

BREXIT, FISHERIES AND THE WATER ENVIRONMENT

A JOINT PAPER BY:

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EXECUTIVE SUMMARY

This paper is the joint work of the Angling Trust & Fish Legal, Atlantic Salmon Trust, The Rivers Trust, Countryside Alliance, Salmon & Trout Conservation UK and the Wild Trout Trust. It is in response to the referendum vote in June 2016 to leave the European Union (EU). Many fish stocks in and around the UK are declining, but the protection of EU Directives has generally slowed this decline and in some cases (such as in urban rivers) has led to the partial rehabilitation of stocks. We are therefore very concerned that the UK might withdraw from meeting these Directives, or seek to water them down. At the same time, we see opportunities for more locally-appropriate regulations to be applied in some cases, notably agriculture.

Whatever the outcomes of Brexit negotiations, we call on the government to ensure that:

- The main provisions of European environmental directives are maintained in order to build on the progress that has been achieved over recent decades with the control of pollution, abstraction and habitat loss;
- The Environment Agency (and the equivalent organisations in Wales, Scotland and Northern Ireland) is directed to manage eel at the River Basin District (RBD) level using the criteria and reporting structure as set out in Council Regulation (EC) No 1100/2007;
- Domestic regulations are brought forward without delay for improving fish migration; these have been in gestation for nearly a decade;
- Brexit does not affect the UK's obligations under international environmental conventions;
- Farmers receive free advice, technical support and guidance, linked to local farmer-run demonstration farms, supported by targeted grant investment in on-farm infrastructure;
- A new set of simple rules be implemented and enforced to provide a clear point of reference for farmers, regulators and advisors, practically strengthening the baseline or minimum level of regulatory adherence, particularly with reference to DWPA;
- Farmer-earned recognition and voluntary accreditation be introduced at the earliest opportunity to maintain momentum post referendum;
- OFWAT allows water companies the necessary investment at the next price review in 2019 (PR19) so that these utilities can undertake a programme of ensuring that all Sewage Treatment Works (STWs) are capable of processing predicted local sewage flows;
- Upgrades to STWs take into account plans for local housing and commercial development, and modelling of future increased rainfall levels due to climate change;
- An application is submitted to the North Atlantic Salmon Conservation Organisation (NASCO) for individual membership in advance of the UK leaving the EU, to avoid losing influence within international salmon management negotiations and agreements;
- Introduce UK management objectives for marine fish stocks (in addition to maintaining the objective of Maximum Sustainable Yield); these should include specific management plans or objectives for recreational angling;
- Consideration is given to adopting a similar model for sovereign fisheries to the USA's Magnuson-Stevens Fishery Conservation and Management Act (MSA) 1996;
- A national fisheries policy is developed, covering both marine and freshwater fish, which takes much greater account of the needs and role of recreational fisheries.

INTRODUCTION

This paper has been written by a number of angling and fisheries conservation groups following the referendum vote to leave the European Union. Our organisations are very concerned that the actions which follow might involve a watering down of environmental legislation. We have also identified a number of opportunities arising from Brexit which could benefit the environment and rural businesses.

There is a Private Members' Bill currently going through the House of Commons, calling for the maintenance of environmental legislation in the wake of the recent EU Referendum. The Bill makes provision for the safeguarding of standards of environmental protection derived from European Union legislation, including for water, air, soil, flood protection, and climate change, after the withdrawal of the UK from the EU; and for connected purposes. The Bill is being sponsored by the Environmental Audit Committee member Geraint Davies MP and is also being supported by Kerry McCarthy MP and Caroline Lucas MP. This Bill is expected to have its second reading debate on Friday 28 October 2016.

We hope the government will give serious consideration to the provisions of this Bill and urge ministers to do all that they can to help ensure the UK safeguards existing environmental legislation and strengthens it wherever possible. With the uncertainty that Brexit is causing, we now need to question what UK government environmental policy will be moving forward in post-EU politics and how this will influence national environmental legislation. It is absolutely vital that we ensure that the environment does not fall to the bottom of the pile of new policy and legislative decisions.

