

# SETTING OBJECTIVES FOR MANAGEMENT OF NATIONAL PARKS AND NATURE CONSERVATION RESERVES

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## SUMMARY

Clear objectives must be incorporated into management plans for conservation areas. These ensure that resources are focused, progress can be evaluated, and provide staff with a sense of direction and purpose.

The paper provides a checklist for good objective setting and looks briefly at three examples from Western Australia.

## INTRODUCTION

In any human endeavour, success is more easily achieved if clear objectives have firstly been established, and if they are understood and agreed to by all who can influence the outcome. This fundamental principle applies particularly to the management and protection of conservation reserves, because:

- (a) our reserve classification system is still evolving - the relationships between tenure and purpose are often confused, or disputed;
- (b) the ecological data base upon which management must be based is inadequate, even non-existent in some instances;
- (c) the discipline of nature conservation management is still young and many staff are inexperienced; and
- (d) the community's demands on, and expectations of, conservation reserves range across a wide spectrum so that almost any management action is controversial.

Taken together, these factors can provide an excellent set of excuses for not formulating (or at least not publicly stating) explicit management objectives for conservation reserves. To the list can be added the view that since most Australian conservation and land management agencies are seriously under-resourced, statements of objectives can simply become statements of impossibility - ie an exercise in futility.

<sup>1</sup>. *See Endnote for definitions.*

I take a different view. Irrespective of the state of our knowledge or the size of our budgets, I believe it is essential that the objectives of management are made explicit. This is because:

- (a) the effort of thrashing them out internally is a necessary mental discipline for an organisation;
- (b) written objectives provide a yardstick against which progress can be measured;
- (c) objectives provide a focus for other activities, such as research, and enable priorities for budgeting and resource allocation to be set;
- (d) progress in achievement of objectives can be reported, and this is a form of accountability for funds spent;
- (e) a statement of objectives provides an opportunity for the community to see where the agency is trying to go, and to indicate whether or not it agrees;
- (f) objectives provide district staff with a sense of direction and purpose; and
- (g) once objectives have been set and agreed upon, subsequent planning becomes easier.

Statements of objectives (elaborated into documents such as strategic plans, management plans or protection plans for specific reserves) also provide a "Statement of the Art" - at the very least a Mark I or baseline approach which can be continuously refined as research findings are applied, the results of monitoring come in or new factors emerge. At the very best they provide an opportunity for scientists and managers to really demonstrate their professional know-how, and implement the fruits of research and operational experience.

There is nothing new about all this. Most conservation reserve managers in Australia are keen proponents of the concept of management based on formal planning processes. The setting of objectives is the essential primary step in this process.

Other writers (eg Burrows 1985; Hopkins 1985) have dealt with the sort of operational factors which need to be taken into account in developing strategies for the protection of specific conservation reserves. Rather than go over this ground again, I prefer to try to develop a set of principles which can be applied to the process of setting of objectives, and then to provide examples and see how we are matching up in Western Australia.

First, however, it is necessary to briefly examine the resource being managed, for which objectives must be set.

### **The Resource**

Conservation reserves in Australia vary immensely in their purpose, size, geographic location and the ecosystems they contain. For example, there are three broad categories of reserve:

- (a) Those where the purpose of management is primarily wildlife conservation - eg nature reserves.
- (b) Those where the primary purpose is wildlife conservation, protection of cultural values and public enjoyment - eg national parks.
- (c) Those where the primary purpose is sustained production of a natural resource (water, timber, fish, etc) but where wildlife conservation and public enjoyment are also provided for - eg State forests.

Each of these requires a different thrust of management. To add to this complexity, reserve size (in WA alone) ranges from less than one hectare to a million and a half hectares; reserves are located in the tropics, the desert, the wheatbelt, the oceans, in forests and on islands; and ecosystems to be conserved vary from rainforest to spinifex.

There are two problems presented to managers by this complexity. The first is the sheer size of the planning task. This can only be overcome in time, and by determined effort and intelligent "short-cuts" such as dealing with groups of similar reserves as an entity (Wallace and Moore 1987). It is also essential that planners and managers have the necessary technical support to facilitate the planning task. I regard these as basically policy and administrative problems, and beyond the scope of this paper.

The second sort of problem in such a complex system is more difficult - how to find a systematic way to develop and present objectives. One answer is to have a "checklist" of principles which can be used both in the preparation and the assessment of objectives developed for the management of conservation reserves, and this is the aspect I now wish to pursue.

### **The Principles**

I believe that a satisfactory set of objectives for a conservation reserve must comply with eight principles.

