

Mechanical clearance of Scots pine *Pinus sylvestris* and rhododendron *Rhododendron ponticum* from lowland heathland at Hurn, Dorset, England

Liley D.

Footprint Ecology, Court House, Binnegar Lane, East Stoke, Wareham, Dorset BH20 6AJ, UK

SUMMARY

Approximately 0.5 ha of dense, mature Scots pine *Pinus sylvestris* and rhododendron *Rhododendron ponticum* was cleared on an area of heathland using a shear-head timber processor. Prior to clearance the area under the canopy supported little heathland vegetation. One year later, heather *Calluna vulgaris* seedlings had become established; other heathland vegetation included purple moor-grass *Molinia caerulea* and cross-leaved heath *Erica tetralix*. There was also evidence of vigorous rhododendron regrowth from the cut stumps.

BACKGROUND

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

Clearance by contractors, working for the RSPB Heathland Project on privately owned land within St Leonards Site of Special Scientific Interest (SSSI) at Hurn in Dorset, southern England, is described here. The area cleared was just over 1 ha of mature, very dense Scots pine *Pinus sylvestris*. The management work was carried out by the RSPB Heathland Project as part of a wider programme of heathland management across the nationally important Dorset Heaths.

ACTION

Pine and rhododendron clearance: At St Leonards SSSI (National Grid ref: SU 125025) in Dorset, approximately 0.5 ha, approximately half a hectare of dense, mature Scots pine and rhododendron *Rhododendron ponticum* was cleared in August 2004 using a shear-head timber processor. The processor comprised an



Photo 1. View of the cleared area in August 2005, showing extent of bare ground and the amount of *Rhododendron ponticum* regrowth, St Leonards SSSI, Hurn.

excavator mounted with a 12-inch (30 cm) shear action head. Smaller material was cut using chainsaws. 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. Much of the smaller material, especially the rhododendron, was cut using chainsaws and burnt on site, the fires being fed by a tractor-mounted grab.

Vegetation prior to clearance: Prior to clearance the area under the tree and shrub canopy supported little heathland vegetation and much of the understory beneath the mature pine trees was dominated by dense stands of rhododendron.

CONSEQUENCES

Vegetation one year after clearance: The area was visited in August 2005, one year after the pine and rhododendron clearance. Heather *Calluna vulgaris* (a desirable and important component plant characteristic of heaths) seedlings had clearly become established since clearance. There was also evidence of vigorous rhododendron regrowth from the cut stumps. Photo 1 shows the extent of the bare ground and the amount of rhododendron regrowth in the cleared area.

The percentage cover within the area cleared was estimated as:

- 20% bare ground (especially evident around the fire sites and where the ground had been compacted in areas

machinery use had been particularly intense.

- 10% rhododendron *Rhododendron ponticum* (regrowth from cut stumps).
- 50% purple moor-grass *Molinia caerulea*.
- 30% cross-leaved heath *Erica tetralix* (like *C.vulgaris*, an important component plant characteristic of heathland).
- 10% mature heather *Calluna vulgaris*.
- 5% heather *Calluna vulgaris* seedlings.
- 5% silver birch *Betula pendula* seedlings.