# GROWING PAINS

## ~MANAGING A LARGER PROTECTED ESTATE~

**A workshop on**
**Protected Area management in Queensland**
**6 April 2005**
**Indooroopilly**

**Sponsored by**

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# EXECUTIVE SUMMARY

The present government was commended for increases in the protected area estate, staff numbers and funding for protected area management.

However, the continued low ranking of Queensland in comprehensiveness and standard of management of protected areas, and persistent reports of management deficiencies, under-resourcing and poor staff morale are of great concern, given this otherwise promising record.

There was unanimous agreement that the area protected, staff numbers and funding for management should be boosted substantially, to redress these deficiencies.

Finally, staff placement, support and morale problems that are negatively affecting our protected areas should be resolved as rapidly and fairly as possible.

The following specific recommendations were adopted:

1. Restoration of significant levels of funding by the Australian Government for the National Reserve System program on a 2:1 matching basis.
2. Follow-through on the *Treasures for Humanity* initiative for creation of new protected areas.
3. Timely progress in State Forest conversions and gazettals of new protected areas.
4. An expert economic study of why Queensland Treasury valuations of protected areas are so much less than independent valuations, resulting in low funding levels. National parks should not be seen as assets to be exploited by tourism before they acquire any value. Parks have intrinsic value for protection of natural and cultural heritage and ecological services such as clean water, fresh air, stable soils and wildlife habitat.
5. Investigation of budgets to reveal why problems and shortages appear to have increased, although total funding has increased.
6. Identification of the level and distribution of funding needed to fully and adequately manage the protected estate.
7. Investigation of the real extent of and full costs of poor staff morale and stress arising from present policies.
8. Reform of base amalgamation and staff relations policies at Queensland Parks and Wildlife Service (QPWS), with a view to resolving staff morale problems, and keeping committed, experienced rangers on-site and fully resourced to operate effectively.
9. Programs to increase practical involvement of traditional owners and appropriate community members in parks management and monitoring.
10. Programs for scientific ecological monitoring of parks and nature refuges on private lands to assess effectiveness of conservation measures.
11. Programs for deployment of remote sensing technology where cost-effective to assist with monitoring and surveillance.
12. A program for timely completion and implementation of management plans for all Parks.
13. Policy to ensure that management and threat abatement plans and actions are guided by science and directed solely at preserving and restoring functional natural ecosystems, rather than accommodating private interests.

## Contents



## Convenors

Martin Taylor, National Parks Association of Queensland (NPAQ).
Lyndon Schneiders, The Wilderness Society (TWS).

## Invited speakers

Des Boyland, Wildlife Preservation Society of Queensland (WPSQ).
Prof Henry Nix, Co-Chair, WildCountry Science Council.
Paul Sattler, Environmental Consultant.
Peter Stanton, Environmental Consultant.
Kathryn Larsen, James Cook University.
Manda Page, University of Queensland Gatton.
Rod Fensham, Queensland Herbarium.

## Government observers

Ross MacLeod, representing the Minister for the Environment, Desley Boyle.
Kate Duggan, representing the Opposition.
Ralph Henderson and Mike Harris, Environmental Protection Agency.

## Attendees

Mark Hawkes and Roland Dowling, Australian Workers Union (AWU).
Ted Fensom, Brisbane Regional Environment Council.
Ian Herbert, Capricorn Conservation Council.
Terry Hampson, Fraser Island Defenders Organisation.
Sheila Davis and Michelle Dawson, Gold Coast & Hinterland Environment Council (Gecko).
Jane Cajdler, Karawatha Forest Protection Society.
Lesley Hutley, Lamington Natural History Association.
Patricia Julien, Mackay Conservation Group.
Linda Back, Moreton Island Protection Committee.
Nicky Hungerford, Cairns and Far North Environment Centre.
Kevin Teys, George Haddock, Rob Hitchcock, Ruth Read, NPAQ.
Nigel Parratt and Toby Hutcheon, Queensland Conservation (QC).
Ken O'Shea, Springbrook/Wunburra Progress Association and Friends of Springbrook.
Len Lowry, Tamborine Bush Volunteers.
Nadia O'Carrol, Tamborine Natural History Association.
Rob Simson, Toohey Forest Protection Society.
Louise Matthiesson, TWS.
Roger Currie, Wide Bay Burnett Conservation Council.
Adam Clark, WPSQ.
Noel Ainsworth, WWF.

## Apologies

Minjerribah Moorgumpin Elders-in-Council, Queensland South Representative Aboriginal Corporation, Torres Strait Regional Native Title Authority, Animal Liberation, Conondale Range Committee, Environmental Defenders Office (Brisbane and North Queensland), Friends of South East Queensland, Lake Broadwater Natural History Association, Local Government Association of Queensland, Bunya Mountains Natural History Association, Manuka Cooperative, Wild Mountains Trust.

# PROCEEDINGS

A workshop "Growing pains: managing a larger protected estate" was convened to investigate growing concern with:

- The adequacy of the protected area estate;
- Funding and staffing levels, and staff deployment;
- Growing commercial tourism;
- Infrastructure maintenance;
- Weeds and exotic animal impacts;
- Inappropriate fire regimes.

Participants submitted eight papers (attached).

Boyland reviewed Queensland's protected area system, funding and staffing. He noted that the protected estate grew by about 18% in the last 10 years. Staff numbers increased by about 30% and funds for management by about 120% in the same period. Clearly there has been great improvement over past allocations. However, Queensland still ranks 5th in spending per hectare among the states. The budget for acquisitions is small. Despite growth of 18%, the area protected is still below 5 % of the state with less than 70% of Regional Ecosystems represented in some way.

It was noted as puzzling that management problems appear to have increased rather than abated despite growth in overall funding.

It was noted that burgeoning nature refuge agreements on private lands look good on paper, but in practice entail little change in management.

The contribution of the protected estate to Queensland's economy is undervalued by State Treasury. Visitation is comparable to NSW and has been growing significantly in recent years, however spending per hectare in Queensland is about one fifth of that in NSW. The economic return from visitation alone likely exceeds $2 billion compared with Treasury estimate of ~$540 million. Even using the Treasury estimate, protected areas return ~$10 for every $1 spent on management.

Larsen drew attention to Asafu-Adjaye et al (2005)[1] who estimate the capitalised use value of protected areas in Queensland at ~$7 billion, non-timber forest resources at ~$162 billion and ecological services at ~$71 billion.

Nix explained the Wild Country project, similar to the Wildlands project in the US, which proposes to bring land under all tenures into a "whole-of-landscape" system of natural areas protected or used sustainably following best conservation science. He identified shortcomings in the prevailing "comprehensiveness, adequacy and representativeness" (CAR) approach, which protects only target percentages of original biodiversity defined as broad forest types. The need is for large core areas, broad connectivity, and restoration. Connectivity is more than "corridors", and should encompass preservation of ecological processes at landscape scales.

Sattler presented an analysis of Queensland's protected areas for comprehensiveness, extent and standard of management in the national and international context. He found Australia ranks 16 of the 30 OECD countries and Queensland ranks 7 of the 8 states and territories on this scale. Only 9% of Australia's

[1] Asafu-Adjaye, John, Richard Brown, Anna Straton. 2005. On measuring wealth: a case study on the state of Queensland. *Journal of Environmental Management* 75, 145–155.

protected area estate is managed well, 57% fair and 19% poorly (irretrievable degradation).

While good progress has been made in the last decade, much greater effort is needed to build the comprehensiveness of Queensland's protected area system across bioregions and to improve the standard of management. Private land conservation is popular but has pitfalls. Monitoring and integration into landscape plans are keys to success. A system of scientific monitoring is required for protected areas to guide management and to assess the effectiveness of private land conservation strategies.

The *Treasures for Humanity* initiative in 2003 developed priorities for acquisition. A large number of the long-standing park proposals contained in *Treasures for Humanity* covered key wetlands and floodplains whose acquisition would make an outstanding contribution to building a comprehensive protected area system in Queensland. This could provide an appealing focus for a new parks initiative by government. Two have been acquired, but the initiative remains unfunded. Reinstatement of federal reserve funding is crucial to assist the States to meet national biodiversity objectives.

Stanton said there had been deterioration of staffing and management on National Parks that he traced to three sources: failure to respect and build on past management experience, accumulating neglect of maintenance, and staff removals and base closures. He expressed concern over staff treatment and rationalisation, especially the practice of tagging some parks as "non-critical." He suggested that funding and resourcing increases were needed, but also a change in management policy to keep committed staff and boost their morale. He expressed concern that a management crisis would result in habitat loss, but could be used by anti-conservation sectors to argue against declaration of more Parks.

The AWU representatives endorsed Stanton's observations, but noted that there had been progressive management initiatives as well, especially for fire, pests and staff housing. The proposal to destaff western parks, and close bases did not go as far as originally planned and most staff were still "on-Park". Staffing is a complex issue. Base amalgamation is not necessarily bad, but it is still essential to have staff who feel "ownership", local commitment and local expertise. A significant problem is a new management atmosphere that is creating stress and low morale.

The higher standards of housing awarded in 1995 were not the cause of rationalisation. In fact EPA has provided some good new housing to replace barracks.

It was asked if basic work like cleaning toilets could be put out to local contractors. EPA representatives responded that such contractors were being used a lot.

