

## 4.8 Juniper

### 4.8.1 Current Status

Juniper (*Juniperus communis*) is a UK Biodiversity Action Plan priority species. The High Focus juniper type in the Biosphere is a prostrate form of *Juniperus communis* associated with montane scrub habitats, above the treeline, so has a limited distribution in the UK. In the Biosphere it is restricted to parts of the Galloway Hills and the population is scattered and in small and/or over mature populations with little regeneration. A Dumfries and Galloway-wide survey of juniper was conducted between 1998 and 2000 and the total extent of juniper in the Biosphere was estimated at 340 specimens, with the best remnant juniper population found on Kirriereoch Hill, to the north of the Merrick.

### 4.8.2 Ecology and Habitat Requirements

Juniper is a dioecious plant, which means that individual plants are either male or female so it is not self-fertile. It is a shade-intolerant evergreen shrub, capable of survival in both acidic and alkaline and generally dry soils, which flowers from May to June, producing seeds that are slow to germinate, usually requiring two winters of dormancy before germination. Typical growth is only 2-5cm a year and flowering and seed production begins when the plants are 7-10 years old. Individual plants can reach over 100 years of age.

### 4.8.3 Concerns

- Grazing pressure from wild herbivores and livestock.
- The low density of the current population in the Biosphere, combined with the dioecious character of the species (plants are either male or female), has implications for species' reproductive ability in a declining and spatially dispersed population.
- Damage caused by wild fires.
- Juniper disease, caused by *Phytophthora austrocedrae*, a fungus-like organism that infects the plant through the root system causing the foliage to deteriorate and eventually die. This is known to be present within one site in Southern Scotland and extreme biosecurity measures are needed to prevent infected stock arriving in the Biosphere<sup>31</sup>.

### 4.8.4 Conservation Objectives

The primary conservation objective for dwarf juniper in the Biosphere is to identify and maintain existing stands and increase its extent in appropriate areas to make the population more viable and less vulnerable to events such as wildfire or outbreaks of disease.

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<sup>31</sup> Further details can be found here: <http://www.forestry.gov.uk/paustrocedrae>

### 4.8.5 Management

Juniper will benefit from management measures recommended for the montane habitats discussed in Section 2.4. Juniper requires specific management to safeguard and enhance its population as the species has undergone a significant decline, largely caused by overgrazing and muirburn.

The recommended management actions for Juniper are:

- The reintroduction of juniper from local stock, from a wide genetic base, to appropriate areas will often be needed to secure minimum breeding populations of 50-100 plants, with appropriate protection from grazing where required.
- Adjustment of grazing pressure to levels recommended for montane habitats.
- Establishment of stock-proof enclosures to remove grazing threat to existing juniper.
- Within woodlands, fencing, deer control, selective felling and conservation grazing may all help to support regeneration.

### 4.8.6 Example Projects

- Forestry Commission Scotland (FCS) and Cree Valley Community Woodlands Trust (CVCWT) have an on-going willow, juniper and aspen project which is securing the remnants of these once much widespread species and returning them once more to the Galloway Hills. Willow and juniper cuttings, taken from plants within the Galloway Hills, are grown on in nurseries before planting out in deer-proof enclosures in suitable sites such on the southern slope of Bennan, in an area of felled forestry, and above the current forest edge along the path to the summit of Merrick, creating a woodland fringe effect. In-situ regeneration is anticipated and new plants will be used for further cuttings for establishment within the Galloway Forest Park. With establishment success being monitored. To date, over 4,000 juniper trees have been grown from the "Galloway collection" and been returned to the Galloway Hills. Because of the very slow growth rates, the juniper programme is aiming to raise and plant 2,000 juniper trees annually.
- The FCS deer and wild goat monitoring and control project involves an annual deer and wild goat count and control (cull) to prevent damage to commercial forest and valuable upland habitats. Counts are carried out annually using a variety of methods, including visual counts from a helicopter or dung counts. Counts and control are carried out as part of deer and wild goat management strategy for the Galloway Forest District.
- The FCS Woodland Fringe Monitoring project focuses on monitoring the success of establishment of designated woodland fringe sites on previously afforested areas, comprising of a mixture of open ground and native broadleaved/conifer species, replicating the natural climatic tree line. The long term aim is to create a mosaic of naturally variable habitat where trees grow on the better soils and heath habitat thrives in the open areas. This will create a

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very varied upper tree line, soften the boundary between woodland and open hill, and provide a permanent habitat network for a wide range of species.

### 4.8.7 Opportunities

- Creation of woodland habitat networks in the Galloway Forest Park
- Funding for woodland creation and management through the SRDP Woodland Grant

### 4.8.8 Further Information

Mearns, R. (2001). Juniper, *Juniperus communis* in Dumfries and Galloway. In the Transactions of the Dumfriesshire and Galloway Natural History and Antiquarian Society, LXXV. Available at: <http://www.dgnhas.org.uk/transonline/SerIII-Vol75.pdf>

Botanical Society of the British Isles Species Account for juniper:  
<http://sppaccounts.bsbi.org.uk/content/juniperus-communis-1>

Planting juniper in Scotland: reducing the risk from *Phytophthora austrocedrae* guidance note:  
[http://www.forestry.gov.uk/pdf/juniper-planting-guidance.pdf/\\$FILE/juniper-planting-guidance.pdf](http://www.forestry.gov.uk/pdf/juniper-planting-guidance.pdf/$FILE/juniper-planting-guidance.pdf)

Cree Valley Community Woodlands Trust <http://www.creevalley.com/>