protection. Risk can rarely be reduced to zero, but incomplete risk assessments may greatly reduce the range of options open to risk managers. A total ban may not be a proportional response to a potential risk in all cases. However, in certain cases, it is the sole possible response to a given risk.

Non-discrimination means that comparable situations should not be treated differently, and that different situations should not be treated in the same way, unless there are objective grounds for doing so.

Consistency means that measures should be of comparable scope and nature to those already taken in equivalent areas in which all scientific data are available.

Examining costs and benefits entails comparing the overall cost to the Community of action and lack of action, in both the short and long term. This is not simply an economic cost-benefit analysis: its scope is much broader, and includes non-economic considerations, such as the efficacy of possible options and their acceptability to the public. In the conduct of such an examination, account should be taken of the general principle and the case law of the Court that the protection of health takes precedence over economic considerations.

Subject to review in the light of new scientific data, means measures based on the precautionary principle should be maintained so long as scientific information is incomplete or inconclusive, and the risk is still considered too high to be imposed on society, in view of chosen level of protection. Measures should be periodically reviewed in the light of scientific progress, and amended as necessary.

Assigning responsibility for producing scientific evidence is already a common consequence of these measures. Countries that impose a prior approval (marketing authorisation) requirement on products that they deem dangerous *a priori* reverse the burden of proving injury, by treating them as dangerous unless and until businesses do the scientific work necessary to demonstrate that they are safe.

Where there is no prior authorisation procedure, it may be up to the user or to public authorities to demonstrate the nature of a danger and the level of risk of a product or process. In such cases, a specific precautionary measure might be taken to place the burden of proof upon the producer, manufacturer or importer, but this cannot be made a general rule.

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1. INTRODUCTION

A number of recent events has shown that public opinion is becoming increasingly aware of the potential risks to which the population or their environment are potentially exposed.

Enormous advances in communications technology have fostered this growing sensitivity to the emergence of new risks, before scientific research has been able to fully illuminate the problems. Decision-makers have to take account of the fears generated by these perceptions and to put in place preventive measures to eliminate the risk or at least reduce it to the minimum acceptable level. On 13 April 1999 the Council adopted a resolution urging the Commission inter alia " *to be in the future even more determined to be guided by the precautionary principle in preparing proposals for legislation and in its other consumer-related activities and develop as priority clear and effective guidelines for the application of this principle*". This Communication is part of the Commission's response.

The dimension of the precautionary principle goes beyond the problems associated with a short or medium-term approach to risks. It also concerns the longer run and the well-being of future generations.

A decision to take measures without waiting until all the necessary scientific knowledge is available is clearly a precaution-based approach.

Decision-makers are constantly faced with the dilemma of balancing the freedoms and rights of individuals, industry and organisations with the need to reduce or eliminate the risk of adverse effects to the environment or to health.

Finding the correct balance so that proportionate, non-discriminatory, transparent and coherent decisions can be arrived at, which at the same time provide the chosen level of protection, requires a structured decision making process with detailed scientific and other objective information. This structure is provided by the three elements of risk analysis: the assessment of risk, the choice of risk management strategy and the communication of the risk.

Any assessment of risk that is made should be based on the existing body of scientific and statistical data. Most decisions are taken where there is sufficient information available for appropriate preventive measures to be taken but in other circumstances, these data may be wanting in some respects.

Whether or not to invoke the Precautionary Principle is a decision exercised where scientific information is insufficient, inconclusive, or uncertain and where there are indications that the possible effects on the environment, or human, animal or plant health may be potentially dangerous and inconsistent with the chosen level of protection.

2. THE GOALS OF THIS COMMUNICATION

The aim of this Communication is to inform all interested parties, in particular the European Parliament the Council and Member States of the manner in which the Commission applies or intends to apply the precautionary principle when faced with taking decisions relating to the containment of risk. However, this general Communication does not claim to be the final word - rather, the idea is to provide input to the ongoing debate both at Community and international level.

This Communication seeks to establish a common understanding of the factors leading to recourse to the precautionary principle and its place in decision making, and to establish guidelines for its application based on reasoned and coherent principles.

The guidelines outlined in this Communication are only intended to serve as general guidance and in no way to modify or affect the provisions of the Treaty or secondary Community legislation.

Another objective is to avoid unwarranted recourse to the precautionary principle, which in certain cases could serve as a justification for disguised protectionism. Accordingly the development of international guidelines could facilitate the achievement of this end. The Commission also wishes to stress in this Communication that, far from being a way of evading obligations arising from the WTO Agreements, the envisaged use of the precautionary principle complies with these obligations.

It is also necessary to clarify a misunderstanding as regards the distinction between reliance on the precautionary principle and the search for zero risk, which in reality is rarely to be found. The search for a high level of health and safety and environmental and consumer protection belongs in the framework of the single market, which is a cornerstone of the Community.

The Community has already relied on the precautionary principle. Abundant experience has been gained over many years in the environmental field, where many measures have been inspired by the precautionary principle, such as measures to protect the ozone layer or concerning climate change.

3. THE PRECAUTIONARY PRINCIPLE IN THE EUROPEAN UNION

The Community has consistently endeavoured to achieve a high level of protection, among others in environment and human, animal or plant health. In most cases, measures making it possible to achieve this high level of protection can be determined on a satisfactory scientific basis. However, when there are reasonable grounds for concern that potential hazards may affect the environment or human, animal or plant health, and when at the same time the available data preclude a detailed risk evaluation, the precautionary principle has been politically accepted as a risk management strategy in several fields.

To understand fully the use of the precautionary principle in the European Union, it is necessary to examine the legislative texts, the case law of the Court

of Justice and the Court of First Instance, and the policy approaches that have emerged.

Legal Texts

The analysis starts with the legal texts which explicitly or implicitly refer to the precautionary principle (Annex I, Ref. 1).

At Community level the only explicit reference to the precautionary principle is to be found in the environment title of the EC Treaty, and more specifically Article 174. However, one cannot conclude from this that the principle applies only to the environment (Annex I, Refs. 2 and 3). Although the principle is adumbrated in the Treaty, it is not defined there.

Like other general notions contained in the legislation, such as subsidiarity or proportionality, it is for the decision-makers and ultimately the courts to flesh out the principle. In other words, the scope of the precautionary principle also depends on trends in case law, which to some degree are influenced by prevailing social and political values.

However, it would be wrong to conclude that the absence of a definition has to lead to legal uncertainty. The Community authorities' practical experience with the precautionary principle and its judicial review make it possible to get an ever-better handle on the precautionary principle.

Case law

The Court of Justice of the European Communities and the Court of First Instance have already had occasion to review the application of the precautionary principle in cases they have adjudicated and hence to develop case law in this area. (see Annex I, Refs. 5, 6 and 7)

Policy orientations

Policy orientations were set out by the Commission in the Green Paper on the General Principles of Food Safety and the Communication of 30 April 1997 on Consumer Health and Food Safety, by Parliament in its Resolution of 10 March 1998 concerning the Green Paper, by the Council in its Resolution of 13 April 1999 and by the Joint Parliamentary Committee of the EEA (European Economic Area) in its Resolution of 16 March 1999 (Annex I, Refs. 8-12).

Hence the Commission considers that the precautionary principle is a general one which should in particular be taken into consideration in the fields of environmental protection and human, animal and plant health.

Although the precautionary principle is not explicitly mentioned in the Treaty except in the environmental field, its scope is far wider and covers those specific circumstances where scientific evidence is insufficient, inconclusive or uncertain and there are indications through preliminary objective scientific evaluation that there are reasonable grounds for concern that the potentially dangerous effects on the environment, human, animal or

plant health may be inconsistent with the chosen level of protection .

4. THE PRECAUTIONARY PRINCIPLE IN INTERNATIONAL LAW

At international level, the precautionary principle was first recognised in the World Charter for Nature, adopted by the UN General Assembly in 1982. It was subsequently incorporated into various international conventions on the protection of the environment. (cf. Annex II).

This principle was enshrined at the 1992 Rio Conference on the Environment and Development, during which the Rio Declaration was adopted, whose principle 15 states that: *"in order to protect the environment, the precautionary approach shall be widely applied by States according to their capability. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation"*. Besides, the United Nations' Framework Convention on Climate Change and the Convention of Biological Diversity both refer to the precautionary principle. Recently, on 28 January 2000, at the Conference of the Parties to the Convention on Biological Diversity, the Protocol on Biosafety concerning the safe transfer, handling and use of living modified organisms resulting from modern biotechnology confirmed the key function of the Precautionary Principle (see Annex II).

Hence this principle has been progressively consolidated in international environmental law, and so it has since become a full-fledged and general principle of international law.

The WTO agreements confirm this observation. The preamble to the WTO Agreement highlights the ever closer links between international trade and environmental protection[1]. A consistent approach means that the precautionary principle must be taken into account in these agreements, notably in the Agreement on Sanitary and Phytosanitary Measures (SPS) and in the Agreement on Technical Barriers to Trade (TBT), to ensure that this general principle is duly enforced in this legal order.

Hence, each Member of the WTO has the independent right to determine the level of environmental or health protection they consider appropriate. Consequently a member may apply measures, including measures based on the precautionary principle, which lead to a higher level of protection than that provided for in the relevant international standards or recommendations.

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[1] *"The parties to this agreement ... recognising that their relations in the field of trade and economic endeavour should be conducted with a view to raising standards of living, ensuring full employment and a large and steadily growing volume of real income and effective demand, and expanding the production of and trade in goods and services, while allowing for the optimal use of the world's resources in accordance with the objective of sustainable development, seeking both to protect and preserve the environment and to enhance the means for doing to in a manner consistent with their respective needs and concerns at different levels of economic development ..."*

The Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) clearly sanctions the use of the precautionary principle, although the term itself is not explicitly used. Although the general rule is that all sanitary and phytosanitary measures must be based on scientific principles and that they should not be maintained without adequate scientific evidence, a derogation from these principles is provided for in Article 5 (7) which stipulates that: "*in cases where relevant scientific evidence is insufficient, a Member may provisionally adopt sanitary or phytosanitary measures on the basis of available pertinent information, including that from the relevant international organizations as well as from sanitary or phytosanitary measures applied by other Members. In such circumstances, Members shall seek to obtain the additional information necessary for a more objective assessment of risk and review the sanitary or phytosanitary measure accordingly within a reasonable period of time.*"

Hence, according to the SPS Agreement, measures adopted in application of a precautionary principle when the scientific data are inadequate, are provisional and imply that efforts be undertaken to elicit or generate the necessary scientific data. It is important to stress that the provisional nature is not bound up with a time limit but with the development of scientific knowledge.

The use of the term "more objective assessment of risk" in Article 5.7 infers that a precautionary measure may be based on a less objective appraisal but must nevertheless includes an evaluation of risk.

The concept of risk assessment in the SPS leaves leeway for interpretation of what could be used as a basis for a precautionary approach. The risk assessment on which a measure is based may include non-quantifiable data of a factual or qualitative nature and is not uniquely confined to purely quantitative scientific data. This interpretation has been confirmed by the WTO's Appellate body in the case of growth hormones, which rejected the panel's initial interpretation that the risk assessment had to be quantitative and had to establish a minimum degree of risk.

The principles enshrined in Article 5.7 of the SPS must be respected in the field of sanitary and phytosanitary measures; however, because of the specific nature of other areas, such as the environment, it may be that somewhat different principles will have to be applied.

International guidelines are being considered in relation to the application of the Precautionary Principle in Codex Alimentarius. Such guidance in this, and other sectors, could pave the way to a harmonised approach by the WTO Members, to drawing up health or environment protection measures, while avoiding the misuse of the precautionary principle which could otherwise lead to unjustifiable barriers to trade.

In the light of these observations, the Commission considers that, following the example set by other Members of the WTO, the Community is entitled to prescribe the level of protection, notably as regards the environment and human, animal and plant health, which it considers appropriate. In this context, the Community must respect Articles 6, 95, 152 and 174 of the Treaty. To this end,

reliance on the precautionary principle constitutes an essential plank of its policy. It is clear that the choices made will affect its positions at international and notably multilateral level, as regards recourse to the precautionary principle.

> Bearing in mind the very origins of the precautionary principle and its growing role in international law, and notably in the agreements of the World Trade Organisation, this principle must be duly addressed at international level in the various areas in which it is likely to be of relevance.
>
> ***Following the example set by the other members of the WTO, the Commission considers that the Community is entitled to prescribe the level of protection, notably as regards environmental protection and human, animal and plant health, that it considers appropriate. Recourse to the precautionary principle is a central plank of Community policy. The choices made to this end will continue to influence its positions at international level, and notably at multinational level, as regards the precautionary principle.***

5. THE CONSTITUENT PARTS OF THE PRECAUTIONARY PRINCIPLE

An analysis of the precautionary principle reveals two quite distinct aspects: (i) **the political decision to act or not to act as such,** which is linked to the **factors triggering** recourse to the precautionary principle; (ii) in the affirmative, **how to act, i.e.** the **measures** resulting from application of the precautionary principle.

There is a controversy as to the role of scientific uncertainty in risk analysis, and notably as to whether it belongs under risk assessment or risk management. This controversy springs from a confusion between a prudential approach and application of the precautionary principle. These two aspects are complementary but should not be confounded.

The prudential approach is part of risk assessment policy which is determined before any risk assessment takes place and which is based on the elements described in 5.1.3; it is therefore an integral part of the scientific opinion delivered by the risk evaluators.

On the other hand, application of the precautionary principle is part of risk management, when scientific uncertainty precludes a full assessment of the risk and when decision-makers consider that the chosen level of environmental protection or of human, animal and plant health may be in jeopardy.

The Commission considers that measures applying the precautionary principle belong in the general framework of risk analysis, and in particular risk management.

5.1. Factors triggering recourse to the precautionary principle

The precautionary principle is relevant only in the event of a potential risk, even if this risk cannot be fully demonstrated or quantified or its effects determined because of the insufficiency or inclusive nature of the scientific data.

It should however be noted that the precautionary principle can under no circumstances be used to justify the adoption of arbitrary decisions.

5.1.1. Identification of potentially negative effects

Before the precautionary principle is invoked, the scientific data relevant to the risks must first be evaluated. However, one factor logically and chronologically precedes the decision to act, namely identification of the potentially negative effects of a phenomenon. To understand these effects more thoroughly it is necessary to conduct a scientific examination. The decision to conduct this examination without awaiting additional information is bound up with a less theoretical and more concrete perception of the risk.

5.1.2. Scientific evaluation

A scientific evaluation of the potential adverse effects should be undertaken based on the available data when considering whether measures are necessary to protect the environment, the human, animal or plant health. An assessment of risk should be considered where feasible when deciding whether or not to invoke the precautionary principle. This requires reliable scientific data and logical reasoning, leading to a conclusion which expresses the possibility of occurrence and the severity of a hazard's impact on the environment, or health of a given population including the extent of possible damage, persistency, reversibility and delayed effect. However it is not possible in all cases to complete a comprehensive assessment of risk, but all effort should be made to evaluate the available scientific information.

Where possible, a report should be made which indicates the assessment of the existing knowledge and the available information, providing the views of the scientists on the reliability of the assessment as well as on the remaining uncertainties. If necessary, it should also contain the identification of topics for further scientific research.

Risk assessment consists of four components - namely hazard identification, hazard characterisation, appraisal of exposure and risk characterisation (Annex III). The limits of scientific knowledge may affect each of these components, influencing the overall level of attendant uncertainty and ultimately affecting the foundation for protective or preventive action. An attempt to complete these four steps should be performed before decision to act is taken.

5.1.3. Scientific uncertainty

Scientific uncertainty results usually from five characteristics of the scientific method : the variable chosen, the measurements made, the samples drawn, the models used and the causal relationship employed. Scientific uncertainty may

also arise from a controversy on existing data or lack of some relevant data . Uncertainty may relate to qualitative or quantitative elements of the analysis.

A more abstract and generalised approach preferred by some scientists is to separate all uncertainties into three categories of – Bias, Randomness and True Variability. Some other experts categorise uncertainty in terms of estimation of confidence interval of the probability of occurrence and of the severity of the hazard's impact.

This issue is very complex and the Commission launched a project "Technological Risk and the Management of Uncertainty" conducted under the auspices of the European Scientific Technology Observatory. The four ESTO reports will be published shortly and will give a comprehensive description of scientific uncertainty.

Risk evaluators accommodate these uncertainty factors by incorporating prudential aspects such as :

- relying on animal models to establish potential effects in man;
- using body weight ranges to make inter-species comparisons;
- adopting a safety factor in evaluating an acceptable daily intake to account for intra- and inter-species variability; the magnitude of this factor depends on the degree of uncertainty of the available data;
- not adopting an acceptable daily intake for substances recognised as genotoxic or carcinogenic;
- adopting the "ALARA" (as low as reasonably achievable) level as a basis for certain toxic contaminants.

Risk managers should be fully aware of these uncertainty factors when they adopt measures based on the scientific opinion delivered by the evaluators.

However, in some situations the scientific data are not sufficient to allow one to apply these prudential aspects in practice, i.e. in cases in which extrapolations cannot be made because of the absence of parameter modelling and where cause-effect relationships are suspected but have not been demonstrated. It is in situations like these that decision-makers face the dilemma of having to act or not to act.

Recourse to the precautionary principle presupposes:

- ***identification of potentially negative effects resulting from a phenomenon, product or procedure;***
- ***a scientific evaluation of the risk which because of the insufficiency of the data, their inconclusive or imprecise nature, makes it impossible to determine with sufficient certainty the risk in question.***

5.2. Measures resulting from reliance on the precautionary principle

5.2.1. The decision whether or not to act

In the kind of situation described above - sometimes under varying degrees of pressure from public opinion - decision-makers have to respond. However, responding does not necessarily mean that measures always have to be adopted. The decision to do nothing may be a response in its own right.

The appropriate response in a given situation is thus the result of an eminently political decision, a function of the risk level that is "acceptable" to the society on which the risk is imposed.

5.2.2. Nature of the action ultimately taken

The nature of the decision influences the type of control that can be carried out. Recourse to the precautionary principle does not necessarily mean adopting final instruments designed to produce legal effects that are open to judicial review. There is a whole range of actions available to decision-makers under the head of the precautionary principle. The decision to fund a research programme or even the decision to inform the public about the possible adverse effects of a product or procedure may themselves be inspired by the precautionary principle.

It is for the Court of Justice to pronounce on the legality of any measures taken by the Community institutions. The Court has consistently held that when the Commission or any other Community institution has broad discretionary powers, notably as regards the nature and scope of the measures it adopts, review by the Court must be limited to examining whether the institution committed a manifest error or misuse of power or manifestly exceed the limits of its powers of appraisal.

Hence the measures may not be of an arbitrary nature.

Recourse to the precautionary principle does not necessarily mean adopting final instruments designed to produce legal effects, which are subject to judicial review.

6. GUIDELINES FOR APPLYING THE PRECAUTIONARY PRINCIPLE.

6.1. Implementation

When decision-makers become aware of a risk to the environment or human, animal or plant health that in the event of non-action may have serious consequences, the question of appropriate protective measures arise. Decision-makers have to obtain, through a structured approach, a scientific evaluation, as complete as possible, of the risk to the environment, or health, in order to select the most appropriate course of action

The determination of appropriate action including measures based on the precautionary principle should start with a scientific evaluation and, if necessary, the decision to commission scientists to perform an as objective and complete as possible scientific evaluation. It will cast light on the existing objective evidence, the gaps in knowledge and the scientific uncertainties.

The implementation of an approach based on the precautionary principle should start with a scientific evaluation, as complete as possible, and where possible, identifying at each stage the degree of scientific uncertainty.

6.2. The triggering factor

Once the scientific evaluation has been performed as best as possible, it may provide a basis for triggering a decision to invoke the precautionary principle. The conclusions of this evaluation should show that the desired level of protection for the environment or a population group could be jeopardised. The conclusions should also include an assessment of the scientific uncertainties and a description of the hypotheses used to compensate for the lack of the scientific or statistical data. An assessment of the potential consequences of inaction should be considered and may be used as a trigger by the decision-makers. The decision to wait or not to wait for new scientific data before considering possible measures should be taken by the decision-makers with a maximum of transparency. The absence of scientific proof of the existence of a cause-effect relationship, a quantifiable dose/response relationship or a quantitative evaluation of the probability of the emergence of adverse effects following exposure should not be used to justify inaction. Even if scientific advice is supported only by a minority fraction of the scientific community, due account should be taken of their views, provided the credibility and reputation of this fraction are recognised.[2]

The Commission has confirmed its wish to rely on procedures as transparent as possible and to involve all interested parties at the earliest possible stage[3]. This will assist decision makers in taking legitimate measures which are likely to achieve the society's chosen level of health or environmental protection

An assessment of the potential consequences of inaction and of the uncertainties of the scientific evaluation should be considered by decision-makers when determining whether to trigger action based on the precautionary principle.

All interested parties should be involved to the fullest extent possible in the

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[2] *cf The WTO Appellate Body report on hormones, paragraph 124 : « In some cases, the very existence of divergent views presented by qualified scientists who have investigated the particular issue at hand, may indicate a state of scientific uncertainty »*

[3] *A considerable effort has already been made notably as regards public health and the environment. As regards the latter, the Community and the Member States have demonstrated the importance they attach to access to information and justice by signing the Aarhus Convention of June 1998.*

study of various risk management options that may be envisaged once the results of the scientific evaluation and/or risk assessment are available and the procedure be as transparent as possible.

6.3. The general principles of application

The general principles are not limited to application of the precautionary principle. They apply to all risk management measures. An approach inspired by the precautionary principle does not exempt one from applying wherever possible these criteria, which are generally used when a complete risk assessment is at hand.

Thus reliance on the precautionary principle is no excuse for derogating from the general principles of risk management.

These general principles include:

- proportionality,
- non-discrimination,
- consistency,
- examination of the benefits and costs of action or lack of action
- examination of scientific developments.

6.3.1. Proportionality

The measures envisaged must make it possible to achieve the appropriate level of protection. Measures based on the precautionary principle must not be disproportionate to the desired level of protection and must not aim at zero risk, something which rarely exists. However, in certain cases, an incomplete assessment of the risk may considerably limit the number of options available to the risk managers.

In some cases a total ban may not be a proportional response to a potential risk. In other cases, it may be the sole possible response to a potential risk.

Risk reduction measures should include less restrictive alternatives which make it possible to achieve an equivalent level of protection, such as appropriate treatment, reduction of exposure, tightening of controls, adoption of provisional limits, recommendations for populations at risk, etc. One should also consider replacing the products or procedures concerned by safer products or procedures.

The risk reduction measure should not be limited to immediate risks where the proportionality of the action is easier to assess. It is in situations in which the adverse effects do not emerge until long after exposure that the cause-effect relationships are more difficult to prove scientifically and that – for this reason – the precautionary principle often has to be invoked. In this case the potential long-term effects must be taken into account in evaluating the proportionality of measures in the form of rapid action to limit or eliminate a risk whose effects

will not surface until ten or twenty years later or will affect future generations. This applies in particular to effects on the eco-system. Risks that are carried forward into the future cannot be eliminated or reduced except at the time of exposure, that is to say immediately.

Measures should be proportional to the desired level of protection.

6.3.2. Non-discrimination

The principle of non-discrimination means that comparable situations should not be treated differently and that different situations should not be treated in the same way, unless there are objective grounds for doing so.

Measures taken under the precautionary principle should be designed to achieve an equivalent level of protection without invoking the geographical origin or the nature of the production process to apply different treatments in an arbitrary manner.

Measures should not be discriminatory in their application.

6.3.3. Consistency

Measures should be consistent with the measures already adopted in similar circumstances or using similar approaches. Risk evaluations include a series of factors to be taken into account to ensure that they are as thorough as possible. The goal here is to identify and characterise the hazards, notably by establishing a relationship between the dose and the effect and assessing the exposure of the target population or the environment. If the absence of certain scientific data makes it impossible to characterise the risk, taking into account the uncertainties inherent to the evaluation, the measures taken under the precautionary principle should be comparable in nature and scope with measures already taken in equivalent areas in which all the scientific data are available.

Measures should be consistent with the measures already adopted in similar circumstances or using similar approaches.

6.3.4. Examination of the benefits and costs of action and lack of action

A comparison must be made between the most likely positive or negative consequences of the envisaged action and those of inaction in terms of the overall cost to the Community, both in the long- and short-term. The measures envisaged must produce an overall advantage as regards reducing risks to an acceptable level.

Examination of the pros and cons cannot be reduced to an economic cost-benefit analysis. It is wider in scope and includes non-economic considerations.

However, examination of the pros and cons should include an economic cost-benefit analysis where this is appropriate and possible.

Besides, other analysis methods, such as those concerning the efficacy of possible options and their acceptability to the public may also have to be taken into account. A society may be willing to pay a higher cost to protect an interest, such as the environment or health, to which it attaches priority.

The Commission affirms, in accordance with the case law of the Court that requirements linked to the protection of public health should undoubtedly be given greater weight that economic considerations.

The measures adopted presuppose examination of the benefits and costs of action and lack of action. This examination should include an economic cost/benefit analysis when this is appropriate and feasible. However, other analysis methods, such as those concerning efficacy and the socio-economic impact of the various options, may also be relevant. Besides the decision-maker may, in certain circumstances, by guided by non-economic considerations such as the protection of health.

6.3.5. Examination of scientific developments

The measures should be maintained as long as the scientific data are inadequate, imprecise or inconclusive and as long as the risk is considered too high to be imposed on society. The measures may have to be modified or abolished by a particular deadline, in the light of new scientific findings. However, this is not always linked to the time factor, but to the development of scientific knowledge.

Besides, scientific research should be carried out with a view to obtaining a more advanced or more complete scientific assessment. In this context, the measures should be subjected to regular scientific monitoring, so that they can be reevaluated in the light of new scientific information.

The Agreement on Sanitary and Phytosanitary Measures (SPS) provides that measures adopted in the context of inadequate scientific evidence must respect certain conditions. Hence these conditions concern only the scope of the SPS Agreement, but the specific nature of certain sectors, such as the environment, may mean that somewhat different principles have to be applied.

Article 5(7) of the SPS agreement includes certain specific rules:

- The measures must be of a provisional nature pending the availability of more reliable scientific data. However this provisional nature is linked to the development of scientific knowledge rather than to a time factor.

- Research must be carried out to elicit the additional scientific data required for a more objective assessment of the risk.

- The measures must be periodically reviewed to take account of new scientific data. The results of scientific research should make it possible to complete the risk evaluation and if necessary to review the measures on the basis of the conclusions.

- Hence the reasonable period envisaged in the SPS Agreement includes the time needed for completion of the necessary scientific work and, besides, the time needed for performance of a risk evaluation based on the conclusions of this scientific work. It should not be possible to invoke budgetary constraints or political priorities to justify excessive delays in obtaining results, re-evaluating the risk or amending the provisional measures.

Research could also be conducted for the improvement of the methodologies and instruments for assessing risk, including greater integration of all pertinent factors (e.g. socio-economic information, technological perspectives).

The measures, although provisional, shall be maintained as long as the scientific data remain incomplete, imprecise or inconclusive and as long as the risk is considered too high to be imposed on society.

Maintenance of the measures depends on the development of scientific knowledge, in the light of which they should be reevaluated. This means that scientific research shall be continued with a view to obtaining more complete data.

Measures based on the precautionary principle shall be reexamined and if necessary modified depending on the results of the scientific research and the follow up of their impact.

6.4. The burden of proof

- Community rules and those of many third countries enshrine the principle of prior approval (positive list) before the placing on the market of certain products, such as drugs, pesticides or food additives. This is one way of applying the precautionary principle, by shifting responsibility for producing scientific evidence. This applies in particular to substances deemed "a priori" hazardous or which are potentially hazardous at a certain level of absorption. In this case the legislator, by way of precaution, has clearly reversed the burden of proof by requiring that the substances be deemed hazardous until proven otherwise. Hence it is up to the business community to carry out the scientific work needed to evaluate the risk. As long as the human health risk cannot be evaluated with sufficient certainty, the legislator is not legally entitled to authorise use of the substance, unless exceptionally for test purposes.

- In other cases, where such a prior approval procedure does not exist, it may be for the user, a private individual, a consumer association, citizens or the public authorities to demonstrate the nature of a danger and the level of risk posed by a product or process. Action taken under the head of the

precautionary principle must in certain cases include a clause reversing the burden of proof and placing it on the producer, manufacturer or importer, but such an obligation cannot be systematically entertained as a general principle. This possibility should be examined on a case-by-case basis when a measure is adopted under the precautionary principle, pending supplementary scientific data, so as to give professionals who have an economic interest in the production and/or marketing of the procedure or product in question the opportunity to finance the necessary research on a voluntary basis.

Measures based on the precautionary principle may assign responsibility for producing the scientific evidence necessary for a comprehensive risk evaluation.

7. CONCLUSION

This Communication of a general scope sets out the Commission's position as regards recourse to the precautionary principle. The Communication reflects the Commission's desire for transparency and dialogue with all stakeholders. At the same it is provides concrete guidance for applying the precautionary principle.

The Commission wishes to reaffirm the crucial importance it attaches to the distinction between the decision to act or not to act, which is of an eminently political nature, and the measures resulting from recourse to the precautionary principle, which must comply with the general principles applicable to all risk management measures. The Commission also considers that every decision must be preceded by an examination of all the available scientific data and, if possible, a risk evaluation that is as objective and comprehensive as possible. A decision to invoke the precautionary principle does not mean that the measures will be adopted on an arbitrary or discriminatory basis.

This Communication should also contribute to reaffirming the Community's position at international level, where the precautionary principle is receiving increasing attention. However the Commission wishes to stress that this Communication is not meant to be the last word; rather, it should be seen as the point of departure for a broader study of the conditions in which risks should be assessed, appraised, managed and communicated.

ANNEX I

LEGAL AND OTHER BASES FOR EC DECISIONS ON PRECAUTIONARY MEASURES

The legislative texts

Ref. 1

The EC Treaty, incorporating provisions already introduced by the Maastricht Treaty of 1992, and more specifically Article 174 thereof, states:

- "2. Community policy on the environment shall aim at a high level of protection taking into account the diversity of situations in the various regions of the Community. It shall be based on the precautionary principle and on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay ...

3. In preparing its policy on the environment, the Community shall take account of:

- available scientific and technical data, ...

- the potential benefits and costs of action or lack of action ..."

Ref. 2

Article 6 of the EC Treaty provides that "environmental protection requirements must be integrated into the definition and implementation of the Community policies and activities referred to in Article 3, in particular with a view to promoting sustainable development".

Ref. 3

Hence, Article 95(3) of the EC Treaty provides that: "The Commission, in its proposals envisaged in paragraph 1 concerning health, safety, environmental protection and consumer protection, will take as a base a high level of protection, taking account in particular of any new development based on scientific facts. Within their respective powers, the European Parliament and the Council will also seek to achieve this objective".

Ref. 4

The first paragraph of Article 152 of the EC Treaty provides that: "A high level of human health protection shall be ensured in the definition and implementation of all Community policies and activities".

