



Evidence in Natural England

Our evidence strategy

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Summary

This evidence strategy provides a statement of the critical role of evidence in Natural England and the importance of all our staff in evidence work. After describing the drivers for our work and our evidence priorities, it sets out the principles we will adopt in our evidence work. The Strategy covers the 5 year period, 2012-2017.

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Introduction

Purpose

Natural England depends upon sound and quality-assured evidence on the natural environment to meet its needs as an environmental delivery organisation and as a statutory adviser to Government and others. The purpose of this Strategy is to ensure that Natural England collects and uses evidence effectively and transparently, in support of our statutory purpose.

What do we mean by evidence?

- The evidence that Natural England uses is derived from a wide range of data and information about the natural environment and its management.
- We integrate information on biodiversity, geodiversity, soils and landscape and their management, together with economic and statistical analysis, social research, operational research, monitoring and surveillance (including horizon scanning).
- In our research and analysis we adopt a scientific approach, collecting data using repeatable observations, testing hypotheses, analysing the results, explaining observations and drawing inferences regarding meanings and importance.
- Quantitative and qualitative analytical evidence is available from a variety of sources, and of particular value are those studies that have been subject to independent peer review and have been published. Other sources include technical reports, systematic reviews, commissioned studies, case studies and expert (including practitioners') opinion.

Where does our evidence come from?

- Natural England has a leading role in developing science-based evidence on the natural environment. We commission work, undertake work ourselves and manage programmes on behalf of Defra. We also seek to inform and influence the evidence programmes delivered by others.
- Science-based evidence also comes from a wide range of other players - from scientists, government bodies and commercial companies to voluntary groups and individuals.
- Practical experience and anecdotal information come from staff, partners and other parties such as land managers.

How good is the natural environment evidence base?

- The quality of evidence varies across the elements that make up the natural environment. The state of much of our biodiversity is reasonably well known from biological recording and large scale surveys. Long-term monitoring which can provide good evidence of change is also available for some (but not all) groups of organisms; however, evidence on the causes of change, their future trajectory and the factors that promote resilience (locally and nationally) is very patchy. The evidence base on many ecosystem services, including leisure use of the natural environment, health and well-being, and practical management systems to deliver a range of ecosystem services is relatively undeveloped.
- Long-term datasets are crucial, especially in the context of climate change. Some of the biodiversity datasets go back fifty years or more, making them some of the best in the world and critically important to long-term monitoring networks.
- There will always be the need to collect more evidence. In particular, a level of monitoring and surveillance must be maintained in order to assess the state of the natural environment, and to maintain the long-term datasets.

- However, given resource constraints, Natural England and the wider evidence community collectively must prioritise effort at making best use of the evidence we have and filling the most important evidence gaps.

How do we use evidence?

- Natural England is an evidence-based delivery organisation – we use evidence to inform and support all our decisions, advice and actions.
- We derive our evidence by combining knowledge gained through the scientific approach with practical experience of what works - enabling us to take, or advise on, actions that will lead to a predictable outcome.
- We support policy development in Defra and elsewhere in Government through the provision of evidence. Evidence based on sound science is particularly important here.
- We make and support day-to-day decisions and give advice at the individual site or case level, applying our expert judgement in the use of the best available sound science and experience taking into account context and practicality.
- Because our actions have an impact on people's lives and well-being we must be seen to be impartial and consistent in our use and presentation of evidence.
- We will be transparent in explaining how we have taken into account any uncertainties, limitations, assumptions and imperfections in the evidence.
- We will provide spatial and temporal context, and relevant social and economic context, ensuring integration across all our disciplines, in order to assist the interpretation of the evidence.
- We make our evidence widely available, accessible and usable so that others can analyse and use it to better inform decisions affecting the natural environment.

Who 'does' evidence in Natural England?

- We have specialists in a wide range of disciplines, particularly across the environmental sciences, but also in economics, social science, regulation, geographic information and statistics.
- Our specialist resource is embedded within our delivery teams to strengthen the link between evidence and delivery.
- Natural England's advisers are key users of the natural environment evidence base to inform and support their delivery work. In addition, many have highly developed skills and knowledge that support and complement those of our specialists, and hence contribute to development of the evidence base through survey, case studies and practical experience.
- Natural England's Science Advisory Committee (NESAC), an advisory committee to the Natural England Board, has an important role in providing independent advice, challenge and review to our science and evidence functions. NESAC provides advice to the Board on the integrity and relevance of Natural England's overall evidence programme; provides challenge for proposed methodologies and to the emerging findings of specific pieces of research; and reviews the outcomes of areas of our work. Its membership comprises Board members and academics from a wide range of disciplines.

