

# Part 2

## Habitats

# Introduction

This section of the manual considers the potential impacts of climate change on individual priority habitats and outlines possible adaptation responses. It is intended to help those responsible for managing such habitats to think about the likely impacts in their area and to identify appropriate management responses. It is not intended to be prescriptive – it provides evidence, information and resources so site managers can make their own decisions. The section takes the form of a series of stand-alone habitat ‘sheets’ that can be printed individually as needed. The information contained in the habitat sheets is based on documented evidence interpreted with the expertise and experience of staff in Natural England, the RSPB, the Environment Agency, and the Forestry Commission. References to underpinning source documents are provided.

Each habitat sheet is structured as follows:

- **Overall habitat sensitivity.** This provides an assessment of the relative sensitivity of the habitat to climate change and is derived from a basic classification of UK habitats (see table 1) originally published in the England Biodiversity Strategy, and revised in the development of Natural England’s [National Biodiversity Climate Change Vulnerability Model](#) (described in part 1) and in the development of this manual. The most sensitive habitats are those whose existence is dependent on specific climatic, hydrological or coastal conditions, which projections indicate are likely to change. The least sensitive habitats are those that are determined by factors such as grazing or geology, and where climate plays a minor role. It should be noted that these classifications are generalisations based on an assessment of the habitat itself, and that species within the habitat may show a variety of sensitivities to climate.
- **Introduction.** This highlights the main sensitivities and key issues for the habitat.
- **Potential climate change impacts.** This sets out in table form the most likely potential climate change impacts on the habitat, in relation to specific climatic variables (causes) and their consequences. The tables focus mainly on the direct impacts of climate change, but where there is a strong likelihood that a changing climate could lead to significant indirect impacts, these have also been included.
- **Adaptation responses.** This section describes possible approaches to adaptation for the habitat in question, and suggests a range of potential adaptation actions. These will not all be appropriate to individual sites, but are intended to portray a range of possible management responses that might be considered. The adaptation actions listed are intended to be a guide only and will need to be adapted to reflect local circumstances.
- **Relevant Countryside Stewardship options.** This highlights the most appropriate options that are available under the Countryside Stewardship Scheme. Information about this scheme and the land management options and payment rates can be found on the [Government’s Countryside Stewardship web pages](#).
- **Further information and advice.**
- **Relevant case study examples (where available).**
- **Key evidence documents.** This lists the main reports, journal papers, and other publications that have helped to inform the habitat sheet.

**Table 1:** Relative sensitivity of habitats to climate change

Habitat	National sensitivity classification
Coastal Saltmarsh	H
Montane	H
Saline Lagoons	H
Standing Water	H
Lowland Fen	H
Rivers and streams	H
Upland Hay Meadows	M
Coastal Grazing Marsh	M
Lowland Raised Bog	M
Floodplain Grazing Marsh	M
Purple Moor Grass and Rush Pasture	M
Coastal Vegetated Shingle	M
Lowland Meadows (wet)	M
Reedbeds	M
Blanket Bog	M
Coastal Sand Dunes	M
Upland fens and flushes	M
Lowland Heathland	M
Upland Heathland	M
Intertidal Mudflats	M
Lowland beech and yew woodlands	M
Wet woodland	M
Upland mixed ashwoods	M
Upland oak wood	M
Maritime Cliff and Slope	M
Limestone Pavements	L
Lowland Meadows (Dry)	L
Deciduous Woodland	L
Lowland Calcareous Grassland	L
Lowland Dry Acid Grassland	L
Upland Calcareous Grassland	L
Arable field margins	L
Ancient/species rich hedgerows	L
Lowland wood pasture and parkland	L

Classification adapted from Mitchell *et al* (2007) England Biodiversity Strategy – Towards adaptation to climate change.

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