

EDITORIAL COMMENT

Whither the Forest Service?

The Forest Service has been under a political microscope for several years without any diagnosis being made. There seems now to be increasing pressure for the application of a scalpel blade to the Service, dividing its functions in pursuit of a superficially desirable rationalisation of governmental activity, and an undoubtedly desirable goal of efficiency. We must question whether the rationalisation sought will achieve the benefits claimed for it, and whether the mooted changes are a precondition of efficient management.

A major plank in the case of those who argue for change is that New Zealand needs a strong "environmentally oriented" department of State, capable of withstanding the developmental tendencies of other departments, politicians and industrialists. They believe that such a department would be stronger and more influential for not being tainted with any whiff of production, in the conventional sense. Thus they propose that this "Department of the Environment" would assume responsibility for all those parts of the land from which society does not demand any physical production; parks and reserves of national significance, native forest and mountain lands managed principally for the maintenance of its protective value and for recreation, and native wildlife generally. The unacceptable parts of those departments which have responsibilities in these fields would be phased out, or hived off to some other pigeonhole; plantation forestry, under this plan, would become the responsibility of a commission or some similar body.

This proposal cannot be accepted. Indeed, it would have disastrous long-term effects for New Zealand society. The ultimate reasoning of its proponents seems to be this: we are unable to control technology, to achieve a form of land management and a way of life which accords with our value system (which paradoxically is probably not the value system of the majority, if indeed the majority can spare the time from the daily exigencies of maintaining life to think about a value system), therefore we must withdraw into the laager as much as possible of those things we hold dear, the better to defend them against the depredations of society. Doubtless there are noble objectives, too.

Perhaps a belief that, once established, the laager will become a powerhouse for conservation, a centre capable of exerting a controlling influence on the misguided objectives and schemes of the uninitiated.

But what rational grounds can there be for such a belief? Is it not far more likely that such a department would become increasingly divorced from reality, a retreat for those unable to cope with the rude economic basis of the outside world? And in fact an environmental analogue of the Lord's Day Observance Society, a haven for opponents of change, and an increasingly irrelevant and inconsequential opponent of decision-making. The New Zealand experience is not heartening in this area; bodies set up to advise and monitor, without practical involvement have, when the going has become rough, been modified or pushed aside. The demise of the Commission for the Future, and the hamstringing of the Commission for the Environment are two recent examples. This is not to say that such bodies are not needed, nor that their motives were anything but blameless — only that New Zealand society (if we accept that Parliament reflects that society) is not yet ready to recognise the necessity for long-term goals to define our directions, or that the maintenance of the environment involves not just the physical environment of clean air and clean water, but the social and economic environment as well.

The best chance we have of maintaining a sensible environmental input, of ensuring that the management of land is an integrated function, is to keep an education system for our land managers which imparts to them an understanding of as broad a range of disciplines as possible, and to ensure that the integration of these disciplines is not impeded or prevented by the erection of a series of bureaucratic boxes beyond which each may not step. This way surely lies disaster! It reflects a defeatist mentality (assuming that the proposers have no Machiavellian motives). It contravenes the principles of ecology so painstakingly developed over the past 80 years and certainly will not lead to the development in New Zealand of the nirvana consciously or unconsciously sought by its exponents.

Foresters in particular have a long tradition of integrated education, and integrated management. That there have been failures in New Zealand, instances in which foresters could have done better, there is no doubt at all, but the proper determination of these will require an historical perspective. It is certainly not possible to gauge that an artificial separation of forest

management functions, and their allocation to separate government agencies will achieve a more acceptable result, and all the arguments of principle must range against it. Pastoral managers, too, recognise the benefits of integration.¹

To summarise:

- New Zealand (and the world) has a finite inheritance of natural resources, including land.
- Whether or not we recognise or accept it as inevitable, mankind is no longer part of the original “natural” system. His survival depends wholly upon his ability to manage natural systems for the complete range of goods upon which he depends.
- His development, proceeding at an exponential rate as is his number, has or ought to have passed the purely exploitive phase, when the consequences of his actions were of no consequence, and the phase which is reactive to this, in which the parcels of unexploited land were given legislative protection as the only means of slowing down the steamroller of exploitation in the name of progress.
- The need in the future is for management which is capable of producing the widest range of goods and services from land as possible, and for an administrative system which facilitates this.
- Such a system would combine the disciplines and skills involved — not separate them.

