

## WHAT IS THE ROYAL FERN ?

Royal fern is the largest British fern, and the most striking. Unlike most of the other British species royal fern produces special reproductive fronds, distinct in appearance to the normal leaves. It has long been prized as a specimen plant in the grounds of stately homes and large gardens.

## CURRENT STATUS:

Royal fern has a western and southern distribution in the UK, favouring boggy woodlands and fens. In the eastern counties it is less frequent and restricted to more specialised habitats.

Within the Durham area the wild population is now known only as a single immature plant. The remaining site is near Walldridge Fell. In neighbouring counties there are three planted sites surviving in the former grounds of stately homes.

All formerly recorded sites for royal fern in Durham have been searched in recent years, but only the single remaining plant was found. Whilst some of the former sites now appear to have no suitable habitat, others have habitat very similar to the remaining site, boggy streamside woodland dominated by alder and greater tussock-sedge. Mature plants are difficult to miss while surveying but young specimens could easily be overlooked. It is possible that there is more than one plant in the remaining site, or unnoticed young plants at other sites.

Old records cover about 30 sites in the county from Teesdale to Castle Eden Dene; some of these may have been planted. In the twentieth century fewer sites were noted, mainly in the Derwent Valley and between Chester-le-Street and Durham City.

## WHY IS THE ROYAL FERN OF CONSERVATION IMPORTANCE?

The royal fern is a good example of a formerly widespread species that has declined almost to extinction. This mainly as a result of the loss of, or decline in quality of, its habitats and the activity of collectors.

Many royal ferns were removed from the wild in Victorian times when there was a vogue for growing ferns and orchids. The royal fern suffered on both accounts as it was attractive in its own right and could also be used as a substrate for the growing of orchids. There is an account of cartloads of royal fern being removed from the Derwent Valley. The remaining "stately home" plants may be descended from such local stock.

## THE ROYAL FERN IS AT RISK FROM:

Lack of reproduction - the surviving plant will not produce spores for several years yet.

Lack of genetic diversity.

Loss of suitable habitat - alder woodlands are a scarce habitat in the Durham area and vulnerable to drainage and water pollution.

Unknown factors - the loss of mature plants from the remaining site is not fully explained.

## SUGGESTED ACTIONS

Protection and management of the remaining site - it is important to conserve both water levels and quality.

Protection of the remaining plant - judicious "weeding" around the remaining plant may be beneficial. The single plant is vulnerable to grazing by roe deer, but little can be done about this.

Survey of the remaining site – attempting to locate other young plants.

Survey of other potential sites.

"Artificial" propagation and planting out - this could be done if and when the remaining plant matures, alternatively, new plants could be grown from one of the Northumberland planted sites which may have been originally derived from local stock. There are commercially cultivated plants available, these should not be used for any re-introduction programme