

A Farm on the Right Tracks?

BY DIANE LUCAS

The practice, Diane Lucas and Associates is a rural-based, rural-oriented, small-scale practice involved in a wide range of type and scale of projects, predominantly in the eastern and central South Island. The practice operates with an underlying philosophy of:-

1. responsibility in design for the conservation of resources;
2. maximising the "specialness" of every site, particularly any indigenous characteristics which exist or existed;
3. enhancing the landscape character and quality of every district for those who live, work and visit both now and in future;
4. providing a design service available to the general community no matter how minimal the project's scope or budget.

The work of the practice in designing for farming people has already been outlined (*The Landscape*, No 14 July 1982). Considerable effort is also made in developing a general understanding of landscape values amongst those who manage, administer, research and otherwise influence the development and management of rural areas.

Rural Values — Whose Responsibility?

Responsible development and management of our rural lands cannot be dependent on legislative controls. The sparse population cannot provide the expertise or finances which would be involved in preparing and administering such controls. Such inputs are obviously essential in densely populated countries where maintenance of quality 'green areas' around and between towns is necessary for maintaining any environmental quality — for air and water quality, for local produce, and for psychological health in urban societies for which the existence of accessible rural space is a basic requirement. In such societies it is logical that farmers are subsidised by urban people to manage the countryside. In New Zealand we have very limited areas involving such urban concentrations.

The New Zealand countryside has values beyond that of providing a quality environment for urban people, or of just providing food. New Zealand has such internationally special resources, predominantly natural, that these resources justify the careful man-

agement of our countryside.

Most of the countryside is freehold, therefore any development direction and controls will be only within the constraints of the local planning scheme. But the Town and Country Planning Act (1977) has as yet not been effective at controlling the management of land.

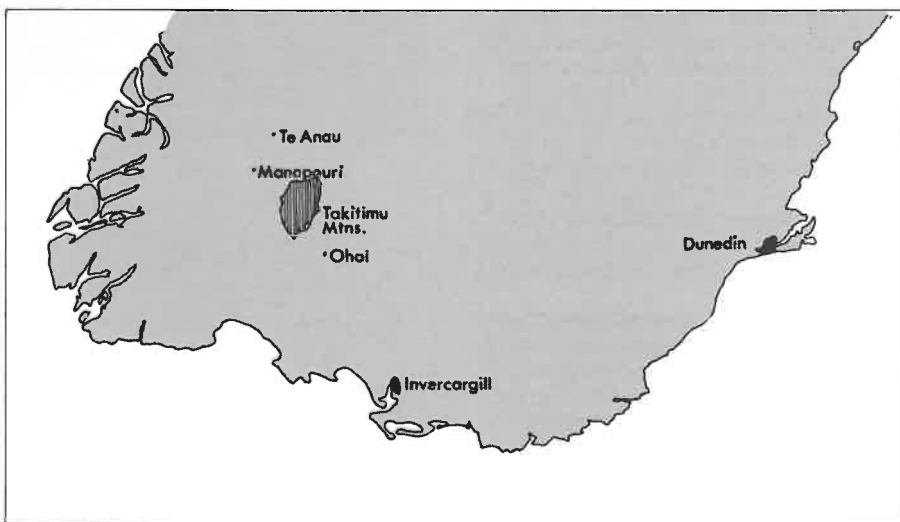
Development and management needs to be sensitive to the special values of our countryside. Although at least 80% of New Zealanders are urban dwellers, the bulk of the countryside probably lies outside the zone of immediate association or interest for urban concentrations. Therefore subsidising the management of these lands from urban funds cannot be justified.

Thus countryside management must be self-supporting, and the decision-making must largely rest with those in the countryside. Even though we are talking of regionally and nationally significant resources, little more than policy-making and guidelines are feasible for land development and management in most of rural New Zealand.

To demonstrate the role of landscape ar-



Distinctive visual character of tussock cover.



Location plan: Mount Linton Station, near Ohai, Southland.

chitecture in conservation, management and development of the rural resource, a case study is outlined.

Mount Linton Station

Mount Linton Station is a large freehold farm on the Takitimu Mountains, near Ohai in Southland, and is owned by the McGregor family. The property extends over 10,000 ha., from low flats (130m alt.) up to high country (950m alt.). The farm carries 70,000 sheep, plus cattle and deer.

