Introduction

Defra’s Total Managed Expenditure was just £2.1 billion in 2018/19—0.25% of total government spending. Yet Defra’s commitment to pass on the environment in a better state for the next generation is of critical importance for the entire economy.¹

The Dasgupta Review has shown the theoretical links between ecological and economic resilience; the coronavirus crisis has shown the reality. Ecological investment is essential for climate change mitigation, for improving people’s standard of living, and for resilience against environmental risks such as flooding, fires and loss of natural capital assets like fertile soils. It can be delivered in a way that is jobs-rich, supporting natural infrastructure delivery and economic growth, justifying large-scale additional spending as part of a green recovery.

We propose that Defra – in partnership with other Departments – has seven strategic priorities for investment in CSR 2020. They are:

1. **At least £1.01 billion annual investment in priority terrestrial and marine habitat creation and restoration** (£412 million terrestrial and £600 million marine and coastal). Major investment is needed to pass on the environment in better condition, focused on delivering against existing environmental commitments and delivery of 500,000 hectares of new priority habitat promised in the 25 Year Environment Plan. Restoring nature will also reduce environmental risks to our economy like climate change, flooding and invasive species. Ahead of the roll out of Environmental Land Management, we propose a dedicated fund to catch-up and kick-start delivery against the 25 Year Environment Plan and Net Zero ambitions.

2. **£3-4 billion annual investment in world-leading, high standards food and farming** Protecting our soils, seas and pollinators, minimising pollutants and enhancing animal welfare will shore up these key sectors of our economy and the natural assets on which they depend.

3. **£142 million annual investment in sustainable fisheries and marine protection** for the implementation and enforcement of robust management measures in our oceans, including all Marine Protected Areas and world leading fisheries management.

¹ Wildlife and Countryside Link (Link) is the largest environment and wildlife coalition in England, bringing together 57 organisations to use their strong joint voice for the protection of nature. Our members campaign to conserve, enhance and access our landscapes, animals, plants, habitats, rivers and seas. Together we have the support of over eight million people in the UK and directly protect over 750,000 hectares of land and 800 miles of coastline.
4. **In collaboration with the Department of Health,** at least £1 billion annual investment in **levelling up access to nature** in our towns and cities so that every community can access high quality green (and blue) spaces, and the health and wellbeing benefits they provide.

5. **In collaboration with the Department for Work and Pensions and Education,** £741 million annual investment in a **National Nature Service** to employ and train unemployed people in environmental skills, kickstarting delivery of environmental improvement and addressing the current economic crisis and building a workforce fit for a future green economy.

6. **With the Ministry of Housing, Communities and Local Government,** a one-off investment of £150 million in environmental information and data, plus an annual investment of at least £331 million in advice, enforcement and expertise in arms-length bodies and Local Authorities. On-the-ground expert ecological assessment advice should be twinned with modern data capture and sharing technologies to underpin strategic land use decision-making. Additional investment in Defra’s delivery bodies and Local Authorities—especially Natural England, the Environment Agency and the Office for Environmental Protection, as well as the establishment of the new UK REACH regulatory body— is needed to ensure that monitoring, enforcement and regulation can be carried out effectively.

7. **An annual investment of £6 million in invasive species biosecurity,** helping prevent the introduction of costly and environmentally damaging species from other countries, and managing or eradicating non-native species that are already established.

Investment in this Spending Review period will pay dividends now and in future. It will stimulate the economy out of recession with job creation and immediate health and wellbeing benefits, and it will make our economy resilient in the long-term.
Strategic priority 1: Catch-up and kick-start the restoration of nature and make our economy more resilient to environmental risks, strengthening the UK’s global leadership role ahead of COP-15 and COP-26.

Proposed investment: At least £1.01 billion annually (Defra) to be allocated as follows:

1. £1.01 billion in priority habitat creation, restoration and nature-based solutions (£412 million terrestrial and £600 million marine and coastal)

With additional investment in the following:

2. Land acquisition to undertake managed realignment of coastal sites
3. Additional funding by other Departments for the improvement of public land and the development of a habitat bank

1. **Priority habitat creation and nature-based solutions**

**Proposal**

The Government has made the welcome commitment to make this the first generation to pass on the natural environment in better condition. A minimum capital and maintenance investment of £1.01 billion per year in terrestrial and marine priority habitat creation and restoration is therefore needed to meet existing commitments and help enable delivery of a Nature Recovery Network and deploy nature-based solutions to environmental hazards where they are needed most. This funding would sit alongside and underpin the Green Recovery Challenge Fund, Nature Recovery Network Fund and Nature for Climate Fund, helping Government to catch-up with existing commitments and kick-start forthcoming environmental land management spending, enabling more ambitious and strategic delivery.

Funds should be spent on terrestrial and coastal wildlife-rich habitats such as wetlands, peatlands, meadows and woodlands, focusing on places with the greatest potential combined benefit for nature, local communities and climate change mitigation or adaptation.

On land, at least £412m for priority habitat creation, restoration and maintenance is needed annually over the next 10 years\(^2\). This forms part of an estimated annual need of £1.7bn to deliver current environmental land management commitments through existing agri-environment and woodland grant schemes across England. It does not take into account new and additional commitments made as part of the 25 year plan and Net Zero ambitions, any adjustments to reflect changes in farm output prices and input costs, additional safeguards to secure long term changes in land use and land management, and the full benefits and values delivered to society, so is likely to be an underestimate of the real world investment needed.

At sea, a programme of investment of £600 million per year over this CSR period will create a “Blue Restoration Programme” to coordinate and scale up the restoration of marine and coastal carbon-rich habitats. These restored ecosystems will help mitigate climate change by drawing down carbon whilst enhancing marine biodiversity.

Policy rationale

There are three main reasons for a substantial increase in investment in nature: (1) delivering the Government’s existing and new environmental objectives; (2) creating an economy that is more resilient to long-term economic shocks and short-term economic damage from the degradation of nature; and (3) giving a short-term boost to spending and employment. There is also a strong public mandate for action.

Without substantial additional and underpinning investment, the Government is unlikely to meet its 25 Year Plan goals (for habitat restoration, condition of protect sites, and restoring nature), its manifesto commitment to tree-planting (30,000 hectares per year) and its climate change Net Zero target (which will rely on large amounts of carbon sequestration in the natural environment).

Currently, only 38% of SSSIs are in good condition, 41% of species are in long-term decline and 1 in 10 are threatened with extinction. Many remaining habitats are too small and isolated to support thriving populations of plants and animals. The 25 Year Environment Plan commits to establishing an additional 25 large Nature Recovery Areas (NRAs) as part of a Nature Recovery Network that integrates biodiversity across the urban and rural landscape. The Nature Recovery Network is needed to reverse the loss biodiversity, deliver “more, bigger, better and joined up spaces for nature” and meet the Government’s 25 Year Environment Plan commitments. These changes take time, and action is needed every year for the next decade to stand a chance of halting nature’s decline by 2030.

Even before coronavirus, meeting existing commitments and delivery of the 25 Year Plan would have required substantial public investment to turn around these trends. Now, additional investment is needed because the environmental sector has been severely weakened by the crisis, leading to many programmes of habitat restoration being delayed or cancelled. Financial losses from the virus are expected to continue for years because of lost visitor revenues and membership subscriptions. This will have a direct effect on meeting existing commitments and delivery of the 25 Year Plan, not least because the majority of projects undertaken by the Environment Agency and Natural England are delivered in partnership with environmental NGOs. So, the risks of failure to deliver the 25 Year Plan have been multiplied by the pandemic.

Failure would have important economic consequences. The current economic crisis is a result of over-exploitation of nature and many other similar long-term and short-term economic risks would be multiplied by continued damage to the natural world. The World Economic Forum has, for the first time, identified the top five threats to the global economy as environmental. As Professor Dasgupta

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states in his HM Treasury commissioned review of the economics of biodiversity: “The human economy is embedded within – not external to – Nature”.4

Biodiversity is essential for well-functioning and resilient ecosystems and the services they deliver. It is only by recognising our inherent economic dependence on nature, and changing our actions and investment accordingly, that we will mitigate these risks. The Natural Capital Committee has demonstrated that the current scale of investment is far below that necessary for the maintenance of a natural capital infrastructure asset base that can support a resilient economy. In its 2020 ‘State of Natural Capital Report’, the NCC advised that “no significant progress has been made towards most of the 25 Year Environment Plan’s ten goals since 2011, with many areas in decline.”

Taking action now will deliver substantial productive investment in natural capital assets. In the short-term, this investment would create 8,800FTE jobs in rural places that need them. It will also protect vulnerable places from environmental hazards such as flooding and drought that can decimate local livelihoods.

