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**MULTIPLE AND SEQUENTIAL USE - A LAND MANAGER'S
VIEWPOINT ON MINING AND CONSERVATION**

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ABSTRACT

Multiple and sequential land use has been recently addressed in discussion papers prepared by the Minerals Council of Australia and by the Australian Conservation Foundation. The views as currently expressed appear to be irreconcilable. If this is so, this will not benefit either mineral development or conservation objectives.

Biodiversity in Australia is as yet poorly protected. Substantial addition to the Conservation estate is required, as well as adequate ongoing management. The main threatening processes include clearing, grazing, weeds, feral animals, diseases, inappropriate fire management and poorly controlled access.

Many examples of ecosystems which will be targeted for inclusion into the conservation estate are either highly prospective (eg greenstone) or are currently held privately (either as freehold or as leasehold).

A new paradigm is required for Conservation management. This paradigm needs to recognise the benefits to conservation of strategic alliances (with industry and private individuals), of increased opportunities for funding, of the involvement of local people in conservation management and of the adoption of "alternative" classifications for conservation lands.

INTRODUCTION

Industry has argued repeatedly for the essential need for access to land for exploration in order to discover new ore bodies and to maintain or increase production (AMIC, 1994, Minerals Council of Australia, 1996).

Government has recognised the need to protect and enhance biodiversity. It has signed International treaties and has all States as co-signatories to a National Biodiversity Strategy (1996).

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In Western Australia, 20 Million hectares (or about 8 percent) of the land mass is reserved for conservation. Hopkins et al, ANCA project N703 (1996) have shown that, using the accepted Caracas model that 10 percent of vegetative systems should be in reserves, and based on Beard's vegetation mapping for Western Australia, of the vegetative types recognised

- 21 percent are adequately reserved
- 34 percent are represented but below accepted adequate levels
- 47 percent are not represented at all in formal reserves.

This apparent need to increase the size of areas managed for conservation objectives leads to conflict. On one hand the industry through the Minerals Council of Australia 1996 argue for improved access through a better acceptance of multiple and sequential use, the non-intrusive nature of current exploration procedures, the limited size of ore bodies and the fact that the conservation "crown jewels" won't be mined.

On the other, the Australian Conservation Foundation (1996) opposes this arguing that most people oppose mining in National Parks and Reserves, that there is adequate land "elsewhere" to explore, that industry won't identify the "crown jewels" specifically, that exploration is intrusive and that "swiss cheese" reserves don't work biologically.

There is still major conflict between MCA and ACF on statistics as to what area is or is not available for access. The data presented vary widely, depending on the definition used.

So we may well ask: What's new? Where to from here?

WHAT ARE AUSTRALIA'S ENVIRONMENTAL PROBLEMS

Contrary to the popular press and the Conservation Groups' rhetoric, Australia's major environmental challenges don't include mining and the logging of "old growth" forests.

Rather, they involve issues related to fire, feral animals, dieback disease, weeds, agriculture, rangelands, some native animals (kangaroos), urban development, population, affluence and peoples' behaviour.

But forests and miners are good targets for lobby groups. Forests in Western Australia are attractive, they cover a large part of the populous south-west, they are managed by one Department with one Minister and tree felling conveys a good visual image for media.

Similarly, miners can be targeted as readily identifiable, profitable companies, often with foreign ownership, using hazardous chemicals and with some historical bad practices. Again "good" footage of blasting, trucks, noise, chemicals, dead birds etc can be obtained. What's needed is not conflict or polemic, but action and funding. Funding for land purchase, for management, for restoration.

WHERE WILL THE ADDITIONS TO THE CONSERVATION ESTATE COME FROM?

During 1996 my Branch contracted David Wilcox to review opportunities for additions to the Conservation estate in the arid rangelands. Figure 1 depicts 10 strategies to achieve this. Though all possibilities will be pursued, regional differences are important. In the Kimberley, vacant crown land, Aboriginal reserves and pastoral leases dominate. In the north-eastern Goldfields, many pastoral leases are held by mining companies and memoranda of understanding (MOUs) have been signed between some of these companies and CALM. In the Murchison Gascoyne, there is little vacant crown land and pastoral leases are tightly held. Lease purchase and MOUs or Agreements with pastoralists are the only options. In the agricultural south-west a voluntary "Land for Wildlife scheme" has been launched by CALM and the purchase of uncleared land is also an option. Funding for purchase should be available under the Federal Government's National Reserves Programme (NRS) Strategy. There is obviously a potential for conflict between the goals for conservation and access for mineral exploration.

