

# The Development of Management Plans for Islands in Western Australia

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## Abstract

A discussion of the development of management plans is essentially a discussion of the management planning process. This process is based on a clear definition of objectives followed by the development of a management plan and plan implementation. Public involvement in this planning process is highly desirable. The planning process has been generally applied to the development of management plans across Australia and New Zealand. Over the last five or so years most agencies involved in the management of land for conservation in these two countries have produced one or more management plans for islands or groups of islands. In this paper two Western Australian examples (management plans for Rottnest Island and for the Lancelin-Dongara Islands) are used to emphasise three aspects of the planning process which deserve special consideration in the development of management plans for islands. These are public involvement in planning and its educative function, planning in a regional context; monitoring;

The development of management plans is part of the management planning process (Fig. 1). Planning is an interactive process, beginning with a clear definition of objectives, followed by the development of a management plan and plan implementation. Development of the management plan is based on input of available knowledge and strong public involvement. Plan implementation involves not only operational activities, but also the instigation of definite research and monitoring programs to provide additional information which can then be fed back into the planning process. The whole process is linked by feedback loops which ensure that management decisions and management itself make use of all available information (Fig. 1).

The planning process draws together and is dependent on input from planning, management, research and education/information staff. Planning staff are responsible for co-ordinating the planning process, particularly the production of the management plan. Planners should also be involved in planning research and monitoring programs.

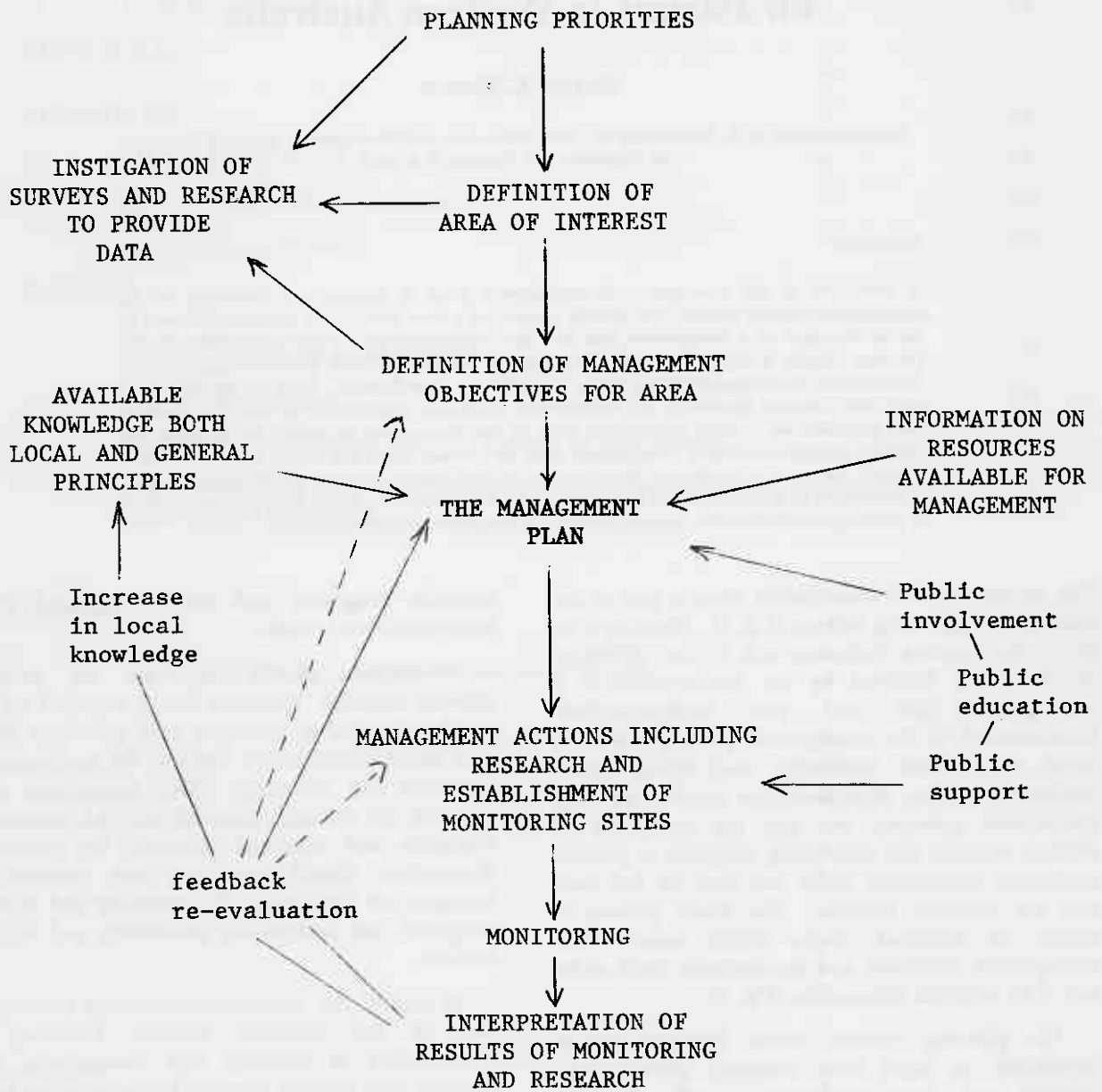
Management staff should not only interpret and implement plans, they should also be involved in the initial formulation of objectives and plan preparation. Early involvement in the planning process is essential as managers are familiar with local community attitudes and environmental constraints, both of which may be unfamiliar to planning and research staff. Managers should also implement monitoring and

