



Scottish Natural Heritage Dualchas Nàdair na h-Alba

All of nature for all of Scotland
Nàdar air fad airson Alba air fad

Water Framework Directive UKTAG
c/o SNIFFER
Edinburgh Quay
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Edinburgh
EH3 9AG

28 February 2013

Dear Sirs

Stakeholder Review – Phosphorus and Biological Standards

UKTAG are conducting two simultaneous consultations at present. The first is on draft proposals for phosphorus standards in rivers. The second are proposed recommendations on biological standards. We are responding to both these consultations in this single document.

Phosphorus standards in rivers

The consultation is based on two principles:

1. The UKTAG recommends that new site specific phosphorus standards for river are adopted based on a new model of the relationship between phosphorus concentrations and biology; and
2. The UKTAG suggests that the proposed new default phosphorus standards for rivers are adjusted to take account of observed local biology.

SNH, and the other UK statutory nature conservation bodies, participate in UKTAG. We have been involved in various task teams that have helped to develop the recent recommendations, including the draft proposed phosphorus standards for rivers. The main focus of our contribution has been considering the implications for standards used to underpin the conservation objectives for rivers designated as Special Areas of Conservation (SAC) and Sites of Special Scientific Interest (SSSI).

We have responsibility for setting the conservation objectives for SACs and the standards that are used to underpin them. We have been working for some time with other members of UKTAG to, where possible, align the standards used for the Water Framework Directive and the Habitats Directive. It is unfortunate that it has not proved possible to incorporate our proposals or a rationale for applying such proposals on designated sites into the draft proposals for phosphorus standards in rivers. However, given the significance to the conservation agencies of the relationship between the UKTAG proposals and the standards used to underpin our conservation objectives for SAC and SSSI rivers, our comments on the present consultation are restricted to the use of standards on SACs and SSSIs, rather than the use of the proposed phosphorus standards for rivers generally.



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In relation to the first principle, overall, we agree that the new standards derived from the new model have reduced some of the mismatches between classifications based on phosphorus

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and biology in rivers. Since the new model generates standards specific to an individual site/water body it may enable further alignment of phosphorus standards for Water Framework Directive purposes and the standard that underpin the conservation objectives of a SAC, based on JNCC common standards.

We have been able to compare the standards generated by the proposed new model with those currently proposed for river habitat in designated sites. Alignment often tends to be closer to the phosphorus standards relating to the boundary between High and Good Ecological Status, rather than to those relating to the boundary between Good and Moderate Ecological Status. We have also been able to compare the standards generated by the proposed new model with recommendations from Northern Europe on the appropriate concentration of phosphorus that will prevent damage to freshwater pearl mussels. There is little alignment in this case, with the recommendations for appropriate phosphorus concentrations for freshwater pearl mussel consistently being above the proposed boundary between High and Good Ecological Status. UKTAG will know that further work to examine these relationships and their use in decision making is currently underway.

In relation to the second principle, we recognise the importance of managing uncertainty when applying the proposed phosphorus standard in practice. The new model and standards propose to adjust a standard based on local biology. We believe this implies a better understanding of the relationship between phosphorus and biological change than is justified. This is particularly the case within rivers designated as SAC and SSSI, where a different approach to managing uncertainty is more appropriate. We do not think the approach proposed by UKTAG would be justified in adjusting phosphorus standards used to underpin the conservation objectives of designated sites. Other approaches, such as adjusting the objective for a river based on local evidence of condition may be one way of managing this uncertainty and hence establishing priorities. Examples of this could be setting a different timescale to achieve a standard or having a more precautionary phosphorus standard in a SAC because of the acknowledged uncertainty around the ecological outcome.

Overall, the above comments cover the three questions in the consultation with respect to designated sites where we continue to encourage the consideration and uptake of the evidence we have produced for phosphorus standards that protect riverine habitat in SACs and SSSIs. These have been included in the revised draft JNCC common standards for riverine habitat, that were subject to review in 2009-10, in consultation with the UK environment agencies.

Proposed standards on biological standards

Again, for this consultation our comments are restricted to the implications of the proposed standards in sites, mainly rivers, that have been designated for nature conservation. We have had only limited involvement in the development of the proposed biological standards.

The consultation asks the question:

- whether or not you agree that our proposals provide for a better understanding of the ecological quality of the water environment

So far there has only been limited work on possible alignment between the biological methods used in determining standards for WFD and the biological attributes in JNCC common standards monitoring.

We would like to emphasise a number of reasons why there may be a difference between the application of biological standards in SACs and SSSIs, and those used for water bodies under the WFD.