Climate change and the degradation of nature are inextricably linked, so the most cost-effective way to mitigate their impacts is to combine investment in activities which address both. As the Committee on Climate Change has concluded, “The UK’s Net-Zero target will not be met without changes in how we use our land. Those changes must start now”. The CCC recommended that 22% of agricultural land should be converted into habitats designed for carbon sequestration, including restoration of at least 50% of upland peat and 25% of lowland peat. Tree-planting, restoration of meadows and wetlands and other habitats will need to contribute a significant proportion of the effort required to meet Net Zero, balancing out greenhouse gases from sectors that cannot completely eliminate their emissions. While sequestration can start quickly, many habitats take years to reach their potential as sinks and so action should begin in this spending review period.

The marine and coastal environment offers substantial potential for carbon sequestration at the same time as enhancing biodiversity. Seagrass and saltmarsh habitats, for example, capture carbon up to 30 times faster than tropical rainforests, and in the UK have the ability to capture 20-25 tonnes of carbon per ha/yr.5 At the same time, they also provide a critical nursery habitat to a fifth of the world’s major fisheries, and host internationally important numbers of breeding and over wintering seabirds, divers, ducks and grebes—all of which have declined in abundance and experienced frequent, widespread breeding failures over the last two decades.6 Huge areas of coastal habitat have been lost in the last century (e.g. 46% of shingle, over 16,000 ha of sand dune, and 15% of saltmarsh), and much of what remains is in poor condition. Restoring our coastal and marine habitats has the potential to store carbon and reverse declining populations of marine species. In line with the Government’s ambitions in the 25 Year Environment Plan, we must work towards scaling up the protection and restoration of these critical habitats to bring UK seas back to life by 2030.

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5 Figures from WWT site at Steart Marshes, Bridgwater, UK
6 2014, Protecting the hand that feeds us
A “Blue Restoration Programme” would coordinate and scale up protection and restoration of coastal and marine ecosystems. This should at least match recent commitments made to restoring peatlands and forests. Such a programme would be an effective way to sequester carbon while restoring biodiversity and helping to mitigate the risks of coastal erosion and flooding.

There is also a public mandate to invest in nature. Nine out of ten adults in England are concerned about increasing threats to the natural environment, with nearly two-thirds specifically worried about biodiversity loss.7

Costs

Eventually, an effective Environmental Land Management policy is likely to deliver much of the investment needed to create and restore habitat at scale. In advance of the roll-out of ELM, however, substantial early investment is needed to frontload delivery of existing environmental commitments. Research suggests that at least £412 million is required each year in terrestrial priority habitat creation and restoration to meet existing environmental commitments in England. Though much of this funding could come from money ringfenced for farming environmental land management, if it does not come from the current £2.3bn annual CAP envelope8 for England, it will still be needed for habitat creation and restoration.

The annual £412m figure proposed in this section is based on the capital investment and ongoing maintenance needed for the creation and restoration) calculated in the 2019 Making Public Goods Pay report9, as part of an overall assessment of £1.7bn annual investment needed to deliver current environmental land management commitments through existing agri-environment and woodland grant schemes across England. This report estimates the costs of expansion of priority habitats to comprise average capital costs of £15 million and annual maintenance costs of £22 million per year over 10 years, giving an annual average cost total of £37 million per year. These estimates relate to the costs incurred and income forgone of undertaking the required land management practices under existing schemes. Corresponding estimates for the costs of restoring priority habitats amounts to an average capital cost of £279 million and annual maintenance costs of £96 million per year over 10 years, giving an annual average cost total of £375 million per year. Introducing additional safeguards to secure long term changes in land use and land management can be expected to increase these costs, if land managers demand additional compensation to enter long term contracts or conservation covenants, as would recognising the full benefits and values delivered to society.

Ultimately, we hope that a significant proportion of this investment in priority habitat creation, restoration and maintenance will be delivered through the new Environmental Land Management system, alongside other mechanisms such as the Nature for Climate Fund. However, five years into the 25 Year Plan, very little additional habitat has been delivered and further delay would impose additional costs, increase the chances of failure, and harm conservation efforts.

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8 In-keeping with the £3.2 billion envelope for the whole of the UK
In the short-term, we do not consider that current agri-environment and woodland grant schemes nor any proposed transitional arrangements will deliver sufficient capital investment and ongoing maintenance costs in habitat creation and restoration at scale. Therefore, we propose separate funding for capital investment and maintenance in priority habitat creation and restoration for the duration of this spending review to ensure that early action is taken toward catching up with existing environmental commitment and underpinning delivery 500,000 hectares of new wildlife-rich habitat under the 25-year environment plan.

Based on current research, using current techniques 10ha of seagrass can be restored at a cost of £2.5 million, but new mechanical techniques for seagrass planting could reduce these costs substantially. This means that between 2,400 and 30,000 ha may be restored for an investment of £600 million p.a. This is equivalent to 2 – 25 MtCO₂e carbon per year. Funds could also be allocated to restoration of other ‘blue carbon’ habitats such as kelp forests, native oyster beds or saltmarsh.

Investment in projects delivered by environmental NGOs is a cost-effective way to proceed, as the sector is highly effective at leveraging private and philanthropic funds to complement public money.

**Benefits**

This investment will:

- Create 8,800FTE jobs, and more jobs indirectly in local tourism and supply chains
- Contribute to meeting existing and new environmental commitments including the restoration of 250,000 ha of priority habitat, and creating 27,000 ha per year on land for 10 years (the mix of habitat types should be determined by spatial mapping and local democratic decision-making)
- Create or restore up to 30,000 ha of marine habitat.
- Significantly increase carbon storage potential
- Protect coastal communities from the effects of climate change through coastal realignment
- Protect communities across the country from flooding through natural flood management
- Contribute to the delivery of the 25 Year Environment Plan’s ambition to provide high quality, accessible, natural spaces.

The investment will also help environmental charities to recover, helping them to contribute to delivery of the 25 Year Environment Plan and to avoid substantial job losses.

**Deliverability**

The next Spending Review period ends before Environmental Land Management will be available to the majority of land managers. A large proportion of funds allocated is likely to be spent on more “entry level” improvements, and substantial additional investment is likely to be needed to deliver the landscape-scale changes that will be fundamental for economic resilience and environmental improvement.

To ensure that delivery of environmental outcomes is not delayed, we recommend that in the interim, this investment is channeled into habitat creation to help meeting existing environmental commitments and front-load delivery of the 25-year plan objectives (especially creating 500,000 hectares of priority habitat and ensuring that 75% of SSSIs are in favourable condition). This could be delivered through additional large-scale pilots of ELM tier 3 (in addition to existing plans for pilots), or by a competitive tender for projects that deliver landscape-scale natural infrastructure improvement.
The £40million already committed is very welcome but it is likely to be heavily oversubscribed. There are likely to be a great deal of projects paused due to Covid and there are a great many additionally projects which could be rolled out in the coming months across the country. There are natural capital assets across the country which require investment, and the environment sector is able to deliver those projects.

Projects to restore habitats such as seagrass, kelp, native oyster beds and saltmarsh are underway in a number of areas and are trialing new techniques for both habitat creation and protection. These projects are being delivered in partnerships between NGOs, businesses and government bodies. The “Blue Restoration Programme” would scale-up from these pilot projects to mainstream nature-based solutions as an effective way to sequester carbon whilst restoring biodiversity and helping to mitigate the risks of coastal erosion and flooding.

2. **Land acquisition**

In order to ensure enough land is available for project development it may be necessary for the government to invest directly in land acquisition.

To increase canopy cover to the extent that is needed, and in a way that delivers multiple, integrated benefits, will require significant investment of public money. Land managers, including commercial foresters, will need to be remunerated for delivering environmental and societal benefits beyond legal requirements, and better regulated to ensure no one undercuts regulations. There is also scope for significant blending of public and private finance where trees and woods are concerned, but the private sector requires the right signals and frameworks from Government to encourage them to invest.

Dedicated capital investment should be allocated for land acquisition to expand the area of biodiverse, native woodland habitats. To meet targets for woodland expansion, the Government should support the acquisition of suitable land for native, biodiverse assets including open habitat for the benefit of people and wildlife. It may be effective to have such new woodland managed through a community forest (following the example of the Northern Forest).

Around our coasts, shoreline management plans have identified areas where conventional approaches to flood defence and coastal erosion could be effectively replaced by natural processes. This would create important habitat, protect property, and save money on flood defence.

Managed realignment can provide long-term, cost-effective flood and coastal defence by the creation of intertidal habitats such as saltmarsh and mudflats to decrease flood risk and to reduce the level of defence maintenance. It can reduce wider economic and flood defence costs by helping reduce damage from sea level rise, absorbing the force of flood and storm events and reducing the costs of

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10 https://thenorthernforest.org.uk/
flood defence infrastructure. Managed realignment most appropriate in areas of low value agricultural land and where natural succession can easily lead to habitat creation. Salt marshes are estimated to store 2.1 tonnes of CO₂ equivalent per hectare per year on average. They are of high biodiversity value.