Our links to Defra's evidence programme

- We work in close collaboration with Defra and its delivery network of agencies and Non Departmental Public Bodies (collectively termed Arm's Length Bodies, or ALBs) to ensure our evidence programmes are closely coordinated and complementary.
- Defra's Evidence Investment Strategy: 2010-2013 and beyond, updated in 2011, reaffirms the Department's commitment to evidence-based decision-making and will help to obtain

focused, high-quality evidence to deliver a better environment for all in the future. The Evidence Investment Strategy sets out Defra’s overall evidence investment for the period of the 2010 Spending Review.

- Defra has a hierarchy of Evidence Plans, with the strategic Rural Development Plan for England (RDPE) Evidence Plan being of particular importance to Natural England as we contribute to both the development and delivery of the Environmental Stewardship research & development and monitoring & evaluation elements of this plan.

Other key links

- We have a number of important evidence links with external bodies, beyond Defra, where we rely upon their primary sources of evidence or we work in collaboration over particular evidence programmes, including both commissioned and volunteer-based evidence collection. The following table gives some examples, but is by no means comprehensive.

Partners	Evidence topic
Agencies, Government departments:	
Cefas, EA	Joint marine baseline data and monitoring
FC	Citizen science monitoring, woodland reporting for BAP 2020
FC, EA	Woodlands, water quality and flood control review
CEH	Evaluation of HLS agri-environment schemes
JNCC, EA, CEH	NBN (biodiversity data access and use), BARS (biodiversity action and reporting), remote sensing for habitat surveillance
Country agencies & JNCC	Monitoring atmospheric pollution
CEH, EA, Defra, Met Office	Long-term monitoring networks
EA and other ALBs	EA data download service
Fera	<i>Phytophthora</i> monitoring and research
ONS	MENE, well-being indicator
Dept of Health, NICE	Public Outcomes Framework
EA, Fera, Forest Research	Behaviour change
Academia:	
LWEC	Reporting on biodiversity and climate change
LWEC, research councils, universities	Coordinating external research funding with needs
Civil Society:	
BTO (charity) via JNCC	Wide range of bird monitoring schemes
RSPB (charity)	Farmland and woodland bird research
Amateur naturalist groups, NBN partnership including LRCs (volunteer community)	Surveillance and provision of species data
Local delivery partners including National Park Authorities and the Wildlife Trusts	Evidence supporting local delivery

Natural England's evidence programme

- Our evidence programme comprises the generation, collection, analysis, use and dissemination of evidence.
- Our evidence budget for 2012/13 is £12m, of which half is programme spend and half staff, with around 110-120 FTE. Planned staff and programme budgets over the following two years are at similar levels.
- Our funding for new evidence is targeted at our core delivery areas, and complements the evidence funding from Defra and its other Arm's Length Bodies.
- Monitoring is a fundamental contributor to the natural environment database, and receives the bulk of our evidence programme budget (c80%), with the remainder funding commissioned research, data licences, subscriptions, supporting PhDs and making data accessible.
- We are not primarily a body that undertakes research. We are primarily interested in operational (rather than pure) research that addresses key questions for our delivery and where there is a specific knowledge gap.

We will keep our programme under review as new knowledge and policy and operating contexts continue to evolve.

Why we need an evidence strategy

Drivers

Natural England's evidence work is determined by external and internal drivers, that are both policy and operationally driven:

Policy drivers:

- Our role as the statutory adviser on the natural environment, supporting Government in its development and implementation of policy and strategy.
- Major evidence-led policy drivers, such as the Natural Environment White Paper (NEWP)* and the new England Biodiversity Strategy Biodiversity 2020* (taking on board the National Ecosystem Assessment and the Lawton report *Making Space for Nature*).
- The overarching Government commitment to evidence-based policy, embedded across Government through the network of departmental Chief Scientific Advisers.
- Big Society, Localism* and smaller government – making evidence more relevant and accessible locally and taking greater account of social evidence about community aspirations and engagement.
- Sustainable intensification of agriculture, put forward under the Food & Farming Foresight Strategy.
- New and existing European and domestic environmental legislation and policy instruments, eg CAP, CFP, Habitats Directive/Regulations.

