PINGELLY RESERVE MANAGEMENT TEAM

The Reserve Management Unit of the Department of Fisheries and Wildlife was created in 1968. From that time until September 1978 all members of this unit were based in Perth with the exception of a Reserves Officer located at Two Peoples Bay.

During September 1978 the Operations Section of The Reserve Management Unit established at Pingelly its first rural based team, the Pingelly Reserve Management Team (PRMT). At present this team consists of a Reserve Management Officer (K. J. Wallace, B.Sc. Hons.) and a Technical Officer (J. J. Smith) and it is hoped that a labourer will be added to the unit in the near future. The expansion of the Operations Section of the Reserve Management Unit into rural-based teams constitutes a new phase in the management of Nature Reserves, and it is the aim of this article to explain both the role of the PRMT and its relationship to other personnel involved in management. The latter is most easily explained by examining the process of management itself.

Mobile fire fighting unit with trailer-borne tractor.

PROCESS OF RESERVE MANAGEMENT

In general terms, the aim of reserve management as conducted by the Department of Fisheries and Wildlife is to conserve representative samples of the many Western Australian plants and animals. Within this context the conservation of ecosystems is a primary ideal although in most instances management is aimed at the preservation of portions of ecosystems represented on nature reserves. While in some cases management plans are aimed at conserving particular species, for example the Noisy Scrub-bird, inevitably the protection of a suite of plants and animals is involved due to the complex set of relationships that exist between a particular species and the biotic and physical components of its environment.

A simplified view of the process of reserve management is given in Fig. 1. Arrows represent both the flow of information and the sequence of management action. As can be seen from Fig. 1., the development of management plans is dependent on there being: (a) a fund of management "know-how" or knowledge, and (b) an understanding of the constraints that may exist on the development of management plans due to the demands of various groups involved in land usage. Both these aspects will be briefly examined.

The phrase "management knowledge" is used here to encompass a variety of areas ranging from biological to very practical aspects of management. From a biological standpoint it is of paramount importance that the ecology of individual species and of ecosystems as a whole are understood. However, flora and fauna inventories, historical data, and other general biological information are necessary if comprehensive management plans are to be formulated. Practical aspects of management knowledge are numerous and include an understanding of firefighting techniques, methods of combating erosion, the use of a wide range of equipment and the operation of bulldozers. While such practical information may seem to be of secondary importance, it should be emphasized that to neglect this area may lead to the degradation of reserves, for example by wildfire.

Once a sufficient amount of management knowledge is available, management plans may be formulated which provide the optimum probability for a suite of plants and animals to persist on a nature reserve, or group of reserves. However management plans must be evolved that take into consideration the total pattern of land usage by the general community and there are times when the interests of specific interest groups must be regarded during the planning process. Such interest groups range from the individual (e.g. a farm adjoining a nature reserve) to sections of the general public (e.g. duck shooters); and from other Government Departments (e.g. P.W.D.) to private business (e.g. mining

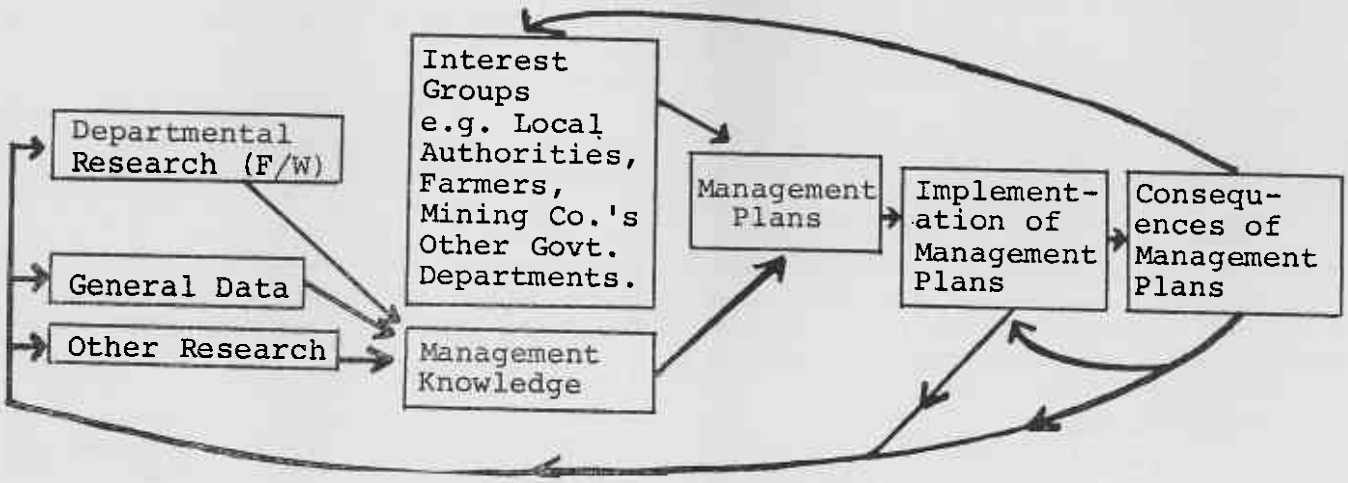


Fig. 1. Process of Management.

companies). The final form of a particular management plan is therefore dependent on the state of management knowledge and the constraints imposed by the diversity of demands that exist in relation to land usage.