Case law

Ref. 5

In its judgement on the validity of the Commission's decision banning the exportation of beef from the United Kingdom to reduce the risk of BSE transmission (Judgements of 5 May 1998, cases C-157/96 and C-180/96), the Court held:

"Where there is uncertainty as to the existence or extent of risks to human health, the institutions may take protective measures without having to wait until the reality and seriousness of those risks become fully apparent." (Grounds 63). The next section fleshes out the Court's reasoning: "That approach is borne out by Article 130r(1) of the EC Treaty, according to which Community policy on the environment is to pursue the objective inter alia of protecting human health. Article 130r(2) provides that that policy is to aim at a high level of protection and is to be based in particular on the principles that preventive action should be taken and that environmental protection requirements must be integrated into the definition and implementation of other Community policies."(Grounds 64).

Ref. 6

In another judgement concerning protection of consumer health (Judgement of 16 July 1998, case T- ', the Court of First Instance cites the above passage from the BSE judgement (see Grounds 66 and 67).

Ref. 7

Recently, in the Order of 30 June 1999 (Case T . the President of the Court of First Instance confirmed the positions expressed in the abovementioned judgements. Note that this judgement contains an explicit reference to the precautionary principle and affirms that "requirements linked to the protection of public health should undoubtedly be given greater weight that economic considerations."

Policy orientations

Ref. 8

In its Communication of 30 April 1997 on consumer health and food safety (COM(97) 183 final), the Commission states: "the Commission will be guided in its risk analysis by the precautionary principle, in cases where the scientific basis is insufficient or some uncertainty exists".

Ref. 9

In its Green Paper on the General Principles of Food Law in the European Union of 30 April 1997 (COM(97) 176 final), the Commission reiterates this point:

"The Treaty requires the Community to contribute to the maintenance of a high level of protection of public health, the environment and consumers. In order to ensure a high level of protection and coherence, protective measures should be based on risk assessment, taking into account all relevant risk factors, including technological aspects, the best available scientific evidence and the availability of inspection sampling and

testing methods. Where a full risk assessment is not possible, measures should be based on the precautionary principle."

Ref. 10

In its Resolution of 10 March 1998 on the Green Paper, the European Parliament states:

"European food law is based on the principle of preventive protection of consumer health;

stresses that policy in this area must be founded on a scientifically-based risk analysis supplemented, where necessary, by appropriate risk management based on the precautionary principle;

invites the Commission to anticipate possible challenges to Community food law by WTO bodies by requesting the scientific committees to present a full set of arguments based on the precautionary principle."

Ref. 11

The Joint Parliamentary Committee of the EEA (European Economic Area), adopted a Resolution on Food Safety in the EEA on 16 March 1999. In this connection, on the one hand, it "emphasises the importance of application of the precautionary principle" (point 5) and, on the other, "reaffirms the over-riding need for a precautionary approach within the EEA to the assessment and evaluation of applications for the marketing of GMOs intended to enter the food chain..." (point 13).

Ref. 12

On 13 April 1999, the Council adopted a Resolution urging the Commission, inter alia, "to be in the future even more determined to be guided by the precautionary principle in preparing proposals for legislation and in its other consumer-related activities and develop as a priority clear and effective guidelines for the application of this principle".

ANNEX II

THE PRECAUTIONARY PRINCIPLE IN INTERNATIONAL LAW

The environment

Although applied more broadly, the Precautionary Principle has been developed primarily in the context of environmental policy.

Hence, the Ministerial Declaration of the Second International Conference on the Protection of the North Sea (1987) states that "*in order to protect the North Sea from possibly damaging effects of the most dangerous substances, a precautionary approach is necessary which may require action to control inputs of such substances even before a causal link has been established by absolutely clear scientific evidence*". A new Ministerial Declaration was delivered at the Third International Conference on the Protection of the North Sea (1990). It fleshes out the earlier declaration, stating that "*the participants ... will continue to apply the precautionary principle, that is to take action to avoid potentially damaging impacts of substances that are persistent, toxic and liable to bioaccumulate even where there is no scientific evidence to prove a causal link between emissions and effects*"

The Precautionary Principle was explicitly recognised during the UN Conference on Environment and Development (UNCED) in Rio de Janeiro 1992 and included in the so-called Rio Declaration. Since then the Precautionary Principle has been implemented in various environmental instruments, and in particular in global climate change, ozone depleting substances and biodiversity conservation.

The precautionary Principle is listed as Principle 15 of the Rio Declaration among the principles of general rights and obligations of national authorities:

"In order to protect the environment, the precautionary approach should be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation".

Principle 15 is reproduced in similar wording in:

1. The preamble of the Convention of Biological Diversity (1992):

(...) *Noting also that where there is a threat of significant reduction or loss of biological diversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimise such a threat* (...)

2. In article 3 (Principles) of the Convention of Climate Change (1992):

(..)The Parties should take *precautionary measures to anticipate, prevent or minimise the causes of climate change and mitigate its adverse effects. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures, taking into account that policies and measures to deal with climate change should be cost-effective so as to ensure global benefits at the lowest possible cost.* To achieve this, such policies and measures should take into account different socio-

economic contexts, be comprehensive, cover all relevant sources, sinks and reservoirs of greenhouse gases and adaptation, and comprise all economic sectors. Efforts to address climate change may be carried out cooperatively by interested Parties.

In the Paris Convention for the protection of the marine environment of the north-east Atlantic (September 1992), the precautionary principle is defined as the principle "*by virtue of which preventive measures are to be taken when there are reasonable grounds for concern that substances or energy introduced, directly or indirectly, into the marine environment may bring about hazards to human health, harm living resources and marine ecosystems, damage amenities or interfere with other legitimate uses of the sea, even when there is no conclusive evidence of a causal relationship between the inputs and the effects.*"

Recently, on 28 January 2000, at the Conference of the Parties to the Convention on Biological diversity, the Protocol on Biosafety concerning the safe transfer, handling and use of living modified organisms resulting from modern biotechnology confirmed the key function of the Precautionary Principle. In fact, article 10, paragraph 6 states: *"Lack of scientific certainty due to insufficient relevant scientific information and knowledge regarding the extent of the potential adverse effects of a living modified organism on the conservation and sustainable use of biological diversity in the Party of import, taking also into account risks to human health, shall not prevent that Party from taking a decision, as appropriate, with regard to the import of living modified organism in question as referred to in paragraph 3 above, in order to avoid or minimize such potential adverse effects".*

Besides, the preamble to the WTO Agreement highlights the ever closer links between international trade and environmental protection.

The WTO SPS Agreement

Although the term „Precautionary Principle" is not explicitly used in the WTO Agreement on the Application of Sanitary and Phytosanitary Measures (SPS), the Appellate Body on EC measures concerning meat and meat products (Hormones) (AB-1997-4, paragraph 124) states that it finds reflection in Article 5.7 of this Agreement. Art 5.7 reads:„*In cases where relevant scientific evidence is insufficient, a Member may provisionally adopt sanitary or phytosanitary measures on the basis of available scientific information, including that from the relevant international organizations as well as from sanitary and phytosanitary measures applied by other Members. In such circumstances, Members shall seek to obtain the additional information necessary for a more objective assessment of risk and review the sanitary or phytosanitary measure accordingly within a reasonable period of time.*"

The Appellate Body on Hormones (Paragraph 124) recognises...." that there is no need to assume that Article 5.7 exhausts the relevance of a precautionary principle". Moreover, Members have the "right to establish their own level of sanitary protection, which level may be higher (i.e. more cautious) than that implied in existing international standards, guidelines and recommendations". Furthermore, it accepts that "responsible, representative governments commonly act from perspectives of prudence and precaution where risks of irreversible, e.g. life-terminating, damage to human health are concerned." The Appellate Body on Japan-Measures affecting agricultural products (AB-1998-8, paragraph 89) clarifies the four requirements which must be met in order to adopt and

maintain provisional SPS measures. A Member may provisionally adopt an SPS measure if this measure is:

1) imposed in respect of a situation where „relevant scientific information is insufficient"; and

2) adopted "on the basis of available pertinent information".

Such a provisional measure may not be maintained unless the Member which adopted the measure:

1) „seek(s) to obtain the additional information necessary for a more objective risk assessment"; and

2) „review(s) the ... measure accordingly within a reasonable period of time"

These four requirements are clearly cumulative and are equally important for the purpose of determining consistency with the provision of Art 5.7. Whenever one of these four requirements is not met, the measure at issue is inconsistent with Art 5.7. As to what constitutes a „reasonable period of time" to review the measure, the Appellate Body points out (Paragraph 93), that this has to be established on a case-by-case basis and depends on the specific circumstances of each case, including the difficulty of obtaining the additional information necessary for the review *and* the characteristics of the provisional SPS measure.

ANNEX III

THE FOUR COMPONENTS OF RISK ASSESSMENT

An attempt to complete as far as possible these four components should be performed before action is taken.

Hazard identification means identifying the biological, chemical or physical agents that may have adverse effects. A new substance or biological agent may reveal itself through its effects on the population (illness or death), or on the environment and it may be possible to describe the actual or potential effects on the population or environment before the cause is identified beyond doubt.

Hazard characterisation consists of determining, in quantitative and/or qualitative terms, the nature and severity of the adverse effects associated with the causal agents or activity. It is at this stage that a relationship between the amount of the hazardous substance and the effect has to be established. However, the relationship is sometimes difficult or impossible to prove, for instance because the causal link has not been established beyond doubt.

Appraisal of exposure consists of quantitatively or qualitatively evaluating the probability of exposure to the agent under study. Apart from information on the agents themselves (source, distribution, concentrations, characteristics, etc.), there is a need for data on the probability of contamination or exposure of the population or environment to the hazard.

Risk characterisation corresponds to the qualitative and/or quantitative estimation, taking account of inherent uncertainties, of the probability, of the frequency and severity of the known or potential adverse environmental or health effects liable to occur. It is established on the basis of the three preceding and closely depends on the uncertainties, variations, working hypotheses and conjectures made at each stage of the process. When the available data are inadequate or non-conclusive, a prudent and cautious approach to environmental protection, health or safety could be to opt for the worst-case hypothesis. When such hypotheses are accumulated, this will lead to an exaggeration of the real risk but gives a certain assurance that it will not be underestimated.

ANNEX 2

Copy of [2009] EWCA Civ 1061

Neutral Citation Number v 1061

Case No

IN THE HIGH COURT OF JUSTICE
COURT OF APPEAL (CIVIL DIVISION)
ON APPEAL FROM QUEEN'S BENCH
DIVISION ADMINISTRATIVE COURT
The Hon Mr Justice Blair
C

Royal Courts of Justice
Strand, London, WC2A 2LL

Date: 20 October 2009

Before :
LORD JUSTICE MUMMERY
LORD JUSTICE LONGMORE
and
LORD JUSTICE SULLIVAN

- -

Between :

PETER IS EASTON BAVENTS CONSERVATION	**Respondents/Claimants**
- and -	
NATURAL ENGLAND	**Appellant/Defendant**
- and-	
WAVENEY DISTRICT COUNCIL	Interested Party

- -

(Transcript of the Handed Down Judgment of
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- -

John Howell QC and Ms Jane Collier (instructed by Browne Jacobson LLP) for the **Claimant**
Gregory Jones and James Neill (instructed by Parkinson Wright) for the **Defendant**
Christopher Balogh (instructed by Waveney District Council) **for the Interested Party**

Hearing dates : **6th/7th October 2009**

- -

Judgment

Lord Justice Sullivan :

Introduction

1. This is an appeal against the Order of Blair J. quashing the Appellant's confirmation of the Pakefield to Easton Bavents Site of Special Scientific Interest ("the SSSI") insofar as it related to the areas to the east, and to the west, of the Easton Bavents cliffs shown on a plan annexed to the Order. Blair J's Order left within the SSSI a thin strip of land comprising the Easton Bavents cliffs ("the cliffs") as they stood at the date of his judgment on 5th December 2008, and the remainder of the area included within the SSSI to the north of the cliffs.

2. Before Blair J. the Respondents challenged the lawfulness of the confirmation of the SSSI on two grounds, referred to as Ground A and Ground G in the judgment. Blair J. rejected Ground A, but granted the claim for judicial review on Ground G. The Appellant contends that Blair J. erred in granting the claim on Ground G. In a Respondent's Notice, the Respondents contend that Blair J. erred in rejecting Ground A.

Statutory Provisions

3. The SSSI was confirmed by the Appellant's predecessor, English Nature, on 28th June 2006 under section 28 of the *Wildlife and Countryside Act 1981* as amended (the 1981 Act), the relevant provisions of which were, as at the date of confirmation, as follows:

> "(1) Where [English Nature] are of the opinion that any area of land is of special interest by reason of any of its flora, fauna or geological or physiographical features, it shall be the duty of [English Nature] to notify that fact –
>
> (a) to every local planning authority in whose area the land is situated;
>
> (b) to every owner and occupier of any of that land; and
>
> (c) to the Secretary of State.
>
> (3) A notification under subsection (1) shall specify the time (not being less than three months from the date of giving the notification) within which, and the manner in which, representations or objections with respect to it may be made; and [English Nature] shall consider any representation or objection duly made.
>
> (4) A notification under subsection (1)(b) shall also specify –
>
> (a) The flora, fauna, or geological or physiographical features by reason of which the land is of special interest, and
>
> (b) Any operations appearing to [English Nature] to be likely to damage that flora or fauna or those features,

And shall contain a statement of [English Nature's] views about the management of the land (including any views [English Nature] may have about the conservation and enhancement of that flora or fauna or those features).

(5) Where a notification under subsection (1) has been given, [English Nature] may within the period of nine months beginning with the date on which the notification was served on the Secretary of State either –

(a) give notice to the persons mentioned in subsection (1) withdrawing the notification; or

(b) give notice to those persons confirming the notification (with or without modifications)."

Since the date of confirmation these statutory provisions have been amended and these functions which were exercised by English Nature, have been transferred to Natural England.

4. To the north of the cliffs, at Easton Marshes, there is within the SSSI the southern most part of the Benacre to Easton Bavents Special Protection Area ("the SPA") classified under Council Directive 79/ EC on the conservation of wild birds ("the Birds Directive"). The SPA is protected by Article 6 of Council Directive 9 C ("the Habitats Directive"), as is the Benacre to Easton Bavents Lagoons Special Area of Conservation ("the SAC") which was adopted as a site of community importance under the latter Directive. So far as material, Article 6 of the Habitats Directive provides:

"2. Member States shall take appropriate steps to avoid, in the special areas of conservation, the deterioration of natural habitats and the habitats of species as well as disturbance of the species for which the areas have been designated, in so far as such disturbance could be significant in relation to the objectives of this Directive.

3. Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public."

Background

5. The background to the confirmation of the SSSI and the Respondents' claim for judicial review is set out in some detail in paragraphs 1-33 of the judgment of Blair J. [2008] EWHC 54 (Admin) and a brief summary will suffice for the purposes of this appeal.

6. The SSSI is located along, and inland from, the Suffolk coast between Southwold and Lowestoft. The cliffs are at the southernmost end of the SSSI. Over the centuries the cliffs have been eroded by the sea, and that erosion continues. The First Respondent lives in Easton Bavents. The boundary of his property is now 80m from the cliff edge. His house "The Warren" is 92m from the cliff edge. When the SSSI was notified on 8th December 2005 these figures were 82m and 94m, respectively. Other properties are much closer to the cliff edge. We were told the boundary of the closest property, "Thursley" was approximately 2m from the cliff edge in 2005; by 2009 about 1m of the garden had been lost to the sea.

7. The First Respondent and other residents formed a group called Easton Bavents Conservation, the Second Respondent. Since 2003 the Second Respondent has constructed a "sacrificial sea defence" approximately one kilometre long, 8m high and 20m wide on the seaward side of the cliffs. The bank is called a "sacrificial sea defence" because it is constructed of "soft" materials such as soil, and it is intended that it shall erode at its seawards edge so as to maintain the coarse sediment inputs to the shoreline. The material lost by erosion was to be replenished each year as part of an ongoing programme. The initial construction, and the continuous replenishment, of such a large bank could not sensibly be described as the deposit of waste, as was suggested to Blair J. (para.5 Judgment). It was a continuing engineering operation, and a substantial one at that, which required both planning permission and a consent under section 16 of the Coast Protection Act 1949. Neither a planning permission nor a consent was obtained. Since 2005 there has been no replenishment of the bank and much of it has been eroded by the sea.

8. The cliffs were originally included in an SSSI in 1962 and the site was re-notified in 1989 under the new provisions of the 1981 Act. By December 2005 a large proportion of the original SSSI, including the cliffs, had been lost to the sea as a result of coastal erosion. Thus, the notification of the SSSI on 8th December 2005 was not, at least in the case of the cliffs, the result of the discovery of some new feature of special scientific interest; the boundary of the SSSI was adjusted to reflect the new position of the cliffs and English Nature's assessment of the pace of coastal erosion over the next 50 years. As a result, the new SSSI boundary included an area of up to 225m on the landward side of the cliff face as it stood in 2005. This area included the First Respondent's house and he, together with other affected residents, was notified in accordance with the provisions of section 28(1)(b) of the 1981 Act.

9. They objected to the notification of the SSSI because they feared that if confirmed it would prevent them from continuing to replenish the sacrificial sea defence. They particularly objected to one of the operations specified under subsection 28(4)(b) [OLDs] listed in Annex 3 to the notification, number 19 which required them to obtain consent under the 1981 Act for the:

> "Erection, maintenance, and repair of sea defences or coast protection works, including cliff or landslip drainage or stabilisation measures."

All of the objections to the notification of the SSSI were considered in a Report ("the Report") prepared by Officers for the Council of English Nature meeting on 28th June 2006. Having considered the Report the Council confirmed the designation. The Respondents' judicial review proceedings challenging that decision were commenced on 21st September 2006. Against this background, I will consider the two grounds of challenge.

Ground A

10. Blair J. rejected this ground of challenge. In my judgment, he was clearly right to do so since the Respondents' submissions, which were supported by the Interested Party, were founded firstly on a misconception as to what was the geological feature that was, in English Nature's opinion, of special interest; and secondly upon the proposition that "conservation" is synonymous with "preservation".

11. Mr Jones submitted that English Nature had approached both the notification and the confirmation of the SSSI on the basis that "the process of exposure" of the cliffs was a geological feature of special interest. He submitted that English Nature was wrong to do so because "the act of exposure was not a geological feature". Had English Nature approached the notification and confirmation of the SSSI on that basis it would have been in error, but when Mr Jones was asked to identify those passages in the Notification, the Supporting Information Supplementing the Notification Package, and the Report ("the documents") on which he relied in support of this submission, he was unable to identify any passage which might have suggested that English Nature thought that the act, or process, of exposure of the cliffs was a geological feature.

12. The documents understandably refer to the fact that exposure of the cliffs was taking place, and would continue to take place, as a result of "continuing coastal processes", not least because English Nature was concerned to take coastal erosion into account when drawing the boundary of the SSSI. However, the geological features of special interest were said to be: the "Pleistocene vertebrate palaeontology and Pleistocene/Quaternary of East Anglia at Easton Bavents", referred to for convenience during the hearing as "the fossils" and "the sediments" respectively. The Report said that the sediments were "of national importance for the stratigraphical and palaeo-environmental study of the Lower Pleistocene in Britain", and continued:

> "These geological features include exposures of the three major elements of the Norwich Crag Formation; the Crag itself (Chillesford Church Member), the Baventian Clay (Easton Bavents Member) and the Westleton Beds (Westleton Member)." (Report para. 1.3.1) (emphasis added)

13. Thus, English Nature was not saying that the act or process of exposure was a geological feature, it was saying that the geological features of special interest were not confined to the sediments behind the cliff face, but included the exposure. A geological exposure, as in the case of an exposed cliff or quarry face, is a geological feature. At the risk of stating the obvious, it is readily understandable that among the

reasons why such a geological feature might be of special interest would be the fact that it is exposed. As the Report explained:

> "As the cliff face has eroded geologists have been able to study the new sections in order to gather valuable scientific data, identify how the geological sequence is changing and use this environmental information to correlate the site more widely with other sites in the GCR and those outside of Great Britain. A three-dimensional picture of the landscape and associated depositional environments can then also be developed. Palaeo-environmental information derived from the site contributes to our understanding of how the environment responded to changes in climate."

14. Recognition that the geological features of special interest were not confined to the sediments, but included the exposure at the cliffs (not the act or process of the cliffs' exposure) disposes of the alternative submission advanced by Mr Jones: that if the act of exposure of the cliffs is not the geological feature of special interest, that feature must be the sediments and the fossils, and allowing nature to take its course will result in their destruction, not their conservation. In this respect, reliance was placed by both the Respondents and the Interested Party on the duty imposed by section 28G (2) of the 1981 Act on all public bodies, including English Nature, when the exercise of their functions is likely to affect the flora, fauna etc. in any SSSI:

> "to take reasonable steps, consistent with the proper exercise of [their] functions, to further the conservation and enhancement of the flora, fauna or geological or physiographical features by reason of which [the SSSI] is of special scientific interest."

15. In his submissions on behalf of the Interested Party, Mr Balogh also referred to the definition of "nature conservation" in section 131(6) of the *Environmental Protection Act 1990* (the 1990 Act):

> "In this part "nature conservation" means the conservation of flora, fauna or geological or physiographical features."

In my view, the definition of "nature conservation" in section 131(6) of the 1990 Act does not, for the purposes of this appeal, add anything of substance to the duty under section 28G(2) of the 1981 Act to further the conservation and enhancement of the geological features by reason of which this SSSI was designated.

16. The submission that English Nature's approach, to allow natural processes (in this case coastal erosion) to proceed freely, would result in the destruction rather than the conservation of those geological features is based upon two misconceptions:

i) that the geological features in question are confined to the sediments and did not include the exposure; and

ii) that "conservation" in this context means preservation of the status quo.

17. The Report explained why allowing natural processes to take their course would conserve the exposure:

> "The key management principle for coastal geological sites is to maintain exposure of the geological interest by allowing natural processes to proceed freely. Inappropriate construction of coastal defences can conceal rock exposures and result in the effective loss of the geological interest. In addition, any development which prevents or slows natural erosion can have a damaging effect. Erosion is necessary to maintain fresh geological outcrops. Reducing the rate of erosion usually results in rock exposures becoming obscured by vegetation and rock debris…...
>
> Conserving the geological exposures and the geomorphological features is not about preventing erosion but allowing their continued evolution."

18. Even if it is assumed that "conservation" in section 28G(2) means "preservation", allowing nature to take its course will "preserve" the exposure, while hindering those processes would harm it because that which is obscured will cease to be exposed. It is therefore, unnecessary to consider in any detail the meaning of "conservation" in section 28G(2), but since the Interested party has sought guidance on this aspect of the appeal, I will deal with the issue. There is no definition of "conservation" in the 1981 Act, and the parties were not able to point to a definition in any other enactment. Mr Balogh referred to the Convention Concerning the Protection of the World Cultural and National Heritage adopted by the General Conference of UNESCO on 16th November 1972, and to dictionary definitions. The former is, understandably, expressed in such general terms as to be of no material assistance, and the latter are of no assistance because we are not concerned with the meaning of "conservation" in isolation or in the abstract, but with the meaning of "conservation" in a particular statutory context: nature conservation. Whatever may be the meaning of conservation in other contexts, one would have thought that allowing natural processes to take their course, and not preventing or impeding them by artificial means from doing so, would be a well recognised conservation technique in the field of nature conservation. "Conservation" is not necessarily the same as "preservation", although in some, perhaps many, circumstances preservation may be the best way to conserve. Whether that is so in any particular case will be a matter, not for the lawyers, but for the professional judgement of the person whose statutory duty it is to conserve.

Ground G

19. Blair J. concluded that insofar as the notification and confirmation of the SSSI applied to "the authorisation of the maintenance of the Easton Bavents' sea defence" (but in that respect only) it was a "plan" within the meaning of Article 6(3) of the Habitats Directive (para. 106 judgment). He did not accept the Respondents' submission that the notification and confirmation of the SSSI was in that respect a "project" within the meaning of Article 6(3). In my judgement, he was correct to reject that submission. In the leading authority on the effect of Article 6(3), *Landelijke Vereniging tot Behould van de Waddenzee and another v Staatssecretaris van Landbouw, Natuurbeheer en Visserij C – 127/02 ECR 2004 I-07405 ("Waddenzee")*, the ECJ,

having noted that the Habitats Directive does not define the terms plan or project, referred to the definition of "project" in Article 1(2) of Directive 85/337/EEC ("the EIA Directive"):

> " the execution of constructions works or of other installations or schemes,
>
> - other interventions in the natural surroundings and landscape including those involving the extraction of mineral resources."

and said that it was relevant to defining the concept of plan or project in the Habitats Directive.

20. By no stretch of the imagination could the notification or confirmation of an SSSI, whether or not it included the "erection, maintenance and repair of sea defences or coast protection works...." among the list of OLDs under subsection 28(4)(b), be described as an "intervention" in the natural surroundings and landscape..." The notification and confirmation (to simplify matters I will refer only to notification when dealing with this issue) of an SSSI is not an intervention at all, it is a means of ensuring that any such intervention takes proper account of the features that are of special interest in the SSSI. Moreover, even if notification could sensibly be described as an "intervention", paragraph 19 of the OLDS, which prohibits the erection etc., without consent of artificial sea defences, could not possibly be described as an intervention in the "natural" surroundings. Any "intervention" would be the prevention (without consent) of man's attempts to intervene in the natural surroundings.

21. When pressed on this point Mr Jones referred to paragraph 26 of the ECJ's judgment in *Waddenzee* in which it said that the Habitats Directive:

> "seeks to prevent activities which are likely to damage the environment from being authorised without prior assessment of their impact on the environment."

When asked what was the "activity" upon which he relied, he replied that it was the making of the OLDs, which was an "activity [by English Nature] that prevents an activity". A process which ensures that activities which are likely to damage the environment are not authorised without prior assessment of their impact on environmental features of special interest is not itself an "activity", much less is it an activity which might be capable of damaging the environment.

22. Is notification of an SSSI a "plan" for the purposes of Article 6.3? Blair J. held that normally it was not (para.101 judgment). He was right to do so. I will consider below whether the qualification "normally" was justified. This case is concerned with the notification of SSSIs, but when considering whether such a notification amounts to a plan for the purposes of Article 6.3 it is important to bear in mind that SSSIs are only one among many areas or features that may be designated because of their special environmental qualities. By way of example, the Secretary of State lists buildings that are of special architectural or historic interest, schedules ancient monuments that are of national importance, and designates areas of archaeological importance that appear to him to merit treatment as such. Local planning authorities

designate as Conservation Areas those parts of their area that are of special architectural or historic interest the character or appearance of which it is desirable to preserve or enhance. Natural England has power to designate Areas of Outstanding Natural Beauty (AONBs) and, subject to confirmation by the Secretary of State, National Parks.

23. The common thread running through all of these provisions is that they "flag up" the special interest of the feature, and impose, or enable the imposition, of more stringent controls than would otherwise be imposed by the "normal" planning process over any activities which might harm it, thereby ensuring that before any plan or project that is likely to have an adverse impact upon it is authorised, full account will have been taken of that which is of special interest. Mr Jones submitted, consistently with his submission that notification of an SSSI was a plan, that some, at least, of these other designations would also be plans for the purposes of Article 6.3. I do not accept that submission: such notifications are not themselves plans, they are a means of ensuring that land use and other plans take proper account of environmental features of special interest.

24. Mr Jones referred us to Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment "("the Strategic Environmental Assessment (or SEA) Directive"). The SEA Directive does not define "plan or programme". The Commission's Guidance as to the implementation of the SEA Directive advises member states to adopt a similar approach to that adopted by the ECJ in respect of the EIA Directive, and states that:

> "The kind of document which in some Member States is thought of as a **plan** is one which sets out how it is proposed to carry out or implement a scheme or a policy. This could include, for example, land use plans setting out how land is to be developed, or laying down rules or guidance as to the kind of development which might be appropriate or permissible in particular areas, or giving criteria which should be taken into account in designing new development. Waste management plans, water resources plans, etc, would also count as plans for the purposes of the Directive if they fall within the definition in Article 2(a) and meet the criteria in Article 3. (para 3.5)."

The Office of the Deputy Prime Minister ("ODPM") published "A Practical Guide to the Strategic Environmental Assessment Directive" in September 2005. The Guide is instructive for two reasons. First, it contains in Appendix 1 an "Indicative list of plans and programmes subject to the SEA Directive". A lengthy list of plans of various kinds is set out. The notification of SSSIs is not included in the list. The list is only indicative, not determinative, as to what amounts to a plan for the purposes of the SEA Directive, but the second reason why the Guide is instructive is the fact that the characteristics of the plans in the list are very different from those of the notification of an SSSI. The list does not include any of the designations of other environmental features of special interest referred to in paragraph 22 above. Thus, the designation of an AONB or a National Park is not, of itself, a plan; whereas Areas of Outstanding Natural Beauty Management Plans and National Park Management Plans are, in the ODPM's view, plans for the purposes of the SEA Directive.

25. The particular characteristics of Development Plans in the United Kingdom's Town and Country Planning regime were highlighted by the ECJ in *Commission v UK* C-6/04, 20th October 2005, ECR 2005 I-09017. In paragraphs 55 and 56 of its judgment the ECJ said:

> "55. As the Commission has rightly pointed out, section 54A of the Town and Country Planning Act 1990, which requires applications for planning permission to be determined in the light of the relevant land use plans, necessarily means that those plans may have considerable influence on development decisions and, as a result, on the sites concerned.
>
> 56. It thus follows from the foregoing that, as a result of the failure to make land use plans subject to appropriate assessment of their implications for SACs, Article 6(3) and (4) of the Habitats Directive has not been transposed sufficiently clearly and precisely into United Kingdom law and, therefore, the action brought by the Commission must be held well founded in this regard."

Section 54A of the 1990 Act has been replaced by section 38(6) of the Planning and Compensation Act 2004 which provides that:

> "If regard is to be had for the purpose of any determination to be made under the Planning Acts the determination must be made in accordance with the plan unless material considerations indicate otherwise."

26. The Development Plan does not define those activities for which planning permission must be obtained – that is the function of Part III of the 1990 Act and the General and Special Development Orders made under the Act – it describes the circumstances in which planning permission is likely to be permitted or refused for those activities which do require planning permission. Sites are allocated for housing and other forms of development, and there are policies to the effect that "permission will normally be granted/refused for...." Thus, Development Plans effectively create a powerful statutory presumption in favour of, or against, permitting certain types of development in particular locations.

27. The list of OLDs in a notification of an SSSI, setting out those operations which must not be carried out unless one of the conditions in section 28E(3) is fulfilled, or planning permission is granted (section 28P(4)(a)), is no more a "plan" than is the requirement to obtain Conservation Area Consent for certain operations in a Conservation Area. Mr Jones placed great emphasis on the totality of the notification "package" which, by virtue of subsection 28(4) included the:

> "Statement of [English Nature's] views about the management of the land (including any views [English Nature] may have about the conservation and enhancement of that flora or fauna or those features)."

28. However, the statement of English Nature's views was just that, a statement of its views with no further statutory significance. The statement made it clear that it did not constitute consent for any of the OLDs. For those OLDs requiring planning permission, including the erection etc. of sea defences, the views of English Nature could not in any event be determinative of the question whether the operation would be able to be lawfully carried out. While a grant of planning permission would obviate the need for a consent under section 28E(3)(a), the converse is not the case. The views of English Nature, whether expressed in the statement or otherwise, would be one, but only one, of the material considerations to be considered by the local planning authority, or on appeal the Secretary of State. The lack of any "bite" in a statement of views under sub-section 28(4) is confirmed by the other provisions in the 1981 Act relating to the management of the SSSIs: section 28J which enables English Nature to formulate "Management Schemes"; and section 28K which enables English Nature to serve "Management Notices" if owners or occupiers do not give effect to Management Schemes.