*Explored further in boxes below.

Operational drivers:

- Providing evidence to support our core business areas including delivery of our land management and marine objectives, designation and management of statutory sites, and advice on sustainable land and sea use.
- Embedding the ecosystem approach across our work programmes.
- Responding to climate change and other pressures identified through horizon scanning.
- Providing evidence of the impacts on the natural environment of increased competition for space from development.
- A need for greater understanding of the total ecosystem benefits of the natural environment, including those which drive societal choices and public engagement.
- An increased focus on rigour and transparency in the use of evidence.

Our evidence programme is also shaped by the benefits of working in partnership with Government and our partner Arm's Length Bodies:

- Government expects Natural England and its other Arm's Length Bodies to be competent, impartial, and to establish the facts in a transparent and independent manner; to join up with other Arm's Length Bodies wherever possible and to avoid duplication and achieve synergy.
- Through the work of its Chief Scientific Adviser and its cross-network evidence project, Defra is working towards a more integrated, effective and efficient evidence process across the Defra family.

Like all Arm's Length Bodies we are operating on reduced budgets, including our evidence budget, as a consequence of the Government's desire to reduce the fiscal deficit and overall public indebtedness.

Natural England's role in providing evidence to support Government policy development is set out in two Defra documents, the Framework Document and the Partnership Agreement. These highlight the need for:

- Natural England's evidence to be fit for purpose;
- An ethos of continuous improvement supported by accreditation of evidence activities;
- Natural England's evidence processes to take account of the principles specified in the Joint Code of Practice for Research and the Government Chief Scientific Adviser's guidelines on the use of scientific and engineering advice in policy making (links available on Defra's website).
- Natural England's strategic and operational standards for the gathering and use of evidence to be embedded across the organisation;
- Natural England to involve its Science Advisory Committee (NESAC), where appropriate, in providing advice, challenge and review of Natural England's evidence.

These documents also emphasise the importance of Defra's Chief Scientific Adviser providing independent assessment and challenge on the relevance and quality of Natural England's evidence activities.

NEWP & Biodiversity 2020:

The Natural Environment White Paper (NEWP) and Biodiversity 2020: *A strategy for England's wildlife and ecosystem services* set out a number of bold ambitions for the natural environment:

- Recognition of the need for a 'large scale' approach to environmental conservation.
- Commitment to the establishment of coherent, resilient ecological networks to support the restoration of biodiversity and ecosystem services, supported by specific outcomes for habitats, species, restored ecosystems and the marine environment.
- Recognition of the environment's multiple values.
- Strengthening the relationship between people and the natural environment and to put this on a more active and local basis.
- Greater integration of delivery in environmental management, particularly within Government and ALBs.
- Making more of our evidence, including increased public accessibility.
- All of the above encapsulated in a drive towards adoption of the Ecosystem Approach.

In response we will need to integrate our evidence work in order to support the broader delivery mechanisms set out in the NEWP and Biodiversity 2020. Our new emphases will be:

- i) reviewing, improving and promoting the use of appropriate monitoring mechanisms,
- ii) joining up our research programmes within the organisation and across the Defra family,
- iii) making our data and evidence more easily accessible.

Developing strong partnerships and collaborative programmes with ALB partners and beyond will be a key role for Natural England in delivering these ambitions.

Localism:

Up until now our evidence programme has largely been driven by national and statutory drivers from a 'top down' perspective, so our evidence is designed to be robust at larger scales (national and regional levels). Localism will require changes in our approach to determining what evidence is required and how it is made available.

These changes will affect the whole evidence cycle from our strategy and priority setting through to making evidence accessible to users. A key role for us will be to provide local communities and decision makers with nationally consistent information about the natural environment in their area, setting it in a wider context.

Localism provides considerable opportunities for securing greater engagement and commitment to the natural environment at a local level, including greater direct involvement in building and validating our evidence base.

