Applying a Natural Capital approach and data to planning policy and the growth agenda in the Oxford to Cambridge Arc

Summary of how you can apply the approach

Introduction

As part of the Oxford to Cambridge (OxCam) Local Natural Capital Plan (LNCP) project we commissioned a study to understand how, in a practical way, a Natural Capital approach and data could be used to influence planning and growth policies at different scales. Set out below are the key findings from this work, with the full report available to view on our website www.oxcamlncp.org.uk.

Strategic / OxCam Arc Level

How a Natural Capital approach and data could be applied and the benefits of this

It is primarily through the provision of a detailed, shareable, up to date, and cross boundary evidence base (which includes opportunity mapping) that a Natural Capital approach and data is able to influence, guide and support policy making and planning at a strategic level. This is because an evidence base such as this:

- Provides a baseline for the current state of the natural environment which shows where high value areas are
- Supports the identification of where investment in Natural Capital should be made on a strategic scale
- Helps to direct planning for environmental protection areas and locations for offsetting

Utilising this approach and strategic scale data would also assist with the Government's requirements for Local Authorities to engage in cross boundary discussion on strategic matters.

This evidence base can also be linked with other areas of strategic planning, such as for transport planning and major infrastructure development, as the data will help to support more joined up and informed decision making. For example Natural Capital and Ecosystem Service data would provide additional environmental data that would enable a better comparison of route options to be made.

The Natural Capital approach also provides a mechanism for a value (both monetary and non-monetary) to be assigned to the natural environment which allows for a direct comparison to be made of the environment with other strategic themes and priorities which will have an influence on plan making and decision taking at a strategic level. This is because you will have a clearer sense of the wider benefits (including economic) that the environment brings, which will enable it to be considered alongside all of the other factors when making a decision.

This approach and data can also be used to support future requirements to deliver Biodiversity and Environmental Net Gains at a strategic scale as it will provide the information and approach needed to allow decisions to be made that consider and value the whole range of Natural Capital themes, assets and Ecosystem Services. In addition, although not specifically investigated by this study, Natural Capital data could be used to enhance the information gathering work that will take place as part of the development of Local Nature Recovery Strategies and Nature Recovery Networks.

Taking a Natural Capital approach and developing an evidence base is also essential for the development of a strategic scale Natural Capital investment plan, environment fund or other mechanism for securing the long-term, sustainable funding of the natural environment. It provides a detailed study of the Natural Capital assets and the Ecosystem Services they provide, the ability to quantify the value of these assets and services in terms of money or otherwise, and allows these to be aligned with multiple environmental and social benefits.

Finally the use of a Natural Capital approach at a strategic level ensures that environmental attributes are considered alongside regionally planned growth, including housing, employment and transport. Ecosystem Services (such as recreation, carbon sequestration or flood management) and the benefits they bring, also become an influencing part of planning processes instead of being assessed as an environmental impact as part of a separate process.

What would support further use of a Natural Capital approach and data

- The committed by the Ministry of Housing Communities & Local Government (MHCLG) to take a Natural Capital approach in their upcoming Spatial Framework will be a key way of embedding Natural Capital. This is because its establishment within the Spatial Framework will then filter down and influence its adoption and use within Local Government for their future policies and visions. To enable further use of this approach and data (as well as to encourage investment and long term funding for the environment) it is essential that support from Government bodies working within the OxCam Arc is put in place to ensure that the Natural Capital approach and data is a key component of the Spatial Framework. This in the longer term will help us meet the ambitions for a greener, cleaner and healthier OxCam Arc.

- 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.

- Finally respondents to this study felt that the development of a stronger evidence base, with greater detail and more up to date information was required. This is because there are gaps in the existing data, particularly around opportunity mapping. This is important as the evidence base helps to identify where investment should be made and the opportunity mapping provides a link between Natural Capital and investible opportunities which will help to guide policy, prioritisation and investment.

Example of Ecosystem Service Map that could be used to inform decision making at a Strategic Scale

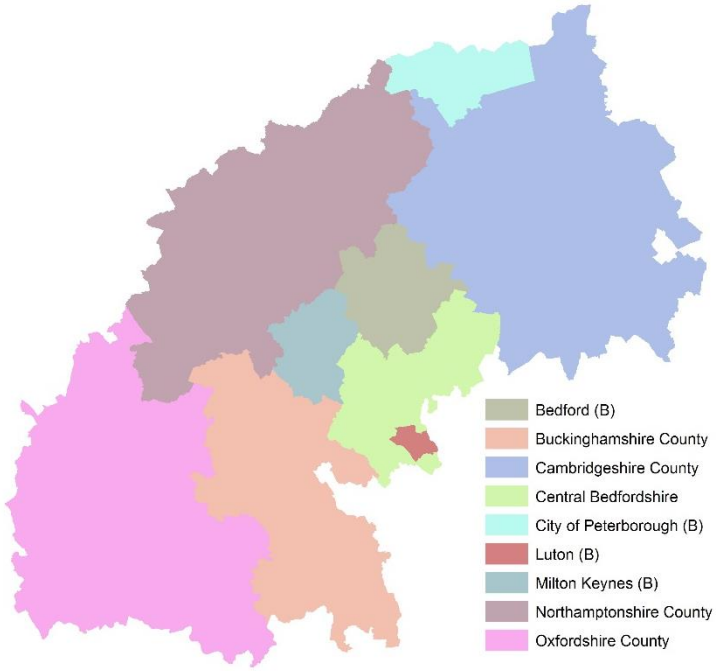
Created using data from: Ordnance Survey MasterMap; the Rural Payments Agency's CROME Crop Map; Natural England Priority Habitats Inventory; OS MasterMap Greenspace; and OS Open Greenspace.

County / Local Authority Level

Within the Local Authorities of the OxCam Arc the Natural Capital approach and data has not yet been used to influence and inform planning and growth policies – primarily due to a lack of opportunity to do this e.g. Local Plan not yet up for review. However there is a high level of momentum for this to take place and a number of Local Authorities are exploring how they can apply this approach and data in upcoming reviews of their Local Plans and wider policies

How a Natural Capital approach and data could be applied

It is through the provision of a detailed evidence base that the Natural Capital approach is able to influence policy making and plan development at the county / Local Authority level. This evidence base can be utilised in the creation of a Local or Spatial Plan as it provides a fuller picture of the environmental assets within an area and the benefits, in terms of Ecosystem Services, that these are providing.



As part of the site selection process Natural Capital and Ecosystem Service data and opportunity mapping provides additional information above and beyond that provided by Green Infrastructure mapping which already supports better and more robust decision making. In a live test it was found that this data helped with the Local Plan decision making by identifying where Natural Capital could be enhanced to allow development to take place, for example by highlighting where the benefits from tree planning and creating wildlife habitats would be maximised.

The Natural Capital approach and data can also be used to support the development of new Natural Capital policies or the enhancement of existing local policies on biodiversity and the environment. These Natural Capital policies could provide clearer protection of undesignated green/blue infrastructure networks, as well as identifying areas for enhancement because the mapping provides a broader scope than Green Infrastructure mapping as it factors in the wider landscape and other Ecosystem Services. These policies can also provide a more rounded view than traditional biodiversity and environmental polices because the Natural Capital approach assesses wider benefits such as recreation and climate change. This will allow further integrated into other aspects of planning policy.

Although there is no current legal requirement for a Natural Capital policy, there is likely to be a future requirement for Environment Net Gain, as indicated by its inclusion in the Government's 25 Year Environment Plan. This would give an opportunity to include a Natural Capital Policy in a Local Plan because the 25 Year Environment Plan talks about net environment gain being developed from net biodiversity gain by expanding the approach to biodiversity to include wider natural capital benefits. In the live test conducted for this study it was found by the Local Authority Planners involved that the Local Plan's existing biodiversity policy could be altered to one that is focused on Environment Net Gain – with a requirement for a 10% Biodiversity Net Gain plus a 5% Natural Capital Net Gain. This 5% target was seen by these Planners as an effective way to embed the principle but was modest enough to be straightforward to achieve and demonstrate.

This approach can also support existing Local Plans and strategies and in North Northamptonshire work is currently being undertaken to create a Supplementary Planning Document that will support the delivery of Natural Capital Net Gain on development sites by providing consistent guidance on where this should be delivered and what form it should take.

Of the Local Authorities involved in this study a number felt that this approach and data could also be utilised for mineral site selections by providing additional information that would help select the best sites for extraction. In addition this approach and data could be used to inform the restoration planning for these sites once their use as a minerals site had concluded.

An ambition going forwards would also be to use the Natural Capital approach and data as part of work to identify locations for growth, with the additional environmental data it provides helping with work to compare options, assess site allocations and to support ongoing monitoring. As part of this Natural Capital data could be used to identify key areas for environmental protection and enhancement and assist in the comparison of benefits from onsite versus offsite Biodiversity Net Gain offsetting work.

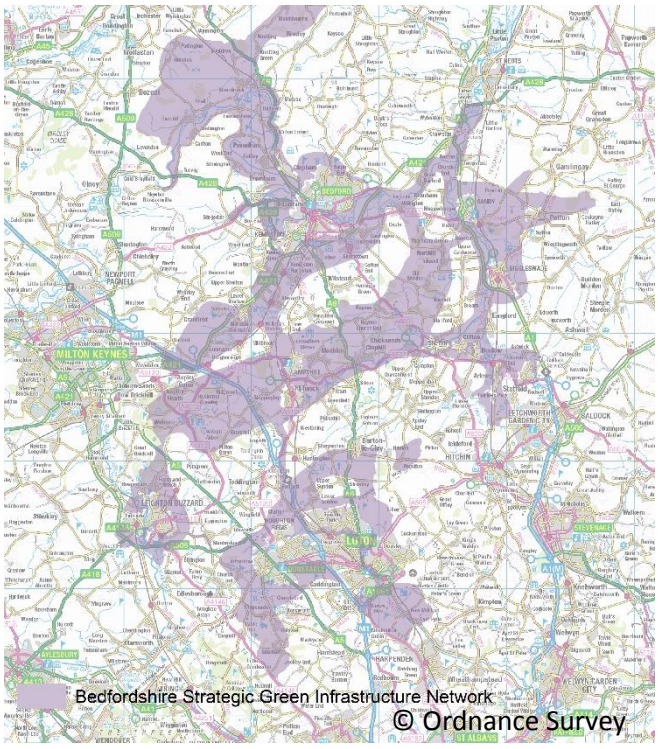
Finally the data should be used to provide a baseline with which to measure proposed Biodiversity/Environmental Net Gains against to ensure that any development does provide a real improvement in biodiversity and the environment.

What would support further use of a Natural Capital approach and data

- This study has identified that a number of Local Authorities would be interested in conducting a live test of the Natural Capital approach, and would also like training, user guidance and professional support on how to take this approach (including how you use, interpret and access Natural Capital evidence bases). The provision of this would therefore be an effective way of encouraging a greater use of this approach and data. In particular it was suggested by respondents that these supporting materials should focus on environmental planning methodologies, and on training materials which integrate the Green Infrastructure and Natural Capital approaches.

- An open and easy to use evidence base, with shared metrics and datasets, was identified by this study (as was the case at the strategic scale) to be a potential way to ensure a greater adoption of the Natural Capital approach.

- The data that is currently available also needs to be strengthened so that it will stand up to challenge and scrutiny when tested as part of the planning application process. Current Natural Capital and Ecosystem Services datasets do not include local input or ground truthing and may not include quality and condition factors. This then leaves the data open to misinterpretation and does not provide a full picture of the existing state of the environment. If the existing data can be enhanced to address these issues (or it is made clear which scale the data is most appropriate for) then it has a greater potential for use in the development of plans and policies at a more local level.



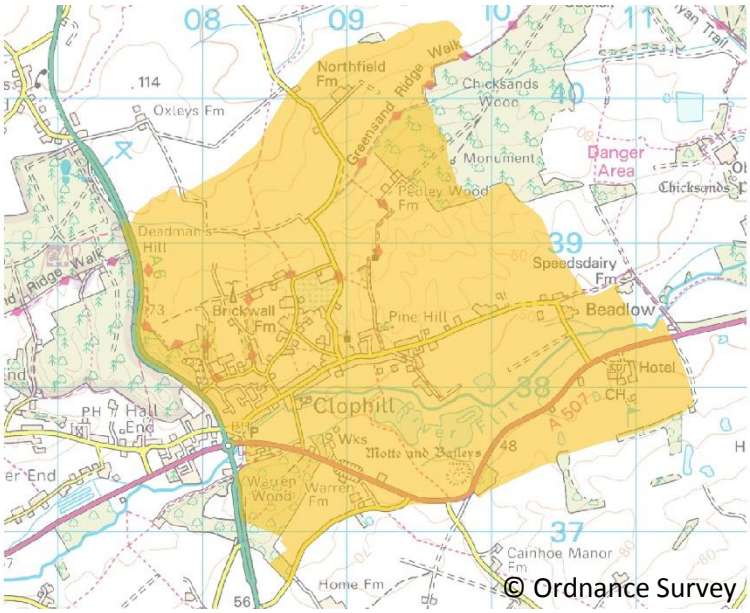
Natural Capital can be seen and approached, as an evolution of Green Infrastructure

Neighbourhood Plan Level

To investigate how a Natural Capital approach and data could be applied to Neighbourhood Planning a number of live tests took place with parish groups who were in the process of completing their Neighbourhood Plans. From this work it was found that the Natural Capital Approach and data would definitely help to make Neighbourhood Plans more robust because of the accepted and detailed evidence base and systematic approach that it provides. In particular it was found that there are four main elements of a Neighbourhood Plan that the Natural Capital approach and data supports

How a Natural Capital approach and data could be applied

Site allocation: The Natural Capital approach and data can be used to enhance the process of site allocation within a Neighbourhood Plan. Firstly by highlighting areas of high Ecosystem Services demand this data can be used alongside other mechanisms to identify the potential constraints a site may have (E.g. designated sites). After constraints have been applied, the data around benefits can be used to compare sites against each other. For example one site may be better suited to provide tree planting to ameliorate poor air quality or noise pollution. Finally once the preferred sites have been identified Natural Capital evidence can support the town or parish council in identifying and targeting the environmental improvements that will meet local needs, as opposed to leaving it to the developer to decide at planning application stage.



Cobhill Neighbourhood Plan Area, which has a GI plan

Policies: Secondly this approach and data supports the strengthening of policies relating to land use. The Ecosystem Services data/maps are able to show where certain services are most provisioned/needed which will support the inclusion of related policies. For example in one of the parishes that took part in this study they have a policy around mitigating the visual and audible intrusion of major roads. The Ecosystem Services maps provide evidence of the noise impact that the major roads are having, and the lack of existing capacity in the environment to regulate this. This data therefore supports the case for the inclusion of this noise policy within the Neighbourhood Plan.

Local Green Space: Thirdly this approach can be used to strengthen the case for the designation of Local Green Spaces as the Natural Capital data adds value to the existing methodologies used for this process. In a live test, 19 potential Local Green Space sites were assessed and 11 of these were found to be providing at least one Ecosystem Service (for example for local climate capacity, noise regulation, carbon storage and air purification) to a level described as moderate or greater. As a result it was felt that the Natural Capital approach could be used alongside other local information to further strengthen the case for the designation of sites as a Local Green Space.

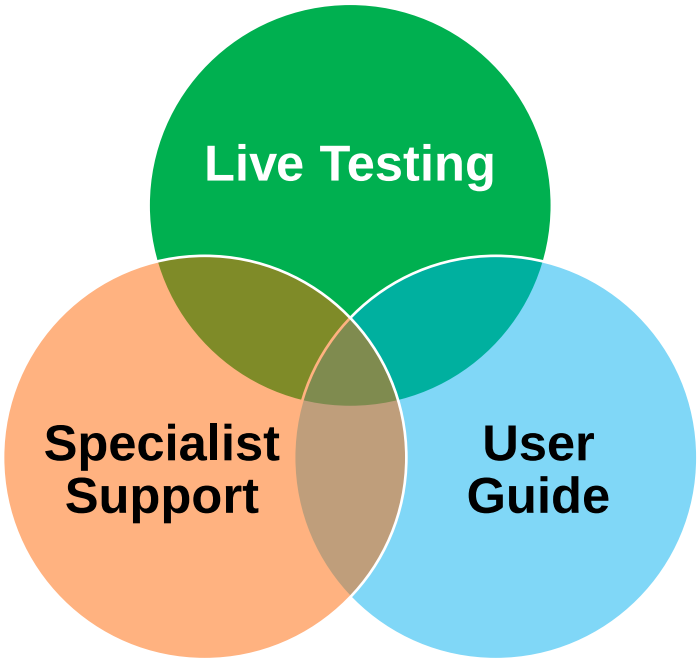
Community Aspirations: Finally the Natural Capital approach can support the identification of environmental improvements that are contained within Neighbourhood Plans as aspirations for the community. These projects lists are not a formal part of the Plans but they are an extremely valuable tool in achieving community improvements as they can guide planning applications and developer contributions arising from development. As an example the Lewes Neighbourhood Plan has a section on riverside enhancements with detailed maps showing where improvements such as enhanced recreation routes and facilities for planting are required. The Natural Capital approach is therefore ideally placed to support the

factual evidence and justification and to also identify additional projects. It could also be used to help prioritise enhancements based on the number/type of Ecosystem Services they deliver.

What would support further use of a Natural Capital approach and data

- Local Planning Authorities, Neighbourhood Plan Teams and Developer teams would be open to the opportunity to complete live testing where the Natural Capital approach is used in the development of a Neighbourhood Plan. The provision of specialists to work alongside the development of these plans to provide advice, guidance and support on how best to apply this approach would therefore be the most effective way to ensure adoption.

- In Northamptonshire local partners are currently developing a Neighbourhood Plan user guide that will support the use and interpretation of Natural Capital and Ecosystem Services data within this process. This user guide could potentially be adapted for use elsewhere to support other communities who want to take a Natural Capital approach with the development of their Neighbourhood Plan.



Masterplan Level

Respondents to the study highlighted that they felt that Natural Capital is an interesting and novel framework which has the potential to improve the design of masterplans. However requirements for Biodiversity Net Gain are seen as more pressing and this has become the major driver of ecological and landscape design. Equally it was felt that although the Natural Capital approach can have a role at the Masterplan level, the more strategic scale data that is currently available would need to be enhanced to provide a greater level of detail to support further use at this scale.

How a Natural Capital approach and data could be applied

The Natural Capital approach could add most value at the earlier stages of major developments or in smaller developments that may not have a masterplan. There was a consensus that the Natural Capital approach could benefit site design by structuring decision making in a way that ensures environmental considerations are not side lined and avoiding blind spots in existing environmental planning.

Three development site case studies were examined that had taken a Natural Capital or Green Infrastructure approach. One of these case studies focused on the work done for the Tresham Garden Village development in Northamptonshire. A Natural Capital assessment of the draft masterplan was compared to the undeveloped site, followed by a workshop to assess the findings. As part of this work Ecosystem Services were mapped (including demand mapping) and a monetary valuation was completed. This information allowed for an identification of potential shortfalls in Natural Capital provision and where improvements in site design could be made to address the main Ecosystem Services demands. This demonstrates how a Natural Capital approach and data can have a key role to play in the development of a site's design.

What would support further use of a Natural Capital approach and data

- To become more effective and more widely utilised the Natural Capital approach and datasets would need to:

    - Become more flexible in their data requirements which includes being able to work from fewer and less certain inputs
    - Be able to be fed into all stages of masterplan design
    - Be more nuanced in recognising the interplay between different classes/categories of natural capital
    - Be wiser to the constraints of local policies and subjective policies
    - Support complex decision making on inter-related environmental concerns

    Natural Capital data could be used to solve these problems if it is positioned clearly in relation to local plans and strategies and to existing datasets and data platforms. This could also be addressed by the early stage involvement of local planners, wildlife charities and environmental specialists in masterplan design.

- To allow greater use of this approach the Natural Capital mapping would need to be detailed, considering location and quality/condition and presented in a way that is robust and can be relied upon for planning determination. If county/OxCam Arc wide outputs are produced in the future which are designed to be used in a more local context then developers, Local Authorities and their consultants should be involved to ensure this information is suitable for feeding into masterplans. As part of this there is likely to be a requirement for data collection to be completed on a site by site basis.

- It was also felt that Natural Capital approaches will only be influential, at any stage of masterplan design, if they directly address and support the concerns of planning determination e.g. have planning weight or are designed to address planning consent gateways. Potentially the growing push towards Environment Net Gain would provide this impetus but currently, a lack of a hook can be an obstacle to the greater use of this approach.

Conclusion

The scale of use of the Natural Capital approach within planning and growth policies is currently limited. However our study shows there is growing interest in learning and adopting it, and there is already a self-motivated push towards the greater use of Natural Capital approaches at all levels of policy making.

Ultimately the Natural Capital approach provides additional information that will support more informed decision making that will lead to the protection and enhancement of the natural environment whilst also supporting sustainable growth.

The main ways we can support the approach being applied going forward are:

- The provision of Natural Capital specialists to work alongside the development of plans to provide advice, guidance and support on how best to apply a Natural Capital approach
- The provision of a user guide for how to use a natural capital approach at each planning scale. This should include which decisions/plan sections it will help with, what level of detail/confidence you need in the data for your purpose, and where the data is available from
- Sharing of case studies and examples of successes
- Access to evidence bases for each planning level
- Positioning of the Natural Capital approach as an evolution of Green Infrastructure where we are not discounting the existing ways of working but are instead adding to the evidence in a way that will support environmental improvement

The main way you can support the approach are by:

- Applying the Natural Capital approach at the earlier stages of site design development
- Using a policy on ‘Environmental Net Gain’ to provide a hook that would require the use of a Natural Capital approach
- Using this approach to support and provide more weight and evidence to local priorities and projects, including identifying links to other planning policies to help drive environmental improvement
- Examining Natural Capital and Ecosystem Services data to look for existing provision, lack of provision, and demand for Natural Capital and Ecosystem Services, to help you set priorities for environment improvement
- Exploring ways to utilise the Natural Capital approach to inform the development of your plans and strategies