yn rhoi cartref i fyd natur giving nature a home

Response of RSPB Cymru to the Environment and Sustainability Committee Inquiry into Water Quality in Wales

RSPB Cymru is part of the RSPB, the country's largest nature conservation charity. The RSPB works together with our partners, to protect threatened birds and wildlife so our towns, coast and countryside will teem with life once again. We play a leading role in BirdLife International, a worldwide partnership of nature conservation organisations. The RSPB has over 1 million members, including more than 51,000 living in Wales.

RSPB Cymru has been invited by the Committee to provide a brief note towards its inquiry into water quality in Wales, with reference to the following points:

- Examine progress towards meeting the statutory obligations under the Water Framework Directive and the Bathing Water Directive.
- Identify current sources of pollution of particular concern.
- Consider whether sufficient action is being taken to reduce pollution, including identifying examples of good practice.
- Consider the effectiveness of monitoring and enforcement.

The Government, of course, has very recently published its Water Strategy for Wales, whilst Natural Resources Wales has also recently consulted on the second cycle of River Basin Management Plans, under the provisions of the EU Water Framework Directive. The points listed above are, to some extent, addressed in each of these documents.

Preliminary Comment – Water Strategy for Wales

Before commenting upon each of the points above, however, we would like to express to the Committee our disappointment that the Water Strategy does not address how water resources in Wales should be managed to meet the specific water needs of wildlife. Moreover, the Strategy does not identify continuing biodiversity loss as one of its principal challenges, to be met alongside climate change, human population growth and rising per capita water consumption.

The applicability to water policy of each of the seven well-being goals in the Well-being of Future Generations (Wales) Act is rightly considered but, in relation to the goal for 'A resilient Wales', discussion is focussed solely on 'resilient ecosystems', with no mention given to maintaining and enhancing a 'biodiverse natural environment' [emphasis added]. Biodiversity has been accorded specific recognition as a feature of sustainable development through this goal, and it is to be hoped that the Committee will draw attention to the water resource needs of wildlife in its Inquiry Report.

Freshwater and wetland habitats – ponds, lakes, rivers, streams, ditches, canals, reservoirs, reed-beds, fens and marshes – support around ten per cent of our plant and animal species. However, although freshwater habitats receive more protection now than ever before, many are still in a poor condition, and the wildlife that depends upon them must cope with a multitude of threats, including pollution, water extraction, invasive non-native species and, of course, the impacts of climate change. The recent *State of Nature Report* found that, for freshwater and wetland species for which sufficient data existed, 57% had declined in recent decades, with 29% declining strongly.

The *Report* further found that slightly more freshwater species have declined than increased over recent decades, including dippers and kingfishers. Native fish numbers are declining, together with many freshwater invertebrates. It is suggested in the *Report* that freshwaters are affected by more

threats than any other part of the natural environment, with the few exceptions tending to be in well-protected and/or remote locations. The *Report* lists the following principal causes of decline:

- Water pollution
- Lack of active management
- Water abstraction
- Non-native species and introduced diseases
- Climate change
- Physical modification and drainage
- Habitat fragmentation

Wildlife suffers from the current effects of human activities, including the pollution, acidification and eutrophication of lakes, rivers and streams from both industry and agriculture. Diffuse nitrate and phosphate pollution from agricultural runoff are particular problems, but there is also the problem of sheep dip residues, including cypermethrin.

Progress towards meeting the statutory obligations under the Water Framework Directive and the Bathing Water Directive

The statutory obligations under the WFD can be summarised as follows:

- All surface water bodies to achieve good ecological and chemical status by 2015 – this covers inland waters, transitional waters (semi-saline estuarine) and coastal waters.
- All groundwater bodies to achieve good groundwater quantitative and chemical status by 2015.
- Heavily modified water bodies and artificial water bodies to achieve good ecological potential and good surface water chemical status by 2015.
- No water bodies to experience deterioration in status from one class to another.
- Protected areas to achieve the requirements made under their designation in relation to the water environment.