29. For all these reasons I consider that a notification "package" under section 28 of the 1981 Act is most certainly not a plan for the purposes of Article 6.3 of the Habitats Directive, and would delete the qualification "normally" in paragraph 101 of Blair J's judgment. In paragraph 104 of the judgment Blair J. set out a passage in the Report which, in his view, predetermined the question whether the operations in paragraph 19 of the OLDs (the erection etc. of sea defences) would be permitted. In my judgment, the Report did not purport to, and could not in any event, predetermine whether such operations would be permitted. The Report contained the Officers' professional advice to the Council Members of English Nature. It no more predetermined the issue of whether permission would be granted than any report of a Planning Officer to the council members of a Local Planning Authority. The passage cited is not in a part of the Report which purports to set out policies or proposals for future action, it is part of the Officers' response to the objections from Easton Bavents Ltd.

30. The passage cited by Blair J. is immediately followed by this paragraph dealing with "Development issues":

> "Any proposal for the construction of coastal defences should be subject to the Town and Country Planning legislation, in respect of which English Nature is a statutory consultee where development is proposed within an SSSI, and decisions are made by the Local Planning Authority. This provides a process whereby all material considerations, including the special interest of the site and the case for protecting property and homes can be fully considered."

This passage makes it clear beyond any doubt that, far from predetermining the question, the Officers of English Nature were advising the Council of English Nature that whether permission should be granted for the construction of sea defences would have to be determined by the Local Planning Authority through the planning process, wherein the site's special scientific interest would be one, but not the only, material consideration.

31. Since the notification of the SSSI did not amount to a "plan or project" for the purposes of Article 6.3 the issue of likelihood of significant effect on the SPA does

not arise, but out of deference to the parties' submissions on the point I will deal with it, albeit briefly. The ECJ's decision in *Waddenzee* makes it clear that "the significant effect" referred to in Article 6.3 is a significant effect on the site's conservation objectives. It is not suggested by the Respondents that there is likely to be a significant effect on the SAC. Nor did they, or anyone else, suggest prior to the confirmation of the SSSI that an appropriate assessment was required in respect of the SPA.

32. When the matter was raised, in the Grounds for Judicial Review, the Appellant instructed Dr Lee, an Engineering Geomorphologist , to advise as to the predicted physical effects of maintaining the Respondents' sacrificial sea defences. In the light of Dr Lee's conclusions as to these physical effects a Joint Report ("the Joint Report") was prepared by two of Natural England's employees: Mr Reach, a Senior Specialist in Marine Ecology and Mr Robinson, a member of the East Suffolk Land and Sea Management Team. The Joint Report considered the implications of the physical effects found by Dr Lee for the SPA's conservation objectives. In summary, the Joint Report concluded that there would be no significant effect.

33. The Respondents then produced a report from Professor Vincent, a Physical Oceanographer with particular interests in coastal and near shore processes. He was asked to advise whether it was possible that not maintaining the sacrificial sea defences and permitting the erosion of the cliffs could result in significant likely physical effects on the SPA. In his Report dated 17th October 2008, Professor Vincent said:

> "I do not comment on the implications for nature conservation interests of significant physical effects on Easton Broad, as this is not within my area of expertise."

In summary, Professor Vincent concluded that:

> "the risk of significant likely physical effects on the barrier beach in front of Easton Broad, part of the SPA and SAC, by 2050 cannot be discounted."

34. Dr Lee was asked to consider Professor Vincent's conclusions. He pointed out that Professor Vincent had not described what he meant by "significant physical effects on the barrier beach"; and said that:

> "The absence of justification of [Professor Vincent's] assumptions and their questionable validity casts significant doubt on the reliability of Professor Vincent's conclusions about the extent of beach build up north of the [sacrificial sea defences]."

Dr Lee said that his conclusions were not altered by anything in the Vincent Report. Having considered both the Vincent Report and Dr Lee's response Messrs Reach and Robinson confirmed that the views expressed in their Joint Report remained unchanged.

35. Mr Jones submitted that this was not sufficient to avoid a breach of Article 6.3. He contended that the mere fact that English Nature had not, when confirming the notification, considered the question whether there might be a significant effect on the SPA by reason of preventing the maintenance of the Respondents' sea defences was sufficient to amount to a breach of Article 6.3. I do not accept that submission. The ECJ's decision in *Waddenzee* makes it clear that the requirement for an appropriate assessment is conditional on there being:

> "a probability or a risk that the [plan or project] will have significant effects on the site concerned." (para. 43)

36. Notwithstanding the word "likely" in Article 6.3 the precondition before there can be a requirement to carry out an appropriate assessment is not that significant effects are probable, a risk is sufficient. The nature of that risk is explained in para. 44 of the ECJ's judgment:

> "44. In the light, in particular, of the precautionary principle, which is one of the foundations of the high level of protection pursued by Community policy on the environment, in accordance with the first subparagraph of Article 174(2) EC, and by reference to which the Habitats Directive must be interpreted, such a risk exists if it cannot be excluded on the basis of objective information that the plan or project will have significant effects on the site concerned (see, by analogy, inter alia Case C-180/96 United Kingdom v Commission [1998] ECR I-2265, paragraphs 50, 105 and 107). Such an interpretation of the condition to which the assessment of the implications of a plan or project for a specific site is subject, which implies that in case of doubt as to the absence of significant effects such an assessment must be carried out, makes it possible to ensure effectively that plans or projects which adversely affect the integrity of the site concerned are not authorised, and thereby contributes to achieving, in accordance with the third recital in the preamble to the Habitats Directive and Article 2(1) thereof, its main aim, namely, ensuring biodiversity through the conservation of natural habitats and of wild fauna and flora."

37. In my judgement, a breach of Article 6.3 is not established merely because, some time after the "plan or project" has been authorised, a third party alleges that there was a risk that it would have a significant effect on the site which should have been considered, and since that risk was not considered at all it cannot have been "excluded on the basis of objective information that the plan or project will have significant effects on the site concerned". Whether a breach of Article 6.3 is alleged in infraction proceedings before the ECJ by the European Commission (see *Commission of the European Communities v Italian Republic* Case C-179/06, para. 39), or in domestic proceedings before the courts in member states, a claimant who alleges that there was a risk which should have been considered by the authorising authority so that it could decide whether that risk could be "excluded on the basis of objective information", must produce credible evidence that there was a real, rather than a hypothetical, risk which should have been considered.

38. In the present case there was no such evidence prior to confirmation. It simply did not occur to anyone, including the Respondents, that there was a risk to the SPA which required an assessment under Article 6.3. Nor was there such evidence after confirmation. The question was not whether there might be physical effects on Easton Broad if the Respondents' sea defences to the south were not maintained, but whether such physical effects were "likely to undermine the conservation objectives" of the SPA" (see paras.47 and 48 of *Waddenzee*, which must be read together with the approach to likelihood in paras.43 and 44 of the judgment). Professor Vincent very properly disclaimed any expertise in nature conservation. It follows that, even if the notification/confirmation of the SSSI was a plan or project for the purposes of Article 6.3, there was no breach of that Article.

Discretion

39. Since the question of discretion does not arise, I would merely say that I doubt that it was appropriate for Blair J. to apply Lord Hoffmann's reasoning on that issue in *Berkeley v Secretary of State for the Environment* [2001] 2 AC 603 to this case. *Berkeley* was concerned with the EIA Directive and the opportunity for public debate about the possible environmental impact of projects subject to that Directive prior to their authorisation is a vital part of the EIA process: see Lord Hoffmann's speech at page 615. By contrast, Article 6 of the Habitats Directive does not require the involvement of the public in the "appropriate assessment". It was for English Nature to decide whether an appropriate assessment was required. If it had decided that such an assessment was required, the opinion of the general public would have been obtained as part of the assessment process only if English Nature had considered that it was "appropriate" to do so: see Article 6.3. As Lord Hoffmann said in the later case of *R. (on the application of Edwards) v The Environment Agency* [2008] UKHL 22 at para.63, the speeches in *Berkeley* need to be read in context, and both the nature of the flaw in the decision and the ground for exercise of the discretion have to be considered.

40. I am not persuaded, therefore, that had there been a breach of the Habitats Directive it would have been inappropriate on the very unusual facts of this particular case, for the court to exercise its discretion not to quash the confirmation of the SSSI. In this context, I would draw particular attention to three matters:

(a) The lack of any evidence to contradict the conclusions in the Joint Report.

(b) The real purpose of these proceedings is not to secure the protection of the SPA, but to enable the continued replenishment of the Respondents' sacrificial sea defences.

(c) The construction of the sacrificial sea defences was not lawful, and their continued replenishment would be lawful only if carried out with both planning permission and a consent under section 16 of the Coast Protection Act 1949.

41. No application has been made for either a planning permission or a consent under section 16, and in my view the court should be slow to grant relief which is, in reality, intended to facilitate the retention of works that are unlawful. I am not unsympathetic to the plight of the First Respondent and the other residents who can see the cliff face remorselessly approaching the boundaries of their properties. But they are, with

respect, aiming at the wrong target in challenging the confirmation of the SSSI. Their only lawful course is to apply for planning permission and a section 16 consent for the sacrificial sea defence. On such an application the Interested Party, or on appeal, or if the application is called in, the Secretary of State, will be able to look at the problem in the round, giving due weight both to their rights under Article 8 of the ECHR, and to the special scientific interest of the SSSI, as two, among what are likely to be many other, material considerations.

Conclusion

42. I would allow the Appellant's appeal on Ground G, dismiss the Respondents' cross-appeal on Ground A, and set aside the Order of Blair J quashing the confirmation of part of the SSSI.

Lord Justice Longmore:

43. I agree.

Lord Justice Mummery:

44. I also agree.

ANNEX 3

Copy of [2015] UKSC 52, [2015] 1 WLR 3710

Trinity Term
[2015] UKSC 52
On appeal from: [2013] EWCA Civ 1657

JUDGMENT

R (on the application of Champion) (Appellant) *v* North Norfolk District Council and another (Respondents)

before

Lord Neuberger, President
Lord Mance
Lord Clarke
Lord Carnwath
Lord Toulson

JUDGMENT GIVEN ON

22 July 2015

Heard on 23 June 2015

Appellant	*Respondents*
Richard Buxton	C Lockhart-Mummery QC Zack Simons
(Instructed by Richard Buxton Environmental and Public Law)	(Instructed by Howes Percival)

LORD CARNWATH: (with whom Lord Neuberger, Lord Mance, Lord Clarke and Lord Toulson agree)

The issues

1. The appeal concerns a proposed development by Crisp Maltings Group Ltd ("CMGL") at their Great Ryburgh plant in Norfolk, in the area of the North Norfolk District Council ("the council"). It was opposed by the appellant, Mr Matthew Champion, a member of the Ryburgh Village Action Group. The proposal involved the erection of two silos for 3,000 tons of barley, and the construction of a lorry park with wash bay and ancillary facilities, on a site close to the River Wensum. Permission was granted by the council, following consultation with the relevant statutory bodies, notably Natural England (NE) and the Environment Agency (EA), on 13 September 2011.

2. The river is a Special Area of Conservation, part of the EU Natura 2000 network of sites, and thus entitled to special protection as a "European site" under the EU Habitats Directive (Directive 97/62/EC), which is given effect in this country by the Conservation and Habitats Species Regulations 2010 ("the Habitats Regulations"). The river was described in one council report as –

> "... probably the best whole river of its type in nature conservation terms, with a total of over 100 species of plants, a rich invertebrate fauna and a relatively natural corridor. The river supports an abundant and diverse invertebrate fauna including the native freshwater crayfish (a European protected species) as well as a good mixed fishery."

3. The appellant's complaint, in short, is that the council failed to comply with the procedures required by the regulations governing Environmental Impact Assessment (EIA) and "appropriate assessment", respectively under EIA and Habitats Regulations.

Legislation

Environmental Impact Assessment

4. Directive 2011/92/EU ("the EIA Directive") provides the framework for the national regulations governing environmental assessment. The preamble (para (2)) states that Union policy is based on "the precautionary principle" and that effects on the environment should be taken into account "at the earliest possible stage in all the technical planning and decision-making processes". By article 2 the EIA Directive requires member states to adopt all measures necessary to ensure that projects "likely to have a significant effect on the environment" are subject to environmental impact assessment before consent is given. The projects to which it applies are those defined in article 4 and annexes I and II. Projects in annex I require assessment in any event; those in annex II (which covers the present project) require a "determination" by the "competent authority" whether it is likely to have a significant effect, so as to require assessment (article 4(2)). The competent authority is the authority designated for that purpose by the member state (article 1(f)). For projects subject to assessment member states are required to adopt the measures necessary to ensure that the developer supplies in an appropriate form the information specified in annex IV, which includes details of the project and its anticipated effects, and the measures proposed to prevent or reduce adverse effects (article 5). That information is to be made available to the public likely to be affected, who must be given "early and effective opportunities" to participate in the decision-making process (article 6).

5. In the United Kingdom the environmental assessment procedure is integrated into the procedures for granting planning permission under the planning Acts. The current regulations are the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 2011. It will be convenient to refer to these ("the EIA Regulations"), although they replaced the 1999 Regulations which were in force at the time of the present application. The Regulations do not follow precisely the form of the EIA Directive, but there is no suggestion of any failure of implementation. The starting point is the expression "EIA development", defined by reference to Schedules 1 and 2 (corresponding to annexes I and II of the EIA Directive).

6. Although the Regulations do not in terms "designate" a "competent authority", it is clear at least by implication that this role is given in the first instance to the local planning authority, which is given the task of determining whether Schedule 2 development is EIA development (see eg regulation 4(6)).

7. The mechanism by which the authority determines whether assessment is required is referred to in the Regulations as "screening" (not an expression used in the EIA Directive). A "screening opinion" may be given in response to a specific request by the developer (regulation 5), or, in various circumstances where an application is received by the authority for development which appears to require EIA and is not accompanied by an environmental statement (regulations 7-10).

8. Regulation 3 prohibits the grant of consent for EIA development without consideration of the "environmental information", defined (by regulation 2) to include the "environmental statement" and any representations duly made about the environmental effects of the development. The contents of the environmental statement are defined by reference to Schedule 4 (which corresponds to annex IV of the EIA Directive, and like it includes a reference to measures envisaged to prevent, reduce or offset any significant adverse effects on the environment).

9. The environmental statement, in proper form, is central to this process. In *Berkeley v Secretary of State for the Environment* [2001] 2 AC 603, Lord Hoffmann rejected the submission that it was enough if the relevant information was available to the public in the various documents provided for inspection:

> "... I do not accept that this paper chase can be treated as the equivalent of an environmental statement. In the first place, I do not think it complies with the terms of the Directive. The point about the environmental statement contemplated by the Directive is that it constitutes a single and accessible compilation, produced by the applicant at the very start of the application process, of the relevant environmental information and the summary in non-technical language. It is true that article 6(3) gives member states a discretion as to the places where the information can be consulted, the way in which the public may be informed and the manner in which the public is to be consulted. But I do not think it allows member states to treat a disparate collection of documents produced by parties other than the developer and traceable only by a person with a good deal of energy and persistence as satisfying the requirement to make available to the public the annex III information which should have been provided by the developer." (p 617D-F)

Habitats Directive

10. Council Directive 92/43/EEC ("the Habitats Directive") provides for the establishment of a European network of special areas of conservation under the title Natura 2000. Article 6 imposes duties for the protection of such sites. By article 6(3)

> "Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public."

Article 6(4) provides for limited exceptions, but only "for imperative reasons of overriding public interest, including those of a social or economic nature".

11. The relevant implementing regulations are the Conservation of Habitats and Species Regulations 2010 ("the Habitats Regulations"). Regulation 61 reproduces the effect of article 6(3). A "competent authority", before deciding to give consent for a project which is "likely to have a significant effect on a European site ... (either alone or in combination with other plans or projects)" must make "an appropriate assessment of the implications for that site in view of that site's conservation objectives". It may agree to the project "only after having ascertained that it will not adversely affect the integrity of the European site", having regard to "any conditions or restrictions" subject to which they propose that the consent should be given.

12. Authoritative guidance on the interpretation of article 6(3) has been given by the Court of Justice of the European Union ("CJEU") in (Case C-127/02) *Waddenzee* [2006] 2 CMLR 683 (relating to a proposal for mechanical cockle-fishing in the Waddenzee Special Protection Area). There is an elaborate analysis of the concept of appropriate assessment, taking account of the different language versions, in the opinion of Advocate General Kokott (paras 95-111). In its judgment the court made clear that the article set a low threshold for likely significant effects:

> "41. ... the triggering of the environmental protection mechanism provided for in article 6(3) of the Habitats Directive does not presume - as is, moreover, clear from the guidelines for interpreting that article drawn up by the Commission, entitled 'Managing Natura 2000 Sites: The provisions of article 6 of the Habitats Directive (92/43/EEC)' - that the plan or project considered definitely has significant effects on the site concerned but follows from the mere probability that such an effect attaches to that plan or project."

The court noted that article 6(3) adopts a test "essentially similar" to the corresponding test under the EIA Directive. (para 42), and that it "subordinates" the requirement for an appropriate assessment of a project to the condition that there be "a probability or a risk that the latter will have significant effects on the site concerned". The Habitats Directive had to be interpreted in accordance with the precautionary principle which is one of the foundations of Community policy on the environment (para 44). It concluded:

> "45. In the light of the foregoing, the answer to Question 3(a) must be that the first sentence of article 6(3) of the Habitats Directive must be interpreted as meaning that any plan or project not directly connected with or necessary to the management of the site is to be subject to an appropriate assessment of its implications for the site in view of the site's conservation objectives if it cannot be excluded, on the basis of objective information, that it will have a significant effect on that site, either individually or in combination with other plans or projects."

13. As to the content of such appropriate assessment, the court said:

> "52. As regards the concept of 'appropriate assessment' within the meaning of article 6(3) of the Habitats Directive, it must be pointed out that the provision does not define any particular method for carrying out such an assessment.
>
> 53. None the less, according to the wording of that provision, an appropriate assessment of the implications for the site concerned of the plan or project must precede its approval and take into account the cumulative effects which result from the combination of that plan or project with other plans or projects in view of the site's conservation objectives.
>
> 54. Such an assessment therefore implies that all the aspects of the plan or project which can, either individually or in combination with other plans or projects, affect those objectives must be identified in the light of the best scientific knowledge in the field. Those objectives may, as is clear from articles 3 and 4 of the Habitats Directive, in particular article 4(4), be established on the basis, inter alia, of the importance of the sites for the maintenance or restoration at a favourable conservation status of a natural habitat type in annex I to that Directive or a species in annex II thereto and for the coherence of Natura 2000, and of the threats of degradation or destruction to which they are exposed ...

> 56. It is therefore apparent that the plan or project in question may be granted authorisation only on the condition that the competent national authorities are convinced that it will not adversely affect the integrity of the site concerned."

14. More recently in *Sweetman v An Bord Pleanála (Galway County Council intervening)* (Case C-258/11) [2014] PTSR 1092 the court spoke of the two stages envisaged by article 6(3):

> "29. That provision thus prescribes two stages. The first, envisaged in the provision's first sentence, requires the member states to carry out an appropriate assessment of the implications for a protected site of a plan or project when there is a likelihood that the plan or project will have a significant effect on that site [citing *Waddenzee* (above) paras 41, 43]
>
> ...
>
> 31. The second stage, which is envisaged in the second sentence of article 6(3) of the Habitats Directive and occurs following the aforesaid appropriate assessment, allows such a plan or project to be authorised on condition that it will not adversely affect the integrity of the site concerned, subject to the provisions of article 6(4).
>
> ...
>
> 40. Authorisation for a plan or project, as referred to in article 6(3) of the Habitats Directive, may therefore be given only on condition that the competent authorities – once all aspects of the plan or project have been identified which can, by themselves or in combination with other plans or projects, affect the conservation objectives of the site concerned, and in the light of the best scientific knowledge in the field – are certain that the plan or project will not have lasting adverse effects on the integrity of that site. That is so where no reasonable scientific doubt remains as to the absence of such effects ..."

The application and its consideration

15. Before addressing the issues of law, it is necessary to return to the factual background. The application for planning permission was initially made on 1

October 2009, but not validated until 15 April 2010. It was accompanied by a "Site Specific Flood Risk Assessment", which recognised that the proposal involved the potential to discharge surface water runoff to the nearby ditch system and could lead to pollution reaching the River Wensum. This risk was to be mitigated by a staged system of drainage, involving an interceptor/separator facility and thereafter a storage infiltration basin to be planted with indigenous plants to act as a secondary passive treatment system.

16. The lengthy process of investigation and consultation, which led eventually to the grant of conditional permission for the proposal on 13 September 2011, is described in detail in the judgments below. For present purposes the process can be divided into three main phases:

i) October 2009 to June 2010: the initial supporting material, consultations with statutory agencies, and EIA screening (23 April 2010);

ii) July 2010 to January 2011: submission of July Flood Risk Assessment (updated in August) and Phase II Ecological Assessment, leading to withdrawal of statutory objections and the decision of the planning committee on 20 January 2011 to give delegated powers to officers to approve the development subject to conditions;

iii) June 2011 to September 2011: correspondence with appellant's solicitors leading to a reference back to the committee and final decision to approve on 8 September 2011.

Phase 1

17. It became apparent at a very early stage that the main environmental issue was the possible effect of run-off from the site to the river. On this there was a substantial degree of common ground between all concerned that more information was required, and that appropriate assessment under the Habitats Regulations was likely to be needed:

i) In response to an informal approach by CMGL's planning consultant, Natural England on 3 December 2009 expressed concern in respect of the possible effect on the river of the drain system, "particularly in relation to the potential for diesel spillage and polluted run-off from the water bay when lorries are washed down". They said that if "hydrological connectivity" could be established, it was likely that an

appropriate assessment would be required under the Habitats Regulations.

ii) In February 2010 a "Phase I Ecological Assessment", commissioned by CMGL from specialist consultants, recorded that the potential risks to the River Wensum SAC "had not been fully evaluated". It was essential that pollution control measures and operation of the Interceptor were adequate for the lorry park in all conditions, particularly during heavy rainfall. It was "assumed that an Appropriate Assessment will be required under the Habitats Regulations 1994 which will fully address risks to the SAC and identify further mitigation requirements".

iii) On 14 May 2010 Natural England objected to the application on the basis that there was "insufficient information" for them to advise whether the proposal was likely to have significant effects on the river under the Habitats Regulations. The applicant should be required to submit information relating to "the hydrological connectivity between the Surface Water Infiltration Basin and drain system adjacent to the proposed lorry park, and the River Wensum SAC".

iv) On the same day the planning officer wrote to CMGL expressing his own concerns that the submitted water measures would be inadequate. He observed that the details submitted in respect of flood risk and surface water management were "very sketchy and imprecise regarding the actual management train to be used to handle surface water pollutants". Advice from the Construction Industry Research and Information Association (CIRIA) suggested that the use of oil receptors should be avoided where possible, primarily because of the management required to maintain them, and the risk that inadequate management in heavy rain could result in pollutants not being properly contained.

v) On 28 May 2010, the Environment Agency wrote to the council recording their objection on the basis of the inadequate flood risk assessment, noting in particular the lack of information on the infiltration test and the design of the infiltration basin.

18. *The screening opinion* The formal registration of the application in April 2010 seems to have triggered the EIA screening process. The evidence comes in a copy of the standard form filled in by the relevant planning officer, Mr Lyon, acting under delegated powers, and signed by him on 23 April 2010. That was

supplemented by a witness statement. According to this, he contacted Natural England by way of telephone call on 23 April, and spoke with Mr Mike Meadows:

> "I explained the proposed development to Natural England and was advised that, subject to pollution prevention measures being clearly identified and addressed, an Environmental Impact Assessment would not be required."

The screening form, as completed by him, indicated that the site was in a sensitive area and that the development fell within Schedule 2 of the Regulations, but that it was not likely to have significant effects on the environment and no EIA was required, the reasons being given as follows:

> "Subject to the applicant/agent ensuring that appropriate mitigation and safeguarding measures are put in place to prevent the possible discharge of pollutants and contamination from the site in the River Wensum (SAC & SSSI). Advice received from Natural England (Mike Meadows) that subject to pollution prevention measures being clearly identified and addressed, EIA would not be necessary."

19. Given the views expressed by Natural England in December 2009 and again in May 2010 as to the need for further information and the likely need for appropriate appraisal, this report of Mr Meadows's views seems surprising. He also gave evidence of the same conversation. Although he confirmed Mr Lyon's account as "broadly accurate", it was not a formal consultation and he had kept no record. It was not Natural England's role to decide whether an EIA is necessary and he "did not purport to do so on this occasion". His advice was solely related to the degree to which there might be a significant effect on the SPA "on the basis that CMGL would advance suitable pollution prevention control measures". In the same evidence he makes clear that on the information then available he could not exclude the risk of significant effects on the SAC.

Phase 2

20. On 10 July 2010 new consultants for CMLG produced a Flood Risk Assessment and Pollution Prevention Strategy ("the July 2010 FRA"). Part of the scope of the report was to "carry out an assessment of the environmental impacts of the proposals to the water environment (and provide potential solutions) including pollution risks to groundwater, surface water and the adjacent SSSI". This contained detailed information about site conditions and hydrology, and set out detailed mitigation measures, to be "formulated in accordance with the relevant guidance".

21. The responses of the statutory authorities to this new information were mixed:

i) On 13 August 2010, Natural England withdrew their objection, indicating that the new material had "addressed satisfactorily" the concerns raised in their previous letter.

ii) The Environment Agency, by letter dated 19 August 2010, maintained its objection on a number of grounds, including the absence of details about future maintenance. In response CMGL's consultants prepared a further report ("the August 2010 FRA"), which included further details of run off and peak rainfall proposed by the Environment Agency were incorporated, and proposals for a larger separator, and also set out the proposed maintenance regime. This satisfied the Agency, which on 13 September 2010 withdrew its previous objection, on the condition that a surface water drainage scheme in accordance the August 2010 FRA be implemented prior to the completion and occupation of the development.

iii) On 3 October a report from the council's own Conservation, Design and Landscape team maintained their objections, commenting on inadequacies in the two FRAs. On 9 December 2010, following receipt of further information from CMGL, they withdrew their objections. The judge noted (para 85), and as I understand accepted, the evidence of the planning officer as to the reasons for their change of position.

22. It follows that by the time the proposal came before the committee on 20 January 2011 the concerns of all the statutory consultees on the SAC issue had been overcome. The committee resolved by a bare majority to give the senior planning officer delegated powers to approve the development, subject to the imposition of a number of planning conditions.

Phase 3

23. The January decision was met by a large number of complaints locally. On 10 June 2011, solicitors for the appellant, acting for the Ryburgh Village Action Group, wrote complaining that there had been a failure to comply with the requirements of the Habitats and EIA Directives. Of the former they noted that NE's view in early correspondence that assuming "hydrological connectivity" with the SAC an appropriate assessment would be required, but that, although hydrological connectivity had been established, no appropriate assessment had been undertaken.

Of the latter, they said that the EIA screening dated 23 April 2010 had been defective because it failed to "assess the specifics of the environmental issues raised in the application", and asking for the council to revise its EIA screening to require the developer to carry out a full environmental assessment.

24. On 2 August 2011, the council wrote to the appellant's solicitors noting that the application was to be referred back to a future Development Committee. The letter drew attention to the current views of Natural England on this issue, and invited "any further specific comments or evidence" to support the assertion that an appropriate assessment under the Habitats Directive or an Environmental Impact Assessment under the EIA Directive was still required. A response was requested within 21 days. Apart from a holding letter, there was no substantive response to this letter before the meeting of the Development Control Committee, which took place on 8 September 2011.

25. At that meeting the committee had a detailed officer's report. As the judge noted (para 99), the report summarised the extensive representations against the proposed development, including concerns about "light pollution, noise pollution, the storage of hazardous fuel, environmental degradation, wildlife habitat destruction, water table and river pollution", but also extensive representations in support on local economic grounds. In relation to an objection concerning drainage, it was reported that consent would be needed from the Internal Drainage Board, which had requested a number of conditions. In relation to the Habitats Directive, it summarised the views of Natural England and stated:

> "... [Officers] are of the view that no appropriate assessment is required in light of all the information that now exists and that there would not be a likely significant effect on the River Wensum SAC as a result of this proposal and that the requirements of the Habitats Directive and Habitats Regulations have been satisfied."

In relation to the EIA Directive, the officers' view "remains that the proposal is not EIA development on the basis that there are not likely to be significant environmental effects". This view was supported by the recent response from Natural England confirming that "there would not be a likely significant effect on the River Wensum SAC ... as a result of this proposal if the proposed mitigation measures are put in place".

26. The committee were invited first to agree the officers' view that the proposal was not EIA development, and that it was entitled to determine the planning application without the need for an environmental statement or appropriate assessment. This was approved (by nine votes to zero with one abstention). The

officers then recommended that the application be approved subject to the conditions, including implementation of a surface water drainage scheme in accordance with the details set out in the August 2010 FRA (conditions 13 and 14). There followed a substantive debate on whether the application for planning permission should be granted. In particular, there was discussion of one councillor's continuing concern about the risk of substantial run-off from the site into the River Wensum. She proposed that water monitoring should be carried out over a period of time to assess whether there were any pollution issues. The committee then resolved (by ten votes to two) to approve the application subject to appropriate conditions to deal with this point. The formal planning permission was issued on 13 September 2011. The conditions included conditions 23 and 24 relating to monitoring of water quality and remedial measures if needed, as requested by the councillor.

The present proceedings

27. The proceedings for judicial review were commenced by a claim form filed on 12 December 2011. They were heard in April 2013 before James Dingemans QC, sitting as a Deputy High Court Judge, who allowed the application and quashed the permission. In his judgment (paras 119-121) the judge accepted that the committee would have been entitled on the material before them in 2011 rationally to reach the conclusion that there was no relevant risk requiring appropriate assessment or an EIA. However, he thought such a conclusion was inconsistent with their decision at the same time to impose a requirement for testing of water quality and remediation if necessary:

> "These conditions, which could only be imposed where the Committee considered them necessary, suggested that the Committee considered that there was a risk that pollutants could enter the river. This would also have been a rational and reasonable conclusion available to the Committee, in the light of the detailed matters set out above.
>
> It does not seem to me that the council could, rationally, adopt both positions at once. … I do not consider that it is open for me to consider that this inconsistency was simply a function of local democracy at work, and that it could be ignored. …"

He did not think that the decision could be saved by exercising a discretion not to quash. Accordingly he ordered that the grant of permission be quashed. At the same time he dismissed a separate claim to quash the response given by Natural England, which he considered to have been based on the correct *Waddenzee* test. There has been no appeal against that part of his judgment.