Localism is yet to be fully embedded in our society, so Natural England's response to its evidence implications will be phased and responsive to new opportunities. We need to engage with citizens to help shape and determine local evidence needs. Meeting a rising demand for local evidence will be a resource challenge requiring innovation in provision of evidence, collaboration and careful prioritisation against ongoing national and statutory requirements.

Natural England's role

As the Government's nature conservation adviser, delivering agri-environment management schemes, directly managing land and with a suite of environmental specialists, Natural England is uniquely placed to provide i) specialist expertise and judgement, ii) evidence from delivery, and iii) understanding of the evidence needed to inform delivery and advice.

In the context of environmental change, the overall reduction in our financial resources and the Government's reform agenda for ALBs, there is increased emphasis on our role as an evidence-based adviser to Government, other public bodies, local communities and individuals, working more in partnership, making data accessible and sharing our evidence.

Natural England's Corporate Plan 2012-15

Natural England's Corporate Plan 2012-15 responds to these drivers and highlights the importance of evidence in our work. It sets out why and how we will re-align our evidence programme. The fourth core Outcome is specifically targeted at evidence, and comprises two Objectives, one national and one local:

- We support Government and public bodies through the gathering of evidence and the provision of environmental data, information and advice.
- We work with communities and individuals to gather relevant evidence on the natural environment and support them through the provision of environmental data, support and advice.

Evidence will also be required to support work right across the other three Outcomes in the Corporate Plan (relating to: A healthy natural environment, People and engagement, and Sustainable use), leading to the following evidence priorities for Natural England.

Natural England's evidence priorities

In the light of the above drivers, the following emerge as the priority areas for Natural England's evidence programme:

- Delivery of Biodiversity 2020 – specifically habitat inventories, habitat condition assessment, improving accessibility of species data, understanding wildlife habitat connectivity and ecological networks, and also monitoring conservation activity.
- Evidence to support delivery of Natural England-led NEWP commitments for Local Nature Partnerships and Nature Improvement Areas.
- Development of the My Environment portal and allied databases of local environmental information.
- Continue to develop a more joined-up approach to environmental monitoring.
- Monitoring SSSI condition – including Integrated Site Assessments of SSSI and HLS agreements.
- Measuring baseline condition in order to inform designation of Marine Protected Areas and Special Protection Areas.
- Monitoring the state of England's landscapes
- Assessing the effectiveness of our interventions including agri-environment schemes and planning casework.
- Contribution to Defra network reporting on state of the natural environment (land) and state of the seas.
- New measure of national well-being.
- Better understanding of people's engagement with the natural environment.
- Evidence to support our regulatory and licensing role.
- Evidence in support of climate change adaptation and mitigation.
- Understanding how to achieve environmental improvements alongside sustainable intensification.
- Research on the mapping and delivery of ecosystem services.
- Economic and social evidence on the value of ecosystem services.

An additional priority area is to develop our geographical information systems to make information on the natural environment easily accessible to all. This will cover:

- storage of data
- enabling correlation and integration
- facilitating interpretation
- enabling easy access internally and externally
- development of accessible geographic information to support local communities.

Destination statement

Natural England will use evidence to deliver our environmental outcomes more effectively, working through partnerships that are increasingly based on the wider benefits provided through ecosystem services. By implementing this Strategy, Natural England wishes to reach a position over the next five years where:

- We will be recognised for our effective and transparent use of evidence in the conservation of the natural environment. We will be respected as an evidence-based organisation that makes sound judgements and provides quality advice based on the best available evidence, gathered and used in accordance with the highest standards.
- We will have an evidence programme that is fit for purpose yet adaptable, responsive and innovative. It will be effectively co-ordinated with the programmes of Defra and other key players engaged in developing the natural environment evidence base.
- We will be recognised for our effective, targeted gathering and use of evidence to support delivery of our environmental outcomes. We will be trusted and respected by key stakeholders for the quality and impact of our evidence, and for our partnership working.
- We will be viewed as leaders in the quality assurance of evidence and its application, and in the provision of easily accessible data for local and national use.
- We will be respected for the range and depth of our environmental skills and knowledge, and all our staff will be recognised for their effective use of evidence to support delivery.
- We will be recognised for the professional development of our specialists. We will develop not only their specialist skills but also their abilities to match evidence solutions to delivery needs, to work across disciplines and to communicate effectively. We will have an ethos of continuous improvement for our specialists linked to accreditation and supported by a skills framework.