The principal delivery process for the Directive is by means of River Basin Management Planning; the first set of such plans was produced for the period 2009 to 2015, and the second set of plans is now in preparation, for issue by the end of 2015, and to cover the period to 2021. In common with other bodies, RSPB Cymru has responded to the consultation applicable to the draft plan for the West Wales River Basin District.

Our response expressed a particular interest in proposed measures in the plan for Protected Areas in Wales, specifically Natura 2000 water-dependent sites, to achieve favourable conservation status. In the first cycle of RBMPs, 112 N2K protected sites were designated as requiring special protection under the Habitats and Birds Directives; of these, 26 intersect with one or more RSPB Cymru reserves. In June 2014, the RSPB conducted a review of the status of conservation objectives in these water-dependent N2K sites, and found:

- 85% of water-dependent N2K sites that intersect with one or more RSPB nature reserves in Wales are failing to reach 'favourable conservation status' (FCS).
- Key issues of concern to achieving FCS include the drainage and burning of blanket bog, coastal squeeze in low lying and inter-tidal areas, dredging in estuaries and coastal zones and diffuse water pollution, predominantly of freshwater environments.
- Remedial measures are heavily reliant on public funding (eg, flood management, invasive species control), voluntary actions or investigations.

The 2011 National Ecosystem Assessment (NEA) for Wales found that 66% of Wales' rivers, lakes and wetlands did not meet 'good ecological status', as required under the WFD, ie, only about one-third of surface waters met the requirement. Current Welsh Government targets aim to establish GES for 44% of Wales' inland waters by 2015, with the remainder only to achieve this status by 2027. Many Welsh rivers risk failing to meet targets for spawning salmon and evidence suggests that sewin

(sea trout) numbers have declined by around 50% in recent years. The NEA found that more than 15% of Wales' very best rivers had deteriorated in quality over the preceding 10/15 years.

The Water Strategy suggests that all 102 designated bathing water areas in Wales reach the standards required under the Bathing Water Directive, significantly ahead of other countries in the UK.

Current sources of pollution of particular concern

RSPB Cymru is particularly concerned about diffuse sources of freshwater pollution, especially run-off from agricultural land or from roads, although point sources are also a contributing factor. Diffuse pollution can be caused by excessive or improper use of fertilisers, poor management of waste or livestock on farms, or wrongly connected domestic or commercial drainage systems. In the sub-set of N2K water-dependent sites referenced above, freshwater habitats, such as the Llyn Dinam SAC and the River Wye SAC, have been most significantly affected by diffuse pollution. In the case of Llyn Dinam SAC, a small group of lakes making up the protected site is naturally nutrient-rich, but elevated levels of phosphorus are clearly attributable to human influences. In the upper catchment of River Wye SAC, the most significant sources of diffuse pollution are from agriculture, including fertiliser run-off, livestock manure, silage effluent and soil erosion from ploughed land.

Pollution from agriculture continues to be an issue, despite existing regulation such as Cross-Compliance, which is designed to protect the environment. Addressing pollution must be a consideration of the Welsh Government's new Agricultural Strategy, due to be consulted on from June.

Is sufficient action being taken to reduce pollution? Identify examples of good practice

Clearly, from the answers above, more needs to be done if pollution of freshwaters is to be further reduced.

In terms of managing pollution, RSPB Cymru would promote the 'polluter pays principle', and we would recommend the adoption and enforcement of General Binding Rules (GBRs), as already practised in Scotland and favourably referenced as a means in the Welsh Government's Water Strategy.

Enforcement of measures to counteract diffuse and other forms of pollution will be crucial to the improvement of water quality for both human and wildlife use; GBRs would provide a good means of awareness raising of cause and effect among relevant landowners and stakeholders. The Coal Authority, with NRW, has a programme of measures to counter chemical pollution from former coal mines but, we understand, this is not the case for non-coal metal mines, for which a funded programme is required. Informal advice from NRW has suggested that annual expenditure of c£2m would be sufficient to fund such a programme.

Nitrate Vulnerable Zones (NVZs), covering 2.4% of Welsh land, are in place to comply with and enforce the EU Nitrates Directive to reduce water pollution from agricultural sources of nitrates. These have recently been reviewed and updated, with compliance required for an extensive list of continuing and new measures and rules. A further review of NVZs and measures of compliance will be required for 2016.

