Sustainable Management of Native Vegetation Areas in South Marlborough

Guidelines for landowners to develop a management plan for the sustainable management of native vegetation.

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With the completion of ecological surveys of South Marlborough, many landowners are asking for advice on how they could best protect remaining areas of native vegetation on their properties without compromising farm productivity and profitability.

The Marlborough District Council is committed to supporting landowners efforts to protect these areas. Practical assistance is available, through both financial contributions towards on the ground work (for instance fencing and pest and weed control), and also through the promotion of a management approach which balances production and protection goals.

To guide landowners through a process of adopting appropriate management for areas of native vegetation the Council, with the help of several South Marlborough landowners, has developed these guidelines. The outcome is the development of a practical property management plan and map, and also the identification of what ongoing help may be needed, for example with fencing, pest or weed control costs or follow-up visits from an ecologist to clarify ecological values and management options.

Participation requires that the property has had areas of natural value identified through either a Council Significant Natural Areas (SNA) ecological survey, or a Department of Conservation Protected Natural Areas (PNA) ecological survey. The Council can provide a free ecological survey of any property not yet covered, at the request of a landowner.

Background

South Marlborough has been occupied by humans over the past 1000 years, and as a consequence native vegetation and habitats have been almost all cleared or modified. Until recently, there was no record of the extent of native vegetation in the area. However - with the completion of recent ecological surveys carried out over much of South Marlborough by the Council and the Department of Conservation from 2001 to 2003 - we now know that on average, original native vegetation survives on only about 2% of the total land area and secondary native regeneration on about a further 10%.

As is common throughout New Zealand, the larger remaining areas of native habitat are in the hill country, with the lowland plains and coastal areas being almost devoid of native vegetation and habitats.

The protection of the unique ecology of South Marlborough is largely in landowners' hands since almost all of the remaining native vegetation is on private property and there are very few areas of public conservation land.

Many landowners recognise this responsibility. Changing economics and an emphasis on sustainable land management principles, means that some South Marlborough farmers are increasingly rationalising their farming operation by targeting effort on productive areas of the farm where there will be a demonstrable return on inputs, while at the same time protecting and conserving the important natural values within the property.

Summary

These guidelines are intended to help interested landowners identify and clarify both production and ecological values on their properties, and develop practical and specific management strategies to balance these.

Step one is to review the management issues and objectives for the farm, considering both production, and the protection of remaining areas of native vegetation and habitats. A set of headings and questions are provided as a guide to this exercise (see pages 4 to 8).

Step two is to use this information to create a management plan and map with the property being classified into three zones for management purposes. The division of the farm into management zones (A, B and C), is designed to help focus management priorities for both protection of natural values and production objectives (see pages 9 to 12)

Zone A - Farm Reserves – Areas identified as significant through the ecological survey and where landowners choose to fence to exclude stock, effectively creating "farm reserves".

Zone B - Protection Management Areas – identified as significant through the ecological survey, generally with high natural and moderate production values. These areas have not been protection fenced so the paddocks within which they occur are the management units.

Protection management areas are being managed under two regimes;

B1; management within the paddock or block has been altered to enhance the protection of native vegetation and

B2; production values – at present – predominate. In some cases these areas adjoin a C zone and separate management is not currently feasible.

Zone C - The remainder of the property - not identified as significant through the ecological survey. Natural values may be present in these production focused areas to a greater or lesser degree and should still be considered as part of day to day management. The emphasis will be on maximising production without compromising the long-term sustainability of the land.

Developing a Management Plan – What is Involved?

The process of developing a plan for the sustainable management of PNA and SNA sites identified by the surveys as ecologically significant (and potentially the whole farm), will involve several steps over about a four month period. These steps include:-

1. initial meeting between landowner and Council staff to run through process, provide basic property map to landowner
2. landowner to draw in fences and name paddocks/blocks on map, go through guidelines and undertake initial written review of objectives, issues and options for the property
3. Second meeting between landowner and Council staff to work through guidelines in detail, completing a draft of both - the review of farm objectives, issues and options, - the farm management plan. Council will then digitise farm map and complete draft management plan.
4. as required - a field visit by Council staff/ecologist to review any outstanding management issues, confirm appropriateness of management plan, look at monitoring possibilities etc
5. final meeting between landowner and Council to confirm final draft and map.
6. Council to produce final plan and map for landowner.

