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Northamptonshire ACRE's 75th Anniversary
Elaine O'Leary
Wednesday 28th July 2021
Natural capital, green infrastructure and local plans

What is natural capital?

Definition

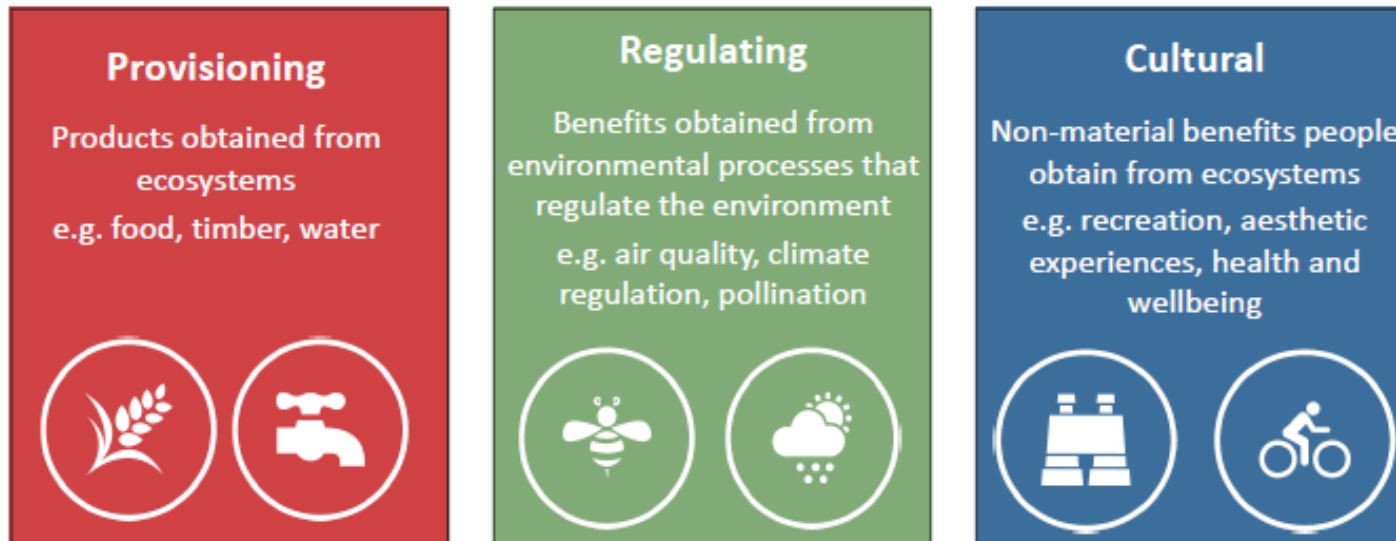The UK Natural Capital Committee 2014 defined Natural Capital as:

"..elements of nature that directly or indirectly produce value or benefits to people, including ecosystems, species, freshwater, land, minerals, the air and oceans, as well as natural processes and functions"

▶ It is a way of thinking about nature as a stock that provides a flow of benefits to people and the economy. It consists of natural capital assets – such as water, forests and clean air.

▶ The goods and services that natural capital provides – such as foods, water, or climate regulation – are called ecosystem services. These provide people everywhere with the means for healthy lives and underpin all economic activity.

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Why consider it?

▶ Organisations across sectors face challenges associated with environmental, social and economic change and need to adapt, manage risks and adopt resilient and sustainable practices.

▶ In doing this it will be necessary to understand how to enhance their natural capital assets, and the ecosystem services that the assets deliver, whilst reducing the impact they have on them.

▶ The natural capital produces a wide range of ecosystem services that provide benefits to people.

Provisioning	Regulating	Cultural
Products obtained from ecosystems e.g. food, timber, water	Benefits obtained from environmental processes that regulate the environment e.g. air quality, climate regulation, pollination	Non-material benefits people obtain from ecosystems e.g. recreation, aesthetic experiences, health and wellbeing

Courtesy of Dr Jim Roquette, Natural Capital Solutions
NCEA Pilot: Neighbourhood and Parish Plans

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Why consider it?

