CONSULTATION

Response Document

The draft river basin management plan for Scotland 2021 - 2027

(Scottish Environmental Protection Agency)

22 June 2021

Introduction to CIEEM

The Chartered Institute of Ecology and Environmental Management (CIEEM), as the leading membership organisation supporting professional ecologists and environmental managers in the United Kingdom and Ireland, welcomes the opportunity to comment on this consultation.

CIEEM was established in 1991 and has over 6,000 members drawn from local authorities, government agencies, industry, environmental consultancy, teaching/research, and voluntary environmental organisations. The Chartered Institute has led the way in defining and raising the standards of ecological and environmental management practice with regard to biodiversity protection and enhancement. It promotes knowledge sharing through events and publications, skills development through its comprehensive training and development programme and best practice through the dissemination of technical guidance for the profession and related disciplines.

CIEEM is a member of:

- Scottish Environment Link
- Wildlife and Countryside Link
- Northern Ireland Environment Link
- Wales Environment Link
- Environmental Policy Forum
- IUCN – The World Conservation Union
- Professional Associations Research Network
- Society for the Environment
- United Nations Decade on Biodiversity 2011-2020 Network
- Greener UK
- Irish Forum on Natural Capital (working group member)
- National Biodiversity Forum (Ireland)
- The Environmental Science Association of Ireland

CIEEM has approximately 650 members in Scotland who are drawn from across the private consultancy sector, NGOs, government and SNCOs, local authorities, academia and industry. They are practising ecologists and environmental managers, many of whom regularly provide input to and advice on land management for the benefit of protected species and biodiversity in general.

This response was coordinated by Members of our Scotland Policy Group.

We welcome the opportunity to participate in this consultation and we would be happy to provide further information on this topic. Please contact Jason Reeves (CIEEM Head of Policy and Communications) at JasonReeves@cieem.net with any queries.

General Comments

We would like to see the intrinsically linked biodiversity crisis and climate emergency given greater prominence in the draft River Basin Management Plan for Scotland, alongside details of how the measures proposed will ameliorate impacts. Land use and management decisions are a key driver of

wildlife declines in Scotland[1] and yet biodiversity is hardly mentioned throughout the draft plan. The climate emergency and biodiversity crisis are intrinsically linked. We cannot solve either the climate or the biodiversity crises without solving the other. Nature based solutions make this link. While we recognise that Nature-based solutions are highlighted we would like to see the IUCN definition referenced and adopted as below:

Nature-based Solutions are actions to protect, sustainably manage, and restore natural and modified ecosystems that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits[2].

There are lots of linkages made with sector plans and it is good to see the linkages being made between water, over-use of natural resources and the circular economy. To deliver much needed transformational change, the plans must tie in with the Land Use Strategy and NPF4 plus emerging changes such as Regional Land Use Partnerships. Plans must also tie in to regional Climate Adaptation Strategies (CAS) such as the imminent Glasgow City Region CAS.

The RBMPs present real opportunities for synergistic partnerships to deliver multiple benefits for the water environment, economy, and society. We welcome the strengthening relationship with Scottish Water and many of the changes are to be applauded. The opportunity now lies to further build on the relationships with NatureScot, Forest and Land Scotland, River Trusts, and others to truly deliver on a landscape scale and through a catchment systems approach for multiple benefits. A whole catchment approach that includes small water bodies is needed to tackle the many interconnected risks and opportunities that should be recognised within the scope of River Basin Management Planning.

In table 1 of the plan there is no reference to what the 'Good' and 'Better' categories mean. Does the 'Good' category relate to the 'Good' category in the Water Framework Directive? What does better mean? Better than good or better than before? This should be made much clearer and either use the standard Water Framework Directive Categories of High, Good, Moderate, Poor and Bad or provide evidenced-based definitions.

The plan would also benefit from more detail as to how the many different sectors, strategies and plans will work together, plus priorities and cost-effectiveness and cost-benefits for the different elements. Improvements in overall condition are only up by 2% since 2015. We would like further clarification on why this improvement figure is so low, including: Is this justified? How much money was spent to improve 2%? And finally, what will improve to reach the target of moving from 65 or 70% to 100% in six years?

We question the assumption that 97% of water bodies are free from invasive non-native species (INNS). This is misleading as we know that only certain INNS cause a water body to be classified as moderate; but it does not necessarily mean that they are 'free from INNS'. This also does not recognise the risk of INNS spreading to new watercourses. With the Scottish Invasive Species Initiative (SISI)[3] finishing in the next year or two, any progress will inevitably slip unless systematic effort is sustained by all partners working in this area.