The advantages of going through this thinking and planning exercise include;

- sharpening and consolidating thinking about the goals and vision for the property
- focusing management by identifying areas where, either, production will be maintained and improved, or, natural values will be actively protected through fencing to exclude stock
- identifying areas where both farm production and protection of biodiversity values can exist together, and strategies and farm management practices to make sure this is sustainable in the long term
- highlighting opportunities, for instance creating a marketing edge, diversification (eg eco tourism, carbon "farming")

Step One - Property X – Sustainable Management of Native Vegetation Areas; Review of Objectives, Issues and Options

PROPERTY DESCRIPTION

Owners;

Location;

Area;

Physical description;
e.g. geology and soils, hill and high country, sunny/shady faces?

Climate;

Stock category, numbers and type;
e.g.breed? Wet/dry? Why this mix?

Labour units employed and how;

Other income streams;

Native vegetation;
Number of sites identified as ecologically significant by PNA or SNA survey and total area (eg five sites totalling 52 hectares)

GOALS AND VISION FOR THE PROPERTY

Farming philosophy;

History/background;
How long have you lived on the property?
Trends over that time?
How do you feel about medium to long-term prospects on the property?
Are you committed to remaining there long-term?

PRODUCTION

OBJECTIVES

What is your production philosophy (ie a summary of your farming approach)? Priorities? Short, medium and long-term goals?

Are there areas you would like to target for development? How would this be achieved? Is this realistic at today's costs/income scenario?

Is future land development (if any) likely to be for pastoral farming? Forestry? Viticulture? Or intensification of existing practices?

ISSUES

All or some of these issues may be relevant or you may need to add others.

Natural influences

What are the natural influences on farm production/potential, for example;

Topography;

What's the influence on production/potential/management?

Climate;

What are seasonal opportunities/limitations? Drought impacts? Frequency? Floods?

Fertility;

What's the natural fertility like? What's the fertiliser programme? Ongoing/prospective development?

Weeds (non native);

On what type of sites is weed (versus native) reversion taking place? Eg aspect, slope,rainfall, grazing management, fertiliser regime. Or, has intensification of the property increased the proportion of pasture to other cover? How was this achieved?

What management/climate changes do you think have encouraged exotic weed versus native reversion (or are they the same)? Cessation/reduction of large-scale burning? Fertiliser usage/non-usage? Drought? Reduced grazing intensity?

Native reversion;

What species? How do you feel about this reversion? Is reversion into an exotic weed such as broom, for example more upsetting than into native cover such as tauhinu? Do you feel past efforts have been wasted? Inputs under the subsidised farming of the past were unrealistic? It's great to be managing the farm for both production and ecological values?

Pests;

Fire;

What is the history and current use of fire/burning on the property?

Livestock type;

eg merinos on extensive farm vs. productive breeding ewes on irrigated flatland

Infrastructure;

eg fences; tracks; water supply

External influences

What are the external influences on farm production/potential, for example;

Markets;

What's the price trend for your products? Do you supply niche markets ?

Economics;

Are there areas of your property where you believe (at current prices and returns) further development (or maintenance) is not justified?

Property values;

National and local government policies;

Coast and foreshore issues;

Public access;

Location;
Distance from markets? Services? Schools?

Staff;
Are you constrained by staff numbers/ability to attract? Do staff have special strengths/interests?

OPTIONS

All or some of these issues may be relevant or you may like to add your own.

Livestock;
Am I likely to change class of livestock? Breed? Stocking intensity? Breeding policy (eg. wet to dry?)

Intensification;
Is intensification (subdivision, fertiliser, cultivation and re-seeding) of some areas likely?

