Seed harvesting at Upper Heyford, 2013

Nene Valley NIA Monitoring and Evaluation report 2012-15, Years 1-3

NENE VALLEY

Nature • Improvement • Area

connecting people and nature

1 Contents

Introduction

The Nene Valley Nature Improvement Area is re-creating and re-connecting natural areas from Daventry to Peterborough along the Nene and its tributaries. Local organisations and individuals are working together to make a better place for nature.

The Nene Valley was chosen in 2012 as one of 12 flagship nature areas for England that will receive Government funding to make it better for wildlife, people and the economy. The Environment Secretary, Caroline Spelman said at the announcement "These exciting wildlife projects are the result of different organisations all working together with a common purpose - to safeguard our wildlife for generations to come."

The Nene Valley NIA covers an area of 41,000 hectares running through the heart of Northamptonshire and skirting Huntingdonshire to the eastern fringes of Peterborough. It includes the River Nene and its tributaries, gravel pits, reservoirs and much of the floodplain within the valley itself. The NIA will deliver a step change in nature conservation, where local organisations have come together with a shared vision for the natural environment. This partnership will plan and deliver significant improvements for wildlife and people through the sustainable use of natural resources, restoring and creating wildlife habitats, connecting local sites and joining up local action.

What will we do?

The aim of the Nene Valley Nature Improvement Area is to achieve a step-change in the mechanisms for delivering nature conservation to create a resilient ecological network in the Nene Valley, through five key objectives:

- Growth and development will support, value and benefit the natural environment resulting in a sustainable funding source and delivery of improvements to the ecological network.
- Enhance awareness of, access to and benefits from the Nene Valley for growing local communities in a sustainable and sympathetic way, while ensuring that the designated sites at the core are brought into/remain in favourable condition.
- Improve ecological status of the river and enhance ecosystem service provision.
- Through effective engagement with farmers and landowners maintain, restore and create priority (BAP) habitats and implement sustainable land management practices to strengthen the ecological network.
- Investigate the potential to market the ecosystem services provided by the Nene Valley by developing and trialling tools and models for Payments for Ecosystem Services.

The NIA will build the capacity and interest of people to help establish a coherent ecological network at the landscape scale, rich in wildlife, for the enjoyment of everybody.

How will we achieve this?

From July 2012 the NIA partnership employed 3 new staff and a Post-Doctoral researcher to further the aims of the NIA. These new staff were:

- Natural Development Officer, employed by the Wildlife Trust and based with Northamptonshire County Council, and working with the Joint Planning Units, and the District authorities as appropriate. (Objective 1)
- River Restoration Officer, employed by the River Restoration Centre (at Cranfield University), and based with RNRP. (Objective 3)
- Land Advisor, employed by RNRP and partly based with the Wildlife Trust. (Objective 4)
- Post-Doctoral researcher at the University of Northampton. (Objective 5)

In addition consultants will be employed to produce a visitor access study and a visitor engagement and implementation plan, to be adopted by partners, in order to address Objective 2.

Objective 1:

Growth and Development will support, value and benefit the natural environment resulting in net gain in biodiversity by 2020

The existing and emerging Core Strategies produced by Northamptonshire's Joint Planning Units and Peterborough City Council, underpin the outputs for this objective. With housing targets across the NIA in excess of 100,000 homes, with associated infrastructure and employment, the risk to the NIA is substantial. Current strategic work including North Northamptonshire's Green Infrastructure Delivery Plan, Northamptonshire's Environmental Character & Green Infrastructure Suite and Peterborough's Green Grid Strategy set out the opportunities on which the NIA can build and integrate. The Community Infrastructure Levy Framework and the emerging Neighbourhood Planning and National Planning Policy Frameworks have informed target development and the approaches the NIA will take to ensure developer contributions are levered in and maximised.

Objective 2:

Enhance public awareness, access and benefits of the NIA in a sustainable and sympathetic way

Natural England's Condition Assessment of the Upper Nene Valley Gravel Pits SPA and other designated sites within the NIA, show that many sites are in unfavourable condition due to the impacts of inappropriate access. WeBS counts and Breeding Bird surveys also show a decline in bird numbers attributable to these impacts. The development strategies show that the pressure on suitable Green Infrastructure is going to increase considerably making these issues even more acute. The first phase access study undertaken by Northamptonshire Enterprise Partnership has already established substantial barriers to access and has already begun to set out how the NIA could be key in supporting Northamptonshire's tourism economy which attracts 20 million visitors each year. The outputs in the objective are built around the findings of these studies, those of the Monitor of Engagement with the Natural Environment study undertaken by Natural England, and the work undertaken by the RSPB at other European designated sites such Cannock Chase SAC.

Objective 3:

Improve ecological status of the river and enhance ecosystem service provision

Much of the River Nene and its catchment has Poor Ecological Status and in some areas continues to decline as a result of diffuse pollution, water abstraction and heavily modified river morphology. The Anglian River Basin Management Plan sets out the current status of the water bodies in the Nene catchment, and goes some way to identifying the reasons for failing to achieve good ecological status. Sediment Input Studies have been undertaken for a number of the Nene tributaries and Catchment Sensitive Farming Actions Plans have led to a better understanding of specific issues facing certain reaches of the Nene and approaches to tackle them. This coupled with the learning from the Welland Pilot Catchment has served as sound basis for the outputs within the objective.

Consultation with the Environment Agency strongly indicated that measures to address failure are not being implemented on the Nene Catchment because of a lack of detailed spatial understanding of the issues and a lack of staff time to take action.

Objective 4:

Strengthen the ecological network through effective engagement with farmers and landowners.

Only 1.6% of Northamptonshire is designated as SSSI, equating to 3786 hectares, compared to a national county average of 35,000 hectares. Northamptonshire's Local Wildlife Sites programme shows that only 34% are currently in positive management. Recognising the value of the Nene Valley and the biodiversity it supports Natural England has selected it as a target area for Agri-Environment. Habitat Opportunity Mapping undertaken for the NIA shows considerable opportunity to create steeping stones, link and buffer the NIA core areas. The NIA is set within a landscape of intensive agriculture and development which threatens many Tier 2 sites all of which serve as the foundation for the outputs within the objective.

Objective 5:

Investigate the potential to market the ecosystem services provided by the Nene Valley.

The National Ecosystems Assessment and The Economics of Ecosystems and Biodiversity (TEEB) study have set a national context for realising the true value of biodiversity to the economy and the Ecosystems Services it provides. The University of Northampton has begun to look at approaches applying this to the local scale. This is echoed by the National Ecosystems Assessment second phase, which will also investigate this relationship. The Nene Valley NIA bid has built on this evidence base and looked to partner with the organisations, including UNEP-WCMC to strengthen and build on work that has already been undertaken, as well as using the Nene Valley NIA bid to investigate new and innovative approaches to delivery. Ultimately with development and population growth expanding at twice the national average the dependency on these Ecosystems Services is great as is the pressure on the biodiversity that supports them.

Purpose of this report

An integral part of the Nature Improvement Areas programme is the Monitoring and Evaluation Framework. The Framework has been developed centrally, and consists of 40 indicators, on the themes of biodiversity, ecosystem services, social and economic benefits and contributions to wellbeing, and partnership working. A number of these are 'core' indicators which all NIAs must report against; the others are optional and are to be selected as relevant until a minimum of 13 indicators has been chosen. The Nene Valley has selected 18 indicators.

In 2013 a baseline figure was calculated, along with an annual figure where possible for each of the indicators. The report has then been updated annually using the online reporting tool (http://nia.naturalengland.org.uk/index/project). The online tool was unable to output a report detailing the figures that had been inputted, so this report has been produced.

The intention of this report is two-fold. Firstly, is to allow presentation of the figures reported to the online system to the members of the NIA partnership. Secondly, is to enable us to keep a record of how we calculated, compiled and reported the figures against each indicator, and keep track of any changes.

Highlights from 2012-15

A strong partnership has been developed and has delivered effectively against 5 key objectives. Highlights from 2012-15 include:

- NIA Objectives and principle of Ecosystem Services incorporated into Local Development Framework documents
- Green Infrastructure Delivery Plans endorsed by local planning authorities, including projects in the NIA.
- Access to natural greenspace has been mapped across the NIA using Natural England's Accessible Natural Greenspace Standard (ANGSt)
- Visitor access study completed, based on over 900 face to face interviews with visitors.
- Repeat breeding bird survey of the SSSI completed in 2013.
- 100% wintering bird survey coverage of 1400ha SPA achieved through recruitment of new volunteers.
- Two community panels formed, covering three significant sites in the SPA where recreational disturbance (or conflict between different user groups) has been identified as a problem. Each panel produced a vision, and an action plan for their site to be delivered by NIA partners.
- NIA website upgraded and made interactive, launched in 2014 with a photographic competition.
- Over 2,000 people met at events run by the RSPB Community Engagement officer working with NIA partners.
- Family festival event and school arts project in autumn 2014 to celebrate the arrival of winter migrants like golden plovers and interpret what the Nene Valley means to local people.
- North Northamptonshire and West Northamptonshire Joint Planning Units, Natural England and the RSPB are working together to shape a new Supplementary Planning Document to address recreational disturbance driven by land use change around the SPA.
- Over 350 projects identified to improve the river Nene, after walking the entire length from Northampton to Peterborough.
- Duston, Northampton: marginal habitat has been improved, which has also reduced flood risk.
- Rushton, near Kettering: a 45m-long backwater has been created by excavating part of an old meander loop providing fish spawning and refuge habitat.
- Orton Lock, Peterborough: an area of bank erosion downstream of the lock has been stabilised by "cutting & hinging" live willow into the scour holes and then adding further brushwood.
- 640m of marginal habitat improvements through Peterborough city centre in the spring of 2015. This will involve installing vegetated coir rolls along a sterile, sheet-piled bank.
- 10 HLS applications were successfully submitted through Year 1 and 2 of the project covering 1800ha of land. 3 further applications in year 3 securing long-term management of Achurch Meadow (Northants largest Meadow SSSI & important breeding wader site) and Twywell Hills and Holes (Calcareous grassland SSSI).
- HLS applications include management and restoration of 214ha of priority habitat such as lowland meadow, fen, parkland and floodplain grazing marsh.
- Meadow restoration at three sites, Kings Cliffe, Badby & Upper Heyford, totalling 11.6ha

- Pond and backchannel restoration undertaken, further hydrological works planned to improve wet woodland at Lamport
- Floodplain meadow restoration planned at large site (14ha) on the banks on the Nene over-looked by Fotheringhay Castle
- Floodplain meadow restoration underway at Kingsthorpe as part of the Coronation Meadows project using locally harvested seed
- Three Lowland Meadows created on former arable land at Orton, Upper Heyford & Stanwick total-ling 10.9ha.
- Improved linkage across the HLS schemes through hedgerow restoration and arable margins
- Maps produced showing land in stewardship to identify gaps and allow landowners to see how their land fits in the bigger picture
- Successful working group set up including CSF officers, landowner and conservation organisation representation
- Maps produced showing supply (capacity), demand, and ecosystem service flows (highlighting benefiting areas and gaps). Services being mapped include: carbon storage, local climate regulation, pollination, noise regulation, water purification, accessible nature experience, aesthetics, and timber.
- We are also developing maps for runoff and flood risk management, and are engaging the public to map cultural ecosystem services (below).
- Ecosystem services design guide for planners and developers produced.
- Collaboration between Anglian Water and other organisations to develop possible PES schemes.