A healthy environment underpins economic and social wellbeing for a whole host of reasons. This paper focuses on the impact of Brexit on fisheries, which make a major contribution to rural and coastal economies, but we believe that there are multiple wider benefits for society and the economy from continuing to work towards complying with European environmental protection legislation.

EUROPEAN DIRECTIVES & REGULATIONS

Many EU Directives are vitally important for protecting fish, their habitats and a host of other wildlife. They have been used to hold governments to account on numerous occasions and have been key to driving up standards and delivering environmental benefits.

Whilst it remains unclear if the UK is to remain in the Single Market or not, there is no doubt that whatever settlement is reached as part of the Brexit process we are probably going to have to continue to abide by many of the existing EU rules. Norway for example, which is not an EU member, has implemented most EU environmental directives more effectively than many EU members.

Our organisations are calling for EU environmental legislation such as the Marine Strategy Framework Directive, Water Framework Directive, Urban Wastewater Treatment Directive and the Habitats Directive, all of which are already written into UK law, to be maintained and implemented in full to protect fish, other aquatic species and habitats. It is also essential that the provisions of these Directives are kept up to date and strengthened as necessary in order to ensure that the level of environmental protection in the UK does not fall behind that in other European countries. Indeed, we see Brexit as an opportunity for the UK to take the lead here.

While the Directives are important, there is also a host of European Union regulations covering important issues like emissions and pollution control which are directly applicable and so written into UK law. If the European Communities Act is repealed, our understanding is that all of these will cease to apply to the UK and this would have a substantial effect on our environmental protection framework.

Two examples of action that will be required as a result of leaving the EU are given below:

EELS

Eel are a panmictic species - i.e. all the European and North African populations are derived from one spawning stock. Over the last three decades eel recruitment has declined substantially and for any recovery to be effective management needs to be coordinated at the European scale. This was the intention of Council Regulation (EC) No 1100/2007. Currently, only two of the 15 EMUs (Eel Management Units, equivalent to River Basin Districts) in the UK have been assessed as meeting or exceeding their eel management target, as such there is still much work to be done both locally in the UK and with our colleagues in Europe.

A range of management measures have been implemented to increase silver eel production across the UK. In summary, these measures include restrictions on fisheries ranging from changes in quotas and close seasons to outright bans, the stocking of glass eels, provision of additional eel habitat via removal of barriers to upstream migration, and entrainment reduction measures such as screening and trap and transport.

Under Brexit these provisions need to be retained and we should maintain a pan-European approach to eel management, based on ICES advice. There will need to be a ministerial Directive (or new regulations) instructing the Environment Agency - and the equivalent organisations in Wales, Scotland and Northern Ireland - to manage eel at the River Basin District level with the addition of interim targets if developed and recommended by ICES.

BARRIERS

Barriers to the natural movement/migration of freshwater and migratory fish degrade the environment as they reduce the viability of fish populations by preventing/delaying them from reaching spawning and feeding grounds or by causing direct mortality. Intervention is necessary as there are multiple market failures in this context and individual users of rivers do not bear the full costs of their actions leading to adverse impacts of obstructions on fish stocks. This prevents water bodies achieving good ecological status or potential (GES/P) as required by the European Water Framework Directive (WFD). Existing 'fish passage' legislation only applies in certain situations and does not provide the full framework of controls necessary to meet minimum WFD requirements.

New legislation is required to address this gap. This has been promised for nearly a decade, but keeps getting delayed for one reason or another. New regulations have been drafted and are currently awaiting government sign-off. These need to be brought forward without delay, to assist with delivery of the 5 Point Approach to restoring salmon populations, and for the benefit of other fish species and the natural functioning of rivers. Barrier removal may also bring significant collateral societal gains through contribution to natural flood management.