research programs, and become involved in the interpretation of results.

Researchers should carry out the necessary relevant research. Research data is required not only on the biophysical resources and processes of the area under consideration, but also the socioeconomic resources and processes. This necessitates social research, for example, research into the recreational resources and expected demands for recreation. Researchers should also liaise with planners and managers on the design of monitoring and research programs, and interpreting monitoring and research findings.

In general the information/education function, as part of the planning process, becomes the responsibility of planning and management staff. Planning staff become involved by encouraging public input into the planning process, and through site design and the development of interpretive facilities. Management staff are involved in daily interactions with the public. Most staff involved in the management of conservation reserves spend the majority of their time on 'people' management and interacting with people rather than on 'biological' management.

Obviously, in many instances all four functions - planning, management, research and information dissemination - are achieved by one or two people. Alternatively, one or more of these functions may be left out of the planning process.



**Figure 1.**  
The management planning process (Source: Hopkins and Saunders 1987).

Also, staff additional to those already mentioned become involved in the planning process. This serves to emphasise the co-ordinating and integrative function of the planning process.

Having introduced the planning process, it is an opportune time to ask the question:

Why bother with such a process?

There are seven reasons:

1. The planning process encourages a clear statement of management objectives. This ensures that all those involved clearly rationalise and agree on the purposes and values for which the area is being managed.
2. The planning process ensures the incorporation and utilisation of all existing data.
3. The planning process enables the identification of areas in which information is lacking.
4. Once the areas in which information is lacking have been identified, the framework is available within which recommendations for research and the establishment of monitoring programs can be made.
5. Regular revision, which is an integral part of the planning process, allows reassessment using the findings of research and monitoring programs. Revision may lead to reassessment of objectives.
6. The planning process allows public input into the planning and management of conservation areas, the vast majority of which, in Australia and New Zealand, are part of the public estate.
7. The process allows a consideration of a range of management issues and their interactions. For example, there is little point in considering the management of fairy tern breeding sites if other management issues such as public or recreational use are not taken into account. This point was succinctly made by Kelleher in 1983, quoting from McHale:

*"The changing context for management in all sectors of society requires a shift of viewpoint from considering one problem or one issue as isolated phenomena in time towards a more systematic 'process' orientation in which events, trends, changes may be seen as interactive aspects of the whole."*

These seven reasons in themselves rationalise the production of a management plan as part of the process. However, two further reasons deserve special emphasis. These are:

1. Management plans are written statements of intent, both in terms of the objectives given and the strategies advocated to achieve these objectives. Plans also allow documentation of existing knowledge on the geophysical and man-made environment. Thus a permanent record is ensured.
2. Management plans, as a written document, are easily and readily circulated to the public to encourage their comments and involvement in the planning process.

