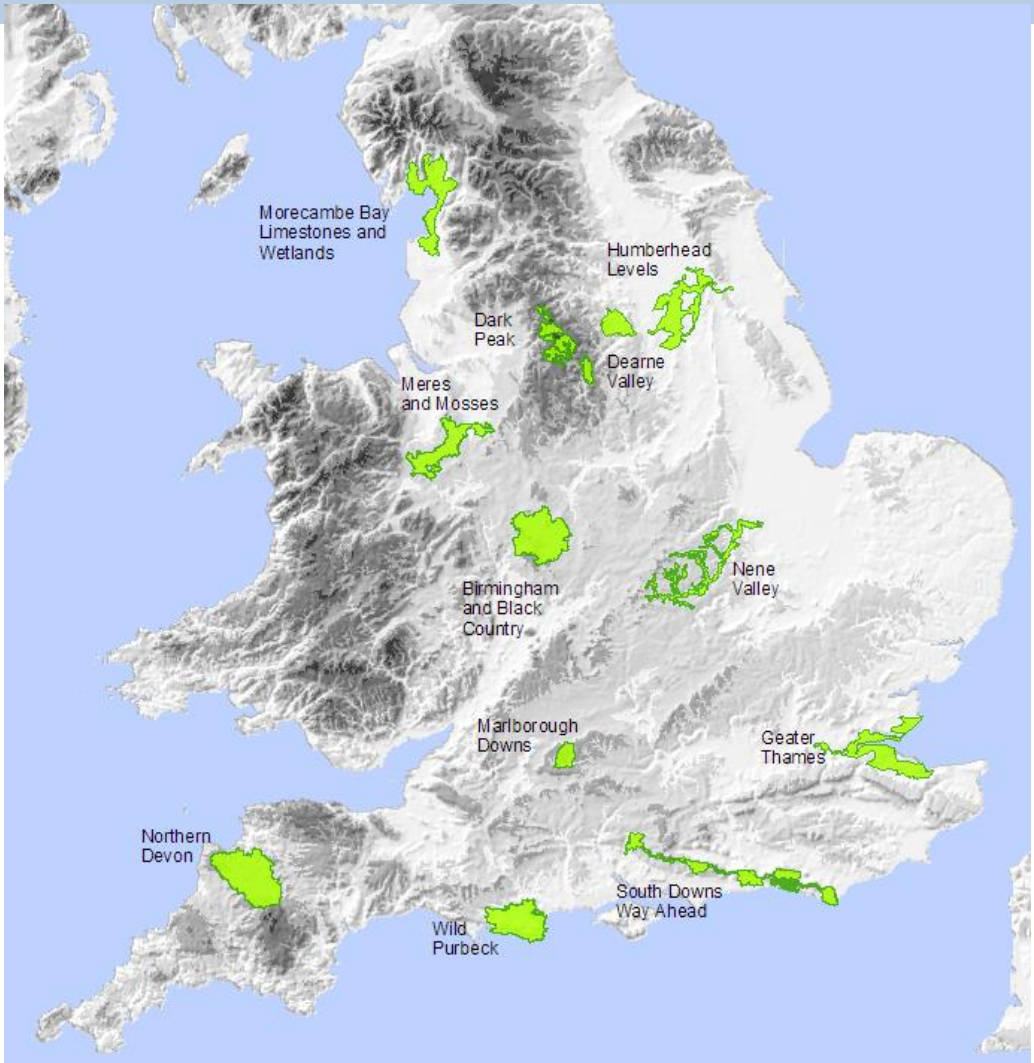
Department for Environment Food & Rural Affairs

NATURAL ENGLAND

Defra project code: WC 1061

Updated Monitoring and Evaluation Framework for Nature Improvement Areas



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Collingwood Environmental Planning Limited

in partnership with GeoData Institute and Cascade Consulting

Collingwood Environmental Planning

CASCADE

Project title:	**Monitoring and Evaluation of Nature Improvement Areas: Phase 2**
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Report details:	**Report title:** **Updated Monitoring and Evaluation Framework for Nature Improvement Areas** Work Package: WP1: Applying the monitoring and evaluation framework Date issued: 28th March 2014 Purpose: To sets out an updated version of the Monitoring and Evaluation (M&E) Framework for Nature Improvement Areas (NIAs) drawing on the lessons from the year 1 M&E process and the progress that has been made in developing the approach to the evaluation, the indicator protocols and online reporting tool. Version: FINAL (revision 1) Author(s): Ric Eales and Owen White, (both CEP); and Chris Hill (GeoData Institute). Citation: Collingwood Environmental Planning (2014) *Updated Monitoring and Evaluation Framework for Nature Improvement Areas*. Collingwood Environmental Planning Ltd, London.
Acknowledgements:	This report has been prepared for Defra and Natural England by Collingwood Environmental Planning (CEP) with support from the GeoData Institute. The preparation of the report was managed by Andy Stott (Defra), Brian McDonald (Natural England) and Helen Pontier (Defra), with particular support from Rebecca Jackson Pitt (Natural England). The NIAs provided input to the document at a workshop on 6th February 2014.

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Abbreviations

Abbreviations relevant to main report text:

BARS	Biodiversity Action Reporting System
CEP	Collingwood Environmental Planning Ltd
Defra	Department for Environment, Food and Rural Affairs
EA	Environment Agency
LNP	Local Nature Partnership
M&E	Monitoring and evaluation
MENE	Monitor of Engagement with the Natural Environment
NBN	National Biodiversity Network
NE	Natural England
NIA	Nature Improvement Area

1. Introduction

1.1 Context to the NIA programme

The establishment of the Nature Improvement Areas (NIAs) Programme was announced in the Natural Environment White Paper – *Natural choice – securing the value of nature* (2011)[1]. NIAs are large, discrete areas that will deliver a step change in nature conservation, where a local partnership has a shared vision for their natural environment. The scheme takes forward the recommendations of the Lawton review, *Making space for nature* (2010)[2].

The aim of the NIAs is that they will benefit both wildlife and people and will:

- **Become much better places for wildlife** – creating more and better-connected habitats over large areas which provide the space for wildlife to thrive and adapt to climate change.
- **Deliver for people as well as wildlife** – through enhancing a wide range of benefits that nature provide us, such as recreation opportunities, flood protection, cleaner water and carbon storage.
- **Unite local communities, landowners and businesses through a shared vision for a better future for people and wildlife**. The hope is that they will become places of inspiration, that are loved by current and future generations.

The 12 initial NIAs started work in April 2012, following a national competition for a share of £7.5 million of government funding which attracted 76 bids. The selected NIAs are partnerships of local authorities, local communities and landowners, the private sector and conservation organisations. The NIA Grant Scheme provides funding to the 12 initial NIAs and will operate over three years from 2012 to 2015, although NIAs have made commitments to continue their activities after this time. The NIA programme promotes actions at a landscape scale that improve biodiversity, ecosystem services and people's connections with their natural environment.

NIAs need to demonstrate measurable ecological, social and economic benefits and outcomes. Natural England and Defra developed NIA General Guidance Notes[3] and Criteria[4] which set out who may apply for the NIA Grant Scheme, and this also provides details of what activities and associated direction of change are sought. The 12 initial NIAs developed detailed Business Plans at Stage 2 of the application process which sought to apply the NIA criteria – these plans include the NIA's ambition, including a shared vision, their objectives, outputs and outcomes with quantified and timebound outputs and outcomes and their work programme and project milestones. All the NIAs also have Partnership Agreements between partner organisations involved.

Distinct from the 12 initial NIAs that were awarded NIA status and funding, Local Nature Partnerships (LNPs) and local planning authorities can now identify and agree where locally determined NIAs can take shape.

What is monitoring and evaluation?

Monitoring is the systematic collection of data and information on specified indicators or topics to inform the extent of progress and achievement of objectives from an intervention, in this case the establishment of an individual NIA or the NIA programme as a whole.

Evaluation is the systematic and objective assessment of an on-going or completed intervention (in this case the establishment of an individual NIA or the NIA programme as a whole), including its design, implementation and outcomes / impacts. The aim of the evaluation is to determine the fulfilment of objectives, impact and sustainability. An evaluation will draw on data and information collected through monitoring as part of its evidence base.

[1] H.M. Government. 2011. *The natural choice: securing the value of nature.* The Stationary Office Ltd. Available for download at: www.official-documents.gov.uk

[2] Lawton, J.H., Brotherton, P.N.M., Brown, V.K., Elphick, C., Fitter, A.H., Forshaw, J., Haddow, R.W., Hilborne, S., Leafe, R.N., Mace, G.M., Southgate, M.P., Sutherland, W.A., Tew, T.E., Varley, J. & Wynne, G.R. 2010. *Making space for nature: a review of England's wildlife sites and ecological network*. Report to Defra. http://archive.defra.gov.uk/environment/biodiversity/documents/201009space-for-nature.pdf

[3] Natural England. 2011. Nature Improvement Areas Competitive Grant Scheme general guidance notes. http://www.naturalengland.org.uk/Images/NIA-guidance-notes_tcm6-26959.pdf

[4] Defra (September 2012) *Criteria for Local Authorities, Local Nature Partnerships and others to apply when identifying NIAs*.

1.2 Why monitoring and evaluation is needed

Monitoring and evaluation (M&E) of the NIAs is needed to:

- Assess progress towards achievement of individual NIA objectives, and support adaptive management.
- Share knowledge and learn from the 12 initial NIAs.
- Help build a practical evidence base for the future.
- Monitor and report progress on the aggregated contribution of NIAs towards delivering relevant national and international policy commitments and targets.
- Demonstrate the outcomes of NIAs objectively and win continuing support.

The purpose of this document is to provide a clear explanation of the purpose of the monitoring and evaluation of the NIAs, the requirements on the 12 initial NIAs and any local locally determined NIAs and to provide an overall framework for the approach being adopted to undertake the monitoring and evaluation. Note that a glossary is included at the end of this document to provide clear definitions of some of the key terms used.

1.3 Roles and responsibilities for monitoring and evaluation activities

In their Business Plans, the 12 initial NIAs set out their strategic objectives, expected outputs and outcomes and plans to report, monitor and evaluate progress. They also had to identify ways/mechanisms in which they will progress after 31 March 2015 and provide a statement on what impact the NIA will have made by the year 2020. As part of the NIA programme, the 12 initial NIAs are expected to periodically submit quantitative and qualitative monitoring and evaluation reports on agreed outputs and activities to Natural England.

The NIAs' M&E processes should be able to detect and record changes across a range of themes: biodiversity (habitats and selected species); ecosystem services; social and economic benefits; and partnership working. For the three years of the NIA Grant Scheme Natural England, Defra and other partners including the Environment Agency, Forestry Commission and Communities and Local Government are directly supporting some data analysis / reporting. The M&E is also supported by existing data capture systems and data gathering activities such as the Biodiversity Action Reporting System (BARS), National Biodiversity Network (NBN) and Monitor of Engagement with the Natural Environment (MENE) survey.

At the end of the three year period, the NIAs are required to provide an end of project report. These are to gather information about the outcome, beneficiaries and achievements and longer term sustainability. An important element of the NIA programme is that successful partnerships will participate in the shared learning and best practise network that has been established to support the 12 initial NIAs.

The locally determined NIAs are also encouraged to monitor their ecological, social and economic benefits and outcomes and apply the M&E framework, NIA criteria and lessons learnt from the 12 initial NIAs to help inform their development and progress. They are also committed to using the Online Reporting Tool developed for NIAs to record their monitoring results (see section 3.3).

Defra, in collaboration with Natural England, has commissioned contractors to support the M&E of the 12 initial NIAs[5]. The contractors' role includes developing the M&E Framework, the indicator protocols, the online reporting system, providing support to the NIAs and undertaking some knowledge exchange with other related initiatives, as well as undertaking an annual cumulative evaluation of the NIAs in 2013, 2014 and 2015.

[5] http://www.naturalengland.org.uk/ourwork/conservation/biodiversity/funding/nia/monitoringandevaluation.aspx

2. The overall approach to the monitoring and evaluation of the NIAs

The underlying principles used to develop the approach to the M&E of NIAs included the need to be flexible, cost-effective and fit-for-purpose. The M&E approach is intended to be suitable for use by the 12 initial NIAs, as well as future NIA partnerships and other integrated landscape-scale initiatives. Overall, the M&E of the NIAs needs to operate at several different levels to enable reporting on:

- Progress related to the objectives of individual NIAs.
- The contributions of NIAs to national and international commitments.
- The outcome of the NIA programme as a whole.

The M&E of the NIAs is underpinned by a set of principles to guide the approach, which must:

- Be based on **existing monitoring, surveillance and reporting initiatives** at national and local levels, wherever possible, but also **encourage new data collection** by NIA partnerships where needed.
- Be **flexible** to allow for evaluation of different objectives and approaches adopted within NIAs or adaption of existing user-orientated data capture systems (e.g. BARS and NBN).
- Facilitate **sharing of knowledge, learning and information** amongst the NIA partnerships, with the wider community and government to help improve performance and provide transparency.
- Embrace **quantitative and qualitative** monitoring, as appropriate.
- Facilitate **comparison and aggregation** of monitoring data by promoting consistent approaches to the collection and reporting of certain key data through the use of a set of common NIA indicators supported by accompanying protocols. The protocols should provide clear, unambiguous guidance on realistic methods for data capture and analysis that NIAs are either expected or encouraged to adopt as appropriate.
- Provide a **core set of information** from which compatible results that can be summarised nationally.
- Where necessary, allow for **adjustment of monitoring data to meet local NIAs' needs**. For example, the NIAs may wish to develop new protocols for local indicators relevant to their particular circumstances.
- Enable **short-term evaluation** during and at the end of the three year funding of the 12 initial NIAs, but also facilitate assessment in the **longer term** as outcomes start to be realised.
- Focus, where possible, on features that relate to **outcomes**. Due to confounding variables and the short project timescale, it is recognised that some monitoring will need to relate to **processes and outputs**.
- Provide a **user-friendly and streamlined reporting system** proportionate to needs that avoids duplication, conflict or overburdening the NIAs.

3. What is being monitored and how is it being recorded?

3.1 Data and information sources

A variety of both qualitative and quantitative information is being used as part of the monitoring of the NIAs that will feed into the evaluation of their progress and performance, both individually and collectively. This information is being drawn from a variety of different sources and ranges from, for example, data on NIA financial expenditure and activities recorded by national biodiversity data capture systems to qualitative data from case studies on community involvement in the NIAs.

Some of the key sources of monitoring data and information supporting the evaluation are illustrated in the Figure 1.

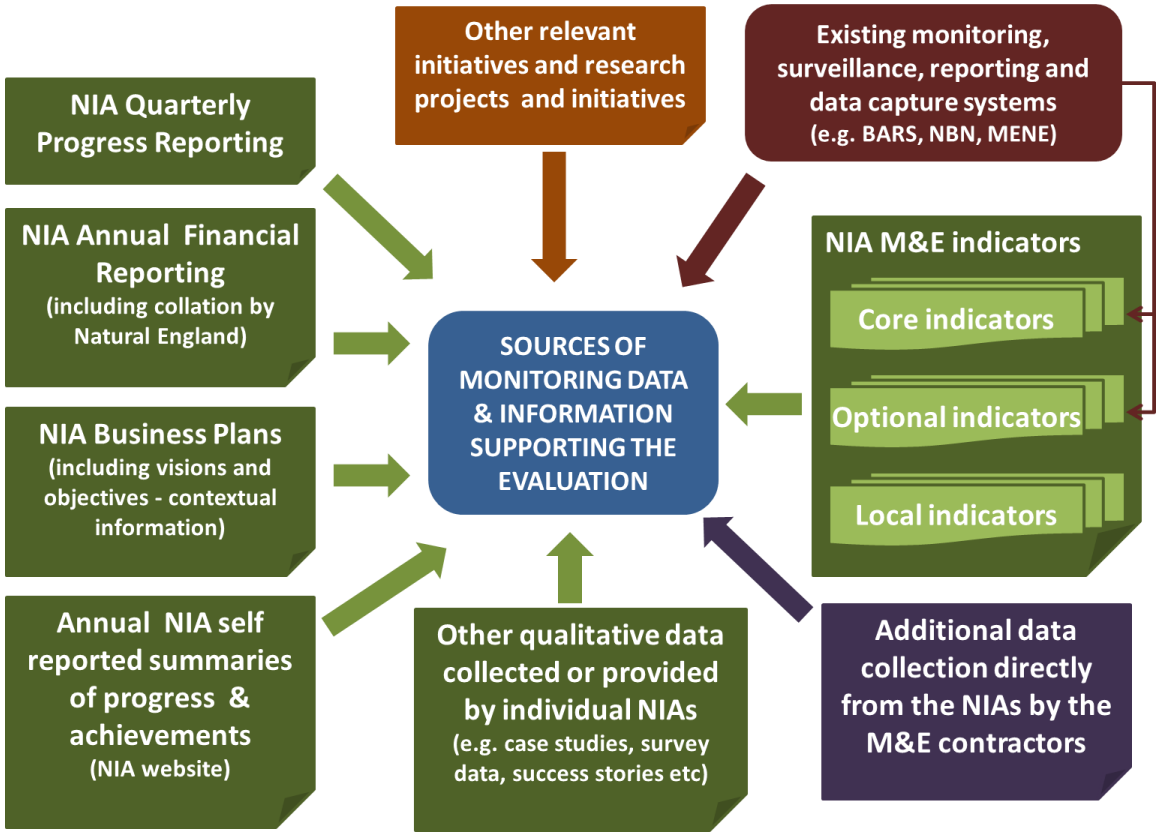


Figure 1: Sources of monitoring data and information

3.2 NIA monitoring and evaluation indicators

One of the mechanisms being used to measure change and to help assess the performance of the NIAs, both individually and collectively, is through the use of indicators. An indicator framework has been specifically developed to support the NIA monitoring and evaluation. This seeks to integrate monitoring and evaluation across a broad range of themes/subthemes. These indicators are intended to provide a useful and flexible tool for the NIAs to measure the progress of their delivery within and beyond the three year programme. Indicators are used as they are a way of describing complex factors in simple terms providing a more practical and economical way to track outcomes than recording every possible variable. Locally determined NIAs are also encouraged to utilise these indicators.

3.2.1 Indicator themes

The NIA indicators are organised into **four themes**, under which there are a number of sub-themes as illustrated in Figure 2.

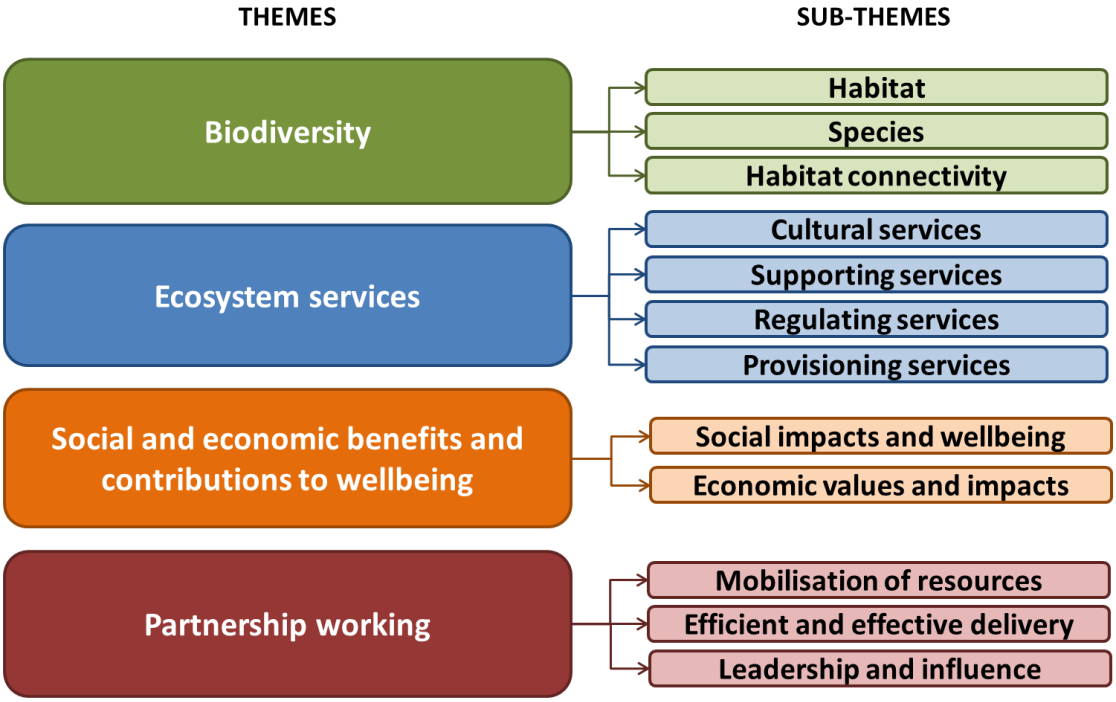


Figure 2: NIA M&E indicator themes and sub-themes

3.2.2 Indicator categories

As part of the 12 initial NIAs' M&E responsibilities, they are required to monitor and report on indicators under the four themes. Each indicator has been categorised as one of three types:

- **Core** indicators.
- **Optional** indicators.
- **Local** indicators.

Descriptions of the indicator categorisation are:

Core indicators are those indicators that all NIAs *must* select and report on. Core indicators have a protocol description which sets out **fixed data sourcing and indicator calculation methods** (i.e. all NIAs should use the same source/s of data and calculate indicator values using the same method). In recognition of the distinctive nature of each NIA, there is some flexibility to select NIA-specific features, for example in relation to habitat types or species.

Core indicators are comparable at the data level, meaning it is intended that it should be possible to combine and analyse data in a consistent manner across all NIAs.

Optional indicators Optional indicators recognise the diversity of the NIAs and the need to provide flexibility in the number and scope of the indicators. NIAs can choose those Optional indicators they feel will best help them measure progress against and report on the priorities and objectives in their own Business Plan (as long as the minimum number and different themes of Optional indicators are selected). All Optional indicators have a protocol, which describes the indicator purpose (i.e. what is being measured / indicated) and provides guidance on the data sources and calculation methods that should be used. NIAs must ensure that they record progress against the indicator purpose / outcome defined in the protocol. The protocols for Optional indicators provide guidance on methods, references and links to recommended data sources.

However, there is some scope for NIAs to adapt the protocols to local circumstances.

Optional indicators are intended to be comparable across NIAs at the outcome level, meaning it is possible to report on the achievements of NIAs against a common indicator outcome (e.g. increased levels of outdoor recreation). Although standardised methods are strongly encouraged it is recognised that the available data will not necessarily be suitable for combination and analysis across all NIAs. The protocols seek to facilitate the use of common data collection and calculation methods and the aim is for data comparability where possible, particularly where it is an indicator being used by several of the NIAs.

Local indicators are indicators that are defined and developed by individual NIAs. NIAs may wish to develop Local indicators within particular sub-theme which are locally dependant and/or methods are not necessarily well developed, such as Ecosystem Services. Some potential local indicators already have protocols to guide the NIAs and are therefore included in the indicator diagram in Appendix 1. However, the **NIAs are also free to develop their own Local indicator even where the indicator diagram does not propose one using their own measures, data sourcing and calculation methods**. Local indicators reflect the research and innovation focus of the NIAs, and provide an opportunity for NIAs to develop and explore their own measures to monitor their respective outcomes. The sharing of experience in developing local indicators is encouraged.

Local indicators are not intended to be comparable across NIAs as they reflect NIA-specific interests, although comparison will be possible where more than one NIA collaborates to develop a local indicator. Where local indicators are used, NIAs are requested to develop and submit protocols that describe the data, processing and analysis using the template protocol (see below and Appendix 2) to assist other NIAs who may wish to adopt or adapt for similar indicators.

The complete set of NIA indicators illustrating how they are organised into the themes and sub-themes and categorised into Core, Optional or Local is included in the indicator diagram in Appendix 1 (note that only some potential local indicators are illustrated in the diagram, particularly where methods are under development such as ecosystem services and habitat connectivity, but NIAs are free to develop local indicators under any sub-theme).

3.2.3 Types of indicators and what they are monitoring

The NIAs are not expected to select and monitor all the indicators (see section 3.2.4). The indicator categories acknowledge the differences between the NIAs and their objectives and the need for flexibility, whilst also aiming to provide some key consistent monitoring data to evaluate the NIAs collectively.

Ideally, the indicators would focus on measuring the **outcomes** and **impacts** resulting from the NIAs' activities (e.g. the levels of increase in public awareness and engagement in natural environment and improvements to community wellbeing, and the levels of increase in ecological connectivity through habitat creation or restoration). This is not always practicable, for example, due to lack of available data and the time lag before outcomes and impacts might become apparent and measureable. Therefore some of the indicator monitoring involves measuring **processes** and **outputs** (e.g. the extent of habitat managed to improve its condition and the number of educational visits) (see section 4.1).

Proxy indicators

Where it is not possible to measure the desired outcomes and impacts resulting from the NIAs' activities directly, it is sometimes possible to use a surrogate or **proxy indicator**. For example, the number of people visiting natural areas could serve as a proxy measure for cultural ecosystem services. While the number of visitors does not directly measure the cultural benefits people receive from ecosystems, it could serve as a proxy by providing some insight into the level of this service provided by the natural areas.

It is important to be clear what assumptions are being made in using such a proxy indicator and ideally to draw on relevant evidence about the relationship between the proxy and the outcomes and impacts of ultimate interest (e.g. existing research showing a link between visiting natural areas and health and spiritual benefits).

3.2.4 NIA indicator selections

The 12 initial NIAs have selected the indicators most relevant to their objectives and which best suit their needs from the menu of indicators within each theme. A total of **6 Core indicators** must be adopted by all the NIAs and these have standard protocols describing them to ensure for these indicators some compatible results that can be summarised nationally. In addition to the Core indicators, the NIAs need to monitor a selection of the Optional indicators to ensure integrated monitoring across the four themes In practice, a minimum of **13 indicators** in total covering all four themes should be selected by all NIAs, as detailed in Table 1.

NIAs are also encouraged to propose and use additional Optional or Local indicators. They are especially encouraged to do so in relation to ecosystem services, where NIAs may contribute to the development of new, practical approaches to monitoring and evaluation.

Table 1: NIA indicator selection requirements

Themes	Sub-themes	Indicator minimum selection requirements
Biodiversity	Habitat	A minimum of **four indicators** must be selected for this theme: • **Two CORE habitat indicators** ('Extent of habitat managed to improve its condition' and 'Extent of areas managed to restore/create habitat'). • **One species indicator** (not including invasive non-native species). • **One CORE habitat connectivity indicator**.
	Species	
	Connectivity	
Ecosystem Services	Cultural services	A minimum of **three indicators** must be selected for this theme: • **One indicator of cultural services**. • **One indicator of regulating services**. • **One indicator of provisioning services**. In addition, an indicator(s) of supporting services can be selected / developed if an NIA wishes. Ecosystem services are very location-dependent and methods for monitoring are not well-developed. NIAs therefore are encouraged to identify locally-specific issues and test approaches to examine their own local indicators.
	Supporting services	
	Regulating services	
	Provisioning services	
Social & economic benefits & contributions to wellbeing	Social impacts and wellbeing	A minimum of **two indicators** must be selected for this theme: • **One CORE indicator on social impacts and well-being** ('Number of volunteer hours on NIA activities'). • **One indicator of economic values and impacts**. Social and economic issues and priorities vary between NIAs and they may wish to explore a range of different options in this theme. NIAs may also wish to collect qualitative evidence and case studies, alongside the more quantitative data, to assist them in assessing issues and benefits such as: health; social cohesion; symbolic/spiritual/aesthetic; recreation; education and ecological knowledge; and business and investment.
	Economic values and impacts	
Partnership working	Mobilisation of resources	A minimum of **four indicators** must be selected for this theme: • **Two CORE indicators of mobilisation of resources**. • **One indicator of efficient and effective delivery**. • **One indicator of leadership and influence**.
	Efficient and effective delivery	
	Leadership and influence	

3.2.5 NIA indicator protocols

Indicator protocols have been developed for the Core and Optional indicators and some Local indicators to guide the NIAs in their monitoring activities and help ensure consistency. The protocols are based on a common template to present a description of the indicator (i.e. what it indicates) and information on, for example, the datasets to use, methods for calculating indicator values and approaches to presenting and recording the indicator results. Many of the protocols recommend that NIAs utilise existing data sources (e.g. MENE data).

The protocols aim to provide sufficient details to enable the NIAs to collect identical types of data and record it in the same way for a given indicator even if the task of collecting data is undertaken at different times by different people. NIAs are encouraged to use and submit the protocol template to describe any Local indicators they develop. The protocol template is presented in Appendix 2.

The indicator protocols for each M&E theme are included in the following appendices:

Appendix 3: Biodiversity theme indicator protocols

Appendix 4: Ecosystem services theme indicator protocols

Appendix 5: Social and economic benefits theme indicator protocols

Appendix 6: Partnership working theme indicator protocols

3.3 Online tool for reporting the indicator data

An online reporting tool was developed to aid the capture of information from the NIA M&E indicators. The online tool is linked with the indicator protocols and is designed to enable the NIAs to record their achievements relating to each indicator each year. The online tool is also intended to complement rather than duplicate other systems of data recording, such as BARS (Biodiversity Action Reporting System).

The online tool provides NIAs with a structured data-entry tool for the recording, storing and reporting of data and information relating to their chosen indicators of their activities and outputs. The system was built with different levels of permission, and user registration to qualify permission levels assigned to individuals and the specific fields to which they are granted access by the NIA project manager for data entry and approval. The online tool was developed for the 12 initial NIAs, but can also be used by locally determined NIAs to record their indicators.

The NIAs are encouraged to enter 'Caveats' (that describe the baseline, data and model uncertainty) and a 'Narrative' (that can be used by the NIA to describe and interpret the monitoring results and to enter qualitative indicators).

The online tool is also intended for use by Defra, Natural England, NIAs and other interested organisations and individuals, who may view the: **Project Reports** (review of the data across a theme for a selected NIA); and **National Reports** (reports across all NIAs that have used a selected indicator).

4. What is being evaluated?

4.1 The logic model underlying the evaluation

Logic models describe the relationship between the inputs, activities, outputs, outcomes, and impacts of an intervention. An intervention in this context could be a project, a programme, a policy or a strategy, but in this case is the establishment and implementation of an individual NIA or the NIA programme overall. A logic model is used within evaluation to help explain how the intervention is intended to achieve its objectives and helps to clearly identify the evaluation objectives and research questions which will direct the evaluation approach, and inform the types of data and information that need to be collected.

The logic model provides an overarching framework for understanding and systematically testing the assumed connections between the intended outcomes (both short term and longer term impacts) of the NIAs individually and collectively with the inputs, activities and processes. This complements the logic model approach used within the NIA Business Plans.

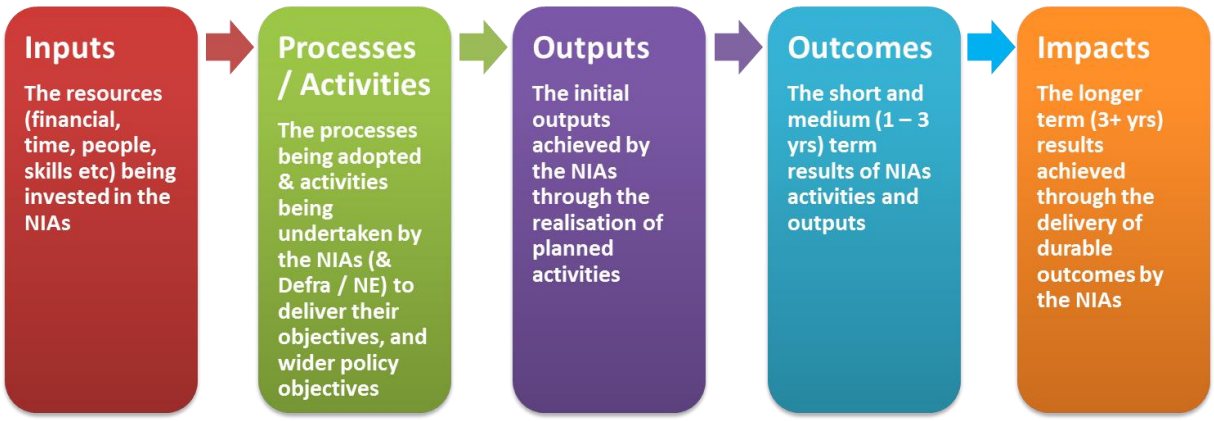


Figure 3: Steps in the logic model

At the end of the three year funding of the 12 initial NIAs, the evaluation will focus on the NIAs objectives and desired outcomes and in particular the contribution made to the NIAs aims to:

- become much better places for wildlife;
- deliver for people as well as wildlife; and
- unite local communities, landowners and businesses through a shared vision for a better future for people and wildlife.

The evaluation may also need to focus on processes and outputs due to confounding variables and the short timescale of the initiative to realise the desired outcomes. The evaluation should also use the evidence available to explore the expected or potential longer term outcomes.

Wider policy relevant questions underlying the NIA programme will also be considered, such as:

- the benefits of partnerships in delivering enhancements to biodiversity and ecosystem services at the landscape scale;
- the potential of NIAs to help deliver the wider biodiversity policy commitments;
- the social and wellbeing benefits of improvements in and interactions with the natural environment; and
- the value for money of such investments in the natural environment.

4.2 Evaluating the individual NIAs

At the NIA level, the focus of the evaluation will be on assessing the progress towards meeting the objectives and the delivery of outcomes by each NIA. At the end of the three year funding of the 12 initial NIAs, this may need to focus on assessing the direction of travel towards longer term objectives, expected outputs and outcomes or any targets they have set. The NIAs were asked to develop SMART (Specific, Measurable, Achievable, Relevant, Time-bound) objectives which will also be taken into account.

4.3 Evaluating the NIA programme

The evaluation of the NIA programme as a whole will consider the aggregated contribution of the 12 initial NIAs towards meeting their objectives and intended outcomes and the contribution of NIAs to wider national and international commitments, including the Natural Environment White Paper, the Biodiversity 2020 strategy, and the UK Governments' wider ambitions for economic growth and the expansion of the green economy.

The evaluation will be based primarily on the Core indicators, but the Optional and Local Indicators will also be used where appropriate as well as other information sources discussed in section 3.1. The evaluation will help in sharing learning about the different approaches adopted by the NIAs and the efficacy of policies, partnerships and actions. This in turn will provide evidence to inform any future extension of the NIA programme or similar landscape initiatives. The evaluation will consider whether the NIA programme met its objectives and delivered desired outcomes or had any other unforeseen effects. It will attempt to tease out what led to it working well or not so well.