The possibility was raised that rangers could be better integrated into communities providing them with more community volunteer support to overcome morale and workload issues. The role of traditional owners in Parks management was highlighted here as in need of strengthening.

Schneiders reviewed the results of a survey of perceptions of protected area management among conservation groups. 16 responses were received. Opinion favoured the view that staffing was inadequate and workload high, while spending was too low and maintenance inadequate. Perception of threats varied by region, with livestock being of concern only in western Parks. However poaching, feral pests and weeds were identified as wide-ranging concerns. Most respondents felt that management plans and indigenous involvement in planning were inadequate.

Larsen presented a study of Park Rangers' perception of recreation in Parks, in light of present government encouragement of commercial tourism through the Tourism in Protected Areas initiative (TIPA). She found that while rangers differed in the extent to which they saw tourism as a nuisance, necessity or asset, they were all agreed that the level of resources and support provided to them was "grossly inadequate", threatening low morale and poor outcomes.

It was noted that the Queensland Public Sector Union (QPSU) had recently polled Rangers statewide and found that discontent and perception of under-resourcing were widespread.

It was agreed that protected area expansions and management should be better resourced. However it was also warned that political reality demands proposals with clear, defensible benefits, and that Treasury officials also need to be convinced of value. It was also observed that the Director General (EPA) had to fight for more funding for Parks, not simply accept what was given.

The concern was raised that national parks should not be valued or expected to "pay for themselves" through exploitation by commercial tourism. The prevailing habit of referencing value of protected areas by how many tourist dollars they return overlooks the important fact that the principal purpose of protected areas is to protect wild nature not to boost tourism or the economy, which are often at odds with nature protection. Any valuation exercise therefore has to emphasise the non-market values of protected areas.

Page drew lessons from her study of ecological impacts of different grazing regimes in and around Currawinya National Park, which suggested drought-sensitive control of both domestic and wild grazers was important. Artificial waters need to be closed. She found that adoption of management advice was poor for reasons of lack of resources, an apparent decline in motivation and conservation ethic among Park staff, and lack of followup on plans.

Taylor and Nix observed that killing of dingoes through agreements such as the *Wild Dog Memorandum of Understanding* to protect livestock was a root cause of overgrazing by wild herbivores since it removes predators. Nix noted that unpersecuted dingoes also control exotic mesopredators like cats and foxes.

Fensham observed that fire should be regarded as a valuable process not "destructive". While grazing may retard fire management of weeds like lantana, it can actually help brigalow shade out fire-tolerant buffel grass infestations, for example.

It was pointed out that native grazers could also fulfil this role, but are usually displaced by livestock.

Concern was raised that fire eats away at rainforest. However it was also observed that the impacts of fire depends on the ecosystems affected. For example, in the Wet Tropics area high biodiversity scherophyll forest remnants require some fire to prevent rainforest encroachment.

The afternoon discussion developed a list of recommendations as shown in the executive summary.

It was resolved to establish a coordinating committee of conservation and union representatives to carry forward the investigation and liaise with government to find speedy and effective resolution of problem areas (Nominees: Taylor, Sattler, Schneiders, Davis, Teys, AWU, QPSU).

# SURVEY OF PERCEPTIONS OF PROTECTED AREA MANAGEMENT

Lyndon Schneiders
*The Wilderness Society*

## Introduction

A survey was given to the invited organisations prior to the workshop. 16 groups responded. The survey polled perceptions regarding staffing, spending, planning, indigenous and landowner involvement, and threats posed by visitation, camping, 4WDs, commercial use, livestock, inappropriate fire, weeds and pests.

## Results

Staff Numbers

Across the State, the majority of respondents indicating staffing levels were inadequate (10 respondents), a similar number were unsure (5 respondents) and only one respondent thought staffing levels were adequate.

The spread of parks where respondents thought staffing levels were inadequate spread across the state, including Cape York, Darling Downs, central Queensland, western Queensland, south east Queensland (SEQ) and Gold Coast Hinterland and Moreton Bay.

Staff Morale

Across the State, impressions about staff morale were evenly split, with 6 respondents considering morale high/fair and 6 respondents considered morale to be poor. 4 respondents were unsure.

Workload

7 respondents felt the workload of QPWS staff was excessive, 4 thought the workload was moderate and 1 respondent felt the workload was low. 4 respondents were unsure. Respondents in SEQ and Cape York were more likely to identify that workload was excessive.

Respondents detailed a range of problems related to excessive workload and understaffing including insufficient staff to deal with 'on ground' issues such as weeds and ferals, difficulties for staff in managing significantly increase protected areas, concern that staff numbers were not dealing with a range of issues associated with increased visitor numbers and a reduction in trail maintenance. Concern was also expressed about the training and experience of some newer QPWS staff.

Spending

The overwhelming majority of respondents thought that spending on management was inadequate (10 respondents). 4 respondents were unsure and 2 thought spending was adequate.

Respondents indicated a range of concerns including that scarce resources were being concentrated in commercial use areas, that resources were not being spent on research/surveys, concern that too many staff were employed in offices and not 'on park' and concern about a general deterioration in overall park management.

Maintenance

A clear majority of respondents also felt that maintenance was inadequate (8 respondents), 4 felt maintenance services were adequate and 4 were unsure.

Comments regarding maintenance included; neglected walking tracks, poor toilet facilities, outdated and inappropriate infrastructure and slow response to maintenance problems. However some respondents welcomed major new infrastructure initiatives such as the Great Walks and other improved facilities.

Trail Use

Respondents were evenly divided on trail use with the majority of high use areas located in SEQ. 3 respondents indicated high trail use, 3 indicated moderate trail use and 5 indicated low trail use whilst 5 respondents were unsure.

Camping details

Responses included concerns that lack of rangers meant increased use by 'adventure' tourists, and concern that impact is concentrated on small areas.

Four Wheel Drive Use

4 respondents reported high 4WD use, 3 moderate, 3 low and 6 were unsure. Unsurprisingly, usage was highest in regions with easy accessibility.

Respondents are concerned about the lack of monitoring and control of 4WD impacts due to lack of staff, also additional concerns about impact of quad and trail-bikes and jet-skis

Commercial Use

The majority of respondents felt commercial use of the Parks were low (6 respondents), 4 thought use was moderate and 2 high. 4 respondents were unsure.

Respondents are concerned about feeding wildlife, the very large number of operators in the Gold Coast hinterland, concern that commercial use needs to be more tightly regulated and that a portion of profits raised from commercial use should be invested directly in the Park.

Poaching

A slim majority of respondents felt that poaching was high to moderate problem in the Parks. 5 respondents indicated it was not a problem and 5 were unsure.

Of those who believed this was a problem concerns were expressed about the impacts of de-staffing parks on illegal hunting and poaching and concerns about the existence of orchid, grass tree and wildlife trade from the Parks.

Urban

Urban encroachment in SEQ is a significant issue with 5 respondents indicating pressure was high. Another 4 thought this was a moderate problem and 5 thought this was not a problem.

Concerns highlighted include public relations issues with neighbours regarding management issues, weeds and ferals problems (particularly cats), the need for proactive town and urban planning and concerns about discharge of sewerage into a park and water table pressures from urban development.

Livestock

Livestock issues are largely concentrated in the northern and western parks with the issues of high concern to 2 respondents, a moderate concern to 4 respondents and of low concern to 5 respondents.

Key issues include lack of fencing, some concern that removing cattle might accelerate weed problems.

Weeds

A clear majority of respondents consider weeds to be a major problem with 8 respondents indicating this is a high priority, 3 a moderate priority and 3 a low priority.

Key problem weeds identified included lantana, groundsel, mother of millions, cotton bush, umbrella trees, camphor laurel, milkweed, rubber vine. Overall concern that weed control was not given due recognition as a problem and that early intervention was the best way to address the problems.

Feral animals

Feral animals were considered to be a high/moderate problem by 9 respondents. 1 respondent thought this was not a problem.

Key problem species include pigs and rabbits, wild dogs, foxes, cats. Overall respondents were concerned that few measures are being taken to address the issue.

Fire

3 respondents identified fire as a major issue, 4 considered it a moderate issue and 3 thought it a low priority issue. 6 respondents were unsure.

Some respondents indicated good progress was being made on the development of fire management plans, however a number of respondents are concerned about fuel build up in inland parks and the over-use of prescribed burns by some agencies.

Other Management issues

A range of issues were identified including problems with pollution, lack of ecological training of some managers, loss of landholder management knowledge, excision of sections of parks for development projects and fragmentation caused by urban development and population growth.

Management Plans

8 respondents were concerned about the absence of management plans for Parks, 4 thought management planning was adequate and 4 were unsure.

A number of respondents were concerned that draft management plans had been developed but not finalised, also concern that management plans did not take a landscape level perspective but just

concentrated on park boundaries, concern that Indigenous people are not properly included in management plan process.

Implementation of Management Plans

Only 3 respondents recorded that the implementation of Management Plans were adequate, 6 believed these were inadequate and 7 were unsure.

For a number of respondents, the absence of existing Management Plans made this question redundant. For others, concerns included absence of resources to implement plans, lack of involvement of Indigenous groups/communities in implementation and that management plans were ignored once finalised.

