

Biodiversity net gain. Good practice principles for development

Case studies

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4 Major road maintenance on the A338 (Bournemouth Spur Road)

Details

Organisations	Dorset Local Nature Partnership, Dorset County Council, Natural England, Hanson, CGO Ecology
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4.1 PROJECT SUMMARY

The A338 major maintenance scheme comprised of the complete reconstruction of nine kilometres of the Bournemouth Spur Road.

The scheme required the reconstruction of the failed carriageway, replacement of the central barrier and the renewal of both the drain and culvert systems. The construction area included the carriageway, verge and ditch, including the area behind the ditch as far as the highway boundary fence. The road passes through, and provides linking habitat between several otherwise isolated blocks of lowland heathland.

The project resulted in each carriageway being widened by one metre, leading to a permanent loss of about 0.92 hectares of mown grass verge on land, most of which is used by the legally protected sand lizard and smooth snake.



Figure 4.1 Rare reptile sand patch creation and heathland scrub clearance adjacent to A338

4.2 ISSUES

Earlier work to the carriageway in 2010 included a capture and exclusion exercise and a European Protected Species (EPS) licence. The licence required the installation of seven kilometres of temporary reptile fencing and the capture and relocation of EPS reptiles from the works area. It was estimated that the cost of carrying out a similar licensed capture, rescue and relocation exercise (including installation of reptile fence, hand capture of reptiles from 10 kilometres of verge and preparation of 10 hectares of receptor sites) for the major maintenance scheme would cost around £1m.

“On the face of it this seemed a very extreme approach, but in reality is a very natural way to reduce the adverse impact on the various protected species, while also providing some improved habitat, saving time and money – a great result for all concerned, human and reptile!”

Mike Harries
Head of Environment and Economy, DCC



Figure 4.2 Sand Lizard

In view of the large costs and limited conservation benefits of the 2010 licensed reptile exclusion work, Dorset County Council (DCC) engaged Natural England through its discretionary advice service to seek an alternative approach. The mitigation strategy, developed in partnership with CGO Ecology and DCC natural environment team, provided a means of minimising the risks to individual EPS reptiles, ensuring enhancement of the habitats on which local populations rely, while substantially reducing the cost of the scheme.

Measures included:

- Vegetation clearance carried out in the winter and early spring, when all reptiles were below the ground surface in hibernation.
- Keeping works vehicles off the road verge.
- Removing potential breeding sites during winter.
- Removing potential winter refuge sites during summer period.
- Restoration of heathland within 50 m of the A338 by the removal of trees, scrub, bracken, rhododendron and gaultheria.
- Creation of sand patches to provide additional breeding habitat for sand lizards.
- Creation of habitat piles to provide additional reptile refugia.

“It has been an innovative, cost effective way of working with rare and protected reptiles, avoiding the need for costly fencing and delays, and resulting in many more, far reaching benefits for reptile populations and their special heathland habitat. The close collaboration between Natural England, DCC, CGO Ecology and Hanson has produced a new method of working which we are already using in other development projects; facilitating development while delivering better results for protected species and their habitats.”

James Diamond
Director of Operations, Natural England

4.3 OUTCOMES

- DCC estimate that the new approach saved about £450 000 compared to the previous methodology, representing a 45 per cent saving on the predicted budget.
- No EPS reptiles were reported harmed.
- 30 hectares of heathland was restored, including 17 hectares of pine removal.
- 113 large sand patches were created.
- Habitat piles/reptile refuges were created regularly along 17 kilometres of road verge.
- Stock proof fencing was provided against Ramsdown and Sopley Common, enabling grazing of these Sites of Special Scientific Interest (SSSI) and European heathland sites.
- Prevention of road run off that was causing localised nutrient enrichment to SSSI wet heath.
- Nutrient rich top soil was removed from 16 kilometres of road verge providing a continuous ecological corridor linking key international sites. About seven kilometres of verge adjacent to SSSIs was spread with heather cuttings, the remainder reseeded with a simple grass mix.

- EPS reptile population monitoring before, during and for five years after the road scheme.
- The establishment of sparse heathland/acid grassland habitat on the road verges will substantially reduce the road verge maintenance costs.

4.4 KEY BENEFITS AND SUCCESS FACTORS

The mitigation strategy contributed to the Habitats Regulations Assessment (HRA) of the scheme by enabling a conclusion of no likely significant effects on species typical of the adjacent designated sites. The discretionary advice scheme agreement enabled close collaboration between Natural England, the developer and the main contractor which reduced costs throughout the scheme by ensuring early resolution of issues before they became problematic.

At a time when Habitats Directives are being closely scrutinised this demonstrates a new way of working, which has an undoubted winning outcome.



Figure 4.3 Spreading heather brash on the new road verge to encourage creation of heathland vegetation