Public participation in planning is a natural extension of informing the public and increasing their awareness of nature conservation. There are 3 reasons for encouraging public participation in the planning process. These are:

3. By an open approach to land management, members of the community will accept provisions and restrictions with which they may not initially agree, or which may affect them personally, providing the provisions are applied fairly and the reasons for them are logically argued and explained. It is a logical extension of this approach to invite the community to contribute to the development of management recommendations.
2. Successful management is dependent on the active support of the community. Conservation areas, and this includes islands, should be considered as much a part of the local community as they are of the landscape. It is well accepted that the successful management of natural areas for conservation requires, at the very least, the understanding and sympathy of the community at large.
3. Better decisions result from the consideration of as wide a range of viewpoints as possible.

The planning process and the associated production of management plans is employed by most of the agencies involved in the management of conservation areas across Australia and New Zealand. Over the last five years every state in Australia (with the exception of Victoria) and New Zealand have produced, or are in the process of producing, at least one management plan for an island or island group. All involved some level of public participation.

A brief description of these plans provides a background to the Western Australian context. All examples discussed have been prepared according to the relevant State or Commonwealth legislation. The following information was collated for the Workshop in 1985.

## **New South Wales (National Parks and Wildlife Service)**

This Service produced one island management plan to date, (as of November 1985) this being the draft plan of management for Lord Howe Island Permanent Park Reserve. This plan was made available for public comment for 2 months from August 1985.

The plan has been divided into 3 sections - background, scheme of operations and implementation. The background section includes information on the natural environment, history and cultural resources, the landscape and land use. This section also includes information on all relevant legislation. Such inclusion is necessary because of the complex legal status of the management plan, with the plan being prepared for the Lord Howe Island Board, by the New South Wales National Parks and Wildlife Service, with the plan to be implemented by the Board. This background section is well covered as it is based on comprehensive survey work.

The scheme of operations is also comprehensive, and most importantly places environmental management in a regional context. The importance of such a management consideration is discussed in detail later in this paper, in the Western Australian context. One short-coming within this section is the lack of emphasis on monitoring.

The third section - implementation - is essential in any management plan if the management prescriptions are to be implemented.

## **South Australia (Department of Environment and Planning)**

This agency produced three management plans for islands prior to 1985. These are a management plan for Seal Bay and Cape Gantheaume Conservation Parks (Kangaroo Island, South Australia), and draft management plans for Conservation Parks of Kangaroo Island and for the Island Conservation Parks of Backstairs Passage and Encounter Bay. The last of these is the example discussed in this paper.

The draft management plan for the Conservation Parks of Backstairs Passage and Encounter Bay was made available for public comment for one month from 9 October 1980. Each island was discussed separately under 3 headings: background information; management objectives; implementation. The background information for most islands was brief, however greater detail was included on aspects such as tern usage on which comprehensive studies have been made. In the second and third sections the management objectives and plan implementation

respectively, were clearly stated. A final summary of management proposals detailed monitoring and research requirements.

## **Tasmania (National Parks and Wildlife Service)**

One management plan for an island had been completed by 1985 - that for Sarah Island Historic Site. This plan was made available for public comment for one and a half months from 19 February 1983. The plan was divided into two parts background, and management objectives, policies and strategies. The plan focussed on the historical context.

In 1985 in addition to the Sarah Island plan, a management plan for Maria Island was in draft form and a plan for Macquarie Island in preparation.

## **Northern Territory (Conservation Commission)**

A draft management plan for the Coburg Peninsular (which is essentially an island) was being prepared in 1985.

## **Queensland (Great Barrier Reef Marine Park Authority and Queensland National Parks and Wildlife Service)**

The major group of islands in this state is the Great Barrier Reef. The area the Great Barrier Reef Marine Park Authority (GBRMPA) is responsible for developing management and zoning proposals for the marine areas and the Queensland National Parks and Wildlife Service is responsible for the planning and management of terrestrial areas.

