

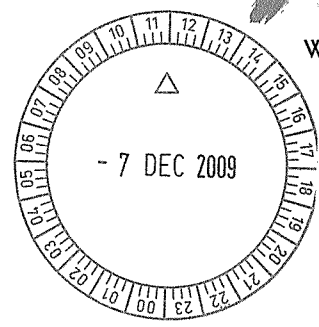
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PUBLIC



WESTERN AUSTRALIA

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2 Mill Street
PERTH WA 6000
GPO Box X2261
PERTH WA 6847
info@westernaustralia.com
Tel: 08 9262 1700
Fax: 08 9262 1702
westernaustralia.com

Hon Maxwell Trenorden MLC
Chairman
Standing Committee on Public Administration
Parliament House
PERTH WA 6000

Attention: Committee Clerk - Ms Cassandra Stephenson

Dear Mr Trenorden

INQUIRY INTO RECREATION ACTIVITIES WITHIN PUBLIC DRINKING WATER SOURCE AREAS

Thank you for providing the opportunity for Tourism Western Australia (Tourism WA) to contribute to the Standing Committee on Public Administration Inquiry into Recreation Activities within Public Drinking Water Source Areas. The enclosed submission is provided to assist in this process.

Human activity within water catchments has a long and ongoing history, and it is important in managing water resources that the cultural, social, environmental and spiritual values that people associate with their connection to water are retained. Flexible, adaptable management strategies are required to address the need for recreational and tourism activities in drinking water source catchments and the community's expectations for reliable, safe, good quality drinking water.

Tourism WA recognises that achieving this is a complex task but with the continuing growth of the Perth metropolitan area and increasing demand for nature-based experiences, it is imperative that nearby settings for outdoor recreation are provided and maintained. Involvement in outdoor recreation and tourism activities can provide personal satisfaction and enjoyment and contribute to physical and mental health. People seek places for participation in and enjoyment of physical activity, relaxation and restoration, social interaction, cultural connection and enrichment, to have contact with nature, and to escape from busy urban environments. This is also a tourism experience and part of the State's promotional effort to attract visitors.

It is well recognised that inland water catchments, water impoundments and streams in South West Western Australia are a major resource for recreation and tourism; areas including the Mundaring Weir, Serpentine Dam, Victoria Dam and Bickley Reservoir have long standing connections with both. Since 1903 seven of the ten significant rivers in the Upper South West have been lost to recreation through dam construction, including Helena, Canning, Wungong, Serpentine, South and North Dandalup, Harvey and Collie Rivers (*Thorpe, 2007*). Water and water catchments are also a



significant physical, spiritual and cultural element in the lives of Aboriginal people and it is important that access to places of significance is retained.


Tourism WA supports the managed, multiple use of catchments for recreation and tourism, and understands the importance of providing potable water to the WA community at the lowest possible cost. However, this needs to be undertaken in a manner that considers opportunities for other uses or values, which is currently not the case. The recreation and tourism industries have been unable to influence important water planning processes and decisions that either directly or indirectly affect recreation and tourism opportunities.

In particular, the Department of Water's Policy 13 (*WRC, 2003*) has had a significant impact on recreation and tourism. The impact on tourism has been direct, in terms of its general exclusion of recreation from most water impoundments and catchments, and indirect, through its economic impact (actual losses and opportunity cost) on the small towns and communities that depend partially the contribution from recreation and tourism.

It is important that the planning, policy and legislative framework for public drinking water source areas cater for recreation and tourism. This submission, which was put together in close consultation with the Department of Environment and Conservation addresses five key items for consideration by the Committee. Each item includes a brief statement or description of the issue, the position or view of Tourism WA, and recommendations and reference to more detailed publications and information.

Please also find enclosed a summary of Tourism WA's recommendations.