4.4 Understand the counterfactual

The evaluation imposes a need the need to determine and understand a counterfactual (i.e. the situation or condition which would have prevailed were there no intervention, in this case if an individual NIA or the NIA programme as a whole was not established and implemented). A counterfactual could be the baseline before the intervention, or a comparable or control situation where no intervention takes place. The baseline situation before the NIAs started work or a similar landscape that is not an NIA could make a suitable counterfactual. The challenge for the evaluation will be in trying to attribute change within the NIA to the NIAs activities as opposed to other factors or delivery mechanisms. Determining the counterfactual is essential to evaluate what difference the NIA's achievements have made over and above what would have happened without the intervention of the NIAs and their activities.

Determining the counterfactual represents a considerable challenge given the availability of data, the nature of the NIAs and their activities and the difficulties in attribution of cause and effect. It will therefore be important to clearly state any assumptions and uncertainties of the evaluation process.

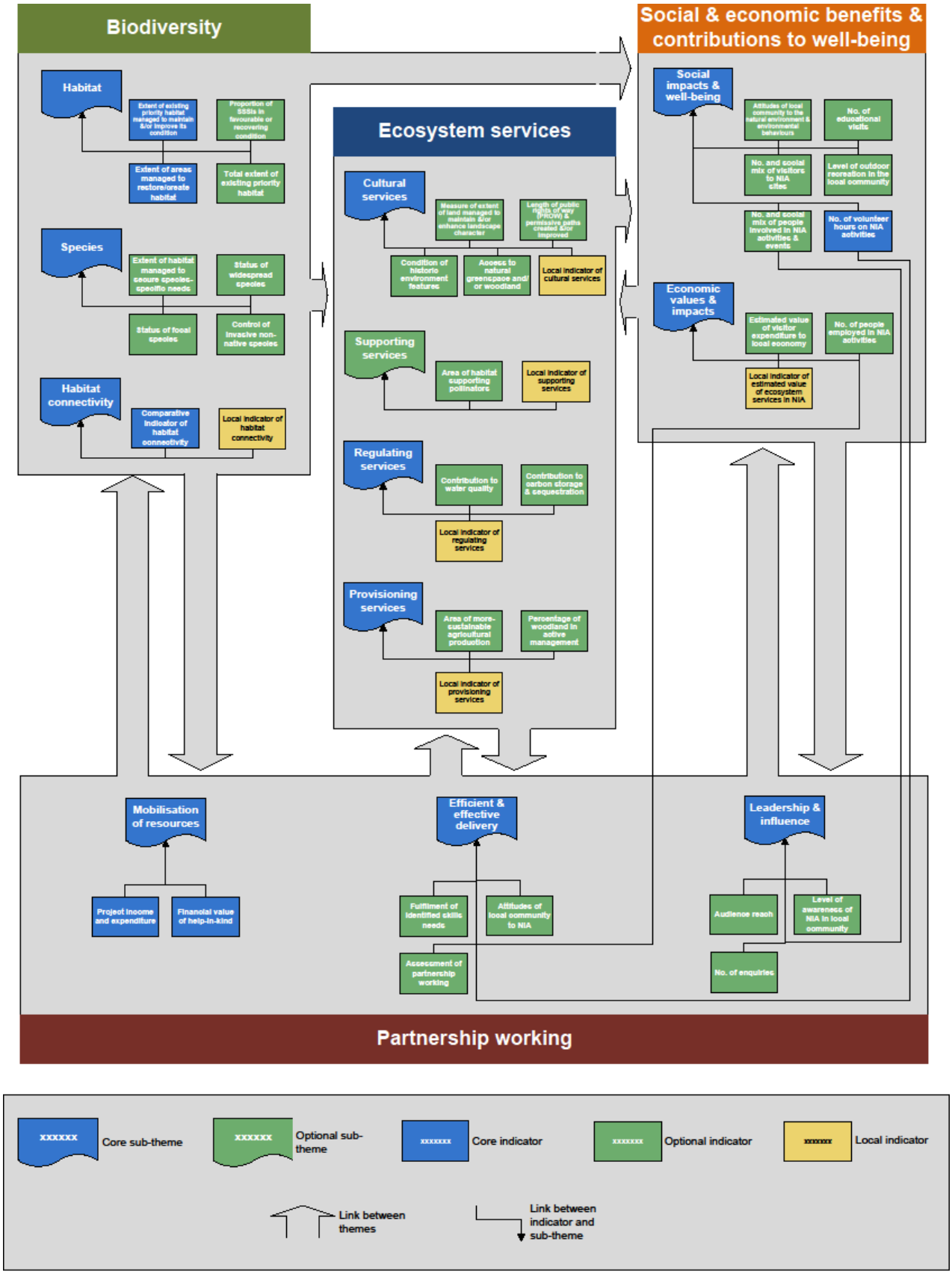
Glossary

Term	Definition
Baseline	A description of the situation prior to an intervention being implemented against which progress can be assessed or comparisons made. In this case the intervention would be the work of an individual NIA or the implementation of the NIA programme as a whole. The baseline situation before the NIAs started work could make a suitable counterfactual (*q.v.*) for the evaluation (*q.v.*) of the NIA programme.
Counterfactual	The situation or condition which may have prevailed were there no intervention, in this case if an individual NIAs or the NIA programme as a whole was not established and implemented. The counterfactual is used as part of the evaluation (*q.v.*) to help understand what difference the NIA's achievements have make towards the achievement of policy objectives and to help understand the difference the NIAs have made over and above what would have happened anyway without the intervention of the of the NIAs and their activities.
Evaluation	The systematic and objective assessment of an on-going or completed intervention (in this case the establishment of an individual NIA or the NIA programme as a whole), including its design, implementation and outcomes / impacts. The aim of the evaluation is to determine the fulfilment of objectives, impact and sustainability. A logic model (*q.v.*) is used within evaluation to help explain how the intervention is intended to achieve its objectives and helps to clearly identify the evaluation objectives and research questions which will direct the evaluation approach, and inform the types of data and information that need to be collected. The evaluation should provide information to enable incorporation of lessons learned into the decision–making process of those involved both in making policy and implementing it, in this case this could include Defra, Natural England and an NIA and its partners, for example.
Impacts	The longer term (3 years plus) results and effects achieved through the delivery of durable outcomes (*q.v.*) by the NIA partnerships (these could be positive and negative, directly or indirectly, intended or unintended impacts). Impacts are the major detectable changes resulting from the intervention (for example, a significant increase in downland butterfly populations or reduced habitat fragmentation).
Indicator	A quantitative or qualitative factor or variable that provides a simple measurement and is sensitive to change, to reflect the effects resulting from an intervention. Indicators are a way of describing something complex in simple terms, providing a more practical and economical way to track outcomes than if one attempts to record every possible variable. See section 3 for the definitions of Core, Optional and Local indicators.
Indicator protocol	Practical instructions, descriptions and information on each of the NIA M&E indicators (*q.v.*) presented in a common template which includes, for example, the datasets to use, methods for calculating indicator values and approaches to presenting and recording indicator results. These aim to provide sufficient details to enable the NIAs to collect identical types of

	data and record it in the same way for a given indicator even if the task of collecting data is undertaken at different times by people.
Inputs	The financial, material, energy, human time, effort and skills being invested in the NIAs.
Logic model	Logic models describe the relationship between an intervention's (a project, a programme, a policy, a strategy) inputs (*q.v.*), activities, outputs (*q.v.*), outcomes (*q.v.*), and impacts (*q.v.*). It is used within evaluation (*q.v.*) to help explain how the intervention is intended to achieve its objectives (*q.v.*) and helps to clearly identify the evaluation objectives and research questions which will direct the evaluation approach, and inform the types of data and information that need to be collected.
Monitoring	The systematic collection of data and information on specified indicators or topics to inform the extent of progress and achievement of objectives from an intervention. Generally involves repeated observations or measurements over time to assist in identifying changes. For the NIAs some of the data monitoring required is provided by key existing tools / systems such as BARS and MENE.
Objective	An objective is the steps that need to be taken in order to achieve an aim or the goals need to reach to achieve an aim. An aim is an aspiration, a statement of what you hope to achieve, an overall target. For example whilst the aim of the NIAs is to achieve ecological coherence, the objectives are for example increasing connectivity and increasing condition or size of habitats.
Online reporting tool	A web-based solution developed specifically for the NIA M&E to enable users to submit data annually for their indicators (*q.v.*). The system allows reporting on an individual NIA and NIAs collectively. The system makes data on NIA indicators freely available for viewing on a read-only basis via public web-pages.
Outcomes	The likely or achieved short and medium (1 – 3 years) term results and effects of NIA partnership activities and outputs (*q.v.*) expected delivered.
Outputs	The outputs (products, goods and services etc) achieved by the NIA partnerships as a result of undertaking planned activities. Outputs should be clearly stated or measured and relate in some way to the outcomes (*q.v.*) desired (for example x ha of new habitat created).
Processes / Activities	The processes being adopted by the NIA partnerships (and Defra / Natural England) to deliver their objectives (*q.v.*), and wider policy objectives. The activities being undertaken by the NIA partnerships.
Proxy indicator	A substitute measure used to provide insight into the area of interest when it is not possible to measure the area of interest directly. For example, the number of people visiting natural areas could serve as a proxy measure for cultural ecosystem services. While the number of visitors does not directly measure the cultural benefits people received from ecosystems, it does serve as a proxy by providing some insight into the level of this service provided by the natural areas.

Sources: definitions developed for this document as well as drawn and adapted from: HM Treasury Magenta Book, OECD Glossary of Key Terms in Evaluation and Results Based Management, WRI Ecosystem Service Indicators Database.

Appendix 1: Indicator diagram



Appendix 2: Standard template for protocols

Indicator: [*ref. number*]	**[*Indicator title*]**
Theme	
Sub-theme	
Sub-theme category	
Indicator category	
Indicates *(what is the indicator intended to indicate)*	
Units	
Relevance to Government indicators	
Existing data for establishing baseline	
Relevant dataset(s)	
Source(s) of data *(contact details or hyperlink)*	
Spatial coverage	
Temporal coverage	
Planned updates	
Data collection method *(estimate, survey, monitoring)*	
Accuracy of data	
Additional/new data for establishing baseline and monitoring change	
Relevant additional/new data	
Responsibility for data collection *(e.g. NIA partnerships or potentially to be taken on by NE or EA)*	
Data collection method	
Calculating and presenting indicator	
Baseline date	
Methods for calculating indicator values	
Responsibility for calculating indicator values *(e.g. NIA partnerships or potentially to be taken on by NE or EA)*	
Reporting	
Online reporting	
Interpreting	
Interpretation *(inc linkage to other indicators)*	

Appendix 3: Biodiversity theme indicator protocols

- B01_H: Extent of existing priority habitat managed to maintain and/or improve its condition
- B02_H: Extent of areas managed to restore/create habitat
- B03_H: Proportion of SSSIs in favourable or recovering condition
- B04_H: Total extent of existing priority habitat
- B05_S: Extent of habitat managed to secure species-specific needs
- B06_S: Status of widespread species
- B07_S: Status of focal species
- B08_S: Control of invasive non-native species
- B09_C: Local indicator of habitat connectivity
- B10_C: Comparative indicator of habitat connectivity

Indicator: B01_H: Extent of existing priority habitat managed to maintain and/or improve its condition

Indicator: B01_H	Extent of existing priority habitat managed to maintain and/or improve its condition
Version date	25th February 2014
Theme	Biodiversity
Sub-theme	Habitat
Sub-theme category	Core
Indicator category	Core
Indicates *(what is the indicator intended to indicate)*	This indicates the extent of existing priority habitat being managed by the NIA programme. It comprises existing habitat being maintained in good condition as well as existing habitat being improved. Changes in habitat condition can take many years to become established. While this indicator is a direct measure of the extent of land managed to maintain or improve existing habitat condition it is a proxy measure for biodiversity benefits based on the assumption that habitat being managed to improve its condition will, in time, result in an increase in the area of habitat in good condition
Units	Hectares (ha), Linear Kilometres (km) or Sites depending on the nature of the action type. Ideally, reporting should be as hectares (ha). Habitats for which sites are appropriate include ponds. Linear habitats (e.g. river and hedgerows) can be reported in km
Relevance to Government indicators	England Biodiversity 2020 Indicator 1c. Local sites under positive management
Existing data for establishing baseline	
Relevant dataset(s)	The data required for this indicator relates to habitat management activity. This should be recorded in and sourced from the Biodiversity Action Reporting System (BARS). Relevant records within BARS to include in reporting against this indicator: • Have the *action type* – 'habitat management' • Have a *biodiversity objective* – 'to maintain the extent of habitat in good condition' **and** 'to maintain the extent of habitat and improve its condition…' • Be within the NIA area and undertaken by any partner organisation *as part of the NIA programme*. BARS includes both records added by the NIA partnership / partners themselves, **and** records from nationally imported datasets – e.g. HLS (Higher Level Stewardship), EWGS (English Woodland Grant Scheme), EA (Environment Agency). The NIA will need to establish a collaboration with nationally imported actions in order for them to be included in

	BARS reports at the NIA programme level.
Source(s) of data *(contact details or hyperlink)*	BARS reports (http://ukbars.defra.gov.uk/), including: 1) Programme delivery entered into BARS by the NIA partners 2) Large datasets imported nationally into BARS (e.g. HLS, EWGS) 3) Delivery information entered by other organisations working in the NIA area *(this information is not included within the NIA reporting).*
Spatial coverage	BARS action maps and reports are available by NIA geographic boundaries. As of December 2013 BARS includes project level reporting as well as geographic which allows both NIA programme level reporting along with geographic.
Temporal coverage	The indicator is focussed on appropriate management in place to maintain or improve the condition of existing priority habitat. Data used to report against this indicator will be sourced from BARS. Data included in reporting should indicate current management, reflecting current protection of the habitat resource. Therefore data from BARS should only be included for actions with an 'action status' of 'planned' or 'underway' at the point of reporting. Actions against each status must be summed as separate amounts (i.e. total planned, total underway). Actions with any other status should not be included. This is to reflect the fact that habitat maintenance activity is an on-going process and the end of the activity does not indicate the achievement of an outcome. NIAs are advised to carry out 'point in time' reporting restricting their report to activity taking place on a specific date (31st March annually is recommended). This is to avoid counting repeated activity of the same type in the same location which would be a risk with a longer reporting period. For example, an action entered as planned may be superseded by an action that is underway on the same site. If the reporting date period bridges the end of the planned action both would be included in the report. The area of habitat on the site would be reported twice.
Planned updates	Continual – there will be on-going and periodic recording of new and changing activity within BARS by both NIA partners and other organisations to reflect changes on the ground. Key national data imports are intended to be updated on at least an annual basis. Updates are primarily structured around financial reporting years (Apr-Mar). As such key updates are likely to be submitted every April / May, and include the latest data up to 31st March. This will also require updates to the setting up of collaborations with these bulk actions. Update will rely on the NIAs contributing actions to BARS and on updating the status of existing actions.

Data collection method *(estimate, survey, monitoring)*	NIAs should record all relevant management actions being undertaken or commissioned as part of the NIA programme. BARS offers a standard method for relating these to objectives (e.g. to maintain or improve), and quantifying these actions. BARS currently allows direct entry/input of individual action records and has a bulk import capability. Some nationally commissioned activity is being input to BARS centrally; this includes Agri-Environment (HLS only) activity, England Woodland Grant Scheme (available by April 14) and nationally collated EA biodiversity projects. NIAs can establish collaborations with actions within these national datasets to reflect where they form part of NIA programme activity.
Accuracy of data	Various
Additional/new data for establishing baseline and monitoring change	

Relevant additional/new data	Changes in the extent of existing priority habitat management recorded on BARS as:
	• Work type = *habitat management*
	• Biodiversity objective =
	  ○ *To maintain the extent of habitat in good condition through appropriate management*
	  OR
	  ○ *To maintain the extent of habitat and improve its condition through appropriate management*
	• Actions which:
	  ○ have been linked under a Parent Project by the NIA within BARS.
	  AND (optionally)
	  ○ coincide with the NIA geographic boundary
	
	As there is currently no established method for assessing habitat condition outside the SSSI series NIAs are advised to record habitat management activity under the *improving condition* BARS objective where there is ambiguity. (Note: Natural England is currently developing a methodology for assessing habitat condition outside SSSIs so it may be possible to separate maintain habitat in good condition and improving condition in the future).
	
	NIAs should update the status of existing records within BARS – i.e. planned to underway, underway to completed.

Responsibility for data collection *(e.g. NIA partnerships or potentially to be taken on by NE or EA)*	**NIA partnerships**: NIA partnerships should be primarily responsible for adding records of NIA activity to BARS beyond that contributed by National Partners detailed below, or by others (which may be identified by viewing records already in the system). **National Partners**: bulk uploads of selected records – e.g. HLS, EWGS, Environment Agency actions within at least annual defined bulk submission schedule. All NIA partnership organisations undertaking actions should be registered as BARS users, to allow for data entry and collaboration on actions. See BARS general guidance for NIAs:

	https://defra.huddle.net/workspace/16609188/files/#/folder/22221241/list In order to report activity carried out by the partnership specifically the NIA will need to establish a top Parent Project beneath which relevant actions are linked, either directly or via Child Projects in BARS. NIA should also establish 'collaborations' on bulk uploaded actions that contribute to their programme delivery
Data collection method	Individual management actions need to be recorded at http://ukbars.defra.gov.uk/ where consistent with the following BARS definition: • "The objective of the action is to ensure an existing area of priority habitat currently in poor condition is improved to good condition. Refers to any practical action that is carried out on an area of priority habitat that is identifiable (i.e. a classification can be determined) but condition is not good prior to commencement of the action". And • The objective of the action is to ensure an existing area of priority habitat currently in good condition is maintained in that status by appropriate management. (Note: as there is currently no readily available methodology or guidance for assessing habitat condition outside SSSIs NIAs are advised to record activity under the 'improving condition' objective where there is ambiguity. Natural England are currently developing a methodology and advice which will become available during 2014) NIA partners need to establish a reporting structure for the NIA programme and NIA partners to enter actions and collaborations for NIA-specific actions. Data entry by NIAs should not include any records included as part of the national 'bulk' upload although the NIAs will need to establish collaborations with any national actions where they form part of programme delivery. NIA specific guidance on BARS Action data entry is given in the NIA BARS FAQ document, available on HUDDLE at: https://defra.huddle.net/workspace/16609188/files/#/folder/22221241/list
Calculating and presenting indicator	
Baseline date for initial 12 NIAs	April 2013
Methods for calculating indicator values	The Action Reporting tools available within BARS (http://ukbars.defra.gov.uk/) can be used to extract data and calculate amounts to report against this indicator. The reporting tools available within the Projects page on BARS should be used to extract data filtered by the NIA project/programme. This is only possible where the NIA has established a 'project' or project hierarchy (Parent & Child projects) within BARS from which to generate these reports. The BARS reporting will be 'per objective' and thus the data

	for both biodiversity objectives (maintain and improve) need to be queried and the results summed or presented separately. (Although NIAs are currently advised to record activity under 'improving condition' reports should also include 'maintaining condition' to capture actions entered by others or national upload datasets). Amounts need to be summed and grouped separately to reflect different action statuses, i.e. the total planned and the total underway. See NIA-specific Guidance for online reporting filters, which allows for new reporting capabilities related to the project. This updates previous guidance and the BARS online tools now allow NIA-specific actions to be reported. See: https://defra.huddle.net/workspace/16609188/files/#/folder/22221241/list There is a need for the initial 12 NIAs to assign past actions (in 2012/2013) and recalculate baselines for effective comparison with subsequent years. All NIAs are required to extract project level reports.
Responsibility for calculating indicator values	NIAs to undertake extraction of figures through the reporting tools within BARS. NIAs have the option of using the figures generated within *Action Summaries* in BARS itself, or extracting a spreadsheet of records from which to filter and calculate alternative figures. The permalink function in BARS allows each NIA to save and return to the report used in either instance.
Reporting	
Online reporting	Baseline and annual fields in the online reporting system will be: • Feature (priority habitat) • Action status (planned, underway) – report these separately rather than as a combined figure • Extent • 'Permalinks' to the report in BARS – if there are multiple objectives record both permalinks • Caveats relating to: ○ Likely gaps in knowledge of the extent of priority habitats managed to maintain and improve their condition (e.g. actions by private landowners). All BARS generated reports offer the ability to generate 'permalinks'. These are direct web-links back to the same report and filters applied to calculate figures from action data within BARS. These offer a simple way to share the link or repeat the same query in the future. Note that the underlying data may change between times causing an associated change in reported figures, this can be used to reflect progress. Note that data entered as "annual figure" in each reporting year should be for that year only, and not cumulative (i.e. not the baseline plus the change). Cumulative figures will be calculated by summing individual year data.

Interpreting	
Interpretation *(inc. linkage to other indicators)*	Use of 'project level' reports replaces 'geographic reports' as this avoids the uncertain completion of action recording by non-NIA agencies. All NIA actions will be within the NIA area. Double-counting of actions may occur in some instances – for example within the HLS national dataset where an HLS agreement is modified and the old agreement is not amended. Please flag to BARS team where you think this may be occurring (http://ukbars.defra.gov.uk/home/contact).

Indicator: B02_H: Extent of areas managed to restore/create habitat

Indicator: B02_H	Extent of areas managed to restore/create habitat
Version date	25th February 2014
Theme	Biodiversity
Sub-theme	Habitat
Sub-theme category	Core
Indicator category	Core
Indicates *(what is the indicator intended to indicate)*	This indicator measures the extent of areas being managed to restore or create priority habitats within the NIA area by any organisation *as part of the NIA programme*. The focus for this indicator is on actions to create or restore habitats rather than those which aim to improve the condition of existing habitats (reported in indicator B01_H). The creation and restoration of habitats can take many years to become established. This indicator is a direct measure of the extent of areas being actively managed to restore / create habitat. It is also a proxy measure for biodiversity benefits based on the assumption that areas managed to restore or create habitat, in time, result in an increase in habitat extent and connectivity. 'Restoration' refers to the development of a habitat where this occurred in the past; 'creation' refers to new habitat created where either this habitat did not exist before or no relic features remain.
Units	Hectares (ha), Linear Kilometres (km) or Sites depending on the nature of the action type. Ideally, reporting should be as hectares (ha). Habitats for which sites are appropriate include ponds. Linear habitats (e.g. river and hedgerows) can be reported in km.
Relevance to Government indicators	The following indicators incorporate the extent of areas managed to restore/create habitats, although it is not differentiated: England Biodiversity 2020 Indicators: • 1c. Local sites under positive management • 2. Extent and condition of priority habitats UK Biodiversity Framework Indicator C3. Status of threatened habitats
Existing data for establishing baseline	
Relevant dataset(s)	BARS actions for priority habitats by any organisation *as part of the NIA programme* recorded as: • Work type – 'habitat management' • Biodiversity objective – 'to increase habitat resource by' either 'restoring features using appropriate management' or 'creating new areas using appropriate management'

	BARS includes both records added by the NIA partnership / partners themselves, **and** records from nationally imported datasets – e.g. HLS (Higher Level Stewardship), EWGS (English Woodland Grant Scheme), EA (Environment Agency). The NIA will need to establish a collaboration with nationally imported actions in order for them to be included in BARS reports at the NIA programme level.
Source(s) of data *(contact details or hyperlink)*	BARS reports (http://ukbars.defra.gov.uk/), including: 1) Programme delivery entered into BARS by the NIA partners 2) Large datasets imported nationally into BARS (e.g. HLS, EWGS) 3) Delivery information entered by other organisations working in the BARS area *(this data is not included as part of the reported data).*
Spatial coverage	BARS action maps and reports are available by NIA geographic boundaries. As of December 2013 BARS includes project level reporting as well as geographic which allows both NIA programme level reporting along with geographic.
Temporal coverage	Data included in any reporting should indicate 'to increase habitat resource by' either 'restoring features using appropriate management' or 'creating new areas using appropriate management'.
Planned updates	Continual – there will be on-going and periodic recording of new and changing activity within BARS by both NIA partners and other organisations reflecting changes on the ground. Key national data imports are intended to be updated on at least an annual basis. Updates are primarily structured around financial reporting years (Apr-Mar). As such key updates are likely to be submitted every April / May, and include the latest data up to 31st March. Update will rely on the NIAs contributing actions to BARS and on updating the status of existing actions. This will also require updates to the setting up of collaborations with these bulk actions.
Data collection method *(estimate, survey, monitoring)*	NIAs should record of all relevant habitat restoration and creation actions being undertaken or commissioned as part of the NIA programme. BARS offers a standard method for relating these to objective and quantifying these actions. BARS currently allows direct entry/input of individual action records and has a bulk import capability. Key nationally commissioned activity is being input to BARS centrally; this includes Agri-Environment (HLS only) activity, England Woodland Grant Scheme (available by April 2014) and nationally collated EA biodiversity projects. NIAs can establish collaborations with actions within these national datasets to reflect where they form part of NIA programme activity.
Accuracy of data	Various

Additional/new data for establishing baseline and monitoring change	

Relevant additional/new data	BARS actions for priority habitats by NIA partners and part of the NIA programme and recorded as:
	
	• Work type – '*habitat management'*
	• Biodiversity objective – 'to increase habitat resource by' either '*restoring features using appropriate management*' or '*creating new areas using appropriate management*'
	• Nationally submitted datasets – (e.g. HLS, EWGS, EA).
	• Actions which:
	  ○ have been linked under a Parent Project by the NIA within BARS
	  AND (optionally)
	  ○ coincide with the NIA geographic boundary
	
	If the actions are linked to the NIA project then only relevant entries will be reported – thereby not requiring the use of geographic filters.
	
	NIAs should update the status of existing records within BARS – i.e. planned to underway, underway to completed.

Responsibility for data collection *(e.g. NIA partnerships or potentially to be taken on by NE or EA)*	**NIA partnerships**: NIA partnerships should be primarily responsible for adding records of NIA activity to BARS beyond that contributed by National Partners detailed below, or by others (which may be identified by viewing records already in the system). **National Partners**: bulk uploads of selected records – e.g. HLS, EWGS, Environment Agency actions within at least annual defined bulk submission schedule. All NIA partnership organisations undertaking actions should be registered as BARS users, to allow for data entry and collaboration on actions. See additional guidance on collaborations available at: https://defra.huddle.net/workspace/16609188/files/#28140579 In order to report activity carried out by the partnership the NIA will need to establish a top Parent Project beneath which relevant actions are linked, either directly or via Child Projects in BARS. NIA should also establish 'collaborations' on bulk uploaded actions that contribute to their programme delivery and link relevant actions to their project.
Data collection method	Individual management actions need to be recorded at http://ukbars.defra.gov.uk/ where consistent with one of the following BARS definitions: • "The objective of the action is to **restore** an area of land to a classified habitat in good condition. Refers to any practical action that is carried out on an area of land that once met a habitat classification, as indicated by historical information and relict features, but cannot be classified as that habitat prior to commencement of the action".

	• "The objective of the action is to **create** a new area of classified habitat in good condition. Refers to any practical action that is carried out on an area of land where the classified habitat is not present and where no significant relicts of the habitat exist prior to commencement of action". NIA partners to establish a reporting structure for the NIA programme and NIA partners to enter actions and collaborations for NIA-specific actions. Activity recorded by NIAs in BARS should not include any records included as part of the national 'bulk' uploads although the NIAs will need to establish collaborations within BARS with any national actions that form part of their programme delivery. NIA specific guidance on BARS Action data entry is given in the NIAs BARS FAQ document, available on HUDDLE at: https://defra.huddle.net/workspace/16609188/files/#/folder/22221241/list
Calculating and presenting indicator	
Baseline date for initial 12 NIAs	April 2013
Methods for calculating indicator values	The action reporting tools within BARS (http://ukbars.defra.gov.uk/) can be used to extract data and calculate amounts to report against this indicator. The reporting tools available within the Projects page on BARS should be used to extract data filtered by the NIA project/programme. This is only possible where the NIA has established a 'project' or project hierarchy (Parent & Child projects) within BARS from which to generate these reports. The BARS reporting will be 'per objective' and thus the data for both biodiversity objective needs to be queried separately and the results summed or presented separately. NIAs are advised to carry out 'point in time' reporting restricting their report to activity taking place on a specific date (31st March annually is recommended). This is to avoid counting repeated activity of the same type in the same location which would be a risk with a longer reporting period Planned, Underway and Completed actions should be reported separately. The report will therefore include any activity planned or underway on the report date and all completed actions. See NIA-specific Guidance for online reporting filters, which allows for new reporting capabilities related to the project. This updates previous guidance and the BARS online tools now allow NIA-specific actions to be reported. See: https://defra.huddle.net/workspace/16609188/files/#/folder/22221241/list There is a need for the initial 12 NIAs to assign / reassign past actions (in 2012/2013) and recalculate baselines for effective comparison with subsequent years. All NIAs are required to extract and report project level reports.

Responsibility for calculating indicator values	NIA undertake extraction of figures through the reporting tools within BARS. NIA's have the option of using the figures generated within Action Summaries in BARS itself, or extracting a spreadsheet of records from which to filter and calculate alternative figures. The permalink function in BARS allows each NIA to save and return to the report used in either instance.
Reporting	
Online reporting	Baseline and annual fields in the online reporting system will be: • Feature (priority habitat) • Action status ('planned', 'underway' and 'complete') – report these separately rather than as a combined figure • 'Permalinks' to the report in BARS – if there are multiple objectives record all permalinks. • Caveats relating to: Likely gaps in knowledge of the extent of priority habitats managed to restore or create priority habitats (e.g. actions by private landowners). Permalinks are records of the filters used within reporting allowing repeated query through a single URL. Note that **data entered as "annual figure" in each reporting year should be for that year only**, and not cumulative (i.e. not the baseline plus the change). Cumulative figures will be calculated by summing individual year data.
Interpreting	
Interpretation *(inc linkage to other indicators)*	Use of 'project level' reports replaces 'geographic reports' as this avoids the uncertain completion of action recording by non-NIA agencies. All NIA actions will be within the NIA area. Double-counting of actions may occur in some instances – for example within the HLS national dataset where an HLS agreement is modified and the old agreement is not amended. Please flag to BARS team where you think this may be occurring (http://ukbars.defra.gov.uk/home/contact). Include explanations of potential interpretation issues within the online tool Caveats section of the online reporting tool.

Indicator: B03_H: Proportion of SSSIs in favourable or recovering condition

Indicator: B03_H	Proportion of SSSIs in favourable or recovering condition
Version date	27th March 2014
Theme	Biodiversity
Sub-theme	Habitat
Sub-theme category	Core
Indicator category	Optional
Indicates *(what is the indicator intended to indicate)*	This is an indicator of the proportion of SSSI area in favourable or recovering condition. There is currently no established methodology for assessing condition of habitat outside SSSIs, so SSSI condition is used here as a proxy for habitat condition, recognising however that condition of SSSI units is based on assessment of features which are not always representative of the underlying habitat. Natural England is currently developing methods for assessing habitat condition outside SSSI so it may be possible to report on habitat condition more widely in the future, and thus expand this indicator to cover habitat condition more generally.
Units	Proportion (%) of SSSI area in favourable or recovering condition
Relevance to Government indicators	England Biodiversity 2020 Indicators: 1b. Condition of SSSIs England Biodiversity 2020 Outcomes: 1A. Better wildlife habitats with 90% of priority habitats in favourable or recovering condition and at least 50% of SSSIs in favourable condition, while maintaining at least 95% in favourable or recovering condition
Existing data for establishing baseline	
Relevant dataset(s)	SSSI unit condition assessment data Data are collected at the management unit level on SSSIs. There is no standard method readily applicable for determining habitat condition outside SSSIs so this measure is limited to SSSI data at this stage.
Source(s) of data *(contact details or hyperlink)*	Natural England: Spatial data for SSSI units with condition attribution available from Natural England: http://www.gis.naturalengland.org.uk/pubs/gis/GIS_register.as Natural England have agreed to provide each of the 12 initial NIAs with analysis of SSSI condition within their NIA, following the national SSSI condition reporting methodology, for each year of the 3 year programme to 2015. This will be

	provided via the NIA Huddle Best Practice Network annually in advance of the reporting deadline (https://defra.huddle.net/huddleworkspace/default.aspx?workspaceid=16609188).
Spatial coverage	Comprehensive across all SSSIs
Temporal coverage	Assessment of the changes in SSSI unit condition is undertaken as part of a rolling programme between 4 and 9 years.
Planned updates	Data is published monthly with updates becoming available by the first of the following month - but note that not all SSSI condition records are updated annually.
Data collection method *(estimate, survey, monitoring)*	Common Standards Monitoring (CSM) See http://jncc.defra.gov.uk/page-2217 for further details of monitoring guidance.
Accuracy of data	See JNCC's guidance: http://jncc.defra.gov.uk/page-2217
Additional/new data for establishing baseline and monitoring change	
Relevant additional/new data	Changes in the extent of SSSIs in favourable or unfavourable recovering condition Note that the resurvey of SSSI sites is typically over longer timeframes (between 4 and 9 years), so monitoring may need to operate the CSM methods within interim survey periods to act as annual or closer period monitoring.
Responsibility for data collection *(e.g. NIA partnerships or potentially to be taken on by NE or EA)*	Natural England SSSI unit condition assessment
Methods for data collection	As above
Calculating and presenting indicator	
Baseline date for 12 initial NIAs	April 2012. Individual SSSI surveys provide the date of the CSM assessment.
Methods for calculating indicator values	Cookie-cut SSSI unit spatial data by NIA boundaries. Condition information is included in the attribution and the total unit areas for each condition category can be calculated. Natural England have agreed to provide each of the 12 initial NIAs with analysis of SSSI condition within their NIA, following the national condition reporting methodology, for each year of the 3 year programme to 2015. This will be provided via the NIA Huddle Best Practice Network annually in advance of the reporting deadline (https://defra.huddle.net/huddleworkspace/default.aspx?workspaceid=16609188).
Responsibility for calculating indicator values	Natural England for 12 initial NIAs to 2015
Reporting	
Online reporting	Baseline and annual fields in the online reporting system will be: • Proportion (%) of SSSI area in '*favourable*' or

	'*unfavourable recovering'* condition • Caveats relating to: ○ Proportion of SSSIs reassessed within the reporting period ○ Recognition that SSSI condition may not in all cases be representative of the condition of the underlying habitat ○ Other issues relating to data interpretation / gaps.
Interpreting	
Interpretation *(inc linkage to other indicators)*	Include explanations of potential interpretation issues within the online tool 'Caveats' section. Information on the number of SSSI units assessed during the previous reporting period could be reported as part of the interpretation/caveats.

Indicator: B04_H: Total extent of existing priority habitat

Indicator: B04_H	Total extent of existing priority habitat
Version date	25th February 2014
Theme	Biodiversity
Sub-theme	Habitat
Sub-theme category	Core
Indicator category	Core
Indicates *(what is the indicator intended to indicate)*	The total spatial extent of existing priority habitat(s) within the NIA area, as selected by the NIA partnership (i.e. priority habitat that already meets the Priority Habitat Definition). The best available baseline area for existing priority habitat offers each NIA partnership an amount against which to proportionately compare the amount of priority habitat being actively maintained and created through management.
Units *(required for core and optional indicators, preferred for local indicators)*	Hectares (ha), Linear Kilometres (km).
Relevance to Government indicators	England Biodiversity 2020 Indicator 2. Extent and condition of priority habitats UK Biodiversity Framework Indicator C3. Status of threatened habitats
Existing data for establishing baseline	
Relevant dataset(s)	1. The national Priority Habitats Inventory (PHI), collated by Natural England from a wide variety of national and local data sources, currently provides the best available national datasets for priority habitat distribution and extent. 2. Comprehensive habitat mapping to OS MasterMap standards and Integrated Habitat Survey (IHS) or equivalent standard classification exists for some areas, from which it is possible to extract / translate to Priority Habitat classes. Note that the datasets and the habitat classification need to be consistent across the whole of the NIA area.
Source(s) of data *(contact details or hyperlink)*	1. Priority Habitats Inventory available from Natural England DataShare Environmental Open Data page. (http://www.geostore.com/environment-agency/WebStore?xml=environment-agency/xml/ogcDataDownload.xml), Natural England have agreed to provide each of the 12 initial NIAs with analysis of the area of each priority habitat within their NIA for each year of the 3 year programme to 2015. These can be submitted as the NIA report on habitat extent or NIAs can use local data if they wish 2. Local Record Centres – habitat maps informed by

	various survey methods to appropriate classifications to identify priority habitat types.
Spatial coverage	1. Priority Habitats Inventory: a 'single habitat layer' for England based around OS MasterMap land parcels. 2. Phase 1 maps and local records: normally relate to individual counties.
Temporal coverage	1. Priority Habitats Inventory: a version date for inventory layer further details can be found in files associated with the inventor when downloaded. 2. Local maps – varied dates, some are maintained on an on-going basis. (See note in caveats related to temporal change)
Planned updates	1. Priority Habitats Inventory: NE intends to accept updates to the 'PHI and to re-publish at least annually.. A feedback form is included when the PHI is downloaded. Locally available data can be submitted through this route to offer updated information. This should include data on species constancy and frequency across the site. 2. Local maps are often maintained by local record centres – e.g. Habitat Mapping Framework data.
Data collection method *(estimate, survey, monitoring)*	1. Priority Habitats Inventory is an interpreted product derived from analysis of a range of data sources of varying coverage and confidence in relation to confirming the habitat presence. These include Farm Environment Plan survey data, SSSI survey data, phase 1 and some NVC survey data. Metadata description associated with the PHI contains further detail. Collection methods are described in the Data Description and in 09042013_Single_Habitats_Layer_Final_Report_RDA.pdf included within the data download. 2. Local habitat maps – now typically mapped to OS MasterMap standards and using IHS classification, and some integrate to the National Vegetation Classification.
Accuracy of data	1. Priority Habitats Inventory has inconsistencies and does not always contain the best available local information. The PHI does not contain information on all priority habitats. 2. Other sources depend on the adopted standards.
Additional/new data for establishing baseline and monitoring change	
Relevant additional/new data	Changes to the boundaries of the selected broad or priority habitat(s), which may arise from re-survey, habitat loss/degradation, or restoration/creation. A feedback form is included when the PHI is downloaded from the Data Store. Locally available data can be submitted through this route to offer updated information for the inventories. This should include data on species constancy and frequency across the site.
Responsibility for data collection *(e.g. NIA partnerships or potentially to be taken on by NE or EA)*	Priority Habitats Inventory: NIA partnerships (data may also be collected by others in association with local record centres, national initiatives or on an *ad hoc* basis)
Methods for data collection *(required for core and optional indicators, preferred for local indicators)*	Priority Habitats Inventory: NIA partnerships should send any required updates to the PHI to NE with supporting evidence. A feedback form is included when the PHI is downloaded from the Data Store. Locally available data can be submitted

	through this route to offer updated information for the inventories. This should include data on species constancy and frequency across the site. Additionally an NE contract ending in March 2014 is intending to produce a standard methodology and advice aimed at helping anyone survey to confirm the presence, extent and condition of priority habitat. This will offer a best practice model for gathering and submitting evidence to update the PHI. Actions that restore and create priority habitat may be recorded in BARS2, however this focuses on activity reporting rather than outcomes so cannot be directly used to update the PHI. Activity is indicative of change, but is not a definitive change in land cover. Local habitat maps may be updated by resurvey and mapping changes. The HLU Mapping Tool (HCC/NE) (https://media.readthedocs.org/pdf/hlutool-technicalguide/latest/hlutool-technicalguide.pdf and https://github.com/HabitatFramework/HLUTool) can facilitate updates to the OSMM structured datasets (e.g. Habitat Mapping Framework data). It is important to retain the original versions to allow mapping of change over time.
Calculating and presenting indicator	
Baseline date for 12 initial NIAs	Priority Habitats Inventory: April 2013 – but note that PHI is a combination of past inventory data and the source records do not reflect extents in 2013 in most cases.
Methods for calculating indicator values *(required for core and optional indicators, preferred for local indicators)*	Cookie cut spatial habitat data by NIA boundaries If local habitat maps are used the NIA may need to translate the mapping classification to the equivalent priority habitat classification.
Responsibility for calculating indicator values	Priority Habitats Inventory: Natural England has agreed to provide each of the 12 initial NIAs with analysis of the area of each priority habitat within their NIA for each year of the 3 year programme to 2015. This will be provided via the NIA Huddle Best Practice Network annually in advance of the reporting deadline (https://defra.huddle.net/huddleworkspace/default.aspx?workspaceid=16609188) These can be submitted as the NIA report on habitat extent or NIAs can use local data if they wish. Any local analysis would need to be carried out by the NIA partnership
Reporting	
Online reporting *(required for core and optional indicators, preferred for local indicators)*	The following data can be entered in relevant fields in the online reporting system: • A baseline figure for total extent. The system will allow this figure to be updated annually, if necessary, and will track such changes • A figure for total extent updated annually • Caveats relating to: ○ The PHI only includes 24 priority habitats – out of 40

	total terrestrial and freshwater priority habitats. One of these is "Deciduous Woodland" which comprises all BAP woodland which has not been distinguished. In addition to these 24 the PHI includes 3 non-priority habitat classifications/attributions. ○ Likely accuracy of the baseline (e.g. what can be deduced locally about potential misattribution of habitats and from information in files associated with each of the inventories when downloaded (e.g. local assessment / expert opinion of the percentage of the NIA area that NIA partners consider is accurately covered by PHI data). ○ Changes in the baseline, e.g. arising from publication of the single habitat layer ○ Likely gaps in knowledge of annual changes in total extent (e.g. arising from an inability to monitor privately landholdings). Note that **data entered as "annual figure" in each reporting year should be for that year only**, and not cumulative. Cumulative figures will be calculated by summing individual year data.
Interpreting	
Interpretation *(inc linkage to other indicators)*	Care is required, as the recorded total extent may not be a fair reflection of reality, due to inconsistencies and incomplete coverage of all the priority habitat types. Refer to the PHI data description for limitations. The originating data is of varied dates and mapping standards. Updates to the PHI (in relation to corrections) are likely to introduce significant change to the areas represented in the inventory. Change in areas represented as a result of actual gains or losses of habitat are likely to be much less significant and hard to deduce. The PHI is currently the only data source available across all 12 NIAs (and across England) and the NIAs should actively engage with its use and update. However, as the development of the PHI is in the early stages the NIAs have the option to submit their own extent calculations as reports against this indicator (these may be more accurate) as an alternative to the PHI if they have the information available. The PHI should be used as a (proxy) fall-back where there is no alternative. Note that the sources of data have minimum mappable units (typically of 0.5 Ha in PHI). Where extent changes due to actions are below these thresholds they will not appear in the record. Changes in extent may reflect changes in knowledge rather than actual changes. This may have wider implications as the indicator has potential links with all indicators within the biodiversity theme and links directly to NIA indicators of: • Area of habitat supporting pollinators • Contribution to water quality • Contribution to carbon storage and sequestration where

	the extent of habitat is used as a proxy indicator for ecosystems services. This indicator differs from that in B02_H: *Extent of areas managed to restore/create habitat* which maps actions as 'being managed to restore or create priority habitats' whilst this indicator includes existing extent across the NIA.

Indicator: B05_S: Extent of habitat managed to secure species-specific needs

Indicator: B05_S	Extent of habitat managed to secure species-specific needs
Version date	25th February 2014
Theme	Biodiversity
Sub-theme	Habitat
Sub-theme category	Core
Indicator category	Optional
Indicates *(what is the indicator intended to indicate)*	This indicates the extent of specific habitat management as part of the NIA programme to introduce features that meet the niche requirements of individual native species. While this indicator is a direct measure of the extent of habitats being managed to secure species-specific needs it is a proxy measure for biodiversity benefits based on the assumption that habitat being managed to secure species-specific needs will, in time, result in an increase in abundance and resilience of target species.
Units	Hectares (ha), Linear Kilometres (km) or Sites depending on the action type Ideally, reporting should be as hectares (ha). Habitats for which sites are appropriate include ponds, linear habitats (e.g. rivers and hedgerows) can be reported as km.
Relevance to Government indicators	Biodiversity 2020 UK Biodiversity Indicator C4. Status of threatened species.
Existing data for establishing baseline	
Relevant dataset(s)	The data required for this indicator relates to habitat management activity. This should be recorded in and sourced from the Biodiversity Action Reporting System (BARS) Relevant records within BARS to include in reporting against this indicator: • Work type – *'species management'* • Biodiversity objective – '*to introduce certain features that meet the niche requirements of a particular species by undertaking specific management within or across a habitat*' BARS includes both records added by the NIA partnership / partners themselves, **and** records from nationally imported datasets – e.g. HLS (Higher Level Stewardship), EWGS (English Woodland Grant Scheme), EA (Environment Agency). The NIA will need to establish collaboration with nationally imported actions in order for them to be included in BARS reports at the NIA programme level.

	NIAs should update the status of existing records within BARS – i.e. planned to underway, underway to complete.
Source(s) of data *(contact details or hyperlink)*	BARS reports (http://ukbars.defra.gov.uk/), including: • Programme delivery entered into BARS by the NIA • Large datasets imported nationally into BARS e.g. HLS, EWGS) • Delivery information entered by other organisations working in the NIA area
Spatial coverage	BARS action maps and reports are available by NIA geographic boundaries. As of December 2013 BARS includes project level reporting as well as geographic.
Temporal coverage	The indicator is focussed on priority habitat management targeted at meeting the niche requirements of selected species. Data used to report against this indicator should be sourced from BARS. NIAs are advised to carry out 'point in time' reporting restricting their report to activity taking place on a specific date (31st March annually is recommended). This is to avoid counting repeated activity of the same type in the same location which would be a risk with a longer reporting period. Planned, Underway and Completed actions should be reported separately. The report will therefore include any activity planned or underway on the report date and all completed actions.
Planned updates	Continual – on-going and periodic recording of new and changing activity within BARS by both NIA partners and other organisations. Key national data imports are intended to be updated on at least an annual basis. Updates are primarily structured around financial reporting years (Apr- Mar). As such key updates are likely to be submitted every April/May, and include the latest data up to 31st March. Update will rely on the NIAs contributing actions to BARS and on updating the status of existing actions. This will also require updates to the setting up of collaborations with these bulk actions.
Data collection method *(estimate, survey, monitoring)*	NIAs should record of all relevant management actions being undertaken or as part of the NIA programme. BARS offers a standard method for relating these to objective, and quantifying these actions. BARS currently allows direct entry/input of individual action records and has a bulk import capability. Key nationally commissioned activity is being input to BARS centrally; this includes Agri-Environment (HLS only) activity, England Woodland Grant Scheme (available by April 2014) and nationally collated EA biodiversity projects. NIAs can

	establish collaborations with actions within these national datasets to reflect where they form part of NIA programme activity.
Accuracy of data	Various
Additional/new data for establishing baseline and monitoring change	
Relevant additional/new data	Changes in the extent of BARS actions within the NIA recorded as: • Work type = '*species management'* • Biodiversity objective – '*to introduce certain features that meet the niche requirements of a particular species by undertaking specific management within or across a habitat'* • Actions which have been linked under a Parent Project by the NIA within BARS.
Responsibility for data collection	**NIA partnership:** NIA partnerships should be primarily responsible for adding records of NIA activity to BARS beyond that contributed by National Partners detailed below, or by others (which may be identified by viewing records already in the system). **National Partners**: bulk uploads of selected records – e.g. HLS, EWGS, Environment Agency actions within at least annual defined bulk submission schedule. All NIA partnership organisations undertaking actions should be registered as BARS users, to allow for data entry and collaboration on actions. See additional guidance on collaborations available at: https://defra.huddle.net/workspace/16609188/files/#28140579 In order to report activity carried out by the partnership the NIA will need to establish a top Parent Project beneath which relevant actions are linked, either directly or via Child Projects in BARS. NIA should also establish 'collaborations' on bulk uploaded actions that contribute to their programme delivery
Data collection methods	Individual management actions need to be recorded at http://ukbars.defra.gov.uk/ where consistent with the following BARS definition: • "The objective of the action is to introduce certain features that meet the niche requirements of a particular species by undertaking specific management within or across a habitat. This may include preparation of a site to receive individuals as part of a reintroduction / translocation exercise. It is not intended to include more broad management of a particular habitat that generally benefits a wide range of species". NIA partners should establish a reporting structure for the NIA programme and NIA partners to enter actions and collaborations for NIA-specific actions. These should not include any records included as part of the national bulk uploads, although the NIAs will need to establish collaborations with any national actions where they form part

	of programme delivery. NIA specific guidance on BARS Action data entry is given in the NIA BARS FAQ document, available on HUDDLE at: https://defra.huddle.net/workspace/16609188/files/#28140579
Calculating and presenting indicator	
Baseline date for initial 12 NIAs	April 2013
Methods for calculating indicator values	The Action Reporting tools available within BARS (http://ukbars.defra.gov.uk/) can be used to extract data and calculate amounts to report against this indicator. The reporting tools available within the Projects page on BARS should be used to extract data filtered by the NIA project/programme. This is only possible where the NIA has established a 'project' or project hierarchy (Parent & Child projects) within BARS from which to generate these reports. See NIA-specific Guidance for online reporting filters, which allows for new reporting capabilities related to the project. This updates previous guidance and the BARS online tools now allow NIA-specific actions to be reported. See: https://defra.huddle.net/workspace/16609188/files/#/folder/22221241/list There is a need for the initial 12 NIAs to assign past actions (in 2012/2013) and recalculate baselines for effective comparison with subsequent years. All NIAs are required to extract project level reports and can also report at the geographic level as well if they wish.
Responsibility for calculating indicator values	NIA partnership to report, based on appropriate BARS filters. NIA's have the option of using the figures generated within Action Summaries in BARS itself, or by extracting a spreadsheet of records from which to filter and calculate alternative figures. The **permalink** function in BARS allows each NIA to save and return to the report used in either instance.
Reporting	
Online reporting	Baseline and annual fields in the online reporting system will be: • Feature (species) Action status (planned, underway, completed) • Extent of habitat • 'Permalinks' to the queries within BARS • Caveats relating to: ○ Likely gaps in knowledge of the extent of habitat managed to secure species-specific needs (e.g. undertaken by private landowners). The Online reporting system has been updated (December 2013) to allow entry of project level reports, which relate to NIA programme delivery. When extracting BARS reports against the NIA geographic boundary, NIAs should select all actions within the NIA area and select 'overlapping' or 'within' filters. If reporting only BARS actions associated directly with the NIA programme reporting will be at the 'project' level.

	Permalinks are records of the filters used within reporting allowing repeated query through a single URL. Note that **data entered as 'annual figure' in each reporting year should be for that year only**, and not cumulative. Cumulative figures will be calculated by summing individual year data.
Interpreting	
Interpretation *(inc. linkage to other indicators)*	Interpretation will need to be species-specific. Care is required when reporting against all activity within the NIA geographic area as the knowledge of activity may not be a fair reflection of all that is happening. Project level reporting should overcome the limitation. Changes in extent may reflect changes in knowledge or use of BARS rather than changes in activity. This may have wider implications as the indicator has potential links with all indicators within the biodiversity theme. Double-counting of actions may occur in some instances – for example within the HLS national dataset where an HLS agreement is modified and the old agreement is not amended. Please flag to BARS team where you think this may be occurring (http://ukbars.defra.gov.uk/home/contact). Record interpretation issues within the Caveats section of the online reporting tool.

Indicator: B06_S: Status of widespread species

Indicator: B06_S	Status of widespread species
Version date	25th February 2014
Theme	Biodiversity
Sub-theme	Species
Sub-theme category	Core
Indicator category	Optional
Indicates *(what is the indicator intended to indicate)*	This indicator aims to represent the status of individual widespread species used by relevant England Biodiversity 2020 Indicators[6], where NIA partnerships identify that suitable data exists and on-going data collection is feasible. By recording the status of widespread species this indicator seeks to help measure the extent to which species are thriving (or otherwise) in an NIA area. As it is not possible to directly attribute changes in species status across an NIA area to activities of the NIA (as opposed to other activities in the same area) this is considered a proxy indicator of the NIAs' benefit to widespread species.
Units	Trend in species individually categorised according to changes in abundance and/or distribution against a baseline as: • Increasing • Stable • Decreasing • Unknown
Relevance to Government indicators	England Biodiversity 2020 Indicators: • 5. Species in the wider countryside: farmland • 6. Species in the wider countryside: woodland • 7. Species in the wider countryside: wetlands. Biodiversity 2020 Outcomes 3 species Ref: Defra Biodiversity 2020: a strategy for England's wildlife and ecosystem services Indicators 2013 (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/253546/England_full_FINAL.pdf)
Existing data for establishing baseline	

Relevant dataset(s)	Including:
	• *Ad hoc* records:
	  ○ National Biodiversity Network (NBN)
	  ○ National species recording societies
	  ○ Local records
	• National recording schemes:
	  ○ Breeding Bird Survey (BBS)
	  ○ National Bat Monitoring Programme (NBMP)
	  ○ UK Butterfly Monitoring Scheme (UKBMS)
	  ○ Countryside Survey (CS) – plant species richness

[6] https://www.gov.uk/government/publications/england-biodiversity-indicators

Source(s) of data *(contact details or hyperlink)*	Including:
	• *Ad hoc* records:
	  ○ http://www.nbn.org.uk/
	  ○ Local Records Centres (LRCs)
	• National recording schemes:
	  ○ BBS National Organiser at British Trust for Ornithology http://www.bto.org/volunteersurveys/bbs
	  ○ Bat Conservation Trust (BCT) http://www.bats.org.uk/pages/results_and_reports.html
	  ○ http://www.ukbms.org/
	  ○ http://www.countrysidesurvey.org.uk/

Spatial coverage	National schemes have been designed such that sampling is representative nationally; however, they are likely to include records from within individual NIAs and may be supported by ad hoc records from the NBN, LRC, national species recording societies and local species specialists.
Temporal coverage	National schemes provide systematic time-series data of species distribution and abundance. Other data is mostly recorded ad hoc and simply provides evidence of species presence (not absence) at a specific point in time. Ad hoc data on species abundance is likely to be site-specific and is recorded more rarely.
Planned updates	BBS, BCT and UKBMS national schemes are all ongoing.
Data collection method *(estimate, survey, monitoring)*	Refer to individual national schemes.
Accuracy of data	Records from national schemes, NBN and national species recording societies are verified. Records from LRCs and local species specialists may not have been subject to verification and may therefore need checking. Local species-level recording should seek to match existing recording strategies so that the trends can be reliably indicated.
Additional/new data for establishing baseline and monitoring change	
Relevant additional/new data	Presence and/or population size of widespread species used by the England Biodiversity 2020 Indicators 5-7, where suitable data exists and on-going data collection is feasible.
Responsibility for data collection *(e.g. NIA partnerships or potentially to be taken on by NE or EA)*	NIA partnership in consultation with national recording schemes, national species recording societies and local species specialists.
Methods for data collection	Annual data collection should be in accordance with protocols for national recording schemes to ensure consistency and comparability. Species selection, in relation to all those species used by the England Biodiversity 2020 Indicators 5-7, should be informed by: • An initial review of existing data • On-going data collection • Species specialists willing to record within the NIA. All data collected should be submitted to the LRC and NBN. National monitoring scheme data may not be appropriate to infer changes at a local landscape scale. Consideration should be given to the taxonomic group and the sample

	coverage across the NIA when assessing which species data will be suitable.
Calculating and presenting indicator	
Baseline date for initial 12 NIAs	April 2012, where time-series data exists covering at least 3 years.
Methods for calculating indicator values	Individual species should be categorised based on changes in status over the preceding 3 years (or longer, as necessary). Where populations are fluctuating, they should be assigned to the most likely of the four categories. The issues of bias or rigor are complex and vary between taxa e.g. detectability of species, ease of identification, ease of confusion with other species, recording methods.
Responsibility for calculating indicator values	NIA partnership
Reporting	

Online reporting	The following data can be entered in relevant fields in the online
	reporting system:
	
	• Baseline categorisation by species (features)
	• Annual categorisation by species
	• Caveats relating to:
	  ○ The suite of species selected
	  ○ Likely accuracy of the baseline for each species (e.g. extent to spatial coverage of data is likely to be representative of the NIA)
	  ○ Period over which baseline status was assessed for each species
	  ○ Likely gaps in knowledge (e.g. arising from an inability to monitor privately landholdings).
	
	Note that **data entered as 'annual figure' in each reporting year should be for that year only**, and not cumulative. Cumulative figures will be calculated by summing individual year data.

Interpreting	
Interpretation *(inc. linkage to other indicators)*	Interpretation may need to be specific to broad species groups or individual species. Care is required as changes in the local status of species may reflect changes in knowledge and survey effort rather than real changes or drivers of change that operate at a wider scale (e.g. regionally or nationally). Comparison with trends from national schemes may be informative. This indicator may have wider implications for interpreting all indicators within the biodiversity theme. **Note:** It is necessary to distinguish between real changes in species numbers as opposed to increased survey effort where there is an incomplete historical record. This measure should reflect the survey effort, and repeatability of the survey, methods and areas sampled etc and surveyor bias.

Indicator: B07_S: Status of focal species

Indicator: B07_S	Status of focal species
Version date	25th February 2014
Theme	Biodiversity
Sub-theme	Species
Sub-theme category	Core
Indicator category	Optional
Indicates *(what is the indicator intended to indicate)*	This indicates the trend in species of high conservation status that are the focus of actions or sensitive to drivers of change that are a specific concern within the NIA. By recording the status of focal species this indicator seeks to help measure the extent to which these species are thriving (or otherwise) in an NIA area. As it is not possible to directly attribute changes in species status across an NIA area to activities of the NIA (as opposed to other activities in the same area) this is considered a proxy indicator of the NIAs' benefit to focal species.
Units	Categorised annually according to long-term changes in abundance and/or distribution as: • Increasing • Stable • Decreasing • Unknown
Relevance to Government indicators	England Biodiversity 2020 Indicator 4a. Status of priority species Biodiversity 2020 Outcomes 3 species Ref: Defra Biodiversity 2020: a strategy for England's wildlife and ecosystem services Indicators 2013 (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/253546/England_full_FINAL.pdf)
Existing data for establishing baseline	

Relevant dataset(s)	Including:
	• *Ad hoc* records:
	  ○ National Biodiversity Network (NBN)
	  ○ National species recording societies
	  ○ Local records
	• National recording schemes, such as:
	  ○ Breeding Bird Survey (BBS)
	  ○ National Bat Monitoring Programme (NBMP)
	  ○ UK Butterfly Monitoring Scheme (UKBMS)
	  ○ Countryside Survey (CS) – plant species richness

Source(s) of data *(contact details or hyperlink)*	Including:
	• *Ad hoc* records:
	  ○ http://www.nbn.org.uk/
	  ○ Local Records Centres (LRCs)
	• National recording schemes, such as:
	  ○ BBS National Organiser at British Trust for Ornithology http://www.bto.org/volunteersurveys/bbs
	  ○ Bat Conservation Trust (BCT) http://www.bats.org.uk/pages/results_and_reports.html
	  ○ http://www.ukbms.org/
	  ○ http://www.countrysidesurvey.org.uk/

Spatial coverage	National schemes have been designed such that sampling is representative nationally; however, they are likely to include records from within individual NIAs and may be supported by ad hoc records from the NBN, LRC, national species recording societies and local species specialists.
Temporal coverage	National schemes provide systematic time-series data of species distribution and abundance. Other data is mostly recorded ad hoc and simply provides evidence of species presence (not absence) at a specific point in time. Ad hoc data on species abundance is likely to be site-specific and is recorded more rarely.
Planned updates	BBS, BCT and UKBMS national schemes are all ongoing.
Data collection method *(estimate, survey, monitoring)*	Refer to individual national schemes
Accuracy of data	Records from national schemes, NBN and national species recording societies are verified. Records from LRCs and local species specialists may not have been subject to verification and may therefore need checking.
Additional/new data for establishing baseline and monitoring change	
Relevant additional/new data	Presence and/or population size of any species that are of relevance to the NIAs objectives because they are: • The focus of species-specific actions; or • Sensitive to drivers of change that are a specific concern. National monitoring scheme data may not be appropriate to infer changes at a local landscape scale. Consideration should be given to the taxonomic group and the sample coverage across the NIA before assuming that the data will be useable.
Responsibility for data collection *(e.g. NIA partnerships or potentially to be taken on by NE or EA)*	NIA partnership in consultation with national recording schemes, national species recording societies and local species specialists, as appropriate.

Data collection method	Annual data collection, in accordance with protocols for national recording schemes and/or best practice promoted by the relevant national species recording society. An initial review of existing data, on-going data collection and species specialists willing to record within the NIA will be informative of species selection based on the NIA's objectives. All data collected should be submitted to the LRC and NBN.
Calculating and presenting indicator	
Baseline date for initial 12 NIAs	April 2012, where time-series data exists covering at least 3 years.
Methods for calculating indicator values	Individual species should be categorised based on changes in status over the preceding 3 years (or longer, as necessary). Where populations are fluctuating, they should be assigned to the most likely of the four categories. The issues of bias or rigor are complex and vary between taxa e.g. detectability of species, ease of identification, ease of confusion with other species, recording methods.
Responsibility for calculating indicator values	NIA partnership
Reporting	

Online reporting	The following data can be entered in relevant fields in the online reporting system:
	
	• Baseline categorisation by species
	• Annual categorisation by species
	• Caveats relating to:
	  ○ The species selected
	  ○ Likely accuracy of the baseline (e.g. extent to spatial coverage of data is likely to be representative of the NIA)
	  ○ Period over which baseline status was assessed
	  ○ Likely gaps in knowledge (e.g. arising from an inability to monitor privately landholdings).
	
	Note that **data entered as 'annual figure' in each reporting year should be for that year only**, and not cumulative. Cumulative figures will be calculated by summing individual year data.

Interpreting	
Interpretation *(inc linkage to other indicators)*	Interpretation will need to be specific to individual species. It should explain why the species are a focus for action or sensitive to drivers of change that are a specific concern within the NIA. Care is required, as changes in the local status of species may reflect changes in knowledge and survey effort rather than real changes or drivers of change that operate at a wider scale (e.g. regionally or nationally). Comparison with trends from national schemes may be informative. This indicator may have wider implications for interpreting other indicators within the biodiversity theme and may help inform the 'Extent of habitat managed to secure species-specific needs'.

	Note: It is necessary to distinguish between real changes in species numbers as opposed to increased survey effort where there is an incomplete historical record. This should reflect the survey effort, and repeatability of the survey, methods and areas sampled etc and surveyor bias.

Indicator B08_S: Control of invasive non-native species

Indicator B08_S	Control of invasive non-native species
Version date	25th February 2014
Theme	Biodiversity
Sub-theme	Species
Sub-theme category	Core
Indicator category	Optional
Indicates *(what is the indicator intended to indicate)*	This indicator shows the control of significant harm to biodiversity from invasive non-native species. This shows the extent of control of invasive non-native species in the NIA area by any organisation *as part of the NIA programme* by action status (planned, underway or completed).
Units	Hectares (ha), Linear Kilometres (km) or Sites depending on the action type. Ideally, reporting should be as hectares (ha). Habitats for which sites are appropriate include ponds, linear habitats (e.g. rivers and hedgerows) can be reported as km.
Relevance to Government indicators	England Biodiversity 2020 Indicator 20. Trends in pressures on biodiversity – invasive species. UK Biodiversity Framework Indicator B6. Pressure from invasive species: • B6a. Freshwater invasive species • B6c. Terrestrial invasive species.
Existing data for establishing baseline	
Relevant dataset(s)	The data required for this indicator relates to management activity. This should be recorded in and sourced from the Biodiversity Action Reporting System (BARS). BARS actions in the NIA area by any organisation *as part of the NIA programme* recorded as: • Work/action type – '*species management'* • Biodiversity objective – '*to reduce the extent or impact of non-native species by practical activity'* Note that BARS biodiversity objective refers to 'non-native' species. Control of 'invasives' is likely to include native invasives (scrub, bracken control etc.) so a clear distinction is needed to focus on non-natives as other indicators cover management to improve condition that will include invasive *native* species. BARS includes both records added by the NIA partnership / partners themselves, **and** records from nationally imported datasets – e.g. HLS (Higher Level Stewardship), EWGS (English Woodland Grant Scheme), EA (Environment Agency). The NIA will need to establish collaboration with nationally imported actions in order for them to be included in BARS reports at the NIA programme level.

Source(s) of data *(contact details or hyperlink)*	BARS reports (http://ukbars.defra.gov.uk/), including: 1) Programme delivery entered into BARS by the NIA partners 2) Large datasets imported nationally into BARS (e.g. HLS, EWGS) 3) Delivery information entered by other organisations working in the NIA area *(this information is not included within the NIA reporting).*
Spatial coverage	BARS action maps and reports are available by NIA geographic boundary. As of December 2013 BARS includes project level reporting as well as geographic which allows both NIA programme level reporting along with geographic.
Temporal coverage	NIAs are advised to carry out 'point in time' reporting restricting their report to activity taking place on a specific date (31st March annually is recommended). This is to avoid counting repeated activity of the same type in the same location which would be a risk with a longer reporting period Planned, Underway and Completed actions should be reported separately. The report will therefore include any activity planned or underway on the report date and all completed actions.
Planned updates	Continual – on-going and periodic recording of new and changing activity within BARS by both NIA partners and other organisations. Key national data imports are intended to be updated on at least an annual basis. Updates are primarily structured around financial reporting years (Apr-Mar). As such key updates are likely to be submitted every April / May, and include the latest data up to 31st March This will require the NIAs to update to establish collaborations with these bulk actions.
Data collection method *(estimate, survey, monitoring)*	NIAs should record of all relevant management actions being undertaken or commissioned as part of the NIA programme. BARS offers a standard method for relating these to objective, and quantifying these actions. BARS currently allows direct entry/input of individual action records and has a bulk import capability. Key nationally commissioned activity is being input to BARS centrally; this includes Agri-Environment (HLS only) activity, England Woodland Grant Scheme (available by April 14) and nationally collated EA biodiversity projects. NIAs can establish collaborations with actions within these national datasets to reflect where they form part of NIA programme activity.
Accuracy of data	Various
Additional/new data for establishing baseline and monitoring change	
Relevant additional/new data	Changes in the extent of actions recorded on BARS as: • Work/action type – 'species management' • Biodiversity objective – 'to reduce the extent or impact of non-native species by practical activity'

	• Actions which coincide with the NIA geographic boundary OR • Have been linked under a Parent Project by the NIA within BARS.
Responsibility for data collection *(e.g. NIA partnerships or potentially to be taken on by NE or EA)*	**NIA partnerships** should be primarily responsible for adding records of NIA activity to BARS beyond that contributed by National Partners detailed below, or by others (which may be identified by viewing records already in the system). **National Partners**: bulk uploads of selected records – e.g. HLS, EWGS, Environment Agency actions within at least annual defined bulk submission schedule. All NIA partnership organisations undertaking actions should be registered as BARS users, to allow for data entry and collaboration on actions. See additional guidance on collaborations: https://defra.huddle.net/workspace/16609188/files/#28140579 In order to report activity carried out by the partnership specifically the NIA will need to establish a top Parent Project beneath which relevant actions are linked, either directly or via Child Projects in BARS. NIA should also establish 'collaborations' on bulk uploaded actions that contribute to their programme delivery
Data collection methods	Individual management actions need to be recorded at http://ukbars.defra.gov.uk/ where consistent with the following BARS definition: • "The objective of the action is to reduce the extent or impact of non-native species by practical activity. Non-native species are defined as any species now resident in the UK due to human activity, whether accidentally or on purpose. Most actions will relate to invasive non-native species, whose introduction and potential or actual capacity to spread is likely to pose a threat to biological diversity. The action feature should be the non-native species being controlled. Further information on invasive non-native species is available at https://secure.fera.defra.gov.uk/nonnativespecies/index.cfm?sectionid=15" NIA partners need to establish a reporting structure for the NIA programme and NIA partners to enter actions and collaborations for NIA-specific actions. These should not include any records included as part of the national bulk upload although the NIAs will need to establish collaborations with any national actions where they form part of NIA programme delivery. NIA specific guidance on BARS Action data entry is given in the BARS FAQ document, available on HUDDLE at: https://defra.huddle.net/workspace/16609188/files/#28140579

Calculating and presenting indicator	
Baseline date for the 12 initial NIAs	April 2013
Methods for calculating indicator values	The action reporting tools within BARS (http://ukbars.defra.gov.uk/) can be used to extract data and calculate figures to report against this indicator. The reporting tools available within the Projects page on BARS should be used to extract data filtered by the NIA project/programme. This is only possible where the NIA has established a 'project' or project hierarchy (Parent & Child projects) within BARS from which to generate these reports. The BARS reporting will be 'per objective' and thus the data for both biodiversity objective needs to be queried separately and the results summed or presented separately. See NIA-specific Guidance for online reporting filters, which allows for new reporting capabilities related to the project. This updates previous guidance and the BARS online tools now allow NIA-specific actions to be reported. See: https://defra.huddle.net/workspace/16609188/files/#/folder/22221241/list There is a need for the initial 12 NIAs to assign past actions (in 2012/2013) and recalculate baselines for effective comparison with subsequent years. All NIAs are required to extract and report project level reports and can also report at the geographic level as well if they wish
Responsibility for calculating indicator values	NIAs to undertake extraction of figures through the reporting tools within BARS. NIAs have the option of using the figures generated within *Action Summaries* in BARS itself, or extracting a spreadsheet of records from which to filter and calculate alternative figures. The permalink function in BARS allows each NIA to save and return to the report used in either instance.
Reporting	
Online reporting	Baseline and annual fields in the online reporting system will be: • Feature (non-native species) • Action status (planned, underway, completed) • Extent • Permalinks' to the report in BARS • Caveats relating to: ○ Likely gaps in knowledge of the extent of control of invasive or other non-native species (e.g. by private landowners). If reporting only actions associated directly with the NIA programme reporting will be at 'project' level. Note that **data entered as 'annual figure' in each reporting year should be for that year only**, and not cumulative. Cumulative figures will be calculated by

	summing individual year data.
Interpreting	
Interpretation *(inc. linkage to other indicators)*	Interpretation will need to be species-specific and may relate to other indicators within the biodiversity theme, habitat sub-theme – for example, habitats managed to maintain favourable condition (B03_H), enhance condition (B01_H) or restore/create habitats (B02_H), where non-native species control may form part of the work (e.g. *Rhododendron* clearance). Indicator covers the actions to control the invasive non-native species and does not indicate the species distributions and potential change in extent across the area (i.e. are actions reversing the invasive trend in colonisation and spread).

Indicator: B09_C: Local indicator of habitat connectivity

Indicator: B09_C	Local indicator of habitat connectivity
Version date	25th February 2014
Theme	Biodiversity
Sub-theme	Habitat connectivity
Sub-theme category	Core
Indicator category	Local
Indicates *(what is the indicator intended to indicate)*	This is a measure of progress of the NIA to improve the habitat connectivity. Measures of habitat connectivity can indicate: • The extent and spatial arrangement of habitat patches ("structural connectivity") AND/OR • The 'likelihood that species will be able to move or disperse through the landscape, between or through suitable habitat patches ("functional connectivity") AND/OR • Changes in distribution and/or abundance of particular species or functional group of species As a 'local' indicator, NIAs can define the measures but they should measure, model or create proxy measures of habitat connectivity. The information provided in this protocol should be considered as guidance on choosing and implementing an approach.
Units	Units will be dependent on local definition of the indicator.
Relevance to Government indicators	England Biodiversity 2020 Indicator 3. Habitat connectivity in the wider countryside UK Biodiversity Framework Indicator C2. Habitat connectivity Both currently measure functional connectivity.
Existing data for establishing baseline	
Relevant dataset(s)	Relevant datasets will depend on the approach taken to this indicator. For **modelled and measured connectivity mapping,** use of habitat data at high resolution, appropriate classifications and complete coverage of the NIA is required. This must include a repeat survey or data update cycle to enable for monitoring and evaluation of changes. Data requirements are not always restricted to Priority Habitats, because the intervening habitat matrix is also important in some modelling techniques. Habitat quality/condition may also be required for some modelling approaches. It will be important to decide which habitat type or species is the focus of the connectivity effort. For modelled approaches key datasets may include a range of land cover data options: • Land Cover Map (LCM)

	• Countryside Survey (2007) • Priority Habitats inventory • Phase 1 maps and Bespoke / new habitat surveys • Species records • Green infrastructure (GI) strategies • Biodiversity Opportunity Area (BOA) mapping • Terrain and dispersal barriers datasets • National Climate Change Vulnerability Model)national habitat permeability mapping (NE) NIAs will need to evaluate the suitability of the source data for their particular approach to this indicator. Priority Habitats Inventory data (without intervening habitat matrix) can be used for some structural measures of connectivity, while functional connectivity modelling requires information on the intervening habitat matrix as well as an understanding of how species move. For functional and structural connectivity modelling, there are a wide variety of GIS-based tools available that calculate a range of measures of connectivity, permeability, functional dispersion ability etc. The chosen measures need to be sensitive to change. Tools include: Fragstats (structural), ARCH Connectivity Assessment Tool (ARCH CAT), Conefor and BEETLE (structural and functional). The tool of choice should allow the connectivity metrics to be recalculated based on updated data inputs. In some cases tools (e.g. ARCH CAT) can be used to explore future management scenarios and potential impacts of an intervention at a given location as an aid to prioritisation of actions. Functional connectivity modelling will require identification of relevant species or guilds, their dispersion data or some measure of permeability of the landscape elements. This, information that may not be readily available and it often relies on expert judgement and categorisation of habitat types to reflect available data and dispersal ability of species. Functional connectivity approaches require a complete habitat surface (with no gaps between the habitat patches) as an input to the model. Information about the matrix is as important as information about the target habitat itself being modelled. Structural models can make use of just the Priority Habitat land parcels data. An example of the national modelled approach includes: Natural England National Climate Change Vulnerability Model (NCCVM) (http://www.naturalengland.org.uk/ourwork/climateandenergy/climatechange/vulnerability/nationalvulnerabilityassessment.aspx) – this includes habitat permeability measures and output maps, sensitivity to climate change, adaptive capacity metrics and conservation value. These address elements of structural and functional habitat connectivity, including

	measures of proximity of same habitat and permeability of surrounding landscape, topographic variety across habitats and permeable land and management applications that address current sources of harm for each habitat. This dataset has been calculated for all the NIAs and is available from NE. No update strategy is agreed, but the model and tool is available from NE and can be re-run using updated land cover records.
Source(s) of data *(contact details or hyperlink)*	Two broad approaches are included within the protocol, but the approach adopted will determine dataset choice: • Locally modelled approaches (functional or structural connectivity , depending on NIA selection) • National model runs on permeability – within the National Climate Change Vulnerability Model (NCCVM) Modelled approaches will require a number of datasets, and the NIAs will need to consider the suitability: Land cover: • Countryside Survey, http://www.countrysidesurvey.org.uk/data-access • Priority Habitats Inventory (PHI) available from Natural England DataShare Environmental Open Data page. (http://www.geostore.com/environment-agency/WebStore?xml=environment-agency/xml/ogcDataDownload.xml) • Green infrastructure (GI) strategies provide data on the network of multi-functional green space which is capable of delivering a wide range of environmental, biodiversity and well-being benefits. Many Local authorities have undertaken GI surveys, mapping and strategy development. • Biodiversity Opportunity Area (BOA) mapping approaches have been developed within many counties to identify priorities for conservation actions (e.g. habitat restoration, creation, and enhancement). LRCs and Local Authorities • Terrain and dispersal barriers datasets. National open data (e.g. Open Data Panorama 1:50k data - https://www.ordnancesurvey.co.uk/opendatadownload/products.html) are available, or locally higher resolution data are available (e.g. OS Terrain 5, NextMap - http://www.ordnancesurvey.co.uk/business-and-government/products/os-terrain-5.html). • National Climate Change Vulnerability Model (NCCVM) (http://www.naturalengland.org.uk/ourwork/climateandenergy/climatechange/vulnerability/nationalvulnerabilityassessment.aspx). National habitat permeability mapping

	(NE) is available from NE data catalogue website (http://www.naturalengland.org.uk/publications/data/default.aspx). • Some Local Records Centres (LRCs) / Wildlife Trusts have specific land cover mapping. Proposals for satellite based land cover classifications at suitable resolution or use of OS MasterMap based land parcel data. Species records: • LRCs • National Biodiversity Network (NBN) Information about habitat requirements and dispersal ability data for species or species guilds) is needed for functional connectivity assessments. It is unlikely that the NIA will survey dispersion distances of relevant species – so a meta-analysis of relevant species guilds literature may be an appropriate approach. The habitat datasets for functional connectivity assessments must provide continuous coverage across the entire NIA area. They should also be at a high enough resolution to realistically describe the habitats parcels (e.g. Phase 1 habitat) and intervening matrix effectively including 'barriers' of non-habitat. Priority Habitats Inventory are likely to be useful for the patch based structural connectivity methods but are unlikely to have the detail and consistency required (especially the matrix cover) for functional connectivity analysis.
Spatial coverage	The Priority Habitats Inventory is based around OS MasterMap parcels. Phase 1 maps and local records: usually relate to individual counties, the coverage is variable, but some is comprehensive. Species dispersal records: variable Functional measures of connectivity require a complete coverage. Analysis is likely to be sensitive to the spatial scale of the habitat mapping and the ability to represent the structure of the habitat used by species.
Temporal coverage	Ideally, the NIAs would have an up-to-date complete area habitat map at the start of their programme (2012 for the 12 initial NIAs) against which changes can be monitored. Habitat inventories: The Priority Habitats Inventory is made up of a variety of source habitat inventories. The dates and methodologies used to create these varies and it will be necessary to examine the dataset documentation (metadata) in order to determine the survey dates. Therefore, comparisons should be made with caution. Phase 1 maps and local land cover records: usually produced as a one-off and are generally quite old.

	Species records: usually *ad hoc* unless relate to a national recording scheme.
Planned updates	To act as an effective basis for monitoring, the input datasets need to reflect the trend in land cover changes associated with the NIA actions. This requires the development of procedures to update the underlying input data layers Priority Habitats inventory: from April 2013, NE intends to accept updates to the PHI and to re-publish it every –year, suitability will rely on the contributions of data to NE to update this dataset. Other land cover datasets have varied update strategies.
Data collection method *(estimate, survey, monitoring)*	Data collection for calculating the indicator, will depend on the choice of metric. The approach may be decided locally, based on appropriate land cover resource, technical capacity and resonance with the NIA and selection of structural or functional connectivity metrics. NIAs can draw from projects such as ARCH CAT, which have generated lists of permeability scores for different Phase1 / CORINE habitats and generic species or other searching and meta-analysis can be employed to assign the permeability scores. Habitat inventories: PHI detailed information on each of the inventory is provided in associated files when downloaded.
Accuracy of data	Priority Habitats Inventory: should be considered provisional. It does not always contain the best available local information. The PHI does not contain information on all Priority Habitats. It is intended to be improved through submission of updates Species data: usually only records presence (not absence) of species – but note that the data requirement is likely to a include measures of species dispersal abilities (distances they move, habitats they move through) and impacts of land cover specific barriers
Additional/new data for establishing baseline and monitoring change	
Relevant additional/new data	Annual updates to the habitat connectivity rely on the changes to the land cover and potentially to habitat quality, which may be recorded in relation to NIA M&E framework indicators of: • Extent of habitat managed to improve its condition • Extent of areas managed to restore/create habitat • Extent of habitat in favourable or recovering condition • Total extent of habitat Extent of habitat managed to secure species-specific needs It is important to give an indication of the changes relative to the NIA land area, report on number and size of patches/ average size of patches? For modelling approaches, the underlying land cover map needs to be updated to incorporate changes over time. Many of these actions will be recorded in BARs but the areas

	of changes will need to be incorporated into the land cover mapping. It may be appropriate to include the actions that are not part of the NIA programme to understand the overall effect within the NIA, but make clear within the caveats that these activities have been included. Changes in habitats extent (and potentially condition) need to be incorporated into the baseline dataset to be used within the annual re- analysis of connectivity. Changes in species distribution and abundance, which may be recorded in relation to NIA M&E framework indicators of: • Status of widespread species – birds, butterflies, bats, plants • Status of focal species
Responsibility for data collection *(e.g. NIA partnerships or potentially to be taken on by NE or EA)*	NIA partnerships drawing upon other datasets, as relevant. If NCVVM data is used NE has calculated Year 1 data, subsequent years will need consultation with NE or access to the model / tool.
Data collection method	Consistent with those used for establishing the baseline.
Calculating and presenting indicator	
Baseline date for 12 initial NIAs	Baseline will depend on the metric approaches chosen. For modelled / measured indicator the version date of the contributory land cover data will be the baseline date. For the action proxy, the baseline (pre NIA) is zero (as at April 2012), and the annual figures mark the annual contributions of actions to improve connectivity.
Methods for calculating indicator values	Dependent on local definition of the indicator. Measures of physical/structural and functional connectivity require calculation using a GIS. There are pros and cons associated with each of the three broad types of measures of connectivity: • **Physical/structural connectivity** is simple to measure using land cover data and appropriate tools. It considers land cover as habitat or non-habitat (i.e. in a binary way). An indicator incorporating changes in habitat area, number of patches, patch size and nearest neighbour distance, may be informative. However, care in interpretation may be required, as structural indicators fail to consider the importance of the nature of intervening land between habitat patches, and results may be counterintuitive or ambivalent. • **Functional connectivity** is more complex to measure. The relative ease with which species can move through the landscape between habitat patches is likely to be important in a UK context but little or no empirical data exists, so models rely on expert opinion or published literature meta-analysis. Therefore the dispersal distances and cost surfaces (a model of the ability of a species to move through the landscape across different

	habitat types) tend to use generic values for groups of species utilising a specific habitat (e.g. woodland specialists). However, the individual requirements and relative ease of movement within this assemblage of species may vary considerably. Tools such as the ARCH CAT model have been developed in GIS and allow both functional connectivity and fragmentation metrics to be created from a detailed GIS habitat map and associated permeability scores for the species modelled. • The National Climate Change Vulnerability Model (NCCVM) is based on a modelling tool that can allow for re-runs of the data. Access the tool from NE (http://www.naturalengland.org.uk/ourwork/climateandenergy/climatechange/vulnerability/nationalvulnerabilityassessment.aspx). Updates to the land cover datasets is based on the update to the PHI or land cover data. • **Changes in distribution and/or abundance of multiple species** can in theory provide proxy measures of connectivity but it is necessary to focus on species with intermediate dispersal abilities, as there may be significant time lags in the response of those that are more dispersal-limited. Results may be hard to interpret as changes may reflect trends in many variables not just connectivity. Changes in species distribution and abundance also need to be set in context of habitat availability. • For **proxy measures of actions** contributing to the habitat connectivity extracted through filters of the appropriate records from BARS, it will be important to include within the caveats the permalink and the description of the biodiversity objectives and classes of action that are included within the report.
Responsibility for calculating indicator values	NIA partnership for most measures. NCCVM has been calculated by NE for NIAs, but the modelling could be run by NIAs.
Reporting	

Online reporting	The online tool has currently assumed a modelled structural connectivity approach, however the NIAs may enter their own features to accommodate functional connectivity measures. The following baseline and annual data can be entered in relevant fields in the online reporting system:
	
	• Features to be recorded
	• Figure for the indicators
	• Caveats relating to:
	  ○ Land cover data
	  ○ Species data
	  ○ Methods for calculating indicator values
	  ○ Interpretation of indicator values.

	Note that **data entered as 'annual figure' in each reporting year should be for that year only**, and not cumulative. Cumulative figures will be calculated by summing individual year data.
Interpreting	
Interpretation *(inc. linkage to other indicators)*	Care is required not only for reasons identified in the methods for calculating indicator values but also as this indicator may rely upon or be interpreted in the context of any of the other indicators under the biodiversity theme. Changes in their values may reflect changes in knowledge rather than real changes in connectivity. Connectivity and the models are largely theoretical which can lead to difficulties in interpretation of their true ecological meaning. The significance of any changes to the values of these indices over time involves comparison of what often appear to users as rather abstract numbers. A useful review of approaches to the assessment of habitat connectivity is provided by: Watts, K., *et al.* 2008. Habitat Connectivity – Developing an indicator for UK and country level reporting. Phase 1 Pilot Study - (Defra Contract WC0704). Forest Research, Farnham, Centre for Ecology and Hydrology, Lancaster (http://sciencesearch.defra.gov.uk/Document.aspx?Document= WC0704_7707_FRP.pdf) and the review of habitat connectivity indicator development by JNCC 2012 (http://jncc.defra.gov.uk/docs/01_BIF_BackgroundPaper_HabitatConnectivity.docx). Links to other indicators such as total extent of habitat, total value of ecosystem services, and other biodiversity indicators within the habitat sub-theme. Actions to improve connectivity and the resulting changes to species distribution and abundance may take some time before effects are detectable. Distribution may not be as important as abundance - if they have access to more habitat, one would expect numbers to increase. The species data would need to be set in context of the habitat connectivity information. Equally, one type of habitat/ connectivity enhancement for some species can be a barrier to others.

Indicator: B10_C: Comparative indicator of habitat connectivity

Indicator: B10_C	Comparative indicator of habitat connectivity
Version date	25th February 2014
Theme	Biodiversity
Sub-theme	Habitat connectivity
Sub-theme category	Core
Indicator category	Core
Indicates *(what is the indicator intended to indicate)*	This is a measure of NIA progress improve habitat connectivity Measures of habitat connectivity can indicate: changes in the distribution / condition / extent of habitats contributing to connectivity (as a proxy)
Units	Hectares (ha), Linear Kilometres (km) or Sites depending on the nature of the action type. Ideally, reporting should be as hectares (ha). Linear habitats (e.g. river and hedgerows) can be reported as km.
Relevance to Government indicators	England Biodiversity 2020 Indicator 3. Habitat connectivity in the wider countryside. UK Biodiversity Framework Indicator C2. Habitat connectivity Both currently measure functional connectivity.
Existing data for establishing baseline	
Relevant dataset(s)	Core indicator would be based on national datasets / collation of conservation actions contributing to connectivity in order to allow national comparison. This is a **proxy measure** of connectivity based on the contribution of actions to improve connectivity. The extent of actions undertaken within the reporting period are needed. Datasets for the proxy measures can be derived from the records (in BARS) of those relevant actions. NIAs can establish a 'Connectivity' sub-NIA ('Child') project within BARS to collate all the relevant actions.
Source(s) of data *(contact details or hyperlink)*	BARS reports (http://ukbars.defra.gov.uk/), or locally held spatial records of actions undertaken by type. BARS data includes: 1) Programme delivery entered into BARS by the NIA partners 2) Large datasets imported nationally into BARS (e.g. HLS, EWGS) 3) Delivery information entered by other organisations working in the NIA area *(this information is not included within the NIA reporting).* If NIAs are managing their action records within a GIS then this can be used as the basis for reporting.

Spatial coverage	For proxy measures of connectivity, include all relevant actions that are within the NIA and have been undertaken within the NIA programme.
Temporal coverage	For proxy measures of connectivity, the actions underway or completed within the period are those that will contribute to the connectivity.
Planned updates	Update will rely on the NIAs contributing actions to BARS or recording the extents of actions and on updating the status of existing actions.
Data collection method *(estimate, survey, monitoring)*	Conservation action records and cross-tabulation between conservation actions and contribution to connectivity derived from literature or expert judgement. Action records may be collated within BARS and these are associated with an area / extent record. The spatial data held in BARS does not form a basis for reporting extents, so NIAs may wish to use local GIS layers of actions. If using BARS the NIAs will need to establish a 'collaboration' (linking between projects within the BARS system) to allow actions from the nationally imported actions or actions entered by other projects to be associated with the NIA 'connectivity project'. Separate indicators may be entered for each habitat type using particular habitats that NIAs are managing for.
Accuracy of data	Spatial accuracy records should be based on the GIS extents of actions. Weighting factors will be subjective, but can be agreed by a stakeholder / expert group.
Additional/new data for establishing baseline and monitoring change	
Relevant additional/new data	Annual updates to the actions will be recorded in BARS in relation to: i) Extent of habitat managed to improve its condition. ii) Extent of areas managed to restore/create habitat. iii) Extent of habitat managed to secure species-specific needs. For this proxy indicator, the changes in land cover do not necessarily need to be integrated back into the local land cover maps as analysis can be run on the actions and records of their extents/condition. Action records of conservation actions (habitat enhancement of condition, creation/restoration) recorded within BARS and selected by the NIAs on the basis of their contribution to connectivity (i.e. not all actions may be undertaken to enhance connectivity). NIAs should update the status of existing records within BARS – i.e. planned to underway, underway to completed.
Responsibility for data collection *(e.g. NIA partnerships or potentially to be taken on by NE or EA)*	NIA partnerships drawing upon other datasets, as relevant.
Data collection method	Consistent with those used for establishing the baseline.

Calculating and presenting indicator	
Baseline date for 12 initial NIAs	For this action based proxy, the baseline (pre-NIA) is zero (as at April 2012), and the annual figures mark the annual contributions of actions to connectivity.
Methods for calculating indicator values	NIAs will need to identify and annually collate the actions which are contributing to connectivity and weight these based on their relative contribution to connectivity. Include both the underway and completed actions. A 'reclassification matrix and some application of weighting factors will be needed to cross-reference the habitat conservation actions to their functional contribution to connectivity. The weightings applied to the extents of actions should be between 0 and 1 based on the NIAs view of the contribution of the habitat objective to connectivity. No standard weightings have been provided. Calculation of areas times the relative contribution to connectivity can be undertaken within a spreadsheet or integrated within a GIS model if local spatial records are used. This weighting may be based on criteria e.g. i) type of actions / objective ii) adjacency to other areas of relevant habitat iii) extent iv) age. For example, the matrix may distinguish actions to create and improve condition and contributing more than actions to maintain habitat. NIAs should report their weighting coefficients as well as quantities (within the Online reporting and caveats). NIAs can calculate and sum the measures for different habitats, but may do that at a coarse level (e.g. woodlands, grasslands, heathlands).
Responsibility for calculating indicator values	NIA partnership.
Reporting	

Online reporting	The following baseline and annual data can be entered in relevant fields in the online reporting system.
	
	• Features – defined for the extent contributing to connectivity for particular habitats
	• Annual figure for the indicator
	• Caveats relating to:
	  ○ Methods for calculating indicator values
	  ○ Interpretation of indicator values.
	
	Note that **data entered as 'annual figure' in each reporting year should be for that year only**, and not cumulative. Cumulative figures will be calculated by summing individual year data.
	
	Include within the caveats the permalink and the description of the biodiversity objectives and classes of action that are included within the report.
	
	The actions for improvement to connectivity should include an area / length value for the works undertaken (e.g. *x* ha deciduous woodland planted or *x* km of hedgerows); a

	location and ideally some narrative information about *why* the action was targeted there specifically. The weighting factors and re-classification matrix used should be included.
Interpreting	
Interpretation *(inc. linkage to other indicators)*	As this is a new protocol (2014) this area needs further research, particularly in terms of the weighting and scoring of the contribution of actions to connectivity, but it is possible to re-run analysis year on year if the conservation actions are recorded. This measure only reports on the actions to improve connectivity developed by the NIA programme. External factors may affect the overall connectivity within the NIA area; narrative reporting on the indicator is encouraged. It may be appropriate to record within the narrative /caveats actions that are not part of the NIA programme to understand the overall effect within the NIA. It is acknowledged that actions to enhance connectivity for some species or habitats may have a negative impact on connectivity for others. In this sense they are not truly additive. This indicator reports on the positive contributions of actions with weightings from 0-1 (in the assumption that there are no actions at '0' and no negative actions. A more sophisticated model might include this but would need to be habitat specific to reflect the positive for one habitat being negative for others. NIAs are encouraged to use the Caveats field to report on these issues. Links to other indicators such as total extent of habitat, total value of ecosystem services, and other biodiversity indicators within the habitat sub-theme offer the opportunity to capture the 'more, bigger, better'.

Appendix 4: Ecosystem services theme indicator protocols

- ES01_C: Measure of extent of land managed to maintain and/or enhance landscape character
- ES02_C: Length of public rights of way (PROW) and permissive paths created and/or improved
- ES03_C: Condition of historic environment features
- ES04_C: Access to natural greenspace and/or woodland
- ES05_S: Area of habitat supporting pollinators
- ES06_R: Contribution to water quality
- ES07_R: Contribution to carbon storage & sequestration
- ES08_P: Area of more sustainable agricultural production
- ES09_P: Percentage of woodland in active management

Indicator: ES01_C: Measure of extent of land managed to maintain and/or enhance landscape character

Indicator: ES01_C	Measure of extent of land managed to maintain and/or enhance landscape character
Version date	25th February 2014
Theme	Ecosystem services
Sub-theme	Cultural services
Sub-theme category	Core
Indicator category	Optional
Indicates *(what is the indicator intended to indicate)*	This indicator shows the contribution of NIAs action to maintaining and improving the landscape character within the NIA area. Using a process indicator in this case is necessary as changes in landscape can be slow and incremental and it is assumed that land being managed to maintain / enhance its character will, in time, result in enhanced landscape character across the NIA area. Land being managed to maintain or enhance landscape character it is a proxy measure for the outcome of improved landscape character. This process indicator should be seen in the context of longer-term vision / goals relating to landscape in the NIA, and this can be reported through narrative text to accompany the measure of extent of land managed to enhance landscape character.
Units	Hectares (ha), Linear Kilometres (km) or Sites depending on the nature of the action type. Ideally, reporting should be as hectares (ha). Habitats for which sites are appropriate include ponds. Linear habitats (e.g. river and hedgerows) can be reported in km.
Relevance to Government indicators	None
Existing data for establishing baseline	
Relevant dataset(s)	Existing Landscape Character Assessments (LCAs). LCA guidance highlights types of information/data sets useful for desk study, including: geology; landform; soils; vegetation; trees and woodland; land use; and settlement patterns. The current guidance dates from 2002. An update version is currently in preparation, to be available 2014/15 Revised National Character Area (NCA) profiles also contain valuable information in their key facts and data sections, which complements that in the LCA guidance and cite more up-to-date sources in terms of landscape change and the features, habitats, urban and infrastructure influence on landscape.

Source(s) of data *(contact details or hyperlink)*	Sources of information are listed in LCA guidance (Box 4.1, page 22): http://publications.naturalengland.org.uk/publication/2671754?category=31019 Landscape Character Assessment case studies: http://www.naturalengland.org.uk/ourwork/landscape/englands/character/lcn/resources/lcaresources/lcacasestudies.aspx. (note this web address will be changing to http://www.naturalengland.gov.uk/ourwork/landscape/englands/character/lcn/resources/lcaresources/lcacasestudies.aspx. by July 2014) For NCA information, profiles and data see: http://www.naturalengland.org.uk/publications/nca/ (Note this address will be changing to http://www.naturalengland.gov.uk/publications/nca/ by July 2014) Countryside Quality Counts (http://www.naturalengland.org.uk/ourwork/landscape/englands/character/cqc/) provides context from historic surveys (1999-2003) for reporting and assessing both the magnitude and the direction of landscape change for each NCA, using four categories: maintained, enhancing, neglected, or diverging. This may provide an appropriate classification for indicating reporting change.
Spatial coverage	Various
Temporal coverage	Various
Planned updates	Various
Data collection method *(estimate, survey, monitoring)*	See existing LCA and LCA guidance and NCA data / information
Accuracy of data	Various
Additional/new data for establishing baseline and monitoring change	
Relevant additional/new data	Local measures of the extent of land managed to enhance landscape character can be established by the NIA partnership in relation to an LCA. If an LCA does not already exist for the NCA area, then one will need to be undertaken (see LCA guidance). A 1:25,000 base map for the LCA would ensure a high level of detail, although 1:50,000 may be appropriate for NIAs of larger area. It is expected that in many cases LCAs will exist (e.g. AONBs, National Parks etc). Where not it is suggested that only NIAs who have the resource to complete such an assessment should select this optional indicator. The data for this analysis is the action records that are targeted at landscape enhancement. This may be partially recorded within the BARS2 recording system, (through recording the actions on landscape features such as boundary features, woodland planting etc).

	The spatial and temporal coverage should include the whole of the NIA and be repeatable annually to support effective monitoring.
Responsibility for data collection *(e.g. NIA partnerships or potentially to be taken on by NE or EA)*	Dependent on the local measures established, data may be sourced from national or local datasets that are the subject of on-going data collection or may need to be collected by the NIA partnership.
Methods for data collection	Annual monitoring of local measures of the extent of land managed to enhance landscape character, as established by the NIA partnership in relation to the LCA. This is based on the categorisation within the LCA of land management that has positive and explicit management for landscape objectives (e.g. AONB, National Trust land). Calculate the area (extent) or, if chosen, the feature numbers that are managed for landscape enhancement purposes.
Calculating and presenting indicator	
Baseline date for 12 initial NIAs	Date of the LCA and extent of land within the LCA managed for landscape enhancement. If an existing LCA is unavailable then one will need to be undertaken
Methods for calculating indicator values	Dependent on the local measures established. Generally, this will be based on the GIS area assessment of land parcels that are managed for landscape enhancement. LCA can be used to determine the landscape units within which positive landscape management is occurring. Additional areas that are added to the management for landscape will provide the basis for update. **Note:** this indicator is *not* proposing the updating / completion of annual LCAs in the NIA area, rather it is a process indicator of the extent of land being managed to enhance / maintain it landscape character. Records of these measures should be reported on in the context of the LCA baseline and longer-term visions / goals for landscape character in the LCA.
Responsibility for calculating indicator values	NIA partnership
Reporting	

Online reporting	Local measures to be established by NIA partnership (some may relate to other indicators, e.g. Total extent of habitat).
	• Baseline figures for measures of extent
	• Figure for measures of extent updated annually
	• Narrative: relating extent of measures in context of progress towards longer-term (5, 10, 20 year) vision or goals for landscape enhancement.
	• Caveats relating to:
	  ○ Likely accuracy of the baseline
	  ○ Changes in the baseline
	  ○ Likely gaps in knowledge of annual changes in total extent (e.g. arising from an inability to monitor private landholdings).

	Note that **data entered as 'annual figure' in each reporting year should be for that year only**, and not cumulative. Cumulative figures will be calculated by summing individual year data.
Interpreting	
Interpretation *(inc linkage to other indicators)*	LCAs bring together many landscape attributes (e.g. semi-natural habitats, historic features, terrain, settlement and development, boundaries and woodland and agricultural pattern. As such, there are many potential links with indicators in the themes relating to biodiversity, ecosystem services, and social and economic benefits and contributions to well-being. Areas outside the NIA, may be relevant where actions enhance the landscape setting of the NIA (i.e. within the inter-visibility area).

Indicator: ES02_C: Length of public rights of way (PROW) and permissive paths created and/or improved

Indicator: ES02_C	Length of public rights of way (PROW) and permissive paths created and/or improved
Version date	25th February 2014
Theme	Ecosystem services
Sub-theme	Cultural services
Sub-theme category	Core
Indicator category	Optional
Indicates *(what is the indicator intended to indicate)*	Contributions to improving the network of linear routes for walkers, cyclists and horse-riders *as part of the NIA programme*. By recording change over time in the length of public rights of way and permissive paths created or improved this indicator is seeking to understand how the NIA programme is helping to improve access to the natural environment. This is a proxy measure for changes in cultural ecosystem services associated with access to and interaction with nature (e.g. through leisure activities such as walking) based on the assumption that an increase in the number / length of public rights of way and/or their quality will encourage and enable more people to use them.
Units	Kilometres
Relevance to Government indicators	N/A
Existing data for establishing baseline	
Relevant dataset(s)	The local (highway) authority Definitive Map and Statement together form a document which is the legal record of all known Public Rights of Way (PROW) and, as such, is the most accurate source of available information (excluding permissive routes and area access). Information on the range of permissive paths (including towpaths, cycle tracks, permissive routes offered by a range of land managers, including local authorities) available from OS map (1:25000 scale) or local highway authority. The Rights of Way Improvement Plan (sometimes merged with the Local Transport Plan) is a major source of information on where local networks could be improved.
Source(s) of data *(contact details or hyperlink)*	NIAs should contact relevant local authority/ies relating to the appropriate Definitive Map/s and Statement/s for the NIA area. Defra hold a combined PROW dataset (2008), although it is not updated. Natural England will provide a summary of length of PROW for the 12 initial NIAs based on this dataset in order to help with establishing baseline. It may be that this dataset is updated and becomes available for release in the future.

	Information on permissive paths created under agri-environment schemes (Countryside Stewardship (CSS), Environmentally Sensitive Areas (ESA)) can be viewed at: http://cwr.naturalengland.org.uk. Natural England hold a 2010 spatial dataset of permissive paths created under CSS and ESA, this is not currently available for release but Natural England will provide summary statistics for the 12 initial NIAs based on this dataset in order to help with establishing baseline. It may be that this dataset will become available for release in the near future. Local Access Forum (established to advise local authorities and others locally on matters relating to access). See: http://www.naturalengland.gov.uk/ourwork/access/laf/.
Spatial coverage	Local highway authorities maintain comprehensive spatial coverage of PROW. Natural England (NE) holds data on permissive paths created under CSS and ESA. Other data on permissive paths typically only provide partial coverage within the local authority.
Temporal coverage	Variable: Local authorities maintain the rights of way data, but data is not consolidated on a regular basis.
Planned updates	Rights of Way Improvement Plans are to be updated every 10 years. The first versions were produced by December 2005. Each local highway authority will have a different date for when it must review the plan. Definitive Map and Statement (which is in paper form) may not be up to date and Modification Orders may be in processing and consolidation of the Definitive Map is only periodic. Ordnance Survey data shown on the 1:25000 scale maps is only updated on sheet revision – although the new path data layer Integrated Transport Network (ITN) Layer records Urban Paths Theme is on a more frequent update cycle as part of the OS MasterMap.
Data collection method *(estimate, survey, monitoring)*	Seek guidance from the local highway authority on the most authoritative data. There is no common protocol, although many local authorities now maintain an unofficial digital version of the Definitive Map and Statement which provide GIS data and may include permissive routes (not part of the Definitive Map and Statement).
Accuracy of data	Data on condition and accessibility are not routinely collected. A number of PROWs are not recorded on the Definitive map and may be under investigation for evidence to demonstrate that the route exists and with what rights for walkers, cyclists, horse-riders and other users.
Additional/new data for establishing data and monitoring change	
Relevant additional/new data	NIA partnerships should record the length of linear route where work has been undertaken by organisations within the NIA partnership as part of the NIA programme, in one of five distinct classes of improvement: 1. Create new PROW (footpaths and bridleways) 2. Upgrade footpaths to bridleways 3. Create permissive routes 4. Improve accessibility of PROW 5. Improve accessibility of permissive paths

	'Improvement of accessibility' here is assumed to be upgrading the condition or access level (e.g. less abled access) If NIAs wish to record the length of route made more accessible by their works of linking existing routes (creation or improvement) this can be assessed by evaluating the additional length of existing route made accessible by this creation/improvement. Actions by others within the NIA area but outside the NIA partnership may also affect the records if collected from local authority sources. Data should only reflect those actioned by the NIA partners.
Responsibility for data collection *(e.g. NIA partnerships or potentially to be taken on by NE or EA)*	NIA partnership
Methods for data collection	On-site or map-based measurement of length of route created, upgraded or improved, or the additional length made accessible by gap filling actions.
Calculating and presenting indicator	
Baseline date for 12 initial NIAs	Indicator values will need to be calculated for the first report in April 2013. This should be zero at the start of the NIA programme – (rather than total quantity within the area as the start of the NIA programme)
Methods for calculating indicator values	Measure length of route where improvements / creation of paths have been made by NIA partner actions *as part of the NIA programme*. NIAs reporting the length of route made more accessible as 'added value' (i.e. where a short length of path creation/improvement may grant access to a currently unconnected route thereby increasing the overall accessible length) can calculate this from the existing PROW/route data. If this improves access partially outside the NIA boundary the full length should be included.
Responsibility for calculating indicator values	NIA partnership
Reporting	
Online reporting	Annual data should be entered into the following relevant fields in the online reporting system (as applicable): 1. Length of new PROW (footpath and bridleway) created 2. Length of footpath upgraded to bridleway 3. Length of permissive route created 4. Length of improvement to accessibility of PROW 5. Length of improvement to accessibility of permissive paths. Add a new feature to the online reporting tool to record the length of route that has been made more accessible ('added value') with units as km. Add a note to the caveats if necessary to clarify the calculation methods.

	Note that **data entered as 'annual figure' in each reporting year should be for that year only**, and not cumulative. Cumulative figures will be calculated by summing individual year data.
Interpreting	
Interpretation *(inc. linkage to other indicators)*	Care is required, as the recorded length of PROW and permissive paths improved may not be a fair reflection of all that is happening within the NIA. Whilst the indicator provides a measure of length of route where improvements have been made, it does not necessarily reflect the 'added value' of such improvements (which can be optionally reported within the online tool). Small changes can make a big difference to accessibility in terms of connectivity of the path network.

Indicator: ES03_C: Condition of historic environment features

Indicator: ES03_C	Condition of historic environment features
Version date	25th February 2014
Theme	Ecosystem services
Sub-theme	Cultural services
Sub-theme category	Core
Indicator category	Optional
Indicates *(what is the indicator intended to indicate)*	This indicator shows the management of threats to historic environment features 'at risk' within the NIA. This indicator will be relevant to all NIAs that have a specific programme of activities with the objective of protecting or enhancing historic environment features. Measuring change in the number of historic environment features at risk will help with understanding of the extent to which the NIA programme helps to reduce risks to historic environment features, although in many cases it may not be possible to attribute with certainty that changes are a direct result of NIA activities. This is a proxy indicator for cultural ecosystem services, based on the assumption that a reduction in the number of historic environmental features at risk will protect (and possibly increase) the benefits these features provide for local people.
Units	Number of features
Relevance to Government indicators	English Heritage (EH) key performance indicator (KPI) to reduce the number of 'at risk' designated historic environment assets by 25% over the period 2011-2015 (from joint DCMS/Defra/DCLG funding agreement KPI for EH).
Existing data for establishing baseline	
Relevant dataset(s)	Heritage at Risk (HAR) datasets: • Updated 2010 HAR GI layer showing condition **rating of Scheduled Monuments** plus their 'principle vulnerability' (also available as Excel table) • 2010 **Registered Parks and Gardens** showing high risk assets (also available as an Excel table) Selected Heritage Inventory for Natural England (SHINE) HLS agreements: • HLS historic environment features and feature condition (This information is not currently available as a spatial dataset but may become so in the future) • HLS options relating to the historic environment. **Note:** The Environmental Stewardship Scheme will be closing to new applicants in 2014. Use of agreement data from the New Environmental Land Management Scheme

	(NELMS) will need to be considered once more information is available although the data and approach to calculation are likely to be similar.
Source(s) of data *(contact details or hyperlink)*	EH. Contact Vince Holyoak, Head of Rural and Environmental Advice, English Heritage (email: Vince.Holyoak@englishheritage) (Scheduled Monument and Registered Parks and Gardens data are available from http://services.english-heritage.org.uk/NMRDataDownload/). Selected Heritage Inventory for Natural England (SHINE) – undesignated historic environment features which have been identified by local authority historic environment services as being significant and worthy of management under Environmental Stewardship. The SHINE database is accessible from: http://www.gis.naturalengland.org.uk/pubs/gis/GIS_register.asp and at http://www.myshinedata.org.uk/ Natural England will provide summary statistics of Scheduled Monuments at Risk for the 12 initial NIAs based on this dataset in order to help with establishing baseline. NE Environmental Stewardship option point data is available to download from Natural England http://www.gis.naturalengland.org.uk/pubs/gis/GIS_register.asp Area figures are available within the attribute data. Historic environment options can be extracted. Natural England will provide summary statistics for the 12 initial NIAs to 2015 based on this dataset for all options.
Spatial coverage	1. National dataset of HAR designations and condition data 2. National datasets of HLS historic environment information
Temporal coverage	1. HAR dataset -based on 2010 data 2. HLS data – on-going updates.
Planned updates	1. EH provides updated outputs in October each year to remove elements where risk has been removed, based on data analysed in May of that year. 2. HLS option point data available annually
Data collection method *(estimate, survey, monitoring)*	Site survey
Accuracy of data	1. Annual HAR statistics should be assumed to be verified and accurate. 2. HLS agreements should be assumed to be accurate.
Additional/new data for establishing baseline and monitoring change	
Relevant additional/new data	Change in the presence or condition of historic environment features within the NIA from HAR and HLS datasets.
Responsibility for data collection *(e.g. NIA partnerships or potentially to be taken on by NE or EA)*	1. EH is responsible for updating HAR based on 'received information'. 2. NE maintains data on option uptake within HLS agreements. Natural England will provide summary statistics based on historic environment option uptake within ES agreements annually for each of the 12 initial NIAs to 2015. Additional data collection could be undertaken by NIA partners and other local group surveys.

Methods for data collection	1. HAR features - EH HAR condition checklist. 2. HLS features - NE Farm Environment Plan condition survey guidance; EH monitoring guidance notes for wetlands and other features not covered by Farm Environment Plans.
Calculating and presenting indicator	
Baseline date for 12 initial NIAs	April 2012
Methods for calculating indicator values	1. National dataset of HAR designations and condition data can be cut to NIA boundaries. 2. National datasets of HLS historic environment information can be cut to NIA boundaries. Natural England will provide summary statistics based on historic environment option uptake within ES agreements annually for each of the 12 initial NIAs to 2015.
Responsibility for calculating indicator values	1. HAR features - EH. 2. HLS features - NE.
Reporting	

Online reporting	The following data can be entered in relevant fields in the online reporting system:
	• Baseline and annual figures for the numbers of heritage features 'at risk' in the following categories:
	  ○ Scheduled Monuments
	  ○ Registered Parks and Gardens
	  ○ Undesignated historic environment features as identified through Selected Heritage Inventory for Natural England (SHINE).
	  ○ HLS historic environment options.
	
	Caveats relating to the extent to which the number of HLS historic environment features 'at risk' is a fair reflection of what may be happening to the wider resource of undesignated features.
	
	Note that **data entered as 'annual figure' in each reporting year should be for that year only**, and not cumulative. Cumulative figures will be calculated by summing individual year data.

Interpreting	
Interpretation *(inc linkage to other indicators)*	Care is required as the indicator does not take account of information on the location of undesignated features included in the Local Historic Environment Record, which is held by local authorities. NIA partnerships are welcome to record, separately under this indicator, the numbers of undesignated heritage features 'at risk'. The indicator does not explicitly relate to actions by the NIA partnership, but the narrative will need to establish the relationship with the conservation objectives and Business Plans of the NIA. There are potential links to 'Local measures of extent of land managed to enhance landscape character' and other indicators of cultural services.

Indicator: ES04_C: Access to natural greenspace and/or woodland

Indicator: ES04_C	Access to natural greenspace and/or woodland
Version date	25th February 2014
Theme	Ecosystem services
Sub-theme	Cultural services
Sub-theme category	Core
Indicator category	Optional
Indicates *(what is the indicator intended to indicate)*	Extent of accessible natural greenspace (ANG) and/or woodland within the NIA. Percentage of population in the NIA with access to natural greenspace and/or woodland, as defined by the Accessible Natural Greenspace Standard (ANGSt) or Woodland Trust's Woodland Access Standard (WASt) categories. Measuring changes in the extent of ANG and the percentage of population with access to natural greenspace an woodland is an indirect or proxy measure of the impact the NIA programme is having on improving access to nature and thereby increasing the level and range of ecosystem services in the NIA (through more opportunities for local people to use and enjoy their local environment and thus benefit from it). It is an indirect / proxy measure as other factors may also improve access, and also that increasing the opportunity to access the natural environment does not necessarily mean that people will act on that opportunity. **Note:** Successful use of this indicator requires the use of GIS mapping / analysis, and it is recommended that NIAs identify a partner or local authority who is able to provide GIS expertise to assist in developing this indicator.
Units	Hectares (area meeting ANGSt and WASt) as percentage of total land area managed by NIA partners) and percentage (of population).
Relevance to Government indicators	None
Existing data for establishing baseline	
Relevant dataset(s)	Datasets of the extent of ANG. Accessible Natural Environment data sets which Natural England owns (*) or is licensed to use: • CRoW Open Access land (various categories)* • Registered Common land* • Country Parks* • Local Nature Reserves* • National Nature Reserves* • RSPB reserves • Accessible woodland (belonging to the Forestry Commission and Woodland Trust) • Accessible National Trust Land

	• Registered Village Greens, • Millennium Greens and Doorstep Greens* • Cemeteries and church yards. • Access provided by ES and HLS* • Historic parks and gardens (although these are not necessarily accessible) • National Trails • Public Rights of Way Existing ANGSt analyses. Woods for People (WfP) dataset. Existing WASt analyses.
Source(s) of data *(contact details or hyperlink)*	ANG: Natural England (NE) provides many national rural GIS datasets drawn together from various sources such as Forestry Commission (FC), National Trust, etc. via its data download http://www.gis.naturalengland.org.uk/pubs/gis/GIS_register.asp and more information on NE data and licensing is available here: http://www.naturalengland.org.uk/publications/data/default.aspx ANGSt analyses: Many ANGst analyses have already undertaken around the country and may be available from local authorities and local record centres, and NIAs are encouraged to contact these (it is suggested to try green infrastructure, forward planning or greenspace/open space leads). NE owns or is licensed to use a number of Accessible Natural Environment datasets. GIS datasets for some of these can be accessed and downloaded from Natural England DataShare Environmental Open Data page. (http://www.geostore.com/environment-agency/WebStore?xml=environment-agency/xml/ogcDataDownload.xml) Additional datasets are also available for contractors or partners working under a MoA with Natural England. See http://www.naturalengland.org.uk/publications/data/giforcontractorspartners.aspx for data request process. For more information contact Rachel Penny, Senior Specialist, Health and Accessible Natural Environment, Natural England (Tel: 01245 284747; email: Rachel.Penny@naturalengland.org.uk). WfP and WASt analyses: Ian White, GIS Manager, Woodland Trust (Tel: 01476 581111; email: ianwhite@woodlandtrust.org.uk).
Spatial coverage	ANG: coverage of rural areas is good, but coverage of urban areas is more varied. ANGSt analyses: usually carried out as part of green infrastructure strategies, PPG17 Open Space strategies, Local Plan preparation etc. Some regional/sub-regional analyses have also been undertaken. Note: ANGSt analysis

	requires analysis of data within a 10km buffer of an NIA to include the furthest distance threshold included in ANGSt. WfP: aims to provide as comprehensive an inventory of accessible woodland across the UK as possible. WASt analyses: county and district/borough.
Temporal coverage	ANG: various ANGSt: various WfP: began in 2002 WASt analyses: 2004 and 2009
Planned updates	ANG: various. No national dataset / analysis currently. WfP: updated annually
Data collection method *(estimate, survey, monitoring)*	ANG: various GIS datasets, mapping and analysis ANGSt: method explained in Natural England (2010) *Nature nearby -accessible natural greenspace guidance* (NE265) http://publications.naturalengland.org.uk/publication/40004. WfP: relevant organisations are asked to give details of woodland with public access, which they own, manage or know about. Public and voluntary bodies with large woodland holdings or those with responsibility for particular areas are targeted. Woods are also included that are supported by FC grant aid aimed at making improvements to access. The map is updated in a GIS, previously using the National Inventory of Woodland and Trees and, as from 2012, the new National Forest Inventory. The extent of each area of accessible woodland is saved as a 'polygon'. WASt: method explained in Woodland Trust (2010) *Space for people: targeting action for woodland access* http://www.woodlandtrust.org.uk/mediafile/100083906/space-for-people.pdf. Data are available but need 'cutting' to NIA boundaries. **Note:** Successful use of this indicator requires the use of GIS mapping / analysis, and it is recommended that NIAs identify a partner or local authority who is able to provide GIS expertise to assist in developing this indicator.
Accuracy of data	ANG. Good accuracy of rural data, though extent of urban data varies, criteria of definitions of naturalness and accessibility can be variably interpreted ANGSt: interpretation of the terms 'naturalness' and 'accessibility' can vary slightly WfP: increasingly comprehensive.
Additional/new data for establishing baseline and monitoring change	
Relevant additional/new data	ANG: changes in the extent of ANG records. No national dataset/analysis currently. WfP: changes in the extent of accessible woodland.

Responsibility for data collection *(e.g. NIA partnerships or potentially to be taken on by NE or EA)*	ANG: various but may need to be supplemented by NIA partnership, particularly in urban areas. WASt: Woodland Trust/FC may be able to supply data cut to NIA boundaries subject to staffing resource. NIA partnerships may contribute.
Data collection method	Updated ANG / WASt data will need reprocessing in GIS environment to provide new ANGSt / WASt figures.
Calculating and presenting indicator	
Baseline date for 12 initial NIAs	Greenspace: subject to availability of ANG datasets or existing ANGSt analyses. Baseline is based on the calculations undertaken by Natural England in 2013. Woodland: April 2012
Methods for calculating indicator values	In order to establish baselines use: • Existing ANGSt and/or WASt analyses where relevant, or • NIA to undertake ANGSt analyses, and/or • WfP datasets to undertake WASt analyses. Repeat such analyses to monitor change. As noted above this indicator requires GIS analysis, and NIAs should identify a partner (or other external expertise) who can assist in the use of GIS.
Responsibility for calculating indicator values	ANGSt: to be carried out by NIA partnerships WASt: NIA partnerships (it may be feasible to get support from Woodland Trust/FC).
Reporting	

Online reporting	The following baseline and annual data can be entered in relevant fields in the online reporting system:
	
	• Area of accessible natural greenspace and/or woodland within the NIA
	• Percentage of population in the NIA with access to natural greenspace and/or woodland, as defined by ANGSt and/or WASt categories
	• Caveats relating to:
	  ○ Likely gaps in knowledge of ANG and woods
	  ○ Variation in interpretation of the terms 'naturalness' and 'accessibility' in relation to ANGSt.
	
	Maps showing the extent of the NIA meeting the various Accessible Natural Greenspace and/or Woodland Access Standard categories can be uploaded.
	
	Note that **data entered as 'annual figure' in each reporting year should be for that year only**, and not cumulative. Cumulative figures will be calculated by summing individual year data.

Interpreting	
Interpretation *(inc linkage to other indicators)*	Requires some care with interpretation, particularly with the concept and explanation of distance thresholds. There are potential links with NIA indicators relating to: • Measure of extent of land managed to enhance landscape character • Length of PROW and permissive paths created and/or improved • Number and social mix of visitors to NIA sites • Level of outdoor recreation in the local community. As noted above this indicator requires GIS analysis, and NIAs should identify a partner (or other external expertise) who can assist in the use of GIS. GIS can also be valuable for other indicators with a spatial element. More information on ANGSt can be found on the NE website: http://www.naturalengland.org.uk/regions/east_of_england/ourwork/gi/accessiblenaturalgreenspacestandardangst.aspx

Indicator: ES05_S: Area of habitat supporting pollinators

Indicator: ES05_S	Area of habitat supporting pollinators
Version date	25th February 2014
Theme	Ecosystem services
Sub-theme	Supporting services
Sub-theme category	Core
Indicator category	Optional
Indicates *(what is the indicator intended to indicate)*	Total extent of priority habitats supporting pollinators and how their extent changes over time. The role of native plant communities in providing pollinators with food and structure for reproduction is a 'supporting service', whereas the role of ecosystems in transferring pollen from male to female flower parts is a 'regulating service' (see http://pdf.wri.org/esr_definitions_of_ecosystem_services.pdf). NIA partnerships may also wish to develop a related indicator under the 'Regulating services' sub-theme. Measuring the change in extent of habitat supporting pollinators is a proxy indicator for the ecosystem services the pollinators provide, based on the assumption that an increase in these habitats will increase the number / range of pollinators.
Units	Hectares
Relevance to Government indicators	Links with: • England Biodiversity 2020 Indicator 2. Extent and condition of priority habitats • UK Biodiversity Framework Indicator C3. Status of threatened habitats
Existing data for establishing baseline	
Relevant dataset(s)	The national Priority Habitats Inventory (PHI), collated by Natural England from a wide variety of national and local data sources, currently provides the best available national datasets for priority habitat distribution and extent. Comprehensive habitat mapping to OS MasterMap standards and Integrated Habitat Survey (IHS) or equivalent standard classification exists for some areas, from which it is possible to extract / translate to Priority Habitat classes.
Source(s) of data *(contact details or hyperlink)*	Priority Habitats Inventory available from Natural England DataShare Environmental Open Data page. (http://www.geostore.com/environment-agency/WebStore?xml=environment-agency/xml/ogcDataDownload.xml), Natural England have agreed to provide each of the 12 initial NIAs with analysis of the area of each priority habitat within

	their NIA for each year of the 3 year programme to 2015. These can be submitted as the NIA report on habitat extent or NIAs can use local data if they wish Local Record Centres – habitat maps informed by various survey methods to appropriate classifications to identify priority habitat types.
Spatial coverage	1. Priority Habitats Inventory: a 'single habitat layer' for England based around OS MasterMap land parcels. 2. Phase 1 maps and local records normally relate to individual counties.
Temporal coverage	3. Priority Habitats Inventory: a version date for inventory layer further details can be found in files associated with the inventory when downloaded 4. Local maps – varied dates, some are maintained on an on-going basis. (See note in caveats related to temporal change)
Planned updates	3. Priority Habitats Inventory: NE intends to accept updates to the 'PHI and to re-publish at least annually. A feedback form is included when the PHI is downloaded. Locally available data can be submitted through this route to offer updated information. This should include data on species constancy and frequency across the site. 4. Local maps are often maintained by local record centres – e.g. Habitat Mapping Framework data.
Data collection method *(estimate, survey, monitoring)*	3. Priority Habitats Inventory is an interpreted product derived from analysis of a range of data sources of varying coverage and confidence in relation to confirming the habitat presence. These include Farm Environment Plan survey data, SSSI survey data, phase 1 and some NVC survey data. Metadata description associated with the PHI contains further detail. Collection methods are described in the Data Description and in 09042013_Single_Habitats_Layer_Final_Report_RDA.pdf included within the data download. 4. Local habitat maps – now typically mapped to OS MasterMap standards and using IHS classification, and some integrate to the National Vegetation Classification.
Accuracy of data	3. Priority Habitats Inventory has inconsistencies and does not always contain the best available local information. The PHI does not contain information on all priority habitats. 4. Other sources depend on the adopted standards.
Additional/new data for establishing baseline and monitoring change	
Relevant additional/new data	Changes to the boundaries of priority habitats, which may arise from re-survey, habitat loss/degradation, or restoration / creation. A feedback form is included when the PHI is downloaded from the Data Store to allow for updates to be submitted to NE.

Responsibility for data collection *(e.g. NIA partnerships or potentially to be taken on by NE or EA)*	NIA partnerships (data may also be collected by others in association with local record centres, national initiatives or on an *ad hoc* basis). Natural England are developing a method for submission of updates
Methods for data collection	Priority Habitats Inventory: NIA partnerships should send any required updates to the PHI to NE with supporting evidence. A feedback form is included when the PHI is downloaded from the Data Store. Locally available data can be submitted through this route to offer updated information for the inventories. This should include data on species constancy and frequency across the site. Additionally an NE contract ending in March 2014 is intending to produce a standard methodology and advice aimed at helping anyone survey to confirm the presence, extent and condition of priority habitat. This will offer a best practice model for gathering and submitting evidence to update the PHI. Actions that restore and create priority habitat may be recorded in BARS2 however this focused on activity reporting rather than outcomes so cannot be directly used to update the PHI. Activity is indicative of change, not but not definitive. Local habitat maps may be updated by resurvey and mapping changes. The HLU Mapping Tool (HCC/NE) (https://media.readthedocs.org/pdf/hlutool-technicalguide/latest/hlutool-technicalguide.pdf and https://github.com/HabitatFramework/HLUTool) can facilitate updates to the OSMM structured datasets (e.g. Habitat Mapping Framework data). It is important to retain the original versions to allow mapping of change over time.
Calculating and presenting indicator	
Baseline date for 12 initial NIAs	Priority Habitats Inventory: April 2013 – but note that PHI is a combination of past inventory data and the source records do not reflect extents in 2013 in most cases.
Methods for calculating indicator values	NIAs will need to define locally which habitats contribute to the area of habitat supporting pollinators. Calculate the total extent of the selected priority habitats from spatial data in the PHI by 'cookie-cutting' to the NIA boundary. If local habitat maps are used the NIA may need to translate the mapping classification to the equivalent priority habitat classification. Other habitat and other priority habitats not currently included in the PHI data may be added.
Responsibility for calculating indicator values	Priority Habitats Inventory: Natural England have agreed to provide each of the 12 initial NIAs with analysis of the area of each priority habitat within their NIA for each year of the 3 year programme to 2015. This will be provided via the NIA Huddle Best Practice Network annually in advance of the reporting deadline (https://defra.huddle.net/huddleworkspace/default.aspx?workspaceid=16609188) These can be submitted as the NIA report on habitat extent

	or NIAs can use local data if they wish. Any local analysis would need to be carried out by the NIA partnership
Reporting	

Online reporting	The following data can be entered in relevant fields in the online reporting system:
	
	• A baseline figure for total extent
	• A figure for total extent updated annually
	• Caveats relating to:
	  ○ The PHI only includes 24 priority habitats out of 40 total terrestrial and freshwater priority habitats. One of these is "Deciduous Woodland" which comprises all BAP woodland which have not been distinguished. In addition to these 24 the PHI includes 3 non-priority habitat classifications/attributions.
	  ○ Likely accuracy of the baseline (e.g. what can be deduced locally about potential misattribution of habitats and from information in files associated with the PHI when downloaded
	  ○ Changes in the baseline, e.g. arising from publication of the single habitat layer Likely gaps in knowledge of annual changes in total extent (e.g. arising from an inability to monitor privately landholdings).
	
	In addition to priority habitats, NIA partnerships are also welcome to record, separately under this indicator, other features that support pollinators (e.g. nectar mix plots).
	
	Note that **data entered as 'annual figure' in each reporting year should be for that year only**, and not cumulative. Cumulative figures will be calculated by summing individual year data.

Interpreting	
Interpretation *(inc linkage to other indicators)*	Care is required, as the recorded total extent of a may not be a fair reflection of reality, due to inconsistencies and incomplete coverage of all the priority habitat types. The originating data is of varied dates and mapping standards. PHI data does not include all relevant priority habitats (as it currently incorporates 20 habitats of the 40 defined). It is recognised that it is not just priority habitats that support pollinators, so if these are included within the mapping sources notes should be added to the Caveats section in the online tool. Updates to the PHI (in relation to corrections) are likely to introduce significant change to the areas represented in the inventory. Change in areas represented as a result of actual gains or losses of habitat are likely to be much less significant and hard to deduce. The PHI is currently the only data source available across all 12 initial NIAs (and across England) and the NIAs should actively engage with its use

	and update. However, as the development of the PHI is in the early stages the NIAs have the option to submit their own extent calculations as reports against this indicator (these may be more accurate) as an alternative to the PHI if they have the information available. The PHI should be used as a (proxy) fall-back where these is no alternative. Note that the sources of data have minimum mappable units (typically of 0.5 ha in PHI). Where habitat extents change due to actions are below these thresholds they will not appear in the record. Changes in extent may reflect changes in knowledge rather than actual changes. This may have wider implications as the indicator has potential links with all indicators within the biodiversity theme and links directly to NIA indicators of: • Area of habitat supporting pollinators • Contribution to water quality • Contribution to carbon storage and sequestration where the extent of habitat is used as a proxy indicator for ecosystems services. This indicator differs from that in B02_H: *Extent of areas managed to restore/create habitat* which maps actions as 'being managed to restore or create priority habitats' whilst this indicator includes existing extent across the NIA

Indicator: ES06_R: Contribution to water quality

Indicator: ES06_R	Contribution to water quality
Version date	25th February 2014
Theme	Ecosystem services
Sub-theme	Regulating services
Sub-theme category	Core
Indicator category	Optional
Indicates *(what is the indicator intended to indicate)*	This indicator shows the contribution of management actions focussed on reducing negative impacts of land management upon water quality. This is primarily based on the contribution of the extent of habitats and land management approaches to water quality (e.g. in terms of providing 'buffer strips' to block sediment, nutrients and pollutants reaching watercourses). It is assumed that conservation actions and control measures can have a positive, mitigating effect on water quality through reducing sources, modifying pathways or reducing impacts on water quality.
Units	Dependent on indicator approach selected: 1. Area of habitats contributing to water quality 2. Measures of water quality deteminands 3. Export coefficients
Relevance to Government indicators	Links to UK Biodiversity 2020 indicators: B7. Water quality; D2. Biodiversity and ecosystem services (other).
Existing data for establishing baseline	
Relevant dataset(s)	• Priority Habitats Inventory • National Forest Inventory (NFI, 2011) • Phase 1 maps and other local land cover data • Recorded habitat actions by the NIAs (through BARS) • Farm Environment Plans (FEPs) • Digital Terrain Models (DTM) where export models are run.
Source(s) of data *(contact details or hyperlink)*	• Priority Habitats Inventory from Natural England DataShare Environmental Open Data page. (http://www.geostore.com/environment-agency/WebStore?xml=environment-agency/xml/ogcDataDownload.xml) Natural England have agreed to provide each of the 12 initial NIAs with analysis of the area of each priority habitat within their NIA for each year of the 3 year programme to 2015. • NFI (2011) shape files and associated metadata and method statements can be downloaded at: http://www.forestry.gov.uk/website/forestry.nsf/byunique/INFD-8EYJWF

	• Some Local Records Centres, may hold land cover maps • NIA bespoke habitat mapping / FEPs and records of habitat conservation actions. • Catchment Sensitive Farming (http://www.naturalengland.org.uk/ourwork/farming/csf/cgs/catchments.aspx) schemes are a further source of potential data (and possible joint reporting where NIA is contributing to CSF actions), particularly within Priority catchments which indicate priority measures / actions that contribute to water quality within catchments. • Digital Terrain Models (DTM) for use in export models (to calculate flow direction and sources and sinks) are widely available including lower resolution (OS OpenData) to commercial products such as NEXTMap. LiDAR data is probably too detailed at the NIA level scale.
Spatial coverage	• Priority Habitats Inventory: a 'single habitat layer' for England based around Rural Land Registry parcels. • NFI: includes all woodland larger than 0.5ha and wider than 20m and records Interpreted Forest Types and Interpreted Open Areas • Phase 1 maps and local land cover records: normally relate to individual counties. • NIA specific mapping and FEPs related to the agreement farms and the local conservation actions. • National coverage of lower resolution terrain and commercial products.
Temporal coverage	• Priority Habitats Inventory: a version date for inventory layer further details can be found in files associated with the inventor when downloaded • NFI, 2011: based on Ordnance Survey colour 25cm orthorectified digital imagery flown between 2002 and 2009. In general, the photographic images should have been no older than 3 years at the time of creating the digital map. • Phase 1 maps and local land cover records: various • Mapped NIA actions (recorded in BARS) along with operational status, FEPs related to the HLS agreement dates. • DTM data - NextMap data is 2001-2003 and not likely to have changed significantly at this scale and for bare earth model.

Planned updates	• Priority Habitats Inventories: from April 2013, NE intends to accept updates to the PHI and to re-publish to re-publish at least annually. A feedback form is included when the PHI is downloaded. Locally available data can be submitted through this route to offer updated information. This should include data on species constancy and frequency across the site. • NFI: updated on a regular rolling program utilising change detection software as well as new planting information. • Phase 1 maps and local land cover records: *ad hoc* and infrequent updates. • Dated records of habitat conservation actions that contribute to water quality, reported annually through BARS.
Data collection method *(estimate, survey, monitoring)*	• Priority Habitats Inventory: detailed information on each habitat is an interpreted product derived from analysis of a range of data sources of varying coverage and confidence in relation to confirming the habitat presence. These include Farm Environment Plan survey data, SSSI survey data, phase 1 and some NVC survey data. Metadata description associated with the PHI contains further detail, and in associated files when downloaded. • NFI: Ordnance Survey MasterMap features are used where the woodland boundary on aerial photography is coincident with or within 10m of the perceived woodland edge. As well as differentiating by Interpreted Forest Type, open areas in woodland are mapped as Interpreted Open Areas. • Phase 1 maps and local land cover records: various
Accuracy of data	Priority Habitat Inventory: Has inconsistencies and does not always contain the best available local information. The PHI does not contain information on all priority habitats.
Additional/new data for establishing baseline and monitoring change	
Relevant additional/new data	Changes to the boundaries of habitat(s), which may arise from re-survey, habitat loss/degradation, or restoration/creation. This indicator does not just relate to priority habitats. A feedback form is included when the PHI is downloaded from the Data Store. Locally available data can be submitted through this route to offer updated information for the inventories. This should include data on species constancy and frequency across the site.
Responsibility for data collection *(e.g. NIA partnerships or potentially to be taken on by NE or EA)*	• Priority Habitats Inventory: NIA partnerships (data may also be collected by others in association with local record centres, national initiatives or on an *ad hoc* basis). NE will update the PHI layer based on NIA inputs (and other inputs) • NFI: Forestry Commission

	• Phase 1 maps and local land cover records: various
Methods for data collection	Priority Habitats Inventory: NIA partnerships should send any required updates to the PHI to NE with supporting evidence. A feedback form is included when the PHI is downloaded from the Data Store. Locally available data can be submitted through this route to offer updated information for the inventories. This should include data on species constancy and frequency across the site. Additionally an NE contract ending in March 2014 is intending to produce a standard methodology and advice aimed at helping anyone survey to confirm the presence, extent and condition of priority habitat. This will offer a best practice model for gathering and submitting evidence to update the PHI. NIAs should evaluate the options for models based on partnership experience and context – to seek expert guidance.
Calculating and presenting indicator	
Baseline date for 12 initial NIAs	April 2013
Methods for calculating indicator values	The calculation will depend on the approach chosen by the NIA. Process models proposed include: Psychic and Scimap (http://www.scimap.org.uk/) (open source) which are available for national runs and indicate diffuse pollution (fine sediment and nutrient) risk areas within catchments. Comprehensive models have been run for some locations. Ecosystems service models proposed include: Invest, Aries. WaterWorld, LUCY / POLYSCAPE. Model runs (on a repeat basis) with updated land use / network connections etc will be needed to re-run models. EcoServ-GIS (uses a combination of slope, soils, distance to river etc. in GIS). However, it does not include any measure of farming intensity. In addition, the DURESS (BESS programme) is developing an ES for water quality GIS model. It is difficult to recommend a single model for the NIAs as it will depend on existing capacity, available data but these are complex models and simpler tools such as Ecoserv-GIS (which is based on land cover based export coefficient) may offer the simpler approach to initial calculation. If based on the export coefficient modelling the area of habitat types can be translated to the contribution to water quality (e.g. in terms of nutrient loading). If based on a full export model the approach would use the contribution to water quality based on changes in land use influence on the export. Land cover data would need to be updated and the models re-run. High quality land cover base data and digital terrain model is also required in order to calculate the flow directions and the sources and sinks in the process models. This determines the potential effectiveness of any buffer strips based on extent, type and position within

	the watershed system.
Responsibility for calculating indicator values	NIA Partnership – and is likely to require expert input. Approaches may require expert assessment of the level of contribution to water quality, based on habitat and location (e.g. functional assessment). Options for NIAs to work together in order to better understand and calculate this indicator. Potential for NIAs to all use the same group of external experts to calculate it.
Reporting	

Online reporting	It is anticipated that the following data would be entered in relevant fields in the online reporting system:
	
	• A baseline indicator value
	• An annual indicator value
	• Caveats relating to model uncertainty and data uncertainty. The latter will include:
	  ○ Likely accuracy of the baseline figure (e.g. what can be deduced locally in relation to habitat extent about potential misattribution of habitats etc
	  ○ Changes in the baseline (e.g. arising from publication of the 'single habitat layer')
	  ○ Likely gaps in knowledge of annual changes in total extent (e.g. arising from an inability to monitor privately landholdings).
	
	Note that **data entered as 'annual figure' in each reporting year should be for that year only**, and not cumulative. Cumulative figures will be calculated by summing individual year data.

Interpreting	
Interpretation *(inc linkage to other indicators)*	Further expert guidance may be needed to implement modelling based approaches, based on defining appropriate datasets, functional classifications of land cover, and co-efficients. It may be feasible to make modifications to the coefficients based on expert opinion on the relative influence of habitat condition classes (subject to the availability of condition data). Advice on the role of actions and mitigations methods for reducing the effects of diffuse pollution are available (e.g. Mitigation Measures – User guide 2011 Defra WQ0106 - http://www.adas.co.uk/LinkClick.aspx?fileticket=vUJ2vlDHBjc%3D&tabid=345). Contribution to water quality may not be restricted to actions on priority habitat, so this needs interpretation if only PHTs are selected. If NE is updating PHI data to correct errors the impact on the baseline data needs to be considered and potentially re-run.

Indicator: ES07_R: Contribution to carbon storage & sequestration

Indicator: ES07_R	Contribution to carbon storage & sequestration
Version date	25th February 2014
Theme	Ecosystem services
Sub-theme	Regulating services
Sub-theme category	Core
Indicator category	Optional
Indicates *(what is the indicator intended to indicate)*	Contribution of extent of priority habitats to carbon storage and how it changes over time (i.e. sequestration).
Units	Tonnes of carbon stored and sequestered per year per unit area of NIA/habitat. or Extent (area in hectares) of habitats that contribute to carbon storage and sequestration.
Relevance to Government indicators	Link to UK Biodiversity 2020 indicator: D2. Biodiversity and ecosystem services (other). Ecosystem service indicators under development within Defra Biodiversity 2020: a strategy for England's wildlife and ecosystem services Indicators 2013 – that shortlists 'carbon stock'.
Existing data for establishing baseline	
Relevant dataset(s)	• The national Priority Habitats Inventory (PHI), collated by Natural England from a wide variety of national and local data sources, currently provides the best available national datasets for priority habitat distribution and extent. • Phase 1 maps and local records
Source(s) of data *(contact details or hyperlink)*	• Priority Habitats Inventory available from Natural England DataShare Environmental Open Data page. (http://www.geostore.com/environment-agency/WebStore?xml=environment-agency/xml/ogcDataDownload.xml). Natural England has agreed to provide each of the 12 initial NIAs with analysis of the area of each priority habitat within their NIA for each year of the 3 year programme to 2015. • Local Record Centres – habitat maps informed by various survey methods to appropriate classifications to identify priority habitat types.
Spatial coverage	• Priority Habitats Inventory: a 'single habitat layer' for England based around OS MasterMap land parcels. • Phase 1 maps and local records: normally relate to individual counties.