Every project we undertake is different, but the Mount Linton situation is atypical for several reasons:

- (i) we were employed via the landscape contracting and nursery firm of Noel and Sharon Kennedy, of Centre Bush, Southland.
- (ii) we have an open brief to prepare proposals for the whole property, with no direction as to what was required; and,
- (iii) a definite annual budget for ten years for preparing and implementing landscape proposals is available.

The farm enterprise is entirely pastoral, with the lower country all in exotic pasture having had extensive drainage schemes installed in the past. Mid-altitude slopes are clothed in semi-developed tussock grasslands. The high country is largely undeveloped tussock cover — with both snow and red tussock associations.

Although the tussock grasslands have been ploughed on the more gentle terrain, generally the conversion from native to exotic is undertaken by intensive stock management, fertilising and seeding. The exotic pasture is significantly more productive than the tussock cover, but the change in productivity accompanies a dramatic change in landscape character. The various tussock grassland associations have a distinctive visual character created by the subtle colours, textures and patterns of these grasses, further enriched with interspersed patches of native forest, shrubland and fern. The bright green and continuous simple cover of any exotic pasture is therefore starkly contrasting.

A Soil and Water Conservation Plan for farm development had been prepared by the Southland Catchment Board in 1976. The Plan aimed to maximise pastoral production, whilst minimising soil erosion. Mount Linton Station lies on the south east of the Takitimu Mountains, with the Wairaki River forming most of the western boundary. The climate is relatively cool and moist, with an average annual rainfall of 890mm., but little snow.

Wonderfully Diverse Landscape

On our first visits to the property in 1984, landscape designer Ines Ståger and I were overwhelmed by the range of landscape experience within much of the property from the diversity of topography and remnant native vegetation. The topographic enclosure and changes in vegetation in response to aspect, drainage and slope, as well as to past management, created interesting semi-wild farm landscapes over considerable areas of the property. But it was also very evident that the vegetation was constantly under pressure from development.



Wairaki River flowing through the station offers recreation opportunities. Conservation is a priority in this corridor.

During visits we were also overawed by the enormous areas of gentle, rolling, green paddocks, dissected by numerous small creeks, within which there was no remnant of native vegetation cover. We could see that the character of this developed country, which provided no special landscape experience, would spread over almost the whole property under the existing ongoing development policy. Ordinary green paddocks of varying contour would gradually displace the existing varied cover over most of the property.

In drier parts of the South Island high country it is important to retain the tussock cover to attract and conserve moisture, to prevent wind erosion of the soil, and to ensure there is permanent cover. On Mount Linton Station, with heavy soils and moist climate, these reasons are not valid. But these grasslands are valuable in reducing rapid runoff which contributes to downstream flooding, in filtering runoff to reduce the animal wastes and fertiliser washed into streams, and, in providing inter-tussock sheltered sites for plants and animals.

Lack of Ecological Data

Very little information is available on the ecology of the Takitimu Mountains. To ascertain the range and significance of remnant native vegetation on the Station, we had a botanical survey undertaken by a Dunedin freelance botanist, Don Bruce. His brief required identifying the range of trees, shrubs and substantial monocots; recording significant areas of each type of association, noting significant contiguous associations; as well as commenting on the viability, vulnerability and management requirements of each association.

Obtaining information on the native fauna present on Mount Linton has been more difficult. Local enthusiasts have assisted in preliminary surveys of the birds present on the Station. Although the owner, Alistair McGregor, is very interested in having an entomological survey undertaken, sadly this has not as yet eventuated because of the lack of availability of expertise.



Remnant vegetation under considerable stock pressure.



Diverse native plant associations remain.

We consider that data on habitats valued for native fauna and flora is important in deciding on a development philosophy for the property, as well as for the details of preparing proposals. It is unfortunate that such data is not readily obtainable. I hope that an important role of the new Department of Conservation will be to actively identify both ecological and landscape values contained within freehold land, and actively seek the protection of these values.