We will be working closely with the All Party Parliamentary Angling Group and others in wildlife and fisheries organisations to influence the outcome of this debate.

INTERNATIONAL CONVENTIONS

The UK is a member of a number of international environmental conventions, both as a signatory in its own right and via the EU. In the latter cases, it will be necessary to negotiate individual UK membership. It is essential that this is done as rapidly as possible, and that the UK continues to respect all its obligations under these conventions, regardless of their precise legal status.

Conventions relating to nature conservation and the protection of the environment are known as Multi-lateral Environmental Agreements (MEAs). The UK is a contracting party to a number of such agreements. During the 1970s agreements were concluded on: the protection of wetlands of international importance (Ramsar Convention); the protection of sites of international cultural or natural significance (World Heritage Convention); the regulation of wildlife trade (CITES); the protection of species and habitats of European importance (Bern Convention); and the protection of migratory species (Bonn Convention). Following the Earth Summit in Rio de Janeiro in 1992, further agreements were concluded, the most relevant for fisheries being the Convention on Biological Diversity (CBD), which aims to prevent the further loss of biodiversity whilst using its components sustainably and sharing benefits equitably. The other 'Rio Conventions' include the Climate Change Convention (United Nations Framework Convention on Climate Change or UNFCCC), which seeks to address global warming through the reduction of greenhouse gas emissions. Also in 1992, the OSPAR Convention was concluded to address the protection of the marine environment in the North-East Atlantic. Other MEAs have also arisen subsequently, especially daughter agreements to the Bonn Convention.

Our organisations call on the government to ensure that Brexit does not affect the UK's obligations to international environmental conventions and ensure that the UK becomes a signatory in its own right if necessary.

AGRICULTURE

The Committee on Climate change reports that already 85% of the rich peat top soils of East Anglia have disappeared due to drainage and erosion. We have lost a lot of the natural asset that allows us to grow cereals, and climate change will accelerate the rate of loss. We could lose the remaining fertile soil within the next 30-60 years and that would be a huge negative impact on the food production capacity of the UK. Soils elsewhere in the country are being eroded faster than they are being created as a result of intensive agriculture (in particular maize production and overgrazing) leading to compaction, exposure of bare soil and a loss of organic matter (which also has significant implications for climate change).

The reason that this is important for fisheries is that soil in rivers seriously impacts fish spawning and juvenile habitat, especially for salmonid species relying on clean gravels. Ongoing research is also proving that a combination of sediment/soil and phosphate, much of it sourced from modern agricultural practices, is lethal to many invertebrate species, which are vital components of aquatic ecosystems and food chains. This has already impacted on invertebrate species and abundance in many rivers, with a knock-on effect on the food chain of fish and water dependent birds and mammals.

The Environment Agency (EA)'s 2015 classification for the Water Framework Directive confirmed that a staggering 83% of English rivers are failing to achieve good ecological status. While the reasons for this are complex, the EA confirms that excessive sedimentation is playing a significant role in failing rivers and that diffuse pollution from land use, along with channel modification, is the largest cause of failure to achieve the standard of good ecological status. A large section of this paper is therefore devoted to agriculture.

Leaving the EU will mean an end to EU subsidies for farmers. The Government has guaranteed these will remain in place until 2020, but in the longer term there is an opportunity to secure a much clearer link between subsidies and the achievement of improved outcomes for the natural environment. The provisions of the CAP are often a hindrance to environmental protection, such as the requirement to prevent the growth of scrub from uplands in order to qualify for the Single Farm Payment. Reform of this process could unlock significant opportunities for farmers to benefit from payments linked more directly to the delivery of environmental services, with the potential for less red tape. An important component of this would be the provision of advice to farmers to help them deliver these complex services. This is explored further below.