Principles for our evidence work

In order to deliver our evidence priorities whilst responding effectively to the Government's agendas we will work to the following six principles.

- 1 Our evidence programme is fit for purpose and effectively coordinated with others'.
- 2 Our evidence and its application are quality assured.
- 3 We use specialist skills, knowledge and expertise effectively.
- 4 We maximise the benefits of working in partnerships.
- 5 We are transparent and open about our evidence and communicate it effectively.
- 6 We make evidence easily accessible and at the scales required.

The rationale for each of these principles is set out below, highlighting where there will be significant change and where there will be continuity and strengthening of current good practice.

1 Our evidence programme is fit for purpose and effectively coordinated with others'

Why we need this principle

Evidence is fundamental to Natural England's work, as we use it for all of the following:

- as the basis for our advice to Government, agencies, local authorities, land managers and others,
- to help define targets for improving the natural environment,
- to refine our delivery mechanisms,
- to evaluate existing and novel management schemes,
- to inform our response to planning and other consultations,
- to ensure high quality reporting on the state of our wildlife and landscapes,
- to measure well-being and access to the natural environment, and
- to detect environmental change.

Our measures of success and actions to deliver this principle

- 1.1 We target our resources at the evidence we need to **support our core role** in protecting the natural environment.

We will work with other evidence providers to agree each core contribution to the priority natural environment evidence needs.

1.2 In defining our contribution we give priority to **statutory and contractual evidence requirements**.

We will apply strict criteria when allocating evidence programme funds, with priority being given to the following requirements:

- statutory including Habitats Directive reporting, and contractual with Defra including marine monitoring.
- geographic information licences, as these are fundamental to both monitoring the natural environment and to responding to site-related consultations.

This is likely to mean that the strong emphasis in our programme towards monitoring, rather than research, will continue.

1.3 We assess the **priority evidence gaps** and share our analysis with Defra and other evidence providers.

a) We will maintain up-to-date summaries of evidence across our full remit. These documents will describe for each subject area what is known, what is under active research or debate and what is not known. Using these summaries, and in consultation with the Defra network and our other partners, we will identify our priority evidence needs.

b) We will then target our resources, through our annual evidence programme, at these priority evidence needs. We will also seek to influence the Defra network and other partners to direct funding towards these priorities.

These summaries of evidence enable us to improve the quality of our evidence programme (and contribute to the quality of others' programmes) through a highly targeted approach.

1.4 Our evidence programme will be responsive to **future science needs**.

Working with the Defra network we will use horizon scanning to anticipate future pressures and hence evidence needs.

1.5 We have a strong feedback loop between **delivery** and evidence.

We will ensure that our evidence programme is fully integrated with our delivery programmes, and that we have effective feedback processes in order to learn from our delivery and identify specific evidence needs.

1.6 Our evidence programme is adapted to respond effectively to the **localism** agenda.

See **Principle 6** below.

1.7 We optimise the use of **National Nature Reserves** as a source of evidence.

One of the statutory purposes of NNRs is for 'research and study'. Natural England has management control over the majority of NNRs, and monitoring and research currently take place on NNRs although to varying degrees.

We will develop the natural environment evidence base on the NNR estate, through monitoring, research and trialling - for example, testing novel mechanisms to improve the delivery of species diversity through habitat structure. We will work closely with others to increase site-specific and generic benefits from such research.

1.8 We have an effective **long-term monitoring network**.

Our long-term monitoring network has a crucial role to play in detecting changes in the natural environment.

We will invest in the network by significantly increasing the number of sites (from 27 to 40).

Monitoring of climate, physicochemical and biological aspects will allow us to assess the influence of pressures on the natural environment. The network will be developed in close partnership with a range of external bodies including CEH, EA, National Trust and Defra.

1.9 We make greater use of **existing data** and evidence from a **range of sources**.

a) We will shift the balance in our programme from expanding the evidence base towards using and interpreting existing data.