Over the period 1980-1985 GBRMPA has produced zoning plans covering much of their area of responsibility. Recent phases of planning by GBRMPA, cover the Central Section of the Great Barrier Reef, began with the publication of an Information Summary for the Section. This gave detailed information on geomorphic and biological features, human usage and adjacent land use. This document was made available with a pamphlet titled "Help Zone the Central Section of the Great Barrier Reef Marine Park". Both were widely distributed.

The end product of this process is documents such as the "Cairns Section Zoning Plan and the Cormorant Pass Section Zoning Plan" which are attractive glossy-covered documents complete with colour maps.

## **Australian National Parks and Wildlife Service**

Two island management plans have been produced to date (as at 1985) draft management plans for Mount Pitt Reserve and Norfolk Island Botanic Garden (in 1982) and for Christmas Island National Park (in 1985). Both plans are similarly structured, being divided into three major sections description, objectives and management. Each section is based on detailed information and the need for research and monitoring is clearly stated.

## **New Zealand**

The development of management plans for islands off the New Zealand coastline has been discussed in detail in the preceding paper by Paul Dingwall.

## **Western Australia**

In Western Australia, five separate government departments have produced, or are in the process of producing, management plans for islands. These are as at 1985:

Department of Premier and Cabinet

Rottneest Island Management Plan (draft, 1984)

Department of Conservation and Land Management (CALM)

Islands between Lancelin and Dongara (in preparation)

Nature Reserves of the Dampier Archipelago (in preparation)

Department of Conservation and Environment and the National Parks Authority (now part of CALM)

Penguin Island Management Plan (draft, 1984)

Department of Defence

Garden Island Management Plan (1980)

Having provided a national setting, the remainder of this paper covers the development of management plans in the Western Australian context. Management plans for Rottneest Island and the Lancelin to Dongara islands are used as examples.

Firstly however, an introduction to plan formulation in the Western Australian context.

Published management plans for conservation areas were first produced by the Department of Conservation and Environment in the late 1970s. All plans were for coastal areas and were produced in conjunction with local government authorities. The

Department of Fisheries and Wildlife developed a management planning process in the period 1979-81, with the first management plan being published in 1981. Management plans within the Department had been written as early as 1971, however they were never widely available. National Parks Authority plans suffered a similar fate, with many plans written, but none were ever published.