The Department of Minerals and Energy has reviewed various proposals for Conservation, such as those contained in CALM's Goldfields and South Coast Regional Plans. DME estimate (Ranford et al 1996) that there are over 700 reserve proposals, many of which have potential to impact the mining industry as they overlie prospective land. Land which is geologically interesting often contains unusual flora and fauna suites. The challenge is to evolve a management system that caters for both needs.

It is also increasingly obvious that not all lands managed for conservation can or should be in reserves. Though a vested and well managed reserve system based on CAR principles (comprehensive, adequate, representative) must remain as the core objective, this system needs to be supported by areas managed for conservation objectives on leasehold and private lands (Land for Wildlife, Covenants, MOU's, Agreements etc). These elements should then be contained within a landscape (for example forest, farmland, rangeland, minesites) which is managed sympathetically, with sustainable development objectives in mind.

This landscape needs to be productive as well as ecologically stable and sustainable. Management costs for conservation objectives should be spread through the community. A profitable mining industry can have a major role to play in these developments.

In relation to Native title and the future acts process, purchase of leases, or of freehold land and memoranda of understanding with pastoralists and miners should not trigger this process. However when a change in tenure is sought (for example from pastoral lease to nature reserve or conservation park) CALM is currently obliged to advertise this under the provisions of the Native Title Act. In most cases, CALM expects that the tenures proposed will prove to be quite compatible with native title. However, this is yet to be tested.

WHAT ABOUT THE MINERALS INDUSTRY?

The minerals industry is likely to be cautious about proposals to substantially increase the "conservation" estate. How will the interests of industry for access be protected?

Legislation in Western Australia allows access for exploration and mining onto all classes of reserve land including National Park and the CALM Act cannot derogate from the Mining Act. This Legislation obviously conflicts with the IUCN categories for reserve land, particularly categories I to V. Obviously, conditions are set on access and the provisions of the Environmental Protection Act can be used if required. Access constraints are related to the purpose and vesting of the reserve and on the risks imposed by exploration.

In descending order of constraints, the purpose of reserves current in Western Australia would be

- Nature Reserves A
- National Parks A
- Conservation Parks A
- Nature Reserves C
- Conservation Parks C
- Section 5g Reserves (CALM Act)
- State forest
- Timber reserves
- Pastoral leases managed by CALM

In descending order of risk

- exploration shafts and declines
- costeans
- drilling on cleared gridlines
- scout drilling using off road, low impact vehicles
- scout drilling on roads or tracks
- reconnaissance, geochemical, geophysical surveys
- airborne surveys.

The recognition by the mining industry that CALM managed lands are available for exploration and mining has allowed substantial additions to the conservation estate to be negotiated. As an example, in the five years June 1991 to June 1996, 897 mining tenements for access to CALM managed lands were processed by CALM. Exploration within four National Parks located ore bodies estimated to be worth more than \$3 Billion. Some major bauxite, coal, tin, mineral sands, and gold mines are located on CALM managed lands.

The standard conditions for exploration and approval procedures are documented in Information Series No. 11 DME (1995). Industry supports the need for sensible conditions and procedures when operating in environmentally sensitive areas. In fact, many companies demonstrate "best practice" and "continual improvement" which may well exceed requirements under these conditions.

Pastoral leases held in the name of the Executive Director, CALM are considered as Crown Land for the purposes of the Mining Act 1978. Highly prospective ground has already been vested in the NPNCA as Section 5g reserves (CALM Act) for the joint purpose of "Conservation and Resource Use". Prospective areas have also been vested as C class Nature Reserves or Conservation Parks, since exploration and mining on these tenures only requires the recommendation of the Minister for the Environment.

Industry may also be concerned by changes in Legislation or changes to Policy which affect the interpretation of their existing Legislative "rights". These powers rest with our elected representatives in Parliament and I can't see that this will or should change. Some of the Policy changes which have occurred in Western Australia and their effects on industry are discussed in Carr and Batini (1993).