1 Biodiversity

1.1 Habitat

1.1.1 Extent of habitat managed to improve its condition

Introduction

Extent of priority habitats recorded on the Biodiversity Action Reporting System (BARS) as being brought into management to maintain its extent and improve condition through the NIA.

The objective of the action is to ensure that an existing area of priority habitat currently in poor condition is improved to good condition. This includes 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.

Methodology

Figures for this indicator were produced using a BARS Action Summary Report and interrogation of Natural England's HLS data. BARS actions which took place in an area overlapping with the Nene Valley NIA area with the action type 'To maintain the extent of habitat and improve its condition through appropriate management' were included where they were reported as either being underway or completed. A 'point in time' report i.e. all actions meeting the above criteria on the day on which the report was generated.

Findings & Interpretation

Table 1: Extent of habitat managed to improve condition

Priority Habitat Managed (underway)	2012-13 Quantity (ha)	2013-14 Quantity (ha)	2014-15 Quantity (ha)	Total Quantity (ha)
Coastal and Floodplain Grazing Marsh (ha)	0	15.9	4	**19.9**
Lowland Meadows (ha)	0	3.8	30.6	**34.4**
Reedbeds (ha)	0	2	0	**2**
Eutrophic Standing Water	0	0	13	**13**
Total Hectares	**0**	**21.7**	**47.6**	**69.3**

Note: No projects have been completed. Management by its nature is long-term. The baseline (2011-12) was set at zero at the beginning of the NIA project. Data has been collected from BARS and HLS applications.

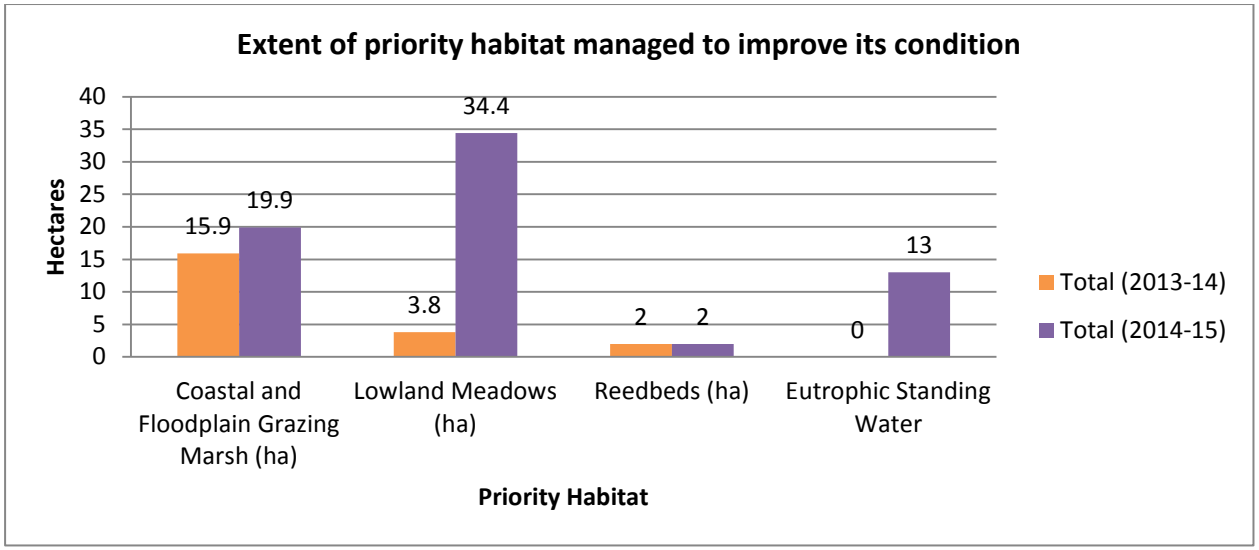

Figure 1: Extent of habitat managed to improve condition in reporting years 2013-14 and 2014-15.

Baseline (2012-13 reporting year) was set at zero at the beginning of the NIA project.

The figures show a good increase in activities that are underway to manage habitats to improve their condition. In particular over 34ha of Lowland Meadow and almost 20ha of floodplain grazing marsh have been brought into conservation management. This majority of work was done through bringing land into HLS through the objective 4 work stream, however contributions were made via the land advisor fund, in some case working in collaboration the Wildlife Trust's 'Inspiring Meadows' project. This is an underestimate of what the NIA achieved as further work was undertaken across the wider catchment that will benefit the wildlife of the NIA.

1.1.2 Extent of areas managed to restore/create habitat

Introduction

Extent of priority habitats recorded on the Biodiversity Action Reporting System (BARS) as being managed to increase habitat resource by creating new areas or to increase habitat resource by restoring features using appropriate management through the NIA. These action types are described below:

1. To increase habitat resource by creating new areas using appropriate management:

   "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."

2. To increase habitat resource by restoring features using appropriate management:

   "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."

Methodology

Figures for this indicator were produced using a BARS Action Summary Report and interrogation of Natural England's HLS data. It was advised by Natural England that the baseline for this indicator would be based on a BARS Action Summary Report of actions whose status was reported as either underway or completed before the baseline date of 31/03/2013.

Findings & Interpretation

Table 2: Extent of habitat restored

Priority Habitat Restored (underway)	2012-13 Quantity	2013-14 Quantity	2014-15 Quantity	Total Quantity
Coastal and Floodplain Grazing Marsh (ha)	0	8	0	**8**
Lowland Meadows (ha)	15	24.4	23.7	**63.1**
Wood Pasture and Parkland (ha)	0	7.3	0	**7.3**
Lowland Mixed Deciduous Woodlands (ha)	0	0	0	**0**
Ponds (ha)	0.18	0.04	0	**0.22**
Arable Field Margin (ha)	0	0	0	**0**
Total Hectares	**15.18**	**39.74**	**23.7**	**78.62**
Rivers (linear km)*	0	3	1	**4**

Note: Baseline (2011-12) was set at zero at the beginning of the NIA project. Data for all years has been collected from BARS and from HLS applications.

*Rivers are the only priority habitat for which work has been completed, given that the nature of the work done in the other habitats is long term. 3 km of river restoration was completed in 2013-14 and 1 km additional river restoration was completed 2014-15.

Table 3: Extent of habitat created

Priority Habitat Created (Underway)	2012-13 Quantity	2013-14 Quantity	2014-15 Change	Total Quantity
Coastal and Floodplain Grazing Marsh (ha)	0	0	0	**0**
Lowland Meadows (ha)	0	5.7	+0.3	**6**
Wood Pasture and Parkland (ha)	0	0	0	**0**
Lowland Mixed Deciduous Woodlands (ha)	0	0.4	0	**0.4**
Ponds (ha)	0	0	0	**0**
Arable Field Margin (ha)	1	4.1	+1	**5.1**
Total Hectares	**1**	**10.2**	**+1.3**	**11.5**
Rivers (linear km)*	0	0	0	**0**

Note: Baseline (2011-12) was set at zero at the beginning of the NIA project. Data for all years has been collected from BARS and from HLS applications.

*No habitat creation work has been completed, given that the nature of the work done in these habitats is long term

The extent of habitat restoration which is underway is significant, with over 60ha of lowland meadow under restoration since the start of the NIA, alongside smaller areas of floodplain grazing marsh, parkland and ponds. Habitat creation again focussed on lowland meadows with 6ha created alongside over 5ha of arable field margins. The majority of actions to deliver habitat restoration and creation were delivered through objective 4 via Higher Level Stewardship and the land advisor fund; however the river restoration objective has led to 4km of restored river. This is an underestimate of what the NIA achieved as further work was undertaken across the wider catchment that will benefit the wildlife of the NIA.

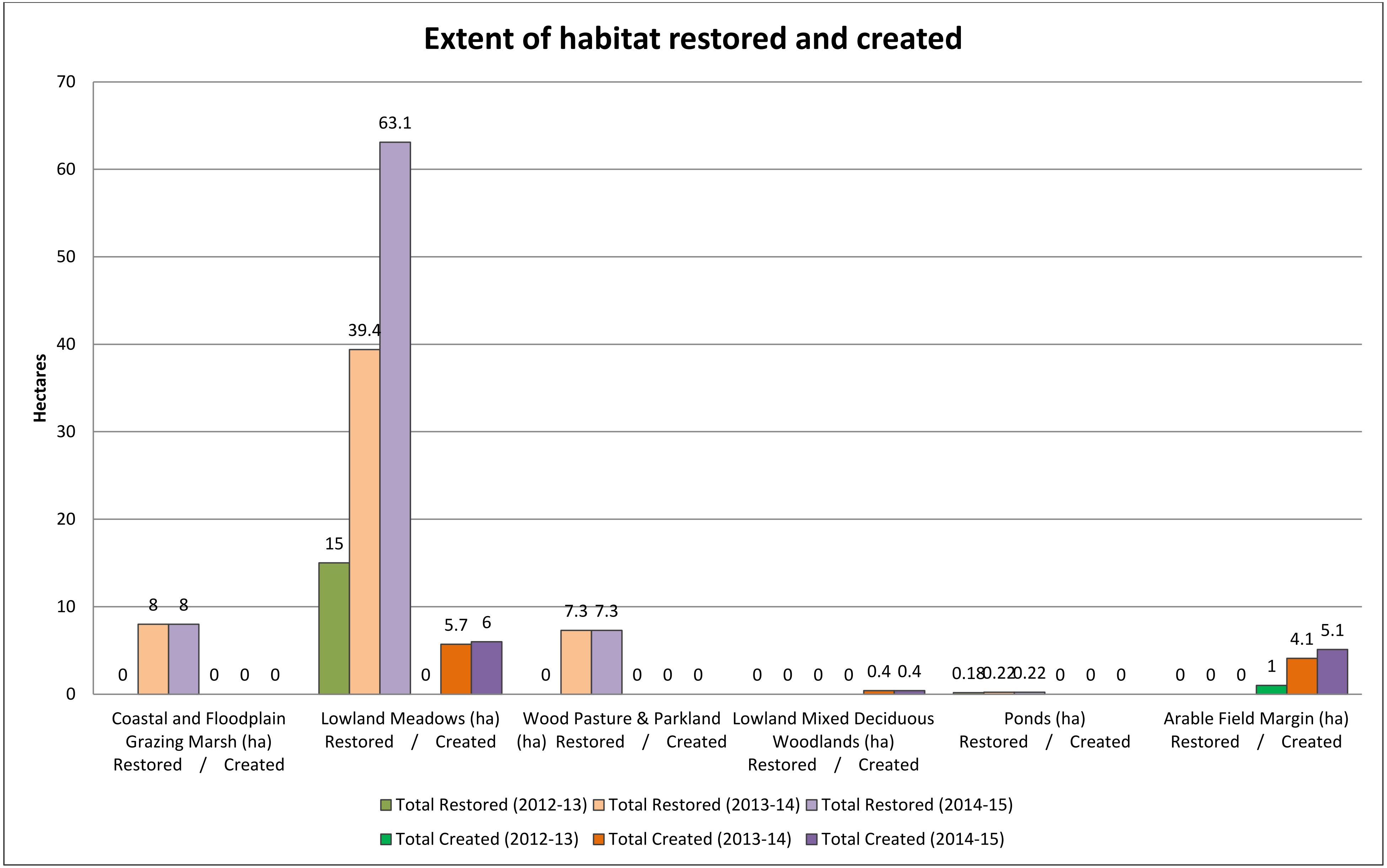

Figure 2: Extent of habitat restored or created – all are underway

1.1.3 Extent of habitat in favourable or recovering condition

Introduction

The indicator set by Natural England is as follows:

Extent of Sites of Special Scientific Interest (SSSIs) in favourable or recovering condition, broken down by priority habitat type. As a proxy, the extent of priority habitat recorded on the Biodiversity Action Reporting System (BARS) as being managed to maintain it in good condition was also required, however due to issues getting data onto BARS this hasn't been reported on. Instead, at a local level we are also interested specifically in the number of Local Wildlife Sites that are in positive management and has been reported as an additional set of figures here.