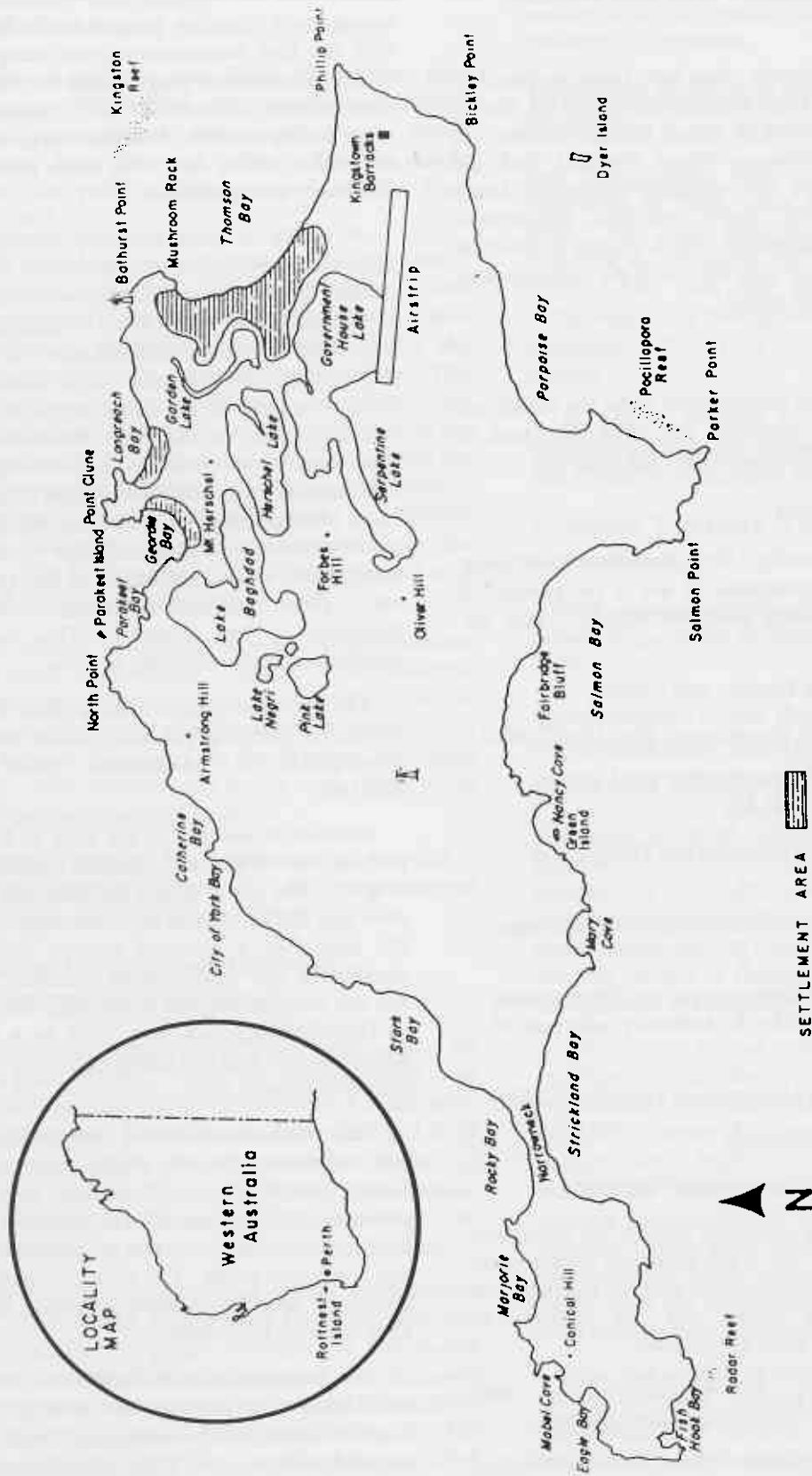
A review of land resource management, which culminated in a report presented to the Premier in January 1984, led to the formation of the Department of Conservation and Land Management. This Department is an amalgamation of the Forests Department, the National Parks Authority and the Wildlife section of the Department of Fisheries and Wildlife. One of the main functions of this new department is the production of management plans. This function was embodied in the Conservation and Land Management Act (1984), as was the process of plan approval. One of the most important components in the legislation is the requirement to make plans available for public comment for a minimum of two months. This ensures public involvement in the planning process.

The Rottneest Island Management Plan, and the associated planning process, is one example of the development of management plans in Western Australia.

Rottneest Island lies 18 km west of Fremantle, the port of the Western Australian capital city, Perth (Fig. 2). The island is 10.5 km long and up to 4.5 km wide and has an area of approximately 1,850 ha. It is the largest of a chain of islands extending south, paralleling the metropolitan coastline. The island has two settlements, one at Thomson Bay and another at Geordie/Longreach Bay. Up to a quarter of a million people visit the island each year either for day trips or overnight stays.

The marine environment surrounding Rottneest is also subject to intense visitor usage. Skindiving, fishing, windsurfing and surfing are all popular pastimes of visitors based on or adjacent to the island. In their own way, each has an effect on the marine and terrestrial areas. The plan covers the terrestrial areas and nearshore waters, generally defined to the 15 m contour, of Rottneest.

The planning process began in 1984 with the publication of a development strategy for Rottneest Island. Over 8,000 submissions were received in response, with many of these submissions highlighting the need for a management plan. In response the Western Australian Government formed the Rottneest Island Management Planning Group under the auspices of the Department of Premier and Cabinet.



**Figure 2.**  
 Location of Rottnest Island, Western Australia. (Source: Anon. 1985c).

The management plan was prepared for both the Department of Premier and Cabinet and the Rottnest Island Board. The Rottnest Island Board has responsibility for the management of the island and therefore for implementation of the plan.