Once a strategy for managing a particular reserve or group of reserves has been formulated, then this strategy must be converted into action. It is at this point that management teams such as that based at Pingelly become most involved. Not only do management teams implement management plans, but in performing their duties they also generate information that will provide a useful input to management knowledge. In some cases this feedback of information has immediate consequences as in those cases where a management team needs to adjust its own actions as a result of perceived difficulties in carrying out a management plan. As shown in Fig. 1 the consequences of putting into effect a particular management plan results in data that may, in a variety of ways, influence the character of later management plans.

It should be obvious from the above that the development of management plans is a cyclical process that involves both the monitoring and refinement of strategies with changes in the status of management knowledge. Furthermore, it must be emphasized that neither the environment within reserves nor that external to reserves is static. Therefore, the dynamics of environmental change also necessitate the evolution of new management plans.

On the basis of the above view of the management process personnel of the Department of Fisheries and Wildlife are involved in three stages of management. These are: (a) research; (b) the development of management plans; and (c) the implementation of management plans. At present the Department has personnel primarily involved in the first (Research Officers) and last (PRMT and Perth Reserve Management Team) of these areas. While all these personnel will participate in the development of management plans, the major part of planning would optimally be conducted by personnel able to synthesize information from all areas, and who have an overall perspective of management in the State as a whole. With the appointment of a Management Planning Officer in early 1979 the Department has now moved strongly into this stage of management.

While the above discussion has necessarily been brief, both the general process of management, and the role played by groups such as the PRMT should be apparent. The remainder of this article will concentrate on the activities of the PRMT.

Clearing timber from the dozer during fire break maintenance.

The fire unit in action at a controlled burn in the Two Peoples Bay reserve, Albany.

FUNCTIONS OF THE PINGELLY RESERVE MANAGEMENT TEAM

As has been indicated above the function of the PRMT is primarily to implement reserve management plans, and secondarily to contribute to the fund of management knowledge. The work of the management team is diverse and it will therefore be discussed under a series of headings. However, it should be recognized that although overtly fragmented, the various activities of the PRMT are inter-related and must be approached holistically in practice.

