

EC Directive 92/43 on the Conservation of Natural Habitats and of Wild Fauna and Flora

Citation for Special Area of Conservation (SAC)

Name:	River Eden
Unitary Authority/County:	Cumbria
SAC status:	Designated on 1 April 2005
Grid reference:	NY).462237
SAC EU code:	UK0012643
Area (ha):	2463.23
Component SSSI:	River Eden and Tributaries SSSI

Site description:

The Eden is an outstanding floristically rich, northern river on sandstone and hard limestone. The catchment includes headwaters running off the Yorkshire Dales, the North Pennines and the eastern fells of the Lake District District and the major standing water body of Ullswater. Streams flowing from limestone are calcareous, whilst those flowing off the Pennines and the Lake District fells are more acidic. The nutrient status gradually changes along the Eden's length as nutrient loadings naturally increase in the lower reaches.

The variations in the physical and chemical character of the Eden result in an unusual and exceptionally rich aquatic flora. Upstream from Appleby, it is typical of nutrient poor, rapid upland rivers, and bryophytes and algae are the main components. The middle reaches support an aquatic flora characteristic of sandstone and limestone rivers. Water-crowfoots dominate the faster flowing sections with river water-crowfoot *Ranunculus fluitans* and common water crow-foot *R. aquatilis*. Slower flowing stretches have associated species such as water-milfoils *Myriophyllum spp*, and various pondweeds including perfoliate pondweed *Potamogeton perfoliatus* and various-leaved pondweed *P. gramineus*. In the lower reaches the algae *Hildenbrandia rivularis*, *Nostoc parmelioide* and the lichen *Collema fluviatile* appear in the river. The tributaries support a variety of stream water-crowfoot *R. penicillatus ssp* in association with marginal plants such as lesser water parsnip *Berula erecta* and pink water-speedwell *Veronica anagallis-aquatica*.

Throughout the length of the River Eden stands of alder *Alnus glutinosa* and willow *Salix spp*. occur associated with backwaters and seasonally-flooded channels. The least-disturbed stands are on the tributary River Irthing, where they occur on the shingle and gravels of actively-moving channels. The ground flora includes patches of common nettle *Urtica dioica*, butterbur *Petasites hybridus* and hogweed *Heracleum sphondylium* that grade into hollows with greater tussock-sedge *Carex paniculata*.

Ullswater is a relatively deep lake with both oligotrophic (nutrient poor) and mesotrophic (moderate levels of nutrients) elements in its fauna and flora. The south-western part of the lake is surrounded by high fells of the Borrowdale Volcanics with enclosed farmland confined to the valley bottoms. The north-eastern arm is in gentler terrain with deeper soils and a greater extent of enclosed farmland. The lake flows into the River Eamont, one of the major tributaries of the River Eden. The lake has an extremely rich aquatic flora, including eight species of *Potamogeton*. These include various-leaved pondweed *P. gramineus*, red pondweed *P. alpinus* and long-stalked pondweed *P. praelongus*. The nationally scarce six-stamened waterwort *Elatine hexandra* is also found in some of the bays. Ullswater supports one of the few populations of schelly *Coregonus lavaretus* in the UK.

The fish fauna of the River Eden includes Atlantic salmon *Salmo salar*, bullhead *Cottus gobio*, and sea *Petromyzon marinus*, river *Lampetra fluviatilis* and brook lampreys *L. planeri*. The high ecological value of the river system and the fact that the salmon are able to use most of the catchment (even above Ullswater) mean that the Eden is able to maintain a large population of salmon. The highly erodible nature of the rock results in extensive areas of gravel and finer silt being deposited throughout the system, providing conditions for spawning and nursery areas. Brook and river lampreys are supported widely within the catchment and a large and healthy population of sea lamprey is supported in the middle to lower regions of the river. The presence of extensive areas of gravel and generally good quality water provides good habitat for bullheads, which are widely distributed throughout the system. The tributaries, in particular those flowing over limestone, hold abundant numbers of bullhead.

The River Eden system is important for otters *Lutra lutra* which favour areas of undisturbed riparian habitat and associated features. The headwaters comprise one of the most important remaining sites in Britain for the native white-clawed crayfish *Austropotamobius pallipes*, a species characteristic of calcareous streams with high water quality.

Qualifying habitats: The site is designated under **article 4(4)** of the Directive (92/43/EEC) as it hosts the following habitats listed in Annex I:

- Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*). (Alder woodland on floodplains)*
- Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or of the *Isoeto-Nanojuncetea*. (Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels)
- Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation. (Rivers with floating vegetation often dominated by water-crowfoot)

Qualifying species: The site is designated under **article 4(4)** of the Directive (92/43/EEC) as it hosts the following species listed in Annex II:

- Atlantic salmon *Salmo salar*
- Brook lamprey *Lampetra planeri*
- Bullhead *Cottus gobio*
- Otter *Lutra lutra*
- River lamprey *Lampetra fluviatilis*
- Sea lamprey *Petromyzon marinus*
- White-clawed (or Atlantic stream) crayfish *Austropotamobius pallipes*

Annex I priority habitats are denoted by an asterisk (*).

This citation relates to a site entered in the Register of European Sites for Great Britain.

Register reference number: UK0012643

Date of registration: 14 June 2005

Signed: *Trevor Salmon*

On behalf of the Secretary of State for Environment, Food and Rural Affairs