

Case study: the post Brexit opportunity for world class governance of water

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EXECUTIVE SUMMARY

Over the next 12 months, government will have the opportunity to put society on course to secure clean and plentiful supplies of water and reduce the impacts of flooding and drought for the decades ahead, as part of a coherent, long term and integrated approach to the environment.

Society will face growing water-related pressures in the 21st century, including floods and droughts. Water is also often considered the lifeblood of a healthy natural environment. If government puts the right governance structures in place, the water industry, developers, local authorities, flood and drainage authorities and land managers can play their full part to manage these risks, ensure a healthy environment for the decades ahead, help drive innovation across the sectors involved in 'place-making' and get better value for money for everyone. But to make the most of the space Brexit provides we need to think strategically and act boldly.

The Broadway Initiative is developing cross societal proposals for the long- term governance of the environment, to inform near term decisions, for example over the shape of the new Environment Act, the design of future environmental programmes, post-CAP land management funding, development of local natural capital plans, resources and air strategies and the evolution of regulation and enforcement.

This note develops ideas about the future governance required to improve not only management of water and floods infrastructure but the total environment which depends fundamentally on water, and on which we all, in turn, depend.

Key recommendations:

1. **Put the range of long term environment-related and wider outcomes for water and floods on a legal footing**, backed by a well-designed policy architecture to provide a credible basis for the water industry, land managers, flood authorities, developers and their supply chains to form strategic partnerships, innovate and invest cost effectively for the long term. This would include fundamentally economic objectives for example for flooding and water resources and related infrastructure.

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2. **Develop unified multiple-outcome place-based plans** so that water companies, flood authorities, local authorities, land managers and their partners can shape and have a clear and agreed view of what's required in any given place, can form strategic collaborations and incorporate the full range of outcomes in their plans. These should , over time, incorporate and replace existing arrangements, building on partnerships that already work at local levels.
3. **Make responsibility towards the environment the default, backed by effective compliance assurance and enforcement** so that the regulatory baseline and the system of enforcement is clearer, fairer and more proportionate not only for the water industry, as part of their contract with society, but all for who determine the shape of the environment. This should include a requirement for net gain for water companies, other utilities, national bodies, local authorities and those who develop land including for infrastructure and housing.
4. **Develop funding structures that pool multiple sources of funding and target multiple benefits** to achieve far greater value for money.
5. **Develop a full suite of metrics and modernise monitoring** to provide the flows of information necessary to support a more mature, responsive and integrated approach to managing the environment.
6. **Ensure other departments (e.g. MHCLG) and initiatives (e.g. plastics) join up with water.** For example, new developments can do a lot more, cost effectively, to improve water efficiency and improve drainage (e.g. through SUDs – where Highways authorities also play an important role) and the land use planning system is an important tool. A major source of micro plastics in the aquatic environment is from roads run off (tire debris and road markings. And the recent 'fatberg' demonstrates the damage that plastics related flushing can do and the cost it imposes.
7. **Simplify the arrangements and responsibilities for drainage and flood risk management**
8. **Promote and incentivise innovative approaches to the supply of water and waste water treatment services for new housing settlements**

The government's 25-year environment plan sets ambitious vision for the environment. Both government and the National Infrastructure Commission have set out the long-term requirements for water resilience and flood protection. To achieve these ambitions and provide a credible and coherent basis for business to collaborate, plan and invest in long term solutions needs clear and credible governance structures, backed by primary legislation.

A key opportunity to lay some of these foundations, and perhaps the only opportunity within the required timescales, is the new Environment Act. This can then form an organizing centerpiece for all related decisions to be taken for example over the Agriculture

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Act and future of land management support, the future of catchment approach, future flood plans, water industry price reviews, and so on.

The benefits

These proposals would enable the water industry, local authorities, land managers and flood and drainage authorities to plan and invest ever more strategically, form stronger and more sustained partnerships, collectively shaping a more coherent and connected environment that better respects the character of individual places, alongside the essential infrastructure for water resource, flood risk reduction and other national objectives. In total they will:

- put government on course to meet not only its objectives for water/floods but also its ambition to be the first generation to improve the environment
- get better value for public and private (including water bill payer's and CAP payments) investment of at least £13bn per year in the natural environment – we firmly believe that working together water company, flood and land management spend can achieve more than the sum of its parts.
- enable radically more effective and efficient public administration of the environment
- encourage the development of homegrown innovations that can be exported globally
- join up decisions on physical and natural infrastructure

Next steps

The Broadway Initiative is co-designing proposals for a blueprint to govern the Environment after Brexit, across major business and governmental sectors that interact with the environment and own environmental assets, together with the NGO, professional, expert and academic communities. During the autumn, Broadway will engage with wider circles of society to improve the proposals and to develop ideas and proposals in more detail for example on local governance and on regulation, compliance and enforcement.