Methodology

SSSI condition figures were supplied by Natural England. Local Wildlife Site positive management figures were supplied by the Wildlife Trust in Northamptonshire and Cambridgeshire.

For our own reporting purposes it was thought to be useful to have a baseline that reflected the level of activities that were taking place prior to the designation of the NIA and the subsequent commencement of projects, against which we could measure activities for year one.

Findings & Interpretation

SSSI in favourable or recovering condition have increased from 1943ha (99%) to 1961ha (100%) across the NIA. This figure is indicative, as only a proportion of the SSSI land within Nene Valley NIA is assessed each year. Consequently the year on year change in reported SSSI condition within the NIAs only provides a general indication of change in condition not a true figure. One other caveat is that SSSI condition assessment relates to the condition of the SSSI 'notified features' which in some cases is not the underlying habitat. A breakdown of SSSIs by condition and habitat is shown below, based on figures obtained in 2012/13, but unlikely to have changed.

Table 4: SSSIs in favourable or recovering condition

	Baseline	2012-13	2013-14	2014-15
SSSI (ha)	1943	1961	1961	1961
SSSI (%)	99	100	100	100

Table 5: SSSIs in favourable or recovering condition (*based on 2012-13 data)

SSSIs (ha)			
Priority Habitat	**Favourable Condition***	**Unfavourable Recovering***	**Total***
Coastal and Floodplain Grazing Marsh	95.05	68.88	163.93
Lowland Mixed Deciduous Woodland	72.51	75.54	148.05
Lowland Calcareous Grassland	0.00	13.23	13.23
Lowland Fens	10.48	7.52	18.00
Lowland Meadows	35.65	66.54	102.19
Purple Moor Grass and Rush Pasture	0.00	2.20	2.20
Redbeed	14.44	18.63	33.07
Traditional Orchard	0.00	0.03	0.03
Total (ha)	**228.14**	**252.57**	**480.70**
%	**45.19**	**50.03**	**95.22**

Local Wildlife Site figures show an increase in the number of sites and area (ha) in positive management since the start of the NIA. The results show a favourable picture with increases in sites in positive management in each County, the NIA and the wider catchment (NIA+3km) area. The most notable increase is in the NIA itself, which has seen a 2% increase in sites and 4% increase in area of land in positive management. This means that 112 of the 258 LWS in the NIA are classes as being in positive management and these cover 2279ha.

Table 6: Local Wildlife Sites in positive management

LWS	2011-12						2012-13 ADD in 2013/14 figures????					
Boundary	Total sites	Total area	Number in positive mgmt.	Area in positive mgmt.	% sites in positive mgmt.	% area in positive mgmt.	Total sites	Total area	Number in positive mgmt.	Area in positive mgmt.	% sites in positive mgmt.	% area in positive mgmt.
NIA	258	3712	112	2128	**43.4**	**57.3**	258	3719	116	2279	**45.0**	**61.3**
NIA + 3km buffer	578	10264	269	6993	**46.5**	**68.1**	586	10325	275	7161	**46.9**	**69.4**
Northamptonshire	744	11690	278	7456	**37.4**	**63.8**	753	11760	282	7522	**37.5**	**64.0**
Cambridgeshire	473	7999	283	5920	**59.8**	**74.0**	472	7994	296	6091	**62.7**	**76.2**
Peterborough	107	2336	87	2102	**81.3**	**90.0**	107	2336	89	2146	**83.2**	**91.9**

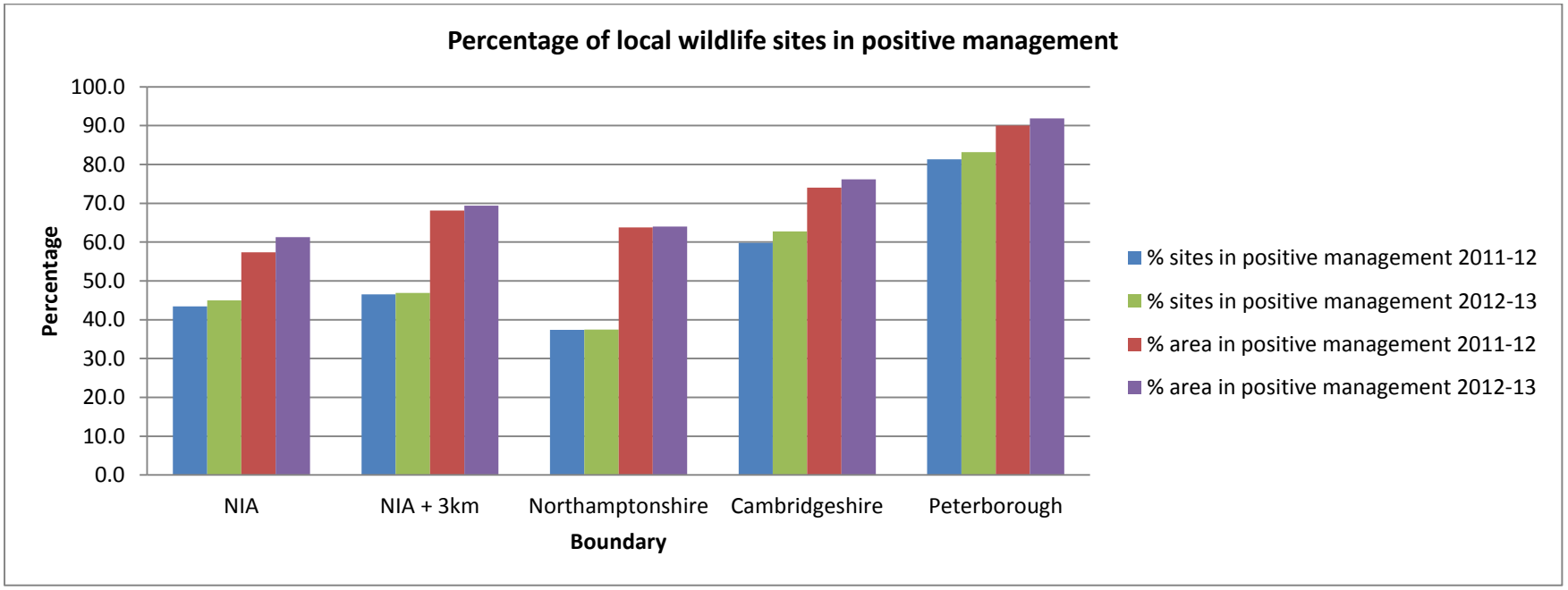

Figure 3: Local Wildlife Sites in positive management

1.1.4 Total extent of habitat

Introduction

The indicator set by Natural England is for the total extent of broad or priority habitat(s), selected by the NIA partnership, and how extent of these changes over time.

Methodology

The locally produced habitat inventories were used to calculate this figure rather than the Natural England Single Habitat Layer. Habitat data has been collected over several years from Local Wildlife Site surveys, SSSI citations and survey data, and aerial photography. Some site data may be out of date or inaccurate. There is a rolling program of annual updates based on survey information. Habitat definitions are based on the Northamptonshire Biodiversity Action Plan, 2008.

Total extent was calculated using the 'boundary select' tool in MapInfo, to select those habitat polygons whose centroid is within the NIA boundary. This does include areas which are partially outside of the boundary and may miss some small areas that are partly in but mainly outside the boundary.

Findings & Interpretation

The total extent of habitat in the NIA has increased between April 2012 and April 2015. This is in part due to actual creation or restoration of habitat but also due to improved mapping or recently identified habitat. There has been a decrease in the amount of lowland meadow but an increase in most other habitats. This is most likely because too many areas were mapped as lowland meadow and have since been redefined as another habitat type, e.g. floodplain grazing marsh.

Table 7: Total extent of habitat

	Apr-12 (Baseline)	Apr-13		Apr-14		Apr-15	
Priority Habitat	**Total Extent**	**Total Extent**	**Change**	**Total Extent**	**Change**	**Total Extent**	**Change**
Lowland Mixed Deciduous Woodland	83.08	91.46	*+8.38*	108.24	*+16.78*	157.60	*+49.36*
Lowland Calcareous Grassland	63.12	64.16	*+1.04*	60.41	*- 3.75*	58.40	*- 2.01*
Lowland Meadows	365.23	338.06	*- 27.17*	310.57	*- 27.49*	275.70	*- 34.87*
Lowland Fens	97.27	99.34	*+2.07*	99.68	*+0.34*	98.80	*- 0.88*

Coastal and Floodplain Grazing Marsh	847.95	877.79	*+29.84*	894.05	*+16.26*	894.10	*+0.05*
Reedbeds	32.98	32.98	-	31.50	*- 1.48*	31.50	-
Wet Woodland	139.66	141.27	*+1.61*	138.05	*- 3.22*	138.60	*+0.55*
Total	**1,629.29**	**1,645.06**	***+15.77***	**1,642.50**	***- 2.56***	**1,654.70**	***+12.20***