1. The scale of the river habitat designation in the River Tweed SAC and a number of SSSIs is likely to be greater than that considered by a waterbody. The 'river habitat' feature (SAC or SSSI) is defined as the whole of the river channel and its banks, as an example of natural 'river type'. This includes all biotopes (including ephemeral and perennial biotopes) and the whole characteristic community of the river as an example of type. Counter to this, in SACs and SSSIs that are designated for particular species (e.g. river lamprey, freshwater pearl mussel, Atlantic salmon), there may be no WFD biological metrics that can directly understand the ecological status of those features or all their life history types (see below).
2. The thresholds for acceptable change for biological metrics may not be set at a level which will protect the structure and function necessary to maintain the integrity of a designated site. There could be a number of reasons for this. The WFD takes a risk-based approach to protecting ecological function, which has necessarily led to the development of metrics that show the extent of pressures acting upon the biology of waterbodies or supporting elements. But to ensure the conservation of SACs and SSSIs, more information is required, particularly that the qualifying feature is present and functioning satisfactorily. While WFD metrics could be used to provide some of this information, by necessity different metrics have been developed for the monitoring of designated sites.

Related to the above point, for riverine habitat in SACs and SSSIs, where the relationship between WFD biological metrics and compositional change in the biota (macroinvertebrate ASPT and diatom TDI) has been analysed, the values for the boundary between good and moderate ecological status have been judged by the conservation agencies to be insufficient for favourable condition. In this case the values for the boundary between high and good ecological status have been judged to be more appropriate. For example, the good/moderate boundary for ASPT was found by UKTAG analysis to equate to an average loss of 4.6 BMWP 'families', and 1 major taxonomic order (e.g. stoneflies).

Work is ongoing to test for alignment between the proposed tool for classifying fish fauna and rivers and the classification system we use for assessing the condition of Atlantic salmon in designated sites. It is hoped this comparative work may show some alignment however it should be noted that the proposed FCS2 tool does not include an element for classifying the adult population size or for directly addressing the natural, regional variation in salmon abundance. This will likely prevent full integration of the classification of salmonid abundance in rivers in Scotland but we hope our ongoing work will show some comparability between the classifications for WFD and designated site reporting.

We note that the consultation does not propose methods for assessing fish status in Scotland or elsewhere in GB. The conservation agencies have successfully developed and applied biological metrics for assessing the status of fish stocks in lochs designated as SSSIs since 2005 (Bean, 2003a; b), which you may consider using beyond designated sites.

We have had much less involvement in the task teams working on standards that will be applied to coastal and transitional waters. While acknowledging the considerable amount of work that has been put into establishing the proposed biological standards we have concerns about their applicability to saltmarshes, lagoons and other important habitats. We have been working very successfully to date with SEPA on saltmarshes and will continue that joint working to agree appropriate standards that are relevant to undertaking Common Standards Monitoring assessments in designated sites.

The consultation also asks a further question:

- how our recommendations might be further improved in the future.

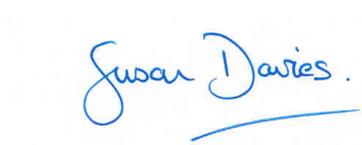
The conservation agencies have made recommendations on standards for phosphorus, flow and organic pollution in rivers, sufficient to maintain site integrity for riverine habitat. We have engaged with UKTAG to agree a means of, where possible, aligning these standards with those used for WFD purposes. Some progress has been made but we look forward to agreeing standards that can be applied in designated sites, particularly rivers.

The conservation agencies also aim to further revise our monitoring guidance for assessing the condition of designated sites including lochs and individual species. We hope this work will lead to a closer understanding of the relationships between WFD and common standard monitoring metrics and provide better opportunities for aligning standards and sharing data to assess pressures.

In the immediate future, the priority is to agree and include objectives for relevant designated sites that can be clearly expressed in the second river basin plans for Scotland and the Solway/Tweed.

If you have any queries in relation to this response then please contact Iain Sime (iain.sime@snh.gov.uk; 01463 725232)

Yours faithfully,

A handwritten signature in blue ink that reads "Susan Davies." The signature is written in a cursive style and is underlined with a single horizontal stroke.

SUSAN DAVIES
Director of Policy & Advice

Bean, C.W. 2003a. A standardised survey and monitoring protocol for the assessment of Arctic charr, *Salvelinus alpinus* L., populations in the UK. Joint Nature Conservation Committee, Peterborough 41pp.

Bean, C.W. 2003b. A standardised survey and monitoring protocol for the assessment of whitefish, *Coregonus albula* (L.) and *C. lavaretus* (L.), populations in the UK. Joint Nature Conservation Committee, Peterborough 43pp.