

# *A framework for landscape assessment*

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AS I NOTE IN THE INTRODUCTORY PAPER to this issue of *Landscape Review*, a primary aim of the New Zealand Institute of Landscape Architects (NZILA) conference on landscape assessment, held at Lincoln University on 12–14 March 1999, was to identify the key elements of an assessment framework suitable for use in implementing the Resource Management Act 1991 (RMA91). The conference, *Landscape Assessment – Means and Ends*, followed a series of professional development workshops, that had identified a range of concerns about current assessment practice. Foremost among these was an apparent inconsistency in the definitions and procedures of landscape assessment under the RMA91.

Two subsequent contributors to this issue – Roger Tasker, now serving in the Environment Court, and Bob Batty, an experienced Planning Commissioner – have highlighted the difficulty faced by decision-makers when landscape architects appear to adopt conflicting approaches when giving evidence on a particular issue. One possible outcome, according to Tasker, is that the landscape evidence is effectively cancelled out, meaning that decisions may be determined on other issues, even if landscape is a significant consideration. Another effect is that the status of landscape evidence, and the credibility of the profession, can be undermined.

Landscape assessment procedures have also recently come under significant political and public scrutiny. There have been well publicised challenges to a number of proposed district plans, due to concerns over landscape provisions (for example the Far North District and Banks Peninsula District), and even cases where plans at an advanced stage have been withdrawn for further consultation.

The 50 or so landscape architects who came to the Conference therefore arrived keen to establish an improved framework for assessment work. The initial conference sessions were spent clarifying predictably diverse issues and positions. However, during the workshops and plenary sessions on the final day, there was clearly an increasing sense of urgency and a willingness to find common ground.

The aim of the final session of the conference was to identify the basic elements that must be specified in any and every landscape assessment. This was intended to provide a procedural framework that can be shared by all landscape architects. Participants in the final session identified seven key elements, which can be summarised as follows:

- terms of reference;
- policy context;
- landscape description;
- landscape interpretation;
- landscape evaluation;
- assessment of effects; and
- implications: policy options, mitigation, monitoring.

In the following sections I describe the specifications developed at this session.

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## KEY WORDS

*Landscape assessment*

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### *Terms of reference*

Every landscape assessment should include terms of reference:

- a statement of the study brief, specifying the aim of the assessment in terms of its contribution to achieving the purpose of the RMA91, or other outcomes;
- a definition of key terms, in plain language that relates to the RMA91, and in particular takes into account previous determinations of the Environment Court;
- a description of the overall approach, including a justification explaining how this will achieve the study aim;
- an account of the sources used; and
- a brief discussion of the limitations of the study.

The study brief may be tightly focused on a particular requirement of the RMA91, for example s 6(b), or a particular project, or it may be intended to provide a council, community or landowner with an overview of issues that may be addressed through a range of mechanisms, including, but not limited to, the RMA91. Clear specification is essential as different requirements may involve different dimensions of landscape or different emphases.

The second point – definition of landscape – is central to the terms of reference, as is the scope of the study (visual/biophysical/experiential). There is now an established precedent that the Environment Court regards landscape as extending beyond the purely visual and perceptual to include cultural dimensions as well as natural. However, it does not accept claims that landscape is the equivalent of environment. Case law suggests that, depending upon the context being considered, landscape assessment may require:

- an analysis of the biophysical features, patterns and processes which contribute to make a particular landscape significant in terms of the RMA91;
- an analysis of its appearance and impact upon our senses;
- an identification of the meanings and values that are assigned to it by individuals and communities; and/or
- an interpretation of the way that the biophysical, the perceptual, and the cultural dimensions combine to create a sense, or senses of place.

The Conference suggested that, despite acknowledging the range of possible emphases of assessment, there is growing consensus among professional landscape architects that all landscape assessments should be grounded on an account of the underlying biophysical patterns and processes (see description below), even within urban areas. This raised questions regarding the extent to which landscape architects could or should claim expertise in the ecological aspects of landscape assessment. Clearly this would be tested in Court in respect to each individual witness, but generally it was accepted that while landscape architects would be unwise to claim ecological expertise as an inherent part of their professional formation, they should be able to demonstrate expertise in interpreting the significance of ecological pattern and process for landscape character. The same will apply for other disciplines such as geomorphology or architecture. The essence of landscape assessment is to interpret the significance of the contribution of ecosystems, land form and built form to landscape character and quality; this is very different from claiming expertise as an ecologist, geomorphologist or architect.

The description of the overall approach adopted in the landscape assessment may be presented in several ways, for example, as a series of steps, or as a narrative account of process. The essential requirement of the terms of reference

is that the total process should be transparent, with no implicit steps. It is in many ways comparable to the methods section of a scientific paper, the intention of which is to establish the legitimacy of the outcomes, if necessary by enabling others to follow the same process. The increasing emphasis on accountability and cost–benefit analyses in public policy development also makes it desirable to include a justification for the choice of approach. The Environment Court accepts the validity of different approaches for different needs, but the selection must be appropriate and hence able to be justified.