28. In the Court of Appeal the only substantive judgment was given by Richards LJ. He set out the relevant statutory provisions relating to both the EIA and the Habitats Directives. In connection with the former he noted that "in determining the likelihood of significant effects, it is open to the decision-maker to have regard to proposed remedial measures", citing *Gillespie v First Secretary of State* [2003] EWCA Civ 400, [2003] Env LR 30, and *R (Jones) v Mansfield District Council* [2003] EWCA Civ 1408, [2004] Env LR 21. He added:

> "The only other point I should mention in relation to the EIA Regulations is that they make provision for a local planning authority to adopt an early 'screening opinion' as to whether a proposed development requires an EIA. A defective screening opinion does not, however, invalidate the entire decision-making process. The ultimate question is whether planning permission has been granted without an EIA in circumstances where an EIA was required: see *R (Berky) v Newport City Council* [2012] EWCA Civ 378, [2012] Env LR 35, per Carnwath LJ at para 22" (para 12).

I would respectfully question Richards LJ's reliance on my own remarks in *Berky*, which were not directed to the same issue. However, the judgment thereafter seems to have proceeded on the basis (which does not seem to have seriously challenged) that a defect in the screening process at an early stage could be remedied by proper consideration at the time of the actual grant.

29. Having set out the facts, he addressed the appeal against the judge's decision to quash the permission (paras 42-49). He was unable to support the judge's reasoning. The committee's decision on the issues arising under the Directives showed that they were satisfied that there would be no significant adverse effects. That was not inconsistent with the imposition of conditions "as a precautionary measure for the purposes of reassurance, without considering that in their absence there was a likelihood that pollutants would enter the river". Although this point was not abandoned by Mr Buxton in this court, it was not strongly pressed in his written or oral submissions. In my view the Court of Appeal was clearly right on this issue, and I need say no more about it.

30. On the other grounds of challenge, Richards LJ noted that the main thrust of the submissions of Mr Harwood QC (then appearing for Mr Champion) had been that the committee at its meeting on 8 September 2011 was not in a position to make a lawful decision as to whether an EIA or appropriate assessment was required, having been given insufficient information for that purpose: for example as to how low the threshold of likelihood was, as to the relevant criteria and the significance of proximity to a sensitive location, or as to the case law on the relevance of mitigation measures (para 51).

31. Richards LJ did not accept that submission. He said:

> "It is true that the decision-making process got off to a bad start, with a flawed screening opinion. But that did not lead in practice to any failure to consider relevant matters. The concerns expressed by Natural England and the Environment Agency, in particular, ensured that the question of mitigation measures was properly addressed. The measures proposed in the resulting flood risk assessments served to meet those concerns. Natural England's final view that there would not be a likely significant effect was re-stated in emphatic terms in its letter of 26 July 2011, which was one of the documents before the Committee and was highlighted in the officers' report ..."

The committee had all the necessary information before them, and there was nothing to suggest that they applied too relaxed a test. The significance of the site's proximity to the River Wensum SSSI and the SAC was spelled out very clearly in the report, as was the relevance of mitigation measures to the assessment. He concluded:

> "In my view, therefore, the Committee was put in a position where it could properly make the requisite assessment as to the likely effect of the development on the SSSI and the SAC, and I agree with the deputy judge that the decision not to have an EIA or an Appropriate Assessment was 'a rational and reasonable conclusion available to the Committee' on the material before it." (para 52)

He also rejected, in the same terms as the judge, the grounds of challenge relating to matters other than effects on the SAC. In view of these conclusions, it was not necessary for the court to consider the possible exercise of discretion in relation to remedies.

The arguments in the appeal

32. Before this court, the argument for Mr Champion has been presented for the first time by Mr Richard Buxton, appearing as a solicitor-advocate. The emphasis appears to have shifted from the arguments as presented to the courts below, and certainly as addressed in their judgments. At their heart are two related issues, first the timing of the decision whether EIA (or appropriate assessment) is required, and secondly the relevance of mitigation measures. They are put perhaps most succinctly in his printed case in the context of the EIA Regulations (para 14):

"... domestic law (in line with the [preamble to the EIA Directive]) anticipates a decision on whether or not EIA is required to be made by the decision-making authority at an early stage. It is accepted that it may happen for whatever reason that a decision not to have EIA is made erroneously at an earlier stage and this can and must be rectified. Indeed the decision-maker should keep a negative screening under review. However what is not permitted, but which occurred starkly in the present case, is reliance on 'mitigation measures' during the consenting process (here, measures contained in the [July FRA]) to convert a project that is likely to have significant effects on the environment into one which is judged not to do so and thus screen out the project from the assessment process."

33. No objection has been taken to this reformulation. The issues, as set out in the agreed statement of facts and issues, are in summary:

i) The correct approach towards the timing of screening for the need for EIA and AA, in the process of applying for planning permission or other consents;

ii) Whether or to what extent "mitigation measures" may be taken into account in EIA screening.

iii) If either the first or second issue is decided in the appellant's favour, whether the court nevertheless can and should exercise its discretion to refuse to quash the planning permission.

iv) Whether the answers to the above points under European law are sufficiently clear not to require a reference to the CJEU.

"Screening" and the Habitats Directive

34. It is convenient first to address Mr Buxton's contention that a process analogous to EIA screening is an implicit requirement of the Habitats Directive. As he puts it in his case:

"In summary as the CJEU explains the HD process is a two-step process and the decision maker has to be sure at stage one (the screening stage) that the possibility of adverse effects can be excluded before dispensing with the requirement for AA. In order to satisfy the

> HD, the decision-maker doing the screening must identify the conservation objectives of the site and the risks posed by the project and reach a decision that the risks to the conservation objectives can be excluded on the basis of objective information.
>
> If the risks are not excluded and an AA is required at stage 2, the project can only be authorised if the decision maker can be sure that no reasonable scientific doubt remains as to an absence of adverse effects to the conservation objectives."

This two-stage view of the process under the Habitats Directive was not as such challenged by Mr Lockhart-Mummery. To some extent, as I understood him, he felt constrained by the fact that a similar approach had been adopted by the council itself. However, since there seems to be some confusion on the point, it is important that we should address it as a matter of principle.

35. As has been seen, the Habitats Directive and Regulations contain no equivalent to "screening" under the EIA Regulations. Mr Buxton relies on the opinion of Advocate General Sharpston in *Sweetman* itself. She was principally concerned to dispel confusion created by different terminology used in some of the cases to describe the test under article 6(3). In her view all that was needed at what she called "the first stage" of article 6(3) was to show that there "may" be a significant effect (para 47):

> "49. The threshold at the first stage of article 6(3) is thus a very low one. It operates merely as a trigger, in order to determine whether an appropriate assessment must be undertaken of the implications of the plan or project for the conservation objectives of the site …
>
> 50. The test which that expert assessment must determine is whether the plan or project in question has 'an adverse effect on the integrity of the site', since that is the basis on which the competent national authorities must reach their decision. The threshold at this (the second) stage is noticeably higher than that laid down at the first stage. That is because the question (to use more simple terminology) is not 'should we bother to check?' (the question at the first stage) but rather 'what will happen to the site if this plan or project goes ahead; and is that consistent with "maintaining or restoring the favourable conservation status" of the habitat or species concerned?'…"

36. Mr Buxton suggests that her first stage ("Should we bother to check?") can be regarded as analogous to "screening". He points also to use of the term "screening" in a document entitled "Assessment of plans and projects significantly affecting Natura 2000 sites - Methodological guidance" (prepared by consultants for the European Commission in 2001). It identifies four stages in the process under article 6(3): stage one "screening"; stage two "appropriate assessment"; stage three "assessment of alternative solutions"; stage four "assessment where no alternative solutions exist and where adverse effects remain".

37. However, there is nothing in the language of the Habitats Directive to support a separate stage of "screening" in any formal sense. Nor is it reflected in the reasoning of the CJEU itself. In *Sweetman* the first stage was the appropriate assessment, the second the decision whether in the light of its conclusions the project could be permitted. "Triggering" was simply the word the CJEU used to set the threshold for the first stage. The same approach is also found in the European Commission's guidance *Managing Natura 2000 Sites: The Provisions of article 6 of the 'Habitats' Directive 92/43/EEC*, which adds a third stage, with reference to article 6(4):

> "Article 6(3) and (4) define a step-wise procedure for considering plans and projects.
>
> > (a) The first part of this procedure consists of an assessment stage and is governed by article 6(3), first sentence.
> >
> > (b) The second part of the procedure, governed by article 6(3), second sentence, relates to the decision of the competent national authorities.
> >
> > (c) The third part of the procedure (governed by article 6(4)) comes into play if, despite a negative assessment, it is proposed not to reject a plan or project but to give it further consideration.
>
> The applicability of the procedure and the extent to which it applies depend on several factors, and in the sequence of steps, each step is influenced by the previous step." (para 4.2)

38. It is true that the guidance, when commenting on the low threshold required to "trigger" the safeguards in article 6(3) and (4), observes that the formula is "almost identical" to that in the EIA Directive, and it comments on the close

relationship in practice between the two procedures (paras 4.4.2, 4.5.1). The guidance also extends to the content of the assessment, again drawing parallels with the "methodology" envisaged by the EIA Directive (para 4.5.2). However, there is no suggestion that this imposes any separate legal obligation analogous to EIA screening.

39. It is important to emphasise that the legal requirements must be found in the legislation, as interpreted by the CJEU itself, not (with respect) in the opinions of the Advocates General nor in guidance issued by the Commission (however useful it may be as an indication of good practice). At least in this country the use of the term "screening" in relation to the Habitats Directive is potentially confusing, because of the technical meaning it has under the EIA Regulations. The formal procedures prescribed for EIA purposes, including "screening", preparation of an environmental statement, and mandatory public consultation, have no counterpart in the Habitats legislation. As Sullivan J said in *R (Hart District Council) v Secretary of State for Communities and Local Government* [2008] EWHC 1204 (Admin), [2008] 2 P & CR 302, para 71:

> "Unlike an EIA, which must be in the form prescribed by the EIA Directive, and must include, for example, a non-technical summary, enabling the public to express its opinion on the environmental issues raised (see *Berkeley v the Secretary of State for the Environment* [2001] 2 AC 603 per Lord Hoffmann at p 615), an appropriate assessment under article 6(3) and regulation 48(1) does not have to be in any particular form (see para 52 of *Waddenzee* judgment), and obtaining the opinion of the general public is optional ..."

40. A similar argument by Mr Buxton was rejected by the Court of Appeal in *No Adastral New Town Ltd (NANT) v Suffolk Coastal District Council* [2015] EWCA Civ 88, paras 63-69. Richards LJ considered the language of article 6(3), which "focuses on the end result of avoiding damage to an SPA and the carrying out of an AA for that purpose". He noted the difference in *Sweetman* between the Advocate General's formulation, but found no support in the court's judgment for the contention that "there must be a screening assessment at an early stage in the decision-making process":

> "In none of this material do I see even an *obligation* to carry out a screening assessment, let alone any rule as to when it should be carried out. If it is not obvious whether a plan or project is likely to have a significant effect on an SPA, it may be necessary in practice to carry out a screening assessment in order to ensure that the substantive requirements of the Directive are ultimately met. It may be prudent, and likely to reduce delay, to carry one out [at] an early stage of the

decision-making process. There is, however, no obligation to do so." (para 68)

41. The process envisaged by article 6(3) should not be over-complicated. As Richards LJ points out, in cases where it is not obvious, the competent authority will consider whether the "trigger" for appropriate assessment is met (and see paras 41-43 of *Waddenzee*). But this informal threshold decision is not to be confused with a formal "screening opinion" in the EIA sense. The operative words are those of the Habitats Directive itself. All that is required is that, in a case where the authority has found there to be a risk of significant adverse effects to a protected site, there should be an "appropriate assessment". "Appropriate" is not a technical term. It indicates no more than that the assessment should be appropriate to the task in hand: that task being to satisfy the responsible authority that the project "will not adversely affect the integrity of the site concerned" taking account of the matters set in the article. As the court itself indicated in *Waddenzee* the context implies a high standard of investigation. However, as Advocate General Kokott said in *Waddenzee*:

> "107. ... the necessary certainty cannot be construed as meaning absolute certainty since that is almost impossible to attain. Instead, it is clear from the second sentence of article 6(3) of the Habitats Directive that the competent authorities must take a decision having assessed all the relevant information which is set out in particular in the appropriate assessment. The conclusion of this assessment is, of necessity, subjective in nature. Therefore, the competent authorities can, from their point of view, be certain that there will be no adverse effects even though, from an objective point of view, there is no absolute certainty."

In short, no special procedure is prescribed, and, while a high standard of investigation is demanded, the issue ultimately rests on the judgement of the authority.

42. In the present case, in the light of the new information provided and the mitigation measures developed during the planning process, the competent authority, in common with their expert consultees, were satisfied that any material risk of significant effects on the SAC had been eliminated. Although this was expressed by the officers as a finding that no appropriate assessment under article 6(3) was required, there is no reason to think that the conclusion would have been any different if they had decided from the outset that appropriate assessment was required, and the investigation had been carried out in that context. Mr Buxton has been unable to point to any further action which would have been required to satisfy the *Waddenzee* standard. The mere failure to exercise the article 6(3) "trigger" at an earlier stage does not in itself undermine the legality of the final decision. It follows

that issue (i), relating to the timing of "screening" as a matter of law, is one which can only arise under the EIA Regulations.

Timing of EIA screening

43. It is not in dispute that authorities should in principle adopt screening opinions early in the planning process. That intention is expressed in the preamble to the EIA Directive, and carried into the trigger events in the EIA Regulations. Equally, it is not in dispute that a negative screening opinion may need to be reviewed in the light of later information. In *R (Mageean) v Secretary of State for Communities and Local Government* [2011] EWCA Civ 863, [2012] Env LR 3, in the context of screening directions made by the Secretary of State, it was held that that circumstances may require initial screening decisions to be reviewed where "other material facts come to light". In *R (Loader) v Secretary of State for Communities and Local Government* [2012] EWCA Civ 869, [2013] PTSR 406, Pill LJ applied the same reasoning to the adoption of screening opinions by local planning authorities:

> "40. Mr Maurici [for the Secretary of State] accepted that screening decisions will usually be made at an early stage of the planning process. However, if a council came to the belief during the course of making the decision that the proposed development might have significant effects on the environment it would be open to the council to require an environmental statement at that stage ..."

44. Mr Lockhart-Mummery QC (for the respondents) also relies on words of Elias J in *British Telecommunications Plc v Gloucester City Council* [2001] EWHC (Admin) 1001, [2002] 2 P & CR 33. The issue in that case was different. The council had failed to adopt a screening opinion within the three week period provided for by the Regulations; the claimant argued that it was too late to require an environmental statement. In dismissing this argument, Elias J made some more general comments on the procedure:

> "Provided the procedures relating to consultation are complied with, and the representations are before the planning authority when it makes its decision, neither logic nor common sense nor the public interest dictate that the courts should treat the exercise as invalid merely because the planning authority only realised the need for the statement late in the day. *Similarly, in my view it also follows that if a decision is taken not to call for a statement, that is capable of being a valid decision notwithstanding that it was not taken until shortly before the permission was given.* There would be no point in requiring

> a fresh application in which the authority would again conclude that no statement was required." (para 58, emphasis added)

45. While the actual decision in that case was unremarkable, the second sentence in the passage quoted above ("Similarly ...) is perhaps open to misinterpretation. It is one thing to say that a negative opinion, lawfully arrived at on the information then available, may need to be reviewed in the light of subsequent information. It is quite another to say that a legally defective opinion not to require EIA, or even a failure to conduct a screening exercise at all, can be remedied by the carrying out of an analogous assessment exercise outside the EIA Regulations. Even if that exercise results in the development of mitigation measures which are in themselves satisfactory, it would subvert the purposes of the EIA Directive for that to be conducted outside the procedural framework (including the environmental statement and consultation) set up by the Regulations.

46. In the present case, there is no disagreement that it was appropriate for the authority to undertake a screening exercise in April 2010, once the application was formally registered. Nor is it now in dispute that the exercise was legally defective. As the judge said:

> "... in circumstances where the pollution prevention measures had not been fully identified at that stage ... the council could not be satisfied that the mitigation measures would prevent a risk of pollutants entering the river, when the mitigation measures were not known ..." (para 60)

Mr Lyon evidently relied on his understanding of the advice of Mr Meadows, but he in turn had not regarded it as a formal consultation, and it was not part of his role to advise on EIA issues. More importantly, it was impossible at that stage to reach the view that there was no risk of significant adverse effects to the river. All the expert opinion, including that of CMGL's own advisers, was to the effect that there were potential risks, and that more work was needed to resolve them. It was also clear that the mitigation measures as then proposed had not been worked up to an extent that they could be regarded as removing that risk. This could be regarded as an archetypal case for environmental assessment under the EIA Regulations, so that the risks and the measures intended to address them could be set out in the environmental statement and subject to consultation and investigation in that context.

47. In my view that defect was not remedied by what followed. It is intrinsic to the scheme of the EIA Directive and the Regulations that the classification of the proposal is governed by the characteristics and effects of the proposal as presented

to the authority, not by reference to steps subsequently taken to address those effects. No point having been taken about delay since the date of the defective screening opinion (an issue to which I shall return), Mr Buxton's request in June 2011 that the development should be reclassified as EIA development was in principle well-founded. It was not enough to say that the potential adverse effects had now been addressed in other ways.

Mitigation measures

48. The second agreed issue relates to the relevance of "mitigation measures" in EIA screening. It is said to be common ground that mitigation measures may be considered as part of the process of appropriate assessment "once it has been decided following screening that appropriate assessment should be carried out". In the case as presented by Mr Buxton, the issue is not so much the relevance of mitigation measures in general, but the reliance on them at the permission stage to dispense retrospectively with the requirement for EIA which should have been initiated at the outset.

49. The relevance of mitigation measures at the screening stage has been addressed in a number of authorities. One of the first was *R (Lebus) v South Cambridgeshire DC* [2002] EWHC 2009 (Admin), [2003] Env LR 17 (relating to a proposed egg production unit for 12,000 free-range chickens). Sullivan J said:

> "45. Whilst each case will no doubt turn upon its own particular facts, and whilst it may well be perfectly reasonable to envisage the operation of standard conditions and a reasonably managed development, the underlying purpose of the Regulations in implementing the Directive is that the potentially significant impacts of a development are described together with a description of the measures envisaged to prevent, reduce and, where possible, offset any significant adverse effects on the environment. Thus the public is engaged in the process of assessing the efficacy of any mitigation measures.
>
> 46. It is not appropriate for a person charged with making a screening opinion to start from the premise that although there may be significant impacts, these can be reduced to insignificance as a result of the implementation of conditions of various kinds. The appropriate course in such a case is to require an environmental statement setting out the significant impacts and the measures which it is said will reduce their significance …"

50. Of the particular proposal in that case, he said that it must have been obvious that with a proposal of this kind there would need to be a number of "non-standard planning conditions and enforceable obligations under section 106", and that these were precisely the sort of controls which should have been "identified in a publicly-accessible way in an environmental statement prepared under the Regulations"

> "... it was not right to approach the matter on the basis that the significant adverse effects could be rendered insignificant if suitable conditions were imposed. The proper approach was to say that potentially this is a development which has significant adverse environmental implications: what are the measures which should be included in order to reduce or offset those adverse effects?"

51. Those passages to my mind fairly reflect the balancing considerations which are implicit in the EIA Directive: on the one hand, that there is nothing to rule out consideration of mitigating measures at the screening stage; but, on the other, that the EIA Directive and the Regulations expressly envisage that mitigation measures will where appropriate be included in the environmental statement. Application of the precautionary principle, which underlies the EIA Directive, implies that cases of material doubt should generally be resolved in favour of EIA.

52. We were shown various statements on the same issue, with arguably differing shades of emphasis, in a number of judgments of the Court of Appeal: *Gillespie v First Secretary of State* [2003] Env LR 30, paras 37, 48, 49; *R (Jones) v Mansfield District Council* [2004] Env LR 21, paras 38-39; *R (Catt) v Brighton and Hove City Council* [2007] EWCA Civ 298, [2007] Env LR 32, paras 33-35. Some were cited by the Court of Appeal in the present case. Mr Lockhart-Mummery, rightly in my view, did not rely on any of those statements as representing a material departure from the approach of Sullivan J. They simply illustrate the point that each case must depend on its own facts. In *R (Jones) v Mansfield District Council* (in a judgment with which I agreed), Dyson LJ said:

> "39. I accept that the authority must have sufficient information about the impact of the project to be able to make an informed judgment as to whether it is likely to have a significant effect on the environment. But this does not mean that all uncertainties have to be resolved or that a decision that an EIA is not required can only be made after a detailed and comprehensive assessment has been made of every aspect of the matter. As the judge said, the uncertainties may or may not make it impossible reasonably to conclude that there is no likelihood of significant environmental effect. It is possible in principle to have sufficient information to enable a decision reasonably to be made as to the likelihood of significant environmental effects even if certain

> details are not known and further surveys are to be undertaken. Everything depends on the circumstances of the individual case."

53. As far as concerns the present case, it is not now in dispute that the screening opinion should have gone the other way. The mitigation measures as then proposed were not straightforward, and there were significant doubts as to how they would be resolved. I do not ignore Mr Meadows' evidence to the court that the proposed mitigation did not represent "novel or untested techniques" and that "similar methods have and are being successfully used around the country". But that was said in the light of the further reports produced in July 2010, and even then there remained unresolved problems for the Environment Agency and the council's own officers, for example in relation to the maintenance regime. The fact that they were ultimately resolved to the satisfaction of Natural England and others did not mean that there had been no need for EIA. The failure to treat this proposal as EIA development was a procedural irregularity which was not cured by the final decision.

Discretion

54. Having found a legal defect in the procedure leading to the grant of permission, it is necessary to consider the consequences in terms of any remedy. Following the decision of this court in *Walton v Scottish Ministers* [2012] UKSC 44, [2013] PTSR 51, it is clear that, even where a breach of the EIA Regulations is established, the court retains a discretion to refuse relief if the applicant has been able in practice to enjoy the rights conferred by European legislation, and there has been no substantial prejudice (para 139 per Lord Carnwath, para 155 per Lord Hope).

55. Those statements need now to be read in the light of the subsequent judgment of the CJEU in *Gemeinde Altrip v Land Rheinland-Pfalz* (Case C-72/12) [2014] PTSR 311. That concerned a challenge to proposals for a flood retention scheme, on the grounds of irregularities in the assessment under the EIA Directive. A question arose under article 10a of the Directive 85/337 (article 11 of the 2011 EIA Directive), which requires provision for those having a sufficient interest to have access to a court to challenge the "substantive or procedural" legality of decisions under the Directive. One question, as reformulated by the court (para 39), was whether article 10a was to be interpreted as precluding decisions of national courts that make the admissibility of actions subject to conditions requiring the person bringing the action –

> "… to prove that the procedural defect invoked is such that, in the light of the circumstances of the case, there is a possibility that the contested

decision would have been different were it not for the defect and that a substantive legal position is affected thereby."

56. In answering that question, the court reaffirmed the well-established principle that, while it is for each member state to lay down the detailed procedural rules governing such actions, those rules -

> "in accordance with the principle of equivalence, must not be less favourable than those governing similar domestic actions and, in accordance with the principle of effectiveness, must not make it in practice impossible or excessively difficult to exercise rights conferred by Union law" (para 45)

Since one of the objectives of the Directive was to put in place procedural guarantees to ensure better public information and participation in relation to projects likely to have a significant effect on the environment, rights of access to the courts must extend to procedural defects (para 48).

57. The judgment continued:

> "49. Nevertheless, it is unarguable that not every procedural defect will necessarily have consequences that can possibly affect the purport of such a decision and it cannot, therefore, be considered to impair the rights of the party pleading it. In that case, it does not appear that the objective of Directive 85/337 of giving the public concerned wide access to justice would be compromised if, under the law of a member state, an applicant relying on a defect of that kind had to be regarded as not having had his rights impaired and, consequently, as not having standing to challenge that decision.
>
> 50. In that regard, it should be borne in mind that article 10a of that Directive leaves the member states significant discretion to determine what constitutes impairment of a right ...
>
> 51. In those circumstances, it could be permissible for national law not to recognise impairment of a right within the meaning of subparagraph (b) of article 10a of that Directive if it is established that it is conceivable, in view of the circumstances of the case, that the contested decision would not have been different without the procedural defect invoked.

52. It appears, however, with regard to the national law applicable in the case in the main proceedings, that it is in general incumbent on the applicant, in order to establish impairment of a right, to prove that the circumstances of the case make it conceivable that the contested decision would have been different without the procedural defect invoked. That shifting of the burden of proof onto the person bringing the action, for the application of the condition of causality, is capable of making the exercise of the rights conferred on that person by Directive 85/337 excessively difficult, especially having regard to the complexity of the procedures in question and the technical nature of environmental impact assessments.

53. Therefore, the new requirements thus arising under article 10a of that Directive mean that impairment of a right cannot be excluded unless, in the light of the condition of causality, the court of law or body covered by that article is in a position to take the view, without in any way making the burden of proof fall on the applicant, but by relying, where appropriate, on the evidence provided by the developer or the competent authorities and, more generally, on the case-file documents submitted to that court or body, that the contested decision would not have been different without the procedural defect invoked by that applicant.

54. In the making of that assessment, it is for the court of law or body concerned to take into account, inter alia, the seriousness of the defect invoked and to ascertain, in particular, whether that defect has deprived the public concerned of one of the guarantees introduced with a view to allowing that public to have access to information and to be empowered to participate in decision-making in accordance with the objectives of Directive 85/337."

58. Allowing for the differences in the issues raised by the national law in that case (including the issue of burden of proof), I find nothing in this passage inconsistent with the approach of this court in *Walton.* It leaves it open to the court to take the view, by relying "on the evidence provided by the developer or the competent authorities and, more generally, on the case-file documents submitted to that court" that the contested decision "would not have been different without the procedural defect invoked by that applicant". In making that assessment it should take account of "the seriousness of the defect invoked" and the extent to which it has deprived the public concerned of the guarantees designed to allow access to information and participation in decision-making in accordance with the objectives of the EIA Directive.

59. Judged by those tests I have no doubt that we should exercise our discretion to refuse relief in this case. In para 52 of its judgment, the Court of Appeal summarised the factors which in its view entitled the authority to conclude that applying the appropriate tests, and taking into account the agreed mitigation measures, the proposal would not have significant effects on the SAC. That, admittedly, was in the context of its consideration whether the committee arrived at a "rational and reasonable conclusion", rather than the exercise of discretion. However, there is nothing to suggest that the decision would have been different had the investigations and consultations over the preceding year taken place within the framework of the EIA Regulations.

60. This was not a case where the environmental issues were of particular complexity or novelty. There was only one issue of substance: how to achieve adequate hydrological separation between the activities on the site and the river. It is a striking feature of the process that each of the statutory agencies involved was at pains to form its own view of the effectiveness of the proposed measures, and that final agreement was only achieved after a number of revisions. It is also clear from the final report that the public were fully involved in the process and their views were taken into account. It is notable also that Mr Champion himself, having been given the opportunity to raise any specific points of concern not covered by Natural England before the final decision, was unable to do so. That remains the case. That is not to put the burden of proof on to him, but rather to highlight the absence of anything of substance to set against the mass of material going the other way.

61. For completeness I should mention that, in his written submissions to this court, Mr Buxton attempted to rely on a witness statement which had been prepared for the High Court in support of an additional ground relating to failure to consider cumulative effects of "incremental development" at the site over many years. This he suggests can be used as "evidence ... that it is at least possible that ... lawful screening might produce a different substantive result". However, as he accepts, this ground, and the evidence in support, were not admitted in the High Court. This court can only proceed on the evidence properly before it.

Conclusion

62. For the reasons given, I would dismiss the appeal, albeit for somewhat different reasons from those of the Court of Appeal, taking account of the different emphasis of the arguments before us. Although the proposal should have been subject to assessment under the EIA Regulations, that failure did not in the event prevent the fullest possible investigation of the proposal and the involvement of the public. There is no reason to think that a different process would have resulted in a different decision, and Mr Champion's interests have not been prejudiced. Finally, I see no need for a reference to the CJEU. As I have attempted to indicate, the

principles, in so far as not clear from the Directives themselves, are fully covered by existing CJEU authority, and the only issues are their application to the facts of the case.

63. I would add two final comments. First, as I have said, no issue has been taken on the delay which elapsed between the screening opinion in April 2010 and the date when it was first challenged in correspondence more than a year later. The formal provision, in both the EIA Directive and the Regulations, for a decision on this issue at an early stage seems designed to provide procedural clarity for the developer and others affected. It is in no-one's interest for the application to proceed in good faith for many months on a basis which turns out retrospectively to have been defective. However, in *R (Catt) v Brighton & Hove City Council* [2007] Env LR 32, para 39ff, it was decided by the Court of Appeal (applying by analogy the decision of the House of Lords in *R (Burkett) v Hammersmith and Fulham LBC* [2002] 1 WLR 1593) that a failure to mount a timeous legal challenge to the screening opinion was no bar to a challenge to a subsequent permission on the same grounds. Although we have not been asked to review that decision, I would wish to reserve my position as to its correctness. I see no reason in principle why, in the exercise of its overall discretion, whether at the permission stage or in relation to the grant of relief, the court should be precluded from taking account of delay in challenging a screening opinion, and of its practical effects (on the parties or on the interests of good administration).

64. Secondly, although this development gave rise to proper environmental objections, which needed to be resolved, it also had support from those who welcomed its potential contribution to the economy of the area. It is unfortunate that those benefits have been delayed now for more than four years since those objections were, as I have found, fully resolved. I repeat what I said, in a similar context, in *R (Jones) v Mansfield District Council* [2003] EWCA Civ 1408:

> "57. The appellant (who is publicly funded) lives near the site, and shares with other local residents a genuine concern to protect her surroundings. … With hindsight it might have saved time if there had been an EIA from the outset. However, five years on, it is difficult to see what practical benefit, other than that of delaying the development, will result to her or to anyone else from putting the application through this further procedural hoop.
>
> 58. It needs to be borne in mind that the EIA process is intended to be an aid to efficient and inclusive decision-making in special cases, not an obstacle-race. Furthermore, it does not detract from the authority's ordinary duty, in the case of any planning application, to inform itself

of all relevant matters, and take them properly into account in deciding the case."

65. In this case also CMGL may feel in retrospect that it would have been better if they had prepared an environmental statement under the EIA Regulations on their own initiative rather than simply relying on the negative opinion of the planning officer. That might in any event have been a more logical response to the advice of their own consultant that appropriate assessment under the Habitats Directive was likely to be required.

66. *Jones* was decided at a time when the extent of the court's discretion to refuse relief in such cases was less clear. It is to be hoped that this appeal has enabled this court to lay down clearer guidance as to the circumstances in which relief may be refused even where an irregularity has been established. In future cases, the court considering an application for permission to bring judicial review proceedings should have regard to the likelihood of relief being granted, even if an irregularity is established. (I emphasise that this is said without any reference to the new section 31A(2) of the Senior Courts Act 1981, which as is agreed does not apply to this appeal.)

ANNEX 4

Copy of Owenkillew River SAC Conservation Objectives document (2017)

OWENKILLEW RIVER SAC

CONSERVATION OBJECTIVES

Document Details

Title	*Owenkillew River SAC Conservation Objectives*
Prepared By	
Approved By	
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Revision History:

Version	Date	Summary of Changes	Initials
V1	June 2013	Internal working document	
V2	January 2015	Complete review	
V3	July 2017	Edit and minor correction	

Site relationships

The Owenkillew River SAC boundary adjoins the boundary of the River Foyle and Tributaries SAC.