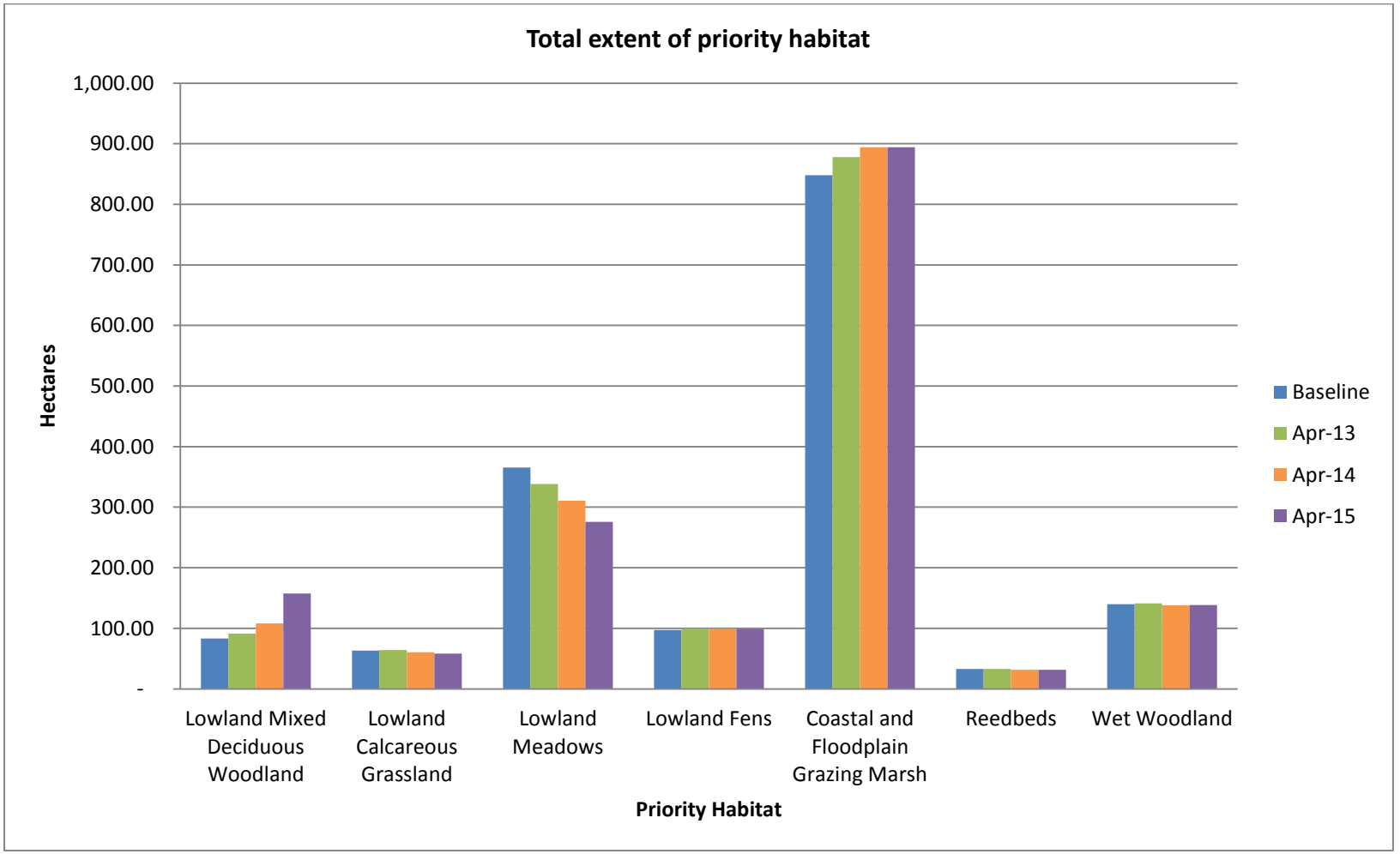

Figure 4: Total extent of habitat across the NIA

1.2 Species

1.2.1 Status of focal species

Introduction

This indicator looks at status of species that are a focus for action or sensitive to drivers of change that are a specific concern within the NIA. The species that we have chosen to focus on in the Nene Valley are bird species that contribute to the designation of the Upper Nene Valley Gravel Pits SSSI/SPA, which are sensitive to habitat management and/or disturbance.

Methodology

Data for species in the Upper Nene Valley Gravel Pits SPA was collected during the 2013 breeding bird survey, which was undertaken to replicate the 2003 survey. The birds selected for the indicator were;

- Great crested grebe *Podiceps cristatus*
- Grey Heron *Ardea cinerea*
- Tufted duck *Aythya fuligula*
- Lapwing *Vanellus vanellus*
- Common tern *Sterna hirundo*
- Reed warbler *Acrocephalus scirpaceus*

Trends will be categorised annually according to long-term changes in abundance and/or distribution as:

- Increasing
- Stable
- Decreasing
- Unknown

Individual species should be categorised based on changes in status over the 10 year period between surveys. Where populations are fluctuating, they have been assigned to the most likely of the four categories.

Findings & Interpretation

Table 8: Status of focal species*

Species	Status		Breeding pairs		
	Baseline	**2013-14**	**Actual change (2003-13)**	**Percentage change (2003-13)**	**UK % change**
Great crested grebe (breeding)	Unknown	Increasing	7	16	27
Grey heron (breeding)	Unknown	Decreasing	-34	-52	-21
Tufted duck (breeding)	Unknown	Stable	6	43	13
Lapwing (breeding)	Unknown	Stable	-2	-33	-35
Common tern (breeding)	Unknown	Decreasing	-7	-39	-28
Reed bunting (breeding)	Unknown	Decreasing	-85	-31	8

* This data is based on two surveys of breeding birds in the Upper Nene Valley Gravel Pits SSSI. The surveys took place in 2003 and 2013 and covered the same sites using the same method.

The overall quality of the Nene Valley's breeding bird assemblage has clearly fallen in the ten years since 2003. The Nene Valley grey heron population seems to have declined much more than in the UK as a whole, as have common tern and reed bunting. On a more positive note, local populations of great crested grebes have increased, whilst tufted ducks and lapwings remain more or less as they were in 2003

Caveats:

- This does not cover the whole of the NIA; some species may be utilising areas outside of the SSSI more or less in 2013 than in 2003.
- Calculating percentage change on very small populations is statistically unsound.
- True breeding populations are an estimate based on evidence of breeding e.g. presence of pairs, nest building activity, singing males
- Where possible, we have provided a UK trend for comparison, drawn from published information and for the closest available equivalent time period covered by the Nene Valley surveys. In most cases this is from the British Trust for Ornithology's UK Breeding Bird Survey, for the period 2002-2012.
- Data was not available in time for the 2012-13 reporting round.

1.3 Connectivity

1.3.1 Local indicator of habitat connectivity

Introduction

To assess habitat connectivity we have used habitat fragmentation figures from Natural England's Climate Change Vulnerability Model along with some basic metrics based on BAP habitat data.

Methodology

The Climate Change Vulnerability Model was run by Natural England and the output was provided to the NIA partnership. The output was manipulated in order to extract the appropriate figures. The habitat fragmentation score for each 200m^2 is based on habitat aggregation and landscape permeability. A high score indicates a highly fragmented landscape and a low score indicates a more connected landscape. The figures are arbitrary, but can be compared between landscape character areas, habitat types, other NIAs, and between years. A range of scores are provided in the report, including combined scores, average scores, scores from within the NIA boundary and scores from the NIA plus a 3km buffer. We also decided to give a set of scores which exclude grid squares that only contain rivers (and no other habitats), as the river may give a false impression of connectivity. Scores were not re-calculated without rivers.

We will be relying on Natural England to run the model again in future years with updated datasets.

Figures for the total extent of BAP habitat in the NIA, number of habitat patches and average patch size have also been reported. Adjacent areas of different habitat type are considered as separate patches. The average and total patch size may be exaggerated by the inclusion of open water, which includes several large reservoirs, so eutrophic standing water was excluded from the calculations.

Findings & Interpretation

The data shows that habitat connectivity is greater in the NIA than in the wider NIA plus 3km buffer zone. Fragmentation increases when the river is excluded. The local figures show a slight decrease in habitat area and a slight increase in fragmentation; this is likely to reflect improvements in mapping, in particular distinguishing between different grassland habitats, rather than a change in the situation on the ground.

Table 9: Habitat connectivity figures

Source	Metric	Area	Rivers	Combined score	Average
Natural England Climate Change Vulnerability Toolkit	Habitat Fragmentation	NIA	y	15058.02	4.48
	Habitat Fragmentation	NIA+3km	y	41923.2	4.71
	Habitat Fragmentation	NIA	n	5012.85	4.62
	Habitat Fragmentation	NIA+3km	n	20744.89	4.82

Source	Metric	Area	Score	Baseline	2012-13	2013-14	2014-15
NIA BAP Habitat data	Habitat Area (excluding Eutrophic Standing Water, ha)	NIA	Combined	1669	1669	1654	1632
	Number of Patches	NIA	Combined	357	357	363	341
	Patch Size (ha)	NIA	Average	4.68	4.68	4.56	4.79

1.3.2 Local indicator of aquatic habitat connectivity

Introduction

The aim was to develop a protocol for this indicator, which would attempt to represent the degree of connectivity along the river Nene itself. It may look at the presence of features such as backwaters, riffles, and riparian habitat, as well as barriers to fish movement such as locks and weirs. Unfortunately this wasn't possible within the lifetime of the project.

2 Ecosystem services

2.1 Cultural services

2.1.1 Access to natural greenspace and/or woodland

Introduction

Paragraph 73 of the National Planning Policy Framework (NPPF) states that planning policies 'should be based on robust and up-to-date assessments of the needs for open space...[which] should be used to determine what open space...provision is required.' (DCLG 2012). Natural England has provided guidance on accessibility standards for natural areas. The Accessible Natural Greenspace Standard (ANGSt) recommends that everyone should have an accessible natural area:

- Of at least 2ha in size, no more than 300m from home
- At least one accessible 20ha site within 2km of home
- One accessible 100ha site within 5km of home, and
- One accessible 500ha site within 10km of home (Natural England 2010).

Methodology

Data was collected especially for the purpose of the NIA report by Heather Webb, Nene Valley NIA Natural Development Officer. A more detailed report on the methods and the findings is available.

In this context, accessible is defined as:

*"...*places that are available for the general public to use free of charge and without time restrictions (although some sites may be closed to the public overnight and there may be fees for parking a vehicle)..."

Naturalness can be difficult to define. ANGSt does not require that natural areas be rare or designated, but simply:

"places where human control and activities are not intensive so that a feeling of naturalness is allowed to predominate" (Natural England 2010).

Findings & Interpretation

The Nene Valley NIA was home to approximately 208,780 people in 2012, rising to around 216,000 by 2014 and spread over nine local authorities.

Within the NIA, access to natural greenspace varies with site size and local authority. Most settlements are better served at some scales of natural area than others. Peterborough is perhaps the town best served by natural greenspace, with Northampton and Wellingborough also enjoying good levels of provision.

Accessible natural greenspaces larger than 2ha total 2411ha, or 5.8% of the NIA which covers 41,350ha. Just under half of the NIA population (45%) are classed as having access to green space i.e. living within 300m of a 2ha site. However most people (82%) live within 2km of a 20ha site, while around two thirds (62%) are within 5km of a 100ha site. and no one within the NIA is currently within 10km of a 500ha site. The later statistic is something to long term aims of the NIA hopes to address. A baseline was produced in 2012 and updated figures supplied in 2013/14. This indicator is not updated on an annual basis because of the limited changes that are likely to be seen and because of the time and effort involved in collating updated information from each Local Authority. Slight changes were observed, but this, particularly population, is obviously a constantly changing situation and no real trends were observed over this short time period.

Table 10: Access to Natural Green Spaces

Measure	Unit	Baseline	2013-14
NIA population (approx.)	People	208783	215956
Accessible Natural Greenspace	ha	2461	2411
NIA population within 300m of a 2ha site	%	43	45
NIA population within 2km of a 20ha site	%	83	82
NIA population within 5km of a 100ha site	%	62	62
NIA population within 10km of a 500ha site	%	0	0

The graph below shows the Baseline figures against additional green space that is proposed under planned development and conservation projects. This shows that access to natural green space will improve for residents in the NIA, in particular a notable increase in access to larger green spaces.

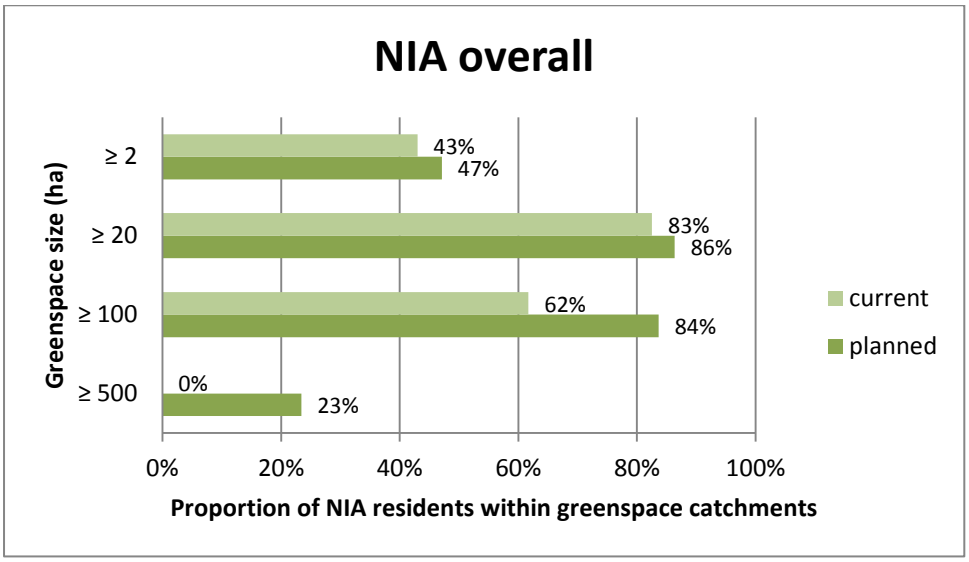

Figure 5: Access to Natural Green Space by residents in the NIA

2.2 Supporting services

2.2.1 Local indicator of riparian habitat under sympathetic management which benefits pollinators

Introduction

The aim was to develop a protocol that would identify and quantify riparian habitat under sympathetic management which benefits pollinators. Survey work looking at habitat for pollinators took place during 2013 and 2014, led by a PhD student at the University of Northampton. Unfortunately it wasn't possible to produce and run a protocol within the lifetime of the project.