There needs to be a greater socialisation/normalisation of the concept of Natural Capital so that those organisations and their team members operating at a strategic scale (and at other scales) understand what it really means and what benefits it brings to their work.

A key finding from this study is that this is more likely to be achieved if the Natural Capital approach is pitched as an evolutionary transition from the Green Infrastructure approach (an already widely used and well understood concept) that builds on and enhances existing Green Infrastructure policies.

Applying a Natural Capital approach and data to planning policy and the growth agenda in the Oxford to Cambridge Arc – summary of how to apply the approach.

Greenspaces and place-making

- Quality green spaces deliver a range of benefits that have real value to society, create community well-being, and enhance liveability and sense of place.

- A comprehensive assessment of natural capital and the benefits that it provides (the ecosystem services) enables planners and developers to deliver high quality and sustainable places that are highly valued by society.

- Covid 19 has highlighted the importance of local green spaces that provide multiple benefits.

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Courtesy of Dr Jim Roquette, Natural Capital Solutions
NCEA Pilot: Neighbourhood and Parish Plans

Applying a Natural Capital approach and data to planning policy

It started with the OxCam Local Natural Capital Plan

- Oxford-Cambridge Arc: area between Oxford, Milton Keynes and Cambridge.

- Formed of five ceremonial counties: Oxfordshire, Bedfordshire, Buckinghamshire, Northamptonshire and Cambridgeshire.

- Supports over two million jobs, adds over £110 billion to the economy every year and houses one of the fastest growing economies in England.

- Areas of focus:
  - Economy
  - Place-making
  - Connectivity and infrastructure
  - Environment

- As part of Defra Group led project the Local Natural Capital Plan developed under the Environment pillar.

- Aim is to support the **delivery of environmental protection and enhancement** as part of the planned growth and investment within the Arc.

Local Natural Capital Plan for the Oxford to Cambridge Arc

5 counties

31 local and combined authorities

8.6% of England's land area

3.7 million people

76% of the Arc's land is farmland

£2.3 billion annual asset value of natural capital

£757 million annual value of agricultural production

£689 million annual avoided healthcare costs due to natural assets

Natural Capital approach pilot

▶ Took place from October 2020 to March 2021

▶ Using Defra's Natural Capital and Ecosystem Assessment fund, commissioned a study to:

- ❑ Identify the difference(s) applying a Natural Capital Approach can make to policy making?

- ❑ Investigate how a Natural Capital and Ecosystems Services (NCES) evidence base has been applied to planning policy making, focussing on the OxCam Arc

- ❑ Identify what could be put in place to allow a Natural Capital approach to be taken forward more widely in the future?

- ❑ To test the use of NCES data in the creation of planning policy

▶ Looked at 5 distinct work packages:

- ❑ Strategic / Arc Level

- ❑ County/ Local Authority

- ❑ Neighbourhood Plan level

- ❑ Masterplan Level

- ❑ Review of the 'Planning for the Future' white paper

▶ Neighbourhood Plan pilot in Northamptonshire

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Northants Neighbourhood Plan pilot

▶ Ran 3 workshops with 7 parishes

- ❑ Workshop 1 explained natural capital

- ❑ And looked at understanding planning requirements at local level

- ❑ Workshop 2 looked at use of maps to develop evidence for NPs and data for accompanying leaflet

- ❑ Workshop 3 included suggestions for improvement of maps and finalising of leaflet

▶ Series of natural capital data maps produced for each parish

- ❑ Data by Natural Capital Solutions

- ❑ Maps by Northants Biodiversity Records Centre

▶ Total of 25 maps for each parish including basemap

Mapping ecosystem services

The following ecosystem services have been mapped and assessed:

1. Carbon storage
2. Carbon sequestration
3. Air quality regulation
4. Noise regulation
5. Local climate regulation
6. Water flow regulation
7. Water quality regulation
8. Food production
9. Timber/woodfuel production
10. Accessible nature

Maps show current capacity (supply), and (where possible) demand for ecosystem services

Courtesy of Dr Jim Roquette, Natural Capital Solutions
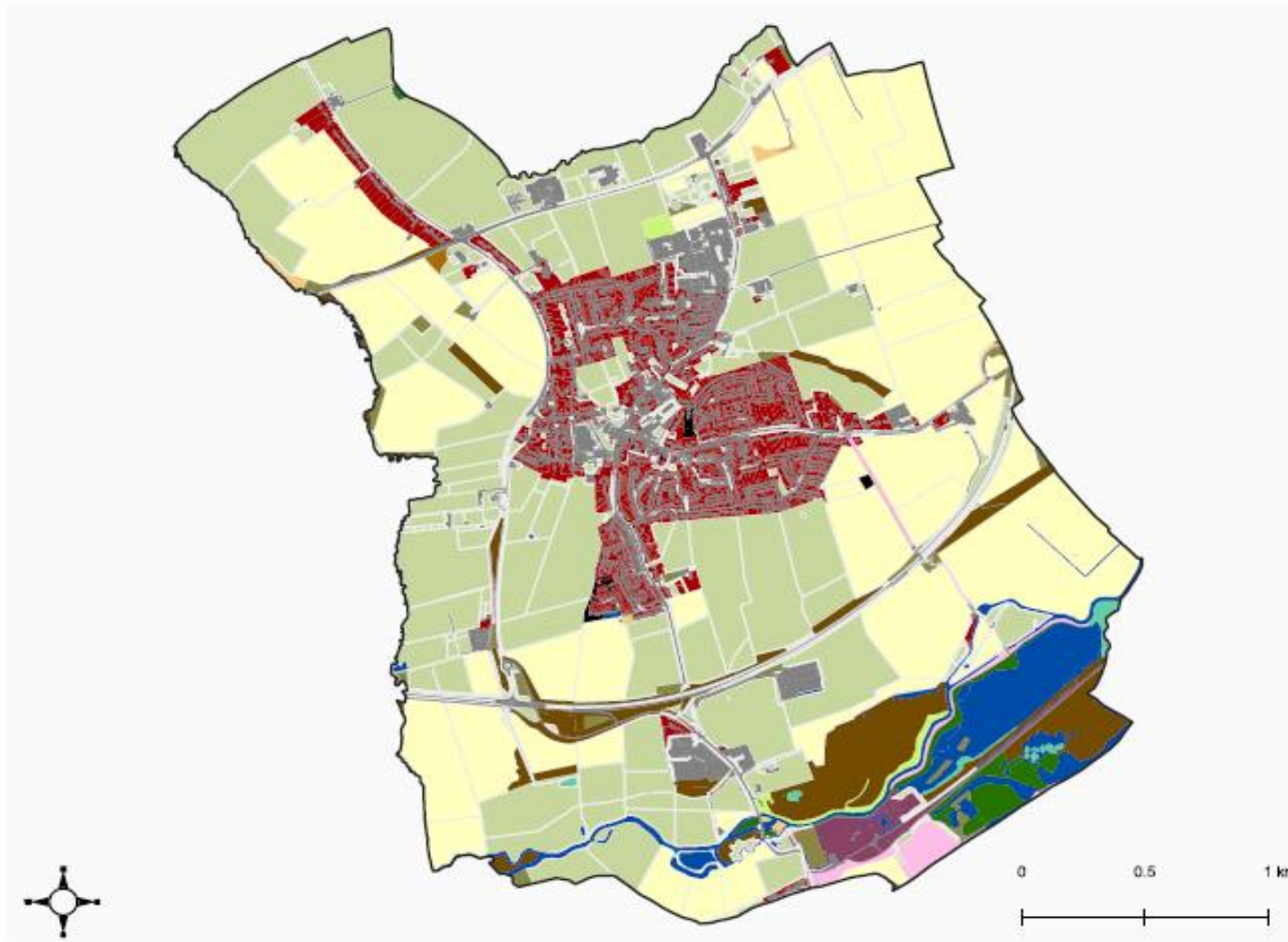**NCEA Pilot: Neighbourhood and Parish Plans**

Natural capital assets

- Habitat basemap produced based on MasterMap polygons (most detailed maps available in the UK), but classified using multiple data sources with much additional data associated with each polygon

- Habitats classified into detailed habitat types and broader groupings

Broad habitat	% Cover
Arable land	56.30
Uncertain agriculture	1.21
Grassland, improved and amenity	14.06
Grassland, semi-natural and marshy	1.98
Heathland and mire	0.06
Scrub	0.26
Trees / Parkland	1.90
Woodland, broadleaved	5.65
Woodland, coniferous	1.04
Woodland, mixed	0.40
Hedgerows	0.39
Water	1.31
Built up areas	4.60
Infrastructure	3.49
Gardens	5.55
Unclassified (under development)	0.59
Mixed / other / uncertain	1.20

Courtesy of Dr Jim Roquette, Natural Capital Solutions
NCEA Pilot: Neighbourhood and Parish Plans

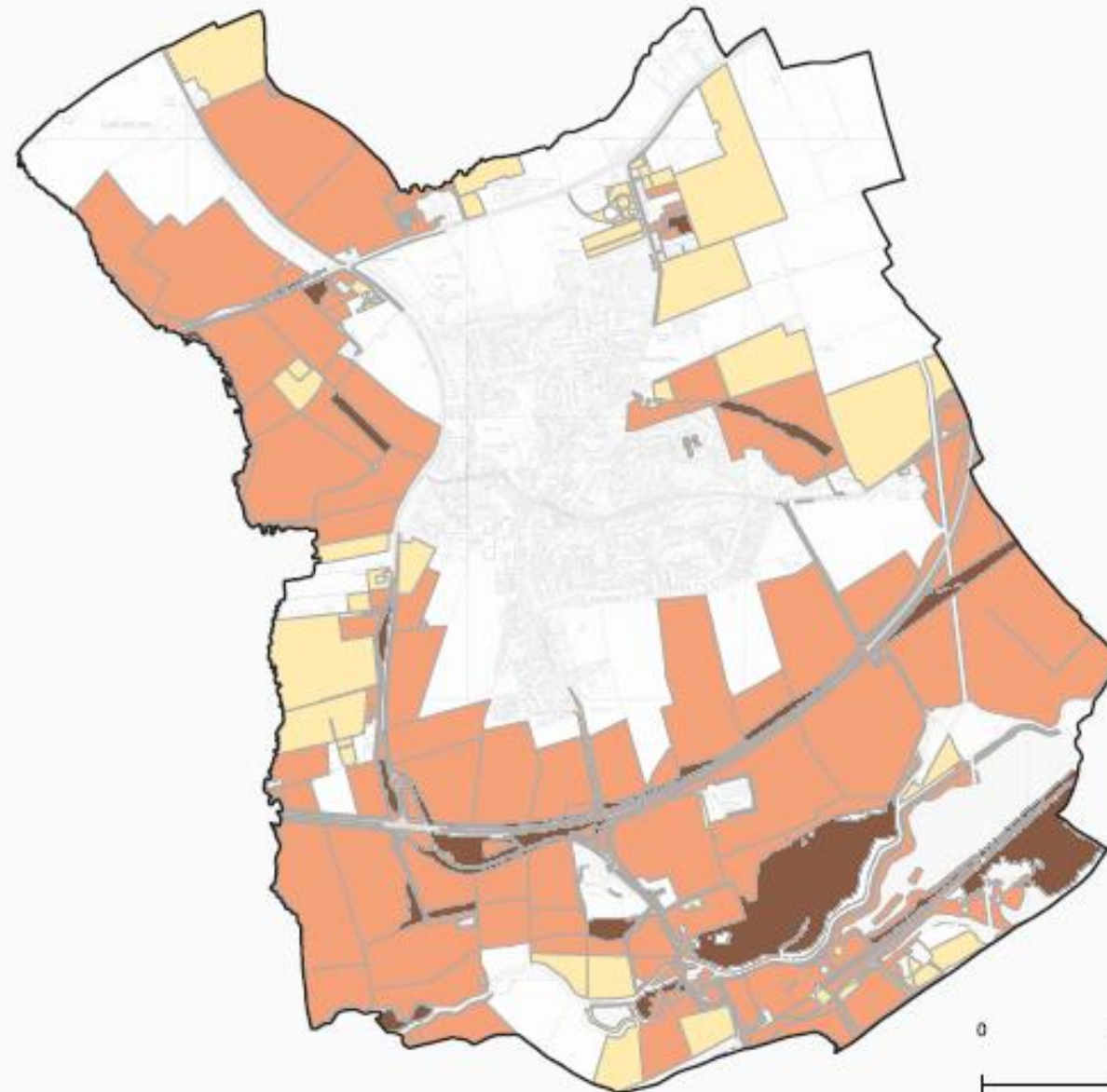# Natural capital basemap for Earls Barton

Natural capital basemap

Legend

- Broadleaved woodland
- Mixed woodland
- Scrub
- Trees / Parkland
- Improved grassland
- Semi-natural grassland
- Cultivated / disturbed land
- Uncertain agriculture
- Garden
- Marshy grassland
- Rock, exposure and waste
- Water
- Built-up areas and infrastructure
- Mixed / other / uncertain
- Unclassified

0   0.5   1 km

Biodiversity Opportunity map (Broadleaved woodland opportunity zones)

Shows core (existing habitat), buffer and stepping stone opportunities

Legend

Buffer

Core

Stepping stone

0   0.5   1 km

© Natural Capital Solutions Ltd: Created in 2018 (last updated 2020) using OS MasterMap topography (2017); Wildlife Trust for Bedfordshire, Cambridgeshire and Northamptonshire / Northamptonshire Biodiversity Records Centre BAP Habitat (2017); Natural England Priority Habitats Inventory; Open Space data sets from each local council authority (9); Centre for Ecology and Hydrology (CEH) Land Cover Map (2007); Corine European habitats data; Built-up Area Boundaries data; Ancient Woodland Inventory data.
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Natural Capital Solutions

NBRC

Why might Parishes be interested?

▶ Strong evidence based approach – Neighbourhood Plans. Natural Capital maps can assist with this to help achieve sustainable development:

❑ What must a qualifying body do to demonstrate that a draft neighbourhood plan or Order contributes to sustainable development?

A qualifying body should demonstrate how its plan or Order will contribute to improvements in environmental, economic and social conditions or that consideration has been given to how any potential adverse effects arising from the proposals may be prevented, reduced or offset (referred to as mitigation measures).
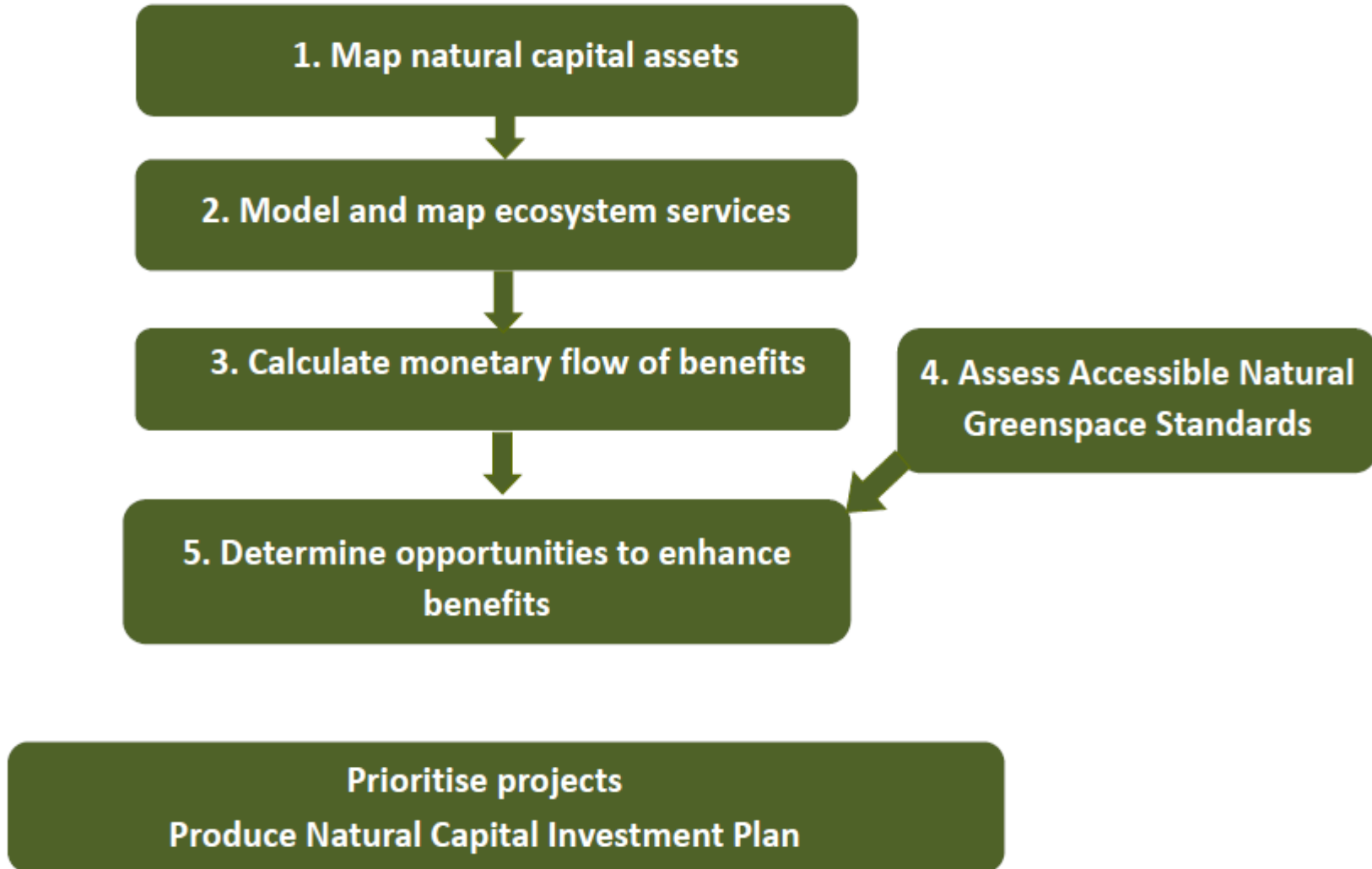
Why should Parishes be interested?