Indigenous involvement in management

Only one respondent thought Indigenous people/communities were adequately involved in the management of National Parks. 7 respondents thought Indigenous people were inadequately involved and 8 respondents were unsure.

Concerns raised included the failure to fill specialised Indigenous Ranger positions, the failure of co management negotiations to result in claimed Parks, the absence of long term employment opportunities, lack of involvement in tenure change decisions and concern that involvement is often token.

Involvement of other landowners in management

4 respondents felt that landowner involvement was adequate, 4 inadequate and 8 were uncertain.

Comments from respondents indicated a decline in involvement of landowners and neighbours in recent years, particularly the decline in Advisory Group meetings. This was considered a negative development. Some were concerned that landowners are only interested in minimizing constraints to development of their properties, some concern that rural landholders are becoming increasingly hostile to conservation initiatives due to a series of Qld Government policy decisions. Finally, there is concern that off-reserve nature refuge opportunities are being limited by local government policies and by landholder ignorance of conservation concepts.

# THE CURRENT SITUATION

Des Boyland
*Policies and Campaigns Manager*
*Wildlife Preservation Society of Queensland*

## Introduction

Today's workshop emerged from a meeting of key conservation groups convened to consider the challenges facing the Queensland Parks and Wildlife Service (QPWS) and the Environmental Protection Agency (EPA) in managing the protected area estate. These concerns focused on issues or matters borne from the burgeoning protected area estate and the knowledge that through a number of Government initiatives, the estate is likely to increase and increase significantly.

Issues included but were not limited to;

- Horse riding- ensuring that recreational pursuit stayed out of National Parks;
- Weed and feral animal control - management of Buffel grass in particular, fire management;
- Infrastructure maintenance- buildings, camp grounds and walking tracks;
- Staff levels and their deployment in remote areas;
- The adequacy of the protected area estate, devaluing the currency of National Parks;
- Impact of tourism and associated partnerships.

Managing the protected area estate is a significant challenge. It is the desire of the conservation movement to highlight the challenges and where feasible outline appropriate strategies for improvement. Hopefully today's outcome will provide a foundation on which the conservation movement can build a strategic campaign to assist in the management of the protected area estate and its future expansion to achieve its full potential for the benefit of all.

## The extent of the Protected Area Estate

As at June 2004, EPA and QPWS staff were responsible for the management of some 11, 643, 052 ha or about 6.73% of Queensland.

Of this 7,141,933 ha are protected areas under the *Nature Conservation Act* 1992.

Forest reserves, nature refuges and co-ordinated conservation areas contain another 1,022, 498 ha.

Other lands are held under the *Forestry Act* 1959 and the *Land Act* 1994. There are some parcels of freehold land totalling some 290 ha. (Table 1).

## The National Parks of Queensland

The growth in the extent of national parks from 1994-95 to 2002-03 is given (Table 2). Also provided are staff numbers and funds available for management. The extent of the estate has grown from 6.75M ha in 1994-95 to 7.98M ha in 2002-03. This is an increase of some 18%. In the same period, staff numbers increased by some 30% and funds for management by some 120%. These increases are commendable but the significant increases only re-address in part the massive disruption that resulted from the doubling of the national park area without corresponding increases in staff and operating funds in the early 1990s. The recent trend is encouraging and the Government is to be commended, but is the level of funding adequate?

Comparative expenditure on management dollars per hectare for the various States and Territories are available for 1998-1999, the last year such figures were made available (Table 3). ACT, NSW, Tasmania and Victoria are all funded to the extent of at least $9.90 per ha. Queensland leads the "also rans" with $4.74. It would appear that Queensland Treasury expects EPA and the QPWS to do a lot more with a lot less.

## Acquisition

Queensland is recognized nationally and internationally for our outstanding biodiversity. While national parks and protected areas alone cannot protect our biodiversity they provide a cornerstone for conservation. All conservation groups agree that the current situation in Queensland is inadequate. Less than 5 % in extent and fewer than 70% of Regional Ecosystems captured is not good enough (International Standards suggest at least 10%).

Queensland Government is on the brink of increasing the protected area estate. While the additional area will be most welcome, is this really the highest priority? From a Government's perspective it is

extremely cost effective in exchanging tenure status. However will this action impact on the Governments attitude to the acquisition of key areas with high conservation value?

The current budget indicates a commitment of $15M over a three-year period. However some $12.5M is tied to Cape York and the Daintree leaving only $2.5M for the remainder of the State. Implementing an acquisition program with the required biodiversity outcome is a challenge.

## Economic Value of the Protected Area Estate

What is the value of the national park estate to the Queensland economy?

A Tourism Queensland Fact Sheet indicates Queensland with 23% of visitation was second to New South Wales with 28% of the domestic National Park visitation. Queensland has experienced the highest increase in domestic national park visitation over the last 3 years (an average increase of 4.1% per annum). The popularity of National Parks brings with it major challenges and costs.

Undoubtedly National Parks are a significant attraction and contribute greatly to the Queensland economy. Preliminary data suggests that over 16M visits to QPWS managed areas occurred in 2003-04. The direct expenditure generated was in the order of $1,252 M. These data suggest that the total output effect could be in the order of $2,129 M. Queensland Treasury tends to use the contribution to the Gross State Product as the appropriate measure. The Queensland Gross State Product is estimated at $135,226M as at June 2004. Queensland Treasury has estimated that total expenditure from tourism was in the order of $17,406M. Of this QPWS managed areas contribute about 7% of the total visitors' expenditure. Based on this conservative figure the QPWS managed areas GSP is estimated at $538M or 0.4% of the Queensland GSP. These figures reflect a slight decline in the contribution to Queensland's GSP from 1999 but National Park management and visitation is big business and is entitled to a larger share of the Queensland budget.

## Conclusion

There are undoubtedly sound economic and even social reasons underpinning new management strategies introduced to reflect Government policy. Some of these strategies are not widely accepted by the community resulting in a lack of support. A major challenge is that political parties do not believe the environment is a high priority for the broader community compared to other issues. Community apathy is a significant hurdle to overcome and changing attitudes are a major challenge for the conservation movement. More consultation is one obvious strategy. It is also obvious that additional funding would make a significant difference.

**Table 1. Land under Management by QPWS**

| Protected Areas | Number | Total Area (ha) | % of Qld |
|---|---|---|---|
| ***Nature Conservation Act* 1992** | | | |
| National Park (Scientific) | 7 | 52,181 | 0.030 |
| National Park | 215 | 6,688,570 | 3.870 |
| National Park (Recovery) | 1 | 9880 | 0.006 |
| Conservation Park | 178 | 43,444 | 0.025 |
| Resources Reserve | 36 | 347,858 | 0.201 |
| **Other** | | | |
| Forest Reserves | 169 | 872,866 | 0.505 |
| Nature Refuges | 127 | 148,462 | 0.086 |
| Co-ordinated Conservation Areas | 1 | 1,170 | |
| ***Forestry Act* 1959** | | | |
| State Forests | 421 | 3,145,756 | 1.818 |
| Timber Reserves | 11 | 262,497 | 0.152 |
| Specialised Management Areas Within State Forests | 94 | 23,468 | 0.014 |
| Forest Entitlement Areas | 43 | 36,565 | 0.021 |
| ***Land Act* 1994** | | | |
| Community Purposes Reserves (D&OP) | 85 | 2,872 | 0.002 |
| Environmental and Other Purposes Reserves | 28 | 7,173 | |
| ***Other*** | | | |
| Freehold land | 6 | 290 | |
| Marine Parks | 8 | --- | |
| **Totals** | | **11,643,052** | **6.730** |

**Table 2. Area under management, expenditure and staff numbers**

| Year | Park Management Expenditure | Total Area (ha) under Management | Expenditure per hectare | Total Permanent FTE s | Dollars Available per FTE |
|---|---|---|---|---|---|
| 1994/95 | $ 23,887,070 | 6,758,202 | $ 3.53 | 480 | $ 49,765 |
| 1995/96 | $ 25,674,613 | 7,467,653 | $ 3.44 | 475 | $ 54,052 |
| 1996/97 | $ 32,994,255 | 7,548,827 | $ 4.37 | 511 | $ 64,568 |
| 1997/98 | $ 33,157,400 | 7,543,282 | $ 4.39 | 505 | $ 65,658 |
| 1998/99 | $ 35,780,550 | 7,548,289 | $ 4.74 | 492 | $ 72,725 |
| 1999/00 | $ 41,416,594 | 7,548,289 | $ 5.40. | 523 | $ 79,190 |
| 2000/01 | $ 43,631,134 | 7,736,015 | $ 5.60 | 526 | $ 82,948 |
| 2001/02 | $ 47,603,243 | 7,786,406 | $ 6.10 | 613 | $ 77,656 |
| 2002/03 | $ 52,320,527 | 7,982,915 | $ 6.55 | 629 | $ 83,180 |

**Notes:**

- Park management expenditure includes labour and operating but excludes capital
- FTE stands for Full Time Equivalent and is an estimate of staff involved in managing these areas

**Table 3. Comparison of expenditure in dollars per hectare for the various States and Territories for the year 1998/99.**

| | | | |
|---|---|---|---|
| Australian. Capital Territory | $ 43.80 | Queensland | $ 4.74 |
| New South Wales | $ 23.00 | Environment Australia | $ 3.70 |
| Tasmania | $ 11.70 | Northern Territory | $ 2.20 |
| Victoria | $ 9.90 | West Australia | $ 1.90 |
| | | South Australia | $ 0.80 |

# WILDCOUNTRY: A CIVIL SOCIETY RESPONSE TO THE CHALLENGE OF THE LONG TERM RESTORATION AND CONSERVATION OF AUSTRALIA'S BIODIVERSITY

Prof Henry Nix
*Co-Chair*
*Wild Country Science Council*

## Introduction

WildCountry represents a new vision and modus operandi for The Wilderness Society:

- Community engagement -- "The coalition of the willing"
- Whole-of-landscape conservation assessment and planning
- Assessments and plans to be grounded and informed by science-based understanding of what is needed for conservation of biological diversity.