CONTEXT

Any medium-term approach to the environment, and any assessment of environmental options post Brexit has got to include water. Nearly all our water regulation arises from the EU.

Aquatic fora (freshwater rivers, lakes, inland marine, groundwater etc) face two of the top three risks from climate change in the UK (in the form of floods and drought), and both risks are further exacerbated by forecast population growth. This in turn compounds a series of already difficult trade-offs between the aquatic environment and the need for public water supply and flood protection – at a time when the UK aquatic environment is under severe pressure already. Water is also key to reversing the wider decline in our natural environment.

Brexit offers opportunities: to reduce process-based regulation through strengthening outcome based approaches (for example as set out in the water framework directive); and to integrate land management support, water company and local authority activity and flood risk management under a new partnership approach. The 25-year plan sets a direction but does not, in itself, contain the mechanisms to achieve it.

There are, however, tensions we need to resolve against the wider ‘environmental principles’ and environment act approach set out in the 25-year plan and in the Broadway group overarching approach:

- First, flood risk management and water resources could be argued to be as much infrastructure outcomes as much than environmental. They have elements in common with other infrastructure-based outcomes such as energy supply and transport and are the subject of important recent analysis by the National Infrastructure Commission. So, infrastructure and economic considerations around water/floods, and indeed the wider issues around climate change adaptation, may require some governance and wider development to optimise their fit with the 25-year environment plan.
- Second, the role of public and utility company spending is greater and that of traditional regulation less than elsewhere in the environment. So, for example, the precautionary principle has relatively little to say about flood defence. And an integrated approach to enforcement of environmental regulation may have relatively little to offer more widely.
- Third, there is an, as yet untapped, interaction with public spend on farming and wider land management. Farming not only is the major source of diffuse water pollution, but is also in some areas (e.g. through East Anglia irrigation licenses) a major water user, with the potential for water efficiency in farming underplayed even in recent Defra strategies.
- Finally, a wider approach of empowerment to local decision making, while essential, would need some tempering for floods and water. Catchment based working can provide a focus for environmental water quality and for riverine flooding, and the

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catchment based approach (caba) has already made a good start – but even here need greater co-ordination at the river basin level. Part of the issue is that ‘system operator’ and trading approaches require a very high level of complexity of analysis. A catchment basis also perhaps says relatively little about coastal flooding. More work is required to determine the appropriate scale for catchment engagement for what purpose. And long-term water resource solutions will require supra regional working – e.g. on transfers between catchments. In summary, we probably need to work on a range of sub national, regional and sub regional planes.

As mentioned above, in what follows we assume that it is legitimate to talk simultaneously about infrastructure as well as environmental implications of water and flooding. Not to do so would endanger the growth in cross fora and multi-stakeholder joint working which we argue can, alone, deliver the synergies we need to move forwards against the pressures of climate change and population growth.

A first step will need to be clarity about outcomes. In support we will require system wide changes to the way we work, fund, govern, regulate and enforce. And national changes will not suffice: a step change in local solutions and decisions at river basin, catchment and sub catchment basis will be needed, drawing on existing good practice and experience.

It also seems likely that a natural capital approach can deliver some at least of the analytical underpinning needed to work in these areas. However, in moving to a natural capital approach and governance, it will be important to build on, rather than replace, existing joint working and partnerships, for example in the catchment-based approach (see annex C below).

THE EXISTING SITUATION

Annex 1 sets out in some detail the current key facts, the main delivery players and regulators and the key policy measures/regulations. The current delivery and regulatory landscape is quite complex, but in essence:

- Water supply (abstraction, treatment and distribution of mains water at required drinking water quality to 50m household and businesses customer in England and Wales is undertaken in large part by 17 water companies. Other water is abstracted directly by farmers and businesses. Total abstraction amounts to c50bn cubic meters per year. The DWI enforce drinking water quality, largely under EU regulation. The totality of abstraction is regulated by the EA in as much as it impacts on environmental water quality, as part of the water framework directive, but wider regulation of water company and others’ abstraction, by EA, OFWAT and Defra, concentrates on ensuring resilience to potential droughts. England has a good, but not unblemished, record on drinking water quality, but is already prone to drought.
- Water pollution control, is mainly focused on waste water treatment – i.e. making sewage safe for discharge back into water bodies – and is only undertaken by 10 of the companies. It is regulated by the EA under a series of process and outcome directives.

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This, along with other discharges to water and the overall quality of water bodies is brought together in the water framework directive (WFD). While major steps have been taken to clean up acute pollution, notably from point sources, diffuse pollution – including from agriculture, but also run off from e.g. roads and industrial estates – remains a major problem. The UK faces a very tough challenge to meet the WFD aim of achieving good ecological quality by 2027. There are also issues with the quality of offshore marine waters. Some of these are due to the same kinds of discharges as inland waters (e.g. soil loss can affect both), and the regulatory system is similar.

