

# Mechanical clearance of Scots pine *Pinus sylvestris* and maritime pine *P. pinaster* using a shear-head processor at St Leonards SSSI, Hurn, Dorset, England

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## SUMMARY

Approximately 0.5 ha of dense Scots pine *Pinus sylvestris* and maritime pine *P. pinaster* woodland was cleared using a shear-head timber processor with the objective of restoring heathland. Prior to clearance the area supported little heathland vegetation and was predominantly bare ground with some bracken *Pteridium aquilinum*, underneath the thick pine canopy. One year after clearance, there was deep litter layer (7-8 cm), little regeneration of heather *Calluna vulgaris*, and bracken was becoming dominant.

## BACKGROUND

Encroachment of trees and scrub onto heathland areas poses a major problem for heathland managers. Without removal, species such as birch *Betula* spp. and pine *Pinus* spp. can dominate, shade out the dwarf shrub community and result in a loss of many of the species associated with that community. Removal of mature trees can be time consuming and controversial.

Clearance of Scots pine *Pinus sylvestris* and maritime pine *P. pinaster* by contractors working with the RSPB Heathland Project on privately owned land at Hurn (part of St Leonards Site of Special Scientific Interest) in Dorset, southern England, is described here. The work was carried out as part of a wider programme of heath land management conducted across the nationally important Dorset Heaths.

## ACTION

**Location:** The pine clearance was undertaken within St Leonards SSSI on land at Hurn (National Grid ref: SU 125025), Dorset, southern England.

**Pine clearance:** Approximately 0.5 ha of dense Scots pine *Pinus sylvestris* and maritime pine *P. pinaster* plantation woodland was



**Photo 1.** View of cleared area in August 2005. The Scots pine *Pinus sylvestris* and maritime pine *P. pinaster* woodland in the background shows how the cleared area looked prior to management. Most of the ground flora is bracken, *Pteridium aquilinum*. St Leonards SSSI, Hurn, Dorset.

cleared in September 2004 using a shear-head timber processor. The processor comprised an excavator mounted with a 12-inch (30 cm) shear action head. Cut material was converted into wood-chip for fuel. The chipper was a 370 horsepower, self-propelled grab-fed whole tree chipper, capable of chipping up to 400 cubic metres of timber per day.

**Vegetation prior to clearance:** Prior to clearance the area supported little heathland vegetation and was predominantly bare ground, with some bracken *Pteridium aquilinum*, underneath the thick pine canopy.

### CONSEQUENCES

**Vegetation regeneration:** The area was revisited in August 2005, one year after the pine clearance. The cleared area had a deep litter layer (7-8 cm) and there was little evidence of heather *Calluna vulgaris* (a desirable component species characteristic of heaths) regeneration (< 5% cover). Bracken appeared to be becoming rapidly dominant (estimated 45% cover) and was by far the most abundant plant species recorded (see percentage cover estimates (below). Photo 1 shows the cleared area with the dense coniferous woodland in the background showing how the cleared area looked prior to management with bracken colonising the cleared area.

Percentage cover estimates of vegetation within the cleared area in August 2005 were:

- 45% bare ground
- 45% bracken *Pteridium aquilinum*
- <5% common ragwort *Senecio jacobae*
- <5% spear thistle *Cirsium vulgare*
- <5% ribwort plantain *Plantago lanceolata*
- <5% silver birch *Betula pendula*
- (seedlings)
- <5% heather *Calluna vulgaris* (seedlings)

**Conclusions:** The clearance of the pine left a deep litter layer which may have suppressed growth of some heathland plants and there was little heather regeneration. Without follow-up treatment of bracken the cleared area is likely to become totally dominated by this invasive species. Removal of the litter layer may be required to encourage re-establishment of the heathland flora.