RSPB Cymru would wish to encourage more sustainable land management that contributes to achieving WFD objectives, including more extensive farming systems. The Welsh Government has an obligation to maintain High Nature Value (HNV) farms, which are typically extensive farming systems often found in the more marginal parts of the country, especially the uplands. These farming systems are best placed to contribute to a number of Government objectives, including those relating to the WFD; encouraging support for such farms through the RDP would be a cost-effective means of contributing towards achieving WFD objectives, as well as helping to meet climate change and nature targets. Sustainable forestry can also have a significant impact on achieving WFD objectives, for example by ensuring that forestry grants under the RDP are targeted on improving the management of existing woodland and forestry, together with the removal of inappropriately planted forestry such as on peat soils, and ensuring that new woodland planting is targeted to make a contribution towards

WFD objectives, whilst also ensuring an approach to woodland creation that does not negatively impact priority open habitats and/or dependent species such as ground-nesting waders. Such an approach is being considered within the NRM Pilot on the Dyfi, to ensure that woodland creation to improve water quality/flow does not have a negative impact on one of the most important lapwing populations in Wales.

An example of good practice is the EU LIFE Active Blanket Bog in Water Project at Vyrnwy in mid-Wales, that RSPB Cymru previously undertook in conjunction with the then CCW, EAW and FCW. The project aimed at addressing the key issues facing Welsh uplands management and the scientific evidence in relation to water, greenhouse gas emissions and regulation, carbon storage and biodiversity. A significant issue was the increased risk of downstream flash flooding driven by likely climate change, including more frequent and severe rainfall events.

The focus of attention was on degraded blanket bog, which had been depleted by a combination of drainage for agriculture, burning, forestation and intensive animal grazing. The aim of the project was to restore it through rewetting, with benefits for drinking water, flood control, carbon storage, plants, invertebrates and birds. The likelihood is that water run-off will be reduced, with benefits in terms of flood prevention and habitat restoration for birds. It is already the case that water tables have recovered and generally are more stable; during storms, peak water discharge has been lower, whilst during dry periods water tables and discharge rates have been more stable. Levels of discharge water colour have declined. Indications also suggest that Vyrnwy has now become a net sink for carbon, with benefits to climate change mitigation targets for Wales.

The RSPB-managed farm at Vyrnwy has taken practical measures to prevent pollution from 'dirty' water entering water courses, with the collection and storage of all such water from farm yards and also from sheep dip; clean run-off water is kept separate from dirty.

[*See also the attached SCAMP Recovering Bogs report*]

<u>Consider the effectiveness of monitoring and enforcement</u>

The principal measure of success or otherwise in the monitoring and enforcement of water quality control can only be what is known of the outcomes compared to targets. On the basis of what has been outlined above, the availability of statistics for water quality against targets suggests that monitoring is happening to the required scale. However, Wales is falling far short of the required WFD objectives for GES and FCS, suggesting that enforcement of required water quality standards is lacking. We have suggested GBRs as a management tool but, of course, enforcement requires appropriate levels of resource for NRW; we understand that this might be a factor restricting the Government's willingness to proceed with legislating for GBRs, for example through the current Environment Bill. However, we would urge the inclusion of legislative provision for GBRs; even if resource is a problem at present, the very existence of GBRs, especially for the control of diffuse pollution, might prove beneficial in terms of more sustainable land and water management.

It is clear from the statistics outlined above that the monitoring and enforcement of measures to improve water quality in Wales are falling far short of what is required. RSPB Cymru is especially concerned that this failure has harmful impacts on water-dependent wildlife, and we would ask the Committee in its Inquiry Report to press the Welsh Government to ensure adequate resource provision for NRW to enable better monitoring and enforcement of appropriate measures. The water supply companies might have a financially supporting role to play in this regard – cleaner upstream supply of water reduces the cost of purification for human consumption.

The introduction of greening measures to Pillar 1 of the CAP during the current reform could have secured significant environmental benefits, including for water, had the measures been more ambitious. Improvement to future greening measures, so that they are an effective means of restoring and protecting the environment, must be seen as a priority for the Welsh Government.