- The provision of flood and coastal defence is largely undertaken by the EA and local authorities. Although some elements of mapping etc. are set down in the EU flood directive, the decision of how many houses and other assets to protect, to what standard, is largely determined by available funding from government and local authorities (currently c£700m per annum), under required appraisal metrics set down by Defra and the Treasury. At present a little over 5m properties are prone to flooding, roughly half from coastal and river flooding and the other half from the less well understood surface water flooding.

Boundary issues between UK nations

The issues covered in this paper are largely a devolved responsibility, although water supply and treatment in Wales is conducted by a mixture of Welsh Water and English based companies and OFWAT currently regulate Welsh Water.

It is however worth noting that there are significant aspects of water which have cross-boundary elements. This is most pronounced in Northern Ireland, which shares its WFD 'water bodies' with the republic. But it is also relevant to the main rivers systems across the Welsh/English border. And Wales supplies parts of England with much of its water resources – indeed the politics of this water is potentially important. There are also shared issues for the marine environment. The Solway Tweed river basin also crosses the English/Scottish border.

It is worth considering whether some form of transboundary high-level environmental governance might be justified in a post Brexit world.

The aquatic environment will face increasing pressures over the coming decades

Water, in all its aspects, and flooding are rapidly changing:

Floods and water resources are two of the top three risks from climate change post mitigation identified by the Adaptation sub-committee. (NB climate change impacts of floods can be sub categorized into impacts on river flooding and coastal flooding/tidal surge). There are also serious knock on effects from both floods and drought to environmental water quality, and from heat (the third major ACCC risk) to water quality and demand. Finally, water management in cities itself can play an important role in reducing heat islands.

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Water and floods also face pressure from population growth, with a central estimate of over an 11% (7m) increase in population by 2041, heavily concentrated in London and south east.

Together climate change, population growth and the need even in a steady state to improve the substandard environmental water quality mean that:

- The south east of England could face a deficit of 1000 megalitres a day of water supply, which could only be met by a combination of aggressive demand reduction, major new storage/sources and a major programme of interregional transfers – and the construction of the infrastructure to enable this (source Atkins et al report for Water UK).
- An increase in flood risk, with up to four times as many properties at risk of flooding without increased spending (source adaptation subcommittee)

A number of current governance constraints will if not tackled constrain progress

Outcomes in these areas are at least in part already set from the WFD, 25-year water resource management plans and 6-year flood investment plans.

But:

- Policy and delivery for water quality, resources, floods, and land management support are determined largely within organisation, rather than between organisations.
- And at different spatial scales (e.g. water company boundary, bilateral agri-environment thinking and catchment-based EA boundaries for floods), with varying degrees of (less than fully joined up) spatial planning.
- Discussions are not fully joined up between those who: a) treat waste water; b) provide mains water; c) use water; d) (diffusely) discharge into water; e) abstract/store water for own use (e.g. many farmers); f) protect against floods; g) exacerbate floods by building on flood plain etc.
- Regulation/legislation is in some cases process based rather than outcome based
- There is incomplete data collection and monitoring, between a number of less than fully joined up players
- Investment is uncoordinated, and markets are at best partial. Externalities are not fully internalized.
- There is little current incentive for partnership approaches to land management grants (even environmental stewardship) and practically no ability for matched funding to make a difference to land management – in contrast to floods spend where partnership approaches and matched funding are fully enshrined in the EA's grant allocation.
- The land use planning system, in particular, is undeveloped in its treatment of water efficiency and sustainable drainage, furthermore there are issues around new water supply and wastewater treatment systems for new developments

Brexit has the capacity to be a trigger and enabler for a new approach; the 25-year plan recognizes many of the challenges

Although the Swedes and Dutch have found some good ways forward with greater flex than the UK has found within the EU, we believe that Brexit enables a radically new approach to land management, and for a rebalancing towards outcomes. Specific problems with the EU approach include:

- It is designed in many cases for cross boundary catchments.
- It can be sector specific (e.g. urban waste water treatment directive) and or process specific, rather than partnership/outcome optimized
- It does not allow fully for the join up between using public spend on agriculture with the public goods of enhancing the water environment and the public/bill payer spend by flood authorities and water companies.

The 25 -year environment plan is a further helpful trigger for action, although it is less distinct on water than some other fora. A summary of the 25 -year plan proposals on water is attached as annex 2.

