UK National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants

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Wildlife and Countryside Link (Link) is a unique coalition that brings together 47 voluntary organisations concerned with nature conservation, access to the countryside and animal welfare. Our members practise and advocate environmentally sensitive land management, and encourage respect for and enjoyment of natural landscapes and features, the historic and marine environment and biodiversity. Taken together our members have the support of over 8 million people in the UK and manage over 750,000 hectares of land.

This submission is supported by the following organisations:

- Amphibian and Reptile Conservation
- Angling Trust
- Buglife
- Environmental Investigations Agency
- Friends of the Earth England
- Humane Society International – UK
- Institute of Fisheries Management
- International Fund for Animal Welfare
- ORCA
- Rewilding Britain
- Salmon and Trout Conservation
- The Wildlife Trusts
- Whale and Dolphin Conservation
- Wildfowl and Wetlands Trust
- ZSL

Summary

We welcome the opportunity for a new implementation plan on Persistent Organic Pollutants (POPs). We recognise the great improvement we have seen in the release of the listed pollutants since 1990, but there is more that could and should be done. The consultation is particularly weak on ambition to drive emissions down further and increasing action additional to current efforts and requirements.

Given the long period and extent to which these chemicals can travel and bioaccumulate up the food chain, it is vital that the Government minimises emissions of POPs as much as possible. As such, the National Implementation Plan (NIP) should aim to drive down emissions even further than it has done currently. Although important, the current consultation relies too heavily on monitoring rather than action, with no commitment to act on the results of the monitoring. As long as we are still emitting these chemicals, we are contributing to the impact they have on wildlife and people globally. Our POPs emissions should not become someone else's legacy to deal with. **Recommendations**

- The NIP commits to reducing current emissions of POPs and acts on the results of the assessments and monitoring it is proposing within the timeframe of the current NIP.

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- The NIP adopts a precautionary approach and takes measures to further reduce POPs in the aquatic and marine environment, instead of the current proposal to resolve a discrepancy in data before taking action.
- The NIP acknowledges the role of EU regulation in reducing POPs in the UK and supports the full transposition of relevant legislation into UK law during the process to leave the European Union. Including: ○ Regulation (EC) 850/2004 on Persistent Organic Pollutants is brought over into UK legislation;
    - Water Framework Directive and Environmental Quality Standards daughter directives; and
    - Registration, Evaluation, Authorisation and restriction of Chemicals regulation (REACH).
- The NIP includes the importance of chemical cocktails, including the role the Environment Agency can play in better understanding the impact of POPs in mixtures.
- The NIP recognises and monitors the future potential sources of POPs and takes measures to reduce the exposure of POPs to aquatic and marine wildlife.
- The UK to have access to or a cooperation agreement in place with the European Chemicals Agency upon exiting the EU.

Overarching comments

The National Implementation Plan highlights the Regulation (EC) 850/2004 on Persistent Organic Pollutants to be an important legislative tool in the UK's implementation of the Stockholm Convention. As such, it is important that this Regulation and other relevant European Directives, such as the Industrial Emissions Directive, are fully brought into UK legislation during the legislative process to leave the European Union.

We urge the Government to ensure adequate monitoring is undertaken to identify bioaccumulation and combination effects of chemicals, in order to effectively understand the impact of chemicals on the environment. Monitoring of sub-lethal impacts such as those affecting reproduction and reduced fecundity should also be taken into account, whereas currently many chemicals are only monitored for lethal doses. Chemicals that accumulate in aquatic plants and animals can accumulate up the food chain via predation, ultimately entering into human food. These exposures can lead to a variety of problems in predatory species, including thinning of eggshells, disruption of parental behaviour, reproductive disorders, and cancers, among other effects. Laboratory studies also suggest that the effect of some endocrine disrupting chemicals can affect subsequent generations[1]. It is understood

[1] Bhandari, R.K., vom Saal, F.S. & Tillitt, D.E. (2015) Transgene rational

that the European Union is investigating how to approach monitoring and action on chemical mixtures. We urge the Government to acknowledge this approach within the NIP and to consider the outcomes from the EU, adopting relevant proposals.