Shoreline Management Plans (SMPs) and Coastal Defence Strategies are in place around the country, which could easily be used as a blueprint for plans in partnership with local communities. The Environment Agency is experienced in managing projects in partnership with NGOs.

3. **Working with other Departments to develop a habitat bank**

A key proposal in the Environment Bill is the development of biodiversity net gain in the planning system. This will reduce costly delays for developers by standardising expectations about the need for investment in environmental improvement, at the same time as providing investment in environmental improvement.

To work effectively, it is important that a market develops in new habitat, which would not otherwise have existed, but is created or restored for the purpose of generating net gain credits. These credits can be sold to developers as off-site compensation for any residual environmental losses that cannot be made good on site with confidence if the habitat has already been created. For certainty of delivery, a habitat bank of mature and additional habitat could be developed to ensure that credits represent real additional gain in habitat. These sites should be clearly registered to avoid double counting and protected in perpetuity. Over time, a market in habitat units is expected to develop, but the Government can play a role in ensuring that the policy is effective from the outside by developing a number of units upfront on public land.

The initial outlay should be made by Departments such as the Ministry of Defence, which own substantial tracts of land that could be permanently restored with substantial environmental gains. This would bring forward investment in environmental infrastructure in a way that will be repaid in future when the credits generated are sold to developers.
**Strategic priority 2: World-leading, high standards food and farming**

**Proposed investment:** £3–4 billion per year (Defra) to be allocated as follows:

1. The envelope of £2.3 billion in farming and land management payments for England should be maintained, with more money shifted early to environmental purposes.
2. Early annual investment in a transitional scheme to provide business advice and ensure all farmers, foresters and land managers are compliant with current regulations, including proper slurry storage.
3. An upfront capital investment of £280 million and an ongoing spend of £750 million in animal welfare incentive schemes and advice.

**Sustainable Farming and Land Management Proposal**

We welcome the Government’s commitment to maintain the overall £2.3bn CAP envelope of spending on land management in England. The cost-effectiveness and environmental impact of this funding could be improved substantially by bringing forward more of the allocation to support more environmentally beneficial land management measures. This would secure environmental outcomes before ELM goes live in 2024, reward early adopters and give farmers and foresters confidence that they will be rewarded with public money when they deliver public goods. Specifically, this should fund the following interventions:

- The rolling-over of Countryside Stewardship agreements into the transition period and all new agreements signed up to 2024
- A time-limited ‘wildlife and sustainable farming and forestry scheme’ which is built out from the mid-tier of Countryside Stewardship (CS) by expanding the current range of packages available under the ‘wildlife offers’ aspect of the scheme
- A programme of capital investment for Higher Level Stewardship (HLS) agreements, and an increased number of CS higher-tier agreements from 350 to 1500 per year
- Part of the above would also include the front-loading of 25-year environmental plan ambitions to create and restore 500,000 hectares of priority habitat.
- Introduction of the national ELM pilot at a scale and level of ambition to secure the buy-in of farmers and make ELM a success when rolled-out from late 2024
- Supporting farmers to become ‘future-fit’ by rolling out a time-limited Future Farming Resilience Funding programme, for example with training to support those who need it to better understand their businesses and environmental assets
- Public sector advisory capacity for pre-ELM interim policies, CS higher tier and ELM pilot
- Grants and capital investments in infrastructure and enrichment that enhances animal health and welfare

Additionally, an upfront capital investment of £280 million and an ongoing spend of £750 million in animal welfare incentive schemes and advice is needed to sure up the aims of Defra’s Animal Welfare Pathway.
Policy rationale

The Agriculture Bill represents the single biggest shift in the landscape of farming, forestry and land management in a generation. Its central tenet of public money for public goods is a far cry from the inefficient and inequitable Common Agricultural Policy.

However, the landmark financial assistance schemes the Bill will introduce – Environmental Land Management, productivity and animal health and welfare – will not be available to all farmers and land managers before the end of the next Spending Review period. Early benefits could be accrued by shifting a portion of land management funds to a transitional package of schemes, which would deliver more value for public money and help to prepare farmers for future ELM options.

The aim should be to create a ladder to enable all farmers and land managers to increase their ambition over time, but those already at the top should reap the greatest reward, encouraging all to go further. The test of any interim package of schemes ahead of ELM will be whether helps farmers to begin this journey. The UK is one of the most nature-depleted countries in the world. Farmland bird numbers have declined by 56 per cent since 1970, and pollinators, said to add £600 million to the value of UK crops each year, are struggling. Our soils are hugely depleted, with soil degradation in England and Wales costing £1.2 billion per year. Only 14 per cent of our rivers are in good ecological condition and 63 per cent of sensitive habitats are threatened by air pollution. At least 97 per cent of wildflower meadows have been lost. We are in the midst of an ecological emergency.

An early transition would help to demonstrate the efficiency benefits of leaving the inefficient and environmentally mediocre Common Agricultural Policy, setting England’s farming sector on a path to environmental improvement and enhancing its reputation for world-leading standards.

Costs

Much of the envelope of £2.3bn ringfenced for farm payments in England must be used for environmental land management schemes, even before ELM is phased in. Research commissioned by RSPB, National Trust and the Wildlife Trusts estimates that £1.7 billion on for environmental land management is required annually to meet existing domestic environmental commitments. This annual investment represents the bare minimum needed in environmental land management as it reflects neither the ambition of the Net Zero target nor the broader scope of ELM compared to existing schemes. Significant additional funding will be required to deliver effectively against new and additional priorities resulting from the six goals of the 25 Year Environment Plan, such as public access and conservation of native breeds, and also other UK commitments such as the Net Zero target.

Research by RSPCA and the Farm Animal Welfare Forum estimates that an upfront capital investment of £280 million and an ongoing spend of £750 million is required to secure higher welfare standards in line with Defra’s commitment to raise animal welfare standards.\(^{11,12}\) This investment would help


farmers secure a distinctive market position through higher welfare, higher market value produce. The expectation is that these costs would taper off as new practices became accepted, standards in welfare schemes were raised and limited regulatory changes introduced.

Over the forthcoming SR period, the current land management envelope should be maintained and redirected as quickly as possible to delivery of environmental, public access and animal welfare outcomes, provided that any repurposing of funds is managed in a way that is fair to farmers, foresters and land managers. Specialist land management and business advice will be required throughout the transition to help recipients navigate the variety of options available to them and set up their business to thrive in the new system.

Benefits

Investment in environmental land management now would facilitate rapid delivery against a number of environmental priorities including biodiversity, soil, water, landscape and the historic environment. It could also help to shore up economically marginal, high-nature value farming systems that are integral to the conservation of certain species and landscapes.

Examples of welfare benefits achievable by 2025:

- 8.5m laying hens having more space to live a better life and an end to beak trimming for 34m UK laying hens
- At least 30% of one billion meat chickens being produced per year from higher welfare breeds and at least 30% of meat chickens being reared at stocking densities of 30kg/m²
- An end to confinement for 220,000 pigs kept in farrowing crates at any one time and an end to tail docking for 7m pigs per year
- 1.8m dairy cows being reared in higher welfare systems and with greater access to pasture, as well as a significant reduction in lameness in airy cattle

Deliverability

Investment in and rewards for early adopters could be accelerated by evolving the simplified ‘wildlife offers’ in Countryside Stewardship into an interim ‘wildlife and sustainable farming scheme’. This would be based on a series of packages that support more sustainable farming and environmental land management, such as integrated pest management, farm wildlife and climate friendly farming packages. This scheme must ensure that it buys real change beyond unsustainable business as usual.

Invest in current schemes such as the higher-tier of Countryside Stewardship and Higher Level Stewardship agreements, with a programme of capital investment into existing agreements, and advice to support farmers to go further, faster. There should also be a ‘price review’ of existing scheme options to ensure farmers in current schemes are rewarded fairly.

Scaling up ambition for the National Pilot for ELM with a focus on ensuring that it is a long-term success, capable of driving transformational change in how we produce food and restore the natural environment. As such, the scale of the National Pilot should be increased, to bring more farmers and land managers in at an early stage.
1. **Early annual investment in a transitional scheme to provide business advice and ensure all farmers, foresters and land managers are compliant with current regulations, including proper slurry storage**

Securing a stable and managed transition to a future policy is also a major priority, and we recognise that the magnitude of the policy change associated with moving from area-based subsidies to a public money for public goods approach.

A broad package of support would be appropriate as part of a transition fund, to enable farm businesses to adapt over the course of the seven-year agricultural transition. During this transition, funding should be made available for business skills training and advice targeted at issues such as financial planning and budgeting.