There are no convenient dotted lines within forest management along which political scissors can be wielded. There are few indeed within land management. Those that have previously been cut would be a great deal more usefully joined, than for further excisions to be made in pursuit of an irrational rearrangement of the components. The time has arrived when the division made necessary in 1919 by our collective immaturity and inability (which may simply have reflected a lack of necessity) to recognise ultimate limits to growth and a consequent requirement for multiple land use, should be reversed; a single Department of Lands and Forests² is now both possible and necessary.

¹ McKenzie, T. D., 1982. Production and protection. *Landscape*, 11: 12-5.

² As this issue of the *Journal* went to print, the Minister holding the portfolios of Lands and Forests announced Cabinet approval in principle for a merger between the Department of Lands and Survey and the New Zealand Forest Service. He is to be commended on the wisdom

Grocers in Paradise

Every so often one comes across a piece of writing which forces one to think seriously about one's profession. There have been numerous critiques of varying value of New Zealand forestry in recent years; the last to come to notice is "History in an Antipodean Garden" by Denys Trussell.³ Trussell holds up a mirror to New Zealand society, and in particular to the way in which we have treated, and still treat, our land, and he does not like what he sees; "Grocers in Paradise, we parcel and sell what we cannot comprehend over the counter of multinational greed". The mirror is cracked and the glass distorted, but the author, despite his repetition of oft-repeated myths ("Kahikatea is virtually extinct"; "Oceans of pine planted on land that cannot sustain repeated harvesting") manages to touch a few raw nerves.

A "small is beautiful", Friends of the Earth philosophy permeates his writing. Self-sufficiency is all-in-all. But we cannot go backwards — what has been done is done, and we have no option but to make the best of the legacy our forefathers have left us, whether or not it is the one Mr Trussell would have chosen.

Part of that legacy is much reduced, but still significant reserves of indigenous forest. As foresters we have maintained that, provided adequate reserves of virgin forest are set aside to maintain in perpetuity those values incompatible with modification of the virgin state, then the remaining forest should be considered to have a management option for wood production. Government is steadily closing that option in response to cleverly organised and orchestrated pressure group tactics. This action is ill-advised and unjustified.

he has shown in making this decision. There is a great deal of water yet to flow under the bridge, and an infinite number of meanders into which the merger may be diverted, before a unified, purposeful and effective department is created. There have already been plaintive cries from vested interests ("The shark will eat the kahawai" in the emotive language of an environmentalist fearing a lesser degree of sympathy with preservationist views), but the decision is a correct one, and should be pursued resolutely. The merger, however, must be more than mere cohabitation; it must represent a marriage — and the sooner the functions of the marriage partners are assumed by their offspring (biases and entrenched attitudes not being heritable characteristics) the better.

³ *The Ecologist*, 12(1): 32-42 (1982).

There is no doubt that many forest values have now gone which, had we now the opportunity, we would maintain. Probably the administrative reaction to the success of exotic species, and the recognition of the value of unmodified forest could have been more rapid. But given the necessary imperfections of a democratic system, the present situation has been almost inevitable. (Trussell seems almost to deny democracy, or at least to imply that democracy has made worse decisions than could he.) Government has closed the door on forest management in Okarito and Waikukupa, has placed in reserve all remaining virgin podocarp forest in Pureora, an area far in excess of that for which reserve status was considered necessary by its independent advisory body, working to objectively determined criteria designed to meet objectively determined goals.

We surely owe to future generations of New Zealanders some recompense for grossly wasting most of our native forest heritage over the past 200 years. Even if we cannot bring ourselves to use the wood, it should not be made absolutely inaccessible, nor should we abandon programmes designed to understand the forests' ecology so that management to satisfy a *range* of human goals, and not just the narrowly self-centred preservationist ones peculiar to an articulate and fortunate few, remains possible.

