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What is thickening and when to thin?

Unusual thickening of native woody vegetation may occur when grazing or drought weakens grass competition to such an extent that many tree and shrub seedlings survive. Reduced grass cover may also affect fire frequency, allowing more seedlings to survive and form dense stands. Plant communities, particularly those that are in woodlands, may grow in cycles, tending towards dense growth when regenerating and becoming less dense as they mature. This may be a result of dry times, competition, or fire, all causing a proportion of the stand to die. Grazing management and changes in fire regimes may also affect tree and shrub densities.

What are the effects?

Thickening vegetation can have effects on both the grazing enterprise as well as on the ecology of the land. Productivity of the land can decrease with thickening woody vegetation, which in turn can make stock mustering more difficult. Grassy eucalypt woodlands might favour quails, pigeons and curlews if grazing management allows enough grass cover. A shrubby denser plant community may favour wrens, robins, honey eaters and thorn bills. Logs and litter left on the ground and not cleaned up favour native marsupials, reptiles and treecreeper species.

The effect of cover on stream banks can be complex. Tree roots and logs embedded in stream banks give mechanical strength to resist bank slumping during protracted wet periods. But if the soil surface is bare of litter, logs or grass, then soil erosion can still occur even under tree cover. On the other hand, if the bank is clear of trees and shrubs, grass cover may reduce soil surface erosion, but bank slumping and rilling can still be a threat. There is also potential for habitat qualities of streams to be severely reduced.

How to plan your actions

Landholders need to decide why they want to carry out a thinning operation, test their reasons to ensure they are valid, and then plan required actions. When planning to thin using fire or mechanical intervention, the land manager needs to have clear objectives. For example, 'am I thinning to restore ecological function, to restore productivity, or to improve manageability?'

Thinning can be regarded as ecological restoration to the plant community's original Regional Ecosystem description. It may involve mechanical interference or fire. In some situations where thickening has occurred because grazing reduced grass competition, it may require selective mechanical intervention to allow enough grass to regrow so a fire can carry. The land manager needs to adapt the thinning method to the type of vegetation where thickening woody vegetation has become a problem. For example, some wattles actually respond to fire by having huge germination rates and, as a result, regrowth may be thicker with intervention. Similarly, mechanical intervention can result in a population increase of eucalyptus.

What are the legal requirements?

The legal requirements of a number of Acts need to be taken into account. Some of these Acts include the *Vegetation Management Amendment Act 2004*, *Land Act 1994* and *Water Act 2000*. It is important to consult with the local Vegetation Management Officer at the Department of Natural Resources in order to be sure of the obligations.

If thinning for forestry purposes, there is a need to consult with the local Vegetation Management Officer at the Department of Natural Resources, as well as comply with Queensland Forestry guidelines. Ecological considerations are still a valid issue when thinning for forestry. Local Authorities also have the power to enact legislation of their own with regard to vegetation. Consult with the relevant local government for their requirements.



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