CAP REPLACEMENT AND A NEW DEAL FOR AGRICULTURAL PAYMENTS

NEW OPPORTUNITIES

We believe that Brexit provides a clear opportunity to reset a farming policy which, under the CAP regime, has been expensive and often delivered perverse impacts. This has seen high costs to consumers, inefficient land use, subsidies for land ownership and serious environmental damage. CAP has damaged Britain's natural capital and without significant reform there is, in our view, little chance of achieving the government's Manifesto commitment "to enhance the natural environment over the 25-year plan period, for the benefit of future generations."

Disengaging from the CAP provides a real opportunity to re-focus and re-balance agriculture and environmental protection in the UK. It allows major new steps to be taken toward achieving the sustainable development of agriculture, with high quality produce commanding premium prices in an open market. At the same time, farmers can be encouraged to become more involved in branding, processing and marketing, and in engaging consumers directly to build market confidence and ensure future prosperity.

In making the case for 'earned recognition' and incentives for the agricultural sector we reiterate that these measures must be underpinned by strong and effective enforcement. Many of the current subsidy payments are to compensate farmers and land managers for reducing greater levels of pollution and habitat destruction. This is an absurdity and, as has been argued elsewhere, in any other industry, polluters, rather than the polluted, should pay. Environmental damage should be subject to regulatory restraints and criminal penalties. Subsidies should be paid for delivery of additional services to society.

BACKGROUND ISSUES

In a world market where many emerging countries are producing increasingly cheaper food, often of inferior quality, at considerable expense to the environment, with ever narrowing profit margins, the UK finds itself well placed to focus on quality, traceability, high environmental protection standards

and added value. This is also arguably the most profitable and certainly the most sustainable option and with the UK being less than sixty percent self-sufficient there is ample opportunity for sector growth. Grass-fed, premium livestock for meat and milk production is an excellent example of this, where our mild climate and ability to grow grass gives the UK a considerable advantage. Unfortunately, current farm gate prices do not reflect this, the unsustainably low price of milk being a case in point. So how might this be turned around?

Agricultural production and food security has long been subsidised in the UK, from post war production subsidies to the more recent EU CAP Basic Farm Payment, with Cross Compliance under Pillar 1, with additional supporting environmental payments (Countryside Stewardship) under Pillar 2. These payments have been criticised for their unnecessary complexity, blunt prescriptive nature and almost exclusive focus on individual species and habitats, rather than the wider environment including connecting networks and wildlife corridors and investing in Natural Capital and Ecosystem Services like soils and water. In addition, take-up of environmental payments in otherwise critical areas (e.g. water abstraction) has been limited by the primary targeting of EU Natura 2000 (SAC) sites and restricted by the compensatory nature of the payments based on “income forgone” rather than a competitive market rate. How might this system be reformed?

A NEW DEAL

There are many new tools and systems to assist the modern farmer including precision farming techniques that can optimise inputs and help protect soils and their fertility, offering both considerable production and environmental benefits while increasing efficiency. Due to poor returns in recent years, many farms have been starved of investment including essential infrastructure from livestock housing and slurry storage, to hydroponic systems and produce packing houses.

FREE ADVICE

Farmers have always shown themselves willing to follow government policy and are quick to take up guidance and schemes on offer. The problem has been that, driven by CAP, this has not always taken farmers in the right direction and offered poor value for money, failing to serve either farmers or the public particularly well.

Farmers need free advice, technical support and guidance, linked to local farmer-run demonstration farms, supported by targeted grant investment in on-farm infrastructure.

BASIC MEASURES

Something that may help underpin a “New Deal” for farmers is Defra’s impending publication of new Basic Measures or rules that are aimed to reduce Diffuse Water Pollution from Agriculture (DWPA) along with other environmental impacts. The simple set of rules promises to clarify the interpretation of existing regulations and set them out in a more practical and intuitive way.

The new simple rules should help to provide a clear point of reference for farmers, regulators and advisors, practically strengthening the baseline or minimum level of regulatory adherence, particularly with reference to DWPA.