The Science Council was formed to provide independent advice on necessary scientific framework, principles, information, tools.

## CAR principles

Comprehensiveness/Adequacy/Representativeness or CAR principles:

- Identify and protect remnant samples of original biodiversity defined as broad forest types to meet % targets.
- Priority to threatened species and modelled habitat based on available survey data (mainly "presence only" data)

## Limitations of CAR

- Ignore "condition" and productivity and focus on plant taxonomic associations.
- CAR % targets not relevant in heavily perturbed landscapes or large, intact areas.
- CAR % targets arbitrary and have no scientific foundation; no scientific guidance for permissible % vegetation clearance.
- CAR has resulted in ecologically and numerically minimalist objectives and outcomes.

## WildLands USA

The Wildlands project in the US is founded on these scientific principles:

- Large core areas
- Large scale connectivity
- Large scale ecological restoration
- Complementary land management across tenures

## WildCountry

WildLand principles good but, WildCountry is an Australian approach:

CAR principles are revised and deconstructed and connectivity redefined to mean much more than "corridors", including:

- Teleconnections
- Landscape permeability
- Energy, water and nutrients fluxes
- Disturbance regimes

## Large scale ecological processes

- Highly interactive (wrt trophic relations) species
- Hydroecology
- Long distance biological dispersal and migration
- Ecologically appropriate fire regimes

- Climate change and variability
- Refugia
- Land/coastal zone links

## WildCountry operational framework

(A work in progress)

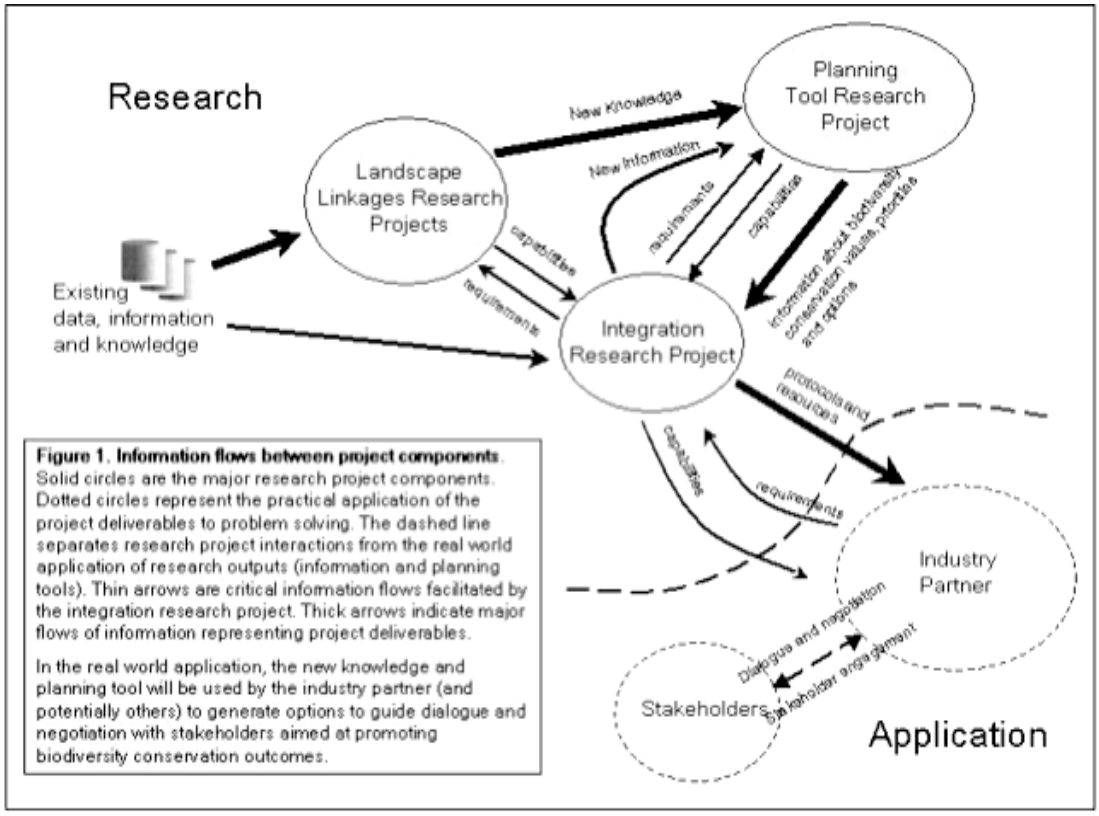


**Figure 1. Information flows between project components.** Solid circles are the major research project components. Dotted circles represent the practical application of the project deliverables to problem solving. The dashed line separates research project interactions from the real world application of research outputs (information and planning tools). Thin arrows are critical information flows facilitated by the integration research project. Thick arrows indicate major flows of information representing project deliverables.

In the real world application, the new knowledge and planning tool will be used by the industry partner (and potentially others) to generate options to guide dialogue and negotiation with stakeholders aimed at promoting biodiversity conservation outcomes.

# AN EVALUATION OF QUEENSLAND'S PROTECTED AREA SYSTEM IN A NATIONAL CONTEXT FOR COMPREHENSIVENESS, EXTENT AND STANDARD OF MANAGEMENT

Paul Sattler OAM
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## Introduction

A central strategy identified in the *National Strategy for the Conservation of Australia's Biodiversity* (Commonwealth of Australia 1996) is the essential role of a fully representative protected area system in conserving Australia's biodiversity.

In Queensland, calls to secure a representative protected area system to protect biodiversity (originally referred to as natural diversity) extend over 40 years (e.g. Department of Forestry 1963-64, Webb 1966, Specht 1975, Stanton & Morgan 1977, Sattler 1986). Efforts to building a representative protected area system have waxed and waned over the intervening decades with considerable investment in the early 1990's.

A growing trend in Queensland over the past decade in the allocation of acquisition funding has been to focus on topical conservation issues, e.g. forests, Daintree rainforests, and Mahogany Glider habitat. This approach is in contrast to the level of commitment by the Queensland Government in the early 1990's to build a representative protected area system across all bioregions. Unfortunately, focusing primarily on topical issues has resulted in the demise of some key national park proposals, particularly in the highly threatened Brigalow Belt North bioregion, e.g. Foxleigh and part of the Marlborough dry rainforest thickets.

If a thematic approach is considered to be politically expedient, then such an approach should only be implemented as part of a broader commitment to build a representative protected area system and include programs that specifically address the conservation of the most threatened and least represented landscapes.

Management of the protected area system, particularly to preserve the ecological values for which areas were selected is a key issue. This issue relates to both the adequacy of the estate, i.e. viability of protected areas, and how they are managed. Most information on the standard of management of protected areas on public lands is anecdotal with little ecological monitoring in place. In other parts of Australia where there is a significant protected area estate on private lands, management effectiveness in protecting biodiversity is chiefly unknown. This is a critical issue as governments are currently promoting a rapid expansion of private land conservation and multiple use arrangements including the devolution of management responsibility to regional bodies.

It is timely to evaluate Queensland's protected area system and place it in a national context. This evaluation draws upon a detailed national review of Australia's protected area system by Glanznig and Sattler (2005 in prep.).

## Methodology

Queensland's protected area system is reviewed in a national context using three criteria: comprehensiveness, extent and standard of management.

Comprehensiveness, as a measure of representativeness, was assessed by the degree to which regional ecosystems, in most cases at a scale of 1:100 000 – 1:250 000, are sampled in the protected area system across each bioregion.

The overall standard of management of protected areas across each bioregion has been assessed in relation to management classes shown in footnotes of table 1 (National Land and Water Resources Audit 2002).

The median values of the comprehensiveness and standard of management of the protected area system in the principal bioregions occurring in each State and Territory were then calculated to enable interstate comparisons.

## National Evaluation

The comprehensiveness of Australia's protected area system as of June 2001, was approximately 67% for IUCN reserve categories I-IV and 5% for multiple use reserves or covenants on private lands, IUCN categories V-VI (National Land and Water Resources Audit 2002).

In June 2001, the extent of the terrestrial protected area system was 9.2% of Australia with 6.6% in IUCN reserve categories I-IV and 2.6% in other protected areas, V-VI. This grew to a total of 10.1% in 2003 (Commonwealth of Australia 2003).

In comparison with the OECD countries in 2003, the extent of Australia's protected area system (reserve categories I-VI) is ranked 16th out of 30 (United Nations and Environment Program – World Conservation Monitoring Centre 2003).

The overall extent and comprehensiveness of the protected area is of concern as Australia is the only developed country which is described as being megadiverse in terms of biodiversity yet its protected area system falls short of many other developed countries.

