

JUNIPER *Juniperus communis* SPECIES ACTION PLAN

DESCRIPTION

Juniper is one of three conifer species native to Britain. There are two recognised subspecies of native juniper in Britain and a possible third from maritime cliffs in Cornwall and Wales which requires confirmation (Stace 1997). The most widespread subspecies is the form *Juniperus communis ssp communis* which can range from a spreading shrub to an erect tree, whilst the low growing matted form *J. communis ssp nana* is largely restricted to montane heaths in north-west Scotland. Juniper is a long-lived and slow growing plant that can tolerate a range of climatic conditions and soil types and can be found in suitable habitat from sea level up to the higher mountaintops. This species has red-brown bark with small, narrow, dark green and spine-tipped leaves with a characteristic silver line down the underside. Juniper flowers in April with the small yellow male and female flowers borne on separate plants. The berries are initially green but turn blue-black as they ripen in autumn and are dispersed by birds. Juniper supports a specialised invertebrate fauna including the juniper pug and juniper carpet moths. In the south of England juniper is typical of shallow, dry, lime-rich soils. By contrast, in the north of England and Scotland it occurs on limestone and base-rich soils or freely draining acidic soils amongst grass and heath.

LOCAL BIODIVERSITY IMPORTANCE

Although juniper has an extensive range, the population has a scattered distribution in Britain with the main concentration in the Scottish Highlands. In the north of England it was a once widespread species of the upland fringes, growing often as an understorey shrub in open woodland of birch, rowan, alder, hawthorn and hazel. Nationally there has been a 60% decline in the number of occupied 10 km squares up to 1960, which has included many of the northern England populations. In England the North Pennines remains one of the best areas for juniper. Within the Yorkshire Dales National Park, the species is only found at a limited number of sites, with the two principal concentrations being on the Craven limestone and in Swaledale.

NATIONAL & INTERNATIONAL BIODIVERSITY IMPORTANCE

Juniper is afforded general protection under the Wildlife and Countryside Act 1981. Juniper scrub is a nationally scarce woodland type and has been identified as a UK BAP Priority Species.

Juniper is also a priority in the Cumbrian Biodiversity Action Plan with approximately 0.5 ha of juniper found within the Cumbrian part of the Yorkshire Dales National Park.

CURRENT ISSUES, OPPORTUNITIES & THREATS

The longevity of adult juniper plants mean that although stands of the species are present at a number of sites, it is likely that they no longer produce a viable seed source, resulting in no natural regeneration. Studies have shown that a reproductive capacity of 80% in young, healthy stands can be reduced to only 5% in old stands. Even at sites specifically managed for juniper there is virtually no natural regeneration as it is usually the case that

stands of juniper at these locations are moribund, even-aged and dominated by mature and old bushes.

Juniper is often regarded as a successional shrub and requires quite specific conditions for regeneration to occur. Historically, it is thought that in the northern Pennines juniper was favoured by the changing pattern of land use between small-scale mining and farming. The resulting disturbance of the ground and periods of low intensity grazing allowed seed to germinate and establish. Additionally, traditional uses of juniper for firewood, lining wall tops and other uses around the farm meant regular cutting and disturbance of ground in and around stands which would have created the open conditions required for seedling establishment, and a varied age range within and between stands.

Today excessive grazing, particularly by sheep and rabbits as well as voles that graze seedlings and eat seed, prevents the regeneration of young bushes. Prolonged heavy grazing can fragment stands into scattered individuals. Conversely, too little grazing can result in juniper being shaded out by over-topping tree species as it is not tolerant of dense shade. Another cause for the decline is that juniper now has little or no economic value, and as a result, direct clearance has caused the loss of some colonies.

To address the above issues, juniper seed from the Yorkshire Dales has been collected and grown on at a local nursery ready for planting out at existing sites. This technique has been used with some success in Northumberland, where other trials such as erecting exclosures and reinstating traditional management of stands are aimed at rejuvenating juniper populations. Based on the success of these techniques there is a need to expand this experimental work to the Yorkshire Dales.

Most of the juniper stands in the Yorkshire Dales National Park fall within Sites of Special Scientific Interest (SSSI). SSSI site management should be reviewed to ensure that where appropriate, juniper regeneration is encouraged.

AIMS OF THE SPECIES ACTION PLAN

- To have self-sustaining juniper populations at all known sites in the Yorkshire Dales National Park.
- To allow these populations to increase in size in their favoured habitats, by providing ideal conditions for plants to spread naturally.
- Where feasible, to restore juniper at suitable sites across its natural range in the Yorkshire Dales National Park.

OBJECTIVES

To achieve these aims we need to:

- Determine the distribution of juniper in the Yorkshire Dales National Park by 2003.
- Implement a programme for the local collection of seed from both SSSI and non SSSI sites by 2003.

- Use *ex situ* propagation to provide a source of plants for planting out at existing juniper sites, and where appropriate for establishing new stands by 2010.
- Ensure that all juniper sites are in favourable management (ie that which encourages natural regeneration of stands) by 2005.
- Identify sites where it would be appropriate to establish new colonies of juniper and bring these areas into positive conservation management by 2010.

ACTIONS & TARGETS

To achieve these objectives the following actions should be carried out and the targets achieved within the time-scale given:

Actions	Target date	3 year cost £
Determine the distribution and status of juniper in the Yorkshire Dales National Park.	2003	Officer Time
Collect seeds from juniper stands in the Yorkshire Dales National Park for <i>ex situ</i> propagation and future re-planting initiatives.	2003	1,000
Undertake a programme of replanting <i>ex situ</i> grown plants within SSSI stands.	2010	3,000
Undertake experimental work at existing stands on SSSI and ESA land in Swaledale to investigate creating ideal conditions for natural regeneration.	2010	5,000
Encourage landowners and land managers through the use of advice and management grants, to maintain existing juniper populations.	2005	Agri-environment Scheme Funding
Determine the feasibility of establishing new colonies of juniper scrub, identify potential sites (12ha) and re-plant with local provenance stock.	2010	Agri-environment Scheme Funding

WHO WILL BE RESPONSIBLE FOR THE ACTION PLAN?

Lead Agency	Key Partners
Plantlife	English Nature DEFRA/RDS Yorkshire Dales National Park Authority Landowners and managers Forestry Commission Local Tree Nurseries Yorwoods