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[1] https://www.nature.scot/sites/default/files/2019-10/State-of-nature-Report-2019-Scotland-full-report.pdf

[2] https://www.iucn.org/theme/nature-based-solutions

[3] https://www.invasivespecies.scot/

Consultation Questions

Section 3.1: Action to create healthier and more resilient communities

Do you agree with the approach outlined?

We agree with the emphasis on blue-green infrastructure in housing developments and the support of placemaking. However, a catchment scale approach should be at the centre of it all. You cannot focus on river sites in areas of multiple deprivation without considering the upstream environment and the whole catchment.

We would like to see greater emphasis on spatial planning and nature networks so that work on Vacant and Derelict Land with the Scottish Land Commission and green river corridors can be embedded into nature networks.

Much of this work has natural links with NPF4 and the Land Use strategy and the contribution of RBMP so these should be highlighted.

With the focus on active travel and health and wellbeing it should be remembered that it is not just access to blue-green spaces that is important, but also the quality of these spaces.

This section should all be related to how it targets climate change adaptation and biodiversity loss, and the impacts of these crises on communities.

What issues do you see with us adopting this approach?

Identification of 40 new potential restoration projects in addition to 16 that are ongoing is an ambitious target by 2027. To make this achievable, sufficient numbers of skilled professionals and resources will need to be provided. It may be better to concentrate on a smaller number and develop these as good practice examples that could be implemented in other areas if this is not possible.

Can you suggest any changes to the approach that will help us reach our goals?

Where the restoration projects fall within the pilot Regional Land Use Partnerships areas listed below, the restoration plans should be embedded within these. The aim of the Partnerships is to develop ways of working together to find ways to optimise land use in a fair and inclusive way – meeting local and national objectives and supporting our green recovery and the transition to net zero to address the dual climate and biodiversity crises[4].

Regional Land Use Partnerships:

- Cairngorms National Park
- Highland Council
- Loch Lomond and the Trossachs National Park
- North East Region (Aberdeenshire and Aberdeen City Councils)

[4] https://blogs.gov.scot/rural-environment/2021/02/05/working-together-to-maximise-the-potential-of-our-land/

- South of Scotland (Dumfries and Galloway and Scottish Borders Councils)

The Regional Land Use Partnerships should be empowered to make decisions on priorities and resourcing at a regional and local level, connect directly to levers of funding and finance and stimulate action and delivery. The partnership approach should support SEPA's planned restoration projects and assist with local delivery mechanisms and community connections as well as ensuring that the restoration areas and projects are most likely to deliver multiple benefits.

Linkages must also be made with regional initiatives such as the Clyde Climate Forest (CCF), which could be a key mechanism for integrating nature-based solutions for increased flooding with other climate adaptation needs that the CCF would address.

The Water Environment Fund is a useful mechanism for delivery of some of SEPA's ambitions. However, it is not that well known so there could be scope to raise awareness and fund more local community initiatives.

Many of CIEEM's 650 Scottish members work in blue-green infrastructure, biodiversity, land use strategies and could support some of these approaches.

Section 3.2: Water supply and wastewater

Do you agree with the approach outlined?

Yes. We are fully supportive of the aims for creating a circular economy for water supply. We are pleased to see the recommendations covering nature-based solutions and blue-green infrastructure in cities and towns for attenuation of rainwater. Rain gardens[5] can also play a role here as shown by the Green Action Trust (formerly Central Scotland Green Network). Blue-green infrastructure must be central in any new developments within this aspect there should a focus on re-using grey water and rainwater harvesting across the housing sector.

We are pleased to see that Scottish Government, SEPA, local authorities, the Drinking Water Quality Regulator, and others will work closely together to ensure reliable private water supplies and wastewater systems. Climate change is likely to cause issues for rural properties in Scotland that are on private water supplies that have not previously experienced water scarcity. The severity of impacts in previously impacted areas, such as the East coast of Scotland, is likely to increase, so communication channels and support needs to be in place for these scenarios.

Converting sewage and other wastes into valuable resources will require end user demand and sustainable delivery mechanisms. We would like to see further linkages with sustainable land management practices and the Land Use Strategy.

What issues do you see with us adopting this approach?

Further consideration needs to be given to how SEPA can continue to support the sector going beyond compliance. We would like to see more detail about how SEPA will help the sector reduce, recycle, and reuse water throughout the supply chain and lifecycle of homes.

