HABITAT IMPACT ASSESSMENT

BEST PRACTICE GUIDANCE

WILLOW SCRUB

Aim

The aim of this guide is to describe methods of assessing Willow Scrub habitat relevant to deer managers.*

(below left): high impact browsing on shoots and (below right): low impact with little signs of browsing

Photographs courtesy of the Scottish Montane Willow Research Group

Habitat description

Willow scrub is a rare plant community in Scotland and consists of small fragmentary stands of sub-arctic or alpine willow species (downy, woolly, mountain and whortle-leaved willows – see species list overleaf) on steep slopes and cliff ledges, usually between altitudes of 600-900 m. This represents the top edge of 'natural tree line' habitat and the willows tend to be short and scrubby small plants or bushes as opposed to trees.

woolly
Gnarled, many-branched shrub. Height up to 1m. Leaves 3.5-7cm x 3-6.5cm

whortle leaved
Shrub. Height up to 0.5m. Leaves 1.5-7cm x 0.5-2.5cm

mountain
Shrub. Height up to 0.7m. Leaves 1.5-3cm x 1-1.5cm

downy
Much-branched shrub. Height 0.2-1m. Leaves 1.5-7cm x 1-2.5cm

numbered photograph of tagged willow to show changes in plant size and shape over time

Key indicators

The main impact that deer have on willows is browsing. Direct deer browsing impacts are assessed by measuring the shoots browsed by deer and the frequency of flowering.

Other impacts

Other herbivores, particularly goats and hares, may also gain access to and browse willows. For information on what time of year to measure, see BPG Habitat Impact Assessment: Principles in Practice.

What to measure	How to analyse
*Record the number of shoots browsed on each willow plant by deer (based on the angle of cut).***	*Average the number of shoots browsed per willow.*
Record whether willow plant is flowering or not.	*For each site, summarise the frequency*** of flowering willow plants (for example: 2/16 willow plants, flowering; 14/16 willow plants not flowering).*
Record height of each willow plant: straight vertical distance from the ground to the highest point on the plant WITHOUT lifting or stretching the plant.	*Average the height of all willows.*
Record the annual growth by measuring the shoot extension to last year's node on five random shoots on each willow (see illustration below).	*Average the annual shoot growth of all willows.*
Take digital photo of each willow from fixed point (see illustration above).	*Will enable detection of gross changes in willow size and shape over time.*

Willow Scrub *species:*

Downy willow/ *Salix Lapponum*
Woolly willow/ *Salix Lanata*
Mountain willow/ *Salix Arbuscula*
Whortle-leaved willow/ *Salix Myrsinites*

** The guides Habitat Impact Assessment: Principles and Habitat Impact Assessment: Principles in Practice should be regarded as essential introductions to this subject Other linked guides are Habitat Impact Assessment: Analysis*
*** See BPG Woodland Damage: Recognition of Cause *** See BPG Habitat Impact Assessment: Analysis*

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