Specialist products;

Technology;
eg use of computer, electronic recording of livestock records, 'smarter' farming to improve returns

Farm tourism;

Commercial hunting;

Subdivision and sale of land;

Expansion of property;

Growth in equity;

PRODUCTION GOALS - SUMMARY;

WHAT ARE MY MAIN PRODUCTION GOALS? WHAT (IF ANY) ARE THE BARRIERS TO ACHIEVING THESE GOALS? HOW COULD THEY BE OVERCOME?

PROTECTION OF NATURAL VALUES

OBJECTIVES

Do you value native vegetation and/or other natural habitats on your property? Will management take this into account?

ISSUES

All or some of these issues may be relevant or you may need to add others.

Sites identified as ecologically significant by PNA or SNA survey;
Where do they tend to be, eg. gullies, bluffs, inaccessible blocks? Are they critical to livestock production at certain times of the year?

Stock;
What is the impact of the various classes of stock on native vegetation and other natural habitats?

Weeds and pests;

What is the impact of these natural threats on native vegetation and other natural habitats on the property? Are any of these threats to biodiversity values only? (e.g. rampant spread of old man's beard when livestock is excluded). Is pest and weed control in SNA areas feasible? Main targets?

Fire;

Do you burn to clear weeds/develop country? Is this essential? When and why?

Environmental values;

eg. soil and water conservation, wildlife habitats, stock shelter and shade.

Landscape values;

OPTIONS

All or some of these issues may be relevant or you may need to add others.

Protection from stock;

Would you consider fencing ecologically significant (or other) areas to exclude stock? What about protection management such as excluding stock at certain times of the year, reducing the intensity of grazing, avoiding fire?

Legal protection;

Would you consider legal protection of some sites, for example through a DOC covenant, QEII, MDC's Landowner Assistance programme?

Conservative stock/grazing management;

Would you consider/are you already aiming for careful stock management to avoid overgrazing and resulting erosion?
On fragile hill soils; could you encourage re-seeding of grass by letting it seed in early summer and using stock to trample down then leaving for rain; de-stocking north-facing slopes, sunny faces and bare patches as much as possible in summer dry.

Enhancement;

Are you interested in enhancing areas with significant native vegetation through pest and weed control? Inter-planting with ecosourced plants (propagation material that has been collected on or near the property). Would you consider planting indigenous species in eg shelter belts, the margins of waterways or seeps, farm dams etc?

Fire;

What's your regime? Could this be improved to protect specific areas of native vegetation? Timed to do least damage? Discontinued?

Utilising natural shelter;

On tussock country; maintaining a balance between tussock and grass cover, utilising value in tussock as shelter for stock and microclimate for other plants, can also apply to matagouri and other native "scrub".

Vegetation clearance;

Where vegetation is to be cleared, consider targeted spraying and mechanical clearing or careful use and management of fire. Stagger vegetation clearance over a period of years so as to develop mosaic of different ages of vegetation throughout property.

Earthworks;

Where earthworks are necessary, consider conscientious maintenance of tracks and use of appropriate machinery (digger, small bulldozer) to minimise soil disturbance and erosion. Think about maintaining or establishing linkages and corridors between natural areas.

Water margins;

Could these be more effectively managed (streams, seeps etc) to limit damage caused by stock? What about fencing waterways/dams and diverting water to a trough outside the boundary?

Knowledge;

would you like more information on the ecologically significant areas and their management? Would you like to cooperate with others (eg through a Landcare Group, field day) to gain this knowledge?

Economic opportunities;

eco-tourism? Sustainability certification? Kyoto carbon credits?

Monitoring;

Are you happy to have the condition of ecologically significant sites monitored? How do you suggest this be done? How will you use the results?

Benefits of sustainable management for the protection of native vegetation

Are any or all of the following relevant? Any other benefits you can identify?

Economic;

- Potential to market your products with a Quality Assurance brand linked to certified and monitored best practice farming activities.
- May increase capital value of property through new fencing and a focus on the most productive part of the property
- May increase capital value of property due to market premium being paid for properties with natural features and areas.
- May provide opportunity for farm/eco tourism.
- Carbon credits for increase in biomass of regenerating native vegetation,
- Biodiversity or water credits

Environmental/Animal Welfare;

- Supports and improves native wildlife and vegetation in a region.
- Maintains and improves farm landscape.
- Conserves representative soil types.
- Can improve water quality and reduce soil erosion.
- Improves stock management, wool quality, provide stock shelter and shade.

