EDITORIAL COMMENT

Administration of Mountain Lands

Management of the South Island mountain country has long been befogged by conflicting agencies, dispersed effort, incompatible legislation and unco-ordinated research. The Institute has a record of great concern in this area. In 1957 the NZIF presented evidence to the Parliamentary Select Committee on Soil Conservation and Rivers Control in which some rather harsh criticism was directed at some of the agencies involved. This evidence was printed in full in Vol. VII (4) of this Journal, and is still worth reading. The critical features of the situation (ecological and administrative) are there set out with force and clarity. The first recommendation was: "Amendment of both the Lands Act and the Forests Act rendering mandatory the administration of the lands concerned in the interests of soil and water conservation". Of the remaining six clauses, five dealt with research. The NZIF committee members were "unanimous that, as a prerequisite to successful attack on outstanding problems of watershed management, a much more vigorous research programme must be set underway".

The Tussock Grasslands and Mountain Lands Institute was set up in 1960 originally with the purpose of reviewing management and of co-ordinating research work in the mountain lands, but in effect it became simply one more body, going its own way. However, the need for more research has gradually been accepted by the authorities concerned, principally the Ministry of Works and Development, together with the various bodies under its aegis (National Water and Soil Conservation Authority, Soil Conservation and Rivers Control Council, and catchment authorities), the Lands Department, and the Forest Service. But the effort is still markedly fragmented.

The Ministry of Works recently engaged the services of E. G. Dunford to study and recommend on the whole field of water and soil conservation research in New Zealand, and his much-heralded report* appeared in June 1973. On first reading, one is struck with the number of generalizations, platitudes and pious exhortations in this report, and the thought occurs that an equally good (or better) evaluation of the situation could have been carried out by several indigenous experts. For example, Mr Dunford fails to emphasize that soil conservation measures in the mountain lands must be preceded by strict animal control. Elsewhere he charges

^{*}Dunford, E. G., Water and Soil Conservation Research in New Zealand. A report to the Minister of Works and Development. June 1973; 77 pp.

North Island research organizations to "determine methods of reducing soil erosion in the Ruahine Ranges" but apparently overlooks soil erosion problems in the Kaweka, Rimutaka and Tararua Ranges which collectively provide problems many times greater than the Ruahine Range alone.

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However, Mr Dunford does draw attention to the extraordinary amount of fragmentation of effort. For example (p. 43) there are nine organizations carrying out resource surveys (ten if you add FRI's primary ecological survey, which he fails to mention). He also makes the point that much research has ill-defined or non-existent goals.

Most of his recommendations are practical common sense, and implementation of them should see water and soil conservation research at last placed on a national footing. The more important ones are (pp. 71.2):

more important ones are (pp. 71-2):

- that the research programme of the Water and Soil Division of the Ministry of Works be reorganized on a problem-oriented basis;
- that high priority be afforded water and soil resource management;
- that maximum use be made of facilities available in other research organizations;
- 7. that the National Water and Soil Conservation Authority "seek recognition among all departments and the National Research Advisory Council of its role as the unifying body for water and soil conservation planning and research . . . and promote co-ordination of water and soil conservation research among all departments directly involved, including Water and Soil Division."

Dare one hope that at last some order will be introduced into this somewhat chaotic field? Or will this be merely a pious hope? Mr Dunford recommended the phasing out of the Tussock Grasslands and Mountain Lands Institute as a redundant body, but this recommendation has been circumvented by the Lands Department. Perhaps this is a straw in the wind to show which way things will go, but one sincerely hopes not.

To return to the administration of mountain lands, a meeting of all interested parties was held in Christchurch in November 1972 which came to the conclusion that high country areas were of national importance for soil conservation and water yield, and that the overriding objective should be management for these purposes — precisely the same conclusion reached by the Institute in 1957. This meeting led to continued deliberations, stimulated by the Chairman of the Soil Conservation and Rivers Control Council, A. L. Poole. It is worth noting that Mr Poole is a biologist and a forester, and the prominent part he played implies, in itself, a new approach to the mountain lands. These discussions culminated in the "Joint Policy Statement" issued in December 1973, signed by the Directors-General of Lands and Forestry, and the Director of the Water and Soil Division of the Ministry

of Works and Development. It includes a "Statement of principles and objectives", clearly laying down that "soil conservation and water management are of absolute priority" in the high-altitude lands of the South Island, and puts the onus on the National Water and Soil Conservation Authority to implement its role to:

- (a) co-ordinate the activities of the land-controlling agencies so as to achieve the best possible standards of soil conservation and water management in the catchments;
- (b) identify national priorities and co-ordinate rehabilitation where required; and
- (c) identify national priorities for research in these areas.