EARNED RECOGNITION AND VOLUNTARY ACCREDITATION

As set out above, a step change in providing advice, protecting soils and reducing DWPA is essential. This will require considerable effort and cohesive collaboration between regulators, voluntary groups, projects and those offering or requiring Quality Assurance (QA) certification.

In addition to supporting the development of the proposed Basic Measures, suggestions have been made for a system of voluntary accreditation and earned recognition that could benefit qualifying farmers and bring some gentle peer pressure to bear on those previously less forthcoming. Such a system might incorporate the following elements:

- Gain widest possible agreement for a voluntary programme of “baseline accreditation”
- Develop a voluntary farm visit and inspection protocol to include advice on the adherence to baseline regulations (e.g. basic measures) and Good Agricultural Practice
- Establish a certificated training programme for advisors and accreditors
- Gain support and agreement from Defra (and its agencies), The Rivers Trust and Water Company schemes, LEAF and other voluntary programmes and projects as well as supermarkets and other businesses with a direct supply chain link to agriculture;
- Farm visits and accreditation would provide a baseline entrance point for all Quality Assurance schemes as well as a gateway for farmer applications for “New Deal” grants and environmental payments, incentive schemes, funded projects at the same time offering to farmers potentially fewer regulatory inspection visits from EA or other regulators.

Discuss and introduce farmer earned recognition and voluntary accreditation at the earliest opportunity to maintain momentum post referendum

ENVIRONMENTAL PAYMENTS

With regard to environmental payments, the key must be to develop a new innovative, flexible, integrated fund and better target areas most suitable for the development of agricultural production, alongside those generating essential public ecosystem services like water supply, flood risk management, carbon sequestration and public health and wellbeing, including biodiversity. The environmental protection payments may be based on a simple annual sum paid over five or ten years like the current Countryside Stewardship scheme or be based on a large capital payment with (if appropriate) a restrictive covenant by way of a longer term binding contract typically twenty five years or more (as currently used successfully by Westcountry Rivers Trust in “Upstream Thinking”).

Payments might also be used to generate or kick-start new markets for ecosystem services; for example, a catchment based Cap & Trade programme for Phosphorus (P) where farmers can gain payments for reducing their P input to watercourses. Similarly, a market might form around water companies banking or trading water abstraction rights which might be offset by a capital grant for building on-farm winter storage irrigation reservoirs. This might release more water for drinking water supply and the wider environment in drought stressed catchments found in the South and East of England in particular, whilst allowing the efficient use of farm irrigation.

Similarly, annual payments or capital sums may be made available to farmers and landowners for flood attenuation or seasonal inundation. This might be funded via the Local Authorities and EA as part of a catchment-wide flood risk management (FRM) scheme or directly by local communities who fail to meet the government's 8:1 cost:benefit guidance for government-funded FRM investment.

Farmers and landowners should have the opportunity to be paid for all the public ecosystem services they provide where these services are otherwise in conflict with short term agricultural production incentives underpinned by the new Basic Measures.

NEW LOCAL MANAGEMENT SYSTEMS

Many of the national and local programmes and systems to enable the above are already in place and include:

- **Natural Capital Committee** – providing national guidance on Natural Capital Accounting allowing the preparation of a balance sheet for each catchment capturing the protection, maintenance and improvement of the natural resources present.
- **Ecosystem Approach and Ecosystem Services** – this has already been adopted by the Catchment Based Approach and applied at the catchment scale. More than a third of catchments have already had their ecosystem services mapped.
- **A Catchment Based Approach** - the one-hundred catchment partnerships that cover England already engage local communities including farmers, NGOs, business including water companies, as well as government agencies and local authorities in catchment planning, local decision making and local delivery projects. They can also act as “ethical brokers” in ensuring Paid Ecosystem Services (PES) transactions between parties are relevant integrated and complementary based on the data and mapping for each catchment.
- **Supermarket supply chain** – it will be essential to engage consumers, processors and supermarkets in the “New Deal” whereby the public are encouraged to pay a little more for their food at the point of sale to ensure their environment and ecosystem services are protected. There are real cost benefits to be realised, it's just that previous systems have not been transparent and have led to the public paying three times for their food: first the price they pay in the supermarket, secondly their contribution to CAP and thirdly the clean up costs caused by poor agricultural practice. This has included raised water supply risk and expensive water treatment, poor bathing water quality and increased flood risk.