- 1 *The objectives must reflect the purpose for which the reserve was set aside.*

Unfortunately, this is not as simple as it sounds. A surprising number of Western Australian conservation reserves are managed in unexpected ways. For example, hunting some species of native animals is permitted on some nature reserves, and open cut mining occurs on others and in State forests set aside for sustained yield of timber. Beekeeping, involving introduced honey bees, is widespread in national parks in the south-west of the State. These anomalies reflect historical or political decisions rather than the deliberate planning processes of professional conservationists. Experienced planners accept the reality of certain unalterable political and social constraints; nevertheless, it remains a fundamental requirement that management objectives should reflect reserve purpose, as defined for each State.

2 *The objectives must reflect the nature of the ecosystem to be managed.*

Almost every reserve differs in terms of landform and biological make-up, and many have special values such as rare species, plant or animal communities or landforms.

In Western Australia there is a general objective (WA Department of Conservation and Land Management 1987) to maintain as high a level of species diversity as possible in conservation reserves, except in situations where particular species are deliberately favoured (eg Burbidge *et al* 1986). This is a contentious issue, both philosophically and at the workplace, particularly when two favoured species in the one reserve have quite different habitat requirements (Christensen and Maisey 1987).

These very difficulties emphasise the importance of managers making the effort to think out and state their objectives. Without this, field staff have no point to steer towards, and management can become literally "aimless". From a scientific point of view a lack of objectives can mean there is no hypothesis to prove or disprove and therefore no proper basis for manipulative research.

3 *Reserve objectives must fit into a planning and management hierarchy.*

A set of management objectives for a particular national park or nature reserve cannot exist in isolation. On the one hand they must clearly flow from, or be based upon, the broad long-term conservation, recreation and protection goals of the community and the agency. On the other hand they must be sufficiently relevant to the real world to be capable of development into the budget strategies, works programs and job prescriptions used by field staff.

Western Australia is fortunate in having a well defined planning hierarchy in this area. It starts with our legislation, and the principles set down in the State Conservation Strategy and flows on to the Department's Corporate Plan and thence via Regional, Area and Issue Plans to annual budgets and works programs. At each stage an effort is made to ensure that objectives mesh in with each other, both up and down the hierarchy.

This process provides continuity and consistency of approach, and ensures that everything finally done on the ground is a consequence of policies agreed to at the highest level by the different elements of the community, and disciplines within the Department.

4 *Objectives must be measurable*

It is very important that conservation managers have the means to gauge and to report on the success of their work. This is good for internal morale, and also represents a form of accountability for funds spent. More importantly, the actual measurement of progress is the only way to monitor the real consequences of management action (or inaction!). Efficient biological, social and financial monitoring and control systems are absolutely essential in conservation management. Each of these systems can only work effectively

if in the first place management objectives have been expressed in terms which can be quantified in some way.

I recognise that some objectives are almost impossible to express in a form which can be measured or put into a time frame which has any meaning. In this case objectives ("ends") must be broken down into strategies ("means") and the latter put in such a way that results over a specified time can be assessed in a quantitative form.

5 *Objectives must be ranked in order of priority.*

Since there is so much to do, so few resources to apply, and so complex and poorly-understood a system to manage, priorities must be stated. Moreover, priorities in a particular reserve need to reflect the priorities of the agency as a whole.

This is an extremely difficult principle to observe. There are powerful external influences which can over-ride professional opinion; there are historical commitments which cannot be dismissed; and there are personal interests and prejudices amongst managers, rangers and even scientific staff which have the resilience of granite.

Policy-makers within the Department of Conservation and Land Management (CALM) have grappled for nearly two years with the problem of setting priorities amongst the Department's multitude of responsibilities. As an interim measure we have finally adopted an approach of defining "trends" (ie functions or services to be favoured over time, held steady or disfavoured). Hopefully, this will provide managers in the field with the necessary guidance to enable them to rank priorities for resource allocation and research in parks and reserves.

6 *Objectives must take into account the social context of the reserve.*

All reserves have neighbours. And irrespective of their international biological or scenic significance, all are also part of a local community of people. Reserve neighbours and local communities need to be considered and "managed" just as carefully as a reserve itself. If their special interests are ignored they can become a serious threat to the reserve and to the agency. This threat is manifested across the spectrum from political strife to incendiarism, rubbish dumping and shooting. On the other hand, if neighbours and local communities are considered fairly and managers interact properly with them, they can be a wonderful asset and a powerful, constructive and positive force in conservation management. Good neighbours can provide complementary fire, drainage and feral animal and weed control programs and can assist with rehabilitation, interpretation, research and general patrolling.

All reserves also have visitors and it is essential that they be considered in the planning process.

Objectives for reserve management must therefore be outward as well as inward-looking. They must ensure that people living near or visiting the area

become involved, have adequate opportunity to debate the issues, learn about the values of the area and understand the ethic underlying plans and works programs. In the case where the traditional Aboriginal owners of the reserves are either present on the reserve, or accessible, the appropriate mechanisms for their involvement must be put in place.