1. INTRODUCTION

EU Member States have a clear responsibility under the Habitats and Birds Directives[1] to ensure that all habitats and species of Community Interest are maintained or restored to Favourable Conservation Status (FCS). Natura 2000 sites have a crucial role to play in achieving this overall objective since they are the most important core sites for these species and habitats. Each site must therefore be managed in a way that ensures it contributes as effectively as possible to helping the species and habitats for which it has been designated reach a favourable conservation status within the EU.

To ensure that each Natura 2000 site contributes fully to reaching this overall target of FCS, it is important to set clear conservation objectives for each individual site. These should define the desired state, within that particular site, of each of the species and habitat types for which the site was designated.

Once a site has been included in the Natura 2000 network, Member States are required to implement, on each site, the necessary conservation measures which correspond to the ecological requirements of the protected habitat types and species of Community Interest present, according to Article 6.1 of the Habitats Directive. They must also prevent any damaging activities that could significantly disturb those species and habitats (Article 6.2) and to protect the site from new potentially damaging plans and projects likely to have a significant effect on a Natura 2000 site (Article 6.3, 6.4).

Conservation measures can include both site-specific measures (i.e. management actions and/or management restrictions) and horizontal measures that apply to many Natura 2000 sites over a larger area (e.g. measures to reduce nitrate pollution or to regulate hunting or resource use).

In Northern Ireland, Natura 2000 sites are usually underpinned by the designation of an Area of Special Scientific Interest (ASSI) under the Environment (NI) Order 2002 (as amended).

[1] 92/43/EEC and 2009/147/EC (codified version of Directive 79/409/EEC as amended)

2. ROLE OF CONSERVATION OBJECTIVES

Conservation Objectives have a role in

- Conservation Planning and Management – guide management of sites, to maintain or restore the habitats and species in favourable condition

- Assessing Plans and Projects, as required under Article 6(3) of the Habitats Directive - Habitats Regulations Assessments (HRA) are required to assess proposed plans and projects in light of the site's conservation objectives.

- Monitoring and Reporting – Provide the basis for assessing the condition of a feature, the factors that affect it and the actions required.

3. DEFINITION OF FAVOURABLE CONSERVATION STATUS

Favourable Conservation Status is defined in Articles 1(e) and 1(i) of the Habitats Directive:

The conservation status of a natural habitat is the sum of the influences acting on it and its typical species that may affect its long-term natural distribution, structure and functions as well as the long term survival of its typical species. The conservation status of a natural habitat will be taken as favourable when:

- Its natural range and areas it covers within that range are stable or increasing, and
- The specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- The conservation status of its typical species is favourable as defined in Article 1(i).

For species, favourable conservation status is defined in Article 1(i) as when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and;
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and;
- there is, and will probably continue to be, a sufficiently large habitat to maintain its population on a long term basis.

3.1 DEFINITION OF FAVOURABLE CONDITION

Favourable Condition is defined as **"the target condition for an interest feature in terms of the abundance, distribution and/or quality of that feature within the site".**

The standards for favourable condition (Common Standards) have been developed by JNCC and are applied throughout the UK. Achieving Favourable Condition on individual sites will make an important contribution to achieving Favourable Conservation Status across the Natura 2000 network.

4. SITE INFORMATION

COUNTY:

GRID REFERENCE: IH

LOWER GR: IH [illegible] **UPPER GR:** IH [illegible]

AREA: [illegible]

5. SUMMARY SITE DESCRIPTION

The SAC includes the river (42 km stretch) and its associated riverine flora and fauna and adjacent semi-natural vegetation, primarily woodland flora and fauna. The river rises at an altitude of 415m and flows into the Strule at an altitude of 35m. It is a fast-flowing spate river; notable for the physical diversity and naturalness of the bank and channel, the richness and naturalness of its plant and animal communities, which includes extensive beds of Stream Water Crowfoot *Ranunculus penicillatus* var. *penicillatus* and the largest Northern Ireland population of the now rare Fresh Water Pearl Mussel *Margaritifera margaritifera*. In addition, the river is important for Otter *Lutra lutra* and Atlantic Salmon *Salmo salar*.

Adjacent woodlands which form part of the SAC include Drumlea and Mullan Woods ASSI and the Owenkillew and Glenelly Woods ASSI, two of the largest stands of Oak woodland in Northern Ireland. An area of localised waterlogging in the former woodland has resulted in the development of Bog Woodland.

Further details of the site are contained in the relevant ASSI Citations and Views About Management statements, which are available on the DAERA website (www.daera-ni.gov.uk).

5.1 BOUNDARY RATIONALE

Defining the extent of site boundaries for rivers is variable across the UK. The four options currently in use are:-

(1) whole catchments
(2) main river stem from source to mouth, tributaries and upland catchment
(3) main river stem from source to mouth and tributaries
(4) main river stem from source to mouth only

The option used is dependent on the qualifying features for that site and the current knowledge of distribution of that feature. In the case of the Owenkillew River, the main SAC qualifying features are *Margaritifera margaritifera* and *Ranunculus* communities, which are confined to the main channel.

The upper limits of the site have been determined by the restricted size of the channel. Downstream limit is at the confluence with the Strule, where the site joins with the adjacent River Foyle and Tributaries SAC.

The lateral boundary beyond the river channel follows the same guidelines as that for all ASSIs, which is dependent on the type and quality of adjacent habitat. Much of the SAC has limited adjacent habitat. Therefore, the boundary is frequently restricted to the top of the riverbank. However, in places, there is significant adjoining woodland interest, and this is generally included. In addition the SAC includes both Drumlea and Mullan Woods ASSI and the Owenkillew and Glenelly Woods ASSI.

The boundary uses permanent man-made features where possible. However, along some stretches of the river and woodland edge, such boundaries were absent and recognisable topographical or physical features such as breaks in slope, scrub or tree line were used.

6. SAC SELECTION FEATURES

Feature Type	Feature	Global Status	Size/ extent/ pop⁻
Species	Freshwater Pearl Mussel *Margaritifera margaritifera*	B	10,000
Habitat	Water courses of plain to montane levels with the *Ranunculus fluitans* and *Callitricho-Batrachion* vegetation	B	83% of channel length
Habitat	Old Sessile Oak woods with *Ilex* and *Blechnum* in the British Isles	B	79ha
Habitat	Bog Woodland	C	1.5ha
Species	Otter *Lutra lutra*	C	
Species	Atlantic Salmon *Salmo salar*	C	2,700*
Species	Brook Lamprey *Lampetra planeri*	D	P

Table 1. List of SAC selection features. Those with global status A-C will be referred to in ANNEX I.

The global status is an expert judgement of the overall value of the site for the conservation of the relevant Annex I habitat. Sites have been graded A, B or C - in the UK these gradings have been interpreted as follows:

A - Sites holding outstanding examples of the habitat in a European context.

B - Sites holding excellent stands of the habitat, significantly above the threshold for SSSI/ASSI notification but of somewhat lower value than grade A sites.

C - Examples of the habitat which are of at least national interest (i.e. usually above the thresholdfor SSSI/ASSI notification on terrestrial sites) but not significantly above this. These habitats are not the primary reason for SACs being selected.

D - Habitat present but not of sufficient extent or quality to merit listing as SAC feature.

There is therefore a distinction between the principal features for which sites have been selected (those graded A or B) and those which are only of secondary interest (those graded C). This is a useful distinction but it is important to note that all three grades are qualifying SAC interest features.

Click here to go to the Natura 2000 Standard Data Form for Owenkillew River SAC.

6.1 ASSI SELECTION FEATURES

Owenkillew River ASSI

Feature Type	Feature	Size/ extent/ pop~
Habitat	Series of river types present with corresponding macrophyte assemblages, ranging from ultra-oligotrophic, to mesotrophic types.	
Habitat	Oak Woodland	79 ha
Habitat	Wet Woodland	1.5 ha
Species	Freshwater Pearl Mussel *Margaritifera margaritifera*	
Species	Otter *Lutra lutra*	
Species	Atlantic Salmon *Salmo salar*	

Table 2. List of ASSI features.

7. CONSERVATION OBJECTIVES

The ***Conservation Objective*** for this site is:

To maintain (or restore where appropriate) the

- **Fresh Water Pearl Mussel *Margaritifera margaritifera***
- **Water courses of plain to montane levels with the *Ranunculus fluitans* and *Callitricho-Batrachion* vegetation**
- **Old Sessile Oak woods with *Ilex* and *Blechnum* in the British Isles**
- **Bog Woodland**
- **Otter *Lutra lutra***
- **Atlantic Salmon *Salmo salar***

to favourable condition.

For each SAC feature, there are a number of component objectives which are outlined in the table below. These include a series of attributes, measures and targets which form the basis of *Condition Assessment*. The results of this will determine whether the feature is in favourable condition or not. The feature attributes and measures are found in the attached annex.

8. SAC SELECTION FEATURE OBJECTIVE REQUIREMENTS

Feature	Grade	Objective
Freshwater Pearl Mussel *Margaritifera margartifera*	B	Maintain and if feasible enhance population numbers through natural recruitment.
		Improve age structure of population.
		Improve water quality.
		Improve channel substrate quality by reducing siltation.
		Ensure host fish population is adequate for recruitment.
		Increase the amount of shading through marginal tree cover along those sections of river currently supporting this species.
Water courses of plain to montane levels with the *Ranunculus fluitans* and *Callitricho-Batrachion* vegetation	B	Maintain and if feasible enhance extent and composition of community.
		Improve water quality
		Improve channel substrate quality by reducing siltation.
		Maintain and if feasible enhance the river morphology
Old Sessile Oak woods with *Ilex* and *Blechnum* in the British Isles	B	Maintain and expand the extent of existing oak woodland. (There is an area of degraded bog, wetland and damp grassland which have the potential to develop into oak woodland
		Maintain and enhance Oak woodland species diversity and structural diversity.
		Maintain the diversity and quality of habitats associated with the Oak woodland, e.g. fen, swamp, grasslands, scrub, especially where these exhibit natural transition to Oak woodland
		Seek nature conservation management over adjacent forested areas outside the ASSI where there may be potential for woodland rehabilitation.
		Seek nature conservation management over suitable areas immediately outside the ASSI where there may be potential for woodland expansion.

Bog Woodland	**C**	Maintain and expand the extent of existing bog woodland. (There is an area of degraded bog, wetland and damp grassland that have the potential to develop into bog woodland.
		Maintain and enhance bog woodland species diversity and structural diversity.
		Maintain the diversity and quality of habitats associated with the bog woodland, e.g. fen, swamp, especially where these exhibit natural transition to swamp woodland.
		Seek nature conservation management over adjacent forested areas outside the ASSI where there may be potential for woodland rehabilitation.
		Seek nature conservation management over suitable areas immediately outside the ASSI where there may be potential for woodland expansion.
Otter *Lutra lutra*	**C**	Population numbers and distribution to be maintained and if possible, expanded.
		Maintain the extent and quality of suitable Otter habitat, in particular the chemical and biological quality of the water, and all associated wetland habitats
Atlantic Salmon *Salmo salar*	**C**	Maintain and if possible, expand existing population numbers and distribution
		Maintain and where possible, enhance the extent and quality of suitable Salmon habitat, in particular the chemical and biological quality of the water

9.1 ADDITIONAL ASSI FEATURE OBJECTIVE REQUIREMENTS

Feature	Component Objective
Series of river types present with corresponding macrophyte assemblages, ranging from ultra-oligotrophic, to mesotrophic types.	Maintain and if feasible enhance extent and composition of community.
	Improve water quality
	Improve channel substrate quality by reducing siltation.
	Maintain and if feasible enhance the river morphology
	Maintain the diversity and quality of habitats associated with the river e.g. bog, wet grasslands, scrub, swamp and oak woodland.
Oak Woodland	See SAC Selection Feature Objective Requirements table.
Wet Woodland	See SAC Selection Feature Objective Requirements table.
Freshwater Pearl Mussel *Margaritifera margaritifera*	See SAC Selection Feature Objective Requirements table.
Otter *Lutra lutra*	See SAC Selection Feature Objective Requirements table.
Atlantic Salmon *Salmo salar*	See SAC Selection Feature Objective Requirements table.

10. MANAGEMENT CONSIDERATIONS

Ownership

There are a total of 206 individuals or organisations with ownership or other rights associated with this site.

Adjoining Land Use

In the upper reaches, the river flows through a predominantly upland peatland landscape used for rough grazing. The river channel is generally unenclosed. Along its mid-reaches, the surrounding landscape is improved or semi-improved pasture used for silage and grazing, and is generally fenced from the surrounding land at least along one bank top. In the lower reaches, the main adjacent agricultural uses include tilled land and silage production as well as stock grazing. Here, a significant proportion of the river is bounded by woodland either as discrete woodland blocks along the valley side or as a thin bank top belt. The river channel and adjacent woodlands are only partially fenced.

11. MAIN THREATS, PRESSURES AND ACTIVITIES WITH IMPACTS ON THE SITE

Both on-site and off-site activities can potentially affect SAC/ASSI features. The list below is not exhaustive, but deals with the most likely factors that are either affecting Owenkillew River, or could affect it in the future.

Although **Fresh Water Pearl Mussel *Margaritifera margaritifera*, Water courses of plain to montane levels with the *Ranunculus fluitans* and *Callitricho-Batrachion* vegetation, Old Sessile Oak woods with *Ilex* and *Blechnum* in the British Isles, Bog Woodland, Otter *Lutra lutra* and Atlantic Salmon *Salmo salar*** are the qualifying SAC features, factors affecting ASSI features are also considered.

NOTE - Carrying out any of the Notifiable Operations listed in the ASSI schedule could affect the site.

RIVER HABITATS AND SPECIES

Water Quality/Eutrophication

Water quality is probably the most important single factor for the SAC and ASSI selection features, with both point and diffuse sources of pollution potentially damaging. These are dependent on human activities throughout the catchment, the majority of which are largely beyond the direct control of the current designation. The total catchment area feeding into the river is 45,469ha and consists of seven sub-catchment areas. The designation only includes the main channel of the Owenkillew and has excluded 36 minor tributaries (<=2.5m wide) and 6 major tributaries (>2.5m wide).

A significant portion of the upper catchment of this river and some of its tributaries are afforested; there is a potential for enrichment of the river during forestry operations (planting and fertiliser application).

Stock have open access to the channel in many sections and have caused poaching of the bank and channel. This represents another possible source of enrichment.

ACTION: Reduce enrichment of the water column by minimising point source pollution and through a catchment-wide campaign, encourage land owners to avoid excessive fertiliser inputs, thus reducing diffuse pollution. Restrict stock access to less sensitive watering points.

Channel & Bank Modification

The Owenkillew River has been extensively altered by man in the past, especially along the upper reach of the river, resulting in a reduction of the natural channel area available to *M. margaritifera* and macrophyte communities. The river has recovered somewhat from the effects of resectioning. Several fisheries weirs and

one fish counter have been recently created in the lower reach of the river. These modifications have changed the natural flow regime of the river.
The river is a designated watercourse, which requires the Rivers Agency to undertake regular maintenance under their statutory requirements.
ACTION: Future in-river works should be minimised as they reduce habitat and species diversity and threaten vulnerable shellfish populations. Due to the dynamic nature of rivers, work carried out at any point on the river may have a significant impact on the catchment as a whole.

Habitat enhancement schemes, such as the 'Salmonid Enhancement Programme' should be thoughtfully planned. Properly executed enhancement schemes can significantly improve the wildlife potential of rivers, but it is important to effectively manage the installation of structures such as weirs, as they may have a negative effect on species diversity by causing excessive damming of the channel. In the past, the construction of weirs by fishing clubs as part of the programme has locally altered the morphology of the river. Enhancement work should be limited to areas of river that have been extensively modified by past drainage schemes and which have lost much of their natural dynamic character.
ACTION: Initiate discussions with Loughs Agency/DARD Fisheries Division and Environmental Protection to co-ordinate action.

Substrate Siltation
A significant portion of the area is afforested (especially the upper catchments), with a potential risk of sediment release during forestry operations, especially clear-felling.
ACTION: Liaise with Forest Service during felling and re-stocking programmes to minimise potential impacts (including potential eutrophication from planting and fertiliser application).

Sand wash from a number of commercial sandpits in the upper reaches of the river has resulted in siltation of the riverbed downstream.
ACTION: Monitor and control sediment input levels immediately downstream of sandpits.

Where the bank and channel of the river are accessible to stock, damage to *Margaritifera* beds, Salmon spawning grounds and the macrophyte community may occur. Trampling has an obvious direct impact but in some sections of the river, trampling and poaching of the river bank and channel have caused erosion, resulting in siltation of the riverbed downstream.
ACTION: Restrict livestock access to drinking areas only.

Sand Extraction
Small-scale sand extraction from the riverbed has been an ongoing practice by farmers, particularly in the lower reaches of the river. This disturbance results in

damage to the river morphology and increase in sediment loading, thus directly and indirectly affecting spawning beds and the macrophyte community.
ACTION: Under the Notifiable Operations, this activity is prohibited; ensure compliance with the ASSI Schedule.

Fish Farms
Fish farms can have a very serious impact on rivers. Fish farms normally abstract water from the river and release effluent downstream. Where the abstraction is large relative to streamflow, the channel between points of abstraction and release may have a much reduced discharge and water velocity. The effect can be so extreme that the upstream movement of migrating fish and other water-borne wildlife is obstructed.

In addition, effluents from intensive fish farms may have a modified temperature and pH, may be contaminated with toxic materials and may carry waste and partly decomposed food and the metabolic products of the fish. This can lead to increased oxygen demand (and hence a low oxygen concentration in the water), increased suspended solids and enrichment of the recipient stream.

Proposals for fish farms in the area will require very careful environmental assessment. In particular, it is imperative to ensure that an adequate compensatory flow is maintained and that that the effluent is adequately treated.
ACTION: Review existing Water Act consents.

Water Extraction
A natural flow regime is essential for the maintenance of many of the selection features. Proposals for water extraction in the area will require very careful environmental assessment.
ACTION: Review existing Water Act consents.

Fly-tipping
Small-scale fly tipping has occurred along the river banks and in the river channel as well as in adjacent woodland.
ACTION: Removal of dumped material from the banks and channel and removal of any rubbish from the woodland, to prevent the build up of debris and so discourage further tipping.

Alien species
At present Giant Hogweed *Heracleum mantegazzianum* and Indian Balsam *Impatiens glandulifera* are present along the riverbanks only in limited sections of the lower river reaches.
ACTION: Monitor and if necessary control the spread of alien species .

WOODLAND HABITATS AND SPECIES

Grazing/Poaching/Tree barking and Browsing

Free access to some woodland by domestic stock and feral goats is causing direct damage to the ground flora community by poaching and trampling. Grazing, barking and browsing can prevent regeneration leading to profound changes in woodland structure and composition. Information on current grazing levels of domestic stock within privately owned woodland is not readily available. No information of the current population of feral goats is available.

ACTION: Investigate current grazing practices. Where necessary, reduce stocking pressure in woods to sustainable levels or exclude stock altogether by fencing off woodland under MOSS agreements. Undertake census of the current feral goat population. If necessary, initiate control measures to reduce numbers to acceptable levels.

Invasion by exotics

Exotic species are widespread in the Owenkillew Woodland. They vary in the degree of impact they have and the threats they pose – for example, species such as Sycamore *Acer pseudoplatanus*, Indian Balsam *Impatiens glandulifera*, Salmon Berry *Rubus spectabilis* can be very invasive, while some are not seen as a immediate threat due to their limited occurrence (e.g. Rhododendron *Rhododendron ponticum*), or slow rate of spread (e.g. Beech *Fagus sylvatica*).

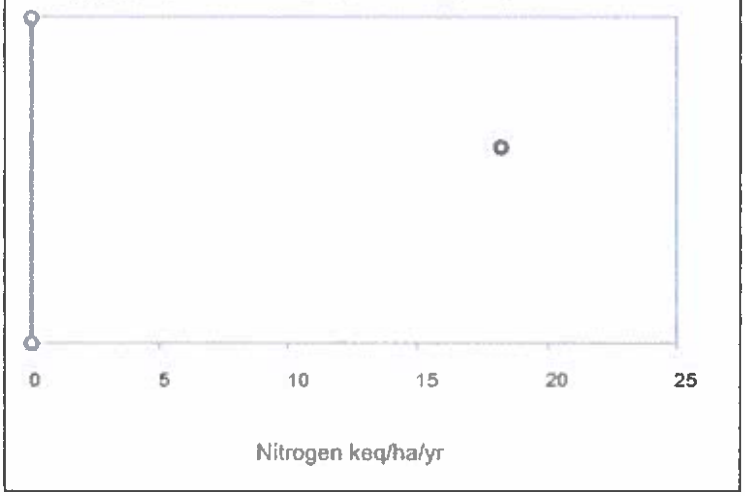
The most invasive species require management to control their spread – i.e. removal of seed sources. This is impractical with species such as Indian Balsam *Impatiens glandulifera* whose seed supply is partly recruited annually from water-borne seeds – indeed, it may be impossible to control the spread of this species, so research needs to be carried out to identify the effect it may have on the woodland community.

ACTION: Control invasive species where appropriate (e.g. Remove seeding Sycamore). Monitor other exotic species.

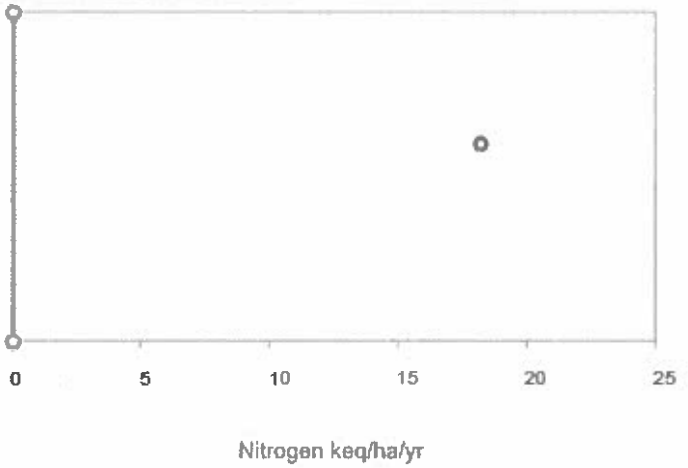
Nitrogen Deposition

Excess nitrogen deposition can favour the growth of competitive plants and lead to changes in ecosystem structure or function and to a reduction in biodiversity. National scale studies show the potential adverse effects of excess nitrogen on natural and semi-natural habitats to be widespread across the UK. Lower and upper critical loads have been calculated for the Owenkillew River SAC.

Feature: Margaritifera margaritifera - Freshwater pearl mussel
Critical Load Class: No comparable habitat with established critical load estimate available
Critical Loads (kg N/ha/yr): no critical loads available for this feature
Nitrogen Deposition (kg N/ha/yr):
Maximum: 18.2 Minimum: 10.2 Average: 12.4



Feature: Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation
Critical Load Class: No comparable habitat with established critical load estimate available
Critical Loads (kg N/ha/yr): no critical loads available for this feature
Nitrogen Deposition (kg N/ha/yr):
Maximum: 18.2 Minimum: 10.2 Average: 12.4



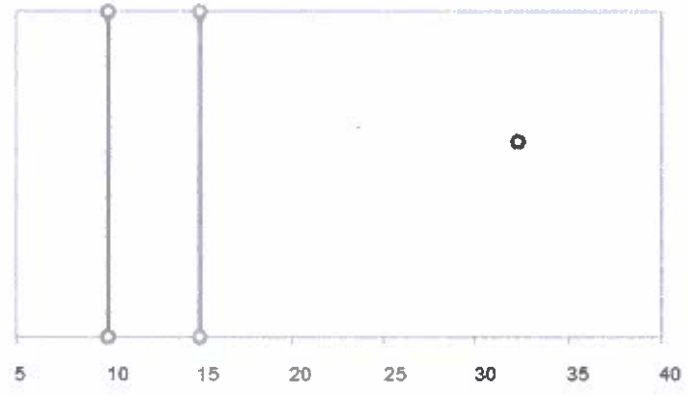
Feature: Old sessile oak woods with Ilex and Blechnum in the British Isles

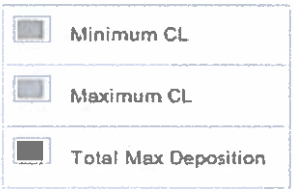
Critical Load Class: Acidophilous Quercus-dominated woodland

Critical Loads (kg N/ha/yr): 10-15

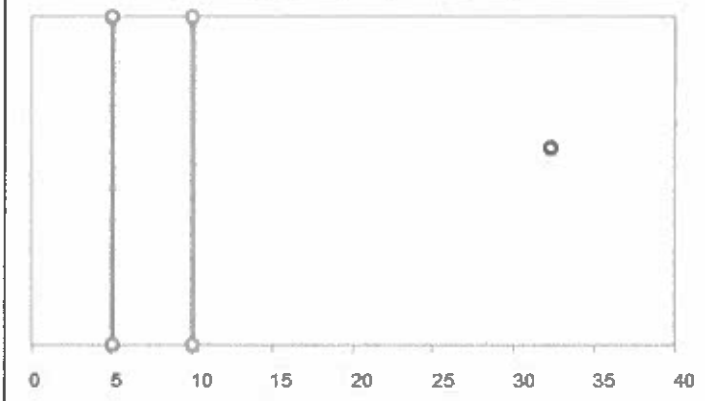
Nitrogen Deposition (kg N/ha/yr):

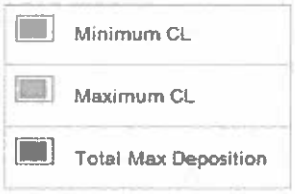
Maximum: 32.3 Minimum: 23.9 Average: 26.5



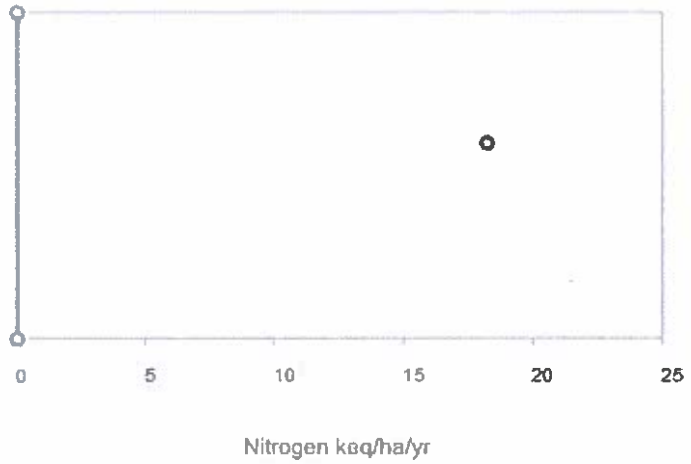


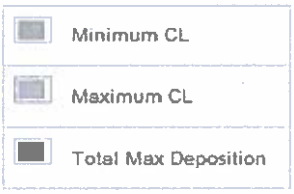
Feature: Bog woodland
Critical Load Class: Raised and blanket bogs
Critical Loads (kg N/ha/yr): 5-10
Nitrogen Deposition (kg N/ha/yr):
Maximum: 32.3 Minimum: 23.9 Average: 26.5

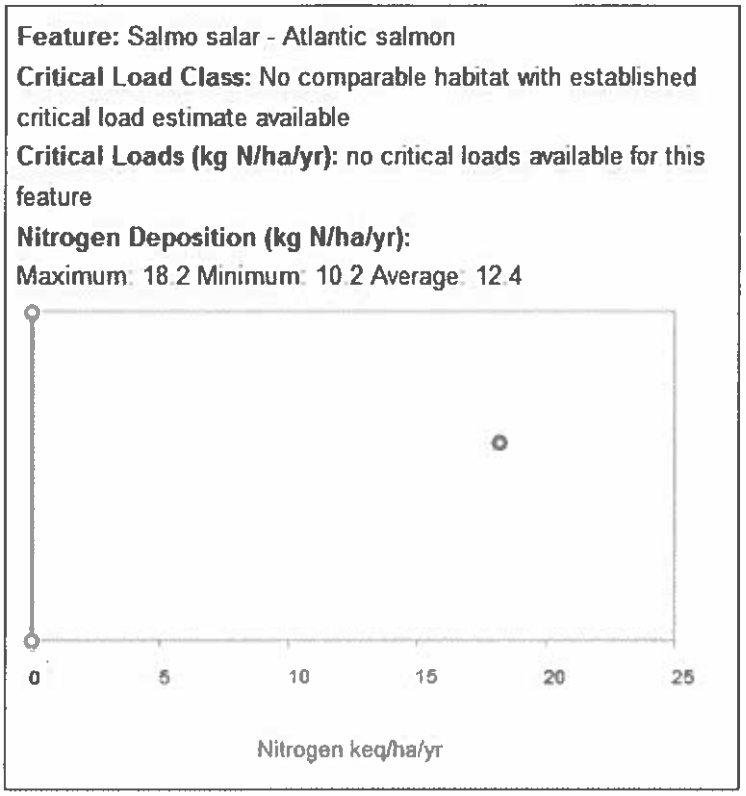




Feature: Lutra lutra - Otter
Critical Load Class: No comparable habitat with established critical load estimate available
Critical Loads (kg N/ha/yr): no critical loads available for this feature
Nitrogen Deposition (kg N/ha/yr):
Maximum: 18.2 Minimum: 10.2 Average: 12.4







(Source: Air Pollution Information System (APIS) website- www.apis.ac.uk)

ACTION: Seek to maintain or where necessary, restore concentrations and deposition of air pollutants to at or below the site-relevant critical load.

Changes to surrounding land use

Any changes in local land-use e.g. agricultural intensification, drainage works and development) may be detrimental to the SAC.

ACTION: Reduce the risk of surrounding agricultural intensification by encouraging the adjacent owner/occupiers to enter into agri-environment schemes. Use Habitats Regulations Assessments (HRAs), through the planning process, to minimise any development risks adjacent to the SAC.

Climate Change
Northern Ireland faces changes to its climate over the next century. Indications are that we will face hotter, drier summers, warmer winters and more frequent extreme weather events.
ACTION: When developing SAC management plans, the likely future impacts of climate change should be considered and appropriate changes made.

12. MONITORING

Monitoring of SACs takes place using two monitoring techniques.

Site Integrity Monitoring (SIM) is carried out to ensure compliance with the ASSI/ SAC Schedule. The most likely processes of change will either be picked up by SIM (e.g. dumping, burning, turf cutting, grazing etc.) or will be comparatively slow (e.g. gradual degradation of the habitat).

These longer-term changes will be picked up by monitoring of the feature via **Site Condition Assessment** - this is carried out on a rolling basis to pick up subtle changes in the condition of the feature.

The method for Site Condition Assessment was agreed by the relevant JNCC-led Lead Co-ordination Network although the methodology has been modified to reflect individual site attributes in Northern Ireland.

12.1 MONITORING SUMMARY

1. *Monitor the integrity of the site (SIM or Compliance Monitoring)*

Complete boundary survey to ensure that the boundary features, where present are still intact. Ensure that there has been no tree felling, ground or riverbed disturbance, fly-tipping or inappropriate burning carried out within the SAC boundary. Evaluating stocking densities would also be desirable, whilst a check for feral goat damage should be carried out throughout the site. Inspection of river reaches with Pearl Mussel colonies should be undertaken once a year to ensure there has not been any pearl fishing. The SIM should be carried out once a year.