In addition, capital support available to invest in on-farm infrastructure may be justified, including to address systemic issues with non-compliance with regulation. However, this should be clearly time limited, and linked to a wider regulatory strategy (as above) to ensure that systemic issues with regulatory compliance are permanently addressed through this one-off investment. As an example, any support for slurry storage to address high levels of non-compliance with SSAFO regulations should be linked to the introduction of permitting for dairy herds above a certain size, as proposed by the Clean Air Strategy, as well as clarity regarding fair, effective and dissuasive sanctions for non-compliance following a transition period.
Strategic priority 3: Sustainable Fisheries and Marine Protection

1. **£142 million for implementation and enforcement of robust management measures in our oceans, including all Marine Protected Areas and world leading fisheries management**

Proposal

Gaining control of and responsibility for our Exclusive Economic Zone (EEZ) from 2021 will bring opportunities to manage our offshore marine sites and the wider marine offshore area, but also additional responsibilities for regulation and enforcement. At the same time, the UK will no longer have access to the European Maritime and Fisheries Fund (EMFF). In 18/19 the amount specifically spent by Defra on marine and fisheries was £74 million out of a total budget of £2.1 billion – just 3.5%.

By contrast, the marine environment accounts for over 50% of the total territory of England.

Against this backdrop and in the context of the mounting nature and climate emergencies, plus the unfulfilled benefits of sustainable fisheries management, spending on marine and fisheries should justifiably increase by a substantial amount. Investments now will pay dividends in the future and will match the ambitions of the Government to have ‘world leading’ and ‘gold standard’ fisheries management. Additional funding of £142 million will help to restore our domestic waters by 2030 and recover fish stocks through:

- Introducing effective management measures to the UK’s entire network of Marine Protected Areas by the end of the CSR period, including at least 10% as Highly Protected Marine Areas (and 30% by 2030).
- Rolling out Remote Electronic Monitoring with cameras (REM) for all fishing vessels over 10m in length to better monitor fishing activities; collect crucial data for the management of fish stocks; and for the prevention of fishing-related deaths of protected species including whales, dolphins and porpoises.
- Enforcing new powers in the Fisheries Bill to protect offshore sites. In so doing this will also protect extensive offshore carbon sinks.
- Confirm £45 million per year of funding for sustainable fisheries management from the end of the post-Brexit transition period

An additional £7 million per year is required for the Government’s Blue Belt Programme, which would maintain and extend the existing network of MPAs surrounding UK Overseas Territories.

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13 1. £90 million for management and monitoring of the UK Marine Protected Area Network, including enforcing new powers in the Fisheries Bill

Ref: Extrapolation to UK MPA network, based on management cost estimates for MPAs in North Devon in: Eftec & ABPmer (2018) Assessment of management costs for Marine Protected Areas in North Devon, Report to WWF UK, 2018. Expanded to incorporate the costs of enforcement for offshore sites post Brexit and the process to introduce and manage new Highly Protected Marine Areas, including for blue carbon habitats

2. £45 million to replace the EU Maritime and Fisheries Fund which provides grants to industry, NGOs, etc. for projects to help deliver sustainable fisheries.

3. £7 million for overseas territories
Outcomes

Marine protected areas around England will be managed to restrict the most damaging activities and will be connected to allow marine wildlife to thrive throughout our coastline and seas, helping to recover populations and habitats and in turn, build resilience to climate change.

Recovered and sustainably managed fish stocks will result in a rise in fish landings, increased profits and new jobs.

Bycatch of non-target marine species will be monitored, prevented and mitigated, so that it is drastically reduced and where possible eliminated within a predetermined timeframe. Fishing quotas will be allocated fairly across the entire fleet based on sustainability criteria and all fishing activity will be fully documented, ensuring a level-playing field for fishermen and safeguarding the natural resources on which they depend.

Fisheries management decisions will be based on sound evidence collected in a cost-effective manner that enables a sustainable, adaptive and world-leading fisheries industry.

Policy rationale

The ocean is precious, but depleted, and it is vital for life, providing food, air and a natural defence against climate change. British seas used to be some of the most biodiverse in the world. Tuna weighing as much as 380kg swam off our shores, kelp forests spread out along our coastlines and the seabeds were home to an abundance of life. In recent decades, over-fishing has severely harmed our ocean and its ability to support ecology and economic activity. Many of our marine protected areas do not have any effective environmental management measures in place. Marine planning has been delivered to maximise exploitation of marine resources rather than protecting wildlife and habitats. At the same time, the impacts of climate change are becoming ever more apparent.

There is good evidence that recovering and sustainably managing fish stocks will result in increased profits\textsuperscript{14, 15, 16}. The most recent report, from Oceana in 2018, indicated that recovering UK fish stocks to healthy levels (associated with MSY) would result in a 37% rise in the value of fish landings, and thousands of new jobs\textsuperscript{17}.

Observer coverage on fishing vessels is very low at less than 1% and is constrained by staff and financial resources \textsuperscript{18}. Remote Electronic Monitoring with cameras (REM) on vessels has been shown to be a cost-effective way to supplement observer data collection. In 2017 WWF calculated that full REM

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  \item \textsuperscript{14} \url{http://www.mseproject.net/downloadable/doc_download/SunkenBillionsFinal.pdf}
  \item \textsuperscript{15} \url{https://b.3cdn.net/nefoundation/e966d4ce355b7485c1_a7m6brn5t.pdf}
  \item \textsuperscript{16} \url{https://eu.oceana.org/en/publications/reports/more-food-more-jobs-and-more-money-uk-oceans-recipe-fish-recovery}
  \item \textsuperscript{17} \url{https://eu.oceana.org/en/publications/reports/more-food-more-jobs-and-more-money-uk-oceans-recipe-fish-recovery}
\end{itemize}
costs per vessel per year were £3785 (with EMFF grant subsidy) or £5290 (without EMFF subsidy)\(^\text{19}\). For the current 1,276 over 10m vessels in the UK (as a start), this equates to between £4.8 and £6.75 million. That is less than 1% of the value of the seafood caught by these boats and a fraction of the £20m or more that is spent on current monitoring. With REM costs also decreasing year on year, the technology represents an excellent investment into the health of our seas.

A substantial investment in scientific data collection, analysis and stock assessment is needed. The UK lacks adequate assessments for over 60% of its shellfish stocks and less than half of the ICES assessed stocks in Europe have assessments that include reference points (e.g. in relation to MSY) of which the UK will still rely, even after the transition period. In order to deliver better monitoring, regulation and enforcement, fisheries authorities including the Inshore Fisheries and Conservation Authorities and the MMO will need significant increases in funding.

In summary:

- UK Governments have a target to achieve healthy seas by 2020, but failed on 11 out of 15 indicators in 2019
- Seabird numbers have plummeted by up to 70% in 25 years, in part due to changing food sources as a result of warmer waters from climate change
- Over a third of UK fish stocks had catch limits set above sustainable levels for 2020
- Management measures have only been implemented in 10% of UK Marine Protected Areas
- Tens of thousands of dolphins, whales, seals, seabirds and other protected species such as sea fans die every year due to incidental capture in fishing gear in UK waters
- The UK’s orca population has not reproduced in 25 years due to chemical pollution destroying their immune and reproductive systems
- The IUCN Red List of threatened species lists over 50% of UK sharks and rays in a Threatened or Near Threatened category

**Costs**

£90 million/yr additional budget is required to:

- introduce effective management measures to all English Marine Protected Areas by the end of the CSR period, including at least 10% as Highly Protected Marine Areas\(^\text{20}\).
- implement Remote Electronic Monitoring on fishing vessels, starting with those over 10m.
- cover the costs of additional enforcement for offshore sites post Brexit.

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\(^{19}\) https://www.wwf.org.uk/sites/default/files/2017-10/Remote%20Electronic%20Monitoring%20in%20UK%20Fisheries%20Management_WWF.pdf

\(^{20}\) Extrapolation to UK MPA network, based on management cost estimates for MPAs in North Devon in: Eftec & ABPmer (2018) Assessment of management costs for Marine Protected Areas in North Devon, Report to WWF UK, 2018. Expanded to incorporate the costs of enforcement for offshore sites post Brexit and the process to introduce and manage new Highly Protected Marine Areas, including for blue carbon habitats
In addition, £45 million/yr is required to replace the UK’s share of the European Maritime and Fisheries Fund post Brexit. The fund should continue to support conservation in the marine environment, growth in jobs in coastal communities and projects to make the fisheries and aquaculture sectors more sustainable at this crucial time.

**Benefits**

£7.5bn additional benefits from a well-managed MPA network, rising to £10.5bn for 30% full protection

£1bn/yr avoided cost by 2050 in lost fisheries catches

**Deliverability**

Management of Marine Protected Areas is the responsibility of the Marine Management Organisation and the Inshore Fisheries and Conservation Authorities in England. Additional funding will enable these organisations to fulfil new burdens including regulation of offshore MPAs and fisheries post-Brexit, management of 41 new Marine Conservation Zones designated in 2019 and the introduction of Highly Protected Marine Areas. In addition, it will enable these bodies to pick up the pace in the introduction of management measures for existing MPAs. This funding will also cover cost-effective means of gaining better information on fishing activity – a key requirement to enable world leading fisheries management.