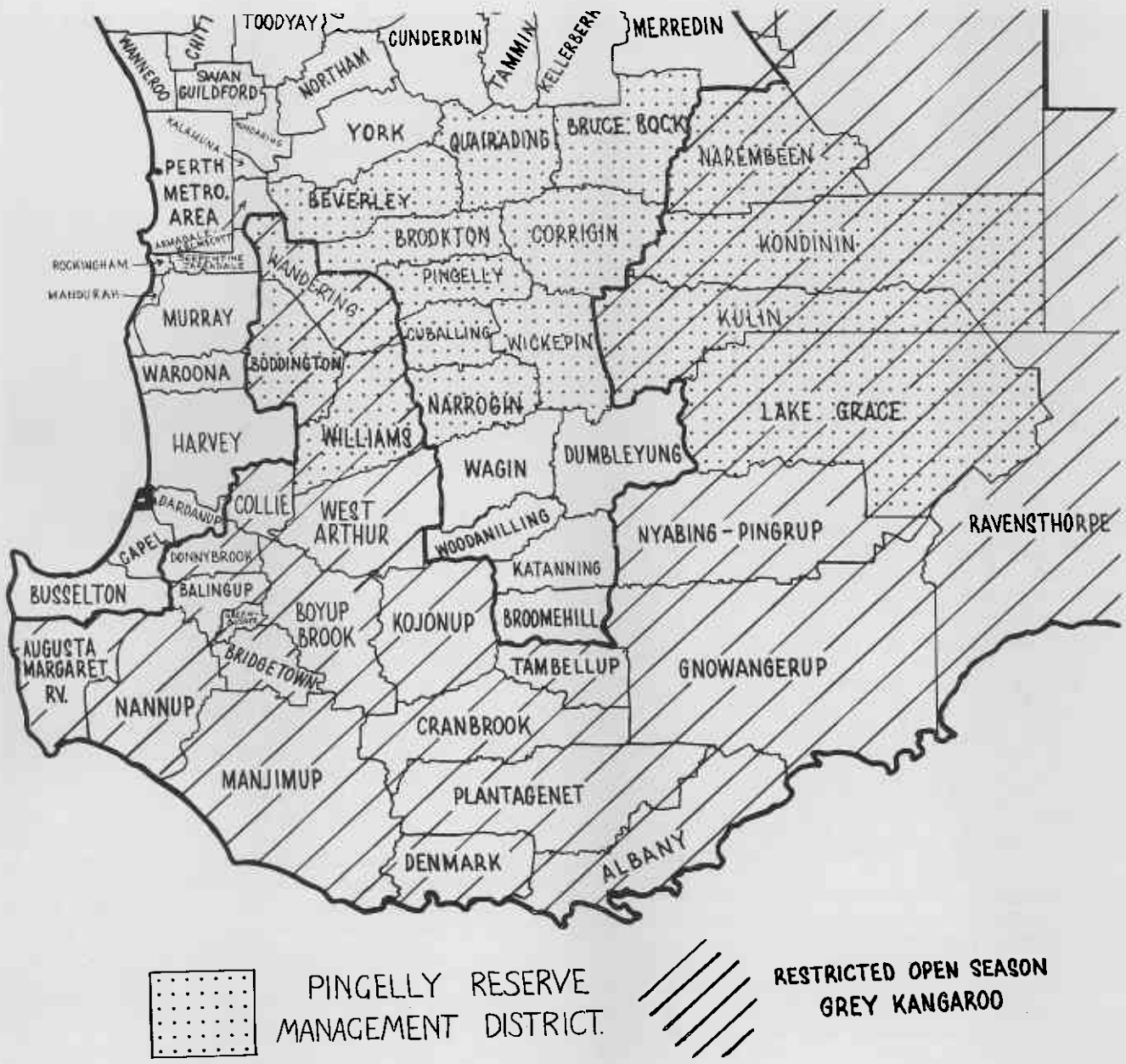
Fire

That fire is an important modifier of terrestrial ecosystems has been recognized for some time. However, the implications of this for reserve management are as yet incompletely understood and research is at present being carried out in this area within the Department. Although one possible management strategy is to permit fire to occur naturally on reserves, neither the size of most reserves, nor the frequency of fire entering reserves from adjoining land permits such a policy. Also, the relationship between reserves and adjoining landholders usually prohibits such a policy being developed. Therefore, wildfires on, or adjacent to, reserves must be rapidly controlled and the role of this natural element be replaced by prescribed burning programmes soundly based on research data. It should be noted here that research may, in some cases, indicate that fire should be excluded from whole, or parts, of particular reserves, at least for a long period of time.

Both the control of wildfires and prescribed burning are activities conducted by the PRMT. For this reason the team has a four-wheel drive truck and a "drop-on" fire unit for the team's four-wheel drive flat-top. As well as being directly involved with fire-fighting, the PRMT also spends a significant proportion of its time designing, constructing and maintaining firebreaks on reserves. Also, the PRMT attends clearing and clover burns adjacent to reserves where these are potentially a fire threat to reserves.

Research

Although the PRMT is not a research group it has been involved and will continue to be involved with research work. Largely, this will consist of the collec-



tion of information and the assistance in the field of Departmental Research Officers. As this research work will ultimately influence management plans, a secondary effect of this involvement is to give the team a greater insight into management plans which it will implement in the future. It is also hoped that the management group may itself conduct minor research projects. Certainly the team is well placed to conduct field work being very close to two major reserves (Tutanning and Boyagin).

Biological Survey

While most of the wheatbelt has been cleared there remain areas of bushland not under the control of the Department that are potentially useful nature reserves. There are also many nature reserves that are not vested in the Western Australian Wildlife Authority which could be better protected if placed under the control of that body. Biological survey of both the above types of areas are required as a precursor to action. One of the groups involved in this type of activity is the PRMT. A number of surveys have been conducted by the team since its location in Pingelly and further surveys are at present in progress. Apart from these types of surveys there is a great need for data to be collected concerning the flora and fauna existing on reserves and the team will become more involved in this type of work during 1979.

Reserve Inspection

As often as possible reserves are vested, usually for a specific purpose such as the inspection of firebreaks, but also so that the Team becomes thoroughly familiar with the reserves under its control. During such trips information with regard to flora and fauna is often collected and any occurrence of illegal activities, such as gravel removal and rubbish dumping, are reported to the Law Enforcement Branch of the Department of Fisheries and Wildlife. It is also important that local people be aware that officers of the Department are actively interested in reserves, a point that will be considered further below.

General Recommendations

From time to time individuals or groups make proposals with respect to particular reserves, the most frequent being requests for excision of land from

reserves for various purposes such as gravel removal or farming. Where such proposals relate to reserves in the area covered by the PRMT, the team usually recommends what action should be taken in response to these proposals.

Public Relations

If nature reserves are to have a secure future then i is essential that the public in general, and people adjoining reserves in particular, hold positive attitudes towards reserves. Often people have little or no understanding and appreciation of the function of nature reserves, and in some cases landholders adjoining reserves are unsympathetic to the Department and its aims because they have infrequently seen Departmental personnel actively involved in reserve work. While all Departmental Officers have a part to play in creating a more favourable public attitude towards reserves, rural-based officers are obviously in a unique position to develop a more informed public in those communities that are close to reserves. In this context reserve inspections as discussed above are important avenues for demonstrating the very real concern the Department has for land in its keeping.

Concluding Remarks

While the above has presented only an overview of the activities of the PRMT, it is hoped that an indication has been given not only of the role of the team itself but of its place in the total strategy of reserve management. The team looks forward to being involved with the increasingly comprehensive approach to nature reserve management taken by the Department of Fisheries and Wildlife and there can be little doubt that rural-based units are an integral part of future management developments. It is to be hoped that this section of operations is expanded in the near future.