Community;

- Conserves part of New Zealand's natural heritage.
- Maintains benefits for future generations.
- Maintains natural genetic diversity.
- May be important to local Maori.

Personal;

- Follows through an existing interest in native vegetation/conservation.
- Adds to farming satisfaction.

PROTECTION GOALS (SUMMARY);

WHAT ARE MY MAIN PROTECTION GOALS? WHAT (IF ANY) ARE THE BARRIERS TO ACHIEVING THESE? HOW COULD THEY BE OVERCOME?

Step Two - Property X – Sustainable Management of Native Vegetation Areas; Creating the Management Plan

PROPERTY MAP - ECOLOGICALLY SIGNIFICANT SITES AND FARM BLOCKS/PADDOCKS AFFECTED

Having provided an overview of production and biodiversity management values on your property through the review process set out in Step 1, the next step is to refer to the aerial map of the property provided by the Council which shows the ecologically significant sites that have been identified. Mark the block/paddock boundaries and names over the areas where the sites occur on the property.

WHOLE PROPERTY OBJECTIVES; AN OVERVIEW

Objectives for sustainable management of native vegetation areas

Now, outline your long term objectives for incorporating sustainable land management to protect native vegetation into your farming philosophy.

Management zones

The next step is to divide your farm into management zones (A, B and C), designed to help focus management priorities for both protection of natural values and production objectives. Mark these zones on your map, or if you prefer, this can be done later in consultation with Council staff.

Area A – Farm Reserves – Areas identified as significant through the ecological survey which will be fenced for total exclusion of stock.
…..(number) sites totalling….. hectares have been fenced for total exclusion of livestock. Fencing has been funded by ……. A further …… hectares (sites) will be fenced …… (when).

Area B - Protection Management –Areas identified as significant through the ecological survey - generally areas with a balance of medium natural values, and some production value. May require special management within the mainstream farming operation. These are being managed under two regimes;
B1; management has been altered to enhance the protection of native vegetation.
……..number of sites totalling ……hectares will be managed in a way that protects the biodiversity values of the areas.
B2 areas were identified as ecologically significant under SNA. However, management will not – in the interim – be any different than on C Areas, where production values are predominant. Monitoring of relative changes in vegetation cover will help determine future balance between production and ecological values.

Area C - Production Focused – the remainder of the property not identified as significant through the ecological survey. Generally areas of lower ecological value and medium to high productive value. Natural values may be present to a greater or lesser degree and should still be considered as

part of the day to day management of the property. The emphasis will be on maximising production without compromising the long-term sustainability of the land.

ECOLOGICALLY SIGNIFICANT SITES; MANAGEMENT OBJECTIVES

This is arranged by paddock/block with reference to the SNA/PNA site contained within the block and the various management zones that apply (A, B or C). This process is repeated for all of the paddocks/blocks which contain SNA/PNA sites within them. Refer to property SNA or PNA report.

Block name *(ecologically significant areas contained in this block and relevant management zone (A, B,C)*

Description –
Management zones present –
Objective –
Management –
Monitoring –
Comments -

Repeat this for each of the blocks containing ecologically significant areas.

Some management options and questions to be considered for each block are suggested below. These are starting points only.

Area A; Farm Reserves

- Full protection fencing and exclusion of stock. (costs potentially shared between, farmer/MDC/Central Government Biodiversity Fund/QE II). *Will I lose critical grazing? Could weeds get away with stock removed (eg old man's beard)?*

- Fencing to encompass suitable buffer areas, potential corridors to other natural areas and also fit natural landform (costs could be shared, as above).
- Pest and weed control where feasible. *Would I prepared to devote time and money to this? Would I want help? In what form? Advice? Materials? Labour? Is this available?*
- Revegetation work within site, such as inter-planting, or the planting of rare species. *Am I prepared to undertake this? What would be involved?*
- Possible legal protection through QE II or DOC covenant. *Do I think long term legal protection is needed for the benefit of future generations? What would I gain by covenanting these sites? E.g. personal satisfaction? Tourism potential? Kyoto Protocol credits?*
- *Are there any potential infrastructural development projects in this area (ie dams, tourist accommodation etc) and if so what professional advice and resource consents would be needed? (ie, engineering, ecological, hydrological etc)*