The roles of catchment authorities, Land Settlement Board, Department of Lands and Survey, and the N.Z. Forest Service are also spelled out, including retirement from grazing where necessary, and rigorous control of damaging animals. Recreation is recognized as a legitimate land use in these areas. In addition, the Policy Statement (Appendix 3) lays down the procedure for preparing and implementing overall catchment control schemes and management plans, in which catchment authorities will play a highly significant role. These schemes will be concerned not only with management of the mountain lands, but will be related to downstream values in terms of water resources, river control and sediment discharge.

The National Water and Soil Conservation Authority thus becomes the arbiter and general overseer of all the diverse interests concerned (some powerful and vested). This role will need to be handled with great responsibility and care, with good will and a spirit of co-operation from all others involved.

The stage is therefore set for major improvements in both research and management. It is certain that foresters should play an important role; indeed both the South Canterbury and Southland Catchment Boards have appointed foresters to their technical staffs. To solve the immense problems involved will require a multi-disciplinary approach in which foresters, over the years, should play an increasingly important part.

The Institute will watch developments with critical interest.

Introduced Wild Animals in Forests

In the latter end of 1973 there burst into prominence a "helicopter war" among deer meat recovery firms operating in Fiordland National Park and adjoining mountain lands. This was no doubt a flare-up from a long smouldering dissatisfaction at policies adopted by public agencies to "control" helicopter hunting in the National Park.

There has been some ambiguity in Government policy (as exemplified by the attitude of different Departments of State) on this issue. The Noxious Animals Act, 1956 is termed "An

Act to make provision for the control and eradication of harmful species of wild animals" and one of the powers of the Minister is that he "may from time to time — (d) prepare and issue plans and publications for the control and eradication of noxious animals." The Forest Service, following a meeting on Noxious Animals in 1958, much reduced the area over which the old Wildlife Division of the Internal Affairs Department had attempted control (without notable success) in favour of a wiser policy of concentrating control resources. The official Forest Service policy, since that time, has been: "To control noxious animals generally, to a level dictated by correct land use, and to eradicate noxious animals locally where necessary and practicable, following an order of priority dictated by the values at stake and at a rate governed by available finance." There is little doubt that this policy bore fruit, but the efforts of the Forest Service, in the South Island at least, became obscured by the sudden burgeoning of commercial hunting in the late 1960s. Like any youthful adventurous industry, the early years were rough and tough, but the effect of commercial hunting has been, by and large, a reduction in animal numbers over a considerable tract of country.

The Lands Department, on the other hand, adopted a quite different attitude and appeared to be keen on meeting the wishes of the Deerstalkers Association in regard to the herd of wapiti in Fiordland National Park — strictly contrary to the National Parks Act which the Department is charged with administering via the National Parks Authority and Park Boards — and to attempt to manage this herd in the interests of sportsmen. The Lands Department's attitude in regard to animals on retired run country appears to be more obscure. In an article in the *Press* (11 January 1974) A. S. D. Evans, President of the Federated Mountain Clubs of New Zealand, draws attention to the fact that some holders of pastoral licences were organizing safari hunting for profit on Class VIII and VIIE land (both with serious erosion problems) and that consequently animal numbers had been allowed to increase there. He pointed out that the taxpayer, through the catchment boards, had subsidized retirement of this country from the original grazing leases, and that if the retired lands continued to be grazed (by wild in place of domestic animals) then the taxpayer would again be faced with the account for rehabilitating the land in the interests of soil and water conservation. A reply by M. V. Prouting, of Mesapotamia station, which appeared in the *Press* on 1 February, did not entirely allay suspicions that all is not well.