Landscape Concept

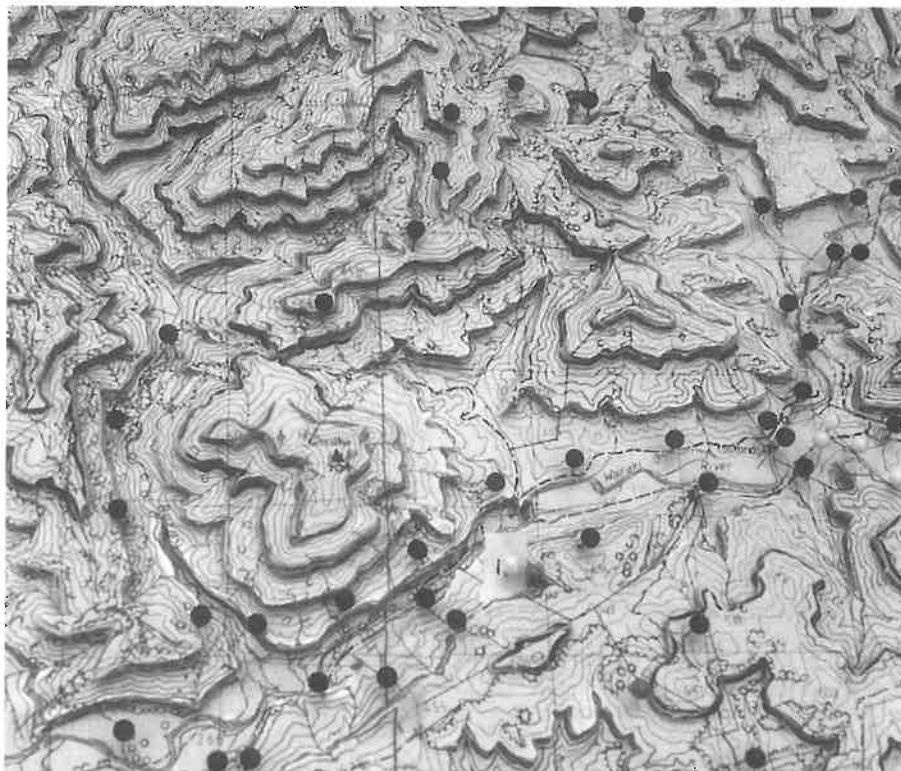
Our overall design concept for Mount Linton Station is based on:-

- (i) recognition of the variety of landscape experience within the property;
- (ii) the considerable opportunities for recreation;
- (iii) the potential for and limitations to exotic pasture management;
- (iv) the vulnerability of the landscape and recreation values under intensified land management; and,
- (v) appreciation of a national responsibility to conserve and enhance tussock grasslands and associated plant and animal communities for future generations.

With base information including soil surveys and land capability mapping, vegetation and preliminary bird surveys, a farm development plan, contour maps and model, plus aerial photographs at various scales, used in conjunction with inspections, we have prepared a general design concept for the Station.

The concept involves zoning land areas for either conservation or for development. 'Conservation Zones' have conservation of landscape, ecological and/or recreational values as a priority, and any farm production being only as allowable in meeting the conservation objectives. 'Development Zones' have farm production as a priority landuse, with conservation as a secondary objective. In more sensitive landscapes, such as dry high country, conservation objectives would have a high priority throughout, with development for production subordinate to these objectives.

Part of working model used in the concept design.



Using the information on ecological values, land development potential and degree of development already undertaken, visual catchments and corridors have been analysed and 'Conservation', 'Development' and 'Transition Zones' proposed. Different management strategies have been proposed for different types of 'Conservation Zone', to restrict grazing, seeding and fertilising to varying degrees in different catchments, to maintain the native cover, and, to encourage or actually initiate revegetation.

The landscape corridors proposed were selected to provide the most quality and varied experience, to cause minimal conflict with critical farming operations, and to utilise existing accessways and accommodation as appropriate. Protection of a wide range of native vegetation for purely visual reasons is proposed in selected corridors. Some regeneration is also to be encouraged. Protection of a wide range of plant communities and wildlife habitat has been elected as valid, both for their intrinsic value and with natural history expeditions being a future option. The ecological surveys and our proposals have stimulated interest in the natural values of the farm by those who live and work there.

Conservation Objectives Accepted

The owners of the Station have accepted our statement that although almost the entire property has the potential to be developed as an enormous area of exotic pasture, such development could seriously limit their future landuse options. They accept this concept of designating large areas for conservation to protect the landscape character and ecological diversity, even though this reduces the pastoral production capacity of the property. Intensive development is proposed to be confined. Instead of broad-scale semi-development leading to broad-scale total development, we propose confined intensive development, contained within a 'conservation' framework.