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Strategic priority 4: Levelling up access to nature

Proposed investment: At least £1bn per annum (Combined bid: Defra and Department of Health and Social Care)

Proposal

We propose six streams of urban green/blue space intervention focused within some of the UK’s most deprived neighbourhoods.

- **Upgrading key existing parks and greenspaces** – Some key greenspaces within these deprived neighbourhoods are hugely underperforming. Basic facility upgrades could be applied that deliver a more usable greenspace for all members of the local community.

- **Greening urban neighbourhoods** – Where green infrastructure is lacking, we propose the creation of new parks and green streets to provide connected green infrastructure that broadens accessibility and use for all.

- **Creating large scale regional parks and forests in the urban fringe** – Connected to the city, these spaces would offer millions of people access to explore and play in the wild, natural spaces, without the need of a car.

- **Invest in “blue spaces”**, such as rivers, streams, canals and other waterways to meet water quality targets, but also to address inequality and improve access to nature and to enhance and secure people’s access to it for recreation, enjoyment and educational purposes.

- **Delivering, managing and promoting the England Coast Path while improving coastal access for deprived coastal communities** – providing necessary public transport and hygiene infrastructure at urban coastal sites to allow millions of people, including the elderly, disabled, BAME and young families better access to the England Coast Path (ECP) to enjoy the health and well-being benefits of our coast, beaches and seafronts.

- **Green Community Hubs** that act as a focal point for connecting people with nature-based activities and services that support peoples’ mental health and wellbeing (for example through the provision of social prescribing services).

Ecosystem enhancement should be co-designed with communities, focusing wherever possible on improving natural assets as the foundation of wider social benefits. For example, improved access to natural spaces should be targeted to tackle areas of physical and mental health needs, alongside work on social prescribing. Green infrastructure should be developed to provide opportunities for outdoor learning. Green corridors should be developed as links between important community spaces, supporting active transport plans and social cohesion.

Policy rationale

Enabling more people to access and connect with nature has never been more important. Access to high quality green/blue space close to where people live is proven to significantly improve health and wellbeing. It can also help tackle some of the biggest challenges we face: from the climate emergency to...
rising obesity and the mental health crisis. Covid-19, and the restrictions on movement and outdoor activity, have brought into even sharper focus how important it is for people to be able to connect with nature as part of their daily lives.

Some significant research has been carried out recently on access to greenspace in particular, demonstrating the level of need in this regard. Friends of the Earth research showed that About 1 in 5 of the population of England lose out on the benefits of quality local green space, 11.6 million people in England live in 1,257 neighbourhoods which are the most deprived of green space and 928 neighbourhoods have slightly better but still very poor green space provision. In a similar vein, National Trust research has demonstrated the wealth of benefits that could be provided by a programme of investment in the urban environment. 295 deprived neighbourhoods of 440,000 people are grey deserts, with no trees or accessible green space. In areas where over 40 per cent of residents are from ethnic minorities, there is 11 times less public green space than in areas where residents are largely white, and it is also likely to be of poorer quality.

Meanwhile, black people are four times less likely than white people to have a private garden\(^{22}\) and 42% of people of Black, Asian and Minority Ethnic backgrounds (BAME) live in England’s most green space-derived neighbourhoods\(^{23}\). Children from the most deprived areas are 20% less likely to spend time outside than those in affluent areas, while 70% of children from white backgrounds spend time outside once a week compared to 56% of children from black, Asian and ethnic minority backgrounds\(^ {24}\). Research\(^ {25}\) shows that barriers to coastal communities accessing our beaches, seafronts and the England Coast Path include poor public transport; poor hygiene infrastructure at urban coastal sites; poor management of rural stretches of the path, and poor promotion of the ECP and its health and well-being benefits.

Targeting interventions on the areas where economic deprivation, poor health outcomes, and low environmental quality overlap could identify a small number of (often densely populated) areas where investment could provide health benefits and improve productivity for millions of people, at the same time as providing islands for nature in the urban environment. If these investments are made in partnership with other Departments, renewed urban greenspaces and urban sites along the England Coast Path could become hubs for health, community, learning and the arts.

Green community hubs would be linked to connected, multifunctional urban green and blue infrastructure, such as parks, canals, green walking and cycling routes, within a ‘20-minute neighbourhood’ to support access to green space, physical connectedness (with health care, schools, businesses etc) and community cohesion. Data would be gathered to inform future decisions about

\(^{22}\) nationaltrust.org.uk/features/new-research-shows-the-need-for-urban-green-space  
\(^{24}\) nationaltrust.org.uk/features/new-research-shows-the-need-for-urban-green-space  
\(^{25}\) Living Coast: Understanding Local Perspectives and Values of the Coast using Community Voice Method in Portsmouth and on the Durham Heritage Coast http://publications.naturalengland.org.uk/publication/5460774640418816
amplification of the programme in other areas of deprivation. It would offer a community-based model to boost the three key protective factors – access to greenspace and nature-based services, physical activity, and social cohesion. Co-creation and co-design would be at the heart of the approach with community hubs and webs of green infrastructure aiming to deliver a suite of services that meet community needs, not least helping those most affected by COVID-19 to access and use nature-based services and foster a sense of connectedness and inclusion.

Longer term, this would lead to a more targeted and effective re-purposing or creation of new local green space for mental and physical health and wellbeing benefits, helping to address inequalities in access to greenspace. Green routes would enhance physical connectedness between community facilities such as schools, shops, health centres and parks as part of a ‘20-minute neighbourhood’, whilst improving physical activity levels, increasing social and health resilience and supporting a green recovery.

Nature-based activities are effective in maintaining good all-round health and tackling poor wellbeing arising from social issues such as loneliness, inactivity and poor mental health, as well as delivering a positive social return on investment. Leeds Beckett University’s assessment of the social value of Wildlife Trust programmes demonstrates that activities delivered by local Wildlife Trusts (and by definition other Environmental NGOs) show:

- **A return of £8.50 for every £1** invested in regular Wildlife Trust volunteering programmes
- **A return of £6.88 for every £1** invested in Wildlife Trust projects for people with health or social needs (this lower return is largely due to the higher running costs of such projects)

The coronavirus pandemic has also shown that inequalities extend to health outcomes. Poorer communities, who tend to have less and lower quality green space, suffered more Covid-19 deaths than more affluent communities. Evidence suggests this is in large part attributable to poorer quality of life leading to more underlying health conditions like obesity and respiratory problems – both of which would be significantly ameliorated by more access to green space.

Even before the pandemic, the costs of non-communicative ill health were reaching unsustainable levels for the NHS. The most cost-effective way to mitigate this risk is to increase spending on preventative measures that improve people’s health and wellbeing in the most deprived areas where health outcomes are worst and health services most stretched. Urban natural infrastructure and active transport are some of the most cost-effective preventative measures that exist, and it brings with it co-benefits for job creation, economic productivity and biodiversity.

However, green space is not always confined to parks, cemeteries and pavement trees. Typically half of all urban greenspace is made up of private gardens. These are among our most biodiverse

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habitats\textsuperscript{28} and have proved immensely valuable health assets in the current lockdown crisis. Garden green space is being permanently lost to hard surfaces and development at the equivalent of twice the area of Hyde Park per year.\textsuperscript{29}

Measures must be put in place to reduce the destruction of vegetated garden space, and the requirement that when garden space is lost to development an equivalent area of public green space is required to be created to replace it. There are many poorly managed areas of mown grass around social housing which should be transformed into biodiverse and attractive communal garden areas as part of the Natural Health Service proposed below. This service could also be used to encourage shared use of garden space.

Research shows that in 2017 29 million walking trips to the England Coast Path brought £379 million of spend into the national economy, of which £350 million was spent in local economies\textsuperscript{30}. Use of the path also brought significant health and well-being benefits to walkers, with users reporting £1.8 billion worth of recreational well-being and £19 million worth of physical health benefits.

Rivers, streams, ponds and other water bodies can provide access to nature in places that are otherwise difficult to reach, bringing corridors of wildlife into communities. Restored species-rich floodplain meadows near villages, towns and cities will provide locally accessible and inspirational green space for environmental education, physical and mental health and well-being, helping to reconnect people with nature.

The Government is committed to improving 75\% of water bodies to close to natural condition as soon as possible; the deadline under the Water Framework Directive is 2027. The Government could tackle this difficult policy objective in a way that demonstrates a distinctive domestic approach outside the EU by creating blue corridors of naturalised water bodies, integrating ponds across the landscape, and considering new targets for “clean waters” that go beyond the standards set by the EU to ensure maximum benefits for wildlife and people, ensuring that management and monitoring protect vulnerable habitats.

In evolving from CAP to ELMS we have the greatest opportunity since the Countryside Rights of Way (CROW) Act of 2000 to do that. ‘Public goods for public money’ must include provision for new access and enhancement of existing rights. Now is the time to be building a countryside that makes space for people and nature.