There are easily definable conditions under which native forest not clearly required for non-productive uses should be accessible. These include:

- Sustained yield (on a New Zealand-wide basis if necessary). This condition includes a requirement that the silviculture of the species is sufficiently well known to permit management.
- Price determined by intrinsic quality of wood, and comparable with the price of alternatives.
- An identifiable demand not generally being met or capable of being met from other sources.

Only by the implementation of these principles can we realistically reject the description "Grocers in Paradise".

The Buller Forests

The Forest Service published in January this year a draft management plan for the Buller region. The plan implements the policies adopted by Government for the West Coast, and for Buller particularly, in 1978, after the 1977 Hokitika Seminar, which was widely representative of interest groups.

It is a measure of the speed with which perspectives on native forest have changed that it seems anachronistic now that a major, if not clearly identified, plank of the Buller policy was the sustention of jobs, to which forest management was subordinate. To this end the economically accessible (at present-day values) forest was to be cut over 30 years, while a replacement plantation resource of softwood and hardwoods was established. A principal fault with the scenario is that it assumes constancy of policy over a long period; that it will remain acceptable to overcut indigenous forest; that it will remain acceptable to convert even limited areas of indigenous to plantation forest; that there will continue to be a social justification for forest-based employment. The policy does not do justice to the people of the Buller (whose forests they are) nor the nation (which has a major interest in them as forests, and which must provide a market for their produce).

There are major problems, not least the mixed beech-podocarp nature of the forests and the lack of a market for industrial quality beech wood, and the economically depressed local communities, but forest management policy should start from first principles, with departure where justified. Those principles for Buller could well include:

- A reappraisal of the adequacy and representation of the reserves in the context of the arguments adduced in public comments, and the newly available definition of ecological districts.⁴ (Such a reappraisal should take into account all existing and potential reserves in Crown tenure.)
- A re-examination of the potential for plantation forestry, economically and socially, taking into account all potentially available land, particularly that in Crown tenure.
- The establishment of an annually allowable cut, sustainable in perpetuity, for a series of working circles defined by the economic accessibility of forest at successively greater relative values of timber.
- The adoption of programmes designed to reduce the current industry to a sustainable level, with an annual cut commensurate with the capacity of the market to appropriately use and value all the forest produce available. Such a programme

⁴ Simpson, P. (Compiler), 1982. *Ecological Regions and Districts of New Zealand: A Natural Subdivision*. Biological Resources Centre, DSIR, Wellington.

would, unless there were to be a requirement that there be a much higher level of processing in Buller than presently obtains, inevitably reduce employment, even if the total value of the industry remained significantly unchanged, and should be harmonised with other programmes providing new avenues of employment.

The definition and implementation of such a policy will be difficult. But unless it is done, and done both soon and well, the opportunity will have passed, the views of the preservationists who can presently point to the extractive nature of the industry will prevail, and the long-term value of the forests, which is not as one great natural wilderness but as a natural resource capable of meeting a wide range of mankind's needs, will be forgone until such time as a generation with more sense than our own appears.

The Wapiti: Laws over Logic

Wapiti have successfully established a population in a remote corner of Fiordland, and survived for some 70 years, providing a large number of New Zealanders with considerable challenge. Their retention and management in Fiordland has been promoted by deerstalkers' organisations, and their removal by groups pursuing a rigid view of the requirements of National Park legislation. (It is amusing to reflect the fashion in political influence illustrated by this controversy — who would have thought 20 years ago that the deerstalkers would be supplanted by environmentalists? Indeed, who would have known what an environmentalist was?) The wapiti have indubitably changed the nature of their Fiordland habitat in many ways, but the nature of the terrain, the climate, and the geology all contributed to the existence of a tolerable balance.

But man decided, long after he had decided to liberate wapiti, to label that large chunk of New Zealand "national park", and to do so under an Act so single-purpose in its outlook that it required that introduced plants and animals should, so far as possible, be eliminated. It is under this clause that there has been agitation, apparently now successful, for the removal of wapiti and their transferral to another part of New Zealand. The question is, however, where to? Is there another place as good as George Sound, where it is proven that wapiti can survive, and be in reasonable equilibrium with its habitat? The chosen area has been announced as the Owen-Matiri Ranges of the

sawing patterns and (some) price assumptions can be altered at will.