In August 1972 the Protection Forestry Division of the Forest Research Institute held a symposium entitled "Assessment and Management of Introduced Animals in New Zealand Forests", the proceedings of which were published in 1973. This symposium revealed the very considerable body of work undertaken by the Division, and provided some hope that methods, however crude, had been devised to determine the effects of animal control measures, and that these methods could be used by forest managers to assess the results of their

work. There was some special pleading, with stress on the entirely inadequate resources supplied for research in this vital area. And there were some sharply contrasting points of view; some wished to see complete extermination while others pointed out the undoubted social and recreational value of these animals. Dr J. T. Holloway made much of the distinction between "control" and "management", taking the view that, while management might be possible far in the future, if ever, the overriding consideration is control of animals in the interests of ecological stability and the conservation of soil and water in the catchments in order to protect downstream values. It was significant that everyone steered clear, carefully, of eradication as an aim.

Whatever the merits of academic discourses on the subject, it seems that management is gradually being forced upon the State. In the first half of 1973 wide-ranging talks were held involving several Government Departments and the game meat industry, including the Civil Aviation Division. The outcome was that helicopter hunting in both islands is to be controlled carefully —that is, managed. The eventual objective is to have hunting helicopters licensed in the same manner as topdressing aircraft, under the Air Services Licensing Act. In the *Press* of 1 February the Director-General of Lands, R. J. MacLachlan, stated that the Land Settlement Board was drafting a new policy dealing with safari hunting on pastoral leases. Under this policy, Class VIII and VIIE land would be excluded, and the occupier would be required to "keep noxious animals down". The latest development is that the Government has set up a Caucus Committee to look mto various aspects of the control of noxious animals. These all indicate that some form of management is necessary.

Game meat is a luxury item, and there is no guarantee that a stable market will be available. Over the last few years, the earnings of hunters have been so high that the Forest Service has not been able to attract many for official animal control operations. And, as the industry settles down, and bases its economics on daily recovery rates, so there may be a tendency to "farm" hunting areas to meet these management requirements. Whether the levels achieved by these means will be sufficient to preserve catchment areas is a moot point. At the same time the demand for private recreational hunting also increases annually, sometimes conflicting with commercial hunting. Both trends give weight to pressure for the Forest Service to relax its deer control operations. It would, at least in some critical areas, be most undesirable to adopt a false sense that such control measures are no longer necessary.

In general, therefore, there appears to be a good case for reappraisal of official policy. Some deer in some places — for example sambar in the dune country of the Manawatu — can be considered harmless, and indeed as an asset. There is equally good reason to consider some areas as entirely recreational, where deer up to a certain population density, which can be readily maintained by private hunters, can be tolerated. In this respect it is surely significant that W. Swale

reported to the Animal Symposium that his company was deliberately restricting hunting in its exotic forests in order to increase deer numbers. Similarly, in areas such as the Blue Mountains in Otago, exotic forests have scarcely suffered significant damage for several decades while private hunters have exercised sufficient control. Nor need forest managers be deflected by Dr Holloway's narrow definition of management — "the purposeful maintenance of a yield of animals of desirable quality to satisfy recreational and/or commercial demands".

It is not indeed game management as such that the forester is concerned about, but with forest management for the production of goods and services to satisfy public needs. In certain circumstances the overriding objective will be soil and water conservation, where deer and other animals must be rigidly controlled. In others, a legitimate aim will be the provision of hunting for recreation. It is the activity of hunting which is important, not the killing of the animal, so that demand for the final product is widely elastic; that is, population density and sustained yield are of only minor importance. What is required is to lay down management objectives for each tract of country and to prescribe accordingly, related to the management of other aspects of the resource.

What is of importance — a point that seems to be going by default — is that, if such management is to be effective, the provision of properly trained staff, including technical staff skilled in determining animal/vegetation relationships and interpreting trends as a basis for operations, is an essential prerequisite.

New Ventures in Forest Management

In the 1920s erupted a rash of bond-selling land and forestry companies in New Zealand, often using the enthusiastic forecasts of the first Director of the Forest Service, L. MacIntosh Ellis, in their promotional literature. This movement largely resulted in the despair of thousands of small investors and the opprobrium attaching to all bond-selling forestry organizations in the 1930s. Very few of these survive, and nearly 40 years have elapsed before a modest new beginning has become apparent.