2. Monitor the condition of the site (Condition Assessment)
Monitor the key attributes for each of the SAC selection features. This will detect if the features are in favourable condition or not. See Annex I.

The favourable condition table provided in Annex 1 is intended to supplement the conservation objectives only in relation to management of established and ongoing activities and future reporting requirements on monitoring condition of the site and its features. It does not by itself provide a comprehensive basis on

which to assess plans and projects, but it does provide a basis to inform the scope and nature of any Habitats Regulations Assessment (HRA) that may be needed. It should be noted that completion of a HRA is a separate activity to condition monitoring, requiring consideration of issues specific to individual plans or projects.

13. REFERENCES

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ANNEX I

Feature 1 (SAC) – Freshwater Pearl Mussel *Margaritifera margartifera* (Status B)

(* = primary attribute. One failure among primary attribute = unfavourable condition)

Attribute	Measure	Targets	Comments
*Population dynamics	Number	Stable or increasing	
	Age structure	20% of population <20 years old with aged individuals (>60 years) also present	A least-cost methodology for monitoring this attribute is being investigated, involving the sampling of representative reaches within an SAC. An abundant supply of juvenile salmonids is vital to the survival of the larval stage. The relative importance of salmon and migratory and non-migratory brown trout populations to pearl mussel will vary between rivers. Physical and chemical conditions need to be suitable for the well being of all life stages of salmonids, including free access up the river and conditions in the estuary and lower river where the juveniles of migratory salmonids are present.
	Maximum age	80-110 years	
	Mortality rate	No more than 10% of the population in 10 years	
	Fish host populations: Juvenile salmonid densities (0+ and 1+ year classes)	Should be abundant (to be refined following the results of LIFE project on pearl mussel/fish host relationships)	

	Biological disturbance: Introductions	No stocking/translocation of pearl mussel unless agreed to be in the best interests of the population	Little work has been undertaken on pearl mussel genetics. However, given the sedentary nature of the pearl mussel, genetically discrete populations are likely.
		Absence of rainbow trout and brook trout and any other non-native species that may impair juvenile densities of salmon and brown/sea trout.	Rainbow trout and brook trout are resistant to glochidial infection and are, therefore, not suitable host species. Stocking of these species will create competition with native salmonids and is likely to reduce host opportunities for glochidia.
	Exploitation	No fishing for pearl mussels	
*Physical integrity	Disturbance of habitat	No disturbance of existing mussel beds by in-river activities	Relevant activities include fishing and watering stock (wading in the river) and canoeing (at access points to the river).
	River morphology	Maintain and where necessary restore [*to an extent characteristic of the river/reach*	

	River Substrate	<10% fines in top 30cm of substrates hosting juvenile & adult mussels.	Elevated levels of fines can clog substrates used by juvenile mussels and can impair adult feeding/respiration. The target for salmon has been used for pearl mussels in the absence of species-specific information Sources of fines include; run-off from arable land, land (especially banks) trampled by livestock, sewage and industrial discharges.
*Water quantity	Flow	Flow regime should be characteristic of the river. As a guideline, at least 90% of the naturalised daily mean flow should remain in the river throughout the year	
*Water quality:	Biological class. Environment Protection's General Quality Assessment scheme. Assess every years.	'A'	
	Ecosystem Class. Environment Protection's General Quality Assessment scheme. Assess every years	'A'	
	Pollution	No Sheep dip	

	Minimal Algae cover	Should be <5% coverage over mussel beds and potentially suitable areas of coarse substrate	Extent of filamentous algal growth: Algal mats can impair respiration, feeding, fertilisation and the release of glochidia.
	Suspended solids	Annual mean <10mg L-1	

Feature 2 (SAC) – Water courses of plain to montane levels with the *Ranunculus fluitans* and *Callitricho-Batrachion* vegetation (Status B)

(* = primary attribute. One failure among primary attribute = unfavourable condition)

Attribute	Measure	Targets	Comments
*Population dynamics	Extent	Coverage should be characteristic of river type.	High cover of *Ranunculus spp* is not necessarily indicative of favourable condition.
	Reproduction *(only applies where control measures are implemented)*	*Ranunculus* should be able to flower and set seed, in suitable habitat.	Flowering outside the normal period and weed cutting or other activities that do not leave patches (at least 25% in every 100 metres of river) to flower and set seed are indicators of unfavourable condition. Use of herbicides should be avoided.
*Macrophyte assemblage	Composition	Characteristic plant species should dominate the assemblage. Indicators of unfavourable condition should be rare.	The absence of *Ranunculus* and high frequency of occurrence of blanketweed and other algae, or dominance of *Potamogeton pectinatus* are signs of unfavourable condition.

Water quantity	Flow	Flow regime should be characteristic of the river. As a guideline, at least 90% of the naturalised daily mean flow should remain in the river throughout the year.	
Physical integrity	River morphology	Maintain and where necessary restore [*to an extent characteristic of the river/reach*]	
	River substrate	Channels should be dominated by clean gravels. Maximum fines content should not be too great to prevent the establishment of new plants.	Siltation of riverine sediments, caused by high particulate loads and/or reduced scour within the channel, is a major threat to interest features. Elevated fines levels can interfere with the establishment of *Ranunculus* plants. Sources of fines include; run-off from arable land, land (especially banks) trampled by livestock, sewage and industrial discharges.
*Water quality:	Biological class. Environment Protection's General Quality Assessment scheme. Assess every years.	'A'	

	Ecosystem Class. Environment Protection's General Quality Assessment scheme. Assess every years	'A'	
	Suspended solids	Annual mean <10mg L-1	
	Soluble Reactive Phosphorus	*Targets should be set in relation to river/reach types (and should be near background levels)* <0.02mg/l - upland watercourses <0.06mg/l mid-altitude watercourses on hard substrates	

ANNEX I

Feature 3 (SAC) - Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles (Status B)

* = primary attribute. One failure among primary attribute = unfavourable condition

Attribute	Targets	Method of Assessment	Comments
* Area of Oakwood	Maintain the extent of Oakwood at 79.3ha.	Visual estimate in 10x10m plots and across the extent of the woodland using a combination of aerial photographs, SIM and Condition Assessment structured walk.	Loss due to natural processes (e.g. wind-throw during extreme storm) is acceptable.
Oakwood community diversity	Maintain presence of woodland communities, W11, W17, W9 & W7 as established at base line survey.	Visual estimate in 10x10m plots	
Presence of associated features and semi-natural habitats	Maintain existing associated features and semi-natural habitats (wet/bog woodland, wet heath, semi-natural grasslands etc.)	Visual estimate in 10x10m plots and across the extent of the ASSI using a combination of aerial photographs, SIM and Condition Assessment structured walk.	Repeat monitoring of plots using GPS should indicate whether mosaics and associated habitats have changed or been lost. Note: Loss of associated habitats to Oakwood may be desirable in some instances.

* Structural variation (% cover)	Mean canopy cover greater than 70%	Estimate within the visual vicinity of the monitoring plots.	A well structured wood should have a well developed canopy and shrub layer.
	Mean shrub cover should be maintained between 20 - 50%	Estimate within the visual vicinity of the monitoring plots.	
	Maintain current levels of standard variation within reasonable limits for field, herb and moss cover. Where present assess cover of *Luzula sylvatica*.	Visual estimate in 10x10m plots.	At least the current level of structural diversity should be maintained for field cover, herb cover and moss cover. Limits to be set for each site after the baseline survey. Note: *L. sylvatica* may be dominant in many W11 oakwood communities. The percentage cover of this species may affect Oak regeneration, but more information is required before that assumption can be made.
		Visual estimate in 10x10m plots.	
		Visual estimate in 10x10m plots.	
		Visual estimate in 10x10m plots.	
	Mean cover of bare ground should be less than 5% Bare ground does not include boulders or rocks.	Visual estimate in 10x10m plots.	
* Age-class variation (DAFOR)	Young trees (5- 20cm diameter) at least occasional in 25% of plots	Estimate within the visual vicinity of the monitoring plots.	Age-class structure should be appropriate to the site, its history and management; however, in general, there should be a spread of different age-classes present, including young and over-mature trees. However, on very steep sided slopes with shallow soils, over-mature trees are unlikely to occur as larger trees are likely to fall over before becoming over –mature. Note, that in many cases achieving the set targets is a long term aim. However, providing the correct management practices are in place, this attribute may be recorded as Unfavourable - recovering.
	Mature trees (20 - 75cm diameter) at least frequent in 75% of plots	Estimate within the visual vicinity of the monitoring plots.	
	Over-mature trees (>75cm diameter) at least present in 10% of plots	Estimate within the visual vicinity of the monitoring plots.	

* Presence of standing and fallen dead wood (DAFOR)	Standing dead wood at least occasional in 70% of plots and at least frequent in 30% of plots.	Visual estimate in 10x10m plots.	
	Fallen dead wood at least occasional in 70% of plots and at least frequent in 30% of plots.	Visual estimate in 10x10m plots.	
* Presence of epiphytes and climbers (DAFOR)	Epiphytes and climbers at least occasional in 70% of plots and at least frequent in 30% of plots.	Visual estimate in 10x10m plots.	Epiphytes and climbers are an important component in all woodlands. However, in the extreme south east of Northern Ireland, where the climate is much warmer and drier, the generic limits may be set too high and may need amended for individual sites.
* Presence of epiphytic bryophytes and lichens (DAFOR)	Epiphytic bryophytes and lichens at least occasional in 70% of plots and frequent in 30% of plots.	Visual estimate in 10x10m plots.	Epiphytic bryophytes and lichens are an important component in all woodlands. However, in the extreme south east of Northern Ireland, where the climate is much warmer and drier, the generic limits may be set too high and may need amended for individual sites.
* Regeneration potential (DAFOR) Maintain current levels of native tree regeneration within reasonable limits for the current structure of the Oak woodland.	Regeneration of Oak seedlings.	Visual estimate in 10x10m plots.	The general aim is for the successful establishment of young stems (i.e. seedlings growing through to saplings to young trees) in gaps or on the edge of a stand at sufficient density to maintain canopy density over a 10 year period. Regeneration of Oak in particular is likely to be slow and sporadic; in some stands, there may currently not be sufficient and/or extensive enough gaps in the canopy for oak to regenerate. This does not necessarily indicate unfavourable condition.
	Regeneration of Oak saplings	Visual estimate in 10x10m plots.	
	Regeneration of other native seedlings.	Visual estimate in 10x10m plots.	
	Regeneration of other native saplings.	Visual estimate in 10x10m plots.	

* Cover of non-native species (all layers) (presence/absence)	Non-native invasive canopy species should be present in less than 20% of plots, but never frequent.	Visual estimate in 10x10m plots.	The canopy of the Oak woodland should be largely comprised of Oak trees. Non-native species are undesirable in the canopy, particularly invasive species such as Sycamore. In addition, non-native invasive species in any one layer is un-desirable. Note that non-invasive species are not viewed as a significant threat, and a low level of occurrence may be acceptable.
	Non-native invasive shrub species should be present in less than 20% of plots, but never frequent.	Visual estimate in 10x10m plots.	
	Non-native invasive canopy species seedlings/saplings should be present in less than 20% of plots, but never frequent.	Visual estimate in 10x10m plots.	
	Non-native invasive ground flora species should be present in less than 20% of plots, but never frequent.	Visual estimate in 10x10m plots.	
*Frequency and cover of eutrophication indicators: (DAFOR)	No one negative species no more than occasional throughout the wood and/or singly or together comprising more than 5% cover. *Galium aparine, Urtica dioica, Heracleum spp, Epilobium spp. Rumex obtusifolius* No more than occasional is equivalent to less than 40% occurrence in recorded plots.	Visual estimate in 10x10m plots.	
* Cover of *Pteridium* (% cover)	The mean cover of *Pteridium* for the wood should be less than	Visual estimate in 10x10m plots.	

	10%.		
* Cover of grasses (non-woodland species) (% cover)	The mean cover of grass for the wood should be less than 10%.	Visual estimate in 10x10m plots.	A high cover of grasses indicates past and/or present grazing. Where heavy grazing has been a past management practice, the natural woodland ground flora will take a considerable time to re-establish (time limits for restoration currently unknown). However, providing the grazing pressure has been addressed, and there is evidence that woodland flora is beginning to re-appear, this attribute may be recorded as unfavourable, recovering.
Management /Disturbance			
* Grazing (DAFOR)	Grazing should be recorded as no more than occasional over 80% of plots.	Estimate within the visual vicinity of the monitoring plots.	Grazing by domestic stock, where it occurs should be light resulting in minimal damage to the ground flora through poaching and damage to seedlings and saplings.
* Poaching by cattle (DAFOR)	Poaching should be absent, or recorded in less than 20% of plots and frequent in less than 10% of plots.	Visual estimate in 10x10m plots.	
*Frequency of recent goat damage (1-2 years) (DAFOR)	Recent goat damage should be absent, or recorded in less than 20% of plots.	Visual estimate in 10x10m plots.	
*Frequency of damage to seedlings/saplings (DAFOR)	Damage to seedling/saplings should be absent, or recorded in less than 20% of plots.	Visual estimate in 10x10m plots.	
Frequency of felling/coppicing (within 6 year monitoring cycle)	There should be no felling or coppicing of native trees or shrubs.	Visual estimate in 10x10m plots and across the extent of the ASSI using a	Felling non-native species as part of management for conservation is acceptable.

(DAFOR)		combination of aerial photographs, SIM and Condition Assessment structured walk.	
Maintain the diversity of woodland species throughout the wood.	Record the % of plots with each of the acid woodland indicators (W11 & W17 communities) listed below:- *Vaccinium myrtillus,* *Blechnum spicant,* *Dicranum spp.,* *Luzula pilosa,* *Rhytidiadelphus loreus*	Visual estimate in 10x10m plots.	Within any Oak woodland, there may be pockets of base-rich woodland and or flushed woodland within the boundaries of the SAC. The diversity of these woodland communities should be maintained. However, the W11 & W17 communities should dominate the woodland.
Maintain the diversity of woodland species throughout the wood.	Record the % of plots with each of the base-rich woodland indicators (W9 community) listed below:- *Sanicla europea,* *Geum urbanum,* *Polystichum setiferum,* *Aneomne nemorosa,* *Primula vulgaris.*	Visual estimate in 10x10m plots.	Within any Oak woodland, there may be pockets of base-rich woodland and or flushed woodland within the boundaries of the SAC. The diversity of these woodland communities should be maintained.
Maintain the diversity of woodland species throughout the wood.	Record the % of plots with each of the flushed woodland indicators (W7 community) listed below:- *Carex remota,* *Ranunculus repens,* *Chrysosplenium oppositifolium,* *Filipendula ulmaria,* *Lysimachia nemorum.*	Visual estimate in 10x10m plots.	Within any Oak woodland, there may be pockets of base-rich woodland and or flushed woodland within the boundaries of the SAC. The diversity of these woodland communities should be maintained.

Presence of rare or scarce species specific to the site.	Maintain current levels of standard variation within reasonable limits for rare and notable species. If these species are not recorded on any one visit, it does not automatically make the site unfavourable.	Name the species at least present along the length of the Condition Assessment structured walk.	

Frequency -
1-20% = Rare
21-40% = Occasional
41- 60% = Frequent
> 60% = Constant

ANNEX 1

Feature 4 (SAC) – Bog woodland (Status C)

* = primary attribute. One failure among primary attribute = unfavourable condition

Attribute	Targets	Method of Assessment	Comments
* Area of Bog woodland	Maintain the extent of Bog woodland at 1.5ha.	Visual estimate in 10x10m plots and across the extent of the woodland using a combination of aerial photographs, SIM and Condition Assessment structured walk.	Loss due to natural processes (e.g. wind-throw during extreme storm) is acceptable
Wet woodland community diversity	Maintain presence of the woodland communities W4 and W2 as established at base line survey.	Visual estimate in 10x10m plots	
Presence of associated features and semi-natural habitats	Maintain existing associated features and semi-natural habitats.	Visual estimate in 10x10m plots and across the extent of the ASSI using a combination of aerial photographs, SIM and Condition Assessment structured walk.	Repeat monitoring of plots using GPS should indicate whether mosaics and associated habitats have changed or been lost. Note: Loss of associated habitats to Bog woodland may be desirable in some instances.
Vegetation structure			
* Structural Variation (% cover)	Mean canopy cover greater than 60%	Estimate within the visual vicinity of the monitoring plots.	A well structured wood should have a well developed canopy and shrub layer.

	Mean shrub cover should be maintained between 10-50%	Estimate within the visual vicinity of the monitoring plots.	
	Maintain current levels of standard variation within reasonable limits for field, herb cover and moss cover. In addition record the cover of *Molinia caerulea* and the cover of *Sphagnum* mosses.	Visual estimate in 10x10m plots.	At least the current level of structural diversity should be maintained for field cover, herb cover and moss cover.
		Visual estimate in 10x10m plots.	
		Visual estimate in 10x10m plots.	
		Visual estimate in 10x10m plots.	
		Visual estimate in 10x10m plots.	
	Mean cover of bare ground should be less than 5% Bare ground does not include boulders or rocks	Visual estimate in 10x10m plots.	
* Age-class variation (DAFOR)	Young trees (5- 20cm diameter) at least occasional in 25% of plots	Visual estimate in 10x10m plots.	Age-class structure should be appropriate to the site, its history and management; however, in general, there should be a spread of different age-classes present, including young and over-mature trees. Note that definition of young, mature and over-mature differs from drier woodland types, reflecting the fact that Birch will generally be the dominant species.
	Mature trees (20 - 75cm diameter) at least frequent in 50% of plots	Visual estimate in 10x10m plots.	
	Over-mature trees (>75cm diameter) at least present in 5% of plots	Visual estimate in 10x10m plots.	
* Presence of standing and fallen dead wood (DAFOR)	Standing dead wood at least occasional in 70% of plots and at least frequent in 30% of plots.	Visual estimate in 10x10m plots.	In wet woodland, dead wood is often abundant but because there tend to be fewer big trees the size of the fallen wood is often small.
	Fallen dead wood at least	Visual estimate in 10x10m	

	occasional in 70% of plots and at least frequent in 30% of plots.	plots.	
* Presence of epiphytes and climbers (DAFOR)	Epiphytes and climbers at least frequent in 10% of plots.	Visual estimate in 10x10m plots.	Epiphytes and climbers are an important component in all woodlands. However, they are less of a feature in Bog Woodlands than in other woodland types.
* Presence of epiphytic bryophytes and lichens (DAFOR)	Epiphytic bryophytes and lichens at least frequent in 75% of plots.	Visual estimate in 10x10m plots.	Epiphytic bryophytes and lichens are an important component in all woodlands, especially Bog woodlands.
* Regeneration potential (DAFOR) Maintain current levels of native tree regeneration within reasonable limits for the current structure of Bog woodland.	Regeneration of native seedlings.	Visual estimate in 10x10m plots.	The general aim is for the successful establishment of young stems (i.e. seedlings growing through to saplings to young trees) in gaps or on the edge of a stand at sufficient density to maintain canopy density over a 10 year period. Regeneration of some native species is likely to be slow and sporadic; in some stands, there may currently not be sufficient and/or extensive enough gaps for young trees to regenerate. This does not necessarily indicate unfavourable condition.
	Regeneration of native saplings.	Visual estimate in 10x10m plots.	
* Cover of non-native species (all layers) (presence/absence)	Non-native invasive canopy species should be present in less than 20% of plots, but never frequent.	Visual estimate in 10x10m plots.	The canopy of Bog Woodland should be largely comprised of Birch and Willow trees with associated native species. Non-native species are undesirable in the canopy, particularly invasive species such as Sycamore.
	Non-native invasive shrub species should be present in less than 20% of plots, but	Visual estimate in 10x10m plots.	

	never frequent.		In addition, non-native invasive species in any one layer is un-desirable. Note that non-invasive species are not viewed as a significant threat, and a low level of occurrence may be acceptable.
	Non-native invasive canopy species seedlings/saplings should be present in less than 20% of plots, but never frequent.	Visual estimate in 10x10m plots.	
	Non-native invasive ground flora species should be present in less than 20% of plots, but never frequent.	Visual estimate in 10x10m plots.	
* Frequency and cover of eutrophication indicators: (DAFOR)	No one negative species no more than occasional throughout the wood and/or singly or together comprising more than 5% cover. *Galium aparine, Urtica dioica, Heracleum spp, Epilobium spp. Rumex obtusifolius* No more than occasional is equivalent to less than 40% occurrence in recorded plots.	Visual estimate in 10x10m plots.	
* Cover of *Pteridium* (% cover)	The mean cover of *Pteridium* for the wood should be less than 10%.	Visual estimate in 10x10m plots.	
* Cover of grasses (excluding *Molinia* and woodland species) (% cover)	The mean cover of undesirable grass species for the wood should be less than 10%.	Visual estimate in 10x10m plots.	W4 *Betula pubescens-Molinia caerulea* woodland is the main bog woodland community in Northern Ireland and has a naturally high *Molinia* component of the ground flora. However, where *Molinia* is not predominant, a high grass component other than woodland species indicates past and/or

			present grazing and is undesirable. Nvertheless, providing the grazing pressure has been addressed, and there is evidence that woodland flora is beginning to re-appear, this attribute may be recorded as unfavourable, recovering.
Management /Disturbance			
*Grazing (DAFOR)	Grazing should be recorded as no more than occasional over 80% of plots.	Estimate within the visual vicinity of the monitoring plots.	Grazing by domestic stock, where it occurs should be light resulting in minimal damage to the ground flora through poaching and damage to seedlings and saplings.
*Poaching by cattle (DAFOR)	Poaching should be absent, or recorded in less than 20% of plots and frequent or more in less than 10 % of plots.	Visual estimate in 10x10m plots.	
*Frequency of recent goat damage (1-2 years) (DAFOR)	Recent goat damage should be absent, or recorded in less than 20% of plots.	Visual estimate in 10x10m plots.	
*Frequency of damage to seedlings/saplings (DAFOR)	Damage to seedling/saplings should be absent, or recorded in less than 20% of plots.	Visual estimate in 10x10m plots.	
Frequency of felling/coppicing (within 6 year monitoring cycle) (DAFOR)	There should be no felling or coppicing of native trees or shrubs.	Visual estimate in 10x10m plots and across the extent of the ASSI using a combination of aerial photographs, SIM and Condition Assessment structured walk.	Felling non-native species as part of management for conservation is acceptable.

Vegetation composition –			
Maintain the diversity of woodland species throughout the wood.	Record the % of plots with each of the Bog Woodland indicators (W2 and W4 communities) listed below:- *Betula pubescens,* *Salix cinerea,* *Filipendula ulmaria,* *Viola palustris,* *Phragmites australis,* *Molinia caerulea,* *Carex laevigata,* *Brachythecium rutabulum,* *Sphagnum squarrosum,* *S. recurvum,* *S. fimbriatum,* *S. palustris.*	Visual estimate in 10x10m plots.	
Indicators of Local Distinctiveness			
Presence of rare or scarce species specific to the site.	Maintain current levels of standard variation within reasonable limits for rare and notable species. If these species are not recorded on any one visit, it does not automatically make the site unfavourable.	Name the species at least present along the length of the Condition Assessment structured walk.	

Frequency -
1-20% = Rare
21-40% = Occasional
41- 60% = Frequent
> 60% = Constant

ANNEX 1

Feature 5 (SAC) – Otter *Lutra lutra* (Status C)

Attribute	Measure	Target	Notes
Presence of otters	Presence of one or more of the following signs within the site: Positive identification of otter spraint, footprints, tracks, paths, lying-up sites or feeding signs.	Signs of otters found at least once per year	Use data from other surveys or Ulster Museum, if available
	Sightings of otters.		
	Positive identification of holt(s).		
Bankside/ Waterside cover	Presence of cover: Mature trees, woodland, scrub, other tall bankside vegetation, reed and sedge beds.	No overall permanent decrease	Some change acceptable as long as it is appropriately mitigated
Water quality	EP water quality scale	Water quality should be at least category A or B, according to EP guidelines, with no pollution incidents	Refer to Environment Protection for data
Food Sources	Assessment of fish stocks and other food sources (e.g.amphibians)	Fish stocks appropriate to the nutrient status of the river, with no significant decline in fish biomass or species diversity	Refer to appropriate Agency for sample data if available (This information may need to be inferred from the water quality category).
Disturbance	Extent of public access to river	No significant change to river or bankside usage; no significant	

Attribute	Measure	Target	Notes
		development	
Flow rate	Mean annual flow rate	No reduction attributable to increased abstraction.	Refer to data from Rivers Agency if available
Site integrity	Total area	No reduction or fragmentation of area	

ANNEX 1

Feature 6 (SAC) – Atlantic Salmon (*Salmo salar*) (Status C)

(* = primary attribute. One failure among primary attribute = unfavourable condition)

Attribute	Measure	Targets	Comments
*Population dynamics	Number	Stable or increasing	
	Adult Run	Total run size at least matching an agreed reference level, including a seasonal pattern of migration characteristic of the river and maintenance of the multi-sea-winter component.	The N.I. equivalent of Environment Agency MBAL (Minimum Biological Acceptable Level) should be set for each catchment. Expectation needs to be tempered by the intrinsic ability of the river type to support salmon. Fish classification schemes operated regionally and nationally should permit an interpretation of performance.
	Juvenile population densities	These should not differ significantly from those expected for the river type/reach under conditions of high physical and chemical quality.	

	Biological disturbance: Introductions	The population should be naturally self-sustaining. There should be a presumption against stocking of salmon unless it is agreed to be necessary as an emergency interim measure to maintain population viability whilst underlying ecological problems are being addressed. No introduction, or stocking, of other species, or sub-species, at excessively high densities in salmon spawning and nursery areas. Effective screening on all fish farm intakes and discharges.	The nature conservation aim is to provide conditions in the river that support a healthy and natural population, achieved through habitat protection/restoration and the control of exploitation as necessary. Stocking represents a loss of naturalness and, if successful, obscures the underlying causes of poor performance (potentially allowing these risks to perpetuate). It carries various ecological risks, including the loss of natural spawning from broodstock; competition between stocked and naturally produced individuals, disease introduction and genetic alterations to the population. For these reasons, consideration of stocking is only justifiable in cases where population viability is threatened. Stock must come from within the same catchment area. The presence of artificially high densities of other fish creates unacceptably high levels of predatory and competitive pressure on juvenile salmon. Escapes from fish farms are a form of uncontrolled introduction and should be prevented.

*Population dynamics	Exploitation	All exploitation should be sustainable without compromising any components of the stock.	Controls on exploitation should include migratory passage to the SAC within territorial waters, including estuarine and coastal net fisheries, as well as exploitation within the SAC from rod fisheries.
*Physical integrity	Disturbance of habitat	No artificial barriers significantly impairing adults from reaching existing and historical spawning grounds, and smolts from reaching the sea.	In all river types, artificial barriers should be made passable. Natural barriers to potentially suitable spawning areas should not be circumvented.
	River morphology	Maintain and where necessary restore the characteristic physical features of the river channel, banks & riparian zone.	The characteristic channel morphology provides the diversity of water depths, current velocities and substrate types necessary to fulfil the spawning, juvenile and migratory requirements of the species. The close proximity of different habitats facilitates movement to new preferred habitats with age. Operations that widen, deepen and/or straighten the channel reduce variations in habitat. New operations that would have this impact are not acceptable within the SAC, whilst restoration *may/will* be needed in some reaches.

	River Substrate	Clean gravels should dominate channels. <10% fines in top 30cm of spawning gravels	Elevated levels of fines can interfere with egg & fry survival through suffocation of eggs and loss of interstitial refugee for fry. Sources of fines include; run-off from arable land, land (especially banks) trampled by livestock, sewage and industrial discharges.

Water quantity	Flow	Flow regime should be characteristic of the river. As a guideline, at least 90% of the naturalised daily mean flow should remain in the river throughout the year Existing flow criteria already laid down for salmon should also be complied with.	River flow affects a range of habitat factors of critical importance to designated interest features, including current velocity, water depth, wetted area, substrate quality, dissolved oxygen levels and water temperature. The maintenance of both flushing flows and baseflows, based on natural hydrological processes, is vital. Detailed investigations of habitat-flow relationships may indicate that a more or less stringent threshold may be appropriate for a specified reach; however, a precautionary approach would need to be taken to the use of less stringent values. Naturalised flow is defined as the flow in the absence of abstractions and discharges. The availability and reliability of data is patchy - long-term gauged data can be used until adequate naturalised data become available, although the impact of abstractions on historical flow records should be considered.

*Water quality:	Biological class. Environment Protection's General Quality Assessment scheme. Assess every year.	'a'	Generally, water quality should not be injurious to any life stage. A wide range of water quality parameters can affect the status of interest features, but standard biological monitoring techniques provide a reasonable integrated picture in relation to many parameters. The river quality classifications used in all parts of the UK have a biological component. All classified reaches within the site that contain, or should contain, the interest feature under conditions of high environmental quality should comply with the targets given.
	Ecosystem Class. Environment Protection's General Quality Assessment scheme. Assess every years	"a"	The River Ecosystem Classification 1995 sets standards for dissolved oxygen, biochemical oxygen demand, total and un-ionised ammonia, pH, copper and zinc. It therefore covers a number of water quality parameters that can cause problems within river systems. All classified reaches within the site that should contain the interest feature under conditions of high environmental quality should comply with the targets given.

	Soluble Reactive Phosphorus	*Targets should be set in relation to river/reach type(s and should be near background levels)* Annual mean <0.02mg/l - upland watercourses, <0.06mg/l mid-altitude watercourses on hard substrates and <0.2mg/l interim target for lowland rivers on clay substrates and large alluvial rivers.	The target of 25mgL^{-1} is based on the EC Freshwater Fish Directive a more precautionary figure has been used for salmon to help protect substrates used for salmon spawning. The mg/l used here are indicative values for rivers in England, the equivalent for Northern Ireland will have to be defined
*Water quality:	Pollution	None	Pollutants such as silage or Sheep dip can cause extreme mortality
	Suspended solids	Annual mean <10mgL^{-1} (spawning & nursery grounds) Annual mean <25mg L-1 (migratory passage)	Elevated levels of suspended solids can clog the respiratory structures of salmon.

ANNEX 5

Copy of guidance document WAT-SG-90 published by SEPA

Scottish Environment Protection Agency

Water Use

Supporting Guidance (WAT-SG-90)

Application of environmental standards in assessing risks to river and loch Natura 2000 interests

Version: v1

Released: Oct 2016

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Update Summary

Version	Description
v1	First issue for Water Use reference using approved content from the following documents: *WLPRSG(16)17a Application of environmental standards in assessing risks to river and loch Natura 2000 interests*

Notes:
References: Linked references to other documents have been disabled in this web version of the document. See the References section for details of all referenced documents.
Printing the Document: This document is uncontrolled if printed and is only intended to be viewed online. If you do need to print the document, the best results are achieved using Booklet printing or else double-sided, Duplex (2-on-1) A4 printing (both four pages per A4 sheet).

Always refer to the online document for accurate and up-to-date information.

Table of Contents

1. Introduction

This document sets out how SEPA will assess whether or not a proposed controlled activity (on its own or in combination with other activities) is likely to have a significant adverse effect on any river or loch Special Area of Conservation (SAC) or on any loch Special Protection Area (SPA)[1].