We are pleased to see that the NIP acknowledges the role that the Water Framework Directive plays in tackling chemicals, including a number of POPs. It is vital that the Water Framework Directive, and its sister directives, are completely transposed into UK legislation during the legislative process to leave Europe. It is the essential framework towards improving water quality (alongside all other water management issues) and has resulted in a shift change in the way our water environment is managed; including significant improvements in environmental monitoring, more aligned management and a large number of partnership projects to enhance our environment, to name just a few benefits. Additionally, pharmaceuticals are included within the remit of this legislation, whereas there is very limited alternative legislation currently. At present, there are 275 different pharmaceuticals globally detected in the environment, with limited control or monitoring. Three of these are being monitored under the watch list. There is increasing evidence of the negative impact of certain pharmaceuticals on wildlife. For example, 45% of UK rivers could have ibuprofen levels found to be harmful to fish[2], and the anti-depressant Prozac has been shown to lead to a reduction in starling foraging and breeding behaviour[3]. These tend to alter behaviour rather than cause death; however, this continues to impact populations, affecting reproductive success and reduced survival.

We are pleased that the National Implementation Plan is UK-wide and recommend that it should consider whether there are any current differences in activity across the devolved administrations. In the process of leaving the EU, it is important that with respect to the management of chemicals there are no divergences in policy or practice across the devolved administrations. The negative impacts upon industry if the UK adopted a different approach to that taken by Europe, would equally apply across the UK if different approaches were taken by the devolved administrations. In addition, enforcement would become complicated where chemicals released from one country's industries impact species or ecosystems, which by their nature do not respect administrative boundaries. Key examples include the cross-border river systems contained within the Severn, Dee and Solway Tweed River Basin Districts.

The REACH regulation is invaluable in our approach to tackling chemical pollution. The scale of work undertaken by the European Chemicals Agency (ECHA) would be extremely difficult to deliver in the UK without remaining signed up to REACH once the UK has left the EU. We would like to see the NIP support retaining REACH and access to ECHA, as well as other Directives and Regulations that are important for dealing with POPs, within relevant legislation around leaving the EU.

POPs and the aquatic environment

The NIP seems to suggest little new action to tackle remaining sources of POPs and proposes to deal with legacy issues through various assessments. The NIP should commit to acting on the conclusions of those assessments. In addition the implementation schedule (Table 11 in the consultation) gives no indication around measures to reduce current emissions of POPs further. If there are measures such as best practice guidelines being developed, the NIP should include these in the implementation schedule. If no actions are

effects from early developmental exposures to bisphenol A or 17 –ethinylestradiol in medaka, *Oryzias latipes* http://www.nature.com/articles/srep09303#author-information

2 Boxhall, A. *et al*. (2014) Exploiting monitoring data in environmental exposure modelling and risk assessment of pharmaceuticals. Environmental International, Volume 73, pp 176–185

3 Bean, T. *et al*. (2014) Behavioural and physiological responses of birds to environmentally relevant concentrations of an antidepressant, Philosophical Transactions of the Royal Society B: Biological Sciences, Vol 369, issue 1656.

being taken to reduce current
emissions, especially regarding chemical emissions, which have plateaued, and Polychlorinated biphenyls (PCBs) (other than relying on WFD and Marine Strategy Framework Directive activities), then we conclude that the proposed NIP is not adequate. The NIP must include action to reduce current emissions of POPs further. As highlighted in the consultation, the release of dioxins to water has increased between 2010 and 2014 from 10 to 14gI TEQ/year, which the consultation concludes is as a result of emissions from waste that goes to landfill, as well as heat and power generation. Yet, there are no proposals to look into reducing this.

The NIP is also weak around proposals for reducing POPs in the aquatic environment. Instead of taking a precautionary approach and proposing measures to reduce POPs, the consultation argues to resolve a discrepancy in data before taking action. This is despite highlighting that concentrations of PFOS has been identified in surface water downstream of treated sewage effluent discharges, generally exceeding the Environmental Quality Standard for this substance. This appears to be a widespread phenomenon.