Temporal coverage	• Priority Habitats Inventory: a version date for inventory layer further details can be found in files associated with the inventor when downloaded • Local maps – varied dates, some are maintained on an on-going basis. (See note in caveats related to temporal change)
Planned updates	• Priority Habitats Inventory: NE intends to accept updates to the 'PHI and to re-publish at least annually. A feedback form is included when the PHI is downloaded. Locally available data can be submitted through this route to offer updated information. This should include data on species constancy and frequency across the site. • Local maps are often maintained by local record centres – e.g. Habitat Mapping Framework data. If only using the change in habitat extents this does not need to be mapped and calculation can be applied to spreadsheet data.
Data collection method *(estimate, survey, monitoring)*	• Priority Habitats Inventory is an interpreted product derived from analysis of a range of data sources of varying coverage and confidence in relation to confirming the habitat presence. These include Farm Environment Plan survey data, SSSI survey data, phase 1 and some NVC survey data. Metadata description associated with the PHI contains further detail. Collection methods are described in the Data Description and in 09042013_Single_Habitats_Layer_Final_Report_RDA.pdf included within the data download. • Local habitat maps – now typically mapped to OS MasterMap standards and using IHS classification, and some integrate to the National Vegetation Classification. .
Accuracy of data	Priority Habitats Inventory has inconsistencies and does not always contain the best available local information. The PHI does not contain information on all priority habitats. Other sources depend on the adopted standards.
Additional/new data for establishing baseline and monitoring change	
Relevant additional/new data	Changes to the boundaries of the selected priority habitat(s), which may arise from re-survey, habitat loss/degradation, or restoration/creation. A feedback form is included when the PHI is downloaded from the Data Store. Locally available data can be submitted through this route to offer updated information for the inventories. This should include data on species constancy and frequency across the site. Habitat conservation actions recorded within BARS2 Peat soils (e.g. UK soils observatory (Allan Lilley - James Hutton Institute)) Environmental Information Data Centre

	(EIDC) portal has good peat data, but possibly subject to usage restrictions.
Responsibility for data collection *(e.g. NIA partnerships or potentially to be taken on by NE or EA)*	NIA partnerships (data may also be collected by others in association with local record centres, national initiatives or on an *ad hoc* basis).
Methods for data collection	Priority Habitats Inventory: A feedback form is included when the PHI is downloaded from the Data Store. Locally available data can be submitted through this route to offer updated information for the inventories. This should include data on species constancy and frequency across the site. Additionally an NE contract ending in March 2014 is intending to produce a standard methodology and advice aimed at helping anyone survey to confirm the presence, extent and condition of priority habitat. This will offer a best practice model for gathering and submitting evidence to update the PHI. Local habitat maps may be updated by resurvey and mapping changes. The HLU Mapping Tool (HCC/NE) (https://media.readthedocs.org/pdf/hlutool-technicalguide/latest/hlutool-technicalguide.pdf and https://github.com/HabitatFramework/HLUTool) can facilitate updates to the OSMM structured datasets (e.g. Habitat Mapping Framework data). It is important to retain the original versions to allow mapping of change over time.
Calculating and presenting indicator	
Baseline date for 12 initial NIAs	April 2013
Methods for calculating indicator values	Measures of carbon sequestration would be established through application of a series of coefficients derived from the literature that relate to the habitats and potentially their condition. The model would require differences in carbon flux between different habitat types to be defined and the carbon benefit of converting 'x' ha of one habitat type to 'y' ha of another estimated. Details of the evidence for sequestration rates associated with different habitats are included in Natural England (2012) *Carbon storage by habitat: Review of the evidence of the impacts of management decisions and condition of carbon stores and sources* (NERR043 http://publications.naturalengland.org.uk/publication/1412347). An example is the EcoServ-GIS tool (from Durham Wildlife Trust) which has incorporated this functionality and used land cover and translated it into tonnes of carbon based on a coefficient (as described above). This type of pre-prepared tool is likely to be the most accessible for NIAs with less GIS capacity or alternatively the change can be calculated within spreadsheets. Tasks to calculate the indicator: • Derive areas of different habitats / land cover • Reclassify the land cover classification to the habitat

	classification used by the coefficients data. • Include habitat condition classes if these are available and there are coefficients for these classes • Apply the coefficients which may be as simple as multiplying the area in hectares by the rate of sequestration in tonnes per year – within a GIS or externally as an Excel table. The advantage of the former is that it will allow the spatial distribution of this ecosystem service to be plotted throughout the NIA and to show which areas are important for it In terms of the habitat data chosen, the level of detail will be determined by the availability of suitable coefficients. For example, the NE report (NERR043 described above) has coefficients for broad habitats. Therefore, even if the habitat layer were spatially (and thematically) more detailed, the habitat classes themselves would require aggregation to a higher level in order to assign the carbon storage and sequestration rates.
Responsibility for calculating indicator values	NIA partnership but possibly needing some support from other NIAs with expertise / external experts. Natural England has agreed to provide each of the 12 initial NIAs with analysis of the area of each priority habitat within their NIA for each year of the 3 year programme to 2015. This will be provided via the NIA Huddle Best Practice Network annually in advance of the reporting deadline (https://defra.huddle.net/huddleworkspace/default.aspx?workspaceid=16609188) These can be submitted as the NIA report on habitat extent or NIAs can use local data if they wish. Any local analysis would need to be carried out by the NIA partnership.
Reporting	

Online reporting	It is anticipated that the following data would be entered in relevant fields in the online reporting system:
	
	• A baseline indicator value
	• An annual indicator value
	• Caveats relating to model uncertainty and data uncertainty. The latter will include:
	  ○ Likely accuracy of the baseline figure (e.g. what can be deduced locally in relation to habitat extent about potential misattribution of habitats and from information in files associated with the downloaded inventory data (e.g. local assessment / expert opinion of the percentage of the NIA area that NIA partners consider is accurately covered by PHI data).
	  ○ The PHI only includes 24 priority habitats – out of 40 total terrestrial and freshwater priority habitats. One of these is “Deciduous Woodland” which comprises all BAP woodland which has not been distinguished. In addition to these 24 the PHI includes 3 non-

	priority habitat classifications/attributions. ○ Changes in the baseline (e.g. arising from publication of the PHI) ○ Likely gaps in knowledge of annual changes in total extent (e.g. arising from an inability to monitor privately landholdings). Note that **data entered as 'annual figure' in each reporting year should be for that year only**, and not cumulative. Cumulative figures will be calculated by summing individual year data.
Interpreting	
Interpretation *(inc linkage to other indicators)*	It is recognised that habitat condition may have a significant impact on the contribution of the extent of priority habitats to carbon storage and sequestration. However, while the NE report (NERR043) does provide some rates for different habitat conditions, it is not intended that the model will take account of habitat condition. Updates to the PHI (in relation to corrections) are likely to introduce significant change to the areas represented in the inventory. Change in areas represented as a result of actual gains or losses of habitat are likely to be much less significant and hard to deduce. PHI data may have updates in addition to those developed by NIA actions and modifications and corrections to the baseline classification may affect the analysis of trends.

Indicator: ES08_P: Area of more sustainable agricultural production

Indicator: ES08_P	Area of more sustainable agricultural production
Version date	25th February 2014
Theme	Ecosystem services
Sub-theme	Provisioning Services
Sub-theme category	Core
Indicator category	Optional
Indicates *(what is the indicator intended to indicate)*	The total area of land within the NIA area covered by 'priority options' in Environmental Stewardship (ES) agreements. This indicator is a proxy measure as it will also cover actions that are not NIA activities. It is also a proxy / indirect indicator of provisioning ecosystem services, based on the presumption that an increase in the area within the NIA covered by 'priority options' will lead to greater environmental benefits being achieved and thus an increase in ecosystem services.
Units	Hectares
Relevance to Government indicators	England Biodiversity 2020 Indicator 22a. Area of land in agri-environment schemes UK Biodiversity Framework Indicator B1a. Area of land in agri-environment schemes.
Existing data for establishing baseline	
Relevant dataset(s)	Environmental Stewardship Option point data – Natural England
Source(s) of data *(contact details or hyperlink)*	Environmental Stewardship option point data is available to download from Natural England http://www.gis.naturalengland.org.uk/pubs/gis/GIS_register.asp. Area figures are available within the attribute data. Natural England will provide a summary statistics for the 12 initial NIAs to 2015 based on this dataset.
Spatial coverage	Environmental Stewardship data available by NIA geographic boundary.
Temporal coverage	A version date for the latest dataset is provided with download (see sources of data above).
Planned updates	Updates are supplied annually
Data collection method *(estimate, survey, monitoring)*	Boundaries of ES agreement maps are digitised by Natural England and quality assured by comparison with aerial photographs, the Rural Payments Agency's (RPA) Integrated Administration and Control System (IACS) database, and digital copies of legacy scheme agreement maps. Final versions are approved by each landowner and copies returned to the RPA.
Accuracy of data	Accuracy is that of OS MasterMap where boundary has been cloned, i.e. relative accuracy is +/-1.2m at 1:2,500 scale over a length of 200m.

Additional/new data for establishing baseline and monitoring change	
Relevant additional/new data	The area of land within the NIA covered by 'priority options' under ES agreements (Entry Level Stewardship – ELS, Organic Entry Level Stewardship – OELS, Uplands Entry Level Stewardship – Uplands ELS, and Higher Level Stewardship – HLS). Priority options should be selected by NIA partnerships with reference to their objectives for the NIA and agreed with Natural England locally, so that the options may be promoted, as appropriate. The Environmental Stewardship Scheme will be closing to new applicants in 2014. Use of agreement data from the New Environmental Land Management Scheme (NELMS) (http://www.naturalengland.org.uk/ourwork/farming/funding/developments.aspx) will need to be considered once more information is available, although the data and approach to calculation will be similar.
Responsibility for data collection *(e.g. NIA partnerships or potentially to be taken on by NE or EA)*	Natural England
Data collection method	As above
Calculating and presenting indicator	
Baseline date for 12 initial NIAs	April 2012
Methods for calculating indicator values	The digital point dataset needs to be 'selected within the NIA boundaries using a GIS and the area totals for each option calculated from the option area values provided in the attributes.
Responsibility for calculating indicator values	Natural England has agreed to provide each of the 12 initial NIAs with analysis of the total area of each option within their NIA for each year of the 3 year programme to 2015. This will be provided via the NIA Huddle Best Practice Network (https://defra.huddle.net/workspace/16609188) annually in advance of the reporting deadline.
Reporting	

Online reporting	The following data can be entered in relevant fields in the online reporting system:
	
	• A baseline figure for area in each priority option under:
	  ○ Higher-level/targeted schemes
	  ○ Entry-level type schemes
	• A figure updated annually for area in each priority option under:
	  ○ Higher-level/targeted schemes
	  ○ Entry-level type schemes
	• Caveats relating to:
	  ○ The total area of land in 'priority options' under ES in relation to the total area of land under ES. In addition to 'priority options' in ES agreements, NIA partnerships are also welcome to record, separately under this indicator, other voluntary measures.

	Natural England and Ordnance Survey copyright would need to be acknowledged in reporting.
Interpreting	
Interpretation *(inc linkage to other indicators)*	This indicator links to interpretation of indicators under the biodiversity theme where conservation action records uploaded by the BARS team contribute to indicators and may help to inform measures of habitat connectivity. There are also links to the sub-theme on 'Leadership and influence'. This dataset covers all agreements; it will include all actions selected by the NIA on biodiversity objectives including those actions not attributable to the NIA. Data does not take into account any land in classic schemes – e.g. Countryside Stewardship. NIA partnerships may wish to consider also recording: *The area of land under ES as a percentage of the total area of agricultural land within the NIA.* A static baseline for the latter could be determined from relevant land cover if an appropriate dataset is available across the NIA. Appropriate data would have full coverage of the area, classes for semi-natural and agricultural cover classes and of appropriate date (i.e. close to the commencement of the NIA programme). The indicator is based on the presumption of ecosystem services benefits from land management options. These outcomes may only be achieved over time. Note that vector data of the HLS boundaries are not available and thus the areas selected may not all coincide to fall within the NIA boundary.

Indicator: ES09_P: Percentage of woodland in active management

Indicator: ES09_P	Percentage of woodland in active management
Version date	25th February 2014
Theme	Ecosystem services
Sub-theme	Provisioning Services
Sub-theme category	Core
Indicator category	Optional
Indicates *(what is the indicator intended to indicate)*	This indicator shows the contribution to provisioning services as percentage of woodland in active management (including the Public Forest Estate) within the NIA area. This indicator also records extent of woodland (hectares) as loss of woodland could increase the percentage of woodland in active management. This indicator is a proxy measure as it will also cover actions that are not NIA activities. It is also a proxy / indirect indicator of provisioning ecosystem services, based on the presumption that an increase in the percentage of woodland in active management within the NIA will lead to greater environmental benefits being achieved and thus an increase in ecosystem services.
Units	Percentage: of woodland under active management Hectares: total area of woodland
Relevance to Government indicators	England Biodiversity 2020 Indicator 22b. Area of forestry land under certified sustainable management schemes. UK Biodiversity Framework Indicator B1b. Area of forestry land certified as sustainably managed. A subset for each NIA of Forestry Commission England's (FCE's) performance impact indicator of the same name.
Existing data for establishing baseline	
Relevant dataset(s)	1. Boundaries of 'Woodland in management' performance indicator. 2. Total extent of woodland recorded on the National Forest Inventory (NFI).
Source(s) of data *(contact details or hyperlink)*	'Woodland in management' performance indicator shapefiles and associated metadata can be downloaded at: http://www.forestry.gov.uk/forestry/infd-8g5bya#2 Contact: Spatial Analyst, Forestry Commission England, 620 Bristol Business Park, Coldharbour Lane, Bristol, England, BS16 1EJ (Tel: 0117 906 6000) NFI shapefiles and associated metadata can be downloaded at: http://www.forestry.gov.uk/forestry/infd-8g5bya#3 or a copy can be requested on CD from national.forest.inventory@forestry.gsi.gov.uk

Spatial coverage	'Woodland in management' performance indicator: all woodlands in England included in schemes fulfilling criteria for inclusion. NFI for England: includes all woodland larger than 0.5ha and wider than 20m.
Temporal coverage	'Woodland in management' performance indicator: available from 1 April 2011. NFI, 2011: based on Ordnance Survey colour 25cm orthorectified digital imagery flown between 2002 and 2009. In general, the photographic images should have been no older than 3 years at the time of creating the digital map.
Planned updates	'Woodland in management' performance indicator is updated on a quarterly basis. The NFI is updated on a regular annual rolling program utilising change detection software as well as new planting information.
Data collection method *(estimate, survey, monitoring)*	The Rural Land Register, in combination with OS Survey MasterMap (OSMM), is used to map England Woodland Grant Scheme (EWGS) boundaries. Grant types included in the indicator are: • Woodland Creation Grant (WCG) -all WCG paid under EWGS. • Woodland Management Grant (WMG) -all schemes < 5 years old at the end of the indicator update period. • Woodland Planning Grant (WPG) -all schemes < 10 years old at the end of the indicator update period. • Woodland Improvement Grant (WIG) -all schemes < 5 years old at the end of the indicator update period. • Farm Woodland Premium/Scheme (FWP/S) -all schemes <30 years old at the end of the indicator update period. • Felling Licence Applications (FLA) -all licences < 10 years old at the end of the indicator update period. • Woodland Grant Scheme Mk3 (WGS3) that has been within contract at some point during the 10 years up until the end of the indicator update period. EXCLUDED: Woodland Assessment Grant (WAG), Woodland Regeneration Grant (WRG), Forest Plans, Dedication, WGS2, WGS1. It is acknowledged that other non-grant woodland might also be regarded as being 'in management'.
Accuracy of data	Limited by the minimum mappable units used within the NFI data (0.5ha)
Additional/new data for establishing baseline and monitoring change	
Relevant additional/new data	Updates to the FCE performance indicator 'Percentage of woodland in active management (including the Public Forest Estate)' are published quarterly at http://www.forestry.gov.uk/datasetsanddownloads Areas of plantings outside the woodland grant schemes can be collected and reported by the NIA.
Responsibility for data collection	FCE The EWGS indicator is a proxy for the full extent of woodland in appropriate management as some plantings outside grant schemes may be excluded. These additional classes can be

	recorded and included in the calculations by the NIA. If NIAs contribute separate information from local actions ensure that these are not duplicating records from Forestry Commission analysis.
Data collection method	As above For 'non-grant' plantings collection would be through mapping of the extent of managed woodlands / plantings. Integration into the calculations would need the national data.
Calculating and presenting indicator	
Baseline date for 12 initial NIAs	April 2012
Methods for calculating indicator values	FCE's 'Woodland in management' performance indicator and NFI digital datasets need to be overlaid on one another and 'cookie-cut' by the NIA boundaries using a GIS. From this it is possible to calculate the area of woodland and the percentage of woodland 'in management' in the NIA. Note that the NFI data is not updated between the annual reporting, so that the percentage of woodland in management may not represent the updated area of woodlands from recent plantings. If the NIA wishes to add the non-grant or specific exclusions then the calculation will need to be run by the NIAs who would need access to the national data for their area. This need not be run in a GIS, but separate spatial analysis will help with interpretation. Add the non-grant woodland area to the agreement woodland extents, and represent as a percentage of all woodland within the area.
Responsibility for calculating indicator values	FCE will be making available the 'Woodland in management' indicator map, alongside the NFI map on the FC Data Download website at http://www.forestry.gov.uk/datasetsanddownloads. Natural England has agreed to perform the necessary calculations for NIA areas for the 12 initial NIAs to 2015.
Reporting	

Online reporting	The following data can be entered in relevant fields in the online reporting system:
	• A baseline figure for the percentage of woodland in active management
	• A figure updated annually for the percentage of woodland in active management.
	• Area of woodland within the NIA (ha), annual figure.
	• Caveats relating to:
	  ○ Differences in the minimum mapping unit for EWGS and NFI, which mean that the indicator values cannot take into account woods less than 0.5ha or 20m width, which will include some woods within EWGS of 0.25-0.5ha or 15-20m width.
	  ○ Differences in the baseline arising from woodland losses and maturation of newly created woodland. In addition to the percentage of woodland in active management calculated from inclusion in grant schemes,

	NIA partnerships are also welcome to record, separately under this indicator, other woodland regarded as being 'in management'. Note that **data entered as 'annual figure' in each reporting year should be for that year only**, and not cumulative. Cumulative figures will be calculated by summing individual year data. Forestry Commission copyright and usual terms of use would need to be followed and acknowledged.
Interpreting	
Interpretation *(inc. linkage to other indicators)*	Reporting will be influenced by exclusions from national data e.g. Woodland Assessment Grant (WAG), Woodland Regeneration Grant (WRG), Forest Plans, Dedication, WGS2, WGS1. It is acknowledged that other non-grant woodland might also be regarded as being 'in management' and therefore the indicator may under-represent the potential actions by NIAs (and others) to enhance woodland management. Management of woods entered into the EWGS must comply with forestry regulations, the UK Forestry Standard and associated Forestry Commission Guidance. However, unlike the UK Biodiversity Framework Indicator B1b (Area of forestry land certified as sustainably managed), this indicator does not specifically consider the percentage of woodlands under certified sustainable management schemes, as the Forest Stewardship Council is only able to provide national figures, and is neither able to supply figures for each NIA nor digital boundary data. Calculation is currently based on a percentage of the woodland, but does not record the extent of the woodland included in that calculation. Thus a loss of woodland could increase the proportion of woodland within management. This revised protocol proposes addition of this extent information. Note that the indicator assumes that the woodland is wholly within the NIA, but other indicators of biodiversity [*Extent of habitat managed to improve its condition*] and [*Extent of areas managed to restore/create habitat*] are based on BARS filters that may either 'overlap' or be 'within' the NIA boundary. Although the protocol suggests that the NIA could record 'separately under this indicator, other woodland regarded as being '*in management'*, there is no basis for this within the calculation methods (i.e. area of woodland is represented as a percentage of the total woodland within the National Forest Inventory) which would need advice in order to add this data to the single % figure, or whether to record it separately (i.e. as area of additional woodland in management outside of grant schemes).

Appendix 5: Social and economic theme indicator protocols

- S&E01_S: Attitudes of local community to the natural environment and environmental behaviours
- S&E02_S: Number of educational visits
- S&E03_S: Number and social mix of visitors to NIA sites
- S&E04_S: Number and social mix of people attending NIA activities and events
- S&E05_S: Level of outdoor recreation in the local community
- S&E06_S: Number of volunteer hours on NIA activities
- S&E07_E: Estimated value of visitor expenditure to the local economy
- S&E08_E: Number of people employed in NIA activities
- S&E09_E: Local Indicator of estimated value of ecosystem services in the NIA

Indicator: S&E01_S: Attitudes of local community to the natural environment and environmental behaviours

Indicator: S&E01_S	Attitudes of local community to the natural environment and environmental behaviours
Protocol version date	25th February 2014
Theme	Social and economic impacts and contributions to well-being
Sub-theme	Social impacts and well-being
Sub-theme category	Core
Indicator category	Optional
Indicates *(what is the indicator intended to indicate)*	This indicator seeks to help understand the extent to which the work of an NIA may influence the perception of the natural environment and environmental behaviour of people living in or near the NIA area. It measures change over time over the period of NIA delivery. This is an indirect / proxy indicator as it is not possible to attribute with certainty that changes in perceptions or behaviour are a result of NIA activities. **Note:** It is recommended that NIAs choosing this indicator and conducting a NIA local survey should also consider including questions relating to the following social and economic indicators: 'Level of outdoor recreation in the local community' and to the following partnership working indicators: 'Level of awareness of NIA in local community' and 'Attitudes of local community to NIA'.
Units	Percentage (%) of local people providing a range of standard answers to specific questions.
Relevance to Government indicators	UK Biodiversity Framework Indicator A1. Awareness, understanding and support for conservation.
Existing data for establishing baseline	
Relevant dataset(s)	Monitor of Engagement with the Natural Environment (MENE) survey data on responses to questions E2, E3, E4 and E5. See questionnaire script at: http://www.naturalengland.org.uk/Images/mene-question-script_tcm6-37024.pdf (pages 8-9) for details of specific questions. Note: this website will change to http://www.naturalengland.gov.uk/Images/mene-question-script_tcm6-37024.pdf before July 2014. Where resources and expertise allow it is suggested that NIAs can implement repeat local surveys, using the standard MENE questions, to develop their own data. See Data collection method / Relevant additional/new data.
Source(s) of data *(contact details or hyperlink)*	MENE survey data: • Results are published annually at:http://www.naturalengland.org.uk/ourwork/research/mene.aspx#results (Note: this website will change to http://www.naturalengland.gov.uk/ourwork/research/men

	e.aspx#results before July 2014) • Raw data is available for download from: http://publications.naturalengland.org.uk/publication/2248731?category=47018 • Natural England has agreed to provide analysis of the raw data for the 12 initial NIAs to 2015. This will be based on the NIA boundary plus a 10km buffer, this is to ensure a large enough sample size for statistical analysis • Instant Atlas is a data visualisation tool due to be launched in 2014 that will allow MENE question data to be viewed against various boundaries, including NIAs. Future NIAs will have an annual opportunity to submit their boundaries for addition Locally derived data: • From NIA implemented surveys.
Spatial coverage	**Geographical scope:** This indicator is intended to measure attitudes of people living in (or near) the NIA: the "local community". The "local community" is a very general term and there are no commonly agreed definition of what it means. It can mean communities of place or of interest, both of which might vary in scale: e.g. all the people who live in your NIA or all the people who live 5km from a specific NIA site or all birdwatchers who are members of the RSPB. In the context of the NIA indicators the term "local community" refers to a **geographical community** because we are interested in knowing about the reach of the NIA and its activities to ordinary members of the public. More information on defining the local community in the context of specific NIAs is provided in the **Undertaking NIA local surveys – FAQs** note available on HUDDLE: https://defra.huddle.net/workspace/16609188/files/#/folder/28354471/list Once an NIA has decided on the appropriate definition of local community in their context, this should be used consistently: i.e. it is important to sample from the same geographical area for all surveys that refer to "local community" and that from one year to the next they sample is from the same geographical area otherwise comparisons can't be made. **Sample size:** For some individual NIAs the sample size (number of survey responses) in the MENE survey is sufficient to allow analysis at the NIA level, although this may not be true of the same NIAs every year. For more information contact: Rachel Penny, Senior Specialist, Health and Accessible Natural Environment, Natural England (Tel: 01245 284747; email: Rachel.Penny@naturalengland.org.uk). Further guidance for establishing and running local surveys, such as on sample size and framing is included in the **Undertaking NIA local surveys – FAQs** note available on

	HUDDLE: https://defra.huddle.net/workspace/16609188/files/#/folder/28354471/list
Temporal coverage	The MENE survey is ongoing, with results published monthly and detailed results published annually. For local NIA surveys these should be implemented annually to provide data for annual monitoring.
Planned updates	Monthly and annual reports produced through MENE. Local NIA surveys: annually
Data collection method *(estimate, survey, monitoring)*	The MENE survey is carried out face-to-face as part of an in-home omnibus survey. Every year at least 45,000 interviews are undertaken and at least 800 respondents are interviewed every week. The Technical Report contains a copy of the full questionnaire in the appendix, as well as details of the survey methodology - including approaches to sampling, grossing and weighting, and estimates of margins of error, see: Appendix 3 of the Annual Report of the 2012-2013 MENE survey: http://publications.naturalengland.org.uk/publication/5331309618528256?category=47018 Where resources and expertise allow, NIAs can use the MENE standard questions (see http://www.naturalengland.org.uk/Images/mene-question-script_tcm6-37024.pdf (pages 8-9)) to develop their own survey. This will enable NIAs to develop data that is more representative than possible using MENE data. If an NIA chooses to develop their own survey this could also provide data for other indicators: Levels of outdoor recreation; Attitudes of local community to NIA; and Level of awareness of NIA in local community. Further guidance for establishing and running local surveys, such as on sample size and framing is included in the **Undertaking NIA local surveys – FAQs** note available on HUDDLE: https://defra.huddle.net/workspace/16609188/files/#/folder/28354471/list
Accuracy of data	The MENE survey involves a quota sampling method to ensure that respondents are representative of the adult population (16 years and over) of England.
Additional/new data for establishing baseline and monitoring change	
Relevant additional/new data	Annual MENE data on responses to questions E2, E3, E4 and E5, where sample size for individual NIAs is statistically robust. If a NIA local survey is being used, these data should be updated annually based on repeat surveys. Repeat surveys must use the same questions and relative consistency in sample sizes to show change over time.

Responsibility for data collection *(e.g. NIA partnerships or potentially to be taken on by NE or EA)*	Natural England – for MENE data If local questionnaire / survey is undertaken – responsibility will be the NIA partnership.
Data collection method	As above for MENE data, and local survey data.
Calculating and presenting indicator	
Baseline date for 12 initial NIAs	April 2012 – for MENE based approach For local survey based approach the baseline will be the first annual survey data.
Methods for calculating indicator values	MENE data: • Raw data to be cut to the NIA boundary using postcodes. • Natural England has agreed to provide analysis of the raw data for the 12 initial NIAs to 2015. This will be based on the NIA boundary plus a 10km buffer, this is to ensure a large enough sample size for statistical analysis. For the NIA local questionnaire / survey the tally of the responses to the questions.
Responsibility for calculating indicator values	Natural England – for MENE data. If local questionnaire / survey is undertaken – responsibility will be the NIA partnership.
Reporting	

Online reporting	The following data can be entered in relevant fields in the online reporting system:
	• Baseline summary breakdown of responses received to each of the questions
	• Annual summary breakdown of responses received to each of the questions
	• Caveats relating to:
	  ○ Sample size.
	  ○ Sampling issues.
	  ○ Sample 'frame' in relation to definition of local community for NIA.
	
	Note that **data entered as 'annual figure' in each reporting year should be for that year only**, and not cumulative. Cumulative figures will be calculated by summing individual year data.

Interpreting	
Interpretation *(inc linkage to other indicators)*	There are close links with other indicators relating to social impacts and well-being, and partnership working: Levels of outdoor recreation; Attitudes of local community to NIA; and Level of awareness of NIA in local community. Care is needed in interpretation of the indicator, given the range of factors potentially influencing attitudes.

Indicator: S&E02_S: Number of educational visits

Indicator: S&E02_S	Number of educational visits
Protocol version date	25th February 2014
Theme	Social and economic impacts and contributions to well-being
Sub-theme	Social impacts and well-being
Sub-theme category	Core
Indicator category	Optional
Indicates *(what is the indicator intended to indicate)*	The educational benefits of the NIA, through its role in supporting educational visits. This indicator is a proxy measure of the educational benefit of NIA activities, based on the assumption that a greater number of visits will improve knowledge and awareness of the natural environment.
Units	Type of event, number of visits, age class and number of participants
Relevance to Government indicators	No indicator specifically covers educational visits
Existing data for establishing baseline	
Relevant dataset(s)	No existing datasets: the baseline is zero as the indicator measures visits as a result of the NIA, so there would be none prior to the NIA being established.
Source(s) of data *(contact details or hyperlink)*	None: as above
Spatial coverage	N/A
Temporal coverage	N/A
Planned updates	N/A
Data collection method *(estimate, survey, monitoring)*	N/A
Accuracy of data	N/A
Additional/new data for establishing baseline and monitoring change	
Relevant additional/new data	Details of educational visits to sites owned or managed by members of the NIA partnership. An educational visit is defined as any organised visit to an NIA site or centre (e.g. visitor centre) which has an explicit educational objective. An example would be a school group visiting an NIA site to learn about local flora and fauna, although educational visits may be targeted at people from all age groups and backgrounds. If the NIA arranges visits to schools by NIA partner staff with an educational objective these can also be recorded. NIAs are advised to record visits against standardised categories of event, such as: community liaison, demonstration, school visits, visits to schools, volunteer training events (NIAs should add categories as required).

	Categorise visitors by age classes and also record event class and participant numbers. It is important to clarify the educational visits that are recorded within the reporting. This may include those events where NIA representatives visit schools or where participants (children / adults) attend events organised by the NIA partner members. Record within the caveats any limitations in the collection of data and specific inclusions and exclusions from the records. NIAs may also wish to use the following sources to help identify and prioritise educational visits and activities: • Natural Connections Demonstration Project maps which plot accessible green space, school and deprivation data sets. See: http://www.naturalengland.org.uk/ourwork/enjoying/linkingpeople/learning/naturalconnections/demonstrationmaps.aspx • Visit My Farm website / resources: http://www.visitmyfarm.org/about-us
Responsibility for data collection *(e.g. NIA partnerships or potentially to be taken on by NE or EA)*	NIA partnerships
Data collection method	NIA partnerships to keep records of the type and number of educational visits, number of participants and their breakdown by age class (e.g. children (under 16) and adults).
Calculating and presenting indicator	
Baseline date for 12 initial NIAs	April 2013 (unless existing annual records exist) The baseline is zero at the start of the project as the indicator measures visits as a result of the NIA, so there would be none prior to the NIA being established
Methods for calculating indicator values	Number and type of educational visits and number of participants to be calculated annually, broken down by age class (children (under 16) and adults). Educational visits should be summed by type. NIA partnerships are encouraged to develop a separate indicator if they wish to record educational activities more generally.
Responsibility for calculating indicator values	NIA partnerships
Reporting	
Online reporting	The following data can be entered annually in relevant fields in the online reporting system: • Total number of educational visits by type • Total number of participants • Breakdown of above by age class (children (under 16) and adults) • Caveats, such as those that may relate to: ○ Limitations of the data collection and specific inclusions and exclusions from the records.

	Note that **data entered as 'annual figure' in each reporting year should be for that year only**, and not cumulative. Cumulative figures will be calculated by summing individual year data.
Interpreting	
Interpretation *(inc linkage to other Indicators)*	There are links with other indicators relating to social impacts and well-being, especially the 'Number and social mix of visitors to NIA sites', as well as with indicators of cultural services. Interpretation should appreciate the inclusions and exclusions of the records (i.e. which events are included).

Indicator: S&E03_S: Number and social mix of visitors to NIA sites

Indicator: S&E03_S	Number and social mix of visitors to NIA sites
Version date	25th February 2014
Theme	Social and economic impacts and contributions to well-being
Sub-theme	Social impacts and well-being
Sub-theme category	Core
Indicator category	Optional
Indicates *(what is the indicator intended to indicate)*	The level of, and trends in, number of visitors to NIA sites, differentiated by gender, age, disability, employment status, socio-economic group and ethnic group. This indicator seeks to help understand the extent to which the NIA is enabling people from different backgrounds to experience and benefit from the natural environment. The indicator is a proxy based on the assumption that an increase in the number of visits to NIA sites will provide benefits to visitors, for example: improving their health and wellbeing, inspiring them and enhancing their experience of the natural environment. "Visitors to NIA sites" refers to people who have chosen to experience an aspect of the NIA and have come to a specific site to do so. They may have come for a specific activity but the reason for surveying them is to see who is visiting the site for whatever reason. **Note:** It is recommended that NIAs choosing this indicator and conducting a NIA local survey of visitors should also consider including questions relating to the following social and economic indicator: 'Estimated value of visitor expenditure to local economy'.
Units	Number of visits, percentage breakdown of visits by: gender; age; disability; employment status; socio-economic group; and ethnic group.
Relevance to Government indicators	England Biodiversity 2020 Indicator 13. Public enjoyment of the natural environment
Existing data for establishing baseline	
Relevant dataset(s)	None Records on existing visitor numbers or surveys may provide baseline data on visits to some NIA sites.
Source(s) of data *(contact details or hyperlink)*	NIA partners with sites
Spatial coverage	Depends on the sites that are owned / managed by the NIA partners
Temporal coverage	Depends on whether there are existing records of the use of sites
Planned updates	Subject to individual surveys

Data collection method *(estimate, survey, monitoring)*	Varied
Accuracy of data	Varied
Additional/new data for establishing baseline and monitoring change	
Relevant additional/new data	Data on numbers of visits to NIA sites and representation of visitors by gender, age, disability employment status, socio-economic group and ethnic group. NIA sites are those that are owned or managed by members of the NIA partnership.
Responsibility for data collection *(e.g. NIA partnerships or potentially to be taken on by NE or EA)*	NIA partnerships
Methods for data collection	1. To calculate or estimate the total number of visits, consider collection of data by NIA site managers using a variety of methods, such as automatic counters, car park records, visitor centre records and counts or estimates. Further guidance on conducting visitor surveys and estimating visitor numbers is available from: • Forest Research – Estimating visitors and visit numbers to woodlands: http://www.forestry.gov.uk/fr/INFD-8CZJBE • Visit Scotland – Visitor Survey Toolkit: http://www.visitscotland.org/business_support/advice_materials/toolkits/visitor_survey_toolkit.aspx 2. To understand the social mix of visitors it will be necessary to complete visitor surveys. NIAs should conduct visitor surveys to include questions on frequency of visits, gender, age group, disability, employment status, socio-economic group*, and ethnic group. This survey could be combined with that required for the indicator of 'Estimated value of visitor expenditure to the local economy'. For consistency for gender, age, employment status, disability and ethnic group NIAs should use the standard questions included in the MENE survey. These are questions 1, 2a, 2b, 5 and 13 in Appendix 2 of the MENE Technical Report (2012-13 survey): For the question on disability go to Appendix 1 question 22. http://publications.naturalengland.org.uk/publication/6177445019385856?category=47018 * Socio-economic group is based on the classification included in the MENE survey. This is derived by asking about occupation of the chief income earner in the household of the person being interviewed. This occupation can then be classified as A, B, C1, C2, D or E according to the scale and descriptions included in the MENE survey, see Appendix 3 of the Annual Report of the 2012-2013 MENE survey: http://publications.naturalengland.org.uk/publication/5331309618528256?category=47018 Local Authorities will also have standard classifications (and questionnaire examples) which NIAs may wish to use in their area. If this approach is preferred NIAs should contact the relevant Local Authority direct.