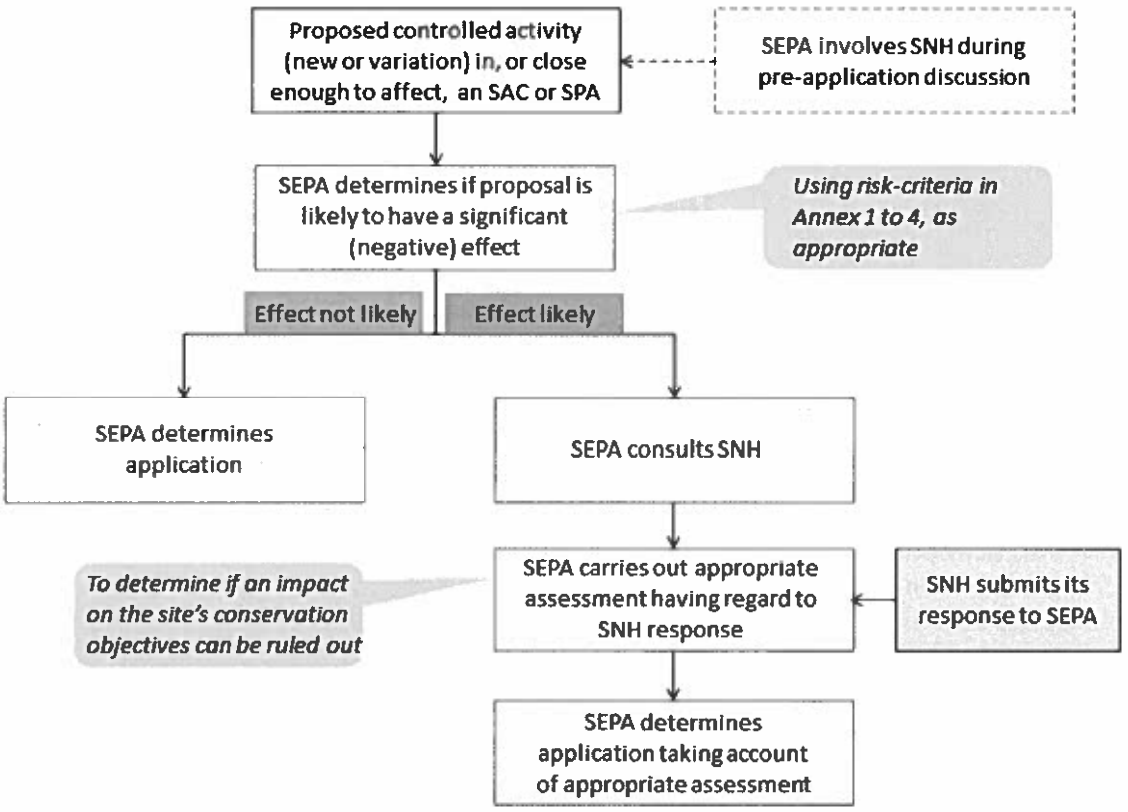
The UK Technical Advisory Group on the Water Framework Directive and the Joint Nature Conservation Committee have begun a review of the environmental conditions needed to sustain protected species and habitats. SEPA and Scottish Natural Heritage (SNH) are contributing to this review. Any resulting recommendations on new or revised standards will be made to the UK and devolved government administrations for their consideration.

The approach set out in this document will be applied in the interim until such time as any new or revised environmental standards are adopted.

Where SEPA identifies that a significant adverse effect is likely, it will undertake an appropriate assessment of the proposal's implications for the SAC or SPA in view of the site's conservation objectives.

Use WAT-FORM-32 to record the determinations and assessments referred to in figure 1. If consulting SNH, use WAT-LETT-86.

Figure 1 Process overview



[1] SEPA maintains a register of protected areas. Details about the SACs and SPAs on the register are published by SNH and a link to the details for each site can be found in SEPA's register.

2. Risk assessment criteria for river and loch SACs and SPAs

SEPA will assess whether or not a proposal in a river or loch SAC or loch SPA, or close enough to affect a river or loch SAC or a loch SPA, is likely to have a significant effect on a protected interests as follows:

Proposed Activity	Risk Assessment Criteria[1]	Protected Interest
Discharge	Annex 1	▪ freshwater pearl mussel ▪ lamprey species ▪ Atlantic salmon ▪ ranunculus river habitat ▪ loch habitat[2] & slender naiad
Water abstraction or flow increase	Annex 2	▪ freshwater pearl mussel ▪ lamprey species ▪ Atlantic salmon, ranunculus river habitat ▪ loch habitat & slender naiad
Registration-level engineering works	Annex 3	▪ freshwater pearl mussel ▪ Atlantic salmon ▪ lamprey species ▪ otter ▪ alluvial woodland
Licence-level engineering works	Annex 4	▪ freshwater pearl mussel ▪ Atlantic salmon ▪ lamprey species ▪ ranunculus river habitat ▪ alluvial woodland ▪ otter ▪ loch habitat & slender naiad ▪ nesting/roosting birds

Notes:
1. The risk criteria apply to proposed new activities and proposed variations to existing activities (eg an application to increase a discharge or abstraction; undertake additional engineering works)

SEPA will assess the effects of proposed activities located anywhere within the catchment of an SAC or SPA, including locations beyond the SAC/SPA's boundaries. In the case of the latter, SEPA will assess whether or not the activity has effects within the boundaries of the SAC or SPA that are likely to be significant. For example, in the case of a discharge upstream of river SAC, SEPA will apply the risk criteria in Annex 1 to any effect of the discharge on pollutant concentrations within the downstream SAC.

[2] SAC loch habitats comprise oligotrophic lochs containing very few minerals of sandy plains; oligotrophic to mesotrophic lochs with vegetation of the *Littorelletea uniflorae* and/or of the *Isoëto-Nanojuncetea;* hard oligo-mesotrophic lochs with benthic vegetation of *Chara* spp; natural eutrophic lochs with *Magnopotamion* or *Hydrocharition*-type vegetation; and natural dystrophic lochs and ponds.

Annex 1: Risk assessment criteria for proposed discharges

Annex 1 - relevant protected interests					
Freshwater pearl mussel	Lamprey species	Atlantic salmon	Ranunculus river habitat	Loch habitat (& slender naiad)	SPA lochs

Table 1 Criteria for assessing whether proposed discharges are likely to have a significant effect on freshwater SACs

Water quality determinand	River (R) or loch (L)	Proposed discharge type	Applicable environmental standards – reference is to Tables in 2014 Standards Directions [Reference in square brackets is to SEPA internal guidance]	Criteria for identifying whether a significant effect is likely				
				< 3% of class capacity remaining[1]	Pre-existing deteriorating trend	Breach of any standard	Compromise future achievement of a standard for good	Mixing zone over pearl mussel bed[2]
Oxygen conditions	R	Continuous	Dissolved oxygen: Table C1.1 (salmonid river type); or, if assessment against dissolved oxygen standards is not possible, biochemical oxygen demand: Table C1.3 [GIS Pages]	✔	✔	✔	✔	✔
	R	Short-duration, intermittent	Table C1.2 (salmonid river type); or, if assessment against dissolved oxygen standards is not possible, biochemical oxygen demand: Table C1.4 [WAT-SG-53-T2 – Table 2a]	-	-	✔	✔	✔
Phosphorus[3]	R	Any	Table C1.5 [Science Advice Helpdesk]	✔	✔	✔	✔	✔
	L	Any	Table C2.4 or C2.5 as applicable [GIS Pages]	-	✔	✔[4]	✔	-
River temperature	R	Any	Table C1.6 (salmonid river type) [GIS Pages]	-	-	✔	✔	-
Ammonia	R	Continuous	Table C4.1 (total ammonia) [GIS Pages]	✔	✔	✔	✔	✔
	R	Short-duration, intermittent	Table C4.3 (unionised ammonia) [WAT-SG-53-T2 – Table 2d]	-	-	✔	✔	✔
specific pollutants (other than	R & L	Continuous	Table C4.6 to C4.32 (annual mean standard) [WAT-SG-53-T5]	-	✔	✔	✔	✔
	R	Short-duration, intermittent	Table C4.6 to C4.32 (95-percentile standard if	-	-	✔	✔	✔

Table 1 Criteria for assessing whether proposed discharges are likely to have a significant effect on freshwater SACs

Water quality determinand	River (R) or loch (L)	Proposed discharge type	Applicable environmental standards – reference is to Tables in 2014 Standards Directions [Reference in square brackets is to SEPA internal guidance]	Criteria for identifying whether a significant effect is likely				
				< 3% of class capacity remaining[1]	Pre-existing deteriorating trend	Breach of any standard	Compromise future achievement of a standard for good	Mixing zone over pearl mussel bed[2]
ammonia)			specified, otherwise annual mean standard) [WAT-SG-53-T5]					
Priority substances	R & L	Any	Table C5.1 (as amended by 2015 Amendment Directions) [WAT-SG-53-T4]	-	-	✔	✔	✔
Suspended solids	R	Continuous discharges other than from urban waste water treatment works	Annual mean standard of 25 mg/l suspended solids	-	-	✔	-	-
		Continuous discharges from urban waste water treatment works	Table C4.1 (total ammonia) & Table C1.3 (biochemical oxygen demand) [GIS Pages]	-	-	✔	✔	-
Acidity	R	Any	Table C1.7 (pH) [WAT-SG-53-T7]	-	✔	✔	✔	-
	L	Any	Table C2.2 (acid neutralising capacity)	-	✔	✔	✔	-

Notes

1. The criterion relating to remaining capacity applies to watercourses for which SEPA has monitoring or modelling data on pollutant concentrations. If the proportion of environmental capacity remaining in the applicable water quality class is already less than 3%, or would be less than 3% if a proposed discharge were authorised, the proposed discharge will be judged likely to have a significant effect.

2. Discharges to SACs designated for freshwater pearl mussels will be considered likely to have a significant effect unless, based on the tests set out in Table 1(a) below, SEPA concludes that pollutant concentrations in the effluent plume prior to that plumes full mixing are unlikely to have a significant adverse effect on freshwater pearl mussels [see Table 1(a) below].

3. For the purpose of applying the risk assessment criteria for phosphorus, monitoring results below the limit of detection will be assigned a concentration equivalent to that limit of detection unless SEPA has other data showing that the concentration of phosphorus is lower than that limit.

4. The phosphorus standards will only be applied to SPA lochs if the protected bird species are dependent on feeding in those lochs. The standard for high will not be applied.

Table 1(a) Assessing whether a significant effect on freshwater pearl mussels is likely from concentrations of pollutants in a mixing zone[3]		
Step-wise tests	**No**	**Yes**
1. Would the concentration in the proposed emission be ≤ the relevant environmental standard?	Go to test 2	Significant effect not likely
2. If the discharge is to be made via a new outfall, is the outfall located in, or immediately upstream of, potential fresh water pearl mussel habitat (ie areas of riffle-type flow over beds comprised of mixtures of rocks, cobbles and fine gravel/coarse sand)?	Go to test 4 if (i) not via a new outfall or (ii) via a new outfall but not be located in or immediately upstream of pearl mussel habitat	Go to test 3
3. Is there evidence that pearl mussels are absent from the potential pearl mussel habitat that is present immediately downstream of the proposed outfall?	Significant effect considered likely	Go to test 4
4. Is the mixing zone length < 200m (approximately)? *The mixing zone length is the distance downstream of the outfall before the discharge is mixed across the full width of the channel.*	Go to test 5	Significant effect not likely
5. Would the concentration in the plume be ≤ the relevant environmental standard within < 200 metres (approximately) of the outfall?	Go to test 6	Significant effect not likely
6. Is the proposed emission from an existing discharge's outfall?	Go to test 8	Go to test 7
7. Would the length of mixing zone in which environmental standards are exceeded be approximately the same as it is currently if the proposed emission were authorised?	Go to test 8	Significant effect not likely
8. Within the part of the channel over which the plume would extend, is the habitat unsuitable for freshwater pearl mussels? *Habitat lacking areas of riffle-type flow over beds comprised of mixtures of rocks, cobbles and fine gravel/coarse sand is likely to be unsuitable.*	Go to test 9	Significant effect not likely
9. Within the part of the channel that would be covered by the plume, is there evidence that pearl mussels are absent?	Significant effect considered likely	Significant effect not likely

[3] SEPA's Environmental and Spatial Informatics Unit should be contacted to calculate the mixing zone. Mixing zone lengths vary with flow. For the purposes of Table 1(a), SEPA will estimate mixing zone lengths at Q50 flow – the flow exceeded for 50% of the time.

Outfall design

The mixing zone length over which environmental standards are exceeded can be shortened by maximising initial mixing. SEPA will:

(i) consider proposals to improve initial mixing where it would otherwise conclude that a discharge would be likely to have a significant effect on freshwater pearl mussels; and

(ii) in all cases, encourage developers to take such steps as are reasonably practical to promote rapid initial mixing of continuous discharges.

Proposed new intermittent discharges should be designed to:

- operate only where river flows are expected to be high; and
- meet the appropriate standards for intermittent discharges (see Table 1)

Potential steps to improve initial mixing:

- locating discharge ports under water such that the effluent emerges at around mid-depth when river flow is at a medium to low level. This allows the discharge to mix vertically in both directions (up and down) at once;
- using appropriately protected discharge pipes that protrude into the channel so that the effluent is not discharged at the channel edge. A protruding outfall allows the discharge to mix horizontally in both directions (left and right) at the same time. However, a protruding outfall can instigate bed scour and erosion. This risk increases in higher energy rivers and needs to be taken into account at the design stage if this option is to be used;
- discharging the effluent through more than one port along a diffuser line; or
- orienting ports and designing effluent exit speeds so as to maximise shearing action between the effluent jet and river flow.

Annex 2: Risk assessment criteria for proposed abstractions

Annex 2 – relevant protected interests					
Freshwater pearl mussel	Lamprey species	Atlantic salmon	Ranunculus river habitat	Loch habitat (& slender naiad)	SPA lochs

Table 2: Criteria for assessing whether a proposed abstraction or increase in flow is likely to have a significant effect on freshwater SACs

Flow or level	Type of water affected	Applicable environmental standards reference is to Tables in 2014 Standards Directions	Criteria for identifying where a significant effect is likely			
			Breach of any standard	Compromise future achievement of a standard for good	Breach of any criterion for good ecological potential flow	Increased departure from any criterion for good ecological potential flow
River flow	Watercourses not designated as heavily modified in relation to a water storage scheme & parts of water bodies so designated whose flows are not worse than good as a consequence of the scheme	Applicable standards in Part B of Schedule 2 – Tables B1.1 to B1.7	✔	✔	-	-
	Any part of a river water body designated as heavily modified in relation to a water storage scheme whose flows are worse than good as a consequence of that scheme	UKTAG guidance on good ecological potential river flows	-	-	✔	✔ (where the relevant UKTAG mitigation for good ecological potential is not in place)
	Any watercourse	Standards in Schedule 3 – Table 2.1 for increased flow	✔	✔	-	-
Lake level	Any freshwater loch	Table B2.1	✔	✔	-	-

Note: SEPA will require that any proposed new intakes and outfalls in river SACs follow best practice in their design and location to avoid damage to, or diversion of, migrating fish.

Annex 3: Risk assessment criteria for proposed registration-level engineering works

Annex 3 – relevant protected interests				
Freshwater pearl mussel	Lamprey species	Atlantic salmon	Alluvial woodland	otter

If any proposed registration-level engineering works would result in deterioration of morphological status, SEPA will conclude that a significant effect on the protected interest is likely. Where deterioration of morphological status would not result, SEPA will apply the criteria in Table 3.

Table 3: Circumstances in which engineering works authorised by registration will be assessed as likely to have a significant effect on a river SAC

Engineering activity (see CAR Practical guide for further details)	Designated SAC interest				
	Pearl mussel	Salmon	Lamprey	Otter	Alluvial woodland
Limited sediment removal from 1/3 of dry bars in a 1 km river length	-	-	-	-	✔
Sediment removal from wet part of river bed - within 10 m of a bridge	✔ [1]	-	-	-	-
Sediment removal from wet part of bed at an open culvert < 2 m wide	✔ [1]	-	-	-	-
Sediment removal from wet part of a lade	✔ [1]	-	-	-	-
Cable/pipe crossing beneath bed	✔ [1]	-	✔ [3]	✔ [4]	-
Green bank protection of < 50m where works undertaken on wet part of river bed	✔ [1]	-	✔ [3]	✔ [4]	✔
Bank re-profiling of < 50m where works undertaken on wet part of river bed	✔ [1]	-	✔ [3]	✔ [4]	✔
Bridge with < 20m bank works	✔ [1]	-	-	✔ [4]	✔
Bridging culvert of river < 2 m wide for single track road or smaller path	✔ [1]	-	-	✔ [4]	-
Bed reinforcement within 10m of a culvert exit	✔ [1]	-	-	-	-
Removal of sediment from previously straightened watercourses with specific impact features less than 5 metres wide	✔ [2]	-	-	-	-

Notes:

1. SEPA will conclude that a significant effect on pearl mussels is likely unless there is evidence that pearl mussels are absent from the location or a previous appropriate assessment has concluded that impacts on pearl mussels at the location would not have implications for the Natura 2000 site's objectives. For this purpose, evidence of absence includes evidence that habitat suitable for pearl mussels is absent

2. SEPA will conclude that a proposal for this activity in an SAC designated for pearl mussels would be likely to have a significant effect on pearl mussel interests unless:

   a) the channel downstream has the same characteristics (ie previously straightened with specific high impact features) until its confluence with a loch; for a distance of ≥ 2km; or until its confluence with a river with an annual mean flow at least 5x greater; or

   b) where there is channel not of the same characteristics within the downstream channel distances referred to in point (a), there is evidence that pearl mussels are absent from the location or a previous appropriate assessment has concluded that impacts on pearl mussels at the location would not have

implications for the Natura 2000 site's objectives. For this purpose, evidence of absent includes evidence that habitat suitable for pearl mussels is absent.

3.SEPA will conclude that a significant effect on lamprey interests is likely if the site proposed for the activity coincides with a discrete patch of silt known to support a significant proportion of the Natura 2000 site's lamprey population and identified to SEPA by SNH. The sites are listed in Table 4 below.

4. SEPA will only conclude that a proposal would be likely to have a significant effect on otter interests if it is to be located in one of the following SACs: Ardvar and Loch a'Mhuilinn Woodlands; Glen Beasdale; Ness Woods; River Borgie; Loch Fada; or Loch Ruthven.

Table 4: Locations of discrete patches of silt known to support a significant proportion of Natura 2000 site's lamprey population (see Table 3)

Easting	Northing	Radius (m)	Description	River bank
334370	862998	75	Extensive Backwater beside Essil Pool	Left
334266	859777	25	Backwater, 300m downstream from Fochabers Bridge on right bank	Right
333211	855690	50	Backwater beside Lord March Pool, Brae Water Beat 3	Left
333275	856843	25	Backwater at lower end of Aultdearg Pool, Brae water Beat 3	Left
331790	852500	80	Backwater at Upper end of Orton Beat	Left
329018	850843	75	Large backwater at upper end of Sourden pool, Delfur	Left
324800	842900	50	Extensive sand/silt deposit in Pike Hole, WesterElchies	Left
323822	841734	60	Backwater at Horse Hole, directly downstream from Green Burn Mouth, Delagyle	Left
318061	838190	80	Backwater approx 500m upstream from Blacksboat Bridge, Pitchroy	Left
316165	836937	150	Upper end of backwater behind island.	Left
307027	829166	80	Backwater 200m upstream from Cromdale Burn	Right
299500	822333	60	"U/S of Nethy Bridge". In side channel midway between River Nethy confluence and Broomhill Bridge	Left
294650	819200	70	"D/S of bridge at Boat of Garten". C.100 metres downstream of Garten Bridge	Left

Annex 4: Risk assessment criteria for proposed licence-level engineering works

Part 1 Annex 4 - relevant protected interests							
Lamprey species	Freshwater pearl mussel	Atlantic salmon	Alluvial woodland	Otter	Ranunculus river habitat	Loch habitat (& slender naiad)	SPA lochs with nesting/roosting birds

Figure 2 Procedure for identifying whether or not a proposed licence-level activity would be likely to have a significant effect

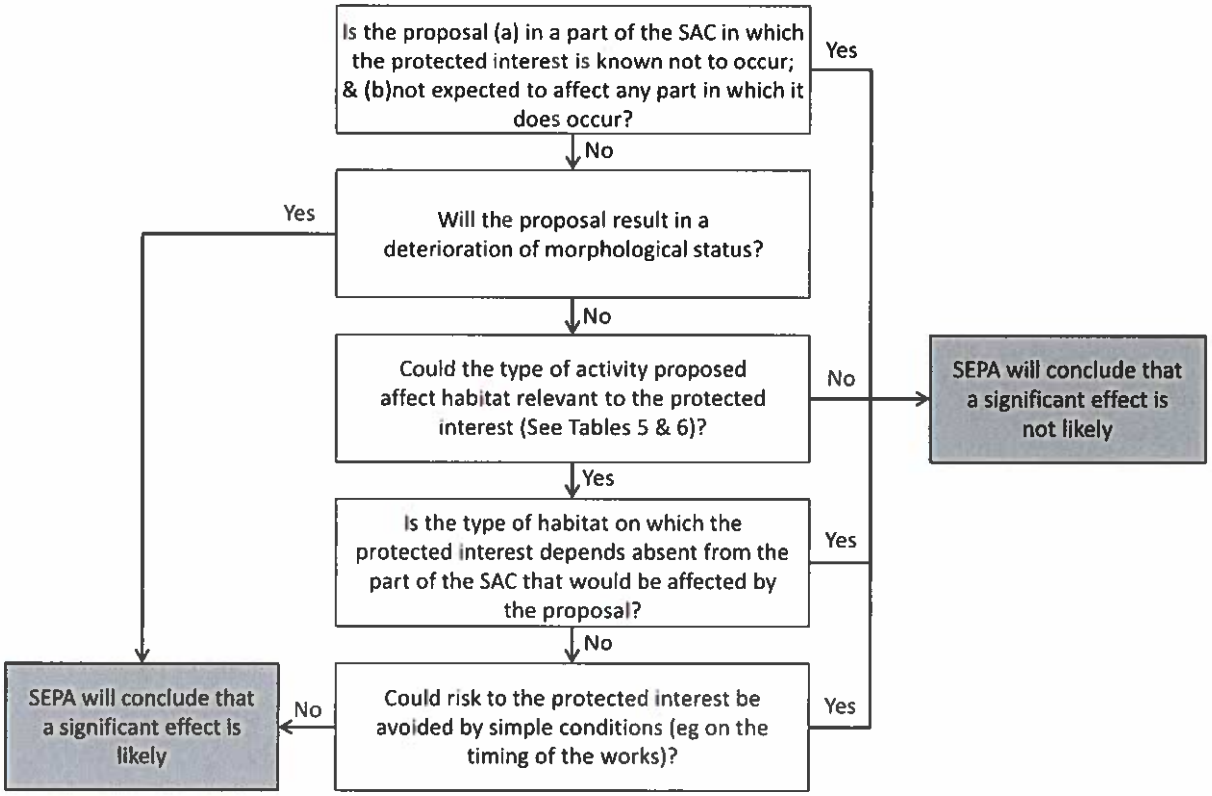


Table 5: Activities in river SACs that could affect habitat relevant to a protected species or habitat

Activity (as listed in 2014 Standards Directions)	Freshwater pearl mussel	Atlantic salmon	Lamprey	Ranunculus habitat	Alluvial woodland	Otter
1. Construction of artificial walls, artificial earth banks or other artificial structures which are: (i) on land which is >10 metres or one channel width (whichever is the greater) but < 50 metres distant from the channel; and (ii) higher than the highest land between the structure and the channel.	-	-	-	-	✔	✔
2. Construction of artificial walls, artificial earth banks or other artificial structures, excluding revetments, which are: (i) on land which is ≤10 metres or one channel width (whichever is the greater) distant from the channel; and (ii) higher than the highest land between the structure and the channel.	-	-	-	-	✔	✔
3. Alteration of the structural complexity of vegetation within 2 metres of the channel, ranging from complete removal of vegetation to a partial change to the density of one structural component of the vegetation, such as woody vegetation.	-	-	-	✔	✔	✔
4. Bank revetment using vegetation; geotextiles; wood placed at the toe of the bank; or non-grouted stone rip-rap placed at the toe of the bank.	✔ [1]	✔ [2]	✔ [3]	✔ [3]	✔	✔
5. Bank revetment using materials or methods other than vegetation; geotextiles; wood placed at the toe of the bank; or non-grouted stone rip-rap placed at the toe of the bank where:						
5a. no structure is placed between revetments on opposite banks so as to span the channel width and create a culvert through which the river flow passes;	✔ [1]	✔ [2]	✔ [3]	✔ [3]	✔	✔
5b. (i) the revetment is applied to the bank faces of each bank; and (ii) a structure is placed	✔	✔ [2]	✔	✔	✔	✔

	between the revetments and joined or abutted to them so as to span the channel width and create a culvert through which the river flow passes;						
5c.	(i) the revetment is applied to the bank faces of each bank; (ii) the channel bed is altered to increase its resistance to erosion, such as by lining it, or replacing it, with concrete; bricks; wood; sediments larger than those typically capable of being transported by the river; or any other materials resistant to erosion; and (iii) a structure is placed between the bank revetments and joined or abutted to them so as to span the channel width and create a culvert through which the river flow passes.	✔	✔ [2]	✔	✔	✔	✔
6. Removal of sediment from the channel bed where the sediment is removed from ≤ 50 % of the channel width.		✔ [1]	✔ [2]	✔ [3]	✔ [3]	✔	✔ [4]
7. Removal of sediment from the channel bed where the sediment is removed from > 50 % of the channel width.		✔	✔ [2]	✔ [3]	✔ [3]	✔	✔ [4]
8. Alterations to the channel bed which increase its resistance to erosion, such as the lining of the bed, or the replacement of the bed, with concrete; bricks; wood; sediments larger than those typically capable of being transported by the river; or any other materials resistant to erosion.		✔	✔ [2]	✔	✔ [3]	✔	✔ [4]
9. Placement of any structure on the bed of the channel such that the structure abuts one of the banks and deflects part of the river flow to another part of the channel.		✔	✔ [2]	✔	✔	✔	✔
10. Placement of a structure on the bed of the channel such that the structure deflects part of the river flow to another part of the channel and, on its own or combination with other in-stream structures, occupies more than 10 % of the		✔	✔ [2]	✔	✔	✔	✔

channel width						
11. Construction of any dam, weir or other works by which water is impounded.	✔	✔ [2]	✔	✔	✔	✔
12a. Alteration of the channel length or the channel width which pose a high risk of destabilising the balance between erosion and deposition of sediment and hence the structure and condition of the bed or banks.	✔	✔ [2]	✔	✔	✔	✔
12b. Alteration of the channel length or the channel width which pose a low risk of destabilising the balance between erosion and deposition of sediment and hence the structure and condition of the bed or banks.	✔	✔ [2]	✔	✔	✔	✔

Notes:

1. The activity should be considered relevant unless (i) the part of the channel affected is dry at the time of the works; and (ii) in the case of activity 6, the removal of sediment is not of a scale likely to result in sediment starvation and consequent bed erosion downstream[4].

2. The activity should be considered relevant if (a) it affects the wetted part of the channel in spawning areas during spawning periods or during the period prior to the emergence of juvenile fish from the river gravels; or (b) the works will involve prolonged periods of blasting or pile driving during times during which migratory fish are likely to be in passage

3. The activity should only be considered relevant if the works are undertaken in the wetted part of the channel

4. The activity should only be considered relevant if the works are likely to affect instream islands or access to undertake the works is likely to damage riparian zone habitats

[4] SEPA's Ecology Partnership & Development Unit should be contacted for advice on the scale of sediment removal likely to produce habitat change downstream.

Table 6: Activities in loch SACs or SPAs that could affect habitat relevant to a protected species or habitat

Activity (as listed in 2014 Standards Directions)	Loch habitats & slender naiad	Otter	Nesting/roosting birds
1. Impounding works or works causing the lowering of the river bed immediately downstream of the loch outlet.	✔	✔	✔
2. Bank revetment using materials other than vegetation; geotextiles; or soil.	✔	✔	✔
3. Bank revetment using vegetation; geotextiles; or soil.	✔	✔	✔
4. Any structure on the bed of a loch that extends from the shore into the loch other than an outfall, pipe, cable or part of a structure referred to in alteration 1, 5 or 6.	✔	✔	✔
5. Any structure which: (i) is suspended above the surface of a loch between foundation structures on the bed of the loch; and (ii) extends from the shore out into the loch.	✔	✔	✔
6. In-filling by any means of a part of a loch with the effect of extending the adjacent terrestrial land surface into the area previously occupied by loch water.	✔	✔	✔
7. Depositing of any material containing bedrock, boulders, gravel, sand, silt, mud or any mixture thereof on the bed of a loch other than as part of alterations 1, 2, 3, 4, 5 or 6.	✔	-[1]	-[2]
8. Removal of bed material by excavation from the bed of a loch.	✔	-[1]	-[2]
9. Alteration of the structural complexity of vegetation on land within 10 metres of the loch edge, ranging from complete removal of vegetation and replacement with impermeable surfaces to a partial change to the density of a structural component of the vegetation.	✔	✔	✔

Notes:

1. Not to be treated as relevant unless the carrying on of the activity is likely to cause damage to otter holts in the shore zone or prevent/limit the use of the loch by otters for a significant period of time.

2. Not to be treated as relevant unless the carrying on of the activity is likely to cause damage to nests or nesting sites in the shore zone or prevent the use of the loch by the birds for a significant period of time.

Key References

NOTE: Linked references to other documents have been disabled in this web version of the document See the Water >Guidance pages of the SEPA website for Guidance and other documentation (http://www.sepa.org.uk/regulations/water/engineering/engineering-guidance/). All references to external documents are listed on this page along with an indicative URL to help locate the document. The full path is not provided as SEPA can not guarantee its future location.