\textbf{Costs}

\textsuperscript{28} http://www.wlgf.org/how-many_species.html


\textsuperscript{30} The economic and health impacts of walking on English coastal paths: a baseline study for future evaluation http://publications.naturalengland.org.uk/publication/6476962745024512?category=50007
The benefit to cost ratio of investment in urban and peri-urban natural spaces is compelling, though cost estimates vary. Research supported by the National Trust showed a strong investment case for £5.5 upfront capital investment in urban areas. The majority of spending would support Local Authorities in developing green and blue infrastructure in city areas, upgrading city parks and natural infrastructure in and around the areas of economic need and nature deprivation.

Whereas investment in greenspace across England, beyond these core areas would ensure the benefits are shared even more widely. Friends of the Earth recommend investment of £4-5bn until 2024 to ensure that people across England gain the multiple benefits of access to quality green space correcting historical declines in funding. Funding can level off to steady amounts to ensure that quality and quantity standards once established are maintained, and that the risks of stop-start investment are avoided. Encompassed within this would be a capital funding programme of around £2 billion per year for the next 5 years, together with an additional and ongoing £2 billion on annual maintenance and community engagement. This would improve and expand green space provision and green infrastructure across the UK, maintain its quality and lock in its benefits.

Alternately, The Charter for Parks have suggested that UK parks alone need £2-3bn per year alone.

The cost of achieving Good Ecological Status in 75% of water bodies by 2027 was estimated to be £17.5bn in the last round of River Basin Management Plans. A large proportion of this cost could be delivered by private funding, incentivised by new targets for water quality and a closer focus on nature-based solutions in water company spending settlements, with £3.2bn investment needed from public funds. Additional funds for Environment Agency spending in partnership with NGOs on blue corridors would be needed rapidly to give any realistic prospect of meeting 2027 targets. Funding for the Catchment Based Approach (CaBA) should also be trebled, including for local Catchment Partnerships, providing funds on a multi-year basis.

With adherence to the Polluter Pays Principle, water companies could also help to reduce costs by spending much of their £1bn annual National Environment Programme on nature-based solutions for people and nature.

Benefits

3,500 deprived neighbourhoods will benefit from:

31 https://policy.friendsoftheearth.uk/download/englands-green-space-gap-full-report
32 c£4bn a year based on wider action across 1,257 larger neighbourhoods with an average population of 7,200 people, identified as those most needing investment to ensure people gain the multiple health and other benefits of having quality green space nearby
- 10,000 km of streets planted with trees
- 155 new neighbourhood and 600 street parks created
- 2,700 miles of England Coast Path managed and promoted to be accessible to all

Improved access for:

- 20 million people to upgraded green spaces
- 15 million people to new neighbourhood green spaces and greener streets
- 7 million people to a national park experience
- 29 million walking trips on the England Coast Path

In addition, across Great Britain:

- 9,200 parks upgraded
- 750 km² of peri-urban parks created, giving active and public transport access to a national park experience for 7 million people

Over 30 years, these improvements will deliver £200 billion in benefits to the communities they serve, offering a return on investment of 20:1. These benefits could be leveraged further by pursuing development of urban green hubs with other Departments, for example by working with the Department of Education to provide outdoor learning opportunities.

Furthermore, they will create 40,000 jobs in initial construction and 6,300 permanent jobs in ongoing maintenance of the spaces they create, the majority of which would be in deprived communities, providing greater economic opportunity for the people who live there.

Net benefits of achieving good status in the freshwater environment are expected to be £8.6bn.

**Deliverability**

A large proportion of this urban natural infrastructure could be delivered by a National Nature Service (see strategic priority 3). All delivery mechanisms should look to integrate community engagement as much as possible, particularly in the design and delivery of projects.

It should be targeted to places that rank highest on indices of multiple deprivation to ensure the economic, health and environmental benefits are available first to the people who need it most.
Strategic priority 5: A National Nature Service

Proposed investment: an initial annual investment of £741m, with scope for additional investment combined bid: Defra, Department for Work and Pensions, Department for Education)

Proposal

- We recommend an initial annual investment of £741m in the National Nature Service. This could support 15,000FTE jobs. The number of jobs could be scaled significantly in later years with further investment. Investment would fund:
  
  a. **The core national nature service (£426 million)**
     i. Employment-based training, paid a living wage
     ii. Invest in the delivery partner organisations, such as environmental NGOs
     iii. Investment in a social enterprise coordinating body
  
  b. **A pipeline of 330 shovel ready nature projects (£315 million),** with capital investment for landscape-scale projects such as afforestation, rewilding, and peatland restoration, as well as urban and peri-urban environmental enhancement.

Policy rationale

We face a serious economic recession in the wake of the coronavirus pandemic. Unemployment is set to soar to unprecedented levels, young people’s opportunities for a fulfilling career are dwindling before their eyes and people living in already deprived areas face becoming even more economically disadvantaged as there sources of income and livelihoods disappear.

A National Nature Service is a means of bringing employment and opportunity to people who need it now, addressing the current economic crisis and building a workforce fit for a future green economy, whilst improving access to nature, enhancing climate resilience and growing our natural capital.

A National Nature Service could deliver much of the environmental works outlined under strategic priorities 1 and 2 of this proposal.

From habitat creation and biodiversity net gain required of new development, to the intensive work required for environmental land management, or the range of new environmental advisory services needed in planning, farming and land management, successful delivery of the Environment Bill and Agriculture Bill depends on the expansion of a skilled environmental workforce. The current supply of these skills will not meet anticipated future demand. The National Nature Service is not just a short term stop-gap but a proposition calibrated to fill skills needed for delivery of the Government’s environmental priorities.

Costs

A National Nature Service needs three pillars of investment to deliver at scale:

- **Investment in people and partners in the form of:**
  
  o **Paid jobs and an ‘on-the-job’ training programme.** The heart of the NNS should be an environmental employment programme, paying a living wage and offering the training opportunities needed for ongoing employment in a greener economy.
Investment in delivery partner organisations. Delivery partners will need to be funded to manage work and training. Organisations such as environmental NGOs and Local and National Park Authorities have the strongest credentials for this role, but are facing severe financial constraints caused by Covid-19. A programme operating in isolation that supported creation of new jobs but tolerated large-scale redundancies in the sector and allowed more skilled roles to be lost, would make no sense and do more damage than good.

- **Investment in the supporting project pipeline.** Projects like urban afforestation, grassland restoration, re-greening the green belt, natural flood relief, peatland and wetland restoration, invasive species control and “bee line/road verge” wildflower projects to support native plant species and pollinators would provide a green core of work for the National Nature Service. Projects such as these will have generational benefits and significantly contribute to meeting the UK’s carbon targets. Link has identified a ‘shovel ready’ pipeline of 330 projects.

- **A green legislative programme.** The skills developed in a National Nature Service should be targeted toward supporting a sustained greener economy for the future. To ensure that new private sector and public sector jobs are created that will enable NNS participants to transition into on-going paid work, it is essential that the Government’s programme of environmental reforms is strengthened as part of a green recovery.

The estimated cost of delivering 15,000FTE jobs, on-the-job training and the necessary support from the delivery partners is £741 million. The welcome Kickstart scheme, intended like the NNS to provide new employment, could provide some of this funding; £200 million from the scheme could contribute towards NNS wage costs for new rangers.

**Benefits**

- **15000FTE jobs, plus more with additional funding Economic benefits:** providing large-scale entry-level employment opportunities in urban and rural communities and equipping people with new skills, especially filling green economy skills gaps expected to emerge in delivery of the 25 Year Environment Plan.
- Environmental benefits: contributing to the delivery of the 25 Year Environment Plan, by enhancing natural capital infrastructure assets and the ecosystem services they support, such as clean air and natural flood mitigation.
- Social benefits: “levelling up” access to the natural environment and to the environment sector, removing disparities in people’s opportunity to enjoy nature that were particularly revealed during lockdown.

**Deliverability**

**The Scheme:**

- **Eligibility:** The National Nature Service would be open to everyone who is unemployed.
- **The offer:** Standard contracts would be 12-months, with an option for 24-month part-time contracts to make the Service accessible to people in a wider range of circumstances.
- **Placement partners:** The programmes will be delivered by partnerships of nature NGOs, local authorities and others. For stability and simplicity, we propose that rangers serve the duration of
their contract with one delivery partner who will have an agreed programme of one of more projects on which they work throughout the year.

- **Duration:** Only by being employed for a full 12 months and completing the on-the-job and associated training requirements would a participant become an official NNS graduate, being entered into an official register of accredited graduates.

**Coordination and governance:**

- There would need to be a small coordinating body for the NNS. Its role would be to set national strategy and budgets, coordinate delivery, run national recruitment communications to attract young people to the Service, set training standards and facilitate the creation of on-going jobs in nature.

