5. Initiating a restoration project

CONTRIBUTING TO CONSERVATION

In many parts of the country, restoration planting is your last and only option for repairing or rebuilding damaged native communities so that they will become self-sustaining. It involves removing damaging agents, such as weeds and pests; reinstating lost components, such as native plants and animals; and encouraging natural processes, such as plant succession.

In its narrowest sense, restoration planting is modelled on a previous baseline – usually the pre-European vegetation of that site. However, we cannot know the exact composition or successional stage of vegetation 160 years ago. It is more realistic to restore key elements of the ecosystem (especially those unlikely to get there naturally), then let natural processes rebuild themselves and species regenerate. In this way, restoration is more about processes than a snapshot of past vegetation – it is more like ‘kick-starting a motor’.

Restoration plantings contribute to nature conservation, but they are second-best and far more expensive than protection. Restoration is no substitute for protecting natural ecosystems, as a restored system can never be as authentic as a natural system. We simply do not know enough about the complexity of ecosystems, nor can we mimic evolutionary history.

Planting has its pitfalls

If you have a choice, remember that in natural succession:

- Nature puts plants in the right places.
- Self-established plants are normally more healthy.
- There is less work for managers, and it is less expensive.
- The process and end results are more scientifically interesting (akin to a natural forest, rather than a garden).

This guidebook does not deal with the related concepts of rehabilitation and revegetation. These aim to re-establish a lost plant cover (not necessarily with native plants) for a variety of purposes, such as erosion control or amenity (Atkinson 1994).
REASONS FOR RESTORATION PLANTINGS

The reasons for tackling a restoration planting are many and various. This list is not inclusive:

Ecological

- To repair or restore degraded ecosystems or those under-represented in our protected area system.
- To conserve the genetic variation of common native plants and animals (Atkinson 1994).
- To improve ecological functioning at the landscape scale, such as linking protected areas and providing corridors for the dispersal of plants and animals.
- To provide habitat for native animals.
- To reintroduce rarities from close by, or a little further afield where habitat is limited.
- To buffer streams, water bodies and remnant habitats from incompatible adjacent uses.
- To conserve soil and water values, e.g., erosion control.
Legal

- To protect and restore New Zealand’s unique biodiversity under the Biodiversity Convention.

- To avoid, remedy or mitigate adverse effects on the environment under the Resource Management Act [sec. 5, (2)(c) and 17]. Because effects include past impacts [sec. 3], “remedy” can be interpreted as including the restoration of previously destroyed or degraded ecosystems.

- To require restoration as part of Resource Consent conditions, such as for mining activities. Sometimes restoration is promoted in applications for developments.

Social and cultural

- To create aesthetic and amenity facilities, e.g., gardens, parks and recreational areas.

- To provide a collection of local species of interest, e.g., arboreta.

- To establish shelterbelts or native woodlots as a source of native timber.

- To provide a source of craft or medicinal plants.

- To reinforce a local sense of identity.

- To provide for educational and scientific study.
RESOURCES AND CONTACTS

For general information and advice, the Department of Conservation and local authorities are your main contacts. For DOC, biodiversity staff will be your key contacts. Many of the agencies listed in Table 4 produce useful booklets, pamphlets and fact sheets, e.g., about weeds and animal pests.

Specialist nurseries supplying native plants should also be able to provide information about the supply and use of mulches, herbicides and other materials for restoration projects. When you obtain native plants from nurseries, you need to confirm they are locally sourced to avoid genetic pollution (see section 7, Genetic source and provenance). DOC offices or local authorities can advise you about suitable nurseries. The DOC Motukarara Nursery’s plant catalogue provides useful information (see Further reading). Its gardens include ecological plantings of Canterbury communities, which show what plants can be used and what they look like.

Web sites can be frustrating as it is not always easy to find what you are looking for. For contacts about protection and restoration, a review of 12 council web sites suggests the following categories may be useful – environmental management or policy, planning, land management, environmental education, and parks and reserves. Pamphlets and other documents should be listed under ‘publications’.

If you need specialist ecological advice, contact ecologists, ecological/environmental consultants or landscape ecologists. The yellow pages should list many of them, though ecologists are also employed by agencies like Landcare Research or Forest Research Institute. Most are likely to be costly, and not all will have the relevant experience. You should clarify their experience before employing them – local DOC or council staff may be able to help.

Table 4. Agencies providing free advice on restoration planting

<table>
<thead>
<tr>
<th>Agencies</th>
<th>Agencies providing specialist advice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department of Conservation - Conservancy and local Area Offices Web site: <a href="http://www.doc.govt.nz">http://www.doc.govt.nz</a></td>
<td>Canterbury - DOC Motukarara Nursery RD 2, Christchurch</td>
</tr>
<tr>
<td>Regional Councils</td>
<td>District/City Councils</td>
</tr>
<tr>
<td>Fish and Game Councils Regional Offices</td>
<td>Native Forests Restoration Trust P.O. Box 80007, Green Bay Auckland 7 Phone: (09) 636 7564</td>
</tr>
<tr>
<td>New Zealand Ecological Restoration Network PO Box 9000, Christchurch Web site: <a href="http://www.bush.org.nz">http://www.bush.org.nz</a> (local contacts through web site).</td>
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RESTORATION PROPOSALS

All restoration projects begin with a vision. You need to formalise your vision as goals and objectives to provide focus and direction for everybody involved in the project. Planning prescribes the steps and actions needed to ensure that your restoration proposal is well thought out and feasible. It ensures a consistent and logical approach to management (see section 3, Management plans – the same principles apply).

You may have several goals, some of which may have greater emphasis (Atkinson 1994). An example may be “To restore a riparian corridor along (specified) stream”. To achieve this goal, your objectives should outline what management results are sought for specific issues or threats. They may, for example, state which communities will be restored or that stock will be excluded.

Consultation and costs

You need the support and co-operation of neighbours and local iwi. Your project could have impacts on adjacent landowners and properties, and you need to consider long-term issues like drainage and shading. Local iwi may have an interest in the project, and you should discuss it with them early on. Discussions with your local council will clarify if you need resource consents for any activities.

If your project is substantial, you will also need public support to attract funding. Cost estimates provide a reality check on what you can achieve and the funds required. Restoration costs vary enormously. Community-based projects may cost at least $10,000 per hectare, and fully commercial ones (from planning to final establishment) may be up to $100,000. In contrast, some projects using natural regeneration have cost a fraction of this. The organisations listed in Table 2 (section 2, Funding sources and contacts) are your main sources of funding, but you may also obtain funding from community boards or through sponsorship. Once your project proceeds past the feasibility assessment stage (see below), you will need more detailed consultation and costings as part of a formalised restoration plan.

Feasibility assessment

A good feasibility assessment should reduce your chances of failure, cost overruns and disappointment. A commitment to maintenance by a group of dedicated people is essential to the long-term continuity and success of your project. The feasibility assessment should provide:

• An outline of the site, the proposed restoration project, its goals and objectives and a justification (Atkinson 1994).
• Confirmation of the long-term tenure and use of the site.
• An outline of major threats to the site, including a preliminary weed risk assessment.
• An indication of long-term community support, funding sources and the effects of the proposal on adjacent lands.

If your proposal is feasible, you should then prepare a restoration plan (section 6, Key steps to effective restoration).