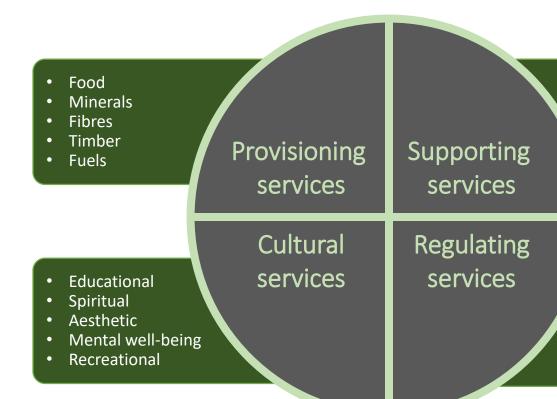


Biodiversity Net Gain



- leaves biodiversity in a better state than before. Where a development has an impact on biodiversity it encourages developers to provide an increase in appropriate natural habitat and ecological features over and above that being affected in such a way it is hoped that the current loss of biodiversity through development will be halted and ecological networks can be restored
- Environment Act will introduce mandatory
 10% target in England under TCPA



- Nutrient cycling
- Soil formation
- Genetic diversity
- Primary production
- Habitat formation

- Carbon management
- Climate regulation
- Flood regulation
- Erosion prevention
- Water purification
- Pollination

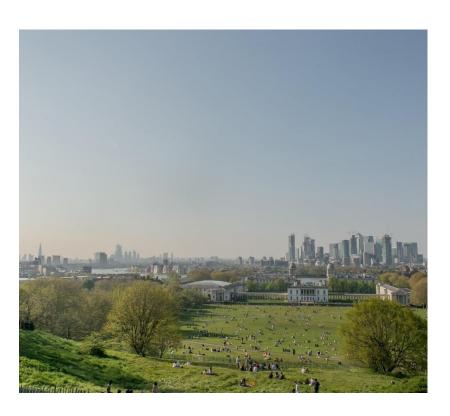


Environmental Net Gain

- Environmental net gain is an approach for improving the condition of, and ecosystems services that flow from, our natural assets in the context of development. Understanding local context and the relation between communities and the natural environment in a given area, is critical to an effective approach.
- Policy in 25 YEP in England
- Natural Capital Committee strongly recommended to Government to move from BNG to ENG
- Ecometric



Concerns regarding Environmental Net Gain



- Confusion over the difference between BNG / ENG – don't want to lose the ground made on BNG
- New metrics will both appear in early New Year
 risk of developers being overloaded in climate of planning reform
- ENG is not yet mandatory in England likely to lead to disparity in how the issue is treated regionally as different local authorities address it
- This leads to bad planning decisions (there are examples of irrational or contrary decisions by the Planning Inspectorate on BNG already)
- But mostly concern about the tradeability of different ESS



ENG – Who decides what good looks like?

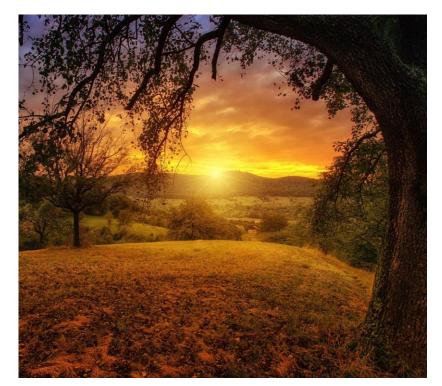
Most developments won't deliver benefits to ESS across the board – there will be winners and losers. For example, a project may deliver a biodiversity net gain, and offer fantastic opportunities for recreation, education and aesthetic enjoyment by people. It might, however, also reduce opportunities for pollinators, affect the ability to manage floods or may reduce the ability of the site to sequester carbon. Should it go ahead?

- Balance of local and more strategic priorities
- Balance of expert opinion and views of local people



Benefits of ENG

- By considering ESS we reduce the risk of perverse outcomes
- Delivery of ESS 'baked in' to development design from an early stage
- Make better use of land by 'stacking' different ESS benefits
- By building outwards from BNG, we ensure that we take a 'Biodiversity First' approach.
- Can consider context-specific benefits
- May allow better consideration of strategic or landscape scale issues



Principles for ENG



- Start by following BNG good practice principles
- Think big ecosystem function (not just playing tunes with the maths)
- Be guided by the ecology deliver the right NC benefits in the right place
- Be explicit in identifying natural capital stocks and flow of services/benefits
- Apply to all stages of decision making that affects land use planning such that long term environmental benefits are secured in the right places



Principles for ENG



- Deliver a demonstrable, evidence-based increase in natural capital assets.
- Present the individual benefits and losses not a single netted off figure
- Net gain approaches must not be seen as a means of avoiding the need to design and build developments which incorporate locally and publicly accessible greenspace
- ENG should maximise ecological gains,
 promote a coherent network of habitats, and
 provide benefit to those people most in need
 not just be put in place at the site of impact



Best Practice in the UK

- NCC How to Do It Workbook
- Defra Biodiversity Metric
- Ecosystem Knowledge Network (EKN) Tool Assessor
- Eco-metric
- Ecosystem Services Transfer Tool / Managing for Ecosystem Services Evidence Review
- Environmental Valuation Reference Inventory (EVRI)
- Environmental Values Lookup (EVL) Tool
- LEED Toolkit
- Natural Environment Valuation Online (NEVO)
- Outdoor Recreation Valuation Tool (ORVal)
- Woodland Valuation Tool

 $\textbf{See:} \ \underline{https://www.gov.uk/government/publications/enca-featured-tools-for-assessing-natural-capital-and-environmental-valuation}$



Best Practice from around the World

- Ecosystem Services Partnership.
 International community with thematic, sectoral and biome working groups
 https://www.es-partnership.org
- IUCN. Commission on Ecosystem
 Management (CEM) Guidance on different
 ESS tools
 https://portals.iucn.org/library/sites/library/files/documents/PAG-028-En.pd
- National Ecosystem Services Partnership (Duke University, US). Mapping supply and demand for specific ESS at large scale



What does this mean for professional ecologists?



- Still wading through the swamp?
- Keep up to date with developing policy area
- Significant upskilling needed on use of these tools – and we aren't done yet...
- Need to work closely with other professionals including hydrologists, coastal modellers, landscape architects and environmental economists
- This is a time of seismic shifts in environmental policy – and you have a chance to shape it.....