Unless the interests of visitors and local people are taken into account, the most sophisticated ecological management plan in the world may come to nought. But if these people are regarded as legitimate and important stakeholders in the processes of reserve planning and management they can be a key factor in the achievement of conservation objectives.

7 *Objectives must incorporate a "feedback loop".*

Research results, new technology, monitoring plots, or operational experience must all be employed by the manager to indicate whether or not the plan is working. If it is not, or if it can be improved, a restatement of objectives may be required. This process must be foreshadowed from the very beginning.

8 *Objectives must be written down, and expressed in simple, clear language, and in positive terms.*

This is a very general principle, one to be applied across the board in management plans for conservation reserves. Those people who must really understand and become committed to management objectives are often those with the poorest grasp of scientific or agency jargon. Wherever possible we should write for them, not for the "converted" within the Department or a particular scientific discipline.

A positive outlook is very important. "Goals" expressed only in the negative have a discouraging effect on staff and can lead the public to think of conservation management as exclusive. Pessimism can develop into a self-fulfilling prophecy.

This plea for a positive approach should not be taken to mean that I advocate a "do anything for the sake of doing something" philosophy. In fact, an aim to "do nothing" is a perfectly acceptable one for some reserves in some circumstances.

### **Setting Objectives in Practice : Three Case Studies**

I will conclude this paper by examining the objectives set for three Western Australian conservation reserves in the light of these eight principles. The reserves are:

- 1 Kalbarri, a large (290 000 ha) national park in the sandplains on the mid-west coast. Kalbarri has no formal published management plan. Operations are based upon a set of Interim Management Guidelines that are designed to protect the park from adverse influences until a proper management plan can be prepared. The duration of the Guidelines may be ten years, depending

on other planning priorities, so the objectives they contain will be used as the basis for a great deal of work in the park.

Appendix I is an extract from draft Interim Management Guidelines for Kalbarri National Park and lists the general management aims and the fire protection objectives to be adopted for the park. (Note: the draft guidelines were rewritten in 1988).

- 2 Nature reserves in the Shires of York and Northam are a group of six small (all less than 460 ha) woodland reserves interspersed among agricultural land in the western wheatbelt. A management plan for the group of reserves was completed and published in early 1987.

Appendix II is an extract from the plan and lists the six general management objectives adopted for these areas.

- 3 Shannon/D'Entrecasteaux National Park is an extensive (171 500 ha) area on the south coast, encompassing beautiful virgin stands of wet sclerophyll eucalypt forest, coastal heath, wetlands and woodlands. A management plan for the area has recently been published.

Appendix III is an extract from the plan, and lists the general objectives of management and the specific objectives relating to fire protection for the parks.

Table 1 is my assessment of how well these sets of objectives match up to the eight principles discussed above.

**TABLE 1**  
**Assessment of plans against principles : 3 case studies**

Principle	Kalbarri NP	Nature Reserves of Shires of Northam and York	Shannon D'Entrecasteaux National Park
1. Objectives reflect purpose	Yes	Yes	Yes
2. Objectives reflect eco-systems being managed	Not clearly	Not specifically	Partly
3. Objectives fit into the planning hierarchy	Yes	Yes	Yes
4. Objectives are measurable	Partly	Not clearly	Not clearly
5. Objectives are ranked	No	No	Yes
6. Objectives recognise reserve social context	Yes	Yes	Yes
7. Objectives incorporate a feedback loop	No	Yes	Not explicitly
8. Objectives are written, are simple and are positive	Yes	Yes	Yes

This analysis indicates that the objectives prepared for each of these reserves are generally quite good, but can be improved. The authors of the plans might argue with my interpretation, but I would reply that well stated objectives should not leave room for misinterpretation!

## CONCLUSIONS

A well-considered, well-argued and well-written statement of objectives must be the first step in management planning for conservation reserves. There is a lot of management plan writing going on at the moment, especially in Western Australia. It is therefore useful to have a set of principles to provide a guide and a checklist for planning and operational staff.

## REFERENCES

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## ENDNOTE

In this paper I have tried to conform with the following definitions:

*a goal*: a long term desirable situation

*an objective*: a clear statement of a result to be achieved within a stated time frame, and oriented to a goal

*a strategy*: a means by which an objective may be met



# Appendix I

## Extract From Draft Interim Management Guidelines For Kalbarri National Park

### 2.0 GENERAL MANAGEMENT OBJECTIVES

- To protect and conserve the scenery, flora, fauna and historic archaeological sites from disfigurement, damage or destruction.
- To provide and maintain facilities for the enjoyment of the natural resources of the Park by the public.
- To provide suitable access within the Park for visitors, and for implementation of management operations.