One of the best approaches for industry, in our view, is to perform with excellence in the field and to demonstrate by results. Other opportunities are discussed later in the paper.

THE ENVIRONMENTAL BENEFITS OF MINING

In the past, industry has generally described its benefits to the Australian economy in terms of employment, balance of trade, decentralisation, profits, standard of living etc. However in more recent times (AMIC1995, Chamber of Minerals and Energy 1997) there has been some emphasis on describing environmental or community benefits, other than the collection of additional data on biological values and the rehabilitation of affected sites. Companies such as Alcoa of Australia have taken their environmental expertise onto agricultural areas, such as their support for Landcare in the wheatbelt, they have encouraged public visitation of their minesites and have improved employee knowledge and pride in the Company's environmental successes.

In each situation where mining is proposed in a CALM-managed reserve, my aim is to dialogue early with the proponent and the Department of Minerals and Energy in order to

- improve the environmental aspects of the proposal
- obtain better baseline biological data and also
- improve the outcomes for conservation.

A few examples from the Western Australian experiences are:

- ◇ Watheroo - in 1991 the Labor Government decided to excise 39ha from the Watheroo National Park for a bentonite mine. The product was estimated to be worth \$100 Million. The company was required to purchase private land which contained a major population of a declared threatened eucalypt E. rhodantha. The site has been purchased, refenced and is being rehabilitated with understorey species native to the area (E. rhodantha recovery plan, 1995).
- ◇ Marandoo - after much controversy the Labor Government excised approximately 5,000ha from the Karijini (Hamersley Range) National Park for an iron ore mine, developed by Hamersley Iron. The product (above water table) is estimated to be worth over \$500Million.

Soon after, three key areas totalling 20,800ha were added to the Park. Agreement was reached between CALM and Hamersley Iron on cooperative management for the minesite area (Statement of mutual understanding) and on cooperative management of three adjoining pastoral leases held by Hamersley Iron (Memorandum of Understanding), details of which are discussed by Stoddart and Batini (1996). The more immediate benefits are management to natural not cadastral boundaries, integrated pest, fire and weed management, fencing to natural boundaries and closure of some problem water points. Longer term goals relating to education, public involvement and research are being defined.

- ◇ D'Entrecasteaux - during 1996, the Coalition Government approved a Bill to excise 350ha of land from this 115,447ha National Park. The land is still vested in the National Parks and Nature Conservation Authority and managed by CALM.

The excision contains the South Jangardup mineral sands ore body estimated to be worth \$250-300 Million. Environmental assessment by the EPA and Ministerial approvals are still required. If the project is approved, the Company, Cable Sands Pty Ltd has undertaken to

- rehabilitate all areas cleared by works associated with the mine. This land will be reincorporated into the National Park. I expect that with current rehabilitation procedures, more than 60 percent of species which are currently found on the site will be present in the rehabilitation.
- Cable has offered a 1,030ha block to be added to the National Park. Part of the block, 31 percent is uncleared vegetation comparable to the minesite, 11 percent is part-cleared and will need minor improvement, the balance was cleared and grazed and will need to be rehabilitated or developed for Park facilities.
- this block lies to the north of Lake Jasper and when fully rehabilitated will increase the buffer to the lake from about 300m to 2 kilometers.

- ◇ Western Shield

This is a major fauna protection and enhancement proposal by CALM, directed initially at controlling fox and cat densities over an area of 5 Million hectares. This will be followed up, as appropriate by reintroduction and reconstruction of native fauna assemblages. Currently the program covers 3.2 Million hectares and in addition to a \$1.25 M input by CALM, has sponsorship assistance from Alcoa, Cable Sands, WAPET and Apache Energy. As a result of Operation Foxglove (a subset of Western Shield) the Woylie (Bettongia penicillata) has recovered so dramatically that its status has been reviewed and the species has been removed from the list of threatened fauna.

◇ Penguin Island

At the time CALM assumed management in 1985, the island was a place of run down shacks, degraded vegetation, environmental damage and erosion. A management plan was completed, major rehabilitation was undertaken, substantial construction work done. The island now caters for many more persons but in a controlled way with minimal damage. A substantial input by Western Mining has enhanced the environmental experience by assistance with construction of a Research and Management centre.