  **Option 1:** the coordinating unit could be part of an existing government body like Defra, DWP or Natural England. This would follow the model of the Manpower Services Commission, which was a non-departmental public body in the Department of Education, delivering a programme of paid training in the 1980s.

  **Option 2:** an independent coordinating social enterprise could be contracted by government to coordinate the NNS. This would follow the model of Teach First, which receives approximately £31-£36m in annual funding from Government to deliver 1,200-1,500 teacher training opportunities each year.

- The coordinating body would be supported by a national advisory body consisting of nature experts, local government spokespeople, employment experts, and education and skills professionals.

- Overseeing the NNS coordinating body there would be a governing board with representatives from DWP, Defra and the Department of Education. The Chair and Chief Executive would be leaders in the environmental field, with experience of financial management, partnership development and inspiring leadership.
Strategic priority 6: world-leading regulation, data-science and information systems

Proposed investment:

1. In collaboration with the Ministry of Housing, Communities and Local Government, a one-off investment of £150 million in environmental information and data

2. An annual investment of at least £341 million in advice, enforcement and expertise in arms-length bodies and Local Authorities.

   million investment world-leading regulation, data-science and information systems and expertise. This includes:

   I. £80 million for the set up and running of new REACH regulatory body.
   
   II. At least £218 million additional funding for arm’s-length bodies to ensure that they can deliver their statutory duties and contribute to delivery of the 25 Year Environment Plan.
   
   III. In collaboration with the Ministry of Housing, Communities and Local Government, up to £43 million for increased capacity for Local Authorities.

   1. **£150m investment in environmental information, and the systems to manage it, to underpin land use planning and decision-making processes.**

   **Proposal**

   £150 million Investment in Natural England’s Living England maps, a baseline “environmental census” of England’s Natural Capital and the condition of protected sites, and a new environmental information hub to create a new, open-data and digital platform for ecological data.

   **Outcome**

   - Reduction in delays to the planning system
   - A better evidential basis for environmental reporting and target-setting
   - Effective spatial planning to deliver a Nature Recovery Network alongside infrastructure development and food production

   **Policy rationale**

   An accurate National Habitat Map is crucial for creating a successful Nature Recovery Network and for Local Nature Recovery Strategies (LNRSs), and would also enhance decision-making on land use and the water environment. At the moment, limitations in environmental data stand in the way of effective spatial planning and efficient environmental investment. Limitations in monitoring and enforcement capacity compromise the effectiveness of important environmental regulations. Many protected sites have not been assessed for many years. Large swatches of the countryside have not been mapped for important habitats. Many waterbodies and farms are rarely monitored or inspected.

   At present, Defra does not have adequate structures and processes in place to deliver its forthcoming commitments in the Environment and Agriculture Bills. MHCLG and Local Authorities lack access to essential environmental data to help planning move swiftly while protecting our precious natural assets. Data is a key aspect of the reforms set out in the ‘Planning for the Future’ white paper, but there is no indication of how these reforms will improve the use of and access to environmental data.
Limitations in environmental information, such as the lack of granularity and accuracy in Defra’s Living England maps, compromise the Government’s ability to accurately assess the state of nature outside the protected area network. This will be essential for the development of a Nature Recovery Network and for setting important habitat targets in the Environment Bill Framework.

**Costs**

Research by the Scottish Biodiversity Information Forum estimates that the cost of reforming Scotland’s environmental information infrastructure to establish a new environmental information ‘hub’ would cost £15.2 million over five years, with an ongoing cost of £2.88 million thereafter. The cost of a similar exercise in England would be greater because England is larger and therefore has more existing data to manage.

Of course, this Scottish estimate only relates to creation of a new environmental information hub, not an environmental census to plug data gaps which would require significant additional capital investment.

**Benefits**

There is a serious dearth of up-to-date information on the condition of sites, the status of species populations, and the location of important habitat types that imposes costs and delays on development. The system could be sped up by:

- Completing the Ancient Woodland, Ancient Grassland, Priority Habitat and Open Mosaic Habitat Inventories
- Mapping out other critical, irreplaceable habitats such as peatlands
- Improved spatial planning in the marine environment
- Increasing funding for Natural England to perform its statutory planning functions and provide environmental advisory services
- Improve Local Authority access to ecological expertise, aiming for every Authority to have access to in-house ecologists and environmental planners
- Support and invest in existing national and local biological recording and monitoring schemes that support the thousands of citizen scientists that contribute to the gathering of biological data

Filling these gaps could help environmental considerations to be taken into account earlier in the planning process to avoid costly delays later. We support proposals for investment in geospatial planning and satellite imaging, which could help to provide a much more granular baseline of data across the country, improving targeting of more specialised survey work. Alongside these technical approaches, further information could be provided by an ecological census, undertaken by a National Nature Service.

These proposals should be pursued jointly with MHCLG and the Department for Transport, which will benefit from improved certainty in planning and infrastructure development.

**Deliverability**

A rapid census exercise could be undertaken with the support of expert bodies like Natural England and JNCC, working with national and local biological recording schemes and environmental NGOs that support them. In particular, citizen science is crucial to understanding the state of the environment, the direction of travel and the changes needed to create a sustainable and healthy environment for
people and wildlife. Citizen science initiatives such as Catchment Partnerships should therefore receive more support so that they can feed into LNRSs and other data-driven policy-making processes. An example of where investment in citizen science would be well placed is within catchment monitoring partnerships, where 4m p.a. is needed.

New technologies for environmental mapping and data sharing are maturing quickly. Information requirements for Earth Observation should be met across government, for example by acquiring Earth Observation data from the Copernicus satellite, estimated at a cost of £100m. Alternative approaches could be provided by Ordnance Survey.

2. An annual additional investment of at least £331 million in advice, enforcement and expertise in arm’s-length bodies and Local Authorities. This includes:
   I. £80 million for the set up and running of new REACH regulatory body
   II. At least £208 million additional investment per annum in arm’s-length bodies
   III. In collaboration with the Ministry of Housing, Communities and Local Government, up to £43 million for increased capacity for Local Authorities

Proposal

Public bodies are struggling financially to even carry out baseline environmental governance. Unless their revenue funding is increased to support day-to-day delivery of statutory duties, delivery of the 25 Year Environment Plan will be at risk.

For example, with their current budgets, Natural England is unable to properly fulfil statutory duties such as monitoring of SSSIs and the Environment Agency has been forced to cut back water quality monitoring. On top of investment in these existing statutory duties, public bodies will need new investment to support and deliver key elements of the 25 Year Environment Plan.

Increase Natural England’s advisory capacity to deliver a large-scale expansion in advisory services in readiness for ELM. Increase NE’s capacity so they are able to a) fulfil their statutory duties with regard to protected sites and b) drive nature’s recovery according to the 25 Year Environment Plan, not just prevent further decline. It is estimated that is would need between an additional £90 million-£140million pa in funding to fully enforce the goals of the 25-Year Environment Plan.

Similarly, the Environment Agency’s ability to monitory and enforce water quality regulations is severely limited by lack of funding. This poses major risks to the environment, as well as risks to the

36 https://catchmentbasedapproach.org/
37 Initial estimates were £200m per annum but based on recalculations this figure has been amended
38 https://www.yorkshirepost.co.uk/news/environment/natural-england-needs-extra-ps40m-year-just-do-its-basic-job-1749093
Government’s statutory obligations. The recent finding of 0% of rivers meeting Good Status is a case in point, alongside widespread public concern about the Agency’s ability to uphold water quality rules.

Last year’s increase in capital funding for the Agency was welcome, but should be supported by additional revenue funding for delivery of important environmental functions. The Government should increase Environment Agency’s enforcement capacity, for example to enable all water bodies to be effectively monitored and reconfigure enforcement of environmental regulations to a more proportionate, advice-led approach. There has been a 52% cut in funding to the Environment Agency’s annual budget since 2010 (from £120m to £52m). At the very least, Environment Agency’s funding should be returned to 2010 levels, amounting to an additional £68m pa.

Additionally investment in the Office for Environmental Protection will be essential for providing the resources to uphold environmental law to the highest standard after the UK leaves the EU.

The UK is also establishing its own chemicals regulatory regime, UK REACH, from 1st January 2021. To deliver on the Government’s commitment to deliver a “better” system than the EU’s REACH (Registration, Evaluation, Authorisation and restriction of Chemicals) Regulation and to ensure high level of protection for consumers and the environment.

Upper tier local authorities will play a key role in the delivery of LNRSs under the Environment Bill. The government must support local authorities by ensuring they have access to resources, training, expertise and systems to support the implementation of the nature chapter. In particular, to ensure that LNRSs effectively combine local environmental interests with national and international ecological objectives, a sophisticated system of governance and local decision-making will be required. Local Authorities will need to be properly resourced to support this new governance system.