	It will not be possible to survey everybody visiting NIA sites. As a result a 'sample' survey will be required, where a sample of the total number of visitors are surveyed and from this sample extrapolations made to relate the sample to the total. It is important that the same survey is used each year to enable comparison of data collected and to measure change over time. Further guidance for establishing and running local surveys, such as on sample size and framing is included in the **Undertaking NIA local surveys – FAQs** note available on HUDDLE: https://defra.huddle.net/workspace/16609188/files/#/folder/28354471/list
Calculating and presenting indicator	
Baseline date for 12 initial NIAs	April 2014 (unless existing data is held by NIA partnerships). Baseline should be taken as zero if these are new sites, although if sites defined as 'NIA sites' existed prior to NIA initiative and indicator is defined as *'change in number of visitors'* then the baseline could be non-zero.
Methods for calculating indicator values	1. Collation of the number of visits to all NIA sites annually 2. Percentage breakdown of visits by i) gender, ii) age-group, iii) disability, iv) employment status, v) socio-economic group, and vi) ethnic group.
Responsibility for calculating indicator values	NIA partnerships
Reporting	

Online reporting	The following data can be entered in relevant fields in the online reporting system:
	• Baseline number of visits to all NIA sites
	• Baseline percentage breakdown of visits by gender, age, disability, employment status, socio-economic group and ethnic group
	• Annual number of visits to all NIA sites
	• Annual percentage breakdown of visits by gender, age, disability, employment status, socio-economic group and ethnic group
	• Caveats relating to:
	  ○ Sample size
	  ○ Any potential deficiencies in data collection.
	
	Note that **data entered as 'annual figure' in each reporting year should be for that year only**, and not cumulative. Cumulative figures will be calculated by summing individual year data.

Interpreting	
Interpretation *(inc linkage to other indicators)*	There are close links with other indicators relating to visitors, e.g. 'Estimated value of visitor expenditure to local economy'. Care is needed in interpretation of these indicators, as changes may not necessarily be due to NIA

	activities. Note: potential recording of part of these within the educational visits indicator, where the educational visits are to NIA sites.

Indicator: S&E04_S: Number and social mix of people attending NIA activities and events

Indicator: S&E04_S	Number and social mix of people attending NIA activities and events
Version date	25th February 2014
Theme	Social and economic impacts and contributions to well-being
Sub-theme	Social impacts and well-being
Sub-theme category	Core
Indicator category	Optional
Indicates *(what is the indicator intended to indicate)*	This indicator seeks to measure the level of engagement of the local community and its constituent social groups with the NIA in NIA events. It is a proxy indicator which assumes that an increase in the number of people from different backgrounds attending NIA activities and events indicates an increase in engagement with the NIA and the natural environment. By recording social groups the indicator seeks to demonstrate changes in the diversity of participating groups, helping to indicate the extent to which NIAs are encouraging wider participation and trigger NIA Partnerships to consider changing the format, timing, and promotion etc. of events if the social mix of attendees does not reflect that of the local population in general, or the local population that do visit the natural environment. For the purposes of this indicator, 'NIA activities and events' are defined thus: NIA activities and events are those organised by one or more NIA partners which are specifically seeking to meet one or more NIA objectives and have been made possible by NIA funding and / or the existence of an NIA partnership. 'Activities' involve participants actively contributing to or taking part in delivering an outcome, for example tree planting or conducting a survey, including as volunteers. 'Events' involve participants attending to learn, enjoy or view/experience an aspect of the NIA, this could include awareness raising, guided walks, wildlife discovery events, music performances or other cultural events, launches of specific initiatives etc. NIA activities and events should *not* include things that are happening inside the NIA area but that do not meet specific NIA objectives and have not been made possible by the existence of the NIA partnership or associated funding (i.e. they would have happened anyway).
Units	Number of participants in NIA activities and events. Percentage breakdown of participants by: gender; age; disability; employment status; socio-economic group; and ethnic group.
Relevance to Government indicators	None

Existing data for establishing baseline	
Relevant dataset(s)	None
Source(s) of data *(contact details or hyperlink)*	None
Spatial coverage	N/A
Temporal coverage	N/A
Planned updates	N/A
Data collection method *(estimate, survey, monitoring)*	N/A
Accuracy of data	N/A
Additional/new data for establishing baseline and monitoring change	
Relevant additional/new data	Data on attendance and involvement in each NIA event or activity by gender, age, disability, employment status, socio-economic group and ethnic group The number of events that this number of attendees/ participants relates to should also be recorded and reported within the caveats/narrative section of the online reporting tool.
Responsibility for data collection *(e.g. NIA partnerships or potentially to be taken on by NE or EA)*	NIA partners organising NIA activities and events should all record the numbers and categories of participants. This may be coordinated and collated by a single NIA member.
Methods for data collection	1. The total number of participants at each event should be recorded 2. Each participant should be surveyed to record: gender, age group, disability, employment status, socio-economic group*, and ethnic group. For consistency for gender, age, employment status, disability and ethnic group NIAs should use the standard questions included in the MENE survey. These are questions 1, 2a, 2b, 5 and 13 in Appendix 2 of the MENE Technical Report (2012-13 survey): For the question on disability go to Appendix 1 question 22. http://publications.naturalengland.org.uk/publication/6177445019385856?category=47018 * Socio-economic group is based on the classification included in the MENE survey. This is derived by asking about occupation of the chief income earner in the household of the person being interviewed. This occupation can then be classified as A, B, C1, C2, D or E according to the scale and descriptions included in the MENE survey, see Appendix 3 of the Annual Report of the 2012-2013 MENE survey: http://publications.naturalengland.org.uk/publication/5331309618528256?category=47018 Local Authorities will also have standard classifications (and questionnaire examples) which NIAs may wish to use in their area. If this approach is preferred NIAs should contact the relevant Local Authority direct.

	If NIA partnerships also wish to report on the number of people involved in online NIA activities and events, they are encouraged to maintain a separate record. **Note**: this aims to record *all* event/activity attendees and or participants. Thus this is *not* a sampled approach (as in other visitor surveys); all NIA partners should collate relevant source data from NIA specific events and activities. Further guidance for establishing and running local surveys is included in the **Undertaking NIA local surveys – FAQs** note available on HUDDLE: https://defra.huddle.net/workspace/16609188/files/#/folder/28354471/list
Calculating and presenting indicator	
Baseline date for 12 initial NIAs	Baseline will be zero – prior to the establishment of the NIA. For initial NIAs this can be set in Year 1, April 2012.
Methods for calculating indicator values	1. Collation of the number of people participating in NIA events and activities annually. The annual number of events should also be recorded. 2. Percentage breakdown of participants by i) gender, ii) age group, iii) disability, iv) employment status, v) socio-economic group, and vi) ethnic group.
Responsibility for calculating indicator values	NIA partnership
Reporting	
Online reporting	The following data can be entered annually in relevant fields in the online reporting system: • Baseline total number of participants (a separate account of online participation can also be recorded) • Baseline percentage breakdown of participants by gender, age, disability, employment status, socio-economic group and ethnic group • Annual total number of participants (a separate account of online participation can also be recorded) • Annual percentage breakdown of participants by gender, age, disability, employment status, socio-economic group and ethnic group • Caveats, such as those that may relate to deficiencies in recording and estimation. Record the number of events that the annual figures relate to so that average numbers can be represented. Note that **data entered as 'annual figure' in each reporting year should be for that year only**, and not cumulative. Cumulative figures will be calculated by summing individual year data.
Interpreting	
Interpretation *(inc linkage to other indicators)*	There are links with other indicators relating to social impacts and well-being, especially the 'Number and social mix of visitors to NIA sites'. Depending on the way that the '*Number of educational visits'* are recorded this indicator may overlap. Record within the caveats the limitations or exclusions in recording.

Indicator: S&E05_S: Level of outdoor recreation in the local community

Indicator: S&E05_S	Level of outdoor recreation in the local community
Version date	25th February 2014
Theme	Social and economic impacts and contributions to well-being
Sub-theme	Social impacts and well-being
Sub-theme category	Core
Indicator category	Optional
Indicates *(what is the indicator intended to indicate)*	This indicator seeks to measure the contribution that the NIA makes to the recreational use of the natural environment, by measuring overall levels of outdoor recreation in the local community, This is a proxy or indirect indicator as it is not possible to attribute with certainty changes in levels of outdoor recreation to NIA activities. The indicator does not explicitly try to link to the activities of the NIA influencing the level of outdoor recreation. The principle is that there is indirect uptake of outdoor recreation due to increased awareness, attitude and/or opportunity. **Note:** It is recommended that NIAs choosing this indicator and conducting a local survey should also consider including questions relating to the following social and economic indicators: 'Attitudes to the natural environment and environmental behaviours' and to the following partnership working indicators: 'Level of awareness of NIA in local community' and 'Attitudes of local community to NIA'.
Units	Numbers of visits
Relevance to Government indicators	England Biodiversity 2020 Indicator 13. Public enjoyment of the natural environment
Existing data for establishing baseline	
Relevant dataset(s)	Monitor of Engagement with the Natural Environment (MENE) survey (2012) data on responses to question 17, supplemented by responses to questions 1, 2, 3, 4, 5, 12 and 18 to aid interpretation. See questionnaire script at: http://www.naturalengland.org.uk/Images/mene-question-script_tcm6-37024.pdf Note: this website will change to http://www.naturalengland.gov.uk/Images/mene-question-script_tcm6-37024.pdf before July 2014. Where resources and expertise allow it is suggested that NIAs can implement additional repeat NIA local surveys, using the standard MENE questions (to allow direct comparison), to develop their own data. See Data collection method / Relevant additional/new data.

Source(s) of data *(contact details or hyperlink)*	MENE survey data: • Results are published annually at: http://www.naturalengland.org.uk/ourwork/research/mene.aspx#results (Note: this website will change to http://www.naturalengland.gov.uk/ourwork/research/mene.aspx#results before July 2014) • Natural England has agreed to provide analysis of the raw data for the 12 initial NIAs to 2015. This will be based on the NIA boundary plus a 10km buffer, this is to ensure a large enough sample size for statistical analysis • Instant Atlas is a data visualisation tool due to be launched in 2014 that will allow MENE question data to be viewed against various boundaries, including NIAs. Future NIAs will have an annual opportunity to submit their boundaries for addition Locally derived data: • From NIA implemented surveys.
Spatial coverage	**Geographical scope:** This indicator seeks to measure changes in levels of outdoor recreation of people living in (or near) the NIA: the local community. The "local community" is a very general term and there are no commonly agreed definition of what it means. It can mean communities of place or of interest, both of which might vary in scale: e.g. all the people who live in your NIA or all the people who live 5km from a specific NIA site or all birdwatchers who are members of the RSPB. In the context the NIA indicators the term "local community" refers to a **geographical community** because we are interested in knowing about the reach of the NIA and its activities to ordinary members of the public. More information on defining the local community in the context of specific NIAs is provided in the **Undertaking NIA local surveys – FAQs** note available on HUDDLE: https://defra.huddle.net/workspace/16609188/files/#/folder/28354471/list Once an NIA has decided on the appropriate definition of local community in their context, this should be used consistently: i.e. it is important to sample from the same geographical area for all surveys that refer to "local community" and that from one year to the next they sample is from the same geographical area otherwise comparisons can't be made. **Sample size:** Sample size for some individual NIAs is sufficient to allow analysis of MENE data at the NIA level, although this may not be true of the same NIAs every year. For more information contact: Rachel Penny, Senior Specialist, Health and Accessible Natural Environment, Natural England (Tel: 01245 284747; email: Rachel.Penny@naturalengland.org.uk).

	For those NIAs where MENE sample size is inadequate, it may be worth contacting local authorities' tourism or leisure/environment/planning officers to check if they collect relevant information and to adapt this indicator accordingly. Further guidance for establishing and running local surveys, such as on sample size and framing is included in the **Undertaking NIA local surveys – FAQs** note available on HUDDLE: https://defra.huddle.net/workspace/16609188/files/#/folder/28354471/list
Temporal coverage	The MENE survey is ongoing (from 2009 onwards), with results published monthly and detailed results published annually. For local NIA surveys these should be implemented annually to provide data for annual monitoring.
Planned updates	Monthly and annual reports produced through MENE. Local NIA surveys: annually
Data collection method *(estimate, survey, monitoring)*	The MENE survey is carried out face-to-face as part of an in-home omnibus survey. Every year at least 45,000 interviews are undertaken and at least 800 respondents are interviewed every week. The Technical Report contains a copy of the full questionnaire in the appendix, as well as details of the survey methodology -including approaches to sampling, grossing and weighting, and estimates of margins of error, see: Appendix 3 of the Annual Report of the 2012-2013 MENE survey: http://publications.naturalengland.org.uk/publication/5331309618528256?category=47018 Where resources and expertise allow, NIAs can use the MENE standard question/s to develop their own NIA local survey (see question 17): http://www.naturalengland.org.uk/Images/mene-question-script_tcm6-37024.pdf). This will enable NIAs to develop data that is more representative than possible using MENE data. If an NIA chooses to develop their own survey this could also provide data for other indicators: Attitudes of local community to the natural environment and environmental behaviours; Estimated value of visitor expenditure to the local economy; Attitudes of local community to NIA; and Level of awareness of NIA in local community. Further guidance for establishing and running local surveys, such as on sample size and framing is included in the **Undertaking NIA local surveys – FAQs** note available on HUDDLE: https://defra.huddle.net/workspace/16609188/files/#/folder/28354471/list
Accuracy of data	The MENE survey involves a quota sampling method to ensure that respondents are representative of the adult population (16 years and over) of England.

Additional/new data for establishing baseline and monitoring change	
Relevant additional/new data	Annual MENE data on responses to relevant questions, where sample size for individual NIAs is statistically robust (see above). If a NIA local survey is being used, these data should be updated annually based on repeat surveys. Repeat surveys must use the same questions and relative consistency in sample sizes to show change over time.
Responsibility for data collection *(e.g. NIA partnerships or potentially to be taken on by NE or EA)*	Natural England If local questionnaire survey is undertaken – responsibility will be the NIA partnership.
Methods for data collection	As above for MENE data, and local survey data.
Calculating and presenting indicator	
Baseline date for 12 initial NIAs	April 2012 – for MENE data. For local survey based approach the baseline will be the first annual survey data.
Methods for calculating indicator values	MENE data: Raw data to be cut to the NIA boundary using postcodes. Natural England has agreed to provide analysis of the raw data for the 12 initial NIAs to 2015. This will be based on the NIA boundary plus a 10km buffer, this is to ensure a large enough sample size for statistical analysis For the local NIA questionnaire / survey the tally of the responses to the questions.
Responsibility for calculating indicator values	Natural England – for MENE data approach. If local questionnaire survey is undertaken – responsibility will be the NIA partnership.
Reporting	

Online reporting	The following data can be entered in relevant fields in the online reporting system:
	• Baseline summary breakdown of responses received to each of the questions
	• Annual summary breakdown of responses received to each of the questions
	• Caveats relating to:
	  ○ Sample size.
	  ○ Sampling issues.
	  ○ Sample 'frame' in relation to definition of local community for NIA.
	
	Note that **data entered as 'annual figure' in each reporting year should be for that year only**, and not cumulative. Cumulative figures will be calculated by summing individual year data.

Interpreting	
Interpretation *(inc. linkage to other indicators)*	The indicator should be interpreted with care, as visits will be affected by a range of different factors, and many may not be related activities.

	There are close links with other indicators relating to social impacts and well-being, and partnership working: Attitudes of local community to the natural environment and environmental behaviours; Attitudes of local community to NIA; and Level of awareness of NIA in local community.

Indicator: S&E06_S: Number of volunteer hours on NIA activities

Indicator: S&E06_S	Number of volunteer hours on NIA activities
Version date	25th February 2014
Theme	Social and economic impacts and contributions to well-being
Sub-theme	Social impacts and well-being
Sub-theme category	Core
Indicator category	Core
Indicates *(what is the indicator intended to indicate)*	The number of hours spent by volunteers on NIA activities, as a measure of their contribution and of the engagement of the NIA partnership with the local community. This is a direct indicator of the number of hours spent volunteering, and the nature of volunteering in the NIA. However it is also a proxy indicator of the contribution volunteers make to the NIA and their engagement in the natural environment (and the health and wellbeing benefits from this engagement), based on the assumption that an increase in the number of hours volunteered represents increased engagement and benefit. Volunteering is defined as: "any freely undertaken activity that involves spending time, unpaid, doing something that aims to benefit the environment or someone (individuals or groups) other than, or in addition to, a close relative" (Big Lottery Fund). NIA activities are those organised by one or more NIA partners which are specifically seeking to meet one or more NIA objectives and have been made possible by NIA funding and / or the existence of an NIA partnership. 'Activities' involve participants actively contributing to or taking part in delivering an outcome, for example tree planting or conducting a survey. NIA activities should *not* include things that are happening inside the NIA area but that do not meet specific NIA objectives and have not been made possible by the existence of the NIA partnership or associated funding (i.e. they would have happened anyway).
Units	Number of volunteers, skill levels, hours (on NIA activities)
Relevance to Government indicators	England Biodiversity 2020 Indicator 14a. Conservation volunteering. (The amount of volunteer time spent undertaking conservation activities for twelve organisations across the environmental sector in England)
Existing data for establishing baseline	
Relevant dataset(s)	None
Source(s) of data *(contact details or hyperlink)*	None

Spatial coverage	N/A
Temporal coverage	N/A
Planned updates	N/A
Data collection method *(estimate, survey, monitoring)*	N/A
Accuracy of data	N/A
Additional/new data for establishing baseline and monitoring change	
Relevant additional/new data	The numbers and skills levels of volunteers, and hours spent on NIA activities.
Responsibility for data collection *(e.g. NIA partnerships or potentially to be taken on by NE or EA)*	NIA partnerships
Methods for data collection	Data should *only* refer to activities supported by the NIA project, rather than the wider activities of partner organisations: i.e. aligned to the specific objectives of the NIA (for the initial 12 NIAs these are as stated in Table 2 of the NIA contract). The number of volunteers and hours contributed should be recorded in each of the following categories: • General, unskilled labour (e.g. supervised scrub clearance, ditch-digging, planting, basic administrative support) • Specialist, skilled, trained labour (e.g. operations for which certificated training is a requirement, such as operating dangerous equipment, driving off-road vehicles, using chemicals) • Specialist services, (e.g. supervising, training labour teams, surveys, counts, trapping, ringing, diving, printing, designing, photography) • Professional services (e.g. consultants, lawyers, planners, engineers, accountants, auditors). **Note**: the skill level of volunteers should be recorded by the task undertaken rather than the qualification of the individual undertaking the activity. E.g. the time given by a lawyer who is volunteering to dig a ditch would be recorded as "general unskilled labour".
Calculating and presenting indicator	
Baseline date for 12 initial NIAs	April 2013
Methods for calculating indicator values	Number of volunteers and volunteer hours by skill levels to be summarised annually. Where it is known that there is under-reporting this should be recorded within the caveats. Where NIAs wish to calculate days of volunteering (e.g. for 12 initial NIAs' quarterly progress reporting) from the hours recorded under this indicator, NIAs should standardise the calculation based on a 7 hour working day and use Full Time Equivalent (FTE) at 230 days / annum.

Responsibility for calculating indicator values	NIA partnerships
Reporting	
Online reporting	The following data can be entered annually in relevant fields in the online reporting system: • Total number of volunteers (by skills level) • Total number of volunteer hours (by skills level) • Caveats, such as those that may relate to: ○ Deficiencies in recording Note that **data entered as 'annual figure' in each reporting year should be for that year only**, and not cumulative. Cumulative figures will be calculated by summing individual year data.
Interpreting	
Interpretation *(inc linkage to other indicators)*	There are close links with other indicators relating to social impacts and well-being, especially those that relate to public engagement in NIA activities. **Note:** the number of volunteer hours recorded for this indicator will contribute to estimates of the "Financial value of help-in-kind", which is a core indicator under the Partnership working theme.

Indicator: S&E07_E: Estimated value of visitor expenditure to the local economy

Indicator: S&E07_E	Estimated value of visitor expenditure to the local economy
Version date	25th February 2014
Theme	Social and economic impacts and contributions to well-being
Sub-theme	Economic values and impacts
Sub-theme category	Core
Indicator category	Optional
Indicates *(what is the indicator intended to indicate)*	The money spent locally by visitors to NIA sites, which is an important indicator of the contribution of NIAs to the local economy. This indicator is a direct measure of expenditure, but is based on an estimate of total expenditure calculated by surveying an appropriately sized sample of visitors on their spending and multiplying an average of this expenditure by the total number of visitors. "Visitors to NIA sites" refers to people who have chosen to experience an aspect of the NIA and have come to a specific site to do so. They may have come for a specific activity but the reason for surveying them is to see who is visiting the site for whatever reason. **Note:** It is recommended that NIAs choosing this indicator and conducting a local survey of visitors should also consider including questions relating to the following social and economic indicator: 'Number and social mix of visitor to NIA sites'.
Units	Value in £
Relevance to Government indicators	Not included in government indicators, but included in Monitor of Engagement with Natural Environment (MENE)
Existing data for establishing baseline	
Relevant dataset(s)	Some NIA sites may have been subject to dedicated visitor surveys and it may be possible to use these to establish a baseline.
Source(s) of data *(contact details or hyperlink)*	Depending on existence of local surveys.
Spatial coverage	Depending on existence of local surveys.
Temporal coverage	Depending on existence of local surveys.
Planned updates	Depending on existence of local surveys.
Data collection method *(estimate, survey, monitoring)*	Depending on existence of local surveys.
Accuracy of data	Depending on existence of local surveys.

Additional/new data for establishing baseline and monitoring change	
Relevant additional/new data	Number of visitors to NIA sites and the expenditure by visitors to NIA sites
Responsibility for data collection *(e.g. NIA partnerships or potentially to be taken on by NE or EA)*	NIA partnerships
Methods for data collection	To estimate the value expenditure by visitors to NIA sites it will be necessary to complete visitor surveys. NIAs should conduct visitor surveys to include questions on expenditure during a specific visit to an NIA site. This survey could be combined with that required for the indicator of 'Number and social mix of visitors to NIA sites'. In order to ensure expenditure is estimated consistently NIAs should use the standard questions included in the MENE survey. These are questions 15 and 16 in the MENE questionnaire: see page 6 of http://www.naturalengland.org.uk/Images/mene-question-script_tcm6-37024.pdf (Note: this website will change to http://www.naturalengland.gov.uk/Images/mene-question-script_tcm6-37024.pdf before July 2014) If a survey of expenditure is being conducted on its own, this should also include questions relating to where visitors have come from and the extent to which the natural environment was a motivating factor for visiting the NIA site. Further guidance on conducting visitor surveys and estimating visitor numbers is available from: • Forest Research – Estimating visitors and visits numbers to woodlands: http://www.forestry.gov.uk/fr/INFD-8CZJBE • Visit Scotland – Visitor Survey Toolkit: http://www.visitscotland.org/business_support/advice_materials/toolkits/visitor_survey_toolkit.aspx It will not be possible to survey everybody visiting NIA sites. As a result a 'sample' survey will be required, where a sample of the total number of visitors are surveyed and from this sample extrapolations made to relate the sample to the total. In general terms the larger the sample size the more reliable the data can be considered and the higher the level of confidence can be in the survey results over time. It is important that the same survey is used each year to enable comparison of data collected and to measure change over time. Further guidance for establishing and running local surveys, such as on sample size and framing is included in the **Undertaking NIA local surveys – FAQs** note available on HUDDLE: https://defra.huddle.net/workspace/16609188/files/#/folder/28354471/list

Calculating and presenting indicator	
Baseline date for 12 initial NIAs	April 2014 except where existing surveys exist, in which case it may be possible to estimate a baseline level of expenditure.
Methods for calculating indicator values	Methodology can follow that used by RSPB to estimate contribution of its reserves to local economies: http://www.rspb.org.uk/Images/reserves_localeconomies_tcm9290937.pdf Essentially this requires calculation of: • Expenditure by each visitor to NIA sites from outside the local area • Proportion of each visitor's expenditure that can be attributed to NIA site visits based on the extent to which the natural environment was a motivating factor for visits to the local area • Average attributable expenditure per visitor to the site from outside the local area • Total additional visitor expenditure in the local economy attributable to the natural environment, estimated by multiplying the number of visitors to the site from outside the local area by the average attributable expenditure per visitor.
Responsibility for calculating indicator values	NIA partnerships
Reporting	

Online reporting	The following data can be entered in relevant fields in the online reporting system:
	• Baseline and annual figures for additional visitor expenditure in the local economy attributable to the natural environment
	• Caveats relating to:
	  ○ Estimates of visitor expenditure (e.g. sampling, estimation of expenditure and attribution)
	  ○ Estimates of visitor numbers (e.g. accuracy of estimation or counting methods).
	
	Note that **data entered as 'annual figure' in each reporting year should be for that year only**, and not cumulative. Cumulative figures will be calculated by summing individual year data.

Interpreting	
Interpretation *(inc linkage to other indicators)*	The indicator closely relates to and builds on that for 'Number and social mix of visitors to NIA sites'. The indicator links with others, such as those dealing with employment and the value of ecosystem services, to provide evidence of the economic impacts and values of the NIA.

Indicator S&E08_E: Number of people employed in NIA activities

Indicator S&E08_E	Number of people employed in NIA activities
Version date	25th February 2014
Theme	Social and economic impacts and contributions to well-being
Sub-theme	Economic values and impacts
Sub-theme category	Core
Indicator category	Optional
Indicates *(what is the indicator intended to indicate)*	The contribution of the NIA to the local economy This indicator is a direct calculation of the number of people employed by the NIA. This seeks to demonstrate one aspect of the value the NIA adds to the local economy, by providing employment in the local area. It is a measure of the number of people employed on NIA activities. NIA activities are those activities within or organised by one or more NIA partners which are specifically seeking to meet one or more NIA objectives and have been made possible by NIA funding and / or the existence of an NIA partnership. NIA activities should *not* include things that are happening inside the NIA area but that do not meet specific NIA objectives and have not been made possible by the existence of the NIA partnership or associated funding (i.e. they would have happened anyway). Within the scope set out above, people employed should include NIA staff, contractors, sub-contractors and consultants that are employed by the NIA (with NIA grant funding) to help run the NIA and/or deliver NIA activities. The time given by volunteers or people providing in-kind contributions should not considered under employment in NIA activities.
Units	Number of full-time equivalent jobs / or number of days worked
Relevance to Government indicators	None, although the wider economic benefits of NIA partnerships is relevant to national economic objectives.
Existing data for establishing baseline	
Relevant dataset(s)	None
Source(s) of data *(contact details or hyperlink)*	None
Spatial coverage	N/A
Temporal coverage	N/A
Planned updates	N/A
Data collection method *(estimate, survey, monitoring)*	N/A
Accuracy of data	N/A

Additional/new data for establishing baseline and monitoring change	
Relevant additional/new data	Time spent by people employed (including contractors, sub-contractors and consultants) by NIA partners on delivery of NIA activities.
Responsibility for data collection *(e.g. NIA partnerships or potentially to be taken on by NE or EA)*	NIA partnership
Methods for data collection	Recording of time spent by all those employed (including contractors, sub-contractors and consultants) by NIA partners on delivery of activities supported by the NIA project, aligned to the specific objectives of the NIA (for the initial 12 NIAs these are as stated in Table 2 of the NIA contract) rather than to the wider activities of partner organisations. NIAs should standardise the calculation of Full Time Equivalent (FTE) at 230 days / annum, or record the actual number of days worked.
Calculating and presenting indicator	
Baseline date for initial 12 NIAs	The baseline will be zero at the start of the NIA programme April 2012.
Methods for calculating indicator values	Estimation of the number of FTE jobs in each of the following categories: • General, unskilled labour (e.g. supervised scrub clearance, ditch-digging, planting, basic administrative support) • Specialist, skilled, trained labour (e.g. operations for which certificated training is a requirement, such as operating dangerous equipment, driving off-road vehicles, using chemicals). • Specialist services, (e.g. supervising, training labour teams, surveys, counts, trapping, ringing, diving, printing, designing, photography) • Professional services (e.g. consultants, lawyers, planners, engineers, accountants, auditors). **Note**: the categorisation of FTE jobs should be recorded by the task undertaken rather than the qualification of the individual undertaking the activity. E.g. a lawyer who is completing work to dig a ditch would be recorded as “general unskilled labour”.
Responsibility for calculating indicator values	NIA partnership
Reporting	
Online reporting	The following data can be entered annually in relevant fields in the online reporting system: • Baseline number of FTE jobs by category • Caveats relating to any potential deficiencies in recording. Note that **data entered as ‘annual figure’ in each reporting year should be for that year only**, and not cumulative. Cumulative figures will be calculated by summing individual year data.

Interpreting	
Interpretation *(inc linkage to other indicators)*	There are close links with other indicators relating to economic values and impacts, and social impacts and well-being. Care is needed in recording and interpretation, distinguishing between employment among the NIA partners and employment specifically contributing to delivery of NIA activities.

Indicator: S&E09_E: Local indicator of estimated value of ecosystem services in the NIA

Indicator: S&E09_E	Local Indicator of estimated value of ecosystem services in the NIA
Version date	25th February 2014
Theme	Social and economic impacts and contributions to well-being
Sub-theme	Economic values and impacts
Sub-theme category	Core
Indicator category	Local
Indicates *(what is the indicator intended to indicate)*	The value of ecosystem services in the NIA
Units	£ (pounds)
Relevance to Government indicators	No indicator covers the value of ecosystem services. However, this is addressed in the UK National Ecosystem Assessment (http://uknea.unep-wcmc.org/).
Existing data for establishing baseline	
Relevant dataset(s)	Any baseline datasets relating to indicators that NIA partnerships select of ecosystem services and 'Estimated value of visitor expenditure to local economy' Land cover data and benefit transfer values. This would include bespoke land cover data developed by the NIA, LCM2007 or local land cover data (e.g. IHS / Phase 1 habitat survey).
Source(s) of data *(contact details or hyperlink)*	See Relevant additional/new data below
Spatial coverage	N/A
Temporal coverage	N/A
Planned updates	N/A
Data collection method *(estimate, survey, monitoring)*	See Relevant additional/new data below
Accuracy of data	N/A
Additional/new data for establishing baseline and monitoring change	
Relevant additional/new data	Data required by indicators of ecosystem services that NIA partnerships select and 'Estimated value of visitor expenditure to local economy'. Requires studies by NIAs and their partners of the delivery of ecosystem services and the value of these services. This can build on other indicators measuring ecosystem services delivery and combine these with economic values, either collected locally or transferred from other studies. Critically, this will require a full GIS-based land cover and/or land use map and appropriate classification, and potentially a functional land cover map from which to develop the extent of the units contributing to particular services and service levels. This may need to go beyond the basic approach of typical

	services associated with a land use (matrix) to a more functional relationship between service delivery and specific areas. Benefit transfer data can be derived from literature, past studies etc. (TEEB) and extensive guidance on sources for value transfer is available at https://www.gov.uk/ecosystems-services. There are a number of online services for valuing services based on land cover classes (e.g. The SERVES (Simple and Effective Resource for Valuing Ecosystem Services) component of the Ecosystem Valuation Toolkit – see: http://www.esvaluation.org/reporting.php) NIA partnerships should define the services that will be included within their evaluation; it may not be feasible to include all services and some may be less relevant to the specific NIA area functions.
Responsibility for data collection *(e.g. NIA partnerships or potentially to be taken on by NE or EA)*	NIA partnerships
Methods for data collection	Dependent on approach adopted: see Relevant additional/new data above
Calculating and presenting indicator	
Baseline date for 12 initial NIAs	The baseline will depend on the data of the land cover mapping from which the extent of service is sourced rather than the date of calculation.
Methods for calculating indicator values	Data on ecosystem services can be combined with relevant economic values to assess value of service delivery. This may include transferable values from other studies, locally-specific data, and new data collected through original valuation studies, where resources are available. This will require significant expertise, for example through partnership with a local university. NIA partnerships who select this indicator may benefit from developing/commissioning suitable methodologies collectively. Economic values of ecosystem services can be estimated by multiplying relevant units by economic value per unit. These units will vary by service (e.g. tonnes of carbon x shadow price per tonne; area of habitat x value per hectare). A number of geospatial tools are available to support these types of calculation, e.g. • INVEST (http://www.naturalcapitalproject.org/InVEST.html) • ARIES (http://www.ariesonline.org/about/ariesteam.html) • EcoServ-GIS (http://www.durhamwt.co.uk/what-we-do/current-projects/ecoserv-project/) Such tools combine the geospatial characterization of services with transfer valuation. However, any GIS tool can be used to develop the spatial extents of service provision, although these tools may make the process easier. Benefit transfer function tools relate habitats to service unit values that can be summed across the area. Changes to land use /cover will need to be updated within the baseline data to provide analysis of change in service values.

