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Subject:

Progress Report: Phosphate and work undertaken by the Nutrient Management Boards (NMBs) to improve favourable conditions status of SAC catchments whilst facilitating nutrient neutral development in the Pembrokeshire Coast National Park (PCNP)

1.0 Summary

This report has been prepared to update the Operational Review Committee on work undertaken and planned by the NMBs across the region,

- 1.1 Upon initial publication of NRW guidance (January 2021), the south-west Wales region has acted proactively and collaboratively with stakeholders to fully respond to the challenges of excess nutrients in riverine SAC catchments,
- 1.2 Tywi, Teifi and Cleddau NMBs were established (March 2022) to aid nutrient neutral development whilst also restoring and maintaining the favourable conservation status of the rivers.
- 1.3 The NMBs are a means of collaborating on a catchment basis across Authority Boundaries to produce robustly evidenced Nutrient Management Plans (NMPs). PCNP is a Member of the Cleddau NMB.
- 1.4 Excess nutrients in water are intrinsically linked to the nature and climate emergency.
- 1.5 There is a likelihood of future constraints related to water quality in river and marine areas. Whilst the details of these are currently speculative, the NMBs provide a means of sharing expertise and lessons learnt and of adopting integrative approaches to meeting water quality targets.

2.0 Purpose of the Report

The purpose of this report is to provide the Operational Review Committee with a high-level overview of regional work undertaken to address excess phosphate in riverine SAC catchments in West Wales.

The NMB programme Manager works regionally in coordinating the Tywi, Teifi and Cleddau NMBs. This report lays out an overview of work undertaken and planned by the NMBs, and the current and future implications for PCNP in matters of nutrient related water quality.

3.0 Background to Report

There are 9 Special Area of Conservation (SAC) river catchments in Wales, which are officially divided into waterbodies according to the Water Environment (Water Framework Directive) Regulations 2017. Outside of this process, updates to targets for phosphate levels in rivers by the Joint Nature Conservancy Council (JNCC) has led to a reassessment of phosphate levels by NRW against these tighter targets. The new tighter targets were issued because of changes in hydrological flows brought about by climate changes. The results of those assessments evidenced that more than 60% of the waterbodies currently exceed phosphate thresholds.

Some new developments

Under the Conservation of Habitats and Species Regulations 2017 (referred to in this report as the Habitats Regulations), SACs are protected from any development such as housing or agricultural enterprises can lead to increased amounts of phosphorus entering the river environment from additional wastewater or from poor management of manures and slurries. This has impacted development of new homes, including the Welsh Government's commitment to build 20,000 new low carbon social homes to address the housing crisis. The importance that Welsh Government attaches to improving river health is evident in its River Quality Action Plan, the hosting of Phosphate Summits, and the investment of £40m over a three year period.

Advice to Planning Authorities in relation to nature conservation, and the impacts of proposed developments requiring planning consent on phosphate sensitive river SACs, can be found on the NRW [Advice to Planning Authorities](#) webpage.

4.0 Duties of the Pembrokeshire Coast National Park

4.1 Ecosystem restoration and maintenance

Pembrokeshire Coast National Park Authority has a duty under the Environment (Wales) Act (2016) S6 to 'seek to maintain and enhance biodiversity so far as consistent with the proper exercise of their functions and in so doing promote the resilience of ecosystems'.

The Authority is also bound by the Wellbeing of Future Generations (Wales) Act (2015), which includes a goal of 'A nation which maintains and enhances a biodiverse natural environment with healthy functioning ecosystems that support social, economic, and ecological resilience and the capacity to adapt to change (for example climate change)

4.2 Nutrient Neutrality

The Habitat and Regulations protect SACs from any planning proposals which could damage the designated features of the site. This means the competent planning authority needs confidence 'beyond reasonable doubt' that the proposed development could harm the ecological integrity of the site. In practice this means

that developers need to demonstrate that new development proposals will not add to the phosphate phosphate load of the site ('nutrient neutrality').

Nutrient neutrality can be achieved by developer led mitigation proposals based on a nutrient load calculation undertaken via the [West Wales Nutrient Budget Calculator](#). This is the only regulator supported nutrient calculator in Wales at this time.

At present, there is no formally recognised mechanism or policy for nutrient trading in Wales. The region has explored the economic and financial feasibility of nutrient trading as a potential mechanism to unlock further development in the Tywi, Teifi and Cleddau river catchment. Further guidance on the proposed methodology is needed from Welsh Government.