### 3.0 FIRE PROTECTION

#### 3.1 Introduction

Records show that since 1977, approximately 50 per cent of the Park has been burnt by wildfires. These fires have been caused by lightning, careless campers; escapes from burning off operations on private properties adjoining the Park; and escapes from the Kalbarri rubbish tip. The fire history between 1978 and 1987 is shown on Map 1 in the Appendix.

#### 3.2 Fire Protection Objectives

The six main objectives in order of priority are:

- To protect human lives (visitors, neighbours and departmental staff) from wildfire entering or burning within the Park.
- To protect property of neighbouring landholders and Park facilities from damage by uncontrolled wildfires.
- To protect flora, fauna and landscape values from severe damage by uncontrolled fires or from inappropriate burning regimes for suppression techniques.
- To confine fires to predetermined block boundaries so that no more than ten per cent of total Park area is burnt in any single fire event.
- To reduce the risk and frequency of wildfires starting within or near the Park resulting from human activity.
- To retain as much as possible of the Park unburned during the period of this plan.

## Appendix II

### Extract From Management Plan For Nature Reserves In The Shires Of Northam And York

#### 8. GENERAL MANAGEMENT OBJECTIVES

Management of the six nature reserves covered by this plan will be directed towards the enhancement and maintenance of their collective and individual nature conservation values. This general objective will be achieved by a consideration of the following strategies: protection from fire, pests and dieback; rehabilitation of degraded areas; management of public use; and research and monitoring.

The determination of each strategy has been based on one or more specific objectives -

*For protection from fire:* to protect human life; to protect the natural values of nature reserves as well as the assets of reserve neighbours; to minimise the risk of wildfires on nature reserves; and to suppress any wildfires that occur.

*For protection from pests:* to protect the reserve and surrounding farmlands from damage by plant and animal pests.

*For protection from dieback:* to prevent the spread of dieback into uninfected areas; and to minimise its spread in infected areas.

*For rehabilitation of degraded areas:* to rehabilitate degraded areas; and to minimise further disturbance.

*For management of public use:* to encourage an appreciation of the nature conservation values of the York-Northam nature reserves.

*For research and monitoring:* to encourage use of nature reserves for research, by both amateurs and professionals; and to implement monitoring programs to provide data on the effects of management actions.

Strategies specific to a particular nature reserve are given in the Plan for Management for the individual reserve. General management strategies are given at the end of this plan (Part 8).

**Appendix III**  
**Extract From Management Plan For**  
**The Shannon Park And The D'Entrecasteaux National Park**

**2.0 MANAGEMENT OBJECTIVES FOR THE SHANNON PARK AND D'ENTRECASTEAUX NATIONAL PARK**

Management objectives specific to the two Parks were derived from: the above general objectives; the dual purpose of "national park and water"; and the information provided in B. Description of the Parks. The following background information is most relevant to the determination of specific objectives -

- The Shannon Park contains the most protected watershed in the State's south-west and the largest contiguous area of karri forest reserved for conservation.
- The four main rivers (Donnelly, Warren, Gardner and Shannon), plus other minor rivers and streams which flow through the Parks, are of great conservation and recreation value. In addition, between them they have an estimated potential yield for water supply of 680 million cubic metres per annum. This yield represents 45 per cent of the divertible potable water resources that remain undeveloped in the south-west region.
- The D'Entrecasteaux National Park contains the only major coastal wetland and dune area reserved for conservation in the south-west.
- Several areas contain important biological and physical features.
- Some areas have been disturbed by human activities and this disturbance is likely to spread unless the areas are actively managed and rehabilitated.
- Many areas in the Parks are capable of sustaining very little public use without irreparable environmental damage.
- There is demand for a variety of recreational opportunities within the Parks, some of which cannot be satisfied elsewhere in the region.
- There are few developed opportunities for recreation in the Parks, especially for people without four-wheel-drive vehicles.
- Our knowledge and understanding of the natural environment, cultural heritage, and existing and future recreational use of the Parks is very limited.

The specific management objectives for the Park are to:

- 1 Protect the biological and physical environment and the cultural and scientific features of the Parks.

- 2 Protect and preserve the surface waters and groundwaters of the Park, in terms of both quantity and quality.
- 3 Rehabilitate the natural environment as necessary.
- 4 Develop and maintain a basis of knowledge about the biological and physical environment of the Parks, and pass on this information to the public.
- 5 Provide opportunities for public education regarding the Parks.
- 6 Provide opportunities for appropriate public recreation, while at the same time ensuring that the environment is capable of supporting the use without unacceptable damage, and that the recreational experiences of visitors are not impaired by conflicting uses.
- 7 Protect the lives of neighbours and visitors to the Parks.