Local planning authorities will equally play a vital role in supporting net gain delivery and supporting local data capture. In this way, their funding must also reflect the increased capacity they will need to do this. In concrete terms, ensure that every Local Authority has access to the following experts:

- Ecologist
- Environmental planner
- Tree officer
- Data manager

There should also be ongoing investment into local biological recording centres.

Finally, proposed planning reforms would need these investments listed above to be increased further in order to support more strategic-level planning and to integrate Environment Bill measures with a new system. Government pilots could determine funding needs for Local Nature Recovery Strategies, including data & engagement.

Outcomes

- Reduction in delays to the planning system
- Increased confidence in the effectiveness of regulation
- Better targeting of environmental investment
- Increased productivity and efficiency in the rural economy
- Robust and effective datasets and information to guide decision-making
- Enable identification and control of the risks posed by man-made chemicals to the environment and human health
- Empowered, knowledgeable, healthy citizen scientists engaged with their local environment and its development

Policy rationale

As well as information, public bodies must be adequately resourced to support new processes outlined in the 25 Year Environment Plan, alongside better delivery of existing statutory functions. Currently, only a quarter of Local Authorities have an in-house ecologist.

EA can only visit each farm in the country once every 200 years. Such a non-existent enforcement presence means there is a very low compliance rate with crucial environmental regulation (e.g. SSAFO). As a result, diffuse pollution is damaging our rivers, air pollution is harming rare wildflowers.

A major review by Defra in 2013\(^{40}\) found that incentives are more effective if supported by advice from a trusted source. This reinforces three decades of experience with environmental land management policy, whereby a high degree of continuity in advice provision is central to building the trust necessary to secure the best environmental outcomes. Importantly, farmers and land managers consider advice to be vital and have expressed concern about the lack of continuity in advice, and patchy follow up support\(^{41}\).

A major review of HLS implementation also highlighted the importance of qualified advisers in maximising the effectiveness of the scheme and using its inherent flexibilities to tailor management to a specific farm or habitat, thereby maximising environmental outcomes. Research has also found that advice is highly effective in improving the quality of results and, by extension, value for money\(^{42}\).


The new REACH regulatory body will need to have the capacity to ensure it delivers on the UK’s commitment to maintain the same high level of protection for the environment and consumers as EU REACH.

Costs

Research by WWF, the Rivers Trust and the Angling Trust found £10 million/year would be needed in England needed for staff to advise on and enforce water protection laws\(^{43}\).

Joint research by the RSPB, Wildlife Trusts and National Trust has suggested that £34 million a year is needed for ELM advice plus £3 million for business advice to High Nature Value farms in England\(^{44}\). This is likely to be a combination of advisory services paid for by Natural England and services provided by the private sector and is covered by strategic priority 2.

Natural England would need an additional £90 million to carry out advisory services, monitoring and enforcement, but this could stretch up to £140 million pa in funding to fully enforce the goals of the 25-Year Environment Plan\(^ {45}\).

Additional funding will be required, joint with MHCLG, to ensure every local authority is staffed with relevant expertise in ecology, planning and data. The cost of employing the extra Local Authority staff needed to deliver LNRSs and biodiversity net gain would be up to £43 million\(^ {46}\), however these costs could be lower better governance and improved adherence to environmental requirements.

£80 million would be the minimum budget required to meet the government’s own commitments. In the first couple of years of UK REACH, startup costs will be higher. ECHA currently has an annual budget of over €100 million for an established programme and additionally draws on the resources of member states for complex work such as substance evaluation. It currently has around 22,973 registered substances, all of which might be used in the UK after the end of the transition period (and will have to be registered, assessed, etc).

\(^{43}\) [https://www.wwf.org.uk/sites/default/files/2018-04/WWF_Saving_The_Earth_Report_HiRes_DPS_0.pdf](https://www.wwf.org.uk/sites/default/files/2018-04/WWF_Saving_The_Earth_Report_HiRes_DPS_0.pdf)


\(^{46}\) 1x ecologist w/ salary FTA £37,096 + 30% overheads x 197 LAs (upper tier) = £9.5m pa

1x strategic planner w/ salary FTA £25,000 + 30% overheads x 197.6 LAs (upper tier) = £6.4m pa

1x development manager w/salary FTA £40,000 + 30% overheads x 197.6 LAs (upper tier) = £10.3m pa

1x data manager w/salary FTA £27,000 + 30% overheads LAs (upper tier) = £7m pa

1x tree officer per local authority w/ salary FTA £22,000 + 30% overheads x 343 LAs (lower tier) = £10m pa
Strategic priority 7: Invasive species biosecurity

Proposed investment:
An increased annual budget for invasive species biosecurity of £6 million annually to enable more effective rapid response, maintenance of specialist capacity and creation of an invasive species inspectorate.

Policy rationale
Invasive species are one of the five principal drivers of biodiversity loss globally. Impacts on native plants and animals, including competition, predation, and the introduction of new diseases, have resulted in invasive species decimating populations of native species across all major types of plants and animals. The spread of invasive species is also responsible for high direct and indirect costs, amounting to more than £2 billion per year due to impacts such as damage and loss of crops, increased flooding and additional building construction costs.

It is internationally accepted that preventing invasive species arriving is far more effective and cost efficient than managing or trying to eradicate them once they are here, and as a Party to the Convention on Biological Diversity, the UK has committed to prioritise “preventing the introduction of invasive alien species, between and within States”.

Costs
The current budget for invasive species biosecurity is £0.9 million, just 0.4% of the overall budget for biosecurity, which includes animal, plant, fish and bee health and invasive species. As result of this chronic underinvestment, it is considerably less effective. Over the last 20 year, three times more invasive species have become established than the combined total of the other four biosecurity regimes. Given the wide-ranging economic and environmental impacts of invasive species, this imbalance requires urgent redress.

We propose that investment in invasive species biosecurity is increased to £6 million per year, allocated as follows:

- £3 million to enhance rapid response capabilities, maintain of specialist capacity in the face of emerging invasive threats, and enable more strategic coordination of invasive species control efforts.
- £3 million to fund an invasive species inspectorate that enables more effective pre- and post-border surveillance and better enforcement of invasive species legislation and policy.

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47 https://ipbes.net/global-assessment-report-biodiversity-ecosystem-services
49 https://www.cbd.int/recommendation/sbstta/?id=7035
Benefits

With an increase in budget of £6 million, the GB Non-Native Species Secretariat estimates that, in the next 20 years, the UK could:

- Prevent 24 new species from establishing
- Eradicate 10 existing species
- Restrict the spread of 20 species and prevent them colonising new parts of GB

Overall, this would constitute a 50–67% reduction in the number of establishments of new invasive species, remove 5% of the established species and restrict the spread of a further 10%—these last species being the priorities for long-term control.\textsuperscript{51}

In monetary terms, over the next 20 years this would amount to an approximate saving of £2.7 billion for an annual investment of just £6 million. That equates to a return on investment of £23 for every £1 spent. This estimate does not account for the restriction of the spread of 20 established species, nor does it take account of the cumulative cost of INNS as they become more established, so the actual saving is likely to be much greater.

Deliverability

The blueprint for an invasive species inspectorate already exists in other areas of biosecurity. We propose an inspectorate akin in size to the National Bee Unit (the bee health inspectorate) of 20 inspectors. Given the much wider range of taxa, ecologies, size, behaviour, distribution, impacts and pathways of introduction for invasive species compared to bees, this represents very good value for money. It also presents a small ask considering the recent announcement for the recruitment of 100 new Plant Health inspectors to assist with the transition of the UK out of the EU.\textsuperscript{52}

The additional rapid response, specialist capacity and strategic control functions should be delivered through existing structures including the Animal and Plant Health Agency, Environment Agency and Natural England. Large-scale strategic control of invasive species could be carried out by a National Nature Service (see strategic priority 3).

Finally, other creative ways of delivering this would be supporting partnerships which help to tackle INNS. For instance partnerships with outdoor activity organisations (i.e. canoeing) can play a key role in monitoring and tackling INNS, while encouraging access to nature. These initiatives must however be coupled with accessibility of green/blue spaces, as outlined in strategic priority 4.

\textsuperscript{51} Ibid.
\textsuperscript{52} https://www.gov.uk/government/news/apha-launches-recruitment-campaign-for-plant-healthinspectors
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This response is supported by the following Link members:
Angling Trust
Bat Conservation Trust (BCT)
Butterfly Conservation
British Canoeing
CHEM Trust
FOUR PAWS UK
Freshwater Habitats Trust
Friends of the Earth (FoE)
The Institute of Fisheries Management
Open Spaces Society
Marine Conservation Society UK (MCSUK)
National Trust
The British Mountaineering Council
The Ramblers
The Royal Society for the Prevention of Cruelty to Animals (RSPCA)
The Royal Society for the Protection of Birds (RSPB)
Surfers Against Sewage
Wildfowl & Wetlands Trust (WWT)
The Wildlife Trusts
WWF UK
The Woodland Trust
Whale and Dolphin Conservation