4.3 Catchments Affected within the PCNP

The waterbodies subject to nutrient neutrality requirements in south West Wales are:

- The Western Cleddau and two waterbodies on the Eastern Cleddau (GB110061030690 and GB110061030660)
- The entire Teifi SAC catchment

NRW also states that "planning authorities have the discretion to require nutrient neutrality for developments in other SAC catchments". There is a need to build further understanding on the spatial elements of nutrient neutrality.

4.3.1 Afonnydd Cleddau

The Afon Cleddau river SAC catchment forms part of the PCNP. The catchment area includes the rivers Eastern and Western Cleddau, the Milford Haven Waterway (the 'Haven'), and smaller rivers such as the Nevern, Gwaun, Solva, and Ritec. The area stretches from Moylegrove, on the north Pembrokeshire coast, to just west of Pendine on the Carmarthenshire coast. The geographical extent of the affected river SAC catchment relative to the PCNP is shown in Appendix A.

NRW's [Compliance Assessment of Welsh River SACs Against Phosphate Targets](#) Report evidences extensive phosphate failures on the Afonydd Cleddau SAC, including failures in every water body of the Western Cleddau. The magnitude of these failure ranges from Low to High, with high magnitude failures occurring in the lower tributaries. In the light of the extent and magnitude of many of these failures, it is recommended that a special project be initiated on the Cleddau rivers to reduce phosphate concentrations in the river, with particular focus on the Western Cleddau.

A link to the source apportionment assessment undertaken by Dŵr Cymru Welsh Water can be found on their ['Understanding the sources of phosphate in our rivers'](#) webpage. The data shows that Rural land use forms 84% of excess nutrient in the Eastern Cleddau, and 65% in the Western Cleddau. This is represented visually in Appendix B.

There is a small area of the Cleddau catchment that impacts the National Park. Publication of future guidance affecting marine areas would significantly increase the magnitude of effect on the PCNP. While it is prudent to be cognisant of this, it should be noted that no details are available at present.

4.3.2 Afon Teifi

The river Teifi SAC is a major river in West Wales, and it flows through the counties of Ceredigion, Carmarthenshire and Pembrokeshire. The Teifi Estuary is located on the County boundary near Cardigan, and it is part of the Pembrokeshire Coast National Park. The Teifi Estuary is also a part of the Cardigan Bay SAC. Therefore, the river SAC section of the river Teifi is part of both the Pembrokeshire Coast National Park and the Cardigan Bay SAC. However, at present this section of the Teifi is not currently subject to NRW guidelines. Further information can be found in the [NRW Compliance Assessment of Welsh Rivers SACs Against Phosphate Targets](#) Report.

A link to the source apportionment assessment undertaken by Dŵr Cymru Welsh Water can be found on their '[Understanding the sources of phosphate in our rivers](#)' webpage. Contrary to the Afonydd Cleddau, the data for the Teifi shows that wastewater treatment works (WwTWs) are responsible for the greater source of excess nutrients in the water (66%). This is represented visually in Appendix C.

5.0 Progress to Date

Significant progress has been made in the region. A high level overview is presented below in bullet format.

5.1 Established Nutrient Management Boards (NMBs) - NMBs were established at the inaugural meeting of the NMBs (March 2022). Following extensive collaboration, the NMBs voted to adopt Terms of Reference (ToR) on 16/11/23. See Appendix D for a representation of the interaction between the NMBs, TAG and Stakeholder Group.

5.2 Technical Advice Group (TAG) - A sub-regional TAG has been established to provide the evidence review, scenario modelling and proposals that will be presented to the NMBs for approval. The NMB Programme Manager represents the TAG group at the NMBs.

5.3 River Stakeholder Group. The Boards have assisted in the formation of a self-led sub-regional Stakeholder Group. Co Production Network Wales were contracted to facilitate in person and online sessions. A Chair has been elected and represents the group at the NMB meetings.

5.4 Nutrient Budget Calculator- The Carmarthen calculator (published March 2022) has since been expanded in geographical scope to include the entirety of the Tywi, Teifi and Cleddau catchments. The West Wales Calculator (published August 2023) also introduced new features including commercial application. The Welsh

Government T&F group are utilising this calculator in the production of an all-Wales calculator.

5.5 Catchment based Mitigation Guidance – The NMBs have produced comprehensive separate catchment-based Mitigation Guidance that explains the most effective types of developer led and strategic mitigation that could be utilised in Carmarthenshire. This guidance has been utilised by NRW is producing their revised ‘Mitigation Menu’.

5.6 Supporting documentation – The NMBs have produced a Calculator Guidance document and a Calculator Technical Review as an instructional guide to assist in the use of the calculator. They explain where data has been gathered from and how calculations have been deduced.

5.7 ‘Nutrient Credit Trading Feasibility study and Toolkit’ – While the Nutrient Budget Calculator and supporting documents allow developer led mitigation to come forward, and is the only calculator in Wales, it is acknowledged that mitigation proposals require a high evidential burden. A feasibility study was commissioned to design a Nutrient Credit Trading System (NCTS) that would enable large scale strategic mitigation to be accessible to developers through the purchase of a credit requirement based on the Nutrient Budget Calculations for the proposed development.

5.8 Regional input into the WG led Nutrient trading Task and Finish Group Report

5.9 Regional input into the WG Led National Nutrient Budget Calculator

6.0 Current Workstreams and Next Steps

6.1 Supply Chain Involvement - Confirm Tywi, Teifi and Cleddau catchment inclusion within the Water Roadmap, co-ordinated by WRAP. This is proposed as a means of drawing UK food and drink organisations into stakeholder discussions and solution finding.

6.2 Website Design of interactive web for access to a ‘Live Nutrient Management Plan’, real time monitoring, resources, and river stakeholder group information.

6.3 Evidence Base – continue to review and refine our understanding of the evidence base including the review of compliance data, NRW SAC Action Plans (CMPs, PIPs, Safle) for the 3 catchments as part of the evidence bases for NMP development.

6.4 GIS system - Creation and ongoing management of GIS system to monitor land take for mitigations to ensure no double counting of mitigation for nutrient neutrality and the restore/maintain SAC function. Also needed to link mitigation to a consented development. Mitigation solutions identified by communities/residents/other sectors will be welcomed and will also need to be mapped where relevant.

6.5 Interim NMP - Collating existing reports and information into a single interim NMP format for each catchment. To include collation of Wales Strategic Mitigation

Guidelines, Teifi Report, Carmarthenshire IAP, PRaM and PCC mitigation opportunities and any other relevant catchment information.

6.6 Options appraisal - Catchment conceptual modelling and setting out the balance of options that could be implemented to achieve the required outcomes, to be agreed by the NMBs.

6.7 Identification of viable sites for implementation Pending NMB decision on options appraisal stage, production of detailed site-specific action plans and ground investigation for the agreed opportunity sites.. To include natural capital accounting projections, capturing benefits to society and economy.

6.8 NMP for each catchment - outlining the existing and emerging data, laying out of the options, those sites selected for further investigation and next steps. Agreed action to be allocated to NMB Members will target dates and means of delivery. Laid out by sector, with costed and mapped mitigation options. This will be done in conjunction with the stakeholder groups set up by river, and in collaboration with the working groups of the TAG. Solutions identified by communities/residents/other sectors will be welcomed.

6.9 NCTS trial - The Nutrient Credit Trading Report (see 5.7 above) concluded although feasible, market forces remain untested. However, if a 'willingness to fail' perspective was adopted, trialling a market could quickly surface the economic feasibility. Undertaking a detailed economic feasibility assessment ahead of a trial might add a level of confidence, but this would add time, and there is likely to be residual uncertainty. Subject to agreeable outcomes of these factors, the report advised that market design and implementation of a Basic Scheme could be completed within 3 - 6 months. We await guidance from Welsh Government following the completion of the T&F Group and would welcome discussions on a trial in this region.

6.10 Funding - Explore funding opportunities for implementing the solutions required to meet the twin aims of nutrient neutral development, whilst also restoring and maintaining the nutrient favourable condition of the river SACs.

7.0 Conclusion

Upon initial publication of NRW phosphate guidance (January 2021), the south-west Wales region has acted proactively and collaboratively with stakeholders to fully respond to the challenges of excess nutrients in riverine SAC catchments.

The NMBs are a means of collaborating on a catchment basis across Authority Boundaries to produce robustly evidenced NMPs. Excess nutrients in water are intrinsically linked to the nature and climate emergency.

NMBs are an effective and efficient framework for assisting in meeting PCNP duties of ensuring development is compliant with the Habitats Regulations, whilst also restoring and maintaining the favourable conservation status of the rivers. PCNPA's

support a key partner and Member of the relevant NMB is essential to the successful implementation of NMPs.

There is a likelihood of future constraints related to water quality in river and marine areas. Whilst the details of these are currently speculative, the NMBs provide a means of sharing expertise and lessons learnt and of adopting integrative approaches to meeting water quality targets.

Appendices

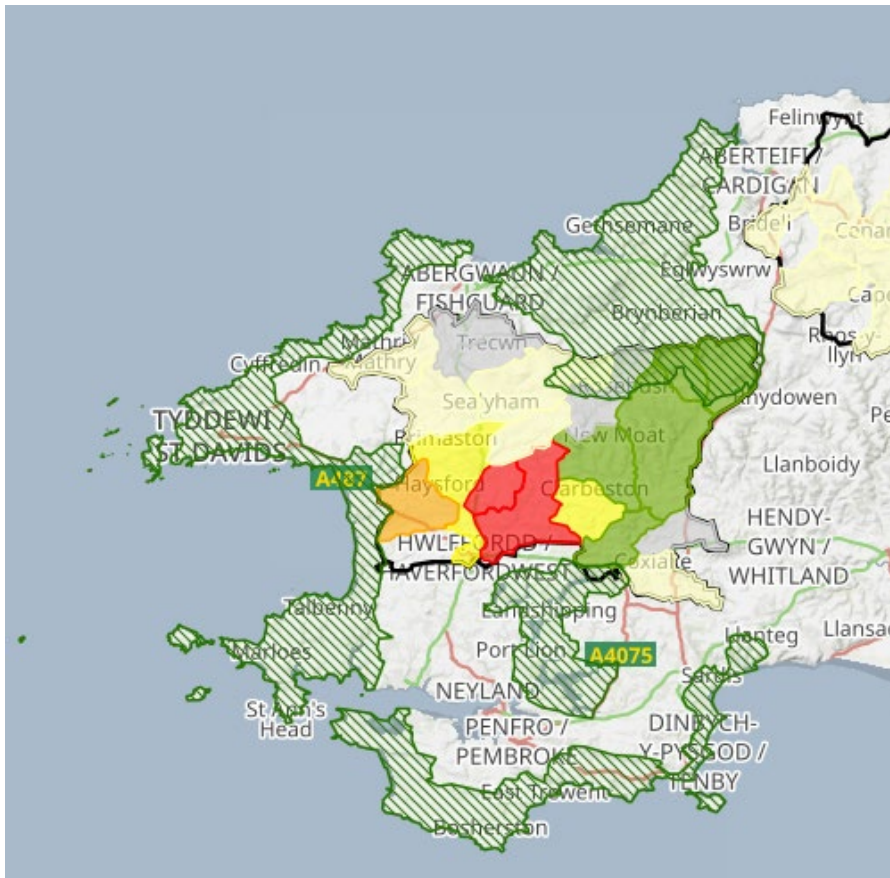
Appendix A: the geographical extent of the affected river catchment areas

Appendix B: Source Apportionment Afonydd Cleddau Phosphate Load Overview

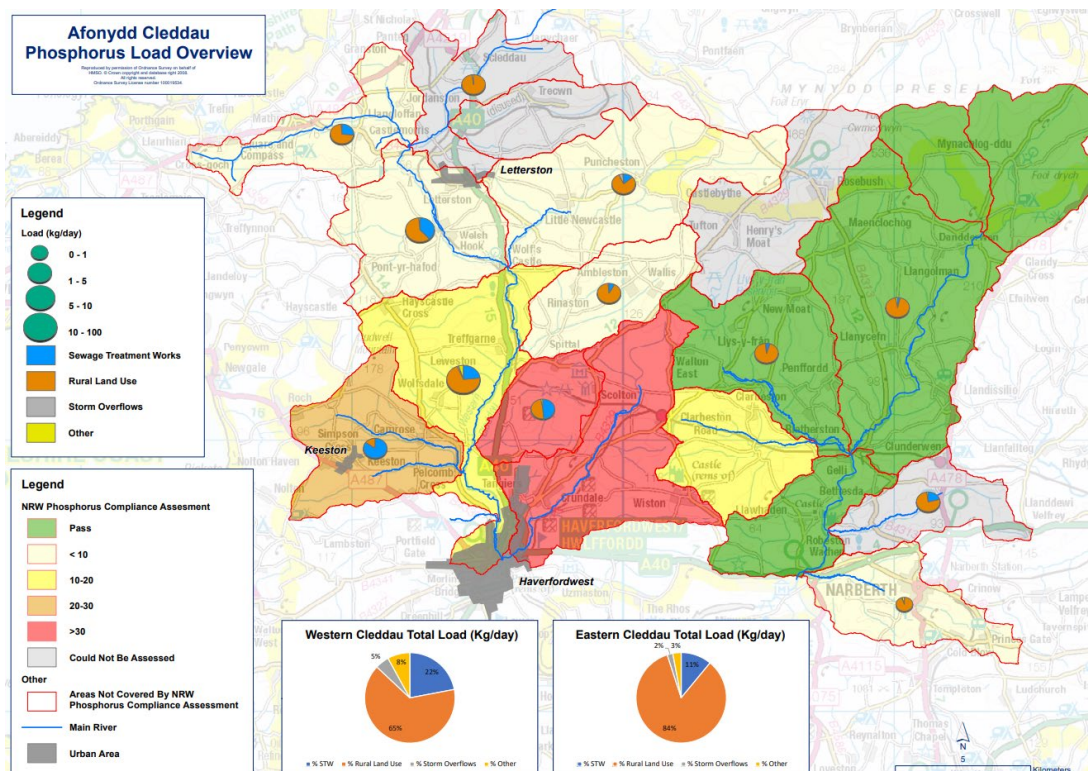
Appendix C: Source Apportionment Afon Teifi Phosphate Load Overview

Appendix D: Interaction of component group of the NMB

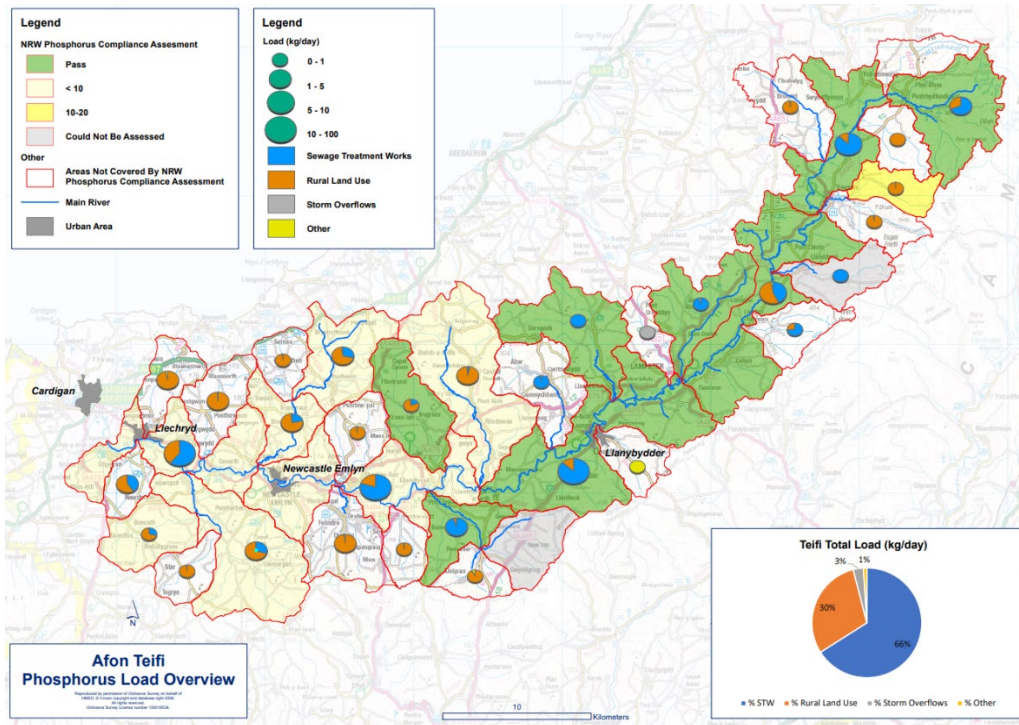
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