2.3 Regulating Services

2.3.1 Contribution to water quality

Introduction

There was no suitable national guidance for this indicator and so a local alternative method was devised to look at the delivery of habitat based actions in the catchment and asses how these contribute to water quality. 'Contribution to water quality' has been divided into two categories: (1) Communications: outreach and consultation, and (2) Actions: implementation of relevant Environment Stewardship Scheme (ESS) options. Full details can be found in a supplementary report.

Methodology

Communications took three forms: newsletters, training and awareness events and one on one consultation. Through these the targeted population were made aware of the ESS options they could implement and guided in doing so.

The Actions assessment is based on ESS options data provided by Natural England to the Northamptonshire Wildlife Trust (NWT). Five measurements were made to monitor the extent water quality has been improved and/or maintained for the River Nene. These were:

1. hectares of land affected by at least one ESS option from the table of water quality **maintenance** indicators
2. hectares of land affected by at least one ESS option from the table of water quality **improvement** indicators
3. meters of watercourse fencing maintained;
4. number of cattle drinking bays installed; and
5. total number of water quality ESS projects active at the end of the year of interest.

Each year's measurements were accumulative in the sense that each year's dataset reflected not only projects started in the year, but also those continuing from the previous year(s). Data for 2014/15 was not available in time for inclusion within this report.

Findings & Interpretation

Everyone within Northamptonshire's part of the River Nene catchment boundary received at least one newsletter per year for the three years of the NIA funding, 99 people attended at least one of the 8-10 events offered in each of those years and 131 people received at least one consultation session. This reflects a good distribution range within the NIA and positive participation levels from farmers.

The measurements suggest a successful three years in which water quality improvement and maintenance efforts increased through at least three of the five measurements from year to year. For the fourth and fifth

measurements, number of cattle drinking bays installed and meters of watercourse fencing maintained, the GIS datasets suggest that there were none in 2012 or 2014, however alternative Excel values do show an increase in both over time and are more likely accurate.

Table 11: Contribution to Water Quality - Monitored through relevant Environment Stewardship Scheme Options

	Maintain/ Improve	Baseline	2012-13		2013-14	
		Quantity	Quantity	Change	Quantity	Change
Maintained (ha)	Maintain	10,177.62	11,608.12	*+1,430.50*	12,502.98	*+894.86*
Watercourse Fencing Maintained (km)	Maintain	0	7.69	*+7.69*	0	*- 7.69*
Improved (ha)	Improve	2,502.52	2,574.05	*+71.53*	2,653.06	*+79.01*
Cattle Drinking Bays (#)	Improve	0	22	*+22*	0	*- 22*
Total (ha)	**Total**	**12,680.14**	**14,182.17**	***+1,502.03***	**15,156.04**	***+973.87***
ESS Projects (#)	**Total**	**7,290**	**8,523**	***+1,233***	**9,211**	***+688***

Caveats

Baseline; Baseline was considered 2011-12 financial year

Data collection; Figures reported are based on Environment Stewardship Scheme (ESS) options data supplied by Natural England in GIS format. The layer was cut by Northamptonshire Wildlife Trust to the River Nene water catchment boundary within the NIA boundary (i.e. excluding the north-easterly most tip of the catchment).

Model uncertainty; Each GIS layer contained one year's ESS options. Temporal and Spatial coverage varied between layers. Each year reported from a different point in time (May, 2012; April, 2013; December, 2013). The regions for which ESS options were included also varied between layers. Details are in supplementary report.

Other versions of data; An Excel version of the data, cut to a 3km buffer around the NIA, was also supplied by Natural England. It produced different, mostly higher, values. The values were higher even when the GIS data was also cut to a 3km buffer, although doing so did reduce the difference in most cases. The Excel version reported cattle drinking bays (CDB) and watercourse fencing maintenance (EJ11) ESS options present in 2012 and 2014 reporting years. Details are in supplementary report.

2.4 Provisioning Services

2.4.1 Area of more-sustainable agricultural production

Introduction

The total area of land within the NIA covered by 'priority options' in Environmental Stewardship (ES) agreements. This includes both Entry Level Stewardship (area of priority options (ha) and length of priority boundary option (m) under management) and Higher Level Stewardship (area of priority options (ha) and number of large ponds).

Methodology

Data is collected by Natural England, and the yearly figures were supplied to the NIA for the purpose of reporting.

The priority options that we have selected in the Nene Valley are;

HLS HC7, HC8, HE10, HD10, HD11, HF12, HF24, HJ3, HJ4, HK6, HK7, HK8, HK9, HK10, HK11, HK12, HK13, HK14, HQ1, HQ2, HQ3, HQ4, HQ5, HQ6, HQ7, HQ8

HLS version of ELS options HC4, HE12, HF1, HF4, HF13, HJ5, HJ9, HJ11

ELS options EB3, EB6, EB7, EB10, EC4, EE9, EE10, EE12, EF1, EF2, EF4, EF13, EF22, EF23, EJ5, EJ9, EJ11, EK2, EK3

Findings & Interpretation

The results show a steady increase in land managed under priority options through ELS and HLS in both 2012/13 & 2013/14. This reflects land entered into the schemes by the NIA land advisor as well as by landowners, agents and other conservation organisations. However there is a notable decrease in all figures in 2014-15. There is uncertainty amongst local NIA and Natural England staff about the accuracy of these figures as the decrease in priority Higher Level options between 2013-14 and 2014-15 is the opposite of what we all expected to see. The decrease in land under Entry Level options can be attributed to a large number of agreements expiring, and a lower rate of uptake of new agreements because of the uncertainties around CAP reform.

Table 12: Area of more sustainable agricultural production

Scheme Level	Units	Baseline	2012-13		2013-14		2014-15	
		Quantity	Quantity	Change	Quantity	Change	Quantity	Change
Entry	ha	2,660	2,732	+71.7	2,791	+58.4	2,103	-72,586
Entry	Boundary features m	296,946	296,946	0.00	311,397	+14,451	238,811	-688
Higher	ha	849.5	1,095	+246.2	1,298	+202.7	1,118	-180.3
Higher	large ponds (#)	14	40	+26	42	+2	35	-7

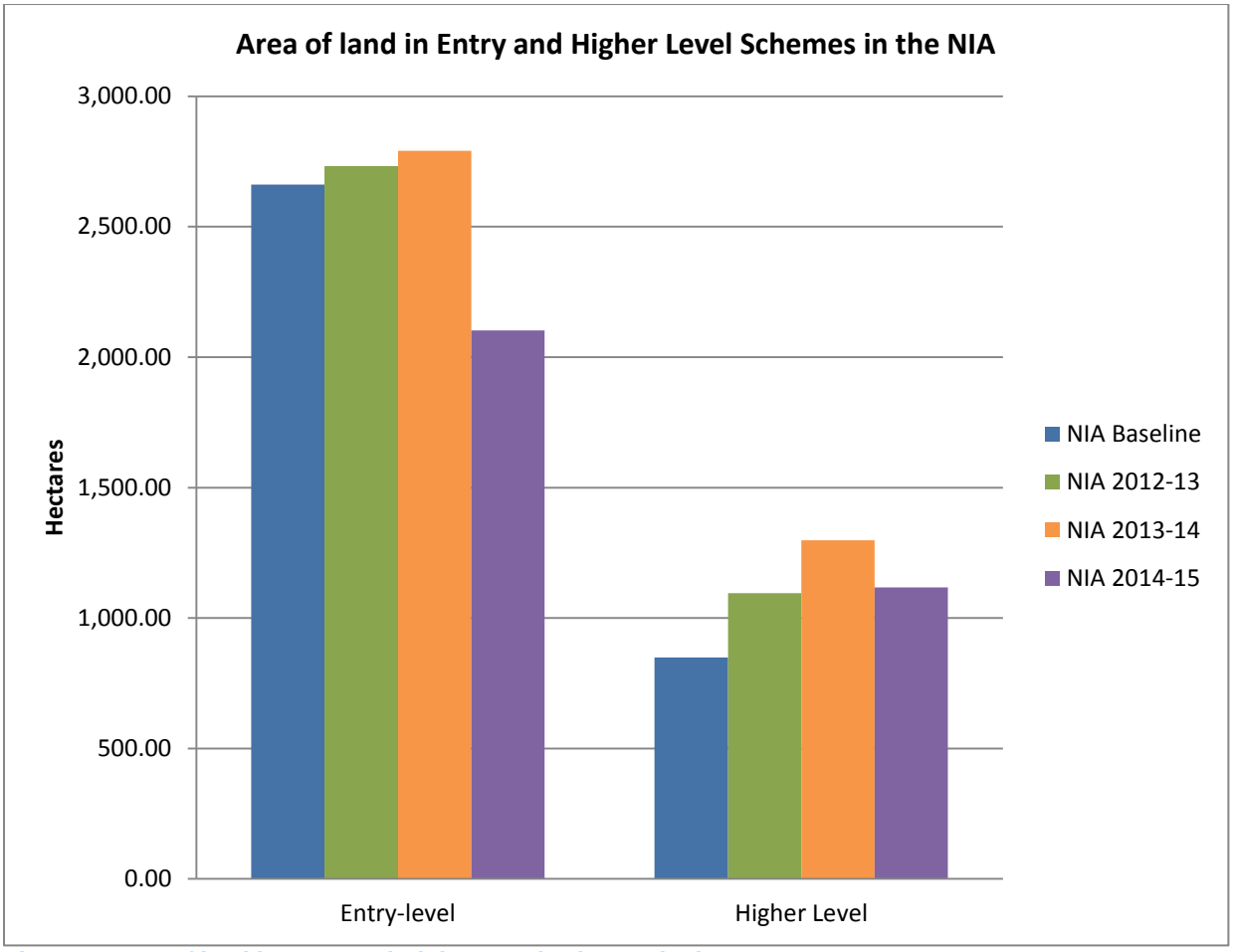

Figure 6: Area of land in Entry and Higher Level schemes in the NIA

Due to the data uncertainty, additional analysis has been undertaken locally using the HLS and ELS data which is supplied to the Wildlife Trust on an annual basis to permit reporting against Single Data List indicator 160 – Local Sites in Positive Conservation Management. This analysis can be found in section 2.5.

2.5 Changes in Positive Conservation Management across the NIA

As part of objective 4 of the Nene Valley NIA a mapping exercise was undertaken to identify which areas were already in positive conservation management. This enabled us to better target management across the NIA and 3km buffer within which we are working.

The mapping was undertaken at the start of the NIA (April 2012) to provide a baseline and then updated after the first year of the project (April 2013). This also meant we could analyse any changes in positive conservation management in the first year.

The results have been positive. HLS has increased by 1,337ha within the NIA boundary and 5,750ha across the larger project area (NIA+3km buffer). That means 16.1% of the land in the NIA is covered by HLS (and 14.2% in the wider buffer area).

