WILDING PINES
A GROWING PROBLEM

by Mike Harding, Forest and Bird South Island Conservation Officer

WHILE NEW ZEALANDERS in their thousands protest at the logging of rainforests, and internationally the plea is heard for extensive reafforestation to combat the greenhouse effect, calling for the felling of trees may sound like a cry from the wilderness. And indeed in a sense it is, because scattered throughout the country are forests that pose a significant threat to wilderness areas and to native plant communities. These are forests that no one wants and in some case forests that are costing the country money in lost agricultural production.

The spread of self-sown, or wilding, exotic trees affects something like 10,000 hectares in the South Island and 30,000 hectares in the North Island. From the open tops of Mt Tarawera to the hillsides around Queenstown, and at dozens of other locations in between, are self-sown forests standing stark on the open landscapes. In places it may be only the odd pine that has seeded from a shelter belt or roadside planting, but in others it involves thousands of wilding trees at densities of over 100 trees per hectare gradually advancing over areas of protected native vegetation or productive grazing land.

Members of conservation groups are not the only people oppposed to wilding pine spread. High country farmers recognise the threats to their livelihoods from wilding pine spread across the open tussock grazing lands. High country Federated Farmers chairman, Hamish Ensor, believes those who have planted exotic trees should be responsible for controlling their spread.

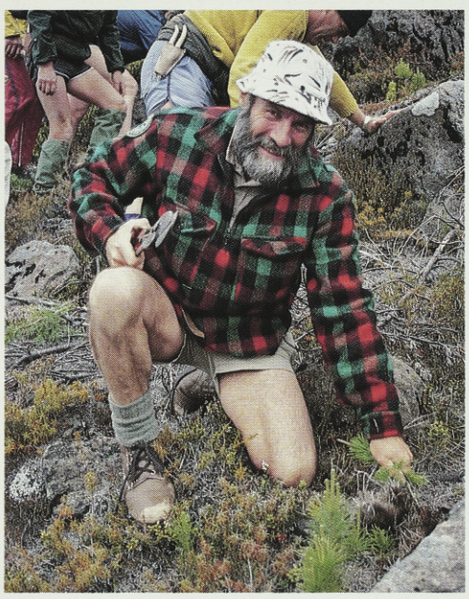
Few would dispute the importance of exotic trees in the New Zealand context for shelter and amenity purposes, and for many other values, not to mention their significance as an economic resource. But these are benefits gained from planned and managed plantings. While trees that establish themselves in the wild may be ideal in some circumstances, unplanned exotic afforestation rarely results in a harvestable plantation. Trees tend to be of different ages and sizes and yield timber of inferior quality. Management of a self-sown forest is more difficult and less financially rewarding than a plantation. Even if the site is in fact a preferred site for forestry, it makes far better economic sense to plant the trees at the desired density and in the most appropriate pattern.

Aggressive Colonisers

Exotic trees, particularly those planted at higher altitudes, are usually far more competitive than the existing native vegetation. Several species have been used widely in plantings in hill and high country and the more successful of these have shown themselves to be aggressively capable of colonizing the open country of grass and shrubland communities. They can displace or overwhelm slower growing native species and therefore have seriously threatened protected native plant communities and unique landscapes.

The hardier exotic species such as lodgepole pine *(Pinus contorta)* will grow at higher altitudes than native woody species, posing a significant threat to herbfields, grasslands and screes. Even native beech forests are not spared from this alien invasion. The shade tolerance of Douglas fir, a species commonly planted in the South Island high country, enables its seedlings to establish themselves within existing natural forest.

The problem of wilding tree spread is not new. It was first recorded in the South Island at the turn of the century. But because the species involved are common pines, firs and larches and because the most dramatic infestations, with one or two exceptions, are in remote hill country far from the public eye, we have been slow to recognize the implications of wilding spread. Trees that were planted for shelter or amenity are now spawning vast plantations, and trees that were hand planted or aerially sown in afforestation trials on steep lands have successfully established and threaten to spread like a carpet across broken mountainous country, crowding out the existing native vegetation.



Without volunteers pulling pines on Mt Ruapehu over the last 20 years, the work would probably never have been done. Here Allan Vaughan, a Forest and Bird member from Wanganui, joins the Wanganui Tramping Club on a weekend trip.
Photo: Gerard Hutching.

Take the case of *Pinus contorta* in the central North Island, where wildings occur in Tongariro National Park, the Waiouru Army land, the Ruahine, Kaimanawa and Kaweka Conservation Parks. (see accompanying box on Tongariro National Park).

Another good example is the spread of Corsican pine *(Pinus nigra)* on the Amuri Range near Hanmer Springs. Seedlings were first noticed around 1940, next to forests planted at the turn of the century. However it was the change from sheep to cattle farming on the adjacent pastoral run country in 1974 that really boosted the spread of pines. By 1976 landholders were expressing concern at the invasion of Corsican pine which in places had formed a closed canopy completely eliminating the grassland cover beneath. In 1979 Corsican pine was declared a Class B noxious weed in the Amuri Range area and fire was used to remove stands of unwanted trees. This was only effective when followed by pasture improvement and grazing. Where oversowing with pasture species did not occur, and where stock pressure was light, re-establishment of seedlings was prolific, with densities of 8,575 per hectare recorded – seven times that of a plantation forest. Now Corsican pine covers about 6,000 hectares of the Amuri Range and six other species of wilding trees are also present. The only areas that will remain free of pines are those already covered in beech forest and those potentially productive areas where the expense of tree removal can be justified for pasture establishment. Meanwhile local farmers bemoan the loss of grazing land and the local authorities ponder the difficulties and expense of continued control work.

Research Plots

Another source of wilding tree spread is the research plots established by the former New Zealand Forest Service to determine which species were most suitable for high country revegetation. These plots have spawned untidy downwind forests and threaten to overwhelm huge areas of native grassland or shrubland. Many are hidden from the public gaze, such as that in the Jolliebrook Catchment of Lake Sumner Forest Park where Douglas fir patches are too dense to walk through despite the removal of 20,000 trees in 1987.

Some Forest Service plantings were a little more ambitious. In the Branch and Leatham Catchments of inland Marlborough over 700,000 conifer seedlings were hand planted on steep country and, as if that were not enough, the steeper more inaccessible country was covered by sowing 2 tonnes of conifer seed from the air. Today sparse but healthy pines emerge from regenerating manuka and beech while at higher altitudes stunted twisted pines grow from precipitous rock bluffs and scree slopes. When questioned about wilding spread from trial plots at lower altitudes in Marlborough the Forest Service promised to de-cone the trees to prevent seeding!