Whilst we must continue to develop the evidence base in priority areas (eg SSSI condition monitoring and marine evidence), the limited resources now available for commissioning the collection of new data mean that we must make greater use of existing natural environment evidence. This includes data from a range of sources and we will target our staff effort at greater interrogation, correlation and integration of this existing information.

b) We will use both quantitative and qualitative evidence in order to improve the impact of our evidence-based advice.

2 Our evidence and its application are quality assured

Why we need this principle

It is crucial that we sustain the quality of our evidence and its use. This has been highlighted by Defra in the Framework Document (see page 8) which emphasises the need for Natural England's evidence processes to take account of Government codes and guidance (notably the Joint Code of Practice for Research and the Government Chief Scientific Adviser's (GCSA) guidelines).

Our measures of success and actions to deliver this principle

2.1 We have **effective quality assurance** of our evidence and its application.

In order to achieve quality assurance comprehensively across our work, Natural England has developed an Evidence Standard. The Standard comprises two parts:

- The overarching Strategic Evidence Standard sets out how we apply the principles of this Evidence Strategy to our use and gathering of evidence. Hence the Standard plays a major role in delivering the Evidence Strategy across the organisation.
- The underlying Operational Standards then apply those principles to the key components of our work in gathering and using evidence – including analysis, documentation of evidence-based decisions, quality assurance and peer review, consultation and communication. The Evidence Standard package adopts the Joint Code of Practice and incorporates the good practice set out in the GCSA guidelines.

We will continue to implement our Evidence Standard across the organisation.

2.2 We work with **other evidence providers** to ensure quality assurance of their natural environment evidence.

a) We will apply our Evidence Standard when forming a view about the quality of others' evidence that we use.

b) We will support other key players in developing and applying quality assurance to their evidence development, and in recognising and making explicit the implications of any uncertainties.

2.3 We employ targeted **independent expert review** to assess the quality of our evidence.

In areas where our decisions or advice are particularly contested we will, through a rolling programme of externally chaired reviews, use independent experts to provide a second opinion and test the strength of specific areas of the evidence base, and confirm that we are using the best available evidence.

3 We use specialist skills, knowledge and expertise effectively

Why we need this principle

Our specialist capability is critical in ensuring that our delivery and advice are based on sound science, quality evidence and expert judgement, taking due account of uncertainties. This will in turn enhance our reputation as a trusted and expert public body. We need to retain and develop the traditional 'deep' environmental skills that are core to our business, such as species identification and habitat ecology. But we must also respond to changing needs, such as increasing demands for economics and social sciences expertise, and taking a multidisciplinary approach, eg over ecosystem services. We need to be flexible and agile in our use and development of skills in order to respond to the risks and uncertainties that will face us.

We need to develop our ability to take on the role of 'intelligent customer', so we can understand and interpret monitoring and research data to provide high quality advice, whilst also liaising with relevant specialists in the academic community.

The complexity of the natural environment and its close interactions with society and the economy mean that we will always need to tap into the expertise of others but, because of our shifting agenda, diminishing resources and ever-closer links within the Defra family, making use of the vital specialist expertise outside of Natural England will be more important than ever.

Our measures of success and actions to deliver this principle

3.1 We have a **suite of specialists** with the right capability to deliver our priority evidence needs.

- a) We will make specialist capability an integral part of our organisation's Workforce Strategy. We will fully implement that Strategy in order to sustain and develop our staff specialist capability more widely.
- b) We will support our specialist resource in natural sciences with expertise in economics and social sciences.
- c) We will ensure that our specialists have not only specialist knowledge and skills but also the complementary ability to understand the broad environmental, economic and social context, work across disciplines and be effective communicators.
- d) We will ensure that our specialists have the capability to match evidence solutions to delivery needs.
- e) We will have tools, standards and systems that support both specialists and other staff with key skills, and have an organisation-wide approach to specialist succession planning.

3.2 We utilise and help to develop specialist capability **outside Natural England**.

- a) We will collaborate with partners, especially within the Defra family, in sharing specialist capability between relevant organisations where this makes the most efficient and effective use of the available resource. We will use external specialists to advise Natural England on key areas, so as to minimise duplication and maximise sharing of knowledge and evidence. We will also deploy our specialists to aid our partners where we can add value, and look for opportunities where others can assist us.
- b) We will contribute to nurturing relevant skills and developing benchmarks within Natural England and across the environmental sector, for instance drawing on and contributing to continuing professional development within professional bodies.