CONCLUSION

The “New Deal” represents a direction of travel and can use existing national and local structures and harness the high level of public engagement already in place. It focuses initially on the win-win scenarios that have been neglected for too long; in particular the interface between soils and water essential for food production and plentiful supplies of clean water, reduced flood risk and biodiversity.

This represents a change for farmers, and is based on their active engagement at a catchment / sub-catchment scale providing an empowering and enabling approach. Encouraging and rewarding them for taking steps up the ladder of good practice.

We agree that reform is best achieved through incentives, with payments linked to local conditions on a catchment basis and to ecosystems services. However, we hope that any incentive schemes will be contract-based, and that there will be rigorous enforcement to ensure that there is recovery of payments for failure to meet the terms.

The new policy also needs to include clear rules on harmful practices, such as causing pollution, including siltation. These should apply to all farmers and not be linked to subsidies, with enforcement a matter for the courts or through civil sanctions, on the polluter pays principle. Environmental regulations need to be properly enforced, to ensure a level playing field and ensure that farmers who play by the rules are not disadvantaged.

SEWAGE TREATMENT WORKS

It has become increasingly clear that, while water companies have invested heavily over recent years in making larger urban sewage treatment works (STWs) more efficient, many smaller rural STWs have not been upgraded and are being regularly overwhelmed by sewage volumes for which they were not designed. The resulting sewage overflows into rivers are often having significant impact on aquatic ecosystems, killing invertebrates and driving fish species out of their habitat.

OFWAT must allow water companies the necessary investment at the next price review in 2019 (PR19) so that water companies can undertake a programme of ensuring that all STWs are capable of processing predicted local sewage flows. Upgrades must take into account plans for local housing and commercial development, and modelling of future increased rainfall levels due to climate change.

Although not strictly a Brexit issue, the price review process is a crucial driver to deliver environmental investment into a system under considerable stress by wider water use, increased house building and the vagaries of climate change.

NORTH ATLANTIC SALMON CONSERVATION ORGANISATION (NASCO)

NASCO is an inter-governmental forum originally established in 1983 to agree quotas for high seas salmon fishing around the coasts of West Greenland and the Faroe Islands. While this objective remains central to the forum's work, issues have diversified in recent years to include minimizing the impact of salmon farming on wild stocks, home water fisheries management and habitat restoration. NASCO's overall brief is to conserve, restore, enhance and rationally manage wild Atlantic salmon.

The UK is represented at NASCO as part of the EU delegation, although its civil servants have played a prominent support role throughout the forum's life. As part of the Brexit arrangements, it will be vital for the UK to be represented in its own right as one of the principal wild salmon producing nations in the North Atlantic region. This will entail applying to NASCO for individual membership in advance of the UK leaving the EU, to avoid losing influence within international salmon management negotiations and agreements.

BREXIT AND MARINE FISHERIES

As a member of the EU, the Common Fisheries Policy (CFP) takes precedence over national fisheries legislation. As a result, there is no need for Member States to transpose EU directives into UK legislation for them to apply. Therefore, the UK's exit from the EU will require new legislation to be introduced to replace the CFP.

There was a review of the balance of competences carried out by the last government. While some things may have changed the response is still worth reading in the context of the EU referendum. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/335033/fisheries-final-report.pdf

Brexit means that the UK will take control of fishing rights out to either 200 miles or the median line. The UK shares almost every fish stock with at least one other EU Member State. UK fish stocks cannot therefore be ring-fenced or managed in isolation. The UK will need to negotiate reciprocal rights of access and Total Allowable Catches (TACs) and its share of these through bilateral negotiations with the EU (as Norway currently does) or with the North East Atlantic Fisheries Council if other non-EU countries are involved.