The model takes into account all factors which significantly affect yield and quality, and therefore the profitability and marketability of the tree crop. For any one computer run there are between 80 and 90 decision entries (for most of these default values are available). An infinite number of options and alternative regimes can be tested.

The model is still under development, and not yet fully available, but so far it has shown that factors which affect discounted values by at least \$200/ha (at 10% compound interest) are:

Forest variables:

Site productivity (volume and tree size).

Location, especially distance from processing plant and/or market.

Pruning (especially if the price for clears is high).

Thinning (especially the final crop stocking).

Rotation age.

Sawmill variables:

Minimum small end diameter of sawlogs.

Mill conversion standards — especially the amount of overcut.

Sawing pattern.

The model has also shown that almost all aspects are inter-related. Some of these interactions are very important, particularly so for the interaction between silviculture and processing — much of the quality improvement achieved by the forest manager is lost if the trees are felled too early and/or if they are processed inefficiently or with inappropriate systems.

While much work still remains to be done to extend the capacity of SILMOD to predict the outcome of a greater range of treatment, crop performance, utilisation and market variables, the more important lessons can be immediately learnt and applied. These include:

For research

— A modelling approach is probably the only means by which complex interactions can both be understood and be communicated in a meaningful way.

- The model, once constructed, is an invaluable guide to the areas in which future research is likely to be most profitable.
- Since almost everything is inter-related with everything else no one aspect can be considered in isolation — *e.g.*, it is not possible to look realistically at processing options without an intimate knowledge of the size and quality of the resource.
- Easy access to friendly and interactive computers is essential. However, the management implications of this technological revolution have yet to be evaluated.
- This change in work methods also has implications for the way in which research is organised and managed.

For forest management

- All silviculture regimes, especially those involving high final crop stockings, must be re-evaluated.
- To use SILMOD effectively there has to be serious consideration given to what should be the goals and objectives of radiata pine management. The model only helps managers determine how best to achieve an objective — it does not determine what the objectives should be.
- The way in which wood is sold must be reconsidered, since the benefits of good silviculture can easily be wasted. (Log grading may be a useful start.)

For land use

- We need to seriously question the philosophy that forests should be restricted to the poorer and more remote sites.
- Integration of farming and forestry offers very considerable potential.

For sawmilling

- Far more attention should be given to process efficiency (especially to overcutting) and the matching of process (especially the sawing pattern) to the resource.

New Zealand is dependent on the produce of its land for its standard of living. A significant part of our export potential lies in forest products. It is essential that these products be of the highest quality and produced as efficiently as possible. While there may be some argument that New Zealand needs a higher

proportion of specialist timbers in its export portfolio to avoid the trap into which agriculture has fallen (it is of little use being the world's most efficient producer of bulk products like meat and wool if the economics of getting them to the market are such that internal subsidies (SMPs) are required), that is a question for another day. At least here we have (almost) at our disposal a powerful tool which will enable us to make the best of the resource we already have, in rapidly expanding quantity.

The Value of Information

Forestry has always been an international discipline, with an unrestricted flow of information and technology, at least in the areas of management and research. New Zealand has shown little or no compunction about the export of technology developed by the Forest Research Institute (biological material; the precision seed-sower) or the means for the creation of future competition (radiata pine seed to Australia); one assumes that this admirably high-minded approach has been a deliberate one. It is difficult to identify the point at which a different attitude to the transfer of technology prevails, or the rationale for it, but such a change manifestly occurs; a "strict security clamp" was reported⁶ as being in force on a new multi-million dollar wood drying plant incorporating "advanced technology", to be installed by American engineers in Taupo.

The Forest Research Institute conducts research in this area, and in many other areas where the results are potentially of inestimable commercial value. We in New Zealand must decide, therefore, whether we should adopt a much more "hardnosed" attitude toward our potential competitors in the forest produce sector, or whether we should continue on our philanthropic way. (Readers will probably have reflected on the situation in the kiwifruit industry where we have not only exported the plants, but failed even to protect the name!)

One product of enormous value to New Zealand, and therefore to potential competitors (principally Australia and Chile) in radiata pine markets is SILMOD itself. But SILMOD is a package basically of knowledge and brainpower in the form of computer software notoriously difficult to protect. The available options seem to be:

⁶ *N.Z. Herald*, 18.5.82.