It is also essential that landscape architects fully cite and acknowledge sources. This includes published sources, and if used, unpublished documents or survey results. In the case of community surveys, it will usually be appropriate to maintain the confidentiality of individual respondents (by not listing or citing survey respondents by name), but the authors of surveys, their dates, methods (for example questionnaires) and the size and selection of the respondent sample should be specified. There are well-established protocols within the social sciences which should be followed in landscape assessment for presenting such material.

Finally, include in the terms of reference a note on any significant limitations of the study, for example the limitations of assumptions made about basic data sources, as well as any limitations inherent in the methods adopted.

### *Policy and landscape context*

Landscape assessment is never undertaken in isolation. The terms of reference place the study within the context of the RMA91 and other relevant statutes, but it is also important to place the study within its policy context at national, regional and district levels. Therefore, landscape architects should describe the prevailing policy considerations and provisions and explain their significance for the landscape assessment study. For example, any study that includes the coastal environment will need to incorporate the relevant aspects of the New Zealand Coastal Policy Statement.

Clarifying the broader landscape context within which a specific landscape assessment is being undertaken is also essential. New Zealand has been characterised by John Hayward and Kevin O'Connor (1981) as a land of 'little' landscapes, many of which are nested within broader settings, and much of the distinctive qualities of individual landscapes derive in part from the contrast and interrelationships with their neighbours. To clarify this context, a study may be required as part of a district plan whose boundaries do not correspond with topographic features. The Port Hills in Canterbury, for example, are covered by three different district plans, so a study undertaken within any one of them must also be put into the context of the overall landscape setting.

Finally, assessments are undertaken for different purposes at different scales: the scope and context of an assessment contributing to regional policy will be very different from that of a project-based assessment for a resource consent for a single dwelling. Clarification of scale and context is essential for subsequent evaluation and interpretation phases.

### *Landscape description*

The first substantive step in an assessment is describing the site and landscape under study in as objective terms as is possible. This includes both natural and cultural features, patterns and processes. One well-established approach is to

describe landscape in terms of land form, land cover and landscape features. Increasingly, landscape architects are describing land form in terms of land systems or land type, which incorporates considerations of process with form. Landcover description can similarly use categories of vegetation type, including indigenous or modified plant communities and exotic production systems. Features include human artefacts and the patterns they make, as well as point or linear natural features.

There are several possible ways of spatially ordering such descriptions. In the past purely visual assessments have used the idea of visual catchments or zones based on perceptual criteria. The majority view from discussion at the Conference is that it is more robust to order the initial landscape description by reference to biophysical factors, such as land systems or hydrological catchments, and then to draw out the sense of distinct areas of visual character as part of an explicit interpretive step (which follows the description). This allows (and requires) the basis for interpretation of character to be made explicit.

When undertaking a project-based or site-based assessment, landscape architects must situate the project in its wider landscape setting and clearly locate the project site in relation to surrounding landscape features. Developments in digital technology allow an increasing level of sophistication in presenting geographical and spatial data, but require clear acknowledgment of the basis on which maps and imagery are generated. Generally, it is advisable to match the mode of presentation to the nature of the underlying data to avoid misrepresenting its level of accuracy.

### *Landscape interpretation*

One of the most significant outcomes from the Conference was an emerging consensus that interpretation of landscape character should be a discrete and explicit step in the assessment process. The reason for this is that character analysis inevitably implies some assumptions about what is significant within any particular landscape. Character analysis may be based upon particular aesthetic conventions, such as the picturesque, or use particular conceptual languages such as that of landscape ecology. There was considerable diversity of opinion about the most appropriate theoretical framework for character interpretation. Imposing a theoretical framework of any sort makes essential an explicit statement and justification of the basis for interpretation, and, it is at this stage that an interpretation of sense or senses of place may be incorporated into the assessment process. The landscape architect is likely to need to consult with the community to identify the particular aspects of a landscape setting that are of significance to different communities of interest and which constitute their sense of place.

The interpretation phase includes any landscape classification that is undertaken by the landscape architect, as classification depends upon imposition of an interpretative framework. In evaluating natural character, for example, I have argued elsewhere that in New Zealand there are four different models of natural character, each of which implies a different basis for landscape interpretation. These models are:

- a typology of landscape that is based on long-established cultural categories of wilderness, the pastoral middle landscape and the city;

- an ecological classification of pristine landscape and its subsequent human modification (eg ecological districts and regions);
- an holistic model of culture and nature exemplified by the traditional Māori worldview (divided into different realms); and
- a human ecosystems model of functional landscape types (eg forestry, agrisystems, recreation, conservation and urban).

Other possible basis for classification and interpretation include visual catchments, hydrological catchments or culturally defined places.

Arguably, the interpretation stage is the heart of any landscape assessment, as it both orders the more objective landscape descriptions and also provides the framework and criteria for subsequent evaluation. It is also the stage at which other professions look most to landscape architects for leadership. Yet it is frequently left implicit and receives little critical attention. Clear specification and presentation of the interpretative approach and its outcomes would go a long way towards addressing past problems in landscape assessment.