EU funding sources, such as the European Maritime and Fisheries Fund (EMFF), will cease post-Brexit and the government will need to decide whether the UK invests in the same level of financial support. The current UK EMFF funding will continue until 2020 so the UK fishing industry will still be able to benefit from EU funding for some years after the UK officially leaves the EU.

The UK Fisheries Minister has already stated that, should the UK leave the EU, the UK will maintain a quota system and continue to apply the Landings Obligation – something the UK was instrumental in introducing in the last reform of the CFP. The UK will need to negotiate with the EU for access to EU waters for UK fishing vessels. This includes reciprocal access to UK waters by non-UK fishing vessels – something which will most likely be maintained as part of negotiations.

Quota through the CFP is allocated on the basis on Relative Stability and EU Member States are unlikely to be willing to renegotiate this. On that basis, any increase in UK quota may have to be negotiated through complex area-based arrangements such as those agreed between Norway and the EU.

The UK will continue to be bound to sustainable fishing through other agreements such as the United Nations Convention of Law of The Seas (UNCLOS) and the UN Fish Stocks Agreement.

UK fishing rights, while a headline-grabber during the referendum campaign, are not going to be a priority for the UK in the context of every other single policy area being renegotiated with the EU. There is understandable concern that fishing rights and protections might be traded away as a bargaining chip in favour of other policy areas.

Should Brexit trigger a second referendum on Scotland's membership of the UK resulting in Scotland leaving the UK and re-joining the EU, the remaining UK fishing industry will be a fraction of its current size due to the dominance of vessels and landings coming from Scotland. This would significantly alter the size and value of the UK fishing industry and its relevance to negotiations.

Leaving the CFP will allow the UK to introduce its own management objectives for fish stocks (in addition to maintaining the objective of MSY) and this could include specific management plans or objectives for recreational angling. Exiting the CFP could also have implications for those parts of CFP which relate to recreational fishing – namely the Control regulation and the Data Collection Framework, the Technical Conservation regulation and most recently the TAC and Quota regulation.

The CFP'S objective of regionalised management will need to be reviewed in light of Brexit. Sea areas such as the North Sea will struggle to be managed by Regional Member State groups and Advisory Councils when the two largest fleets (UK and Norway) are not subject to the CFP. This will be a challenge for the EU but is an issue that affects our highly migratory shared fish stocks.

Defra is currently carrying out a review of its marine functions and staffing levels within the department have been dramatically reduced with skills and experience being lost. The requirement for the UK to introduce its own sea fisheries legislation and management system will require an unprecedented amount of work and resources which it simply does not have at the present time.

AN ALTERNATIVE MODEL FOR FISHERIES MANAGEMENT?

A model for sovereign fisheries is demonstrated by the USA's Magnuson-Stevens Fishery Conservation and Management Act (MSA) 1996 which marked a significant change in NOAA Fisheries' legislative mandate to manage living marine resources. In particular, the Sustainable Fisheries Act (SFA) brought substantial changes in the requirements to prevent overfishing and rebuild overfished fisheries. Each fishery management plan (FMP) is required to specify objective and measurable criteria for determining when a stock is overfished or when overfishing is occurring, and to establish measures for rebuilding the stock. The SFA also added several new definitions, including definitions for overfishing and overfished, and for fishing communities.

The SFA was signed into law and significantly changed the way the USA does business. The SFA mandated numerous science, management and conservation actions by the National Marine Fisheries Service (NOAA Fisheries), with the fundamental goals of preventing overfishing, rebuilding overfished stocks, protecting essential fish habitat, minimizing bycatch, enhanced research and improved monitoring.