The management standard of protected areas in each bioregion across Australia is shown in Table 1. Again, a much greater effort is required especially where permanent resource degradation could be occurring in protected areas in 19% of bioregions.

**Table 1. Protected Area Management Standard within Australia's Bioregions**

| Management standard* | Very good | Good | Fair | Poor |
|---|---|---|---|---|
| No. of bioregions | 7 | 12 | 47 | 16 |
| Percent of bioregions | 9% | 15% | 57% | 19% |

* Very good e.g. high proportion of protected areas has management plans; ecological monitoring programs in place and key biodiversity issues are being addressed.

Good e.g. major biodiversity issues effectively managed.

Fair e.g. biodiversity values and or management issues are poorly identified; resource degradation is occurring through retrievable.

Poor e.g. high visitor impacts and /or other threatening processes that are not managed and are leading to permanent resource degradation in a number of parks.

## Queensland evaluation

This evaluation for comprehensiveness, extent and standard of management of Australia's protected area systems ranks Queensland as seventh out of the eight State and Territory jurisdictions.

In Queensland, the protected area system has a higher ranking for comprehensiveness relative to the extent of the protected area system when compared with some other States. This is a direct result of the foundational work in the 1970's in defining a bioregional framework (Stanton and Morgan 1977), and the systematic planning and commitment in the late 1980's to the mid 1990's to build a representative protected area system.

However, the protected area system in Queensland is relatively small and is still not representative of all bioregions. Care should be taken in the interpretation of extent figures to assess adequacy as extent should not represent a goal in its own right. It is important that consideration be given to the considerable scientific literature on selection principles including efficiency, irreplaceability and vulnerability in achieving conservation objectives relating to comprehensiveness and securing the most threatened components of biodiversity (e.g. Pressy 1999). For example, Victoria has a relatively large estate but it is not representative owing to most parks deriving from public lands over many decades. In Western Australia, which has a huge protected estate in both absolute area and in relative terms, it is poorly representative with the biodiversity of many bioregions not protected.

Other than in the Brigalow Belt South bioregion, opportunities still exist to develop a very representative protected area system across Queensland.

In terms of management of the protected area system, Queensland is only ranked as fair.

A much greater effort is required for Queensland to build both the comprehensiveness of its protected area system across bioregions and to improve the standard of management.

## Bioregional priorities in consolidating Australia's protected area system

The *Australian Terrestrial Biodiversity Assessment* (NLWRA 2002) identified the priority bioregions for consolidating Australia's protected area system (Map 1).

This assessment of priority bioregions was based on extent of the protected area system and then modified for bias in terms of comprehensiveness and whether significant threatening processes existed in each bioregion.

The findings of the NLWRA (2002) assessment showed that 42 of Australia's 85 bioregions are a priority (Priority 1& 2 on a scale of 1-5) to expand the protected area estate. These bioregions

particularly relate to the agricultural and intensively-used pastoral areas with many occurring in Queensland.

In some bioregions of lower priority, individual subregions may have a higher priority for reservation: information on these sub-regional priorities together with a discussion on regional ecosystem priorities can be gained from the Australian Natural Resources Atlas.[2]

## Ecological Integrity Monitoring

A key consideration in assessing management standard is whether the ecological integrity of the protected area is being preserved and the values for which it was established are protected.

In Canada, 'natural integrity monitoring' of parks is a mandated requirement under legislation. It is contended that a similar system should be adopted by jurisdictions in Australia with a sharp focus on ecological integrity. Such monitoring would provide an informed basis for management and importantly, if a legislated requirement, could assist in establishing some continuity in funding for long term management-based research and monitoring.

## Monitoring protected areas on private lands

With the increasing efforts being made under national and State programs to promote the establishment of protected areas on private lands, there is some urgency to instigate a means of assessing the effectiveness of these protected areas in conserving biodiversity. Under the Natural Heritage Trust and the National Action Plan for Salinity and Water Quality significant funding is available through regional natural resource management bodies to promote private land conservation with most bodies establishing targets for lands to be managed for conservation. Monitoring of protected areas on private lands will need to be an integral component of such schemes to ensure that biodiversity values are protected. As well, monitoring evidence will be essential to negotiate changes to management regimes with landholders to achieve real biodiversity outcomes.

There is some evidence internationally (James *et al.* 1998) that private land conservation is less efficient in protecting biodiversity than on public lands. However in Australia, it is not a case of one or the other but the need for public and private land conservation strategies to be effectively planned and integrated to protect biodiversity in each bioregion. In some bioregions such as across northern Australia, opportunities exist for threat abatement measures to be applied to broad landscapes to efficiently achieve significant biodiversity outcomes. In other parts of Australia (including Queensland), significant landscape repair is needed to recover biodiversity and to achieve sustainable management of natural resources. In all scenarios, the protected area estate will be pivotal to build on to achieve the protection of regional biodiversity.

## Towards a representative protected area system in Queensland

In December 2003, a proposal was put forward by a number of conservation and scientific bodies in Queensland promoting the acquisition of 20 key national park proposals and park extensions that would significantly increase the comprehensiveness of Queensland's protected area system.

It was suggested that this initiative, Treasures for Humanity, could help celebrate Queensland's National Park Centenary in 2008 (Sattler 2003). This initiative was supported by WWF Australia, the National Trust of Queensland, the National Parks Association of Queensland, Wildlife Preservation Society of Queensland, The Royal Society of Queensland, The Queensland Academy of Arts & Sciences and The Royal Geographical Society of Queensland. The Environmental Protection Agency is to be commended as two of these park proposals have been recently acquired. However, the overall initiative has yet to be funded.

As discussed above, there has been a tendency in recent years for the government to provide acquisition funding on a thematic basis. If funding for protected area expansion in Queensland is to continue on a thematic basis, it is useful to consider what landscapes or ecosystems are the most poorly reserved and are the most threatened.

Review of the long-standing park proposals described in detail in *Treasures for Humanity* identifies that 12 or two-thirds of the remaining proposals are associated with key wetlands and floodplains as well as containing a wide diversity of associated landscapes and regional ecosystems. These 12 proposals extend across nine bioregions (Map 2).

[2] www.environment.gov.au/atlas

Wetlands and floodplains are some of the most threatened landscapes due to historical pressures of intensive agriculture and pastoral use and currently, due to overgrazing, weed invasion, feral species and changed hydrology (NLWRA 2002).

A new initiative focusing on the reservation of wetlands, floodplains and associated areas would make an outstanding contribution to building a representative protected area system in Queensland.

Reinstatement by the Australian Government of significant funding for the National Reserve System Program, and on a 2:1 basis to acknowledge the establishment and on-going management costs, is required to support the States and Territories to meet the objectives of the *National Strategy for the Conservation of Australia's Biodiversity*.

## Conclusion

The results of this evaluation are of concern with Queensland ranking seventh out of Australia's eight State and Territory jurisdictions. Queensland contains much of Australia's biodiversity and a new commitment is required by both levels of government to put in place a protected area system that is fully representative of the State's biodiversity.

In Queensland, a new initiative to protect wetlands and floodplains would make an outstanding contribution towards building a comprehensive protected area system. Wetlands and floodplains are landscapes that are poorly reserved and threatened across most bioregions. Twelve key national park proposals containing significant wetlands and floodplains across nine bioregions are flagged.

Reinstatement by the Australian Government of significant funding for the National Reserve System Program is required.

The identified poor standard of management of the protected area system in Queensland could be significantly improved by the introduction of a system of ecological integrity monitoring. Ideally, such monitoring should be a mandated requirement to secure on-going commitment and funding for management related research. The effectiveness of protected areas on private lands to achieve biodiversity objectives is unknown and a monitoring framework should be an integral part of their establishment.