▶ Biodiversity, climate change, conservation is high on many people's agenda

▶ NC can identify positive development for community benefit

▶ And provide evidence for discussion especially with the community

▶ Useful for identifying possible green corridors – joined up thinking/partnerships

▶ Asset when reviewing an existing Plan

▶ Can offer evidence to ensure future needs better met through planning process

▶ Good base for further work e.g. Green Infrastructure Plan, Community Resilience Plan

▶ Could evidence benefits that encourage landowners to be involved

▶ But many Parishes lack the expertise, the evidence or the resources on their own

Natural Capital assessment to NCIP

Current situation

▶ Northants pilot group produced report

  ❑ Includes further suggested amendments to maps

  ❑ Recommendation of an accompanying leaflet

▶ Incorporated as part of overarching OxCam project report

▶ Currently with DEFRA for consideration

▶ NCEA report published:

https://www.oxcamlncp.org/delivering-and-embedding

Green Infrastructure Plan

▶ Another option is a Green Infrastructure Plan

"a network of green space, urban and rural, which is capable of delivering a wide range of environmental and quality of life benefits for local communities".

The National Planning Policy Framework 2012

▶ The benefits of green infrastructure are:

❑ reducing flood risk and improving air & water quality

❑ mitigating the causes and impacts of climate change such as global warming

❑ living spaces for communities

❑ productive landscapes for growing food

❑ recreation, and proven benefits for health and wellbeing

❑ provides areas for wildlife to thrive

❑ opportunities for enjoyment of culture, heritage and landscape

▶ A Green Infrastructure Plan can act as a 'stand-alone' document, but can also inform a Neighbourhood Plan through policy recommendations, Local Green Space designation recommendations, identifying projects and providing spatial information.

Useful sites:

https://www.naturalcapitalsolutions.co.uk/

https://www.northantsbrc.org.uk/

Silsoe Green Infrastructure Plan: https://irp-cdn.multiscreensite.com/49aaa4c1/files/uploaded/SilsoeGIplan_FinalConsultationDraft_May2018.doc.pdf

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