Responsibility for calculating indicator values	NIA partnership and partners (e.g. universities)
Reporting	

Online reporting	The following data can be entered in relevant fields in the online reporting system:
	• Baseline and annual figures for the estimated value of individual ecosystem services in the NIA
	• Caveats relating to:
	  ○ Indicators of ecosystem services and 'Estimated value of visitor expenditure to local economy' selected by the NIA partnership
	  ○ Data and model uncertainty in assigning economic values.
	
	Caveats and narrative should be used to record limitations and approaches adopted in calculating the units (e.g. area) and unit price used to generate value figures. It may be appropriate for the NIA to develop a protocol for their specific method and sources so that other NIAs can share learning.
	
	Note that **data entered as 'annual figure' in each reporting year should be for that year only**, and not cumulative. Cumulative figures will be calculated by summing individual year data.

Interpreting	
Interpretation *(inc linkage to other indicators)*	The value of this indicator will be its contribution to development of knowledge about the value of ecosystem services delivered in the NIA and the contribution of the NIA to the value of these services. It is unlikely to provide highly standardised data or be regularly updated. The indicator links with and builds upon the indicators under the 'Ecosystem Services' theme as well as the indicator of 'Estimated value of visitor expenditure to local economy'. The indicator relates strongly to all the indicators based on the Biodiversity (land cover, habitat change and condition status and enhancement) and to the levels of access etc.

Appendix 6: Partnership working theme indicator protocols

- PW01_R: Project income and expenditure
- PW02_R: Financial value of help in kind
- PW03_E: Fulfilment of identified skills needs
- PW04_E: Attitudes of local community to NIA
- PW05_E: Assessment of partnership working
- PW06_L: Audience reach
- PW07_L: Level of awareness of NIA in the local community
- PW08_L: Number of enquiries

Indicator: PW01_R: Project income and expenditure

Indicator: PW01_R	Project income and expenditure
Version date	25th February 2014
Theme	Partnership working
Sub-theme	Mobilisation of resources
Sub-theme category	Core
Indicator category	Core
Indicates *(what is the indicator intended to indicate)*	This indicator compares project income, planned and actual expenditure as a measure of utilisation of income, which is a component of progress in achieving agreed milestones towards project outcomes. This indicator is a proxy for effective project management and partnership working, based on the assumption that if actual expenditure does not diverge significantly from income and/or planned expenditure then project management and implementation can also be assumed to be on-track.
Units	Pounds - £s
Relevance to Government indicators	None
Existing data for establishing baseline	
Relevant dataset(s)	Project income, expenditure and planned expenditure
Source(s) of data *(contact details or hyperlink)*	For the initial 12 NIAs this is as stated in Schedule 3 of the NIA contract and in the NIA Business Plan
Spatial coverage	N/A
Temporal coverage	N/A
Planned updates	For the initial 12 NIAs any updates to Schedule 3, as may be agreed once the work programme and costs have been established and or refined as agreed
Data collection method *(estimate, survey, monitoring)*	For the initial 12 NIAs this will be based on expenditure figures, as detailed in Quarterly Progress Reports, and from profiles of expenditure and forecasted expenditure, as submitted with NIA Claim Forms, and, as maintained in project income and expenditure accounts
Accuracy of data	100%
Additional/new data for establishing baseline and monitoring change	
Relevant additional/new data	Routine tracking of income, expenditure and planned expenditure against individual objectives. For the 12 initial NIAs this will be as submitted with NIA Claim Forms and Quarterly Progress Reports.
Responsibility for data collection *(e.g. NIA partnerships or potentially to be taken on by NE or EA)*	Lead Organisation / Accountable Body within the NIA Partnership.

Data collection method	For the 12 initial NIAs, specific outcomes are to be achieved during the life of the project in alignment with measures shown in Table 2 of the NIA Contract. Estimates of spend and forecasted spend against individual objectives will need to be assessed routinely and reported in Quarterly Progress Reports and within profiles of expenditure and forecasted expenditure, as submitted with NIA Claim Forms, and, as maintained in project income and expenditure accounts. It is important that where additional new income becomes available during the NIA implementation that this is recorded and reported, as new income will mean that the ratio of planned to actual expenditure could change – and therefore the planned expenditure in any year should be revised in line with additional new income. Reporting should be consistently applied and expenditure should correspond with that directly connected to the NIA or related to specific work to deliver NIA objectives and partnership. This should *not* report on the contribution in kind which is part of another indicator: *Financial value of help in-kind.*
Calculating and presenting indicator	
Baseline date for 12 initial NIAs	April 2012 Baseline is set at zero at the start of the NIA programme as the NIA has no income / expenditure prior to its commencement.
Methods for calculating indicator values	Financial data as submitted by NIAs in Quarterly Progress Reports
Responsibility for calculating indicator values	Lead Organisation / Accountable Body within the NIA Partnership and Natural England
Reporting	
Online reporting	Enter the annual project income (including additional new income becomes available during the NIA implementation), planned expenditure and actual expenditure. Where additional new income becomes available this should be recorded in the online tool and noted in the caveats. Note that **data entered as 'annual figure' in each reporting year should be for that year only**, and not cumulative. Cumulative figures will be calculated by summing individual year data.
Interpreting	
Interpretation *(inc linkage to other indicators)*	If additional income (above the original NIA budget) is added to the programme make clear within the caveats / narratives section of the reporting tool. **Note:** This indicator should *not* report on the contribution in kind which is part of another indicator: *Financial value of help in-kind.*

Indicator: PW02_R: Financial value of help in kind

Indicator: PW02_R	Financial value of help in kind
Version date	25th February 2014
Theme	Partnership working
Sub-theme	Mobilisation of resources
Sub-theme category	Core
Indicator category	Core
Indicates *(what is the indicator intended to indicate)*	The financial value of projected and actual help-in-kind (including volunteering), as a component of progress in achieving agreed milestones for project outcomes. This indicator is a proxy for effective project management and partnership working, based on the assumption that if actual help in-kind does not diverge significantly from that planned, then project management and implementation can also be assumed to be on-track. In addition where help in-kind exceeds that planned this may considered a measure of successful partnership working. Help in-kind is defined as non-cash contributions to a project, typically donated (provided freely) goods and services, which contribute towards the delivery of project objectives. **Note:** this indicator seeks to measure the activities supported by the NIA project, rather than the wider activities of partner organisations.
Units	Hours and Pounds (£s)
Relevance to Government indicators	None
Existing data for establishing baseline	
Relevant dataset(s)	Projected financial value of help-in-kind (including volunteering)
Source(s) of data *(contact details or hyperlink)*	For the 12 initial NIAs this is as stated in Table 1 of Schedule 3 of the NIA contract and in the NIA Business Plan.
Spatial coverage	N/A
Temporal coverage	N/A
Planned updates	For the 12 initial NIAs any updates to Schedule 3, as may be agreed once the work programme and costs have been established and/or refined and agreed.
Data collection method *(estimate, survey, monitoring)*	N/A
Accuracy of data	N/A
Additional/new data for establishing baseline and monitoring change	
Relevant additional/new data	Actual and projected financial value of in-kind contributions and volunteer hours.

	Hours should be categorised on the nature of the inputs, and the categorisation should be based on the work undertaken rather than the qualifications of the individuals undertaking the work (see Methods for calculating indicator values for categories). E.g. the time given by a lawyer who is providing time in-kind to dig a ditch would be recorded as "general unskilled labour". Where an activity does not match a category exactly the best-fit category should be selected. NIAs should standardise the calculation of Full Time Equivalent (FTE) at 230 days / annum, or record the actual number of days worked. In-kind and volunteer days can be calculated based on a standard 7 hour working day. Actual financial value of help-in-kind should be the value and hours of effort achieved within the year. Projected financial value of help-in-kind should be based on the plans that incorporate volunteer efforts.
Responsibility for data collection *(e.g. NIA partnerships or potentially to be taken on by NE or EA)*	Lead Organisation/Accountable Body within the NIA Partnership.
Data collection methods	Routine tracking of in-kind contributions and volunteer hours on NIA activities, which is the subject of another (core) indicator protocol: *Number of volunteer hours on NIA activities.* All NIA partners need to adopt the same categorisation and record (or contribute records) volunteer activities attributable to the NIA programme. The number of volunteer hours contributed should be recorded in each of the following categories: • General, unskilled labour (e.g. supervised scrub clearance, ditch-digging, planting, basic administrative support) • Specialist, skilled, trained labour (e.g. operations for which certificated training is a requirement, such as operating dangerous equipment, driving off-road vehicles, using chemicals) • Specialist services, (e.g. supervising, training labour teams, surveys, counts, trapping, ringing, diving, printing, designing, photography) • Professional services (e.g. consultants, lawyers, planners, engineers, accountants, auditors). Data should refer to activities supported by the NIA project, rather than the wider activities of partner organisations. For the 12 initial NIAs activities should be aligned to the specific objectives stated in Table 2 of the NIA contract. Volunteer effort within the NIA area attributable to overlapping LSCI (Landscape Scale Conservation Initiative) projects (e.g. Heritage Lottery Funding (HLF) / Futurescapes) should not be recorded as part of these figures, unless there is a formal link to the NIA.
Calculating and presenting indicator	
Baseline date for the 12 initial	April 2012

<table>
<tr><td>NIAs</td><td>The baseline should be zero at the start of the NIA programme.</td></tr>
<tr><td>Methods for calculating indicator values</td><td>Values should be attributed to in-kind contributions and volunteering. The standard conversion rates set out in the table below, and as detailed in the NIA Competitive Grant Scheme Guidance Notes http://www.naturalengland.org.uk/Images/NIA-guidance-notes_tcm6-26959.pdf, should be used.

These rates were agreed in 2011 (based on Big Lottery Fund approved rates), and are intended to provide a consistent benchmark of the value of in-kind contributions over time and across NIAs. Regional and temporal discrepancies with actual pay rates are expected, but the principle is to provide a common basis for calculating and comparing the value of voluntary and in-kind contributions.
<table>
<tr><th>Type of voluntary /in-kind contribution</th><th>Per hour</th><th>Per day</th></tr>
<tr><td>General, unskilled labour (e.g. supervised scrub clearance, ditch-digging, planting, basic administrative support)</td><td>£6.25</td><td>£50</td></tr>
<tr><td>Specialist, skilled, trained labour (e.g. operations for which certificated training is a requirement, such as operating dangerous equipment, driving off-road vehicles, using chemicals)</td><td>£18.75</td><td>£150</td></tr>
<tr><td>Specialist services, (e.g. supervising, training labour teams, surveys, counts, trapping, ringing, diving, printing, designing, photography)</td><td>£31.25</td><td>£250</td></tr>
<tr><td>Professional services (e.g. consultants, lawyers, planners, engineers, accountants, auditors).</td><td>£50</td><td>£350</td></tr>
</table>
In-kind contribution from other bodies is also included at these rates for consistency – e.g. where an organisation time commitment is given accumulate values at the activity day rate.

While these rates may be subject to future review by Natural England they should be used by all 12 initial NIAs for the duration of the NIA grant funding.</td></tr>
<tr><td>Responsibility for calculating indicator values</td><td>Lead Organisation / Accountable Body within the NIA Partnership and Natural England.</td></tr>
<tr><td colspan="2">Reporting</td></tr>
<tr><td>Online reporting</td><td>Actual and projected financial value of in-kind contributions and volunteer hours.

Note that data entered as ‘annual figure’ in each reporting year should be for that year only, and not cumulative. Cumulative figures will be calculated by summing individual year data.</td></tr>
</table>

Interpreting	
Interpretation *(inc linkage to other indicators)*	This indicator relies on categorised data from another core indicator: *Number of volunteer hours on NIA activities.* There may be close links with other indicators relating to social impacts and well-being, especially those that relate to public engagement in NIA activities. Resources available due to additional fundraising by an NIA should not be included as help in-kind, but recorded as additional new income under *Project Income and Expenditure*. The comparability of the information relies on the contribution from the NIA partners recording all non-funded and volunteer effort.

Indicator: PW03_E: Fulfilment of identified skills needs

Indicator: PW03_E	Fulfilment of identified skills needs
Version date	25th February 2014
Theme	Partnership working
Sub-theme	Efficient and effective delivery
Sub-theme category	Core
Indicator category	Optional
Indicates *(what is the indicator intended to indicate)*	The skills possessed by the NIA partnership in relation to those needed to deliver intended outcomes. This indicators is a direct measure of the NIA's success in meeting identified skilled needs, and a proxy for successful partnership working and delivery, based on the assumption that having and/or being able to recruit staff / volunteers with appropriate and sufficient skills and experience will lead to more effective delivery of NIA objectives.
Units	N/A
Relevance to Government indicators	None
Existing data for establishing baseline	
Relevant dataset(s)	Information on NIA partnership staff skills (existing and required) gathered during the bidding and project planning processes.
Source(s) of data *(contact details or hyperlink)*	For the 12 initial NIAs this will include first and second stage bids, the NIA Business Plan and other project initiation documents (if created).
Spatial coverage	N/A
Temporal coverage	N/A
Planned updates	N/A
Data collection method *(estimate, survey, monitoring)*	N/A
Accuracy of data	N/A
Additional/new data for establishing baseline and monitoring change	
Relevant additional/new data	Changes in existing and required skills within the NIA partnership.
Responsibility for data collection *(e.g. NIA partnerships or potentially to be taken on by NE or EA)*	NIA partnership
Methods for data collection	Regular reviews of the NIA work plan, resource plan and project delivery to identify skills gaps. Recording the process and outcomes of staff / expert recruitment will also help identify where skills needs have been met or where this has been challenging.

	Utilisation of PRINCE2 'Issues and Risk Logs' http://www.prince-officialsite.com/AboutPRINCE2/PRINCE2Method.aspx and of ISO9001 Preventative Actions 8.5.3 http://www.iso9001help.co.uk/853.html may be beneficial.
Calculating and presenting indicator	
Baseline date for 12 initial NIAs	April 2012
Methods for calculating indicator values	Skills matrix to show 'fit' between skills required per objective/outcome in the work plan and those currently held by the partnership. Annual records of the outcomes of staff / expert recruitment processes.
Responsibility for calculating indicator values	NIA Partnership
Reporting	
Online reporting	The online reporting system will include a free-text field. NIAs should enter the completed skills matrix and enter any caveats or uncertainties in the narrative field.
Interpreting	
Interpretation *(inc linkage to other indicators)*	Partnership skills link implicitly with all other NIA indicators.

Indicator: PW04_E: Attitudes of local community to NIA

Indicator: PW04_E	Attitudes of local community to NIA
Version date	25th February 2014
Theme	Partnership working
Sub-theme	Efficient and effective delivery
Sub-theme category	Core
Indicator category	Optional
Indicates *(what is the indicator intended to indicate)*	Attitudes of the local community to the NIA and how these change over the course of the project. This indicator seeks to understand the extent to which local people's feelings about and support for the NIA may change over time. This can help understand how effective the NIA is engaging with local people and can also be seen as a proxy measure of changes in the level of local people's support for conservation activities. **Note:** It is recommended that NIAs choosing this indicator and conducting a NIA local survey should also consider including questions relating to the following social and economic indicators: 'Attitudes of local community to the natural environment and environmental behaviours'; 'Level of outdoor recreation in the local community' and to the following partnership working indicator: 'Level of awareness of NIA in local community'.
Units	Percentage of local people providing standard answers to specific survey questions.
Relevance to Government indicators	UK Biodiversity Framework Indicator A1. Awareness, understanding and support for conservation.
Existing data for establishing baseline	
Relevant dataset(s)	None. It is unlikely that there will be records suitable for use as a baseline, although, where available, existing attitude surveys completed by NIA partners or relevant Local Authorities may help set the context and assist with planning and design.
Source(s) of data *(contact details or hyperlink)*	None
Spatial coverage	This indicator is intended to measure attitudes of people living in (or near) the NIA: the "local community". "The local community" is a very general term and there are no commonly agreed definition of what it means. It can mean communities of place or of interest, both of which might vary in scale: e.g. all the people who live in your NIA or all the people who live 5km from a specific NIA site or all birdwatchers who are members of the RSPB. In the context the NIA indicators the term "local community" refers to a **geographical community** because we are interested in knowing about the reach of the NIA and its activities to ordinary members of the public.

	More information on defining the local community in the context of specific NIAs is provided in the **Undertaking NIA local surveys – FAQs** note available on HUDDLE: https://defra.huddle.net/workspace/16609188/files/#/folder/28354471/list Once an NIA has decided on the appropriate definition of local community in their context, this should be used consistently: i.e. it is important to sample from the same geographical area for all surveys that refer to "local community" and that from one year to the next they sample is from the same geographical area otherwise comparisons can't be made.
Temporal coverage	N/A
Planned updates	N/A
Data collection method *(estimate, survey, monitoring)*	N/A
Accuracy of data	N/A
Additional/new data for establishing baseline and monitoring change	
Relevant additional/new data	Undertaking robust local community surveys can be resource intensive and require specific expertise. This indicator may be particularly relevant to NIAs who have partners with knowledge and expertise in undertaking community surveys, or who have resources to commission a survey. Establish a baseline at beginning of the project using a survey and then repeat the same survey annually to monitor change over time. Data for this indicator should be gathered using a questionnaire / combined audience survey, which can be carried out alongside these other indicators (where chosen): social and economic indicators: 'Attitudes of local community to the natural environment and environmental behaviours'; 'Level of outdoor recreation in the local community' and the following partnership working indicator: 'Level of awareness of NIA in local community'. These data should be updated annually based on repeat surveys. Repeat surveys must use the same questions and relative consistency in sample sizes to show change over time.
Responsibility for data collection *(e.g. NIA partnerships or potentially to be taken on by NE or EA)*	NIA partnership
Data collection method	The ideal approach would be to undertake a survey in relation to this indicator in combination with the social and economic indicators: 'Attitudes of local community to the natural environment and environmental behaviours'; 'Level of outdoor recreation in the local community' and the following partnership working indicator: 'Level of awareness of NIA in local community'. In relation to attitudes to the NIA the survey should address: • Attitudes to the general aims of NIAs • Attitudes to the specific aims of the NIA

	• The NIA project's relevance to the local community • The NIA project's impact upon the local community • The local community's willingness to support the NIA project. Recommendations for survey questions and format to understand attitudes in each of these areas are included in the **Undertaking NIA local surveys – FAQs** note available on HUDDLE: https://defra.huddle.net/workspace/16609188/files/#/folder/28354471/list NIAs that select this indicator are encouraged to work together to develop a common approach. Natural England may be able to assist or advise, subject to need and available resources. If a survey is undertaken it should be designed to capture sufficient records to stratify the data (e.g. on age, gender, location) as appropriate to the analysis. The data should also have sufficient geographic spread to be representative of the NIA (see Spatial coverage, above). Further guidance for establishing and running local surveys, such as on sample size and framing is included in the **Undertaking NIA local surveys – FAQs** note available on HUDDLE: https://defra.huddle.net/workspace/16609188/files/#/folder/28354471/list
Calculating and presenting indicator	
Baseline date for 12 initial NIAs	April 2013
Methods for calculating indicator values	Percentage responses to standard multiple choice / rating questions.
Responsibility for calculating indicator values	NIA partnership
Reporting	
Online reporting	A summary of baseline and annual percentage responses to each of the survey questions' standard multiple choice answers could be entered into fields in the online reporting system, with caveats relating to sample size and any weighting applied, and supporting narrative. Add caveats / narrative information to describe the survey approach employed.
Interpreting	
Interpretation *(inc linkage to other indicators)*	This indicator has overlaps with the 'Audience reach indicator', and in developing a survey NIAs should consider including questions related to the following social and economic indicators: 'Attitudes of local community to the natural environment and environmental behaviours'; 'Level of outdoor recreation in the local community' and to the following partnership working indicator: 'Level of awareness of NIA in local community'. Care is needed in interpreting the indicator, given the range of factors potentially influencing attitudes and potential for bias in the survey results.

Indicator: PW05_E: Assessment of partnership working

Indicator: PW05_E	Assessment of partnership working
Version date	25th February 2014
Theme	Partnership working
Sub-theme	Efficient and effective delivery
Sub-theme category	Core
Indicator category	Optional
Indicates *(what is the indicator intended to indicate)*	The effectiveness of the NIA partnership in delivering its intended outcomes. This indicator seeks to measure changes in partnership members' assessment of how the NIA partnership is functioning over time (based on an annual assessment). This is a proxy measure of how efficient and effective the partnership is, and how this changes over time, based on the assumption that changes in partnership members' experiences of working within and opinions about the partnership are a reflection of the strength and effectiveness of the partnership itself. Assessment against this indicator is also intended to be a useful partnership management tool, as it will identify areas which are either being particular successful, or challenging for partner organisations and individuals. Partners for the purposes of this indicator are primarily members of the NIA partnership that have signed the NIA partnership memorandum of understanding / agreement. However partners could also involve delivery partners (e.g. farmers) or other individuals or organisations that are working alongside the NIA to deliver NIA activities / objectives.
Units	N/A
Relevance to Government indicators	None
Existing data for establishing baseline	
Relevant dataset(s)	Proposed governance arrangements for the NIA project from the NIA Business Plan.
Source(s) of data *(contact details or hyperlink)*	NIA Business Plan and other project initiation documents (if created).
Spatial coverage	N/A
Temporal coverage	N/A
Planned updates	N/A
Data collection method *(estimate, survey, monitoring)*	N/A
Accuracy of data	N/A

Additional/new data for establishing baseline and monitoring change	
Relevant additional/new data	Changes to governance arrangements within the NIA partnership.
Responsibility for data collection *(e.g. NIA partnerships or potentially to be taken on by NE or EA)*	NIA Partnership
Methods for data collection	Regular reviews of the NIA governance arrangements, securing qualitative feedback from partnership members to identify changes needed to improve effectiveness. The nature of the governance assessment is proposed to be defined by individual NIAs, and sharing of experience may assist development of this indicator. One options would be to gather information required to report against this indicator by bring all NIA partners together in a regular and repeated (e.g. annual or 6-monthly) workshop to discuss partnership working / progress and change etc. Examples of existing guidance and toolkits relating to the assessment of partnership working can provide a useful resource for NIAs in developing an approach to this indicator. NIAs are encourage in particular to consider: • Working in partnership: a sourcebook (Big Lottery Fund, 2002): http://www.biglotteryfund.org.uk/-/media/Files/Research%20Documents/er_eval_working_in_partnership_sourcebook_uk.pdf - in particular Section 4: Evaluating progress. • The WWF Partnership Toolbox (WWF, 2009): http://assets.wwf.org.uk/downloads/wwf_parthershiptoolboxartweb.pdf • Guide to Collaborative Catchment Management (2013): http://ccmhub.net/the-catchment-approach/the-catchment-based-approach/ - the Guide includes a set of questions to help those involved in partnerships think through what the benefits of collaborative approaches could be for them and how they could best develop them. Other partnership working indicators / toolkits are also available e.g. • Audit Scotland 2010: see http://www.audit-scotland.gov.uk/docs/best_value/2010/bv_100809_partnership_working_toolkit.pdf) which compares measures of partnership performance with levels of practice. • Leeds Initiative Partnership/East Leeds Primary Care Trust Partnership Self-Assessment Toolkit, see: http://www.patientsorganizations.org/iapo_media/Toolkits/current/resources/LHAZ_Partnership_selfassessment_toolkit.pdf.
Calculating and presenting indicator	
Baseline date for initial 12 NIAs	April 2012
Methods for calculating indicator values	Questionnaire analysis or Narrative reporting

Responsibility for calculating indicator values	NIA partnership
Reporting	
Online reporting	If an audit survey is undertaken the values can be entered against the partnership performance outcomes based on the evaluation factors / assessment completed. The online reporting system will include a free-text field for narrative report detailing the governance reviews and changes made to improve the partnership's effectiveness in delivering its intended outcomes.
Interpreting	
Interpretation *(inc linkage to other indicators)*	The effectiveness of the NIA partnership in delivering its intended outcomes links implicitly with all other NIA indicators. Interpretation is likely to be based on a categorisation against levels of performance of the specific components identified describing partnership working. Given the likely subjective nature of the assessment methods there will be increased uncertainty in the results.

Indicator: PW06_L: Audience reach

Indicator: PW06_L	Audience reach
Version date	25th February 2014
Theme	Partnership working
Sub-theme	Leadership & influence
Sub-theme category	Core
Indicator category	Optional
Indicates *(what is the indicator intended to indicate)*	The estimated number of individuals that is reached annually by the NIA partnership through various forms of media and internet. This is a direct measure of the number of people who access information about the NIA (e.g. through the internet or other media), although some aspects, such as listener numbers for radio will be estimates (e.g. based on average numbers of listeners). It is a proxy measure for awareness of the NIA among local people and for the extent to which the NIA is able to engage with / communicate with the local community, based on the assumption that by accessing information about the NIA individuals are engaging with and learning about the NIA and its' activities (see Interpretation, below).
Units	Number of individuals reached
Relevance to Government indicators	None
Existing data for establishing baseline	
Relevant dataset(s)	None
Source(s) of data *(contact details or hyperlink)*	N/A
Spatial coverage	N/A
Temporal coverage	N/A
Planned updates	N/A
Data collection method *(estimate, survey, monitoring)*	N/A
Accuracy of data	N/A
Additional/new data for establishing baseline and monitoring change	
Relevant additional/new data	Annual figures for: • Number of 'visits' to the NIA project's website or 'unique page views' to web pages that feature the NIA • Estimated number of readers of articles specifically about the NIA project featured in newspapers, journals or other written media • Estimated number of listeners of radio or television

	programmes that specifically feature the NIA.
Responsibility for data collection *(e.g. NIA partnerships or potentially to be taken on by NE or EA)*	NIA partnership
Methods for data collection	Use Google Analytics, www.google.com/analytics/, or equivalent tool to provide website statistic reports. When the NIA project is specifically featured, ask newspapers and journals to provide readership figures and radio and television programmes to provide listening and viewing figures.
Calculating and presenting indicator	
Baseline date for initial 12 NIAs	End of first annual recording period, i.e. April 2013
Methods for calculating indicator values	Annual summary figures
Responsibility for calculating indicator values	NIA partnership
Reporting	

Online reporting	The following data can be entered in relevant fields in the online reporting system:
	
	• Baseline and annual figures for:
	  ○ Number of 'visits' to the NIA project's website or 'unique page views' to web pages that feature the NIA
	  ○ Estimated number of readers of articles specifically about the NIA project featured in newspapers, journals or other written media
	  ○ Estimated number of listeners of radio or television programmes that specifically feature the NIA.
	• Caveats relating to:
	  ○ Interpretation (see below).
	
	Where relevant note that **data entered as 'annual figure' in each reporting year should be for that year only**, and not cumulative. Cumulative figures will be calculated by summing individual year data.

Interpreting	
Interpretation *(inc linkage to other indicators)*	Potential overlap with the *level of awareness of NIA within the community*, although the methods of collection are different. It is recommended that these two indicators might usefully be collected by the same NIA and results compared to aid narrative reporting. Audience reach is a crude measurement and should not be confused with the number of people who will actually be exposed to and consume information about the NIA. It is just the number of people who are exposed to the medium in which the NIA is featured and, therefore, have an opportunity to read, listen or see about it. 'Visits' to a website represent the number of individual sessions initiated by all visitors. If a user is inactive on your site for 30 minutes or more, any future activity is attributed to a new session. Users that leave your site and return within 30 minutes are counted as part of the original session. A 'unique page view', as seen in the

	Content Overview report, aggregates page views that are generated by the same user during the same session. A unique page view represents the number of sessions during which that page was viewed one or more times.

Indicator: PW07_L: Level of awareness of NIA in local community

Indicator: PW07_L	Level of awareness of NIA in local community
Version date	25th February 2014
Theme	Partnership working
Sub-theme	Leadership and influence
Sub-theme category	Core
Indicator category	Optional
Indicates *(what is the indicator intended to indicate)*	Awareness in the local community of the NIA and how this changes over the course of the project. This indicator seeks to understand the extent to which local people's awareness of the NIA may change over time. This is a proxy measure of the extent to which the NIA has engaged with a range of people in the local community and has increased awareness of the natural environment / related interventions. **Note:** It is recommended that NIAs choosing this indicator and conducting a survey should also consider including questions relating to the following social and economic indicators: 'Attitudes of local community to the natural environment and environmental behaviours'; 'Level of outdoor recreation in the local community' and to the following partnership working indicator: 'Attitudes of local community to the NIA'.
Units	Percentage of local people providing standard answers to specific survey questions.
Relevance to Government indicators	UK Biodiversity Framework Indicator A1. Awareness, understanding and support for conservation.
Existing data for establishing baseline	
Relevant dataset(s)	None
Source(s) of data *(contact details or hyperlink)*	None
Spatial coverage	This indicator is intended to measure levels of awareness of people living in (or near) the NIA: the "local community". "The local community" is a very general term and there are no commonly agreed definition of what it means. It can mean communities of place or of interest, both of which might vary in scale: e.g. all the people who live in your NIA or all the people who live 5km from a specific NIA site or all birdwatchers who are members of the RSPB. In the context the NIA indicators the term "local community" refers to a **geographical community** because we are interested in knowing about the reach of the NIA and its activities to ordinary members of the public. More information on defining the local community in the context of specific NIAs is provided in the **Undertaking NIA local surveys – FAQs** note available on HUDDLE:

	https://defra.huddle.net/workspace/16609188/files/#/folder/28354471/list Once an NIA has decided on the appropriate definition of local community in their context, this should be used consistently: i.e. it is important to sample from the same geographical area for all surveys that refer to "local community" and that from one year to the next they sample is from the same geographical area otherwise comparisons can't be made.
Temporal coverage	N/A
Planned updates	N/A
Data collection method *(estimate, survey, monitoring)*	N/A
Accuracy of data	N/A
Additional/new data for establishing baseline and monitoring change	
Relevant additional/new data	Undertaking robust local community surveys can be resource intensive and require specific expertise. This indicator may be particularly relevant to NIAs who have partners with knowledge and expertise in undertaking community surveys, or who have resources to commission a survey. Establish a baseline at beginning of the project using a survey of the local community and then repeat it annually to monitor change. NIAs are encouraged to gather data for this indicator using a common questionnaire / combined audience survey alongside these other indicators: social and economic indicators: 'Attitudes of local community to the natural environment and environmental behaviours'; 'Level of outdoor recreation in the local community' and the following partnership working indicator: 'Attitudes of local community to the NIA'. These data should be updated annually based on repeat surveys. Repeat surveys must use the same questions and relative consistency in sample sizes to show change over time.
Responsibility for data collection *(e.g. NIA partnerships or potentially to be taken on by NE or EA)*	NIA partnership
Methods for data collection	Baseline and annual update would be by the survey and re-survey by the NIAs. This survey could be combined with a survey for the following social and economic indicators: 'Attitudes of local community to the natural environment and environmental behaviours'; 'Level of outdoor recreation in the local community' and the following partnership working indicator: 'Attitudes of local community to the NIA'. The survey needs to address whether local people have heard of the NIA project and know of its aims. Standard multiple choice or rating questions might be provided in each case. Those NIAs that select this indicator are encouraged to work together to develop a common approach.

	Further guidance for establishing and running local surveys, such as on sample size and framing is included in the **Undertaking NIA local surveys – FAQs** note available on HUDDLE: https://defra.huddle.net/workspace/16609188/files/#/folder/28354471/list
Calculating and presenting indicator	
Baseline date for initial 12 NIAs	April 2013 Baseline is assumed to be at the date of the survey by the NIA.
Methods for calculating indicator values	Percentage responses to standard multiple choice or rating questions.
Responsibility for calculating indicator values	NIA partnership
Reporting	
Online reporting	A summary of baseline and annual percentage responses to each of the survey questions' standard multiple choice questions should be entered into fields in the online reporting system. Add caveats / narrative information to describe the survey approach employed, e.g. relating to sample size and any weighting applied.
Interpreting	
Interpretation *(inc linkage to other indicators)*	There are close links with other indicators relating to social impacts and well-being and partnership: 'Attitudes of local community to the natural environment and environmental behaviours'; 'Level of outdoor recreation in the local community' and the following partnership working indicator: 'Attitudes of local community to the NIA'. Where possible NIAs are encouraged to consider data collection related to these indicators using a common survey. Care is needed in interpreting the indicator, given the range of factors potentially influencing attitudes and potential for bias in the survey results.

Indicator: PW08_L: Number of enquiries

Indicator: PW08_L	Number of enquiries
Version date	25th February 2014
Theme	Partnership working
Sub-theme	Leadership & influence
Sub-theme category	Core
Indicator category	Optional
Indicates *(what is the indicator intended to indicate)*	Number of enquiries received by members of the NIA partnership in relation to the NIA project. This indicator is a proxy measure of public interest in the NIAs based on the assumption that a greater number of enquiries represents a higher level of interest in the NIA.
Units	Number of enquiries. Enquiries in the context of this indicator are those made to NIA partnership organisations *specifically* about the NIA, its activities or events.
Relevance to Government indicators	None
Existing data for establishing baseline	
Relevant dataset(s)	None – baseline is set at the start of the NIA programme
Source(s) of data *(contact details or hyperlink)*	None
Spatial coverage	N/A
Temporal coverage	N/A
Planned updates	N/A
Data collection method *(estimate, survey, monitoring)*	N/A
Accuracy of data	N/A
Additional/new data for establishing baseline and monitoring change	
Relevant additional/new data	Enquiries received by members of the NIA partnership *specifically* in relation to the NIA project. The indicator is intended to relate to enquiries from the public. Enquiries should also be categorised by type / nature e.g. general public, public body, national or local government agency, academic, third sector, other. Where 'other' this can also be recorded.
Responsibility for data collection *(e.g. NIA partnerships or potentially to be taken on by NE or EA)*	NIA partnership NIA partnership members should record and consolidate categorised records of enquiries related to the NIA. NIAs should categorise the enquiry types (see Relevant additional / new data above) so that the public enquiries can be measured in context of all enquiries (the objective of the indicator).

Methods for data collection	Routine logs of enquiries for all NIA partners.
Calculating and presenting indicator	
Baseline date for initial 12 NIAs	Baseline is zero (no enquiries) at the start of the programme at April 2012.
Methods for calculating indicator values	A summary figure, which may be broken down into a range of types of enquiries.
Responsibility for calculating indicator values	NIA partnership
Reporting	

Online reporting	Baseline and annual fields in the online reporting system will be:
	• Number of enquiries (categorised by type if recording more than the public enquiries)
	• Caveats relating to:
	  ○ Types of enquiries
	  ○ Deficiencies in recording.
	
	NIA partnerships are encouraged to collect and aggregate/ disaggregate enquiry information to suit their situation.
	
	Where relevant note that **data entered as 'annual figure' in each reporting year should be for that year only**, and not cumulative. Cumulative figures will be calculated by summing individual year data.

Interpreting	
Interpretation *(inc linkage to other indicators)*	Links to indicator of the *'Level of awareness of NIA in local community'.*