

## Management of granite rocks

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### Introduction

An earlier paper listed the uses to which granite rocks could be put (Main 1997). After noting that not all granite rocks were within reserves and that resources were not available to finance a physical presence by which management could be ensured, I concluded that rather than abandon granite rock islands to a management regime of benign neglect, an educated local public appreciative of the general values of granite rock islands could perhaps form a desirable starting point and a possible basis from which local groups could develop awareness and management programmes pertinent to their local situation and values.

In the above paper I tabulated the values of granite rock islands as perceived by various parties in the local and wider community. Broadly, values can be classified as economic, ecological or ethical. Using these headings one could regroup the headings used in the earlier paper as follows; economic, (utility), ecological (conservation), and ethical (recreation, heritage). This alternative classification not only serves to illustrate that classifications not only arrange information but in doing so colours and directs any debate which follows. Thus emphasising economic values suggests to those so oriented that obtaining the maximum benefit at least cost is a reasonable goal whereas emphasising utility lacks such an immediate connotation. In a similar manner, emphasising ecology may only carry a connotation of avoiding erosion or damage to vegetation, whereas conservation may imply denial of use or access. Likewise, recreational or historical values may be meaningless to some who on the other hand, may be receptive to the ethical concept of not denying future generations a resource enjoyed by the current one.

The foregoing serves to emphasise that all perceived values are not compatible. An appreciation of the diverse values placed on the same geographical features is a basis for the solution of any conflicts that will surely arise. Understanding and respect for the views of others is an integral component of compromise that is central to solving conflicts.

Formal methods can be devised to solve these potential conflicts and are based on community discussion leading to a wide-ranging awareness of all the values involved. The method involves assessing the likely outcomes of any of the alternative decisions that could be implemented; the likelihood that the decision will lead to the desired outcome; the regrets that follow from choosing one course of action than another and the regrets that might arise when the desired outcome is not forthcoming from the chosen action i.e. whether any salvage is possible. A judgement needs to be made of the

acceptability or not of the likely losses arising from the alternative courses of action (Main 1992). The bottom line will be that there are some winners and some losers but importantly the public understands the process.

I need hardly draw attention to the fact that this ideal procedure has never been followed, especially with the uses to which granite rock islands are put. One of the reasons for this state of affairs is that in the past utilitarian values were pre-eminent. It is only recently that cultural, recreational, aesthetic and ethical values have achieved greater prominence. Thus, when decisions are being made now, there are likely to be expressions of interest in a greater diversity of values than was apparent in the past. Nevertheless it must not be assumed that past exploitation for utilitarian purposes completely destroyed the other values attributable to granite rock islands as illustrated by the following discussion.

### Case Studies

#### Wave Rock, Hyden

Wave Rock, near Hyden, is an example of a site subject to a great variety of use without any assessment whatsoever, except of the utilitarian values of immediate interest. This example, as a case study, may help to develop a feeling for how past experience may be used to develop more general approaches to arriving at management decisions. Hyden is located in a very low rainfall area where potable water is at a premium. At the time it was decided to use the rock as a water catchment, the primary good was an economical and adequate supply of drinking quality water for the locality. Had a formal decision procedure been followed it could hardly have been expected to work; the area did not have a large population and what was there was interested in surviving rather than pursuing either cultural or ethical goals. Nevertheless, from the present vantage point it is possible to review what was lost by the development, the regrets; for example habitat formerly present beneath rock slabs when these were used to form the catchment directing rainfall into a holding area. A consequence of the redirected water flow was the reduction of water available to the vegetation of the area surrounding the rock. These costs are to be measured against gains that were principally a reliable water supply that could support a viable community. However, once the surrounding land was cleared the diversion of water probably helped reduce ground water recharge thus impinging on soil salinisation. What could not have been foreseen at the time of development and therefore unlikely to be included had a formal assessment been required was that once a local water supply was assured innovative local initiatives could develop the site as a locality attractive to tourists. It is only those of us who

collected plants and animals in the early 1950's who have any measure of what has been lost or changed. For tourists and biologists visiting the area it is still regarded as being rich in the variety of plants and animals present.

A retrospective analysis by local citizens of the gains and losses over the period of development would undoubtedly yield insights into what the tangible and intangible costs and benefits have been. Such an analysis would be a great help to other local communities desiring to conserve or use local rock feature.

#### Other sites

In the early days of settlement granite rocks served as navigation aids for travellers. Later with the discovery of gold and the development of various fields such as Coolgardie and Kalgoorlie they marked the alignment of the various tracks by which access to the fields was obtained. The rocks also provided drinking water based on the supplies already developed by the Aborigines.