PUTTING LONG TERM GOALS ON A LEGAL FOOTING

To provide the basis for the water industry, local authorities and flood and drainage authorities to develop the partnerships and investment plans necessary to achieve multiple outcomes, and for suppliers and innovators to develop solutions, requires:

- a coherent suite of goals for the next decades, expressed in primary legislation, covering all the goals required, including for the water environment, water resources and floods. These would need to be set, from an evidential standpoint, on the basis of multi fora cost effectiveness analysis with societal engagement, education and buy in. They will also in all probability need to be set as staging points towards a longer-term aim, as elements of floods and water resources already are.
- policy architecture for government to set targets and milestones towards those goals, give everyone clear line of sight as to what they will need to achieve (for example targets to reduce leakage) and create the right policy framework to support achievement of goals,
- aligning the current architecture of programmes that affect the water industry, with the wider arrangements for the environment that will exist post Brexit
- mechanisms for articulating place-based objectives (see 2 below)
- government accountability for the goals

The 25-year plan provides a starting point for water goals and targets. During 2018 Defra is doing further work to develop metrics and targets. These are likely to build in on existing arrangements, for example:

- The water framework directive defines the aim of moving water bodies into ‘good ecological condition’. This definition may need some refinement at the margin;

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- Water resource plans talk about resilience to a (say) 1 in 100-year drought. Recent work has taken drought modelling forwards, but there remain issues about how to encapsulate climate change uncertainties.
- Flood protection measures are quite complex but concentrate on the concepts of economic damage and numbers of properties protected against for example a 1 in 100 year river flood. Again, there is work to do in proofing such calculations and definitions against climate change uncertainties.

The environment plan is capable of being augmented by recent work (for example) on water resources and flood risk by the National Infrastructure Commission and by the Adaptation Committee on Climate Change.

Holding government to account for goals

The 25-year plan proposes a new independent body to hold government to its promises on the environment. And the adaptation subcommittee of the CCC looks at adaption to climate change. There will need to be thinking about the relationship between these bodies, and others such as the NIC, the NCC, the EA/NE and the JNCC.

Care is needed as:

- a) The aquatic environment, water resources and floods in any one year (or even 5 years) are heavily dependent on the weather. Adjusting for this is not an exact science.
- b) Different planning approaches currently run on different periodicities. Water company business plans and water resource plans are on a 5-yearly cycle; WFD and floods on a 6-year cycle; environmental stewardship on 5-10-year contracts; and other government spending is governed by the spending review cycle.

Moving to a genuinely multi sector approach might require changes to these.

An independent body could also introduce advice on 'adaptive planning' into the water space – although care would be needed with regard to the remit of the adaptation subcommittee. So as information continues to grow on climate change, for example, targets and time scales may need adjustment.

The opportunity to provide credible long-term direction is in the Environmental Governance Act. This could then lead to alignment and simplification of the programmatic arrangements so that by the next price review the water industry can secure far better value for investment.

DEVELOPING STRATEGIC, CROSS-SECTORAL, MULTIPLE OUTCOME, PLACE-BASED PLANS FOR THE ENVIRONMENT

To enable the water industry, local authorities, land managers, developers and others to plan, invest and collaborate would require a coherent, integrated and long-term approach

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to environmental plans. The 25-year plan has already committed to a step in this direction through local natural capital plans. Ultimately, these should be designed to enable:

- a clear view of the long-term goals for the place-based environment, alongside social and economic goals for example for housing and infrastructure
- a clear view of the current state of the environment
- a clear view of the plan for maintaining and improving the environment
- pooling money for improving the environment from both public and private sources and aligning it with the goals (see section on money later)
- simplifying administration, reducing bureaucracy and removing duplication
- building on the partnerships that are already working at local level
- assigning clear roles and accountabilities with room for place-based actors to develop plans, collaborate, prioritise and invest in the environment more effectively and efficiently.
- engagement with the land use planning system and other key players such as highways authorities.

Broadway will do further work during the autumn to recommend how these should be designed in more detail. Nevertheless, there's a strong case for river basin and catchment areas to form a central component of these plans.

In some cases, the outcomes for water discussed above can be translated into catchment objectives – as is already done for floods and will work well for environmental water quality.

But droughts are no respecter of catchment boundaries – indeed water resource planning is already moving to a significant cross south east approach. Nor is coastal flooding and erosion. And land management interventions need sub catchment modelling: the same intervention even a kilometer apart can have radically different impacts on outcomes.

The catchment-based approach architecture, along with the EA's areas and devolved responsibilities already covers an important part of what is needed. It will be important to learn the lessons from these and to adapt and build on already functioning stakeholder relationships where possible. Annex 3 argues persuasively that caba approaches could logically form the local basis for 25-year plan implementation at a local level, whatever they end up being called.

However, local implementation will not be sufficient. It will be important to nest local approaches with wider river basin assessment and governance, and to reach out to specific issues, such as urban flooding.

There have been many previous attempts to integrate land management governance. In practice, it will not happen in the absence of legislative provision that commits to a unified approach. The opportunity to do this in the Environmental Governance Act. Broadway is developing options for implementation.

Make responsibility towards the environment the default, backed by effective compliance assurance and enforcement

Until now, the default position is that by law no one has any responsibility to the environment, unless there is a specific provision imposed.