3.3 Our staff understand and effectively apply **geographic literacy** in their work.

- a) We will ensure that our Geographical Information Skills Framework forms part of the wider skills framework currently being developed in Natural England.
- b) We will continue to promote the use of effective spatial targeting in our delivery.
- c) We will place greater emphasis on staff understanding geographical processes to support our move to an ecosystems approach to delivery.

4 We maximise the benefits of working in partnerships

Why we need this principle

We need to focus our limited resources on collecting the evidence that only we can, or are likely to, collect. We therefore rely on others to contribute to other parts of the natural environment evidence base. We need to work in effective partnerships, making maximum use of available resources and expertise across the sector, and increasing ownership of both the process and the outcomes. This will not only deliver the Government's objective of removing duplication and increasing integration between the ALBs, but also improve Natural England's evidence links with the academic community, and with civil society including charities and learned societies.

Our measures of success and actions to deliver this principle

4.1 We make maximum use of partnerships, both within and beyond the Defra delivery network.

Natural England's current practice is to work with partners on a wide range of evidence projects.

We will seek to increase both the number and the quality and productivity of these partnerships, continually seeking better value for money.

4.2 We have **effective integration** and collaboration with the evidence programmes and specialists of the Defra delivery network.

a) We will develop effective joint working practices to ensure our evidence programmes are coordinated with Defra and its ALBs, including through the cross-network evidence project. We will share monitoring and research plans across the Defra network and take joint decisions over lead role and resources where appropriate.

b) We will work with Defra to align more closely their funding schemes with our evidence priorities.

c) We will continue to deliver the Defra-funded Environmental Stewardship Monitoring & Evaluation and Research & Development programmes.

4.3 We support Defra in its inputs to shaping and accessing **EU-funded research programmes**.

We will provide input to Defra to assist with its responses to proposed EU-funded research programmes (including EU Framework Programmes), seeking opportunities to achieve a closer match with our evidence priorities.

4.4 We work closely with **research councils and universities**.

We will develop more effective relations with research councils and universities, particularly through the Living With Environmental Change (LWEC) public sector partnership. We will seek to influence LWEC priorities and research council agendas and programmes to more closely match our priority evidence needs.

4.5 We work closely with **civil society**, especially charities and learned societies, to gain the maximum benefits from citizen science.

Volunteers have always played an important role in studying and monitoring the natural environment.

a) We will work with civil society organisations, including learned societies, to develop the capacity of volunteers to contribute to developing the natural environment database and to increase public engagement.

b) We will maximise our use of strategic partnerships with such key civil society organisations where our agreements cover a number of evidence-related work areas.

5 We are transparent and open about our evidence and communicate it effectively

Why we need this principle

By being open about the decisions we make and the advice we give, we not only meet the Government's Transparency agenda, but also enable others both to understand the evidence base used and to analyse and interpret the data themselves. Transparency also helps to drive up the standard of our evidence and the way we collect and use it.

Good communication about the evidence base enables others to understand the state of the natural environment. This is critical both nationally, where we need to help Government and others gain a broad overview of the state of England's natural environment on land and at sea, and also locally, where we need to enable local communities to see the broader context in which their own objectives and decisions may affect the natural environment. This communication needs to be a two-way exchange of knowledge where both providers and users are sensitive to and responsive to each other's needs.

Our measures of success and actions to deliver this principle

5.1 We are **transparent** about the evidence base used for our decisions and advice.

We will be clear about the balance of scientific and other information and expert judgement that has supported decisions made.

5.2 We use the best available evidence and explicitly state the **level of uncertainty**.

It is rare to have all the evidence we would wish for, especially in areas where the evidence base is still being developed, eg ecosystem services.

a) We will state clearly the nature and scale of the limitations of the evidence, in terms of completeness, the nature and scale of the uncertainties, and assumptions and imperfections in the data.

b) We will make best efforts to understand the implications of these uncertainties on our judgements, decisions and advice, working with other partners to avoid overly precautionary responses.

5.3 We are seen to be **impartial and consistent** in our use and presentation of evidence.

This is crucial because our actions have an impact on people's lives and well-being.