- ◇ The Minerals industry currently pays CALM compensation of between \$2 and \$2.5 Million each year. Compensation agreements are part of the standard conditions negotiated with Minerals and Energy and industry for all Mining Leases. Compensation provisions have also been negotiated for service corridors such as gas pipelines and petroleum bases on islands. This compensation can be paid in cash, in kind or in the form of land suitable for conservation. Wherever possible, the industry and the company are credited publicly for the benefits to conservation which ensue. An example the Goldfields Gas Transmission pipeline was routed through the Wanjarri Nature Reserve. This avoided much more difficult broken country to the west of the reserve and a much longer route to the east. GGT funded the cost of a management plan for the Wanjarri reserve, prepared by CALM. In addition it offered to rehabilitate an equivalent area to the area cleared, and assisted with upgrading of roads and fences.
- ◇ In two instances CALM is the freehold owner of land where minerals are located. In one case the land title is pre 1899 with “rights of minerals to owner”. CALM has successfully negotiated an agreement whereby the royalties would be returned to CALM. These could be worth \$3-5 Million depending on the mineral value at point of sale. In the other case an agreement for access, subject to adequate financial compensation, has been prepared.

There are many other examples that can't be quoted in detail here, including

- environmentally sensitive exploration
- wetland purchase by industry for conservation
- wetland enhancement in mining rehabilitation
- research by mining companies which lead to improved data on the range and security of the pebble mound mouse (*Pseudomys chapmani*) leading to a recommendation by CALM that its status be amended accordingly.
- the upgrading of 672 Nature reserves from C class to A class.
- the establishment of a further 65 C class Nature reserves.
- successful negotiations with Minerals and Energy for major additions to
 - Cape Range National Park
 - Lake Cronin Nature Reserve
- establishment of the 225,000ha Kennedy Range National Park.
- a 15,000ha addition to the Karlamilyi National Park to compensate for the excision of the Kintyre prospective zone.

WHAT DO AUSTRALIANS REALLY KNOW AND THINK ABOUT MINING?

The ACF repeatedly states the “fact” that 85 percent of Australians are opposed to mining in National Parks. This reminds me of a vignette from “Yes Minister” where the answers to questionnaires depend very much on the questions asked, for example:

do you enjoy visiting a National Park?	Yes
do you like the peace and beauty of natural areas?	Yes
would clearing, heavy machinery and noise detract from your visit?	Yes
would you oppose mining in National Parks?	Yes

Alternatively one could ask

would you like National Parks and Reserves to be substantially increased (say doubled) in size?	Yes
would you like improved Park facilities and management?	Yes
would you consider allowing a small area to be mined IF some of the royalties were directed into better facilities and Park expansion?	Yes
would you support mining in National Parks?	Yes

CAN THE MINERALS COUNCIL AND THE ACF REACH A RAPPORT ON MINING IN NATIONAL PARKS AND RESERVES?

The landmark agreement reached between the National Farmers Federation (NFF) and the Australian Conservation Foundation (ACF), led to Landcare being established in Australia, with consequential major funding by Federal and State Governments and major new emphases on conservation projects especially in the agricultural areas. Is a similar agreement possible between the MCA and the ACF on multiple and sequential use? Could these parties jointly lobby the Federal and State Governments for the required changes and for improved funding?

Unfortunately, I think not. The NFF/ACF agreement had benefits to both parties. However, the ACF is far too closely committed to a "no mining in parks" policy. It feels that this has the support of the majority of Australians (remember, 85 percent are opposed to mining in parks) and of its members. Whilst individuals on the ACF or State Conservation Councils may privately acknowledge the mining industry's good environmental performance and low aerial impact, they can't afford to do this publicly. I note that industry sources are also concerned about the differences in the public and private stances taken by the ACF and suggestion that this is probably a reflection of the need for ACF to maintain a high public profile.

ARE SWISS CHEESE AREAS BAD FOR FLORA AND FAUNA?

The Conservation movement has opposed "Swiss Cheese" excisions from National Parks on the basis of effects on flora and fauna corridors and linkages. No matter how these actions may impact on us visually or philosophically, there are few data on the actual conservation effects that exploration and mining has.