There has also been an increase in the amount of land in ELS - up by 4,120ha across the wider buffer area and 1,087ha in the NIA itself. This is lower than the increases in HLS which can be attributed to farmers not renewing ELS due to future uncertainty in Stewardship during the CAP reform, although the main reason for areas that were in ELS in 2012 not being in ELS in 2013 is because they have gone into HLS instead. Almost half the land in the NIA is in ELS.

Overall the amount of land in Positive Conservation Management in the NIA has increased by 1414ha (3.4%) and by 2700ha (1.6%) across the wider area. This means that 22.2% of the NIA and 18.9% of the wider area are being positively managed for conservation.

Table 13: Positive Conservation Management figures

	NIA 3km				**Coverage of NIA 3km**		
	Hectares (ha)				**Percentage (%)**		
	2012	**2013**	**Increase**		**2012**	**2013**	**Increase**
ELS	79700	83820	+4120ha		47.0	49.5	+2.43%
HLS	18330	24080	+5750ha		10.8	14.2	+3.39%
WGS	2669	2748	+79ha		1.58	1.62	+0.05%
LWS (PCM)	6993	7161	+168ha		4.13	4.23	+0.10%
Overall PCM*	**29350**	**32050**	**+2700ha**		**17.33**	**18.92**	**+1.59%**
	NIA (entirely within boundary)				**Coverage of the NIA**		
	Hectares (ha)				**Percentage (%)**		
	2012	**2013**	**Increase**		**2012**	**2013**	
ELS	17042	18129	+1087ha		41.2	43.8	+2.63%
HLS	5312	6649	+1337ha		12.8	16.1	+3.23%
WGS	324	343	+19ha		0.8	0.8	+0.05%
LWS (PCM)	2128	2279	+151ha		5.15	5.50	+0.35%
Overall PCM*	**7759**	**9173**	**+1414ha**		**18.8**	**22.2**	**+3.42%**

** Overall PCM – HLS, CSS, LWS (PCM), Reserves, LNR, Pocket Park [not ELS]*

Figures for PCM include LWS in Peterborough/Cambs. Overall PCM figure has been calculated based on area of land in positive management, but LWS in Peterborough/Cambs that are in positive management, but not in one of the schemes listed above, have not been included in this. –

ADD IN 2014 figures?????

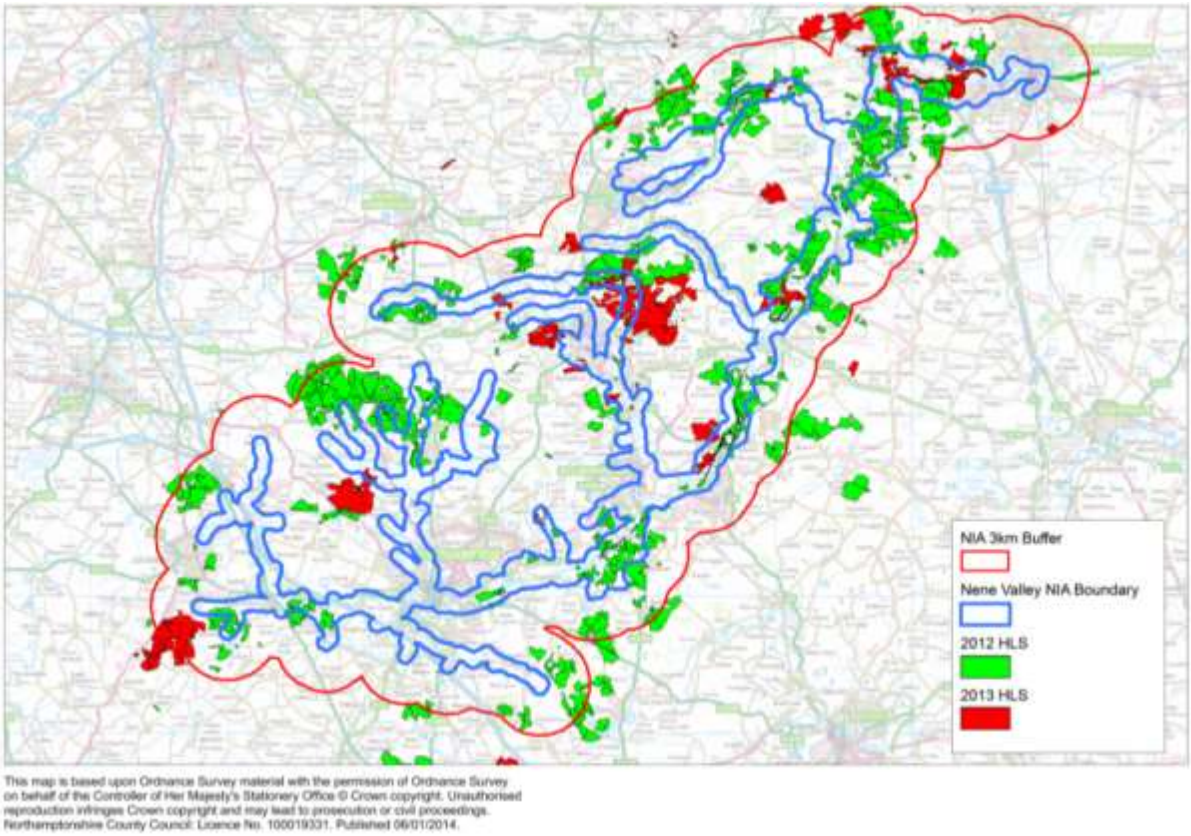

Figure 7: HLS in April 2012 (green) and new additions by April 2013 (red)

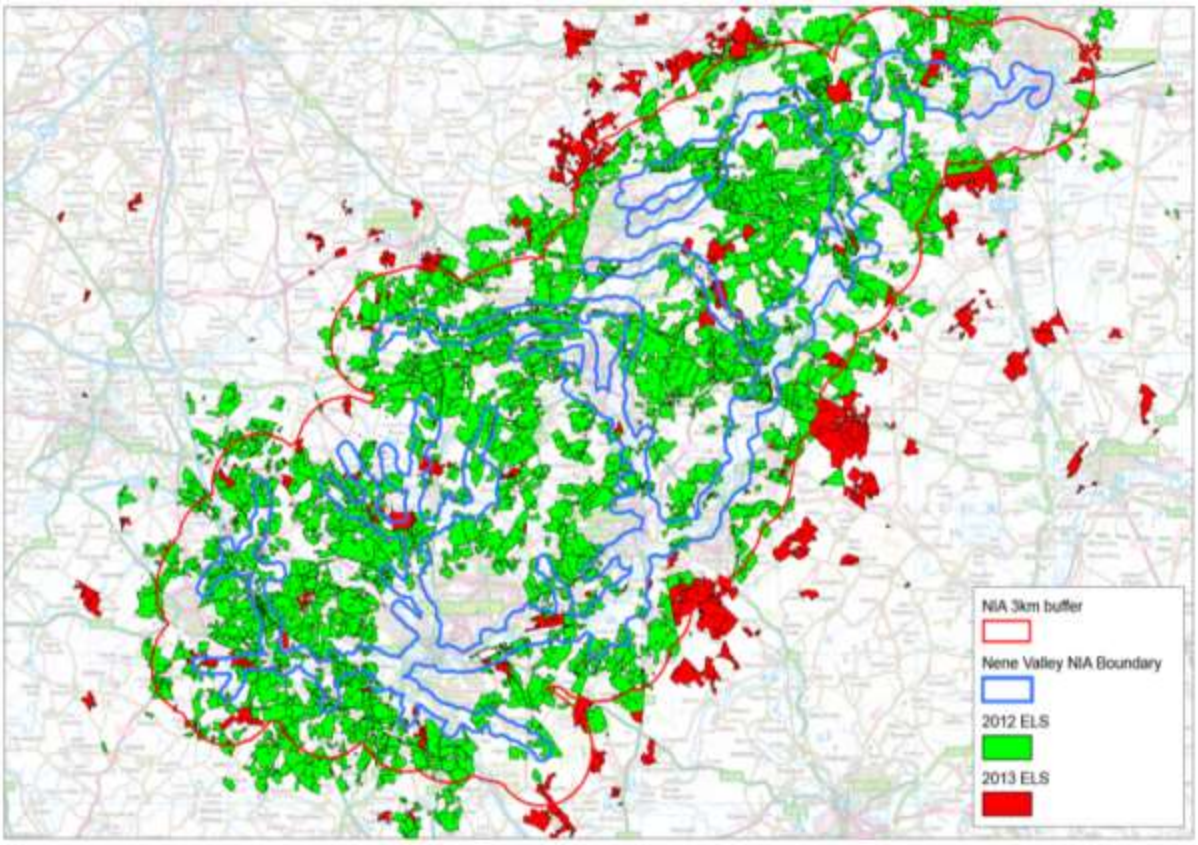

Figure 8: ELS in April 2012 (green) and new additions by April 2013 (red)

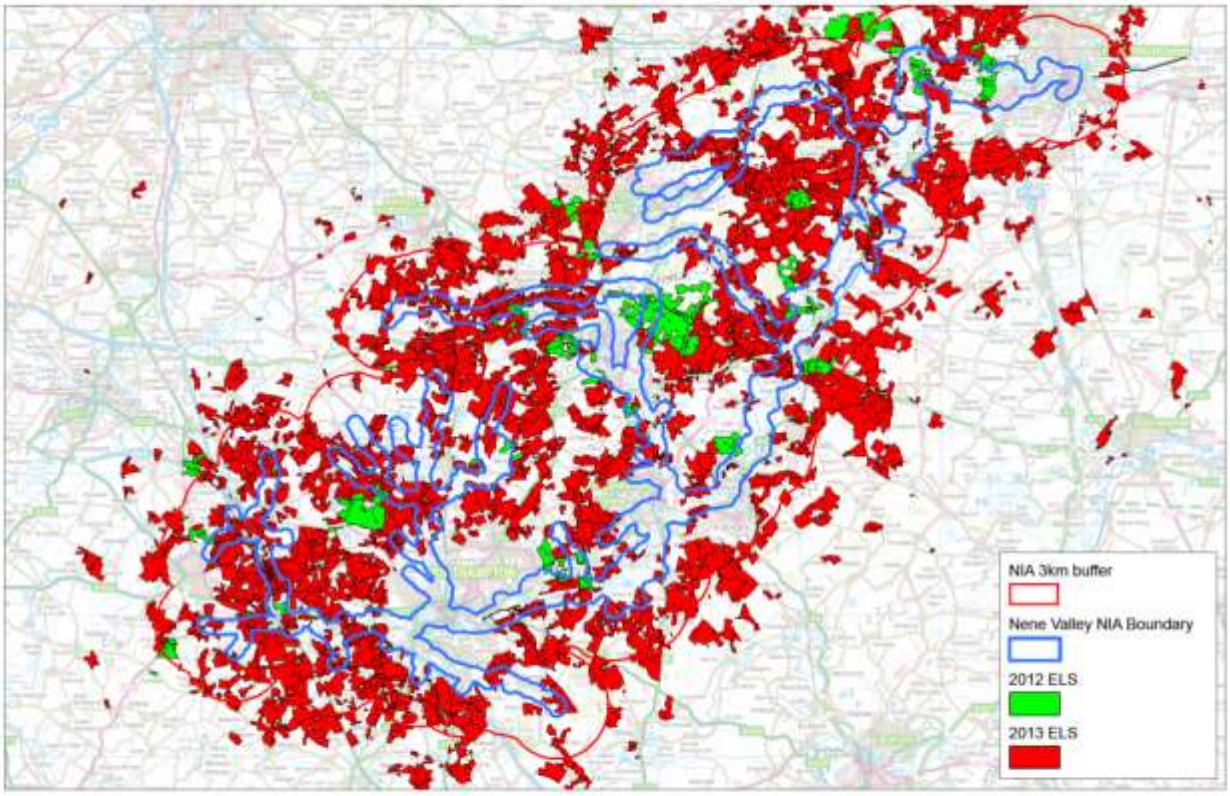

Figure 9: ELS lost between April 2012 and April 2013 shown in green (majority of these are now in HLS)

3 Social and economic benefits & contributions to wellbeing

3.1 Social impacts and wellbeing

3.1.1 Attitudes of local community to biodiversity, geodiversity and the natural environment.

Introduction

This indicator evaluates the attitudes of NIA residents to biodiversity, geodiversity and the natural environment. This indicator is based on a selection of standard questions as part of the on-going 'Monitor of Engagement with the Natural Environment' (MENE) survey on how people use the natural environment in England. 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.