Yours sincerely



RICHARD MUIRHEAD
Chief Executive Officer

1 December 2009

Summary of Recommendations

Tourism WA recommends that:

- the economic, social, environmental and health benefits of recreation and tourism are considered and incorporated in water resource planning and management practices by the Department of Water and other relevant authorities.
- the Department of Water recognises the long history and ongoing demand for recreation and tourism uses as a legitimate use, and activity within water catchments areas as part of its planning and statutory processes.
- the Department of Water and the Water Corporation continue to explore opportunities for the development of alternative water source options including, for example, desalination plants to complement and support existing water source infrastructure.
- all formal and informal water and catchment planning processes, including strategic land use planning, preparation of water source protection plans and the development of water management plans, recognise and fully consider recreation and tourism as a key value within catchment areas.
- funding is identified and allocated to the preparation of a strategic inland water catchment recreation and tourism development plan for the South West Land Division.
- the existing legislative, governance and policy framework be amended, as appropriate, to recognise multiple use management policies and practices, including recreation and tourism.
- that WAPC Statement of Planning Policies (SPP) including SPP 2.7 Public Water Source Protection Policy and 2.9 Water Resources, be aligned consistent with any recommendations arising from this inquiry.
- the boundaries of Reservoir Protection Zones be determined on a case by case basis and informed by the best available scientific evidence of specific recreational use and their impacts.
- managed use of catchments be determined on a case by case basis and informed by the best available evidence of specific recreational use and their impacts.
- that priority be given to identifying appropriate funding and undertaking detailed research into the relationships between specific recreational activities, their impacts and appropriate trade-offs, and demand for recreational activities in catchment areas to support legislative and policy changes.

1. ECONOMIC, SOCIAL, ENVIRONMENTAL AND HEALTH VALUES OF RECREATION AND TOURISM

Economic value of tourism to Western Australia

Tourism and recreation are vital to the future of WA and its regional communities.

Tourism as an important economic driver, directly and indirectly contributed \$6.4 billion in Gross Value Added (GVA¹) and \$7.3 billion in Gross State Product (GSP²) to WA's economy, in 2007-08. The entertainment and recreation service industry is one of the main beneficiaries of this contribution (\$88 million to GVA in 2007-08) (STCRC, 2009).

Tourism as a labour intensive industry generated 82,530 direct and indirect jobs in WA, in 2007-08. WA's share of tourism jobs in Australia was 9.21% (by GVA) over the same period. A more detailed description is available in the Tourism Satellite Accounts 2007-08 for Western Australia (STCRC, 2009).

Data on the non-market values (e.g. recreation and health benefits) are difficult to obtain and non-use values such as amenity values, existence values and bequest values are even more difficult (but not impossible) to measure in dollar terms. However, these are potentially very significant and, by way of comparison, evidence from fisheries and forestry suggest that non-market values can be larger than the commercial fishery or forestry production values (Hatton-MacDonald et al., 2009).

Visitation

There were more than 6.1 million visitors to WA in the year ending June 2009. The Experience Perth tourism region (ExP) received the highest proportion of these visitors (3,325,400), followed by the Australia's South West (ASW) (1,794,400). Visitors to ASW stay on average 4.3 nights, with 76% of internationals visiting national/state parks (TWA, 2009).

As an example, demand for tourism saw the Shire of Murray receive 160,000 overnight visitors, spending a total of \$14 million and resulting in 279 tourism related businesses employing members of the local community (based on a three year average to June 2007). It is estimated that 38,000 of these overnight visitors participated in recreational based activity. The Shire of Harvey and Waroona also experienced comparable figures. See *Tourism Research Australia's Local Government Area fact sheets 2007* for more information.

¹ GVA: This is the same as tourism's contribution to GSP, except output is measured at 'basic prices' (output excludes taxes on tourism products and is measured before any subsidies on tourism products are deducted).

² GSP: This is measured as the output of tourism products by industries, less the value of the inputs used in producing these tourism products.

The economic contribution of recreation is further demonstrated through a valuation of WA's southern forests region, which found "direct tourism expenditure attributable to the natural attractions of \$61.9 million (*Hughes et al., 2008*), with "natural attractions" referring to the natural environment in a general sense but also the abundance of significant water bodies and rivers used for recreation purposes all year round. A valuation of recreation (direct visitor expenditure) attributable to the Wellington Dam and surrounds was estimated at \$4.3 million in 2007 (*Mqhum, 2007*), while the economic impact of Logue Brook Dam locally was estimated at \$630,000 in 2006 (*ACIL Tasman, 2006*).

It is also important to acknowledge that the impact of exclusion on recreation activity extends beyond the direct impact on users, to secondary impacts that include the loss of expenditure by those visitors in small towns and communities in proximity to the site, which often depend on tourism and recreation contribution to remain economically viable. For example, the relocation of amenities and infrastructure from Logue Brook Dam to an alