

# Introducing an Ecosystem Services Approach to Quarry Restoration

Knowledge  
Transfer  
Network

Environmental  
Sustainability

## Background

The ecosystem services approach is an emerging trend in policy, academia and land management, as seen by its inclusion in the National Planning Policy Framework, Natural Environmental White Paper and UK Sustainability Development Strategy.

Minerals quarrying can have significant impacts on natural and social environments, and subsequently extraction is highly regulated. The Mineral Products Association (trade organisation for the minerals industry) recognises that the industry would benefit from a better understanding of its relationship with ecosystem services.



The MPA works with the RSPB and Natural England on the 'Nature After Minerals' programme, to help minerals companies take a biodiversity led approach to quarry restoration. Increasing awareness of this programme amongst landowners, policymakers and the general public is seen as key to increasing high-quality land restoration which benefits local communities and wildlife.

 **Nature After Minerals**  
Working together to restore quarries for people and wildlife

## The approach

This internship aimed to provide information for the minerals products industry to enable it to evaluate and begin to develop an ESA to quarry restoration.

The six month part-time placement included onsite working in the MPA and RSPB head offices, visits to quarry sites and minerals company offices, and inclusion in environmental working committee meetings. The intern received insight, experience and knowledge of quarry restoration and industry-relevant policy from host company employees and through document analysis. This understanding was then further developed through interactions with Cranfield University land management specialists, and through ecosystem services approach literature.



**Results**

Findings included the *types* of ecosystem services that restored quarries can (potentially) generate, associated public *benefits*, and ways of *valuing* these. Business opportunities and threats were considered in relation to ecosystem service trends. A key issue for the minerals industry to address is the lack of formal reporting and centralised recording of habitats created through restoration.

**Impacts**

Internship outputs were consolidated into an eighty page report (for minerals companies, minerals planning authorities, NGOs and policymakers) which outlined and provided practical guidance for how to introduce an ecosystem services into quarry restoration. The MPA is currently developing a database to enable quantification of UK priority habitat creation through quarry management and restoration, and is considering how best to take the ecosystem services approach forward. Report findings were disseminated via a presentation to the minerals industry Technical and Advisory Group (December 2012), and through an article in the trade journal 'Mineral Products Today' (Summer, 2013). The work was selected as subject matter for a NERC Planet Earth podcast (recorded July, 2013) due for broadcast to over 200,000 listeners. A joint workshop with the EU funded 'Restore' project and an academic paper (aimed at a high impact planning/ policy journal) are planned for late 2013.

**Recommendations made to industry sponsors**

1. Develop a 'habitat creation' database to enable future ecosystem services (ES) value transfer studies
2. Develop an ES classification and appraisal guide to allow rapid assessment in minerals contexts
3. Integrate ES into planning applications to identify local ES priorities, enhance stakeholder engagement, and set-up Payments for Ecosystem Services (PES) schemes
4. Undertake a full assessment of potential market opportunities and risks
5. Develop links to other ESA programmes and databases such as RESTORE, UK NEA, BESS, TESSA, AIRES, or InVEST

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