It must be recognised that the impacts of climate change are different across Scotland and different strategies will need to be applied. The east coast of Scotland is predicted to be most affected by more frequent and severe periods of water scarcity and in addition, these areas have a high population density and agricultural land cover. Drought conditions are likely to become more common and more severe under a changing climate, leading to continued conflicting interests in

[5] https://www.10kraingardens.scot/

catchments with several different types of water users[6]. This must be managed to ensure resilience is maintained. 'Scotland's water environment 2019: A summary and progress report' states there are no actions for agricultural irrigation in the third cycle as they are predicted to have been addressed by 2021.

Can you suggest any changes to the approach that will help us reach our goals?

The use of incentives and disincentives must be considered as well as close partnership working with industry going forward. As many home builders are now showcasing their environmental credentials, this provides an opportunity to make genuine improvements.

The infrastructure must be in place to ensure that when members of the public and others raise concerns about small developments and their proposed septic tank systems, these are considered in the pre-development stage, advice is given to improve the set-up and then inspection made to ensure best practice is carried out. Responsibility for the maintenance and upgrades of septic tanks and privately owned wastewater treatment systems falls to the private owner. We welcome the proposed further guidance for developers and households to help them install and transition to more sustainable water supplies and wastewater treatment systems while protecting the water environment. We would like to see further action to improve monitoring and regulation as otherwise poorly maintained systems will continue to have the potential to cause local and diffuse pollution issues. Action is needed to quickly address these cases.

There are concerns that the 'flexible and responsive' regulatory controls to deal with rapidly progressing low flows may not go far enough to safeguard resilience for food production. It is crucial that there are greater linkages to the Scottish Land Use Strategy and Scottish Forestry Strategy to deal with water scarcity[7]. Different land uses can dramatically affect demands on water use and land use choices will need to be made to build resilience against prolonged periods of low rainfall[8]. Pressures on water abstractions from the food and drinks industry, along with water for hydro power generation can add pressures at the bottom of an already water-stressed catchment. For example, crops with lower irrigation needs and tree species with low evapotranspiration rates will need to be selected in areas of Scotland that are most at risk of drought[9].

Although initiatives have been set up in SEPA to monitor water scarcity impacts, such as asking people to e-mail LowFlowImpacts@sepa.org.uk to inform about dry private water supplies, dead fish, rivers with isolated pools etc., water scarcity reports and drought risk assessment tools, people are largely unaware of these resources. Therefore, raising public awareness and a citizen science approach would help generate useful data to supplement monitoring that SEPA is undertaking, and raise the profile of this issue and what members of the public can do. SEPA, in conjunction with Scottish Water and the Scottish Government, should implement an awareness raising campaign to increase understanding of the intrinsic value of water resources and ways everyone can utilise water more efficiency.

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[6] Voski, A. (2019). Implications of Water Scarcity on Aquatic Resource Management and Ecosystem Services in Scotland. DOI: 10.13140/RG.2.2.10824.37128.

[7] Waajen,A.C. (2019). The increased risk of water scarcity in Scotland due to climate change and the influence of land use on water scarcity: issues and solutions. ClimateXChange Report. https://www.climatexchange.org.uk/media/3680/cxc-water-scarcity-climate-change-and-land-use-options.pdf

[8] Brown, I., Towers., Rivington, M. & Black, H.I.J. (2008). Influence of climate change on agricultural land-use potential: adapting and updating the land capability system for Scotland. *Climate Research*, 37, 47-57. DOI: 10.3354/cr00753.

[9] Brown, I., Dunn, S., Matthews, K., Poggio, L., Sample. J. & Miller, D. (2012). Mapping of water supply-demand deficits with climate change in Scotland: land use implications, CREW report 2011/CRW006.

Section 3.3: Sustainable and resilient rural land use and management

Do you agree with the approach outlined?

We would like to see how the Sector Plans tie in with RBMP in helping to deliver protection and improvement of the water environment across the full range of ecosystem services and capital. For example, it is unclear how SEPA's Rural Sector Plans will integrate with the RBMPs. We are pleased to see reference to the Regional Land Use Partnerships; this will aid delivery however the detail is lacking. Likewise, it is good to see reference to a multitude of other land management policies and strategies. However, what is not clear enough is what role SEPA will play in these.

Scotland's leading approach in dealing with rural diffuse pollution through identifying priority catchments and farm visits is making a real difference on the ground. Compliance with the diffuse pollution general binding rules (GBRs) has increased significantly in some catchments after revisits. This work also promotes a circular economy by minimising nutrient and soil loss and saving farmers money. It is reassuring to see evidence of successful and innovative measures having been implemented and the real improvements as a result of these. There is now a real opportunity to analyse how can this be built upon and we would like to see an assessment of other situations where this/ a similar approach could work. For example, irrigation needs a collaborative and cooperative approach between landowners.