- Treat SILMOD as scientific research and make it freely available.
- Sell SILMOD on the open market for what we can get.
- Keep SILMOD for New Zealand users.
- Sell our expertise in model development.

The models, to be of greatest use overseas, must be modified to represent local conditions. Modification requires access to the basic functions; access to the programme alone is of no advantage outside New Zealand except to analyse New Zealand's potential, and to determine the principles discussed in the previous editorial note.

Even if the third option is chosen, the security devised would be unlikely to protect the functions for more than a limited number of years. So the question becomes one of deciding whether the potential return to be derived from a lead time of perhaps five years in New Zealand is of greater or lesser value than the value of the model sold now.

The final option may in the long run be the most profitable. It is almost impossible to prevent the expertise in the form of the model developers themselves being enticed overseas if the inducement is sufficient. Counter-measures within the existing constraints of a bureaucratic structure are equally impossible. Is it then feasible to devise some mechanism by which New Zealand could retain the skills it has at great expense developed, expand those skills by refining further the locally applicable models and developing appropriate models for other countries and other species, acquiring at the same time a data bank of our own on the resources of those countries? It is not unrealistic to forecast the result being the creation in Rotorua of a forestry centre of major significance in the Pacific.

L. W. McCaskill

It is with great pleasure that the Institute notes the additional recognition accorded one of its distinguished Honorary Members, Dr L. W. (Lance) McCaskill, who has been granted honorary membership of IUCN, the International Union for the Conservation of Nature and Natural Resources. It is certainly worth repeating a part at least of the accolade accorded him by the profession of forestry on his election to honorary membership in 1970 — "In this era of multiple use forestry, the Institute

is itself honoured by numbering amongst its Honorary Members such a staunch conservationist.”⁷

Lance McCaskill's notable career, which was certainly not brought to a close by his official retirement in 1965, still continues; he has made a significant contribution to a volume on the mountain lands of New Zealand shortly to be published, which will be noticed in the next issue of this *Journal*. Dr McCaskill has been a conservationist *par excellence*, fully in accord with the basic principles of wise land husbandry expressed by the Institute, and discussed by the past President, J. D. Rockell, in his Presidential Address in this issue. It is admirable that the talents and achievements of the man, noted by us in terms which are as fundamentally accurate today (although subject to misappropriation by those whose views are preservationist rather than conservationist) as they were more than a decade ago, should achieve international recognition. It comes to few men to achieve so much, in so many fields.

Pacific Science Congress

This issue carries a notice of the 15th Pacific Science Congress, to be held in Dunedin in February 1983. It is rare that New Zealand foresters have an opportunity to participate in such an international gathering, and it is to be hoped that this opportunity to discuss the achievements, the failures, and the future direction of forestry in this country and the Pacific will be seized by as many forest scientists and forest managers as possible. Even in this day of frequent and easy travel, and therefore of comparison between the practices of different lands, much can be gained from the exposure of our forests and their management to the quizzical eye of those with experience in other lands.

Arnold Hansson

Arnold Hansson was a man who outlived his contemporaries. Not only is there nobody still alive who can contribute to an understanding of his achievements and his personality, but his own career has made such an understanding more difficult, and at the same time more fundamental to a proper analysis of the historical basis of the discipline of forestry in New Zealand.

There can be few men to whom it is given to become Chief Inspector of an infant but important body such as the Forest

⁷ *N.Z. Jl For.*, 15(1): 8 (1970).

Service at the age of 30, to achieve apparently so much and yet to be sacked within 13 years, and to live another 48 years, a spectator only of the progress made by the department and the profession, in the foundation of each of which he had played such a seminal role.

The obituary in this *Journal* provides but a very sketchy picture of a man whose accomplishments were legion. Hansson was perhaps a last survivor of that generation of classically educated "explorers" to whom the world was available for the satisfaction of their curiosity and the application of their knowledge, without the constraints imposed today by a multiplicity of governments, laws and regulations. His status with the Forest Service, and his role as second President of this Institute make imperative a fuller examination of the history of forestry in New Zealand and Hansson's part in it. Is this a proper role for the Institute, to commission such a history itself?