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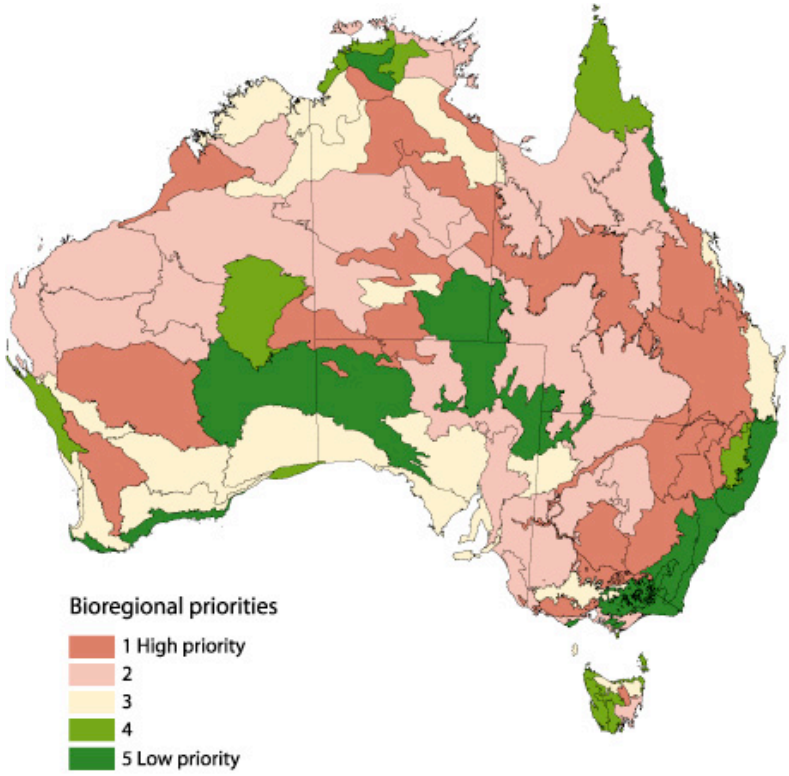
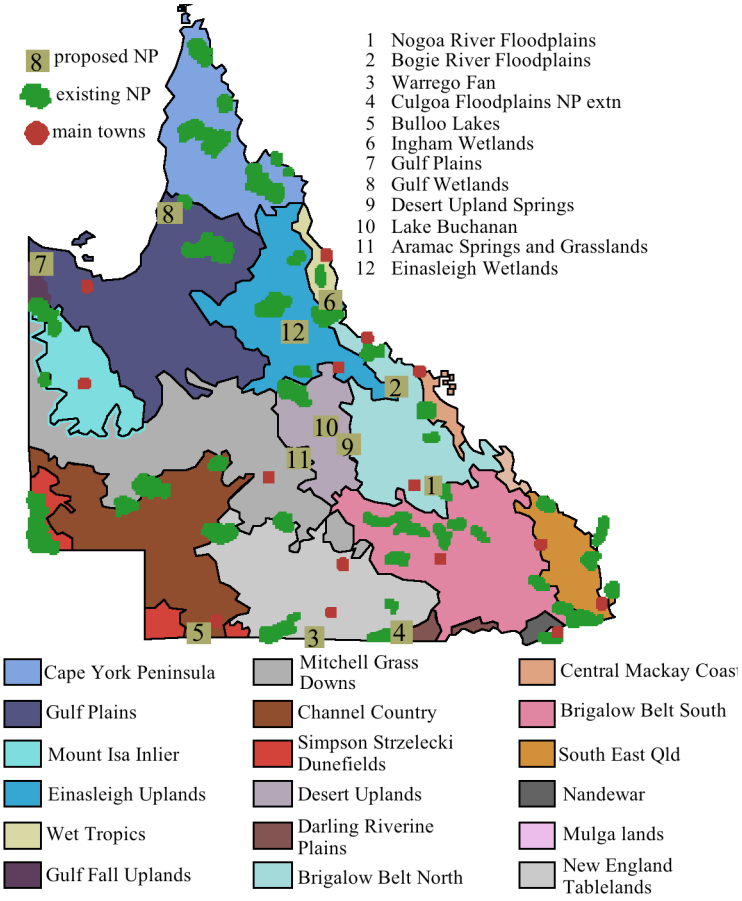



**Map 1: Bioregional priorities for consolidation of Australia's protected area system.**




**Map 2: Location of key National Park proposals containing significant wetlands and floodplains across nine bioregions of Queensland.**

# DETERIORATION IN MANAGEMENT OF NATIONAL PARKS IN QUEENSLAND

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Most of you don't know me so let me briefly explain the background from which I speak. As a child I was a regular visitor to Lamington National Park and knew and was inspired by two of the founders of the National Parks Association, Romeo Lahey and Arthur Groom. From my first days of employment with the Queensland Department of Forestry, I had, as part of my responsibilities, the management of some of Queensland's largest National Parks, and was later appointed to the newly formed National Parks Branch of that Department. My career as a field officer, researcher, and administrator with both the Forestry Department and the National Parks and Wildlife Service, spanned all but two years of the period 1963-1997.

In recent years I have had work involvement with or visited a large number of National Parks including a number in Southern and Central Queensland. I have also kept in contact with staff throughout the State.

I have, in recent years, become increasingly concerned about the condition of the State's National Parks, but have refrained from comment because I do not want to say anything that would further the cause of those pursuing an anti-National Park agenda, or to increase the burden on those dedicated and capable staff who are doing so much to maintain the last vestiges of community respect for the organisation. Finally, however, I have had enough and am here because of my deep concern for the future of the parks. I want to contribute towards a solution to their problems, but those problems must be clearly defined and in any attempts to do that I hope you will forgive me if I speak with anger, for never in their long history have the National Parks of this State been so bereft of care or so badly managed.

The reasons for this are fundamentally three. The first is the rapid destruction of the legacy of the past. Progress in any endeavour depends on a continual building on hard-won gains but we are now in a phase where the world is being re-invented according to a new order which has no corporate knowledge and understanding of the resources it is responsible for. We are continually being treated to the ludicrous spectacle of the total abandonment of long-standing and successful management programs and their re-invention by staff who have no knowledge that the previous programs ever existed.

Secondly, there has been at least a decade of neglect of maintenance, and I have some sympathy for the problems faced by the current administration as a result of this. They are faced with huge costs to overcome this. The options for future management are however, being rapidly foreclosed by an acceleration of this neglect, and the closure of bases is ensuring the permanent loss of on-park management capability.

Thirdly, the removal of staff from the parks means the loss of the intimate knowledge and interest that staff must have if effective management programs are to be determined and implemented. Morale and motivation are being destroyed. No organisation can function without experienced and motivated staff but the loss of these is part of the same attitude that seeks to destroy the legacy of the past. The evidence is clear that in some places in the State, there is a deliberate policy of driving such people out of the park service. Indeed, I have never known any other organisation to treat its staff so brutally. I see no immediate end to this problem as like appoints like, cronyism is rife, and tyrants flourish.

Let me try to give you an insight into the philosophy behind these problems. Margaret Thorsborne and I recently wrote to the Minister enquiring as to whether or not there was a policy to remove staff from the remote National Parks. I found the reply we received from the Minister's office to be patronising and deeply depressing.

I am told that "QPWS presence in remote areas will continue where a sound business case applies". This is not the language I would expect from those who care about the National Parks. The Queensland National Parks did not arise because somebody woke up one day with a sound business plan. They were conceived in altruism and pursued with passion. A business plan can be whatever you want to make of it, and the figures can be found to justify any predetermined course of action. Does a business plan take into account the costs of not doing what you are paid to do, of the organisation existing purely as a non-functional symbol of an idea; of the costs of capricious changes as money is spent on a facility one year, only to be closed down the next with the changing theories or whims of

administration? Almost certainly it does none of those things and is designed to fit current budget exigencies.

I am told that "It is not always imperative to have an on-site presence to manage, monitor, and engage with neighbours and stakeholders. Technological advances provide a wider spectrum of management options today, rather than simply maintaining the status quo as previously undertaken". This indicates an extraordinary misunderstanding of the realities of the park situation where there is a desperate need for attention to the most basic matters, with the simplest tools, and for staff who understand their parks and can relate as human beings to their neighbours and the public. I strongly object to the suggestion that past management was all about maintaining the status quo. I freely acknowledge that there were many problems of past management, but in spite of them there have been continuous huge improvements in management standards during most of my lifetime. The world has not been standing still waiting for the present administration to arrive so that progress can occur.

The letter also claims credit for massive increases in spending on accommodation and maintenance in remote areas while acknowledging that the money is coming from "rationalising of ranger housing in non-critical areas". I would imagine that non-critical areas are all those many parks that are being closed down. It states that State-wide the Agency will have provided 26 new residences for rangers in a two year period. I have grave doubts about the standard of these buildings and that information itself, given that it is stated that in the Northern Region new residential accommodation has been provided at Undara, Lawn Hill, and Blackbraes. As far as I can determine, that in reality means two demountable units at Lawn Hill, a single man's quarters at Undara, and the Blackbraes residence is a figment of the imagination.

Where to from here? Increased funding and resources are part of the answer but these will serve nothing without some major institutional changes first, for history clearly shows that there is no direct relationship between funding and results achieved by the Department. Parks once well managed now bear the trappings of neglect in spite of the availability of resources that earlier managers could only dream of. Nothing will be achieved whatever the resources without skilled, highly motivated staff with a strong sense of ownership of an area of responsibility. Staff must therefore be retained on parks and skilled long-serving staff must be valued as an essential link with the corporate past, rather than treated as deadwood to be cut off. The sense of fear and oppression within the Department must be lifted.

There must be vigilance to ensure that increased funding does not result in more staff in bigger and better central offices, and that it does not fuel a feeding frenzy by consultants and contractors providing inferior products at inflated prices.

As an urgent priority there must be an abandonment of the policy of removing staff from the parks. We already have too much of a history of neglect and degradation of land under the stewardship of absentee landholders. There is no alternative to staff on parks if the Department is to fulfil its charter. Increased funds are needed to restore abandoned bases and to maintain them and those already in operation, as well as to provide for the management of new parks.

Every park represents the end result of a major investment of effort, resources, and hope, by past staff and citizens. No administration has the right to make a casual decision that all of that is irrelevant by declaring any park to be non-critical.

Finally, let me express my concern that the present problems of the Department might be used by those opposed to National Parks to argue against the declaration of any more. As long as I can remember there have been those both within the Department and outside it pursuing the argument that there should be no more National Parks until we can properly manage the ones we have. If this advice had been followed some of the most critical habitats we now have within the parks would have been cleared and lost forever with no alternative areas offering. We have had, and still have, only narrow windows of opportunity in which to make decisions to protect adequate samples of most of our remaining ecosystems. Such decisions cannot be put off. In the past resources have been found to establish at least some minimal level of management on acquired land. We must press forward with the establishment of more National Parks before time and circumstances cheat us of the opportunity to provide an adequate system – and fight unrelentingly for the resources to manage them both before as well as after their dedication.