There are multiple benefits to be gained from restoring resilience in physically modified rivers, including improved public amenity, health and well-being, flood risk management and intrinsic ecological benefits. Nature-based techniques used as part of river restoration projects will help improve bank cohesion and reduce soil erosion and nutrient inputs. For example, restoring meanders in previously straightened rivers and reconnecting rivers with natural floodplains allows for increased flow variability, deposition of sediment and reduced flooding events downstream. This increases resilience and availability of habitats.

Concerns around structural and ecological integrity remain, particularly surrounding loss of bank cohesion due to poaching by livestock, loss of root material which may contribute to bank erosion, soil, and nutrient loss into the aquatic environment. This is of particular concern for freshwater species such as freshwater pearl mussel, macroinvertebrates and salmonid eggs that are intolerant of increased sedimentation.

What issues do you see with us adopting this approach?

A lack of clear structure and governance will inhibit progress in this area. Partnership working with clearly defined remits and responsibilities is essential to address the climate and biodiversity crises.

Can you suggest any changes to the approach that will help us reach our goals?

Further partnership work so that SEPA's traditional areas of work of water, air and soil link with the many organisations covering biodiversity and land management.

Section 3.4: Removing man-made barriers to fish migration

Do you agree with the approach outlined?

We question whether removing man-made barriers to fish migration should be the priority, bearing in mind all the other threats to water bodies. Since, 2015 fish migration has improved by 2% but new barriers have been discovered which keeps the improvement number low. Instead of a focus on

removing man-made barriers this should be thought of as part of a greater catchment scale approach which may address flooding issues as well as many other aspects.

What issues do you see with us adopting this approach?

Improving water bodies that are impacted by physical modifications, including fish barriers, will entail major civil engineering works that can take several years to complete. We are not confident that the outlined ambition is realistic. As far as we understand only 29 barriers have been removed/eased in the 6 years since 2015, with 8 currently at an advanced stage. There is a limited number of specialists experienced in this type of work, leading to over-reliance on the same specialists to deliver improvements to physically modified rivers, fish barriers and hydro-power easement schemes. Therefore, it is important to assess how achievable the targets are with the existing technical expertise and capacity.

Can you suggest any changes to the approach that will help us reach our goals?

Prioritising removal of man-made barriers to fish migration where prime habitat or a larger area of good habitat is present upstream is a practical stance. However, man-made barriers are only one issue affecting fish migration. Low flows and associated increased water temperature as a result of climate change[10,11] are increasingly having a detrimental effect on fish migration and wider aquatic biodiversity. Once again, a catchment wide approach is needed. Analyses of flow levels which SEPA holds very good data on will highlight any potential problematic stretches of river in terms of fish migration. Nature-based solutions such as tree planting[12] (to increase shade), adding trees to rivers to increase pools, adding meandering stretches to previously channelised rivers are among a myriad of approaches that should be adopted. Work carried out on the Beltie Burn by the Dee Catchment Partnership[13] supported by SEPA as well as many other projects they have underway are dealing with many of these considerations.

Section 3.5: Summary of other actions to protect and improve the water environment

Do you agree with the approach outlined for the areas above?

Despite the progress being made, there are concerns that aspects of the plan are not ambitious enough to address the climate and biodiversity crises and elements need to be strengthened to deal with the increased pressure on Scotland's water environment. We highlight below some areas where we perceive there are shortcomings and improvements could be made.

Protected Areas for Wildlife Conservation

Further detail is needed here rather than stating "many of the actions set out in section three will benefit protected areas for wildlife conservation". In the Spotfire tool, 327 wildlife conservation areas are at the target objective and 22 are not and it is predicted that by 2027 this will change to 344 at the target objective and 5 not at the target objective. However, when you select individual protected areas for further information there appears to be no further information. If this is going to

[10] Pohle, I., Helliwell, R., Aube, C., Gibbs, S., Spencer, M. & Spezia, L. (2019). Citizen science evidence from the past century shows that Scottish rivers are warming. Science of the Total Environment, 659, 53-65.
[11] Cappell, R., Tetzlaff, D.& Soulsby, C. (2013). Will catchment characteristics moderate the projected effects of climate change on flow regimes in the Scottish Highlands?. Hydrological Processes, 27, 687-699. doi: 10.1002/hyp.9626.
[12] Cole, L., Stockan, J. & Helliwell, R. Managing riparian buffer strips to optimise ecosystem services: A review. Agriculture, Ecosystems and Environment. 296, https://doi.org/10.1016/j.agee.2020.106891.
[13] https://www.deepartnership.org/project/easter-beltie-restoration/

genuinely inform existing status, management and future objectives this needs to be populated so that it can be used by all.

