

Integrating quantitative and qualitative data in assessing the cost-effectiveness of biodiversity conservation programmes

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Supplementary information A: Species and habitat objectives on which effectiveness scores are based.

All species objectives are sourced from the Species Action Framework (SAF, Scottish Natural Heritage, 2007) apart from the Corncrake objectives which were sourced from the Rural Priorities package website: (<http://www.scotland.gov.uk/Topics/farmingrural/SRDP/RuralPriorities/Packages/Corncrakes>).

All habitat objectives are taken from Scotland's Targets (drawn from Biodiversity Action Reporting System which holds target information: (<http://ukbars.defra.gov.uk/archive/default.asp>)).

Some of the objectives have been edited from the original source for use when interviewing the participants. The objectives presented here are how they were presented to participants.

Species	SAF objectives for species
Black Grouse	To maintain the population of black grouse (at least to its 1996 level) and work towards the longer term aim of increasing the population. To restore the range of black grouse to its 1991 extent by 2011 and work towards the longer term aim of increasing the range. To promote recolonisation of formerly occupied areas between currently isolated populations.
Capercaillie	To increase the population of capercaillie in Scotland to 5,000 birds by 2010. To stabilize and where possible increase the range of capercaillie.
Hen Harrier	To develop our understanding of the constraints on hen harrier numbers and breeding success, and the land use and management measures needed to sustain hen harriers across Scotland. To devise and put in place management and conservation measures to improve the conservation status of hen harriers.
Sea Eagle	To translocate white-tailed eagles to an east coast Scottish site. To ensure the current west coast population is viable and self-sustaining.
Corncrake	Maintain or increase the Corncrake population within its current range. Encourage Corncrakes to expand their range into suitable areas nearby.
Red squirrel and Grey squirrel	To maintain populations of red squirrels across their current range in Scotland. To reduce the threat from grey squirrels.
Great Crested Newt	To increase the number of occupied recorded breeding ponds from 100 to 150, and ensure new ponds are created as components of pond clusters. To improve/restore the quality of 20 current breeding ponds and surrounding habitat to ensure medium-long term viability for great crested newt populations.

Marsh fritillary butterfly	To maintain the core range of the species in Scotland. To maintain viable networks (metapopulations) within this core range, aiming at occupancy within 107 1km squares (work will also get underway to increase this figure to 117 by 2015).
Slender Scotch Burnet moth	To ensure the populations of the slender Scotch burnet are maintained on all extant sites. To increase the amount of potentially suitable habitat. To maintain and seek to enhance current metapopulation links between colonies.
Hazel Gloves Fungus	To maintain populations of this species at all current sites. To increase the extent of known populations where feasible.
Rhododendron ponticum	To eradicate it from certain Natura sites designated for EC Habitats Directive Annex I habitat 'Old sessile oakwoods with Ilex and Blechnum in the British Isles' and from adjacent land to prevent reinfestation. To raise awareness and undertake promotional work to dissuade use of this species and its hybrids in horticulture.
Water vole and American Mink	To maintain the current range of the water vole (79 occupied 10km squares in Scotland in 2005). To achieve an increase in range by 16 new occupied 10km squares in Scotland by 2010. To improve connectivity between populations by favourable habitat management (in 95 occupied 10km squares in Scotland) by 2010.

Habitat	Habitat objectives
Hedgerows	Ensure that between 2005 and 2010 hedgerows remain, on average, at least as rich in native woody species, i.e. maintain on average 2.45 native woody species per hedgerow in Scotland Achieve favourable condition of 17,038 km (35%) of hedgerows in Scotland by 2010 and of 24,340 km (50%) by 2015 Halt further decline in the condition of herbaceous hedgerow flora in Scotland by 2010, i.e. maintain on average 15.28 species in the hedgerow ground flora Achieve a net increase of 560 km in the length of hedgerows in Scotland between 2010 and 2015, i.e. increase from 48,680 km in 2010 to 49,240 km in 2015
Arable fields	Expand the area of cultivated, low-input field margins from 1,800 ha in 2005 to 2,000 ha by 2010 and 2,500 ha by 2015 Expand the area of margins providing wild bird seed to from 1,200 ha in 2005 to 1,500 ha by 2010 and 2,000 ha by 2015 Expand the area of permanent grass margins to from 1,200 ha in 2005 to 1,500 ha by 2010
Upland heath and moorland	Maintain at least 623,000 ha of upland heathland in Scotland through to 2010 and 2015 A total of 144,000 ha of upland heathland, within SSSIs, in Scotland to be in favourable or unfavourable recovering condition by 2010.

Native woodland	Maintain the net extent of native woodland in Scotland, (no net loss of 391,000 ha). [shared target for all priority woodlands] Maintain the current extent and distribution of ancient semi-natural woodland, which qualifies as native woodland in Scotland, (no change in the existing area of 118,000 ha). [shared target for all priority woodlands] Achieve favourable or recovering condition of 120,000 ha of native woodland resource in Scotland by 2010 and 150,000 ha by 2015. [shared target for all priority woodlands] Restore at total of 4,000 ha of non-native plantations on ancient woodland sites (PAWS) to native woodland in Scotland by 2011 and a total of 9,000 ha by 2015. Expand the current native woodland resource in Scotland by 53,955 ha by 2010
Wetlands	Blanket bog: A total of 168,000 ha of blanket bog, within SSSIs, in Scotland, to be in favourable or unfavourable recovering condition by 2010 and 218,500 ha by 2015. Wet woodland: Achieve favourable condition of 7,100 ha of the total wet woodland resource in Scotland by 2010 and 8,900 ha by 2015. Lowland Raised Bog: Rehabilitate degraded bog habitat still capable of natural regeneration (in targeted areas) to bring 4,333 ha of the primary and secondary resource into or approaching favourable condition by 2010, 8,666 ha by 2015 and 13,000 ha by 2020 Coastal floodplain and grazing marsh: Establish management to ensure that 375 ha of C&FPGM in Scotland is regarded as in favourable or unfavourable recovering condition by 2010, 675 ha is in favourable or unfavourable recovering condition by 2015 and 1,350 ha is in favourable or unfavourable recovering condition by 2020 Lowland Fens: Establish management to ensure that 400 ha of fen in Scotland is regarded as in favourable or unfavourable recovering condition by 2010, 600 ha is in favourable or unfavourable recovering condition by 2015 and 850 ha is in favourable or unfavourable recovering condition by 2020 Lowland Fens: Establish 1 new landscape scale wetland complex by 2020, in which fen is a major component along other wetland types and in which successional processes within the fen are allowed to proceed unchecked. This cross-refers to targets in the uplands, lowland raised bog, wet woodlands and reedbed HAPs.

References

Scottish Natural Heritage, 2007. A Five Year Species Action Framework: Making a difference for Scotland's species. Scottish Natural Heritage, Perth, Scotland