An example where some data are available is from the 9,800ha Kangaroo Hill Timber Reserve. This reserve is near the mining centres of Coolgardie (10kms) and adjacent to Burbanks, (now abandoned). The area is highly prospective and has been subject to extensive exploration for over 90 years. There are many shafts, drill holes, costeans, and small mines throughout the area. Most of the reserve is covered by Tenements. (map)

The relocation of a road on the boundary cut off about 9ha of highly prospective and disturbed ground. The company which held the tenement asked if this could be excised from the reserve and, in return, offered to fund a biological survey for the whole reserve, with interesting results.

Although affected by exploration and mining, Kangaroo Hills Timber Reserve has significant conservation values. A 1990 survey by Bamford, Davies and Ladd for CALM recorded 70 species of birds, 9 native mammals, 32 reptiles, 2 frogs and 250 plant species. Reptiles in particular are better represented here than on other greenstone outliers which have been studied. Diverse mosaics of eucalypt woodland (with 12 species of eucalypt) are present on greenstone throughout the reserve. Some areas of deep sand are also present within Kangaroo Hills Timber Reserve.

As well as supporting different vegetation communities the sand areas have, in general, more small mammals than other habitats in the Goldfields, including two species (Ningui ridei and Notomys mitchellii) restricted to sand sheet complex. The vegetation associated with the sand was identified in the 1990 survey as one of eight vegetation associations within Kangaroo Hills Timber Reserve.

Similar examples can be drawn from the Ravensthorpe Ranges and from Barrow Island. The Ravensthorpe Area was recognised as prospective early during settlement, it has been extensively explored and parts have been mined for gold and silver, copper, lead and zinc. Yet the area is still of such biological value that it has been consistently sought by CALM for addition to the Conservation estate.

Barrow Island, a very important A class Nature Reserve, has been an operating oilfield for over 40 years. Visually, the impact of roads, leases, lufkin pumps, infrastructure, borrow pits and flare pits is substantial. Yet studies show that the flora and fauna have coexisted with this development. In contrast, the introduction of a pregnant vixen 40 years ago would have lead to catastrophic consequences on the island's fauna.

WHAT CAN INDUSTRY DO?

If our desire is to reduce (I won't say avoid) conflict, the mining industry needs to be proactive and re-define the messages it is sending to the public and to Government.

- Industry needs to lobby for and support Departments such as CALM seeking a major expansion of conservation management both on and off reserves. Elements need to include:
 - i. expansion (by purchase in many cases) of the land estate to be then vested for multiple use and conservation purposes so as to cater for biodiversity objectives. These areas can be made available for exploration by appropriate vesting, tenure and purpose categories. One such option in this State is vesting in the NPNCA, management by CALM, with conservation and resource use included in the purpose for the reserve. This has been used successfully in several cases for example Watheroo and D'Entrecasteaux. Other options are to use the C class classification, to use the multiple use purpose of State forest, to seek a new multiple use classification (something like the Regional Parks of South Australia), or possibly one that is jointly vested, (such as the Resource Reserves used in Queensland). Mutually agreed procedures for exploration, for mining access and for transport corridors are required.
 - ii. Conservation management off the vested reserve system - for example MOU's for cooperative management, Land for Wildlife schemes, Covenants, Agreements etc.