# RANGERS' PERCEPTIONS OF TOURISM & RECREATION:
## IMPLICATIONS FOR THE MANAGEMENT OF QUEENSLAND'S PROTECTED AREAS

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## Background

The 'cardinal principle' for the management of national parks as stated in the *Nature Conservation Act, 1992 (NCA)* is the permanent 'preservation' of the area's natural condition and the protection of the area's cultural resources and values. However, the management objectives for almost all classes of protected areas also allow for some kind of 'use' and often that use is for tourism.

Because people tend to hold different values for protected areas, there are conflicting views between members of the community about the 'use' versus 'preservation' of parks. One such manifestation of this clash in values can occur between tourism operators and rangers. Moore and Carter (1993) describe the relationship between tourism operators and natural resource managers, such as rangers, as 'tenuous'. Tourism operators believe that protected area managers have a 'keep out' mentality and approach the question of visitor numbers from a 'fewer the better' perspective, while the tourism operators tend to favour 'more the merrier'. Consequently, conflicting views may result in a lack of understanding and cooperation between the tourism industry and park managers.

However, in the last several years there has been some change in this 'keep-out' or 'lock-up' approach. One reason for this is the pressure from governments to find ways to decrease the financial burden of the parks. The economic benefits of tourism were recognised, along with the need to ensure the sustainability of the industry and the environment, prompting a new partnership paradigm or cooperative approach between management agencies and the tourism industry. In the last several years, policy documents and initiatives were developed, including: the *Master Plan for Queensland's Park Service* (EPA, 2001); *Tourism Management in Queensland Protected Areas* (TIPAWG, 2004); and *The Cooperative Framework for the Sustainable Use and Management of Tourism and Recreation Opportunities in the Great Barrier Reef Marine Park* (TRRAC, 2002). These documents aim to provide tourism operators with greater access to, and flexibility to operate within protected areas, in return for a greater contribution towards park management.

Despite such progress at the policy level, there is anecdotal evidence to suggest that this new 'partnership' approach is not necessarily well received or implemented by operational rangers at park level. Clare McFarlane (President of Ecotourism Australia) believes there is a lack of 'cultural awareness' between tour operators and protected area managers. She stated:

> "Commercial operations on National Parks [are] now a multi-billion dollar industry in Australia yet it is overseen and regulated by rangers in the field, many of whom know more about mowing grass and cleaning toilets than they do about tourism management on protected areas. These same rangers have the regulatory power to shut down operators, placing in jeopardy major tourism enterprises" (2001, p. 5-6).

Clearly, if partnership arrangements are to be well received and successfully implemented, there must be ground-level support from all stakeholders - including the rangers.

The Master plan recognises that park management relies ultimately on the skills and commitment of employees and on the support employees are given to perform their tasks. Therefore, QPWS aims "to develop a workforce with the necessary skills, resources and capability to protect, monitor, restore and present Queensland's parks". This will be achieved by "ensuring that the workforce is well resourced, highly trained and of sufficient size to meet the management obligations of the parks system" (EPA (QLD), 2001, p.46).

## Aims & Methodology

The aims of this project were to describe and explain how tourism and recreation were perceived by senior operational rangers at the coalface of tourism and park management; and to identify and discuss the implications of rangers' perceptions for the management of protected areas.

To determine their perceptions, 24 qualitative, in-depth interviews were conducted with senior operational rangers (primarily Rangers-in-Charge) across all districts of QPWS' Northern Region. The transcripts from the interviews were analysed and presented according to the emergent themes.

## Results

Rangers perceive the management of tourism and recreation in parks as important and as having a high management priority even if the numbers of visitors using a particular area was considered to be low. Some of the reasons given include:

- the reduction of negative impacts at sensitive sites;
- workplace health and safety considerations;
- to make management of the park easier;
- to foster an empathy for the park and environment;

However, in line with the 'Cardinal Principle', some rangers also stated that the first objective of parks is to manage for the preservation and protection of natural and cultural resources. Some perceive tourism and recreation management to be in 'competition' with conservation rather than 'part and parcel' of it.

*"At the end of the day that's our primary role first is to be managing these national parks to preserve them, not to be doing all this visitor stuff for people to come and have a look at. That's the second thing we do, the first thing's preserving the areas."* (R06)

## Nuisance, Necessity or Asset?

Results indicated that *all* rangers recognise that tourism and recreation are valid activities in parks under certain circumstances and in certain locations. Additionally, on-park tourism and recreation management tasks are perceived to be rangers' responsibility. However, rangers were also found to perceive their tourism and recreation management role as a *nuisance*, *necessity* or an *asset*.

***Nuisance*:** Some rangers accept their tourism and recreation management responsibilities only reluctantly. They perceive that many, if not all of these tasks should be removed from their area of responsibility and handed over to external concessionaires, contractors or commercial operators. The main task they consider undesirable is the cleaning of amenity blocks (toilets) however a small number of rangers also believe that many other tasks should also be handed over. These tourism and recreation management tasks are perceived as a nuisance because they detract from the time rangers need to perform what they perceive to be their 'real' duties - natural and cultural resource management. Tourism and recreation management is also seen as requiring comparatively more time and resources to manage and to be less enjoyable and less rewarding. Additionally, some find it difficult to find an appropriate balance between the demands of visitor management and their other conservation objectives.

**Necessity:** Other rangers see visitor management as just another necessary aspect of park management alongside 'fire, ferals & weeds'. While accepting that visitation is their responsibility to manage, these rangers still perceive considerable difficulties in achieving all of their management objectives. Therefore, they tend to embrace visitor management rather hesitantly, focusing on the difficulties and showing little enthusiasm for the tasks involved.

**Asset:** Some rangers also perceive visitor management as an asset to parks. They recognise the benefits to be gained from having people understand management objectives and the qualities for which the parks are protected. They would support more tourism opportunities wherever appropriate, are enthusiastic about visitor management tasks and express great pride in the presentation of their areas to the public.

## Organisational Culture

Despite rangers' differing perceptions of visitor management tasks, what binds *all* the rangers interviewed together, is the perception that the resources and support provided by QPWS to manage parks is in many respects *grossly inadequate*. Not just inadequate for tourism and recreation management, but actually stifles their ability to achieve all kinds of management objectives for their parks. So even if rangers' perceive tourism and recreation as an asset, the organisation itself often fails to support their aspirations for the park, potentially *over-riding* their positive perceptions.

*"I've got concerns about financial resources available to manage fires, ferals, weeds, tourism, all of the things that parks manage. I think every park that I know of could use more staff, more operation budgets and things like that... Just straight up operation funds is always difficult to find..."* (R02)

Below is a sample of the rangers' perceptions about the lack of fundamental resources and support which they require at park-level:

- **Inadequate funding:** "*Often the case is there's no money and we just have to make do with a rundown campground which is a reflection upon the whole organisation, not just the park or ourselves."* (R14)
- **Inadequate field staff:** *"I think that the biggest gripe that I understand from most rangers... It's straight out staffing… We just don't have enough staff."* (R16); and, *"You certainly don't see the executive assistant position not filled for 6 months, yet we're expected to go without somebody at our level for a number of months…"* (R07)
- **Poor communication and implementation of tourism policies and initiatives:** *"What I'm limited by is the amount of information sourced back to me of the department's requirements in its objectives in respect to tourism and recreation management."* (R19)
- **Inadequate collection of visitation data:** *"It's all a bit of guesswork at the moment because we don't really have any means in place of gauging or monitoring the average Joe Blow coming onto the park… That's an embarrassing thing to say*." (R14)
- **Inadequate tourism and recreation planning:** *"We've got to do it properly, it's got to be planned properly… when it comes to tourism and things like that, I haven't seen any real structure…"* (R04)
- **Inadequate tourism and recreation training:** Rangers identified numerous areas where they felt their knowledge could be supplemented either through formal training; feedback from researchers or through knowledge sharing with colleagues.
- **Lack of goal congruence within the various levels of the organisation:** *"Rangers are actively fighting for the environment, while their senior managers are busy dotting their i's and crossing their t's, more concerned about managing their budgets and reducing spending."* (R10)

Improving administrative support and training etc, is seen as futile if funding & staffing at park-level is not also increased. This futility is a symptom of an unhealthy organisational climate, lacking trust and value placed in field staff:

*"it just seems at every point that they show almost like contempt for their park staff – I think they look at us as hole diggers and labourers and very expendable… to them, it's like 'oh well, if you don't like it then leave and we'll get someone else'... I don't know why they're like that hey, I think they'd have a more productive work place if you felt valued and respected and that your real concerns were suitably addressed"* (R11)

## Conclusion

The implications for QPWS and ultimately for tourism and recreation management in Queensland's protected areas include:

- A drop or stagnation in park presentation standards;
- Loss of trust in the Organisation;
- A drop in job satisfaction and morale; and
- Lower work output and high staff turnover.