### *Landscape evaluation*

The evaluation step identifies the relative importance of particular landscape qualities, features, patterns or processes with regard to the required outcomes of the RMA91. For example, this is the step at which evaluation and justification of outstanding designations would need to be made. This requires the landscape architect to specify the evaluation criteria, which must be selected to address the particular focus of the study. Criteria currently used fall into a number of types:

- functional (eg integrity);
- structural (eg diversity);
- visual (eg legibility);
- relational (eg rarity);
- change related (eg sensitivity); and
- cultural (eg heritage value).

However they are seldom presented in such explicit terms and the criteria are not always linked back to the terms of reference. It is advisable in any assessment to limit the number of evaluation criteria, and to specify clearly the criteria and justify them in terms of the aims of the assessment and the interpretation framework adopted.

Evaluation criteria are not only derived from the terms of reference and interpretation framework. They also tend to prefigure particular management strategies. For example, the Conference identified two distinctly different positions regarding the evaluation of outstanding landscapes:

- those who advocated identification of relatively small areas of clearly outstanding landscape, on which protective rules could be focused; and
- those who advocated identification of more extensive areas, with a subsequent emphasis on the use of guidelines and education processes to manage change.

This difference highlights the way an interpretation and evaluation approach predetermines, to a significant degree, the way an assessment might be translated into policy. Hence, as with the previous step of character interpretation, it is essential for the landscape architect to make explicit the theoretical basis on which evaluation is undertaken. And as with the interpretation step, community consultation and involvement is highly desirable – some would say essential.

There was little support at the Conference for attempts either to rank different landscapes relative to one another, or to rate landscapes against some scale of overall quality. This is an important shift from past decades, and a significant change from trends in some related fields. Ranking is essentially a process of comparing a defined set of landscapes with each other in relation to some predetermined quality. It asks which is the best and which is the worst landscape in terms of, say, scenic quality. The reason for the lack of interest in this approach is that it has little relevance to the purpose of the RMA91, although it could conceivably have some role for a private-sector client undertaking a site-selection process.

Rating compares each landscape with a predetermined scale of measurement. It asks, how does this landscape rate on a scale of 1 to 5, for, say, scenic quality. Rating still implies some comparison between landscapes, in order to calibrate the scale of measurement, but it does not require any particular distribution of landscapes across the range. It could be argued, for example, that most New Zealand landscapes warrant a score of 4 or 5, yet there are still some only warranting a rating of 1. Although rating has been used extensively overseas in scenic beauty assessment, often based on public opinion surveys, a similar system of rating has little support from landscape architects in New Zealand. Its main weakness is that it must either be limited to a single dimension (eg scenic beauty), which misses many aspects considered significant, or, if it is to involve multiple parameters, there is an intractable problem of how to cumulate different dimensions. Simple addition of scores from different measures assumes that all dimensions of landscape are equally important and cumulative in nature. There is extensive evidence that this is not the case. These issues have been well covered in the international literature.

### *Assessment of effects*

In both project-based and policy-focused landscape assessments, an assessment of the likely effects of change may be required. In project-based assessment the landscape architect's analysis examines the effects of a particular proposal upon its site and the wider setting and identifies whether the proposed development is likely to affect adversely existing landscape qualities or sense of place. In the case of a policy-focused assessment (one contributing to a district or regional plan) the analysis is more complex and challenging. It must identify the sensitivity of landscape quality or sense of place to possible change and anticipate the potential effect of changes that may occur, but that are not yet known. It is likely that the difficulty of developing adequate performance specifications for unknown future development lies behind much of the conservatism within landscape policy.

### *Implications: policy direction, mitigation and monitoring*

The final element of the assessment explores the implications of the preceding stages. Depending upon the scale of assessment, this may involve identifying policy options to achieve the purpose of the study or design opportunities to avoid, mitigate or minimise the negative effects of development on the landscape setting. This stage also requires the landscape architect to identify key indicators and a programme for monitoring.

As the previous discussion has indicated, each part of the assessment draws upon preceding stages, and in turn frames subsequent stages. Options for policy

direction, mitigation and monitoring are therefore significantly predetermined by the assessment's initial terms of reference, and the approach adopted by the landscape architect for interpretation and evaluation. One advantage of a broad-based assessment is that it retains a wide range of options for policy implementation. The disadvantage, however, is that it can lack focus. With the government's increasing emphasis on policy relevance and monitoring, linking the outcomes of landscape assessment to broader policy directions and frameworks is essential. This is an aspect of New Zealand practice that requires further investigation and refinement.

### *Application*

One of the main conclusions of the Conference was that these elements of assessment are applicable in a general sense to all types of assessment; they differ only in the details and emphasis of application. By identifying the essential elements, conference participants established the basis for an improved framework. Clearly there are a number of aspects requiring further work, including:

- refining definitions;
- clarifying description terminology;
- categorising and better understanding the theoretical options available for landscape character interpretation;
- developing an agreed set of criteria for evaluation in different contexts; and
- developing appropriate policy mechanisms.

However, the 1999 Conference has established the platform for us to build upon.

### REFERENCE

Hayward, J and O'Connor, K F (1981) The Changing Nature of New Zealand's 'Natural' Landscapes, in: *New Zealand Where Are You?* Wellington: NZILA Annual Conference.

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