Methodology

Data is collected and provided by Natural England. 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.

Natural England (2012) Monitor of Engagement with the Natural Environment: The national survey on people and the natural environment. Technical Report (2011-12 survey). Natural England Commissioned Report NECR095. http://publications.naturalengland.org.uk/

The baseline was calculated from MENE survey responses in 2011/12. Natural England provided a dataset including a buffer zone of 10km around the NIA.. The responses to the following questions were used:

- E2 Extent of agreement about environmental attitudes
- E3 Which of the following activities involving the natural environment do you take part in?
- E4 Which of the following environment related activities do you do?

- E5 Pro-environmental behaviours - changes in lifestyle

Findings & Interpretation

The results for respondents within 10km of the NIA and the national average are shown. Lines are highlighted where there is a difference between the Nene Valley and the National Average (though these may not be statistically significant).

Table 14: Results of MENE survey, comparing 10 km buffer area around NIA to National Average

Legend

	NIA + 10 km buffer value is higher than national average of that year
	NIA + 10 km buffer value is lower than national average of that year

	2011-12 (Baseline)		2012-13		2013-14	
	NIA + 10km buffer (%)	**National average (%)**	**NIA + 10km buffer (%)**	**National average (%)**	**NIA + 10km buffer (%)**	**National average (%)**
E2 Extent of agreement about environmental attitudes (Percentage of population strongly agreeing or agreeing with the following statements)						
Spending time out of doors (including my own garden) is an important part of my life	85	86	89	87	87	88
I am concerned about damage to the natural environment	87	87	77	85	87	85
There are many natural places I may never visit but I am glad they exist	90	94	93	93	100	95
Having open green spaces close to where I live is important	90	94	87	92	91	94
E3 Which of the following activities involving the natural environment do you take part in? Please choose everything you do, both regularly and occasionally.						
Watching or listening to nature programmes on the TV or radio	57	53	44	53	70	52
Looking at books, photos or websites about the natural world	31	29	28	30	35	31
Looking at natural scenery from indoors or whilst on journeys	31	43	39	43	30	44
Sitting or relaxing in a garden	49	65	61	62	78	67
Gardening	51	52	63	52	61	53

Watching wildlife (including bird watching)	34	34	40	35	39	37
Choosing to walk through local parks or green spaces on my way to other places	64	53	47	54	83	55
Doing unpaid voluntary work out of doors	5	7	9	7	9	7
E4 Which of the following environment related activities do you do? Please choose all that apply.						
I usually recycle items rather than throw them away	75	77	84	78	87	77
I usually buy eco-friendly products and brands	26	26	12	25	37	24
I usually buy seasonal or locally grown food	34	39	42	39	39	41
I choose to walk or cycle instead of using my car when I can	51	42	47	43	44	42
I encourage other people to protect the environment	15	26	18	26	22	24
I am a member of an environmental or conservation organisation	3	7	4	7	0	7
I volunteer to help care for the environment	5	5	5	6	0	5
E5 Pro-environmental behaviours - changes in lifestyle						
I like my lifestyle the way it is and am not likely to change it %	33	32	37	32	44	36
I'd like to make changes to my lifestyle but I don't know what to do %	10	7	4	6		7
I'd like to make changes to my lifestyle but it's too difficult %	8	7	2	7		9
I'd make changes to my lifestyle if I knew other people were willing to make changes %	3	4	5	4	13	4
I intend to make changes to my lifestyle %	18	18	14	15	22	15
I already do a lot to protect the environment so it would be difficult to do more %	18	25	28	24	17	21

Attitudes within the Nene Valley are on the whole broadly similar to the national average. Trends are difficult to establish as there has been a fluctuation through the years, more likely reflecting the change in interviewees rather than a shift in attitudes. In 2013/14 those with positive agreements about environment attitudes and taking part in activities involving the natural environment was generally above the national average. It seems that the main area in which residents around the Nene Valley score lower than the national average is that which is related to being pro-active about protecting the environment. This could be for a number of reasons, including:

- Fewer visits to the natural environment; "*People who take visits to the natural environment are more likely than those who do not, to have an opinion on who should be responsible for protecting the natural environment and to have personally taken positive action."* (MENE Attitudes towards the natural environment: Findings of additional survey analysis, May 2011) & *"The more frequently people visit the natural environment, the more likely they are to appreciate it and to be concerned about environmental damage. Frequent visitors are also more likely to engage in pro-environmental behaviours such as recycling and preferring to buy seasonal and locally grown food*." (MENE Annual Report from the 2011-12 survey, July 2012).
- Lack of awareness about the environment and actions that are required to protect it
- Lack of information or understanding about pro-environmental behaviours
- The demographic of interviewees may be different to the national average; *"Those aged 45 and older were especially likely to take part in sitting or relaxing in the garden (70 per cent compared to 59 per cent amongst younger age groups) and watching or listening to nature programmes on the television or radio (62 per cent compared to 43 per cent amongst younger age groups)."* (MENE Annual Report from the 2011-12 survey, July 2012).

Having analysed the number and frequency of outdoor visits by people questioned within 3km of the Nene Valley NIA, it can be seen that roughly the same percentage of people visit the outdoors at least once a week as people do in the Nene Valley (58%) as a whole nationally (55%). The percentage of people taking an outdoor visit at least 5 times a week is also roughly the same in the Nene Valley buffer (8.4%) and nationally (8%). This suggests that the number of outdoor visits is on a par with the national average.

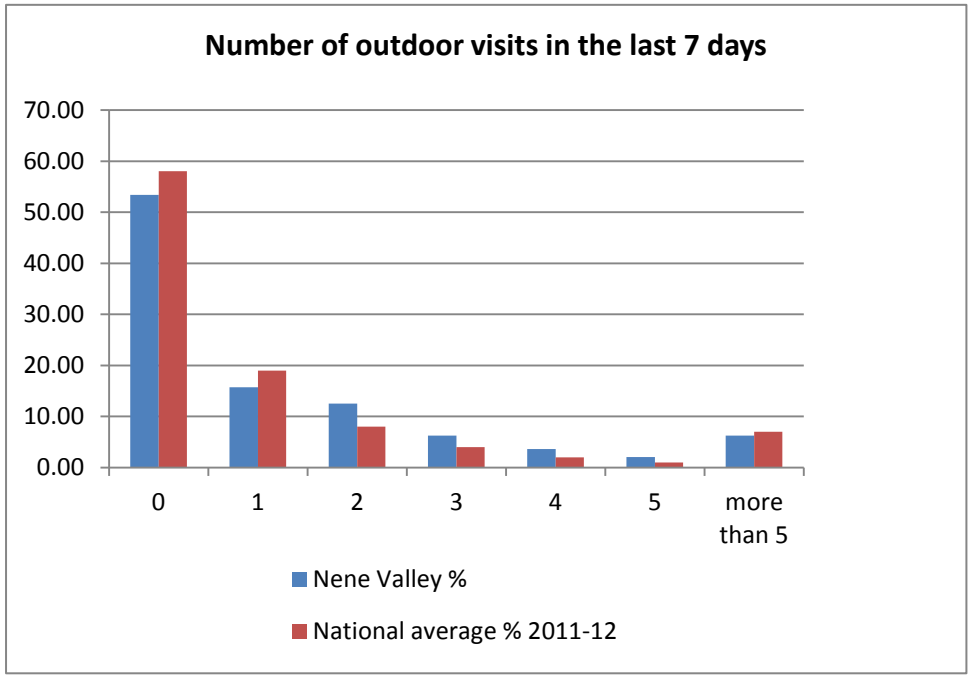

Figure 11: Number of outdoor visits in the last 7 days

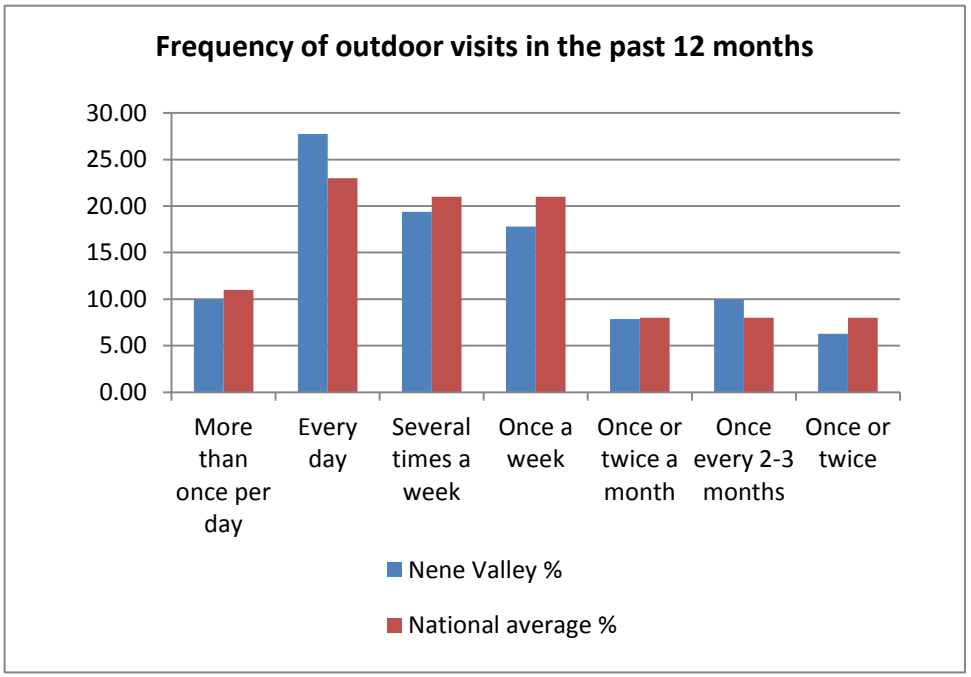

Figure 10: Frequency of outdoor visits

3.1.2 Number of volunteer hours on NIA activities

Introduction

This indicates 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. The indicator will contribute to estimates of the "Financial value of help-in-kind", which is a core business indicator under the Partnership working theme.

Methodology

The protocol states that data should refer to activities supported by the NIA project, rather than the wider activities of partner organisations, and be aligned to the specific objectives 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).

We decided that the work of several volunteer groups was contributing significantly to the objectives of the NIA even though they were not being directly supported by the NIA project. Therefore these hours have all been counted in our report. The only volunteering directly funded or initiated by the NIA project is linked to the breeding bird survey, coordinated by the RSPB and a volunteer officer at the Wildlife Trust.