Area B; Protection Management

- Low pressure/short term stock grazing that targets only areas of quality pasture with stock then removed to avoid over-grazing of grassland, and browsing and trampling of the natural vegetation. *Is this feasible? At what times of the area is it critical to stock these areas?*

- Fencing to improve stock management may be required. Any new fencing ideally placed to fit natural landform. *Would there be a return on the cost of this? Improved grazing management?*

- May be restriction on class of stock as well as timing and period of grazing including no grazing during wet periods to avoid pugging. *Do I have alternative areas to run stock at these times, or would this effect classes of stock run?*

- No or restricted grazing during native plant germination periods and immediately following. What, *if any, are the critical species on my property? .(There may need to be targeted species-specific variations to this as, unlike pasture grasses and clovers, natives have a fairly wide range of flowering, seeding and germination timing depending on species. Ecologists may have to help depending on the 'critical species' that are trying to regenerate).*

- Where appropriate, grazing to "lift' the canopy of woody native species canopy for further grazing opportunity. *Is this relevant on my property? What species and where?*

- Minimal vegetation clearance and land disturbance. *What methods have I used in the past? Are there areas I'd like to develop further in the future? What methods could be used?*

- When vegetation clearance required, there is careful use and management of fire with other alternatives including spraying and mechanical clearing preferred. *Where and when do I consider burning to be useful? How can I minimise damage to native vegetation (eg poisoning areas before burning so a fire can be lit in cooler, moister conditions when there is less risk of it getting out of control – and a greater chance of gaining a permit!)*

- Target any fertiliser application to most productive areas of grass. *How much of this area is regularly fertilised? Is there a return on investment in all areas currently covered? Is fertiliser encouraging the growth of non-desirable species?*

- Pest and weed control where feasible.

- Sympathetic management of existing natural features on productive parts of the property, for instance;

  -treelands (cabbage trees, kanuka, kowhai etc), and shrublands, where the trees are useful for stock shade and shelter as well as providing habitat for mistletoes, birds and insects,

  -Streamside riparian vegetation which is valuable for water supply and quality as well as for native fish and aqatic insects and plants

  -Wetland areas (seeps, swamps, farm ponds), which are valuable for stock water and pasture as providing habitat for native birds insect and fish

- Possible legal protection through QE II or DOC covenant. *Would there be financial assistance available? What are the implications?*

- Are there any potential infrastructural development projects in this area (eg dams, tourist accommodation etc) and if so what professional advice and resource consents would be needed (eg engineering, ecological, hydrological etc)?

Area C – Production focused

Conservation management practices considered for Zone B areas may also be relevant to Zone C. While production is the main focus of these areas, sympathetic management can maintain or even improve the natural values that may also be present.

COMMENTS AND NOTES

FORESTRY AND VITICULTURE

The focus of these guidelines is pastoral farms. However, it is acknowledged that there has been a significant change in land use from pastoral farming to forestry and viticulture with a sometimes considerable impact on native vegetation and other natural habitats.

For existing forestry and viticulture blocks:

- There may be no areas of native vegetation or other natural habitats, depending on what was there prior to the establishment of the forestry/viticulture and the way that the property has been developed.

- If there are areas of native vegetation or other natural habitats, there will generally be a clear definition between the productive and non productive areas of the property. Careful management to retain and avoid damage to these areas is required.

For new development of viticulture and forestry blocks

- Plan and design prior to development to retain and enhance the natural values of the property, for example, retain existing areas of native vegetation, wetlands, rocky habitats and areas where restoration is possible. Also provide adequate buffer area around natural areas to prevent damage and allow for natural or assisted expansion over time.

- For forestry, plant so as to allow for future harvesting to be staged so that a mosaic of vegetation is in place at any one time and habitat disturbance is minimised.