In summary, a combination of the organisational culture and inadequate management resources were shown to influence and hinder rangers' perceived ability to manage tourism and recreation in north Queensland protected areas. Perhaps the current state of resource restrictions can only be improved with direct pressure from the Queensland public toward those in government responsible for funding priorities. The apparently unhealthy organisational culture of QPWS, which does not adequately value field staff can only be improved internally, starting with the leadership within QPWS. Finally, each ranger has an individual responsibility to decide how they allow these other factors to influence their own perceptions and management activities and how they can best contribute to the conservation of Queensland's protected areas.

*"Parks and the Great Barrier Reef are probably one of the main drawcards to Queensland as far as tourism goes, I think it's got to be funded accordingly and I don't think you get that at the moment." (R13)*

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# MAJOR THREATS TO NATIONAL PARKS: A RESEARCHER'S PERSPECTIVE

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## Introduction

The aim of this paper is to identify some of the major threats to Protected Areas in Queensland from my experience. My experience involves working with QPWS for over 12 years, but not as an employee, as a researcher with the University of Queensland and as a lecturer who aims to train future rangers. Much of my research has been undertaken on parks in the mulga lands biogeographic region.

There are a range of generic threats to Protected Areas which fall under three main categories. These include threats relating to broad scale trends such a global warming, population trends, social attitudes and landscape scale changes; threats of a physical nature such as feral animals, weeds, visitor impact and fire; and threats in relation to management such as resources, organisational structure and legislation. However, one threat with which I am particularly interested in is the threats from grazing pressure.

## My Research

I have been conducting research on the affects of grazing pressure on Currawinya National Park since it became a park in 1992. Currawinya National Park is located in southwest Queensland and is approximately 150,000ha in size. At the time of declaration the area showed extensive evidence of degradation, likely to be associated with its long (130yrs) history as a sheep station. These included a loss of palatable perennial grasses, erosion, increase in endemic woody shrubs, and loss of fire as a management tool. This was one of the first National Parks gazetted in Queensland's Mulga Lands and thus provided an opportunity to investigate restoration potential. One of the most important questions was: what would be the outcome of changing land use from one of production to one of conservation?

My research has included vegetation monitoring since 1992. The experimental design consists of 3 vegetation communities (Sandplain Mulga, Dunefields and Alluvial Floodplains) and 3 grazing regimes (off park: domestic, feral and native species grazing, on park: domestic stock removed, feral animals controlled, exclosures: no mammalian grazing pressure). In addition, investigations were also carried out on the soil seed bank, the use of fire and the affects of woody shrub control. The overall aim of the research program was to improve our understanding of the dynamics of the system in order to restore and rehabilitate for the purpose of conservation.

## Results

Figure 1 is an example of the type of results generated from this research. It shows the change in grass cover over the measurement period on the Sandplain Mulga, under the three grazing regimes, and with shrubs present and removed. This type of data exists for trees, shrubs, forbs, litter, cryptograms, and individual species, for each vegetation type.

The results can be interpreted to assist management. They indicate that the amount and timing of rainfall is the major driving factor in these systems and though managers cannot control this factor they need to be aware that the outcomes of their management strategies and going to be strongly influenced by climate. The second most dominating factor is grazing pressure and this must be managed in order to get the best restoration results. Furthermore, simply removing domestic stock has little impact, native and feral grazing pressure must also be managed, particularly when a drought breaks, so that seed banks can be replenished. Closing artificial waters may be a tool to help manage grazing pressure. Shrub control is only beneficial if coupled with reduced grazing pressure and fire may be the only viable option for large scale shrub control. However, our knowledge of fire is still incomplete and the ecological implications unknown.

## Prevention of Uptake

One of the disappointing outcomes is that this data has not influenced management strategies or direction. The reasons for this are varied but probably relate to:

*Communication*: there is often poor communication between scientists and managers and this situation is no different. Scientists often publish in the scientific literature which is rarely read by managers. However, in this situation I initiated a workshop with managers as an attempt to provide feedback and identify future research direction and though enthusiastically attended, follow up actions were not completed, likely due to some of the reasons below.

*Lack of Resources*: a lack of funding and staff is often quoted as a reason for not being able to undertake new initiatives.

*Motivation, Support and Responsibility*: the motivation of managers seems be dropping. Furthermore (and possibly related) staff seem not to get support to carry out new initiatives and the responsibility to make decisions does not seem to lie with them. If new ideas are proposed, the process of getting approval seems unnecessarily long and the motivation and enthusiasm is lost in the process.

*Conservation Ethic:* there seems to be a trend starting to develop where staff are selected based on their practical skills alone, with very little emphasis on their natural resource management knowledge or conservation ethic. This may be related to a lack of resources resulting in a need to employ staff that can undertake jobs that might have once been assigned to contractors. But in the process, staff lack the skills and knowledge, and sometimes the passion, to protect and manage the estate. This could also be feeding the need to move decision-making responsibilities off park (see previous point).

*Lack of Knowledge*: there is still a significant gap in our knowledge of our natural systems, how they work and particularly how they respond to management strategies. There is a lack of monitoring and adaptive management being undertaken.

## Conclusion

In summary, after reflecting on this experience, I believe that one of the biggest threats to Protected Areas is the inability to convert information to management strategies. Our understanding of our natural systems are still incomplete and more knowledge is necessary to make informed management decisions. But if there is no ability for new information to be included into the management system, this is a significant downfall.

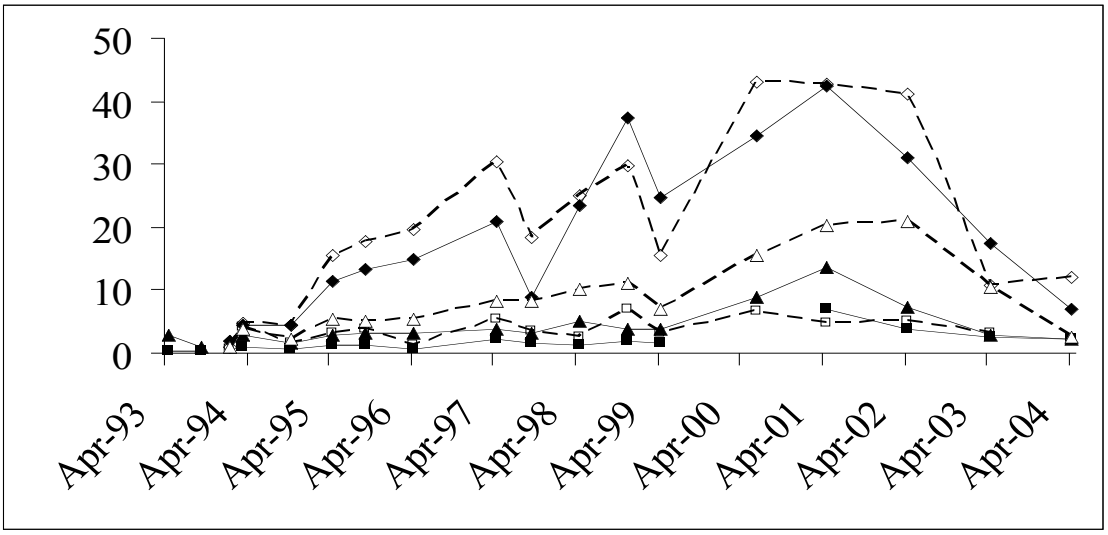


Figure 1: Mean percent cover of grass 1993-2004 in Sandplain Mulga vegetation community. (◊ = exclosure, Δ = on park, ● = off park, transparent shapes = woody shrubs removed, filled shapes = woody shrubs present).

# CHALLENGES OF FIRE AND EXOTIC PLANTS FOR QUEENSLAND CONSERVATION RESERVES

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The interaction between exotic plants and fire is one of the great challenges for the management of Queensland conservation reserves. In the case of south-east Queensland forests the most pressing is the prevalence of lantana as an exotic understorey shrub. Lantana is very sensitive to frequent burning but is also reasonably fire retardant and the challenge for managers is to burn these forests given the limitations of fuel, and public concerns about life, property and grazing resources. Relief from stock grazing may facilitate burning for lantana control.

In semi-arid Queensland some reserves contain areas of fire-sensitive brigalow, gidgee or softwood regrowth vegetation heavily infested with the African perennial buffel grass. Apart from out-competing native herbaceous species and reducing suitable habitat for native fauna, buffel grass threatens the regeneration potential of the regrowth in these situations because after domestic stock are removed the fuel load increases and presents a high risk for destructive fires. This initiates a negative feedback where burning further degrades regrowth and encourages buffel grass. Alternatively, if fire can be kept out of these areas for many decades the vegetation will regain its original structure and become more fire retardant. Management options including spraying, mowing and the constant maintenance of wide fire-breaks would be extremely labour intensive and expensive. The reintroduction of controlled grazing by cattle as a temporary management tool may be a practical and effective management tool for controlling buffel grass in fire sensitive regrowth. Cattle grazing presents its own management challenges and would requires monitoring to demonstrate its effectiveness at achieving specific objectives and also assessment of potential negative impacts.

There will be legitimate concern that the introduction of domestic stock to conservation reserves is a dangerous precedent for conservation reserves gazetted as National Parks. However, grazing for specific conservation purposes is consistent with intensive targeted management of conservation values elsewhere in Australia and overseas. Managing natural values in our reserves in the face of exotic plants that have the capacity to greatly alter ecosystem function will be difficult and a complete tool-kit to meet the challenges is warranted.

## Further reading

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