Invasive Non-Native Species

It is disappointing that there are no specific actions planned for INNS in the third cycle beyond a statement that we will 'prevent their introduction and spread to other parts of the water environment', with no further detail as to how this will be done. With a changing climate, an increase in water transfers and other pathways such as water-based recreation, there is more risk of introductions and non-native species that are already present extending their ranges and potentially becoming invasive[14,15]. There must be a commitment to monitor the situation.

We would welcome reference being made to biosecurity plans including marine biosecurity plans, with a focus on preventative measures, 'horizon scanning', early warning and effective rapid response. With respect to the latter, too often there is no champion or responsible agency to fund and co-ordinate action. This urgently needs addressing. Many of the water bodies that are affected by INNS still achieve 'Good condition' under the WFD, but they cannot achieve 'High condition'. This gives a misleading picture as it looks as though many water bodies are already achieving their objective of 'Good condition'. More than 20% of Scotland's transitional water bodies are at risk of failing to meet their environmental objectives as the result of INNS. More knowledge is needed on the extent and severity of the problem in lochs and coastal waters. SEPA should be a part of any projects building on the Scottish Invasive Species Initiative (SISI) project[16].

Co-ordinated control programmes involving a wide range of partners and stakeholders have a much greater chance of success in the long term. Several projects have adopted such an approach and lessons can be learnt from initiatives such as the Tweed Invasives Project[17], which is increasingly seen as a blueprint for others to follow; with a strategic catchment-scale, partnership approach widely recognised as an effective way of controlling INNS.

What issues do you see with us adopting this approach?

It will be a challenge to meet all environmental targets by 2027 and some aspects will be unachievable, therefore prioritisation and a cost-benefit analysis would be beneficial.

Can you suggest any changes to the approach that will help us reach our goals?

Identification of areas where joint working with other bodies may assist in the achievement of these goals would be welcomed.

Section 4: Summary of our objectives for Scotland

Do you support the aims set out in this plan?

We would like to see greater emphasis given to catchment-scale approaches and further emphasis and ambition in addressing climate change adaptation and mitigation, biodiversity loss and INNS in

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[14] Truscott, A.M., Soulsby., C., Palmer, S.C.F., Newell, L. & Hulme, P.E. (2006). The dispersal characteristics of the invasive plant *Mimulus guttatus* and the ecological significance of increased occurrence of high-flow events. *Journal of Ecology*, 94, 1080-1091. https://doi.org/10.1111/j.1365-2745.2006.01171.x.

[15] Čuda, J., Rumlerová, J.B, Skálová, H. & Pyšek, P. (2017). Floods affect the abundance of invasive Impatiens glandulifera and its spread from river corridors. *Diversity and Distributions*, 23, 342-354. https://doi.org/10.1111/ddi.12524.

[16] Scottish Invasive Species Initiative (SISI) https://www.invasivespecies.scot

[17] The Tweed Forum (2020). The Tweed Invasives Project: 18 Years of Catchment-wide Control - Best-practice manual. https://tweedforum.org/our-work/projects/tweed-invasives-project

particular. Catchment-scale approaches should include a strong emphasis on nature-based solutions wherever possible.

There needs to be a careful balance between voluntary initiatives and enforced compliance, with ongoing funding and guidance for initiatives. Monitoring of uptake of the various initiatives is needed to assess if more stringent measures are required. Building on the evidence-base, tighter regulation, and enforcement, resulting in full compliance should be the goal. There should also be greater ambition to move beyond compliance, working with sectors to achieve net benefits for biodiversity.

The plans present real opportunities for synergistic partnerships to deliver multiple benefits for the water environment, economy, and society. We would like to see these further develop. To reiterate, it is crucial that there is greater linkage to the Scottish Land Use Strategy, Scottish Forestry Strategy and NPF4.

The consultation Spotfire tool is a draft update of the Water Environment Hub. It will contain the data on RBMP pressures, actions and objectives for the third cycle (2021 to 2027). Please provide any feedback you have on the tool below

The tool is very useful and allows users to look at their geographic area, both for where the pressures are and where action is planned. Continually updating the data that populates the tool is crucial. It is essential that SEPA's monitoring programme is properly resourced and supported as alongside other statutory agencies there have been reductions in monitoring, especially with ecological survey work, and this is a real cause for concern. With climate change impacts increasing, long-term monitoring of water temperature and flow changes and the associated ecological impacts is even more imperative, and these aspects of monitoring should be ring-fenced against future funding cuts.

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