The major volunteering activities which contribute to the reported figures are as follows:

- Northamptonshire County Council Country Parks volunteers
- Wildlife Trust nature reserve volunteer work parties
- Stanwick Lakes volunteers
- Kingsthorpe North Meadows volunteers
- RSPB office and survey volunteers
- Revital-ISE volunteers
- Wildlife Trust NIA Volunteer Officer

Findings & Interpretation

The number of hours contributed to conservation in the Nene Valley by volunteers is significant, and mainly made up of unskilled and skilled volunteers. Typical activities include scrub clearance, litter-picking and

footpath maintenance as well as report writing and survey work. In total almost 4000 volunteer hours helped deliver NIA objectives, which equates to £80,000 in-kind contributions to the project. Based on figures from 2012/13 the volunteer hours through the wider activities of partner organisations activity across the NIA is likely to be up to 75,000 hours across the 3 years.

Table 15: Number of volunteer hours

Skill level	Hourly rate	Baseline		2012-13		2013-14		2014-15	
		Hours	Value £	Hours	Value £	Hours	Value £	Hours	Value £
Unskilled	£6.25	-	£0.00	529.0	£3,306.25	221.0	£1,381.25	586	£3,662.50
Specialist Skilled	£18.75	-	£0.00	165.0	£3,093.75	270.0	£5,062.50	412.5	£7,734.38
Specialist services	£31.25	-	£0.00	22.5	£703.13	1,725.0	£53,906.25	64	£2,000.00
Professional	£50.00	-	£0.00	-	£0.00	-	£0.00	-	£0.00

3.2 Economic Values and Impacts

3.2.1 Estimated value of ecosystem services in the NIA

Introduction

This indicator estimated the value of a selection of ecosystem services in the Nene Valley. 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.

Methodology

The University of Northampton has been investigating the ecosystem services provided by the Nene Valley.

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.

Three services were included in the assessment; soaking up carbon dioxide, pollination of crops and orchard fruits, and the money spent on recreational visits.

Findings & Interpretation

Table 16: Annual flow of Ecosystem Services (£ per annum)*

Ecosystem Service	Nene Valley NIA	Nene Valley NIA plus 3 km buffer	Upper Nene Valley Gravel Pits SSSI
Carbon sequestration	£67,800.00	£388,000.00	£2,410.00
Pollination	£1,901,000.00	£7,764,000.00	£59,800.00
Recreational visits	£116,700,000.00	£178,200,000.00	£10,850,000.00
Overall annual value of ES flow	£118,700,000.00	£186,300,000.00	£10,910,000.00

*Figures extracted from the "Valuation of ecosystem services in the Nene Valley Nature Improvement Area", produced by Dr. Jim Rouquette in March, 2015

It is clear that ecosystem services in the Nene Valley have a high monetary value, over £188.7M to the NIA which equates to £2,862 per hectare per year. And yet this assessment has only considered three ecosystem services on which it is possible to provide a monetary value. The natural environment actually provides a whole range of other benefits, hence the true value of the natural environment in the NIA will be considerably higher.

Caveats

Baseline; The baseline should be considered 2014-15. There was no previously established way to assign monetary values to ecosystem services provided by the Nene Valley and work towards this end has only

now come to fruition. Data used for the calculations spans the last 5 to 6 years (2009-2014), with some supportive information prior to that also being used as well.

Data collection; Dr. Jim Rouquette did data collection (mostly secondary sources), with support of his project team at the University of Northampton. Methodology and data sources varied for each ecosystem service. Carbon and pollination relied mostly on GIS data. Recreation was based on surveys: MENE and "Visitor Access Study of the Upper Nene Valley Gravel Pits SPA" by Footprint Ecology.

Model uncertainty; Some variables' data was limited, outdated or varied between sources. Estimation was necessary and is generally conservative. Full explanation of methodology and its uncertainty is available in the supplementary report.

4 Partnership Working

4.1 Mobilisation of resources

4.1.1 Project income

Introduction

This indicates the utilisation of income, as a component of progress in achieving agreed milestones for project outcomes.

Methodology

Data is collected from expenditure figures, as detailed in Quarterly Progress Reports, and from profiles of expenditure and forecasted expenditure, as submitted with NIA Claim Forms.

The finances of the project are managed by the River Nene Regional Park on behalf of the NIA partnership.

Findings & Interpretation

The actual spend in 2012-13 was higher than originally agreed, but the increased spend was approved during the course of the year. The expenditure in Q2 was lower than planned because of recruitment delays. The expenditure in Q3 and Q4 was then higher as more money was invested in staff time to catch up after the earlier delays in delivery. Despite the discrepancies between quarters project expenditure was more or less equal to that projected in year 2. The overall grant was increased slightly to cover the Best Practice event activities. In year 3, spending was slightly reduced to reflect the agreed increases in year 1, however, milestones were met and the overall project expenditure was very close to that originally budgeted.

Table 17: Projected and actual spend

	2012-13*			2013-14			2014-15		
	Projected	**Actual**	**Balance**	**Projected**	**Actual**	**Balance**	**Projected**	**Actual**	**Balance**
Q1	£9,006	£9,006		£55,865	£50,580			£53,307	
Q2	£46,386	£23,331		£63,331	£82,409			£54,255	
Q3	£43,686	£64,784		£86,081	£64,554			£54,850	
Q4	£43,384	£69,379		£81,804	£90,616			£98,501	
Whole Year	£142,462	£166,500		£287,082	£288,159		£284,925	£260,913	
Total Project Budget	**£712,311**	**£166,500**	**£545,811**	**£714,469**	**£288,159**	**£259,810**	**£714,419**	**£260,913**	**-£1,103**

*Yr1 projected total amended to £166,500

4.1.2 Financial value of help in-kind

Introduction

This indicates the financial value of actual and projected help-in-kind, as a component of progress in achieving agreed milestones for project outcomes.

Methodology

The projected value of help in kind can be found in Table 1 of Schedule 3 of the NIA contract and in the NIA Business Plan. The actual value of help in kind is reported in the Quarterly Progress Reports. Any help in-kind that contributes towards the aims of the NIA is included. Funding that is secured for a project in the NIA is recorded in the year in which the grant is approved, and the total value of the grant is recorded at this time. Many grants will actually be spent over the course of more than one year.

Findings & Interpretation

The actual value of help in-kind hugely exceeded our projection in 2012-13.

In-kind contributions have varied from staff time in-kind from partner organisations in delivering the objectives of the NIA to large funding bids to deliver NIA related projects in the Nene Valley. One particularly large source of match funding was for the 'Living Nene' project, to purchase and restore Irthlingborough Lakes and Meadows, and engage with the local community. This attracted over £1 million of funding from HLF, SITA, and a public appeal.

The in-kind figure for 2013-14 is lower than anticipated due to a change in the way that the in-kind contribution is calculated. Previously we were including all activities in the Nene Valley that contribute towards the overall high-level objectives of the NIA. Since M&E workshops earlier in the year, we are now only counting the in-kind contributions that are directly related to delivery of the NIA. This is the same situation for the 2014-15 figures. Despite this we have attracted nearly £3 million in-kind contributions to the project, which is similar to that projected at the start of the project,

Table 18: Financial value of help in-kind

	2012-13		2013-14		2014-15	
	Projected	**Actual**	**Projected**	**Actual**	**Projected**	**Actual**
Financial value of help in-kind (inc. vols)	£1,082,061.00	£2,006,402.00	£1,083,225.00	£442,274.00	£1,056.751.00	£536.194.20

Totals	**Actual**	£2,984,870.20
	Projected	£3,219,037.00

4.2 Efficient and effective delivery

4.2.1 Assessment of partnership working

Introduction

The indicator looks at the effectiveness of the NIA partnership in delivering its intended outcomes.

Methodology

A questionnaire was circulated to all of the NIA project board members and key staff in the project. Responses were received from a small selection of partners each year. The questionnaire that was used for this assessment was derived from the Partnership Self-Assessment Toolkit from the Leeds Initiative Partnership/East Leeds Primary Care Trust. The questionnaire has been uploaded to the Huddle. There are 16 questions relating to foundation, the partners, communication and involvement, and measuring and reviewing success.

Findings & Interpretation

Overall, the assessment of partnership working was favourable, with only a few areas in need of minor improvement. In some cases there may not be a need for improvement but better clarity in the function of the partnership. Assessment of the partnership improved each year with a score of 44 out of 48 recorded in 2014/15.

Mechanisms for improving the partnership's performance were incorporated into the next year of partnership working. Areas in need of improvement, that were addressed through the process were:

1. (B1) Does the partnership take into account the different cultures of partners? (2012/13)
2. (D4) Are the partnership arrangements regularly reviewed? (2012/13)

Areas for improvement at the end of the process were:

3. (B2) Is there commitment to the partnership at an appropriately senior level? (2014/15)
4. (C1) Are the partnership meetings effective? (some meetings are too long) (2014/15)
5. (C3) Is information about the work and achievements of the partnership communicated to people outside it? (2012/13, 2013/14 & 2014/15)
6. (C4) Is there effective user or public involvement? (2012/13, 2013/14 & 2014/15)
7. (D3) Is there an end point when the partnership's work is likely to be complete? (2014/15)

Table 19: Partnership assessment

	Average (max. 48)			
	Baseline	**2012-13**	**2013-14**	**2014-15**
Partnership assessment	0	40.8	43.7	44.2

4.3 Leadership and Influence

4.3.1 Audience reach

Introduction

The intention of this indicator is to estimate the number of individuals that is reached annually by the NIA partnership through the media and internet.

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.

Methodology

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.

A record is kept of publications that run a story about the NIA. Wherever possible, readership figures have been sought for the publications. In some cases e.g. radio shows it is very difficult to estimate how many people were listening during the relevant part of a radio show. For this reason radio and television are recorded by number of programmes featuring the NIA rather than the number of individuals reached.

Findings & Interpretation

The Nene Valley NIA website was not established until half way through the first year of the NIA, but still attracted a significant number of visits. Some of these will be from project staff and partners.

2012/13; Since the NIA website was developed in late 2012 we have been impressed by the number of times that the website has visited, reaching over 9,500 by the end of March 2013. The website has been a useful tool for dissemination of information, advertising of events and volunteering opportunities, and presenting an image of what is special about the Nene Valley. Local publications including Nene Valley News and the Northampton Chronicle and Echo have been keen to track the progress of the NIA. Partner organisations have also actively been spreading the message about the NIA and what it is achieving for the

Nene Valley's wildlife and people. BBC Radio Northampton broadcast 2 live interviews with NIA project board members on the day of the Annual Forum event.

2013/14;The NIA website had a period during 2014 when it was down due to issues with our hosting provider. Only a partial version of the site could be restored. This may partly explain the lower number of hits in 2013-14. One radio interview was carried out about a river restoration project.

2014/15; The main means of disseminating information in year 3 was via local Radio (6 interviews) and the newly launched website. A good relationship was established with BBC Radio Northampton. A very successful photo competition was run in August 2014 to promote the website. Also, there was a story about the Nene Valley NIA in the Sunday Times, which has a massive national circulation.

The audience reach is under-estimated because partners may have not reported every occasion on which they publicised the NIA. Talks incorporating the NIA especially are likely to have been missed, and while these don't reach many people, they do provide a higher level of engagement. Readership figures were not provided by some publications, and visits to partner's website pages featuring the NIA were not included.

Table 20: Audience reach

Media	Unit	Baseline	2012-13	2013-14	2014-15
NIA Project's Website	Visits	0	9541	4393	26247
NIA project articles	People	0	117968	119120	937984
Radio or television programme	Programmes	0	2	1	6