New plantings are necessary to reduce the impact of existing plantations.

The concept has been welcomed by the Station owners, with the understanding that the loss in potential pastoral productivity will be offset by retaining and enhancing tourist, recreation and other landuse options for the future.

The value of protecting rather than destroying the natural diversity is now being appreciated. Bush remnants had been appreciated in the past, with one block of several hundred hectares, 'Barcoo Bush', having been voluntarily fenced out without the aid of the Queen Elizabeth II National Trust assistance offered. But the value of the full range of natural features had not been recognized.

The acceptance and interest in conservation from those on this progressive and respected farm is most encouraging. Should the farmer's commitment be backed up with some legal protection for long-term security of these recognized values? Protective covenants, and public or private reserve status could all be applicable to a minor degree. But sensitive management of this landscape requires commitment from those involved in day to day farming operations.

Formal administration of a concept such as we have proposed could not be imposed from beyond the farm — especially not in this location which is remote from population pressures. This situation is typical of so much of our rural landscape, where public purchase or strict protective legislation cannot be justified, yet there is public interest in ensuring ongoing sensitive management to conserve natural or semi-natural values.

Design for Development

In complete contrast to the semi-natural 'Conservation Zones', the areas of Mount Linton Station which we have proposed as 'Development Zones' involve designing for intensive pastoral activities, including complete conversion to exotic pasture and construction of stock management facilities. Planting to protect water quality, to help dry over-wet soils, to provide favourable micro-climates, to produce timber and fuel, to provide bee forage and bird habitat, to re-establish a network of local native vegetation, and, to create an appropriately substantial tree framework, are all now underway. The enthusiasm and prompt action from Station Manager, Graeme Mullally, have been most encouraging.

The integration of tall, woody, deep-rooting plants is essential for extensive exotic pastures throughout the country. But intensive stock management make such plantings very vulnerable. Our rural landscapes have suffered from a tradition of separating forestry and agriculture in education, administration, advice and funding — separate schools, separate departments, separate advisors; neither having any real knowledge of the other. It is important that integrated management systems be researched, tried and promoted for the improved sustainability and diversity of our pastoral system. In the areas designated as 'Development Zones', Mount Linton provides just such an opportunity. Plantings are well underway for broadleaf tree blocks being established through pasture, as well as trials using existing shrublands and conifer stands as nurse crops.

Although considerable pine plantations had been established in the past for shrub weed control, our brief was for no further pines to be established — a requirement which we are more than happy to comply with. Also, that shelterbelts were not thought desirable or necessary on this property — natural shelter is recognized, and stock hardiness is a requirement of their breeding programme. Implementation of proposals to destock and revegetate riparian zones has begun.

It has been important to have some visible implementation of the proposals as soon as some design details could be prepared, even before the full concept has been finalised. At Alistair McGregor's request, we prepared designs for each of the six staff houses, including layout, planting and colour scheme proposals, as the first stage in the exercise. Proposals have also been prepared for other building complexes on the Station — including the 80 back-to-back dog motels!

Evolving Awareness

As an educational exercise, this farm design project has been of considerable value. People associated with the property are learning of the natural values of the area, and are developing a different understanding of their landscape. Further understanding is to be encouraged with the preparation of displays and reference material for both residents and visitors.

The local nursery-landscape contractors, Noel and Sharon Kennedy, as well as growing and establishing the multi-use exotic plantings, have learned about and further researched the range of existing native vegetation, are experimenting with revegetation techniques, and are employed in propagating native plant material from the Station and its immediate environs, for re-establishment on the Station. Thus the visual character, genetic resource, and adaptive characteristics of the local native cover will be conserved. The sense in this approach is now being appreciated when the exceptional vigour of these well-adapted plants is observed.

The changing attitudes to both conservation and development, and the example being set at Mount Linton, may gradually influence the wider community. The owner deserves credit for his foresight in acknowledging the wide-ranging values and potential of this property. 🌱



Landscape designer Ines Stäger and nursery landscape contractor Noel Kennedy, among the thousands of plants propagated from and for planting and revegetation programmes on Mount Linton Station.