Over time we have introduced rules and policies as we have learnt, issue by issue of the environmental, social and economic impact of failing to be responsible for the environment. This has given rise to a situation today whereby we have an unnecessarily prescriptive, compliance driven (rather than strategic) and complex approach. Furthermore, the existing approach is poor at anticipating new issues, requiring government to make rules reactively, rather than encouraging innovation in a way that builds in responsibility. In total it has not succeeded at reversing environmental decline, with some parts of society pursuing short term economic gain at the cost to our long-term prosperity.

Broadway has more widely argued that there should, In future, be:

- Government as a whole responsibility for creating the conditions, coherently across all policy, for meeting environmental challenges, so from a water industry perspective for example planning, infrastructure development and the fiscal environment all pull in the same direction. In recent decades, when the EU has been the main instigator of environmental policy, Defra has adopted a 'vertical' role to implementing EU rules which has often set it in conflict with other government departments, rather than giving those departments an equal responsibility to achieve shared goals.
- responsibility for all businesses to understand their impact on the environment and to take reasonable steps to avoid harm.
- a 'net environmental gain' responsibility for all developers and utilities, including water companies.
- duty to cooperate for those required to take action to achieve the objectives of place-based plans

To ensure that all commit to their responsibilities there also need to be:

- mechanisms to make compliance transparent in a way that matters to businesses
- robust, intelligence led, proportionate and adequately resourced enforcement

The responsibilities above should be set in the Environment Act.

More generally, in time, as this framework focused on improvement commands the confidence of society, there should be space progressively to improve the regulatory landscape and remove overlapping prescriptive requirements that constrain ability to innovate and achieve value for money. For example:

1. Clearer baseline responsibilities, for regulation and spend, with improved join up. Main river flood spend and regulation of point source discharges sit within the EA. Policing of other discharges (e.g. from agriculture, run off from roads) is mainly conducted by

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prosecution of major incidents. Water based cross compliance controls on land management activities are rarely policed by the RPA. Natural England's bilateral agri-environment grants are mainly conducted from a terrestrial biodiversity standpoint. There are some attempts to address these issues, for example through 'Farming Rules for Water', but there could be simpler, more intuitive and better enforced responsibilities. Land use planning and non-main river flooding is led by local authorities.

2. Based on integrated environmental assessment

Although hydrological modelling is well advanced, it remains incomplete, and its application at a catchment level is partial. A particular issue concerns the impact of similar interventions at different points in the catchment. This means that catchment trading/tradeoffs can be highly complex.

3. Regulation should, other things being equal, be outcome based, prescription should be used only where it is clearly beneficial. And permits etc. should therefore have regard to medium to long term goals they do.

Brexit may give the opportunity to move away from some of the very expensive and dirigiste process regulations such as the urban waste water treatment directive. Allowing the removal of requirements which involve actions which are not cost effective (in a full sense of the word, including natural capital benefits) could allow recycling of capital (financial or regulatory).

And part of the floods directive aim to address the big cross border flood issues in mainland Europe (e.g. Danube, Rhine) and may not be optimal for the UK.

Although removing chemical contamination from water remains important, more could potentially be done to make this (currently set out in priority substances directives) priority substances approach proportionate and faster moving.

Water companies would be able to achieve greater value for the environment if they could focus more on catchment-based outcomes. However, the flexibility to enable this would require well-designed governance arrangements to give society the confidence that the outcomes are, in total, better for the environment, including for biodiversity.

There are concerns at present that cross compliance in relation to the land management payment system is wholly under-enforced in relation to the aquatic environment – both as regards quantum and quality of inspection. And there is also evidence of the EA moving away from enforcement of lower impact incidents.

DEVELOP FUNDING STRUCTURES THAT POOL MULTIPLE SOURCES OF INVESTMENT AND TARGET MULTIPLE BENEFITS

In future, and as we develop the new Environmental Land Management support arrangements, we will get best value if we:

- have a clear rationale for where public funding is additional to basic responsibilities
- bring all environmental goals within the scope of funding, including flood and the range of water outcomes
- develop a marketplace for beneficiaries and suppliers of public goods based on a reverse auction mechanism
- include a mechanism for private entities and communities to declare their willingness to pay for environmental goods
- require partnership funding where the outcomes depend on it and individual actions would otherwise be undermined by others working in a shared environment

This would require clear strategic join up between (the more ambitious approach proposed for) the Environmental Governance Act and the arrangements triggered by the Agriculture Act.

Natural capital approaches

A catchment based approach where clearly identified beneficiaries are willing to pay others to change their practices has been implemented in a number of locations. However, these are still some way from ecosystems services and natural capital based approaches.

(Natural capital approaches to catchments seek to identify, and ultimately monetise the 'ecosystem services' delivered to the economy and communities from catchment management and interventions. It has been espoused by the NCC, by a number of water companies and in Ireland and New Zealand. It has obvious applicability in this area: for example, in helping bring together water resource, water quality, land management and flood decisions into a common analytical framework – in support of the bringing together of funding streams outlined above.)

