

JUNIPER ACTION PLAN

SPECIES PROFILE

Common Name: Juniper

Scientific Name: *Juniperus communis*, including the sub-species *communis* and *nana*.

UK Biodiversity Status: Priority Species

Relevant Priority Habitats: Upland heathland, blanket bog and native pinewood.

Statutory Protection: General protection under the Wildlife and Countryside Act 1981

BIODIVERSITY CONTEXT

Found in Arctic and northern temperate zones. In Britain, it is widespread and locally common species - especially in Scotland. One of only three conifer species native to Britain, the other two being yew and Scots pine.

Plantlife have written a UK Action Plan for juniper. The main objectives are to maintain the present range and overall population size of juniper and restore appropriate management to permit regeneration at juniper sites.

OBJECTIVES

Objective 1 Ensure survival of three of the most important (known) sites on a trial basis.

Target By 2003, identify appropriate conservation management at these sites.

Target By 2004, implement measures to ensure the survival of the populations.

Objective 2 Assess the condition, size, and threats to the remaining juniper population's of the Stirling Council Area.

Target By 2003, complete a desk exercise to identify the (main) juniper sites and compile an inventory of all Stirling Council Area juniper sites.

Target By 2003, complete an assessment of the historical abundance and distribution of juniper.

Target By 2004, carry out a systematic survey of all (main) juniper sites in the Stirling Council Area.

Objective 3 Encourage appropriate conservation measures at juniper sites.

Target Raise awareness amongst land managers of Stirling juniper sites of the conservation issues affecting juniper.

CURRENT STATUS AND DISTRIBUTION

In Stirling it is found in 19 out of 33 full or part 10km squares. Although widespread there is very little regeneration, calling into question the long term viability of juniper in our area. Available evidence clearly indicates that juniper is declining over a large part of its range in Britain. The long life of adult bushes means that moribund populations with no regeneration may be recorded for a very long time, and may be regarded as functionally extinct.

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CULTURE, ETYMOLOGY AND FOLKLORE

The Latin name for juniper is *Juniperus communis* meaning juniper and common. The sub-species name *nana* means dwarf.

The Gaelic for juniper is *Aiteann, ationn, aiteal*. Other Gaelic related words are *Aitealach* (abounding in juniper), *dearcán aiteal* (juniper berries) and *Sugh an aiteil* gin (literally juice of juniper).

In Inverness-shire, the place name Tomatin means rounded hill of the juniper. There are still extensive stands of juniper to the south of this place visible on either side of the A9.

Gin – shortened from Dutch genever (juniper).

Saving tree – Obsolete Scot's name for a kind of juniper that produced an abortifacient drug.

European juniper – *Juniperus sabina*, which is known as savin, which yields oil of savarin, is much more potent and toxic than common juniper. It has the Gaelic name of samh.

Sacks of berries were sent to markets in Aberdeen and Inverness during August in the 19th Century, for export to Holland to make gin. Today berries for Gin imported from Eastern Germany.

Juniper trees, twigs and berries were believed to have great power to avert evil and to have great powers of protection and purification. Branches were burned at Samhain (Hallowe'en) to keep evil spirits away.

The berries were also used for tea wine, liqueur and for yellow and brown dyes. It is known that the Romans were using Juniper berries medicinally in the Lothians for purging, stomach ailments, epilepsy and purification. Whether the locals taught them or it was the other way around is unclear.

ECOLOGY AND MANAGEMENT

Two subspecies occur in Scotland:

communis - a shrub up to 7m on heaths, and in birch and pinewoods. This successional shrub is opportunistic in its pattern of establishment and is quickly shaded out as scrub thickens or woodland develops (UK Biodiversity Group, 1999). Although successional, there are example of long standing areas of juniper scrub.

nana - procumbent matted form found on rocks and moorland in the upland and montane environment (up to 3,200 feet) and lowland bogs - particularly in the northwest of Scotland.

Intermediates between the two are thought to occur frequently. (Stace, 1991) Both subspecies probably occur in the Stirling area. As montane forms of juniper are often highly dispersed over wide areas, this action plan focusses on the needs of juniper growing in stands on lower ground as any conservation measures are likely to be easier to implement over a smaller area. This is not to say that montane juniper is under any less of a threat.

McPhail & Taylor (1997) have summarised the main ecological points relevant to juniper:

As juniper bushes get older [available data suggesting a maximum age of 200-250 years] the ability to regenerate declines, i.e. the amount of seed and its viability are both reduced.

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The germination of juniper seed requires either bare ground (which some researchers have found to be associated with grazing or ground disturbance) or a very short sward in agriculturally unimproved ground. Shade from juniper itself, and other trees, inhibits regeneration.

Continuous heavy grazing, by all herbivores including rabbits, can be damaging to juniper as it can open up dense stands of juniper and fragment colonies into an open community of scattered bushes. Grazing in winter is likely to increase seedling death and increase damage to existing juniper bushes.

CURRENT FACTORS CAUSING LOSS OR DECLINE AND FUTURE THREATS

- Excessive grazing prevents the establishment of young bushes.
- But *insufficient* grazing can also prevent regeneration by allowing competitors to thrive, preventing seedling establishment or shading effects.
- Direct clearance of stands.
- Excessive burning may destroy juniper.
- Low economic and cultural value attached to juniper.
- Locally heavy deer grazing and bracken infestation - both of which prevent regeneration) are thought to be the most important issues (pers. comm. Mike Steward, FE).

OPPORTUNITIES AND CURRENT ACTION

One of the best sites in the area at Kilmahog, under FE management, was deer fenced (although this fence is now breached), and Sitka spruce was removed. Despite a plentiful supply of juniper seed, there has been no regeneration. Bracken may be preventing seedling establishment. (pers. comm. Mike Steward, FE).

Some Site of Special Scientific Interest (SSSIs) in the Stirling area are known to have good populations of juniper including Blackwater Marshes SSSI. Here the juniper bushes show no signs of regeneration. This is thought to be due to the combined effects of deer browsing, bracken encroachment and overshadowing beech and birch. Management prescriptions suggested by SNH for this site included 'high-pruning' and felling some of the birch and beech that are shading the juniper and control bracken invasion (SNH, 2000).

The Woodland Trust Scotland at Glen Finglas are considering including juniper in the planting they are planning to undertake on this site. Forest Enterprise plan to create new small areas of juniper "woodland" on favourable sites, planting juniper from a local seed source.

Although outwith the remit of the Uplands group, it is interesting to note that at Glen Falloch Pinewood SSSI, one of the only two pinewoods in the Stirling area, juniper has been planted along with pine, aspen and holly seedlings. The area has been deer-fenced and some bracken has been eradicated to encourage regeneration of all species.

In working towards the fenceless environment, FE and local Deer Management groups have set ambitious deer control targets; which should also benefit juniper. Some recent native woodland expansion may provide a richer mosaic suitable for juniper. At Cashel on Loch Lomondside, juniper has been planted.

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Agri-environment schemes can offer potential habitat improvements where heavy sheep grazing is a limiting factor. In the woodland context, FC Woodland Grant Scheme offers a means to maintain populations.

Increasing awareness of management issues and best practice. Plantlife will be involved in disseminating this information from the UK juniper steering group.

Plantlife will also be involved in a project to increase public awareness of juniper and its cultural value, by looking at the sustainable use of plants.

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