The plan is based on comprehensive management recommendations which deal with the majority of management problems on the island.

Recommendations for land management emphasised the importance of conserving and protecting all lakes, swamps and freshwater seeps. The importance of rehabilitation of eroding and potentially erodible sites was also emphasised. The following objectives were suggested for vegetation management:

1. The island is well vegetated and does not require 'revegetating' but rather requires vegetation conservation and some reafforestation.
2. Vegetation conservation and reafforestation should aim to: (i) conserve and enhance faunal habitats; (ii) conserve the island's fragile landforms; (iii) conserve and improve landscape aesthetics and the recreational amenity; (iv) facilitate multiple use of the resource.
3. Native Rottnest vegetation should be favoured, revegetation should complement the existing ecosystem and the 'least maintenance' option should be followed where-ever possible.

Fauna management focussed on the management of the quokka, *Setonix brachyurus*. This is a small herbivorous macropod. As the only surviving native terrestrial mammal on Rottnest they are of scientific and educational interest. However, this species is present in such high numbers that it is leading to degradation of the vegetation. The quokka also harbours the *Salmonella* bacteria. Management strategies focussed on overcoming these two problems.

Recommendations for the management of the wide diversity of birds were based on closing important or fragile habitat to public access. Limiting the artificial food supply (from rubbish bins and the tip) was advocated as a control measure for nuisance birds such as silver gulls and ravens. Recommendations for fauna management also covered rodents, feral cats and introduced animals.

Management of the marine resources aimed to optimise the conservation and recreational values of the marine environment.

The recommendations regarding land use advocated limiting settlement because of the fragility of the environment and its low capability to support

development. Recommendations also covered lighthouses, ruins, shipwrecks, aboriginal sites, transport and services. Fire management was also covered in some detail, including recognition of the need to formulate fire emergency plans for the island.

Education, research and monitoring were all emphasised as important facets of the management plan.

The planning process for Rottnest was highly interactive, with all interested groups and individuals being encouraged to comment both before and after the formulation and publication of the draft. To encourage public comment three workshops were run - the topics being wildlife management, the terrestrial environment and the marine environment. This allowed consultation with interested groups and members of the scientific community, enabling compilation of existing knowledge and its inclusion in the draft plan. The workshops were held in the last quarter of 1984, followed by release of the draft for public comment for 3 months from February 1985.

A visitor survey was also conducted in the last quarter of 1984, with both day and longer term visitors surveyed. Ferry and plane passengers and private boats were surveyed to determine visitor characteristics, activities and attitudes.

The draft was reviewed in the light of submissions received and a final plan prepared. The final plan was presented for State Cabinet approval in late 1985.

The other example of development of management plans for islands in Western Australia is the draft management plan, currently in preparation, for the islands between Lancelin and Dongara. Lancelin and Dongara lie 120 and 320 km respectively, north of Perth on the west coast of Western Australia (Fig. 3). The 36 islands in this area vary in size from 0.04 ha to 25.9 ha and lie from approximately 50 m offshore to 8 km offshore. The islands are aeolian limestone in origin, with a number being overlain by dune sand. All are low and flat, with some having sandy beaches on the leeward side. The islands are used as breeding sites by at least 20 bird species. In addition, 16 reptile species have been recorded including one gazetted rare and endangered skink, *Ctenotus lanceolini*.

There were two main reasons why a management plan was needed. First, conservation values are being lost because of a lack of management. The rapid settlement of the northern suburbs of Perth and the proliferation of four-wheel-drive vehicles and boats over the last five years have led to a rapid increase in use of the islands. The effects of this increase in usage are both broadscale - across all islands and



**Figure 3.**  
Location of the Lancelin-Dongara Islands, Western Australia. (Source: Anon. 1963.)



localised, on particular islands such as Wedge and Lancelin (which are large and close to the mainland). Erosion is occurring on all islands heavily used by the public. Second, the islands are subject to increasing pressure from conflicting land-uses. This includes use by recreationists, crayfishermen and amateur fishermen.

