

No Charge? Valuing the natural environment

This report explores and presents evidence on the economic value of a healthy natural environment in England. It aims to do so in a way that appeals to economists and non-economists alike. No new primary research was commissioned. Instead, what the report seeks to do is build an objective argument in support of investing in ecological systems by combining economic, scientific and social evidence on the benefits of a healthy natural environment.

What was done

An extensive literature review was undertaken and several workshops held with external experts to help craft a up-to-date narrative around the value of a healthy natural environment. No new primary research was undertaken or commissioned.

Results and Conclusions

Key messages

- A healthy natural environment is indispensable to current and future economic prosperity - it is a vital part of the infrastructure of a successful modern economy.
- Conserving the natural environment is an efficient and effective way to deliver a wide range of benefits to society, but because many ecosystem services are not adequately reflected in our day-to-day decisions, they are all too often ignored.
- The pace of environmental degradation is accelerating in many cases and this is jeopardising our ability to meet future challenges, such as coping with climate change and addressing concerns over food, water and energy security.
- Investing in a healthy natural environment is essential and an ecosystems approach can help tackle future challenges in a way that enhances prosperity. Innovative ecological, as well as technological, solutions have a vital role to play.

Nature is a vital part of the infrastructure of a successful modern economy

As the world recovers from the worst financial crisis since the Great Depression and begins to emerge from recession, much attention is focussed on how to further revitalise the economy, ensure financial stability and create jobs.

But restoring economic stability today must not result in further degradation of our ecological systems. A healthy natural environment is critical to a sustained long-term recovery in England and to effectively tackle the challenges that lie ahead.

A healthy natural environment has enormous economic value and is a cost-effective way to deliver a wide range of benefits to society

We depend on nature much more than we realise and we cannot truly prosper without a healthy natural environment. In the extreme, nature makes economic progress possible. It underpins everything we consume. It provides raw materials for the production process. It heavily shapes the places in which we live and work. It also has huge untapped potential and offers opportunities for future discoveries that may prove to be critical turning points in the development of our economies and societies.

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Illustrative examples of the economic value of nature include:

- The potential benefits of a UK network of Marine Conservation Zones could outweigh costs by a factor of between 7 to 40, with estimated benefits of between £7 billion and £19 billion.
- Floodplain restoration aimed at improving water quality has demonstrated benefit-cost ratios of up to 4:1.
- Many managed re-alignment projects deliver positive returns on investments of many millions of pounds.
- People who live within 500 m of accessible green space are 24 per cent more likely to meet recommended levels of physical activity. Reducing the sedentary population by just 1 per cent could reduce morbidity and mortality rates valued at £1.44 billion for the UK.
- We are losing between 2.8 and 5.8 million tonnes of CO₂ per year from the cultivation and drainage of lowland peat soils. The annual value of this loss is estimated at between £74 million and £150 million.
- Environmental Stewardship is estimated to deliver savings of 3.46 million tonnes of CO₂e per year. Without the scheme, greenhouse gas emissions from agriculture in England could be 11 per cent higher than present levels. If realised, the value of these emission reductions could be an estimated £1.25 billion (range £600 million - £1.8 billion) over the current programme period (2007-2013).

We are failing to take account of the value of nature in day-to-day decisions

Human activities in a relatively short space of time have created an unprecedented disturbance in nature. England is no exception. Over the 20th century, biodiversity loss has occurred on a scale unseen in history.

Many ecosystem services are not traded in markets. Therefore, our economic activity tends to be skewed towards services that are. Over time this has led to the conversion of much of our natural environment in England to produce greater marketable commodities (such as food, fibre and fuel) at the expense of less marketable

services (such as wildlife, water quality, flood risk management, climate regulation).

When a broader range of ecosystem services are valued and considered in decision-making, the benefits of investing in a healthy natural environment can outweigh the costs, many times over in some cases. There are many examples and case studies which strongly demonstrate this.

Clear understanding of the link between changes in ecosystems and economic performance (growth in Gross Domestic Product) is also a critical immediate need. A narrow focus on short-term economic growth perpetuates the belief that environmental investments harm competitiveness. Choosing between a healthy natural environment and economic growth is a false choice. The evidence suggests that addressing the degradation of our ecosystems is a highly effective pro-growth strategy in the long-term.

21st century problems require new 21st century solutions

Restoring economic stability and creating jobs can and must be achieved in ways that also enhance ecological stability. This will help to prepare us for the challenges that lie ahead.

Climate change, population growth and food, water and energy shortages are formidable issues on their own, but combined, they could grow into the perfect storm with each deepening the severity of the others.

A new ecosystems approach could help us overcome these challenges with our prosperity intact. A strategy of integrating new technological and ecological solutions has much potential. The evidence suggests, however, that we currently overlook many cost-effective ecological solutions to problems such as flood and coastal defence, local climate regulation and water quality.

Next steps

While there is no silver bullet to these challenges, there are a number of mutually reinforcing steps and interventions that could be progressed:

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- Deepening our understanding of the economic value of nature and natural capital and using an ecosystem services approach to better inform decision-making processes.
- Strengthening public investments in the natural environment to deliver greater efficiency and improved outcomes.
- Developing new mechanisms and institutions that enable more ecosystem services to become part of the formal economy, thereby stimulating innovation, enterprise and investment in their provision.

Natural England's Viewpoint

Natural England's viewpoint is that outlined above. This report is the technical version of the No charge? Valuing the natural environment report (NE220) launched on 14th October 2009 - URL:

www.naturalengland.org.uk/ourwork/securefuture/default.aspx

Selected references

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Further information

For the full details of the research covered by this information note see Natural England Research Report NERR032 - *No Charge? Valuing the natural environment*.

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Ecosystems, ecosystem services, ecosystems approach, economic valuation, valuing nature.