Although the consultation mentions the release of various chemicals via wastewater treatment works, and that the Chemicals Investigation Programme and associated research identified several treatment options that might be employed, the NIP makes no mention of incorporating these options. There is no mention of the role that natural wastewater treatment solutions could play in attenuating priority substances. This approach was advocated in the 2013 House of Commons Science and Technology Committee report on Water quality: priority substances. It was concluded that the water industry should be more innovative in its research around treatment solutions, such as using natural processes. Research carried out through the UKWIR chemicals investigation programme showed promising results from wetlands and reed beds etc. attenuating certain priority substances.

Furthermore, there is no mention of action around chemicals in household, garden and personal care products. Public awareness could play an important role in the disposal of chemicals, for example with those being flushed down the drain. Much more could be done to help ensure safe use and disposal of such products. The Catchment Based Approach partnerships could help to engage communities across England on this matter.

Within the marine environment, the UK has, for many years, engaged in and funded very high quality research into, and monitoring of, exposure trends in POPs, including PCBs. This includes an ongoing (25 year plus) collaboration between the Cetacean Strandings Investigation Programme (CSIP) and Cefas, that uses the best internationally standardised methods to monitor POPs in species with the highest exposures. The value of this work cannot be underestimated, and the need for the Government to continue to support it must be stressed in any UK plan to mitigate the release of POPs.

Though we have seen a reduction in the release of PCBs since the 1987 ban on their production, the significant decline in abundance seems to level out between 2010 and 2014. Adverse ecotoxicological effects continue to be seen on marine wildlife, with worrying population declines in several marine megafauna, particularly North Atlantic killer whales (the most 'PCB-contaminated' species) and bottlenose dolphins[4]. Whilst we welcome the work done to bring about a reduction, nearly a tonne of PCBs continue to be released into the environment every year, and there is little proposed in this consultation to significantly lower this.

[4] Jepson, P. D. & Law, R. J. (2016). Persistent pollutants, persistent threats: Polychlorinated biphenyls remain a major threat to marine apex predators. *Science* **352** 1388-1389.

The extensive monitoring of PCBs
in the ocean indicates clearly that the main environmental problem in marine POPs contamination is specifically with PCBs[5] (across Europe, not just in the UK[6]), and stresses the need for much more work on meeting the challenges of reducing their abundance from a range of sources, as well as understanding their behaviour in different environments. A large part of this work lies in the need to accurately assess how much of the PCBs load in UK waters comes from old equipment (mainly capacitors and transformers) and open sources of pollution (old landfills, estuarine sediments), and how well those sources are considered by the Stockholm Convention.

It is important that any NIP recognises any future potential sources of PCBs. This includes joint sealants in tower blocks[7], a release of PCBs which could be mitigated through effective regulation (particularly in the demolition of buildings containing them, as is currently in place in Switzerland, Norway and Sweden).

The NIP relies on actions under the Marine Strategy Framework Directive (MSFD) to tackle POPs in the marine environment. However, the MSFD programme of measures relies on current activity relating to a number of international agreements and EU Directives and Regulations to drive forward Good Ecological Status relating to contaminants. There are no new measures planned other than action under WFD. Therefore, we conclude that further improvement in reducing POPs in the marine environment will be minimal. This is not acceptable given the high impact of POPs on marine wildlife. We suggest that the NIP considers additional action to reduce POPs in the marine environment.

5 Jepson, P. D. & Law, R. J. (2017, *in press*). Europe's insufficient pollutant remediation. *Science*.

6 Jepson, P.D., Deaville, R., Barber, J.L., Aguilar, À., Borrell, A. (2016). PCB pollution still impacts populations of orca and other dolphins in European waters. *Scientific Reports* **6** 18573.

7 United Nations Environment Programme Chemicals Branch. (2015). *Preliminary Assessment of Efforts Made Toward the Elimination of PCB*.