Development of the plan has been based on a definition of management objectives and associated multidisciplinary surveys. The survey team included a botanist, mammologist, herpetologist, ornithologist, planning officer (concentrating on rationalisation of public use), regional management officer and an enforcement officer. The on-site presence of this diverse group enabled management options to be discussed and assessed, and recommendations for both biological and 'people' management made.

The next stage in the planning process will involve the determination of management strategies for fire protection, pest and weed control, rehabilitation and public use. All strategies will be guided by the management objectives; the main objective being the maintenance of the conservation values of the islands.

Management strategies will be determined in consultation with the public. This will serve to both involve the general community in the planning process and inform the community about the conservation values of the islands.

Finally, there are three aspects of the planning process which require special emphasis in the context of island management. These are public involvement in planning and the educative function of planning, planning in the regional context and monitoring. These three aspects are discussed in the context of the Lancelin to Dongara islands plan.

Firstly, public involvement in planning and the educative function. Public involvement in the Lancelin to Dongara islands planning process will be encouraged by widely distributing the draft plan. Use of this low key approach, in comparison to the workshop and 'promotional' approach used in the Rottne project, is a function of the dispersed nature of the user groups as well as a hesitancy to widely promote these islands which should be regarded primarily as sanctuaries.

The remote nature of many offshore islands requires a special approach to public interpretation and education. Once people have set off in a boat with certain expectations it is almost impossible to prevent them fulfilling these expectations once they reach their destination. One of the best ways of encouraging appropriate public use is by erecting information signs at boat launching ramps, and then

repeating the messages on the islands. For example, if managers wish to keep pets off an island they should make it clear at the mainland launching spot that pets are not allowed on the island. This sign should be positively worded and explain briefly why pets are not allowed. This mainland sign should be reinforced by a similar sign on the island.

A further consideration is the difficulty of patrolling offshore islands for enforcement purposes. Therefore public education is the only way in which management objectives can be achieved. This approach is used by GBRMPA who advocate that:

*"The Authority's policy is to achieve management goals largely by education and by obtaining the co-operation of the public, rather than by direct enforcement."*

Secondly, planning in a regional context is one of the most desirable outcomes of the planning process and one of the most difficult to achieve. The Lord Howe Island Management Plan (produced by NSW National Parks and Wildlife Service) is one of the best examples as it considers not only the island-wide impacts of certain management decisions, it also considers the Lord Howe Island Permanent Preserve in a broader regional and state context. This has been achieved through a discussion of the distribution of plant species, particularly endemics and plants with a restricted distribution. A wider context again is obtained by discussing the preserve in an international context.

The same approach will be used in the management plan for the Lancelin to Dongara islands. Within this group the capability exists, in terms of both the biophysical and human environment, to compare between islands, as well as reviewing their broader values and use, at a regional, state and international level. Within the group an island such as Lancelin Island, with the only known population of rare and endangered skink, *Ctenotus lancelini*, warrants special attention. In a broader context the regional value of the islands as nesting sites for numerous sea birds is recognised. An analysis of recreational use of the islands in a regional context is also important. This will enable recreation to be directed away from the more sensitive conservation areas, while at the same time ensuring that recreational needs are recognised. At the national and international level, the value of the islands as sea-lion (*Neophoca cinerea*) nurseries is an important management consideration.

Thirdly, it is now widely recognised that monitoring is a vitally important part of the planning process. However, the value of monitoring recreational use deserves a mention, particularly in

the island environment. This is important, for example where shifting sand bars may connect island and mainland, allowing the movement of four-wheel-drive vehicles onto previously untouched areas. If the problem is recognised early enough, minimal damage is done before the appropriate management action is taken. Also, much of the site work implemented to guide public use is experimental, and it therefore should be closely monitored so that if necessary, modifications can be made.

To conclude, the development of management plans for islands in Western Australia, and in the wider Australian/New Zealand context, is well on the way towards recognising the needs of public involvement, planning in the regional context and 'social' monitoring (as well as biophysical monitoring). Meeting these needs should be a fundamental objective of any management planning process.

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