Work by Green Alliance and the National Trust looked at the related possibility of Natural Capital trading. It concluded that while such a scheme might be workable, under a neutral broker in time, early interventions might best concentrate on particular inputs (e.g. methaldehyde, Nitrates) rather than outputs. Wessex water's Entrade scheme may be the most advanced in this area. (It is also notable that this is one area where it has been suggested that blockchain technologies could completely transform the art of the possible)

An important input to such an approach may be pooling of many public funding streams. However, that would require a very different approach to spending reviews: earmarking funding for floods has been an important part of HMT theology.

DEVELOP A FULL SUITE OF METRICS AND MODERNISE MONITORING

Moving to a more mature, outcome-focused and responsive approach to policy implementation requires far better flows of information to inform action at every level and to hold those to account for failure, whether government or individuals.

This requires a full suite of metrics that is capable of reflecting the important aspects of the goals in a way that's meaningful to those who can act within useful timescales. Defra is developing a first version of metrics. This should form the starting point for discussions and Broadway will review with partners whether and what help to provide, including for water metrics, at that stage.

There is also a need to rethink flows of information to support the new direction. Monitoring should be:

- purpose driven (i.e. useful and used for the purpose)
- outcome focused
- integrated across all environment
- logical and joined up roles across public, private and third sectors
- flexible to harness latest technologies
- quality assured and governed soundly
- accessible to those who need feedback

It is essential that monitoring should, in total, be adequately resourced. There is clearly a need for better information. It is unclear as yet whether taking a more modern and effective approach will cost more or less in total than now.

Benefits for water/floods – including existing examples of good practice

Our vision is for a genuine join up of flood and water spend with reward for partnership and matched funding through agricultural support. So, for example, land managers bidding as a partnership could secure funding which might not be available to each individually. And where water company and/or flood spend was part of the package, such 'partnership funding' could move bids higher up the priority list for land management funding – as is currently the case for floods spend. This could both be significantly more than the sum of the parts and the only realistic way of coping with the pressures outlined above.

The catchment-based approach has a lot to inform the future. River catchments are to all intents and purposes natural systems. Pollution, or mismanagement of land upstream has a major impact on water quality and floods downstream. The benefits of land management by any one farmer are largely felt outside his or her boundaries.

Success would see improved water quality, flood protection and water resources without extra spend, at least relative to the status quo. Our approach is we firmly believe the only credible response to the increasing pressures faced by the aquatic environment.

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There has now been 20 years of experimentation/pilots in this area. Early interventions, such as UU's 'Scamp scheme' relied on a combination of a few very large landowners, and a proven benefit to water customers (reduced discoloration) to justify investment in schemes which had flood, ecological and water quality benefits. Defra started to fund 'catchment sensitive farming' a decade ago, which has been augmented/partly supplanted by what is now called the catchment-based approach (CABA). The EA have started to fund natural flood management (working with the largely upstream land to retain water). Even more recently Defra have created pioneers. Some of the best examples currently are Water Resources east assessment of options for water retention in Lincolnshire, Wessex's trading pilot (see above), BITC suds Manchester work, Cumbrian and Yorkshire Dales partnerships.

One lesson from all these pilots is that it takes time to build up the stakeholder engagement and trust at a local level which is needed for success. Continuity of governance and funding is essential, but against the backdrop of the more fundamental reforms outlined above.

Next steps

These recommendations form part of a wider set of proposals for developing world class arrangements to govern the environment after the UK leaves the EU, developed not only with water stakeholders but also a wide cross section of other sectors that influence or are interested in the environment.

The immediate focus is to use the opportunity of the Environment Governance Act to shape a more ambitious Environment Act that sets clear direction for improving the environment and the way it is governed. In parallel, these proposals should also shape the development of the Agriculture Act and the design of post CAP land management investment.

The integrated approach proposed here should be in place at the latest by the next price review cycle, currently set for 2024 but where possible it should inform earlier decisions such as the design of catchment-based approaches when funding ends in 2019.

Annex 1: who does what on water quality, land management, floods, water supply.

A) Water resources/drinking water quality:

Key players: water only companies; Affinity, South East, SES water, Bristol, Cambridge, Portsmouth ... and WASCs (the big 10) supply c 50m customers in England and Wales – total water company abstraction, treatment and pumping is c 5.5bn litres a day; private water supplies -e.g. inset companies supply z mega litres; other abstractors (farmers, some companies, energy for cooling) use c 4.5 billion litres but most of this is energy cooling, which is largely return to the water body. Sources include groundwater, rivers, reservoirs, very limited desal, transfers between companies.

Regulators include OFWAT (resilience duty, funding), EA/NRW (sustainable abstraction/WRMPs), DWI (drinking water quality), NE.