In November 1973 the prospectus of Forest Investments Ltd appeared. The purpose of this company is to allow individuals to share in the long-term gains inherent in radiata pine plantation forestry in New Zealand. The shares offered to the public will not be listed on the stock exchanges and will retain their nominal value for gift and estate duty purposes until the first crop is harvested. There are other novel features. The company has secured a substantial Forestry Encouragement grant which will materially assist in initial establishment of the crop. This crop is to be grown for the specific purpose of log sales to be offered on the world market. Fletcher Timber has contracted to log and market the produce with the proviso that they have a prior right to purchase

if they can match "the most suitable offer" made to Forest Investments Ltd. But in addition Fletcher Timber agrees to purchase, should no other market eventuate, at a guaranteed minimum price adjusted annually according to the formula set out in the Stumpages Working Party Report. There are specific risk-reduction measures, with guaranteed salvage of windthrown timber, and some 1500 acres are to be managed on a farm and forestry basis. The whole deal is set out in a simple straightforward fashion in the prospectus, and early indications are that it is a popular investment. Although the investors forgo interest until the first crop is harvested, there is every indication that in the long run the monetary gains will be substantial, while the value of the growing crop, up to the time of harvesting, will keep pace (at least) with contemporary money values. On the face of it, it looks as if investors have nothing to lose, and plenty to gain, should they decide to back this venture. The Fletcher Timber Co., not lacking in forest management expertise and experience, have contracted to establish and manage the forests, and have in addition engaged the services of J. G. Groome and Associates as consultants.

In February 1974 a similar venture was launched by the Perpetual Trustees Estate and Agency Company of New Zealand Ltd, under the title "Nuhaka Farm Forestry Fund". A Forestry Encouragement grant has also been obtained. The objective is again to produce logs for sale on the world market, and the intention is for the scheme to be an integrated forest and farm project. P. F. Olsen & Co. Ltd, forest consultants, have been engaged to oversee forest management, and Newman and Mollison have been engaged as farm consultants.

Earlier ventures in trying to interest the public in afforestation projects have foundered on the fact that there was no guarantee that the crop would eventually command a market, but present wood demand trends are such that the future market position has been viewed with a good deal of optimism in both these schemes. Forecasts of yield, however, may be too optimistic.

At the other end of New Zealand the Northern Southland Farm Forestry Association (largely due to the indefatigable efforts of its Secretary, David Milligan) has launched the idea of a Farm Forestry Co-operative. Such a departure was suggested by the present Minister of Forests in 1973 (and was commented upon editorially in Volume 18, No. 1). Under this scheme the small grower will still retain his own timber on his own property, but he will engage, along with other small growers, the services of an experienced forest manager who will integrate individual holdings into a district management plan and will, among other things, market the timber when required by the owners. This will in effect put the small grower in a greatly improved bargaining position vis-a-vis buyers, and will thereby no doubt give forestry a much more prosperous image in the locality. It is apparent that at least one more farm forestry body is keenly interested in this development.

Both these new departures are to be greatly applauded, and we wish them every success, with the hope that others will be encouraged to embark on similar ventures.

The Forests Amendment Act 1973

The current Government has developed a much more objective attitude to land use than some of its predecessors, some of whose members appeared to consider any land supporting a blade of grass to be suitable only for agriculture. The present Government has made some very sensible purchases of forest land, including over 200 acres of expensive real estate near Cambridge to be used as a major central nursery to serve both Auckland and Rotorua Conservancies. These purchases appear to have been made on the basis of realistic evaluations of the proper use of the land both techni-

cally and economically.

An important change in land use policy is embodied in Clause 4 of the Forests Amendment Act 1973. State Forests have for over 50 years been made up of Permanent and Provisional State Forest land. The concept of Provisional State Forest was devised by the Hon. Sir Francis Bell in 1919 as a means of protecting a greatly increased area of forest in the face of rapid and often unwise clearance for farming. Initially the area of Permanent S.F. land amounted to only two million acres, with over five million acres of Provisional S.F. land. Today the position is reversed with over eight million acres of Permanent S.F. and only two million acres of Provisional S.F., most of which is suitable only for forestry purposes. Over the years the tedious and protracted business of converting Provisional to Permanent S.F. has ground slowly, bit by bit. Now, a realistic piece of legislation has cleared the decks by abolishing the Provisional appellation. This is, however, no land grab by the Forest Service which, by and large, has shown no reluctance to release land for other purposes should this be considered the best use for the land, while maintaining the legal safeguards in the Forests Act.