5.4 We make all our evidence **publicly available**, unless there are exceptional reasons that prevent us from so doing.

This is important as the natural environment evidence base is also used by Government, agencies, local authorities and the public when making decisions that affect the natural environment, including meeting statutory responsibilities.

We will make our evidence publicly available through the full range of channels.

5.5 We effectively **communicate** our results both internally and externally.

We will target our communications to ensure that everyone can understand and access this evidence base in ways that are meaningful for them.

5.6 We encourage **external analysis** and re-use of datasets.

6 We make evidence easily accessible and at the scales required

Why we need this principle

Up until now our evidence programme has largely been driven by national and statutory drivers and has been designed to be robust primarily at the national and regional levels. The Government's Localism initiative will require changes in our approach to evidence gathering, as recognised in our Corporate Plan 2012-15.

Our measures of success and actions to deliver this principle

6.1 We provide evidence to meet both **national and local** needs, working at a variety of **geographical scales**.

a) We will develop mechanisms to strike the right balance in responding to national and local needs, identifying what we can effectively provide at the local level.

b) We will use the evidence base to refine Natural England's spatial prioritisation approach for targeting agri-environment and other delivery programmes.

6.2 We continue to provide evidence to meet **national needs** driven by Government and our statutory responsibilities.

We will continue to deliver our national responsibilities, working ever more closely with the other Arm's Length Bodies to provide joined up evidence delivery.

6.3 We both provide and gather evidence in ways that meet the needs of **local communities**.

a) We will consult local stakeholders on what they need, and engage with them in our development of innovative methods and products to make data and evidence easier to find and use.

b) We will work with others to provide an accessible system to enable the public to contribute new evidence on their local natural environment.

6.4 We will provide **contextual information** to assist interpretation, including spatial and temporal context, and social and economic information.

6.5 We support the **development of systems** that make evidence more accessible to more people.

a) We will lead Defra's 'My Environment' initiative as described in the NEWP, to provide a single internet portal to data on the natural environment, working in partnership with EA.

b) We will work with partners to develop our internet site to make evidence more accessible and relevant to local communities. We will review the contribution that new technologies might offer in facilitating the gathering and sharing of local evidence.

c) We will seek to use opportunities (eg INSPIRE, the Public Sector Mapping Agreement, the Data Protection Act and the Freedom of Information Act) to increase the volumes and types of evidence we make available through our various portals.

6.6 Staff have easy access to **up-to-date and digested evidence** on the natural environment to inform their delivery work.

We will improve the provision of data, information and interpretation for front-line advisers so that they can access and apply the most up-to-date evidence to inform their delivery.

6.7 **Our stewardship** of data and information is effective and comprehensive.

Only by having effective and comprehensive stewardship of data and information can we deliver the measures described above.

a) We will continue to develop our new data infrastructure to make all of our environmental data accessible to all our staff.

b) We will continue to improve the quantity and quality of our metadata, and follow all necessary copyright and licensing protocols.

Governance

Natural England takes quality assurance of its evidence and evidence-based decisions very seriously. As part of our arrangements to deliver this quality assurance we have the following governance structures in place:

- Heads of Profession – provide the thought leadership and quality assurance for their topic across Natural England, lead professional groupings, annually review the summaries of evidence, and identify corporate evidence/research priorities, reporting to the Chief Scientist.
- Chief Scientist – ensures quality of Heads of Profession contributions to delivering the Evidence Strategy and Standard, and is actively involved with the Executive Board eg signing off the evidence supporting designations.
- Evidence Group – provides challenge to the prioritisation process and approves Natural England’s annual evidence programme.
- Executive Board – approves the Strategy implementation plan.
- Board – is the ultimate arbiter of whether our highest profile decisions are soundly evidence based, eg submissions for Natura 2000 sites to Defra; approves the overall Evidence Strategy; signs off our evidence priorities each year.
- NESAC – Natural England’s Science Advisory Committee provides the Board with independent advice ,challenge and review of Natural England’s science and evidence functions (see page 3).

Front cover:

Monitoring vegetation on Old Winchester Hill NNR, as part of Natural England's long term monitoring network.

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Natural England is here to secure a healthy natural environment for people to enjoy, where wildlife is protected and England's traditional landscapes are safeguarded for future generations.

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