Among these access ways, the one from the west to the eastern goldfields and Holland's track from the south-west were much used. Some of the rocks have subsequently been developed for water supplies or used as picnic sites, for example Yorkrakine Rock north of Tammin, and Sanford Rock north of Westonia. Sanford Rock is a particularly interesting example of a site favoured by travellers because stock could be readily held in an area bounded by rocks. The site now provides an unstudied example of the way weedy species associated with stock and their grazing of native vegetation have affected the natural conservation values of the locality. Boyagin Rock, west of Brookton, is an example of a rock predominantly used as a picnic site.

Another use for water in gnammas occurred in the early years of land settlement following World War II when superphosphate bags were washed in them prior to being used for other purposes. Superficially these activities had little impact on the appearance of the rocks. However, the nutrient enrichment of the pools led to a massive increase in the abundance of filamentous algae. The changed ecology quickly led to the local extinction of a great variety of typical pond animals especially Crustacea. Whether these have re-invaded I do not know. Nor have I studied the effects of the overflow of nutrient enriched waters on the down-slope flora. Clearly the possibility of such events and possible anomalous distributions need to be taken into account when devising management plans designed to maintain distributions and diversity of the biota. The gnammas on Mount Gramphorne, east of Hyden, were conspicuous examples of such enrichment and changes in the biota during the 1960's. No doubt there are other examples.

Thus it would seem that past developments and uses have provided an array of granite rocks in agricultural, semi-arid and arid landscapes, some used for upwards of a century, which would now provide a rewarding comparative study of the way the rocks and their biota have responded. Such a study, if taken as an example of management by benign neglect, might reveal what needs to be undertaken in order to achieve minimal conservation management should it be needed for these important natural features.

#### A personal comment

As an outsider I have a bias in seeing granite rocks as a class of objects needing conservation attention; however, as already argued the central government is unlikely to participate because of the costs involved. I firmly believe that good management can arise from cooperative efforts of local people. Nevertheless I am acutely conscious of the other primary needs requiring attention, for example salinisation of the landscape as well as other problems broadly grouped as related to land care activities. These problems are compounded by withdrawal of quality community services formerly taken for granted, coupled with the ever present threat, in the current political environment, that the axe of economic rationalism will continue to be wielded leading to the further marginalisation of the countryside and its inhabitants.

Under these circumstances it is merely platitudinous to ask that locals, unassisted, take up the challenge of conserving granite rock islands and their associated values. In order to participate in conservation activities, locals need time and resources neither of which are in abundance in the present situation.

To an economic rationalist the foregoing arguments have little currency unless they can be seen as short term, income yielding actions, yet it is an International goal (IUCN/UNEP/WWF 1981) and State policy (Anon 1987) to retain biodiversity. The biota of granite rocks make a significant contribution to the States' biodiversity and clearly have a wide ranging attraction to a great variety of people (Nikulinsky & Hopper, 1999). It borders on irresponsibility to leave the care of these precious islands to already stretched locals; on the other hand it is not a viable option to impose a centralised command and control regime on them. In this sense education involves more than the local community which makes it more difficult because of the large numbers of potential participants in the decision. Yet if they have access to interesting and informative literature such as Nikulinsky & Hopper (1999) and Bayly (1999), then participants will inevitably bring a wider understanding to discussions and decisions. The value of granite rock islands is not solely in the biological components resident on them. Rock islands are a significant component of the landscape and an accessible interpretation of their significance in terms of recent history or the ancient river systems (now chains of salt lakes) and the way the present topography reflects the weathering and ancient erosion patterns of the river systems would contribute materially to the public's appreciation of the meaning of the landscape and the significance of granite rock islands as important watershed components of it (see Hocking & Cockbain 1990) and being determinants of the occurrence of many remnant and relict components of the biota.

This discussion suggests that management, even if acceptable goals could be set, involves much more than simple action or universally applicable recipes. No doubt many viable local solutions could be expected; however, as already discussed, the desire, will, time and resources are unlikely to be currently in abundance.

## Conclusions

Discussions about management of public resources such as granite rocks should not be left to 'experts'; decisions should be transparent to be accepted by the public. For this to happen they must be involved. Thus their expertise should be acknowledged but in addition such activity will provide an opportunity for them to be better informed, (education without indoctrination).

If the public is to be involved in management it will require their devoting resources and time to the activity. Both are in short supply leading to the possible interpretation that leaving it to them is an abrogation of government function but local public issues are primarily the province of the public and should not be left to the expert. Hence the emphasis on transparency in decision-making. While I am conscious of the additional workload placed on citizens by this suggestion I am hopeful that it will be a focus should any discussions or local decisions on local granite rock islands be called for. Meanwhile until the issues raised and canvassed above are resolved, the question is whether a policy of benign neglect (do nothing) and its consequences are likely to be so regrettable that they are unacceptable? The history of the use made of Wave Rock, Hyden, along with its present acceptability as a destination for visitors suggests that

there may yet be time for worthwhile values to remain while public awareness is heightened.

## References

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