Under the second clause of the Act the Minister may, by notice in the *Gazette*, set aside land to be dedicated for a specific purpose. This arose partly from public unease that the reserves defined in the beech scheme would have insufficient legal standing, and partly from recommendations made by the Officials Committee for the Environment: "That greater scope for public notification and objection be required before reserve or protection forest areas are withdrawn or amended" and: "That the Forest Service seek to find an appellation other than 'reserve' to describe forests zoned for amenity, protection and like purposes". Dedicated land may not be used or developed for any purpose inconsistent with the purpose for which it was originally set apart and the Minister may not revoke such dedication until he has given public notification of his intention and has considered all objections. This provision, while allowing for the public to have some say in the matter, also permits the controlling authority to practise multiple use where this is com-

patible with the principal objective of dedication. One is reminded of those beautiful "couronnes" in France, set aside for public enjoyment, but still yielding prime timber, harvested with the utmost care, without in any way interfering

with public recreation in the area.

The third clause allows for the establishment of the South Island Beech Forests Management and Utilization Council, whose job it will be to "advise the Crown in respect of the management and utilization of the beech forest resources in the South Island, after considering all aspects, including those affecting ecology, conservation, wildlife and recreation". One is inclined to the view that perhaps proliferation of Councils may not be in the best interests of forest management, especially a Council which embraces such a wide geographical area with such diverse ecology and such an array of varied human interests. Moreover, what will be the attitude of the Council to the considerable areas of podocarp and other types of forest adjoining the beech areas? And how will this Council relate to the various Regional Development Councils? Much will depend, of course, on the members appointed to the Council, but it may have been better (if a Council is really necessary) to have set up two regional Forest Management and Utilization Councils, one for Nelson-Westland and one for Southland-Otago, with purview over all types of forest and forest land. Is not the proper use of the very extensive areas of rimu forest of similar public concern to the utilization of beech forests? Or do we still regard the rimu forests as a mine for the production of cheap rough-sawn building timber?

Despite these criticisms, one must admit that this is a small

Act with a big punch, and welcome it.

Fire. Chemicals and Pollution

A curious word is pollution when one considers the Latin word from which it is derived. But there can be no doubt about the vogue it now enjoys, the flames of righteous (but oft times ill-informed) public indignation being assiduously fanned by the media. Silent Spring by Rachel Carson flashed like a meteor into our ken, rightly drawing attention to the apalling effects of chemicals misused. As people have huddled more and more into cities, and as governments and parliaments have become more urban-oriented, so a more mechanistic outlook, as opposed to an ecological bias, has prevailed. Mishandling of agriculture by both communist and capitalist governments has been one effect of this unfortunate change, and in some countries farmers are being more and more forced into an economic straight-jacket where they have to consider their land merely as a productive medium to be punished into producing the maximum possible yield. In a world where at least 40% of the inhabitants are ill-fed, and where population is growing at a calamitous rate, this situation will become worse rather than better, and we could well look to past worlds where similar situations led to disaster, such as the decay of the Tigris-Euphrates civilizations, the end of the vast Roman granary in North Africa, and more recently the huge

"dust-bowl" created in North America. Soil, in a word, must be treated on its own merits, and not according to the dictates of finance.

This is not to say that soil cannot be cajoled into improving its performance by judicious use of fertilizers, nor that the biosphere cannot be improved (from the human standpoint) by careful control of harmful insects, fungi and plants. Those who wish to put back the clock significantly come from affluent societies who are unable to imagine the desperation of peasants trying to scratch a miserable livelihood from playedout soils, subject to perils from flood, drought, epidemics and other disasters. Man can control his environment to some extent, and he can aim his endeavours to reach an optimum where the best possible yield is balanced by the least possible environmental damage. Industrial economics should not be allowed to distort this ideal pattern.

There are still large tracts of undeveloped and unproductive land in the world, and there is every indication that they will be required to sustain human needs. There is no point in burying one's head in the sand or in adopting a "back-to-nature" philosophy, nor in trying to stem any further development. There is, however, much point in seeing that land-clearing tools are used properly, with minimum damage to the environment, since fire and herbicides will clearly continue to be two of our major tools for land clearing and control of vegetation. There is also much point in pressing for research into safer methods — biological control of insects, fungi and indeed higher plants is not to be ignored.