- Industry needs to lobby State and Federal Governments for substantial increases in funding, for Agencies managing lands for biodiversity and conservation. The types of programmes required were mentioned previously - feral animal, weed and fire control, improved facilities and visitor control, rehabilitation of historical grazing damage, and recovery processes including faunal reintroductions. A greater share of mining revenue obtained from mines in reserves needs to be directed into purchase and management for conservation - irrespective of Treasury's lack of support for any form of hypothecation. One of the early examples of this is Government commitment to use some mining royalties to rehabilitate portions of a "conservation and resource use" reserve in this State.
- In a number of cases, the conservation reserves have been targeted for low value products such as sand, gravel, limestone, shellgrit, limesands and gypsum. The applicants are often prospectors or small operators or cartage contractors who usually do not have either the finances or the environmental skills to develop a mine in a sensitive area such as a Nature Reserve. The Reserve is targeted to reduce haul distance and costs. CALM currently has over 30 such proposals on its books. These are a source of concern to CALM and should also be of concern to industry bodies and Departments such as Minerals and Energy. While I believe that industry access is important, conservation lands should only be mined where the product is of strategic importance or the ore body is so valuable as to be of economic significance to the State or the Nation. Alternate strategies to deal with these minor minerals are required and several options are currently being examined by CALM, DOME and the EPA. Industry support and involvement would be of value.
- Industry may need to reassess its database relating to tenements granted, exploration and mine development. The often quoted figures are 1,000 tenements, 100 exploration proposals leading eventually one mine. Our data sets show that for 319 Tenements processed, 36 proposals for significant ground disturbance were received leading to 17 notices of intent to mine (a ratio of 1,000 to 113 to 53). Are explorers in Western Australia significantly better or just luckier than their counterparts in other States?
- Industry needs to clearly identify some areas which it will voluntarily NOT mine by open cut techniques. Generalised platitudes are no longer acceptable to the public. Some examples for Western Australia I would offer are - Fitzgerald River NP, Stirling Range NP, Bungle Bungle NP, the gorges in the Karijini NP. I don't believe these concessions would have a major impact on the Western Australian minerals industry.
- Industry needs to carry out appropriate exploration in sensitive areas (see DME Guideline's A₂ conditions as an example) using a sensible, staged approach. Industry needs to isolate and repudiate the more extreme performers in your ranks.
- Industry needs to lobby Governments to spend more of the royalty revenues generated by your industry to address historical environmental legacies left by previous miners.

- Industry needs to
 - become increasingly involved in environmental sponsorships such as Western Shield
 - emphasise and create sound environmental benefits from mining activities
 - publicise the environmental benefits achieved
 - establish strategic partnerships with conservation Departments
 - encourage site visits by the public
 - reassess public opinion - rephrase the questions!
 - obtain the support of your own employees
 - encourage independent audit and review
 - isolate the more extreme conservation fringe elements

- Finally, Industry also needs to accept that, in a minority of cases, the weight of evidence will be such that the mining proposal should NOT be approved. Examples from Western Australia would be:
 - an open cut proposal to mine coal at Mt Lesueur NP, a centre for biodiversity in Western Australia.
 - mining in D'Entrecasteaux South Jangardup deposit IF there is a serious threat posed to Lake Jasper.
 - mining below the water table where there are high beneficial values at risk and the water accumulating in the pits will be saline, toxic, or acid and pose a direct threat to those values.
 - mining in the Dale's gorge area of the Karijini National Park.

REFERENCES

- Australian Conservation Foundation (1996). *Undermining our Natural Heritage*.
- Australian Mining Industry Council (1994). *Managing to Conserve Biodiversity*.
- Australian Mining Industry Council (1995). *Nature Conservation and Land Use*.
- Australian Nature Conservation Agency Project N703 (1996) *Conservation Status of Vegetation Types throughout Western Australia*.
- Carr W.M.B. and F. E. Batini (1993) *Exploration and mining in National Parks and Conservation reserves in Western Australia*. 1993 National meeting of the American Society for surface mining and reclamation. Spokane, Washington, May 1993
- Chamber of Minerals and Energy (1997) *Mining and the Community. A Growing Relationship*.
- Commonwealth of Australia (1996) *The National Strategy for the Conservation of Australia's Biological Diversity*.
- Department of Minerals and Energy W.A. (1995) *Information Series No. 11. Guidelines for the application of environmental conditions for onshore mineral exploration and development on conservation reserves and other environmentally sensitive land in Western Australia*.
- Kelly A.E. and D.J. Coates (1995) *Rose Mallee Recovery Plan*. Department of Conservation and Land Management Wildlife Management Programme No. 14
- Minerals Council of Australia (1996) *Multiple Land Use Reserves. A Regulatory framework. Discussion paper*.
- Ranford L., W. Carr, A. Smurthwaite and M. Freeman (1996) *Resource Access in Western Australia*. Department of Minerals and Energy W.A.
- Stoddart J.A. and F.E. Batini (1996) *Integrated Management of core and buffer areas for the Karijini National Park* (in press)
- Wilcox D.G. (1996) *The potential for enlarging the Conservation Estate in the arid rangelands*. (Unpublished report to Department of Conservation and Land Management)