US SUSTAINABLE FISHERIES ACT 1996

- Prohibiting fisheries managers from using social, economic, or any other justifications to allow catch targets to exceed a calculated "maximum sustainable yield."
- Mandating that for each managed species, fisheries managers quantitatively define "overfishing" (certain specified maximum allowed rates of fishing mortality) and "overfished" (depletion below a certain population level).
- Mandating regular assessment of which fish populations that are overfished, and creating an official list of overfished species in U.S. waters.
- Mandating that for overfished species, plans must be enacted allowing them to recover to quantitatively specified target population levels (usually about one-third of the estimated pre-fishing population) within ten years (with certain exceptions).
- Adding that catches of unintended species or unmarketable fish be reduced, to the extent practicable.
- Adding the promotion of protection of "Essential Fish Habitat."
- Adding the promotion of catch and release programs to conservation and management principles.

There is much more material within this which deals with conservation, marine parks , 'sport-fisheries' and the separation of 'commercial/industrial' species vs. game or native American subsistence items.

Critically fisheries remain a political item because the fish are not static and have no interest in national boundaries. Cooperation between states and jurisdictions must be maintained to deliver sustainable and ultimately profitable fisheries which do least harm.

We urge ministers to use the opportunity provided by Brexit to learn the lessons of successful fisheries management practice from beyond the confines of the EU and in particular from the USA and to prioritise recreational angling in their decision-making, because it is a larger industry, with far great socio-economic benefits, than the commercial fishing industry.

WHAT WOULD PROGRESS LOOK LIKE?

In the UK post-Brexit, we believe that our aquatic environment would be better protected and bring greater benefits for all our people if our rivers (including all the land that they drain) were managed at the catchment scale to allow integration of effort across Government, industry and the Third Sector. Our fisheries would for sure benefit, but the broader societal benefits of such integration, including for the agriculture industry, would be vast.

Management at the catchment level allows for development of agricultural production appropriate for the locality, using methods suitable for the local slope characteristics, soil type, rainfall pattern and so on. Good farm practice would be rewarded through a system that is clear and simple for farmers and for all stakeholders to see and understand. Any non-compliance by land managers would then be effectively and rigorously regulated, to the benefit of all those compliant farm businesses and our wider society.

Under a clear set of rules, farmers should be able to make a profit from agri-environment interventions. At present, for instance, no one can cut and bale hay from grass strips or wild flower mixes: it's cut and left to rot. There is also a need to introduce trees and shrubs more widely as part of the working farm – they must be seen as part of it, not some forestry add on. Such a resource will bring benefits for water retention on the land but that resource must also be available for farmers to make money from woodland and firewood from hedges, again under a clear set of environmentally sensitive rules.

Flood management would operate at the catchment scale and be proactive rather than reactive, encouraging opportunities through natural flood management for ecological gain as well as alleviating the misery for the 4 million people in England at risk from surface water flooding and reducing the current £1.3-£2.2bn cost to society from flood damage.

Our regulatory agencies and their Third Sector partners would be adequately resourced to gather data on our environment, to implement environmental improvement work, to encourage sustainable amenity use (e.g. angling) and effectively protect the catchment. It is estimated that better protection of the UK's freshwater ecosystems would yield an enhancement of aesthetic value alone of £700 million and access to quality natural spaces could save £2.1 billion of healthcare costs.

Government would truly engage with the Third Sector as partners to promote sustainable management of our catchments across currently disparate sectors, from agricultural production through conservation and amenity.

In the marine environment we would hope to see a world class fisheries management regime introduced with proper resource sharing between recreational and commercial sectors which recognised the economic benefits of sea angling and targeted the management of relevant species accordingly. Sustainability must be at the core of any new settlement.

OTHER USEFUL ARTICLES

WWT - <http://www.wcl.org.uk/turning-brexite-into-an-environmental-opportunity.asp>

IEEP - Consequences for the Environment. http://www.ieep.eu/assets/2000/IEEP_Brexit_2016.pdf

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