Key policy/regulatory measures (mostly aimed at water companies): water resource management plans, abstraction regulation, possible abstraction trading, water framework directive (where danger of over abstraction impacting on environmental water quality and water quality must be protected around abstraction points – “drinking water protected areas”), irrigation permits, drinking water quality standards

B) Environmental fresh water quality:

Key players: WASCs – end of pipe waste water clean-up, work with land managers; other point sources – e.g. big industrial discharges; urban/hard standing diffuse pollution: roads run off, contaminated land, industrial estates etc.; rural diffuse pollution: agriculture - pesticides etc., livestock, muck spreading /fertilizer, soil erosion; flash flooding; run off from hard standing; leaching, e.g., from peat.

Regulators include: EA/NRW (NEP, pollution regulation); OFWAT (funding), NE

Key policy measures (mostly aimed at water companies): water framework directive, urban waste water treatment directive, groundwater directive environmental quality standards (priority substances) directive, freshwater fish directive, nitrates directive/NVZs, national environment plan and devolved equivalents, discharge consents, SUDs provisions in planning law (largely ignored), EA/NRW powers to fine polluters, agricultural cross compliance, New farming rules for water, April 2018. Catchment based approach (CaBA), Catchment sensitive farming (CSF).

Funding of environmental interventions.

GiA to EA for WFD implementation, most recently re-christened Water Environment Improvement Fund (funds projects but also supports CaBA hosts and CaBA central support) – expected to be discontinued after 2018/19.

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Water Environment Grant (from April 2018). (Under RDPE, for projects implementing WFD that are located in, or that benefit, rural areas).

Investment by WASCs under water industry national environment programme (WINEP).

Enforcement Undertakings whereby water companies voluntarily pay into local water environment funding in exchange to not being prosecuted have started to make a moderate contribution, but have the potential to be expanded.

CSF (funds the provision of advice to farmers).

Countryside (in succession to Environmental) Stewardship

Other and EU funding – HLF, EAFRD, EMFF, Interreg.

B1) impacts on environmental marine quality (Transitional and coastal out to one mile (TraC) waters only)

Key players (mainly aimed at water companies): WASCs: waste water treatment works; diffuse pollution through rivers and on the coast; inland shipping/fishing/pleasure boats; marine activity (e.g. aggregates); ports run off; coastal erosion

Regulators: EA/NRW, MMO

Key measures: shellfish/bathing water directives, WFD, Marine Strategy Framework Directive

C) Flooding

Main types: fluvial (rivers), groundwater, surface water, coastal flooding, coastal erosion. In total c5m properties are at risk, roughly half from surface water flooding.

Main anthropomorphic exacerbators: inappropriate development – places property at risk, but also reduces absorption capacity; hard standing; soil compaction and poor land management (e.g. of peat uplands); canalisation

Main mitigants: Hard defences (concrete), soft defences (e.g. earth banks, shingle replenishment), temporary defences, improved land management (notably in uplands), managed retreat, pumping stations/sluices etc., temporary/seasonal water storage (e.g. Ouse washes)

Main players: EA (main rivers, coastal systems); LAs (other rivers and coastal erosion defences); IDBs; RFCCs; (land managers/riparian owners); NRW

Annex 2: Annex 2: 25-year environment plan for England

The 25-year plan is lighter on firm proposals on water than some other areas. However:

‘ clean and plentiful water’ is enshrined as one of the 6 top goals;

And specific policies include:

Chapter 1

On agriculture (mainly indirect benefit for water):

- 2. ii. Introducing new farming rules for water
- 2. iii. Working with farmers to use fertilisers efficiently
- 2. iv. Protecting crops while reducing the environmental impact of pesticides

And on floods:

- 5. i. Expanding the use of natural flood management solutions
- 5. ii. Putting in place more sustainable drainage systems

Chapter 2

- 3. Respecting nature in how we use water
 - 3.i. Reforming our approach to water abstraction
 - 3.ii. Increasing water supply and incentivising greater water efficiency and less personal use

Chapter 4

- 1.vi Reducing the impact of wastewater
- 2. iv Minimising the risk of chemical contamination in our water
- 2. v. Ensuring we continue to maintain clean recreational waters and warning about temporary pollution

Chapter 5

- 5. i. Achieving good environmental status in our seas while allowing marine industries to thrive

Annex 3: Integrated delivery of water outcomes in the context of the 25YEP

The delivery vehicle known as the catchment-based approach (CaBA), put in place by Defra in 2013 and supported with Defra funds for the 5 years since, is widely believed to be narrowly focused on improving environmental water quality.