Among land users, foresters can produce what looks like major devastation and pollution of the environment by burning off large tracts of country. And yet, for any one rotation, this may occur only once in 30, 40, 50 or 100 years, while in the intervening period the forest has a healing role, building up soils and humus, trapping carbon dioxide and releasing oxygen. With increasing intensity of wood use it may be that only one fire, to start the cycle, will be necessary. Moreover, the managed production forest may in time become vastly more important to human welfare than it is now as fossil fuels — the basis of countless industries — become scarcer; the current cutback in Middle East oil supplies is only a start to accumulating shortage of non-renewable resources.

Forest managers are also increasing their use of herbicides for breaking in land for production, and it is clear that the human fear of the unknown is no less potent today than it was in past centuries. The fear of herbicides is akin to that experienced by soldiers in the last war, thousands of whom contracted malaria because they feared that the prophylactics provided might lessen their virility. Among the most important herbicides must be counted 2,4,5-T which, two years ago, was supposedly linked with foetal deformations. This eventually resulted in a Supreme Court case where Mr Justice Haslam vindicated a decision of the Agricultural Chemicals Board concerning the use of, and control of the use of, that chemical. In spite of public fears, new herbicides continue to appear on the market, while foresters increase their

knowledge of them, and also improve their skills in applying them. In the early years, herbicides were used as blunt instruments to cudgel vegetation into submission. This is no longer true, for herbicides are treated rather as a scalpel than as

a club, the dose being carefully prescribed to deal with the particular needs of a particular situation.

Nor is the public generally aware of the immense safeguards now laid down by appropriate authorities before any new chemical is allowed to be used. From the first finding of a promising chemical, to the initial sale of a new herbicide based upon it, can take anything up to ten years, and costs can mount to \$10 million or more. Effects on the environment, on wildlife, and the likely effect on humans, are exhaustively examined. There is no case for indiscriminate use of any chemical, but at the same time we cannot ignore their great value to human livelihood. Wise use is justified.

Contorta Pine — Weed or Economic Species?

It has been said that a weed is a plant in the wrong place. From time to time rather alarmist statements are made about contorta pine as a weed in various parts of New Zealand. In the early 1960s it was thought to constitute a threat to the South Island high country, with the result that the whole mat-ter was studied by the Protection Forestry Branch of FRI. Their report, presented in 1967, showed that the risk of spread would occur only where run country was managed rather extensively, carrying much less than one stock unit per acre. At the same time, the Protection Forestry Branch was continuing to demonstrate the value of contorta pine for rehabilitation of some types of high country soil depletion.

More recently attention has been transferred to the neighbourhood of the Waiouru Military Reserve and the Tongariro National Park, where natural regeneration from stands in Karioi Forest, and from windbreaks within and near Waiouru. has spread over considerable areas. Military authorities are concerned since a forest cover renders the area unsuitable for the purposes for which it was reserved, while Park staff aim, in accordance with the Act, to exclude alien plants, par-

ticularly those likely to continue vigorous spread.

Foresters tend to view the situation with an ambivalent attitude. Contorta pine has demonstrated its value on poor soils, high elevations and frosty sites, and at Waiouru a large and potentially productive resource has come into being without any financial outlay whatsoever. Why not accept this windfall and cash in on it by stepping in and managing it for wood production? There is no question that attempting to eradicate the "weed" will be very costly and may itself have undesirable effects on the environment. And what if eradication (and that is the aim) proves to be technically infeasible? Fire, machines and herbicides are all being suggested as the "answer" but a combination of all three is likely to be needed.

Two points seem clear. So long as there is an ecological vacuum plants will inevitably invade. Therefore, so long as seed sources of contorta pine remain, regeneration will con-

tinue to occur in this area under its present land use. Secondly, this is not a simple matter of removing the pines and everything will then be all right. It is likely to be a long haul over several years. Removal could well leave the field free for invasion by other weeds, which are beginning to make

their appearance.

Ecology is no longer concerned with static descriptions of what exists, but aims to study dynamic historical processes. New Zealand has recently (ecologically speaking) been subjected to two waves of invasion by man, animals and plants, first Polynesian and then European. The processes thereby set in train will have repercussions stretching far into the future. Emulating good King Canute will not stop this tide either. At best, man can guide it into directions that suit his interests, provided he knows what his interests are.

Contorta pine will doubtless have, in time, a useful role to fulfil in New Zealand. Where it is thought to be a weed, it might well be of value to consider whether the land on which

it is growing is being put to its best use.