Key Documents

- *WAT ... Natura Procedure Assessment Record (under CAR)*
- *WA ... Consultation Letter*
- *WAT-SG-53: Environmental Quality Standards and Standards for Discharges to Surface Waters*

Other Information

- *2014 Standards Directions* August 2014 (www.gov.scot/publications) *Scotland River Basin District (Standards) Direcetions 2014*
- *Science Advice Helpdesk* (SEPA Intranet page)
- *GIS Pages* (SEPA GIS Intranet page)
- *UKTAG guidance* on good ecological potential river flows (wfd.co.uk)

- End of Document -

ANNEX 6

Extracts from: Owenkillew, Owenreagh East and Tributaries Catchment Status Report (2010)

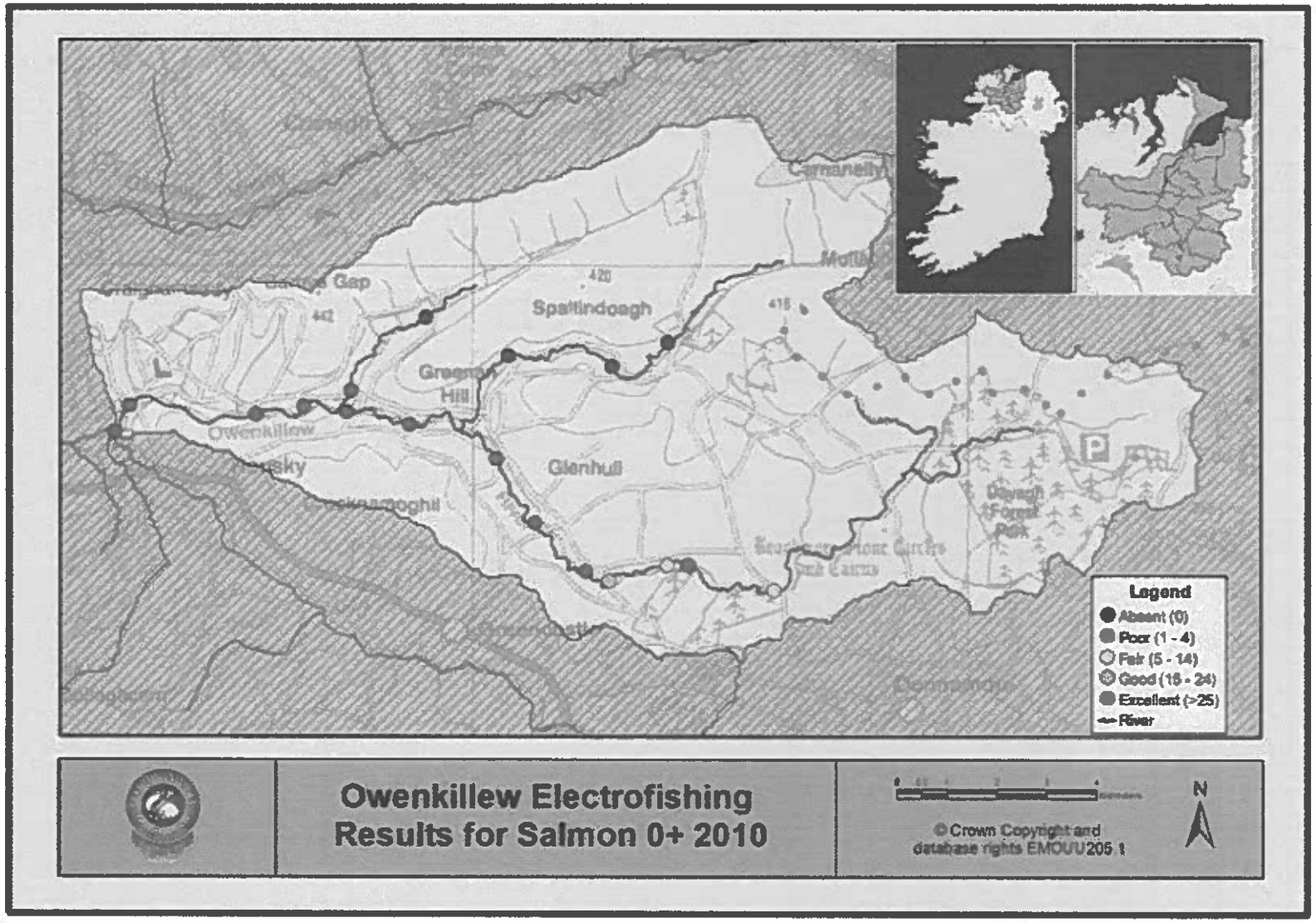


Fig 2.22a Salmon 0+ electrofishing site classification 2010

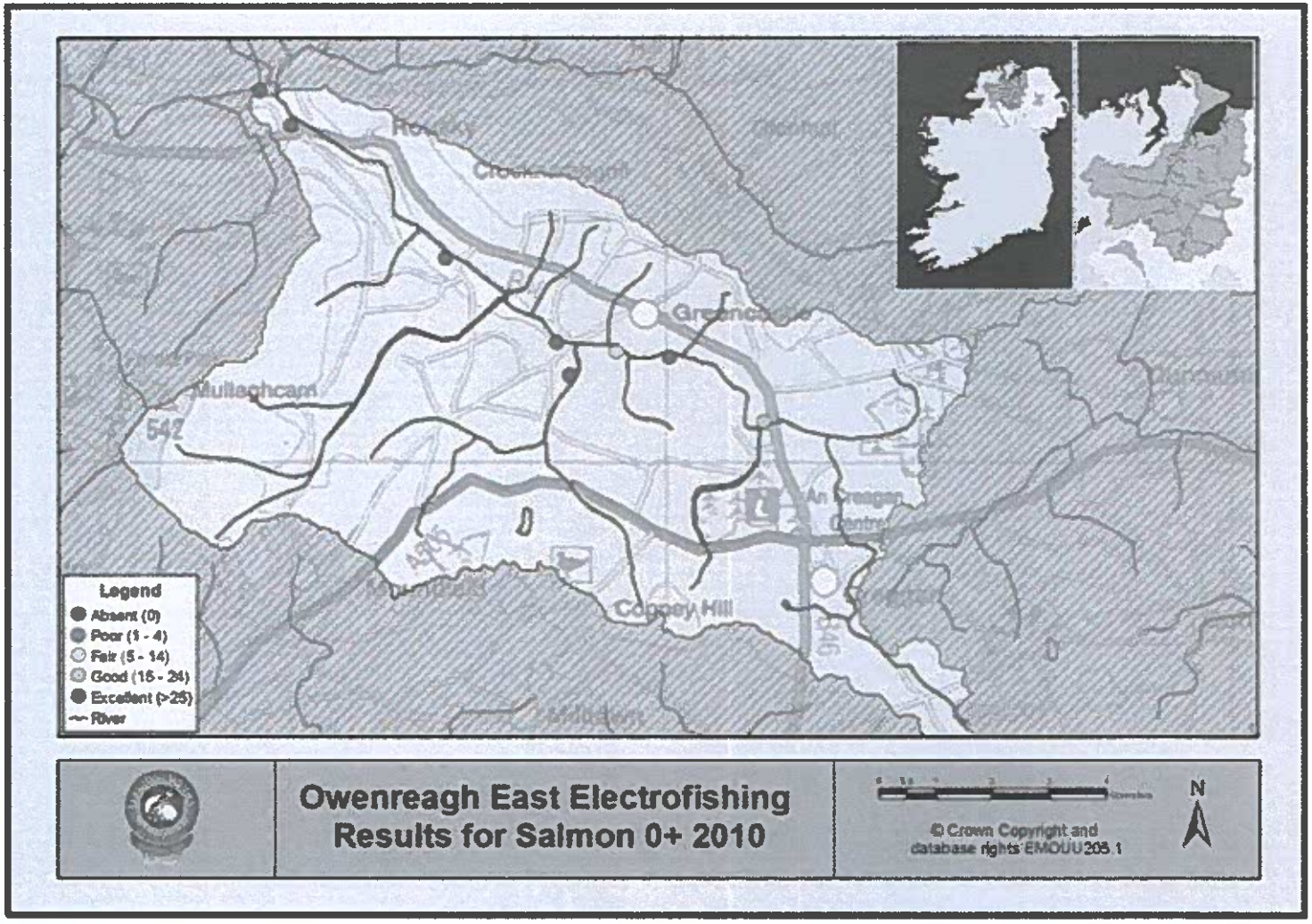


Fig 2.22b Salmon 0+ electrofishing site classification 2010

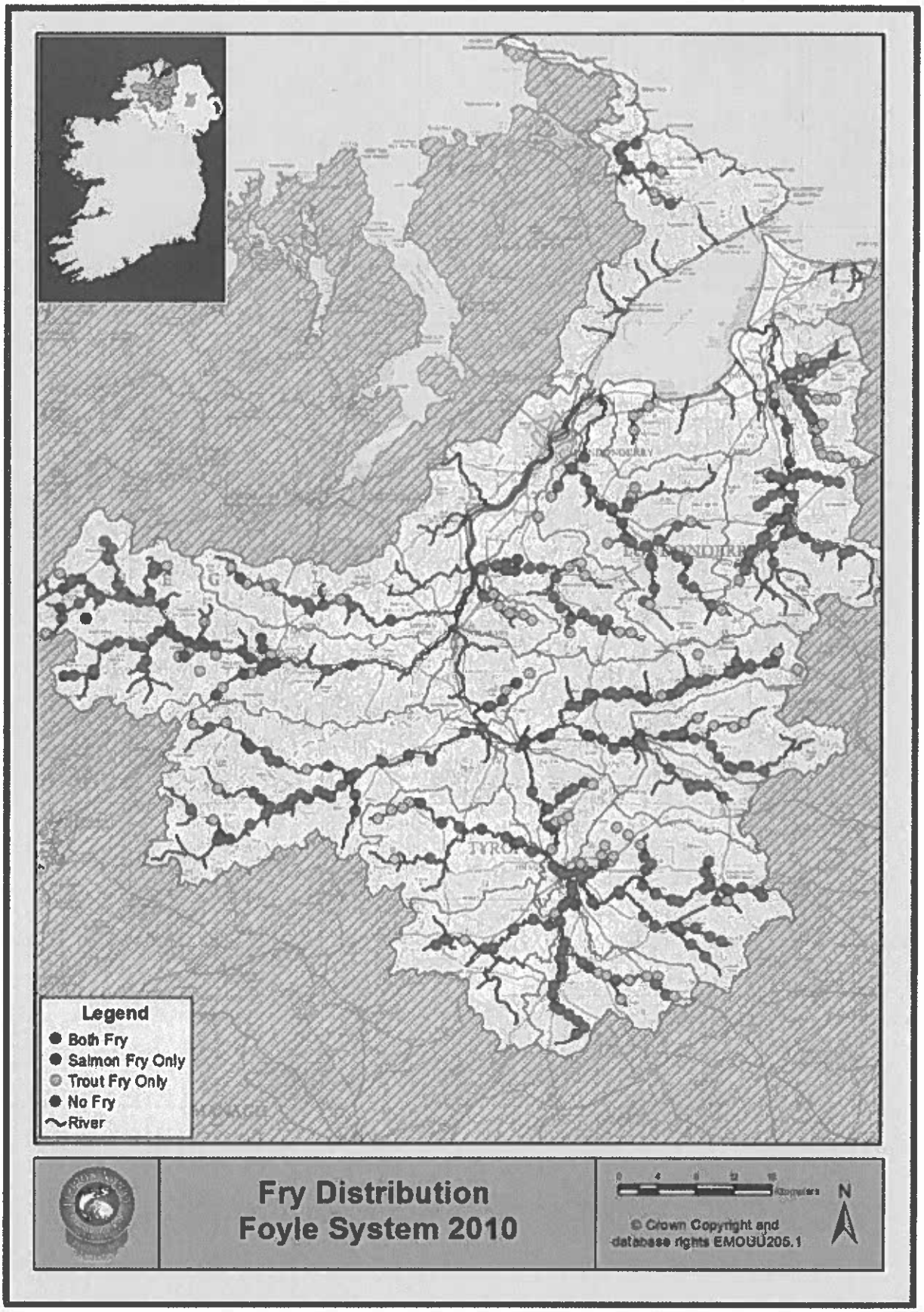


Fig 3.13 Salmon and Trout fry distribution 2010

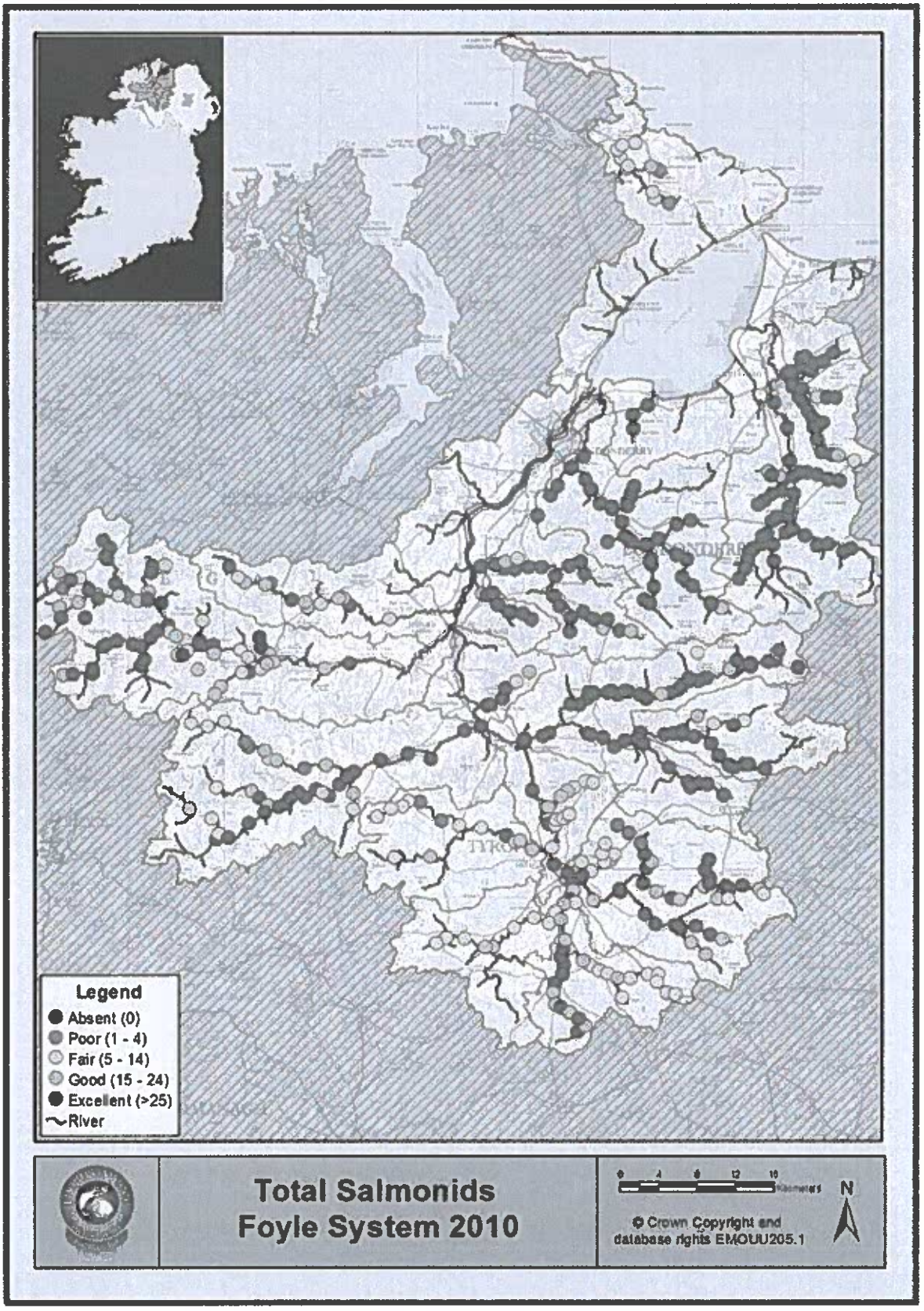


Fig 3.15 Total salmonid (salmon/trout fry and parr) distribution 2010

ANNEX 7

Extracts from Owenkillew River, Owenreagh East and Tributaries Catchment Status Reports, 2011, 2015 and 2018

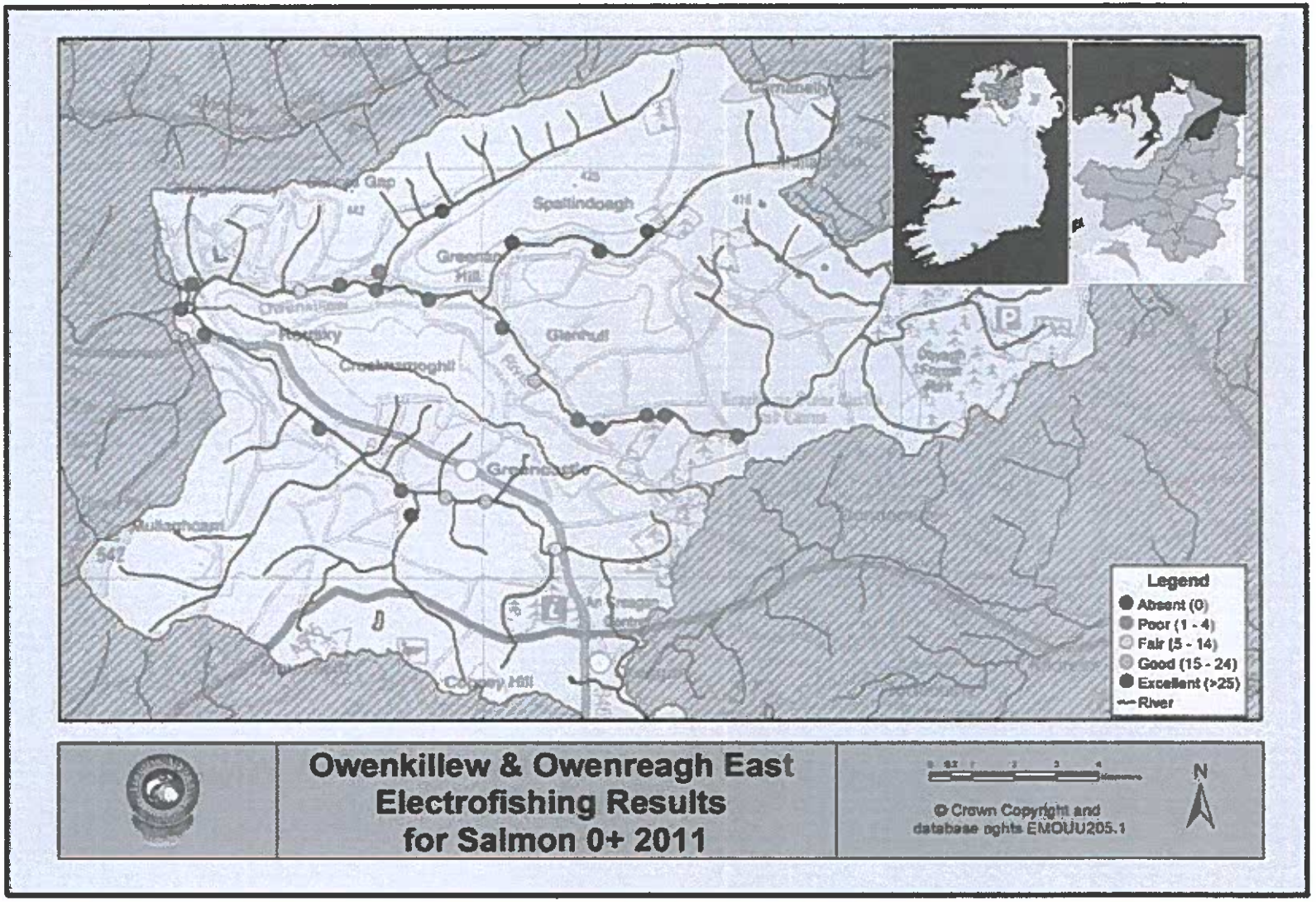


Fig 12. Owenkillew and Owenreagh East salmon fry electrofishing classifications

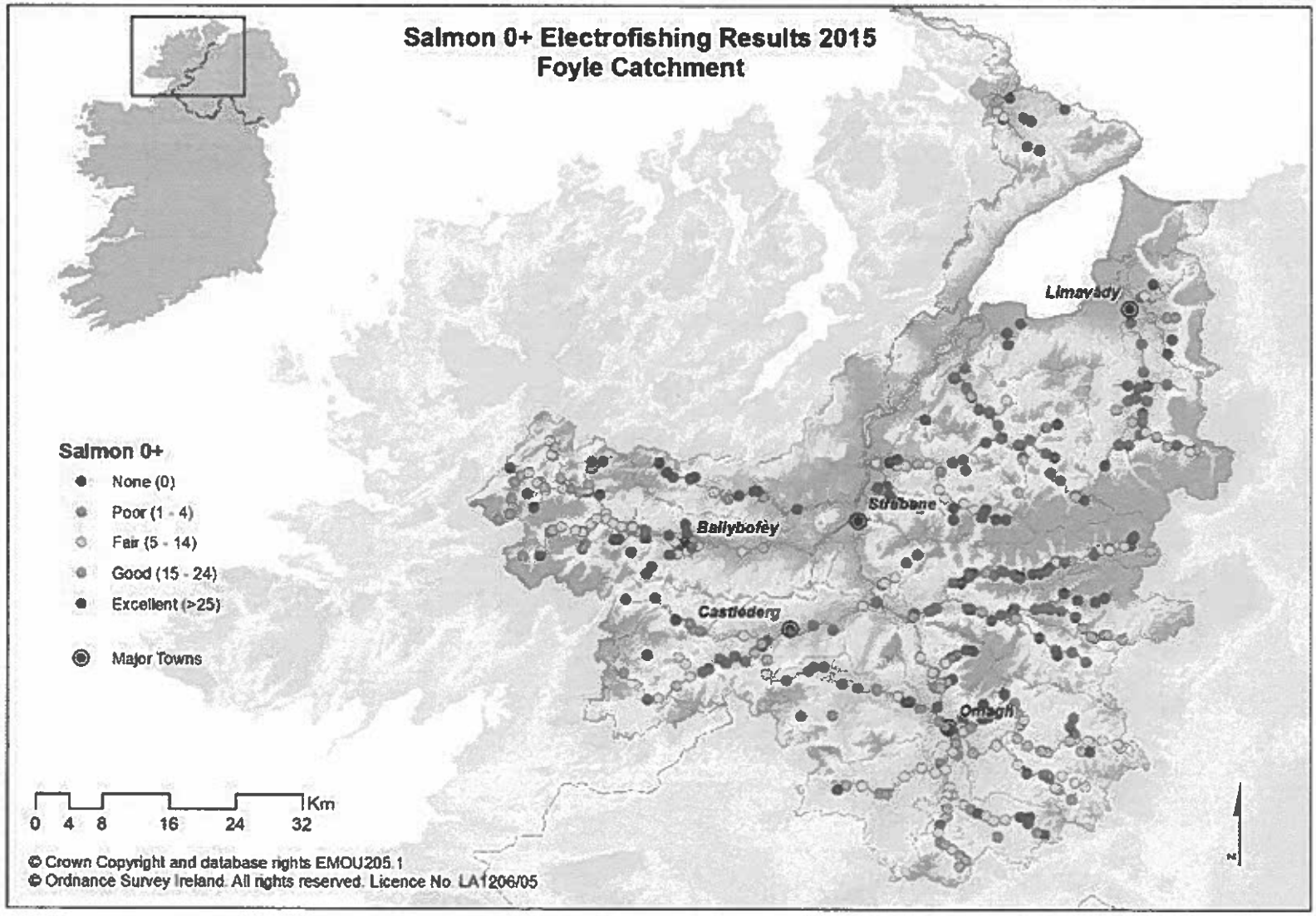


Fig.14 Foyle area salmon fry electrofishing classifications 2015

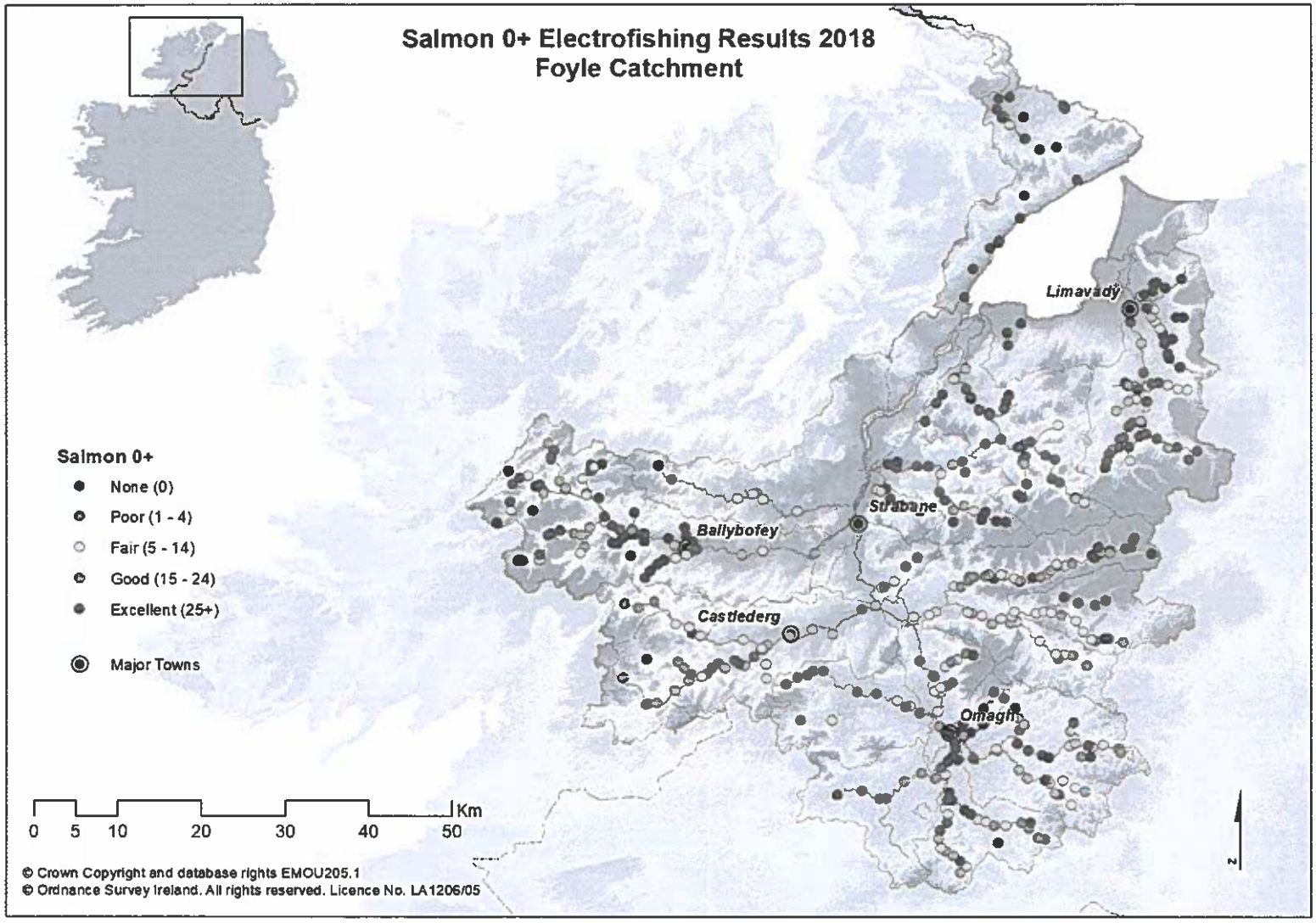
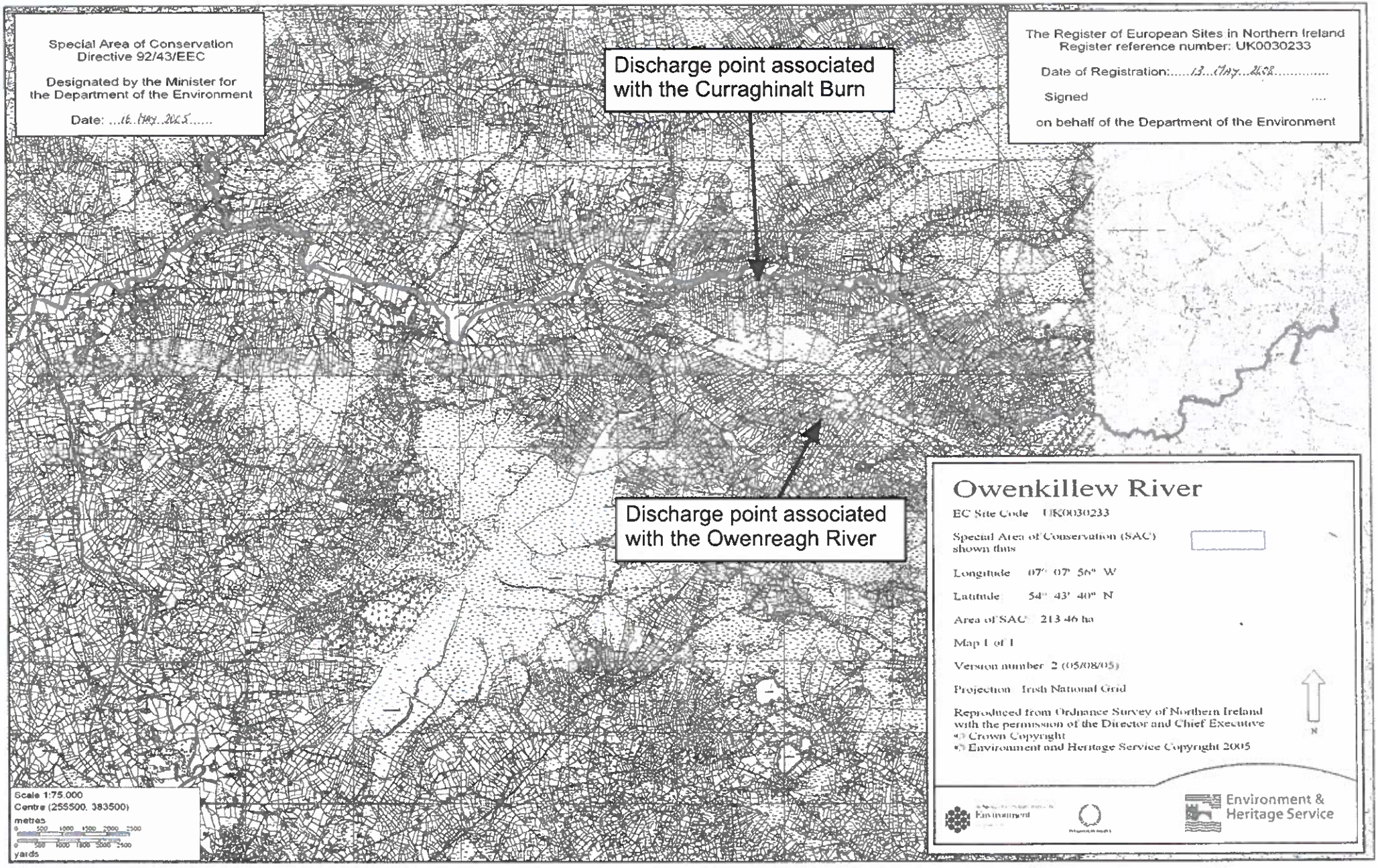


Fig.14 Foyle area salmon fry electrofishing classifications 2018

ANNEX 8

Annotated map of the Owenkillew River SAC showing proposed discharge locations


Special Area of Conservation
Directive 92/43/EEC
Designated by the Minister for
the Department of the Environment
Date: ...16 May 2005.....
Discharge point associated with the Curraghinalt Burn
The Register of European Sites in Northern Ireland
Register reference number: UK0030233
Date of Registration:.....13...May...2008.....
Signed ....
on behalf of the Department of the Environment
Discharge point associated with the Owenreagh River
Owenkillew River
EC Site Code UK0030233
Special Area of Conservation (SAC) shown thus
Longitude 07° 07' 56" W
Latitude 54° 43' 40" N
Area of SAC 213.46 ha
Map 1 of 1
Version number 2 (05/08/05)
Projection Irish National Grid
Reproduced from Ordnance Survey of Northern Ireland with the permission of the Director and Chief Executive
© Crown Copyright
© Environment and Heritage Service Copyright 2005
N
Scale 1:75,000
Centre (255500, 383500)
metres
0 500 1000 1500 2000 2500
0 500 1000 1500 2000 2500
yards
Environment &
Heritage Service