That is a misconception. CaBA was devised by Defra with the aim of driving integrated approaches to issues in the water environment so as to identify multiple benefits both within the water sphere and beyond it; and on the back of that to build partnerships to mobilise all interested parties to find innovative ways of raising funding to secure those benefits. The trigger for this was widespread concern that the first-cycle river basin management plans were unambitious with regard to driving improvements and insufficiently effective in delivering benefits for people, wildlife and the environment. The idea was also to test out the theory that the catchment (rather than the river basin as previously attempted) is the appropriate scale at which to seek the participation of interested parties, being the scale at which they identify with the issues and articulate their concerns and ambitions. Defra's funding has supported the hosts who lead the 100+ catchment partnerships that cover the whole of England (the hosting grant was £15,000 per host in 2017/18) and the provision of central support to partnerships (upwards of £250K in 2017/18).

So CaBA has been supported by Defra money and its objectives are strikingly analogous with the ambitions declared for the wider environment by the government in its 25YEP: the Plan refers to pursuing multiple improvements across the whole environment by improving coordination, join-up, integration and efficiency amongst all the organisations and partnerships involved and adopting a natural capital approach.

The synergy between CaBA and the 25YEP proposition is potentially strong, given that:

- both are driven by the same concern to remedy a failure to join up and integrate to deliver the same wide range of benefits (beyond water quality, CaBA partnerships have driven the realisation of benefits by way of improved habitats and connectivity, increased biodiversity, delivery of natural flood management solutions, increased angling and recreation opportunities, improved health and wellbeing and more);
- both want to create plans to act as the key driver for what they want to do; catchment management plans in the case of CaBA, natural capital plans in the case of the 25YEP;
- both seek to drive more improvements by maximising the pursuit of benefits as a way of leveraging funding;
- catchment partnerships and their project boards are one place where the various players that the 25YEP says need to be driven together (Local Nature Partnerships, farmers, and landowners, NGOs, CSF, local authorities, water companies, national park authorities, AoNBs, National Trust etc.) already are brought together.

However, there are limitations, which mean while a local approach such as CaBA is necessary for delivery it is not likely to prove sufficient. In particular there are issues which require a regional/river basin integration to ensure inter-relations between sub catchments

work, and to secure higher level stakeholder and political buy in. And CaBA has to date been a predominantly rural tool.

Even so, CaBA's capabilities, and the lessons learnable from its five years of operation, ought to be key point of reference when operationalising the 25 year environment plan.

Conclusions from all this, in brief:

- CaBA is a key asset for delivering water-related interventions that can underpin delivery of the 25-year vision. Also, a model for the approach needed to achieve that delivery across the full range of environmental issues.
- The holistic understanding of how each catchment works, that partnerships generate and embody in catchment plans, is proving a point of reference that's of value to all the organisations and initiatives with an involvement in the area – e.g. local authorities, water companies, other partnerships etc. who work, for good reasons, to other scales and boundaries.
- Catchment scale (as distinct from anything wider) has indeed proved to be the appropriate scale to engage with local and community players to get them involved and mobilise partnership approaches and realise benefits (not just water quality benefits) for people, nature and society.
- CaBA has not been extensively evaluated. One helpful assessment is the November 2017 report from CaBA's own Benefits Working Group (demonstrates substantial progress against a number of indicators of partnership building, integration and benefits delivery, and shows that over four years the partnerships raised £8.63 from non-government sources for every £1 invested by the government).
- But there's room for much more work to learn the lessons from what is in effect an England-wide pilot of integrated delivery in which each partnership has been free to pick its own way to deliver its objectives and build capacity.
- The funded central support has evidently provided critical underpinning for building CaBA partnerships and driving integration. This comes by way of the CaBA National Support Group that provides a broadly-based programme board comprising organisations (external and the Defra ALBs) that support CaBA or help deliver it, and a professional unit that has: provided guidance on how to gather, use and interpret evidence; opened up and made available a large number of datasets across the network; provided mentoring to individual partnerships on how to build capacity; trained partners to develop necessary technical skills; and set up working groups (e.g. Catchment Data User Group, Urban, Water Resources, Agriculture, Biodiversity, TraC Waters) that develop thinking and approaches on specific areas/sectors. It seems particularly important that the assessment of CaBA, of other delivery initiatives and of what's needed to operationalise the 25YEP determines the value of this funded central support which is unique to CaBA and on the face of it might be the key to making integrated delivery led by external partners, as envisaged in the 25YEP, work effectively.
- The governance that's needed around CaBA and other bottom –up collectives that there may be will need careful consideration. Experience with CaBA has shown the

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importance of enabling smooth interaction between the bottom-up partnership activity and the top-down mechanisms that are needed to ensure that funding is accounted for to the EA, that partnerships fit with strategic plans and deliver coherently what government wants. This is a key issue and CaBA's experience can provide good understanding of it that Defra will not need to acquire again for the 25YEP, though the governance that will best provide for this is yet to be designed.

Annex 4: Individuals involved in the co-design process.

This advice paper for government has been produced by the Broadway Initiative. The views expressed are Broadway's, formulated through dialogue and discussion amongst senior representatives from business, NGOs, regulators and nationally recognised experts, and does not necessarily represent the view of individual participants. Listed here:

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