RSPB

28 May 2015

Restoring bogs

for **water quality** and **wildlife:** the **positive effects** on **moorland birds**

Working together to give nature a home

rspb giving nature a home

United Utilities helping life flow smoothly

Bare peat in the SCaMP area in 2005, before restoration

Ed Lawrance

What's the story?

United Utilities (UU) owns more than 56,000 hectares (216 square miles) of water catchment land across the north-west of England, providing water for 6.7 million people. The Sustainable Catchment Management Programme (SCaMP), working with Natural England and tenant farmers, was set up in 2005, covering UU catchment land in the Peak District and the Forest of Bowland. The aim is to improve the SSSI condition of the land, benefiting wildlife and raw water quality. There has been a long-term decline in the habitat condition across much of the water catchment land, due to atmospheric pollution, overgrazing and burning. The blanket bog has been eroded, and the vast carbon store in the peat, gathered over millennia, has been disappearing quickly, destroying wildlife habitat and leading to poor water quality.

The UK's blanket bogs and upland heaths are some of our most precious wildlife habitats. Although they are protected under UK law and European Nature Directives, many of them remain in poor condition and under threat. A healthy blanket bog protects a vast carbon store, and accumulates more carbon in the form of peat. When lost from the peatland, the carbon has climate change impacts, increasing carbon dioxide emissions and the carbon discolours the water, leading to higher water treatment costs.

Since 2010, the RSPB has worked in partnership with UU at Dove Stone in the Peak District, to manage land to benefit water quality and wildlife. The pioneering work of UU is one of the finest examples of how landscape-scale habitat restoration can result in multiple benefits for wildlife and people.

The importance of the uplands for moorland birds

The uplands comprise the UK's largest area of semi-natural habitats. They provide a home for a wide range of birds: ring ouzels, peregrines, short-eared owls and wading birds including golden plovers, dunlins and curlews.

Golden plovers are the most common wading bird of the blanket bog.

Across the SCaMP area, we carried out moorland bird surveys in 2005 before the start of the major restoration work, and then in 2007, 2009 and 2014.

The uplands give a home to birds such as curlews

Tim Melling

Landscape-scale habitat management – what has been achieved?

Tenant farmers, supported by agri-environment funding, have reduced sheep numbers to allow vegetation to recover.

Together with UU, we adopted a policy of "no burning" on peat, and undertook major work across the landscape to revegetate bare peat in the Peak District. This involved applying heather brash, a grass seed mixture to act as nurse crop, and fertiliser and lime to increase the pH of the acidic peat. This enabled plants to establish and grow more easily.

Following this, we blocked gullies to restore the high water table in the peat. This work has transformed the eroding peatlands into wetter, more diverse habitats. We are re-introducing sphagnum moss, a key feature of blanket bog, which is slowly re-colonising naturally. It will take many years to fully restore the area, but we're moving towards a natural blanket bog once more.

John Bird

2011: heather and natural cottongrass colonises the revegetated land.

Dave O'Hara

2012: heather bales dug by volunteer teams bring the water table close to the surface.

John Bird

2014: re-introduced sphagnum moss begins to establish in the blocked gully.

Improving water quality

Monitoring by UU shows that the SCaMP restoration has quickly contributed to reducing particles of peat in the water, known as turbidity. There has also been a slight, but significant, decrease in water colour, which shows that dissolved carbon levels are beginning to decrease.

Mark Sisson (rspb-images.com)

Table 1 Change in bird species populations and comparison with English upland trend 2005–2014

Selected species	% Change in population recorded by SCaMP (63 km²)	Breeding Bird Survey trend (61 km²)	SCaMP compared to wider upland Breeding Bird Survey
Increasing			
Red grouse	88% increase	Stable	SCaMP better
Golden plover	138% increase	Stable	SCaMP better
Dunlin	775% increase	None on BBS	SCaMP better
Ring ouzel	164% increase	Stable	SCaMP better
Dipper	188% increase	Stable	No statistical difference
Skylark	108% increase	Stable	SCaMP better
Meadow pipit	52% increase	Stable	SCaMP better
Buzzard	282% increase	Stable	SCaMP better
Carrion crow	30% increase	Decline	SCaMP better
Stable			
Kestrel	1% increase	Decline	No statistical difference
Declining			
Curlew*	23% decline	Stable	SCaMP worse
Whinchat**	61% decline	Stable	SCaMP worse

* Curlew stable since 2007 on SCaMP plots

** Whinchat upland Breeding Bird Survey sample very small; wider national decline

The effects on moorland birds

The work has shown significant population increases in a range of moorland bird species. Of the 27 breeding species analysed, 14 species increased, 10 species were stable and 3 declined.

For 17 species with sufficient data, the population changes recorded by SCaMP were compared to trends from the upland Breeding Bird Survey in England, using data from 61 km squares.

The diversity of species that have increased is most striking. The increase in the numbers of dunlins, recorded in the Peak District, represents a significant conservation success as they were in danger of becoming extinct in this area.

This demonstrates that SCaMP management and the landscape-scale approach to restoration in this project has wider benefits for a range of bird species.

Tim Melling

Tom Aspinall

Breeding wading birds – an increase linked to water table restoration

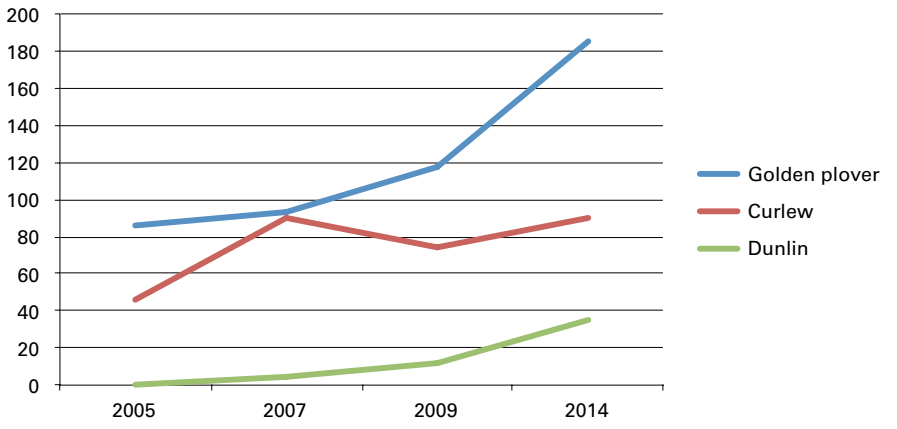
Where large-scale blanket bog restoration has taken place at Dove Stone, numbers of breeding wading birds have increased. This applies particularly to golden plovers and dunlins, the two species of wading bird associated with bog, and there has also been a positive effect on curlews.

Breeding success for golden plovers

In addition, we ran a study between 2011 and 2013 on the productivity of golden plovers at Dove Stone. We found high nest hatching success, with over 70% of breeding pairs fledging young. It is likely that this success has been aided by the increase in insect food, due to re-wetting and revegetating the dry and eroded peat. The population increase has also coincided with a reduction in the control of predators.

Increasing populations of red grouse

We found an 88% increase in the numbers of red grouse in the area, compared to stable populations in the wider Upland Breeding Bird Survey. This demonstrates how restoring the hydrology and vegetation diversity of blanket bogs can benefit red grouse – a species which is important to many moorland managers.



Breeding wading bird population change at Dove Stone (individual birds)

Restoration benefits wildlife, water quality and carbon management

The speed of transformation was quicker than we first expected. Restoring wet bogs has most notably supported increases in moorland breeding waders of conservation concern, and the landscape-scale approach to habitat restoration has benefitted a diverse range of bird species, from red grouse to buzzards. The SCaMP study provides strong evidence of the potential to transform damaged ecosystems.

Across the wider English uplands, over 200,000 ha of blanket bog is in need of restoration. To achieve this, it has been estimated it will require annual capital costs of around £27 million for six years. With investment, there is the potential to secure future benefits for wildlife, carbon, water and people.

Dave O'Hara

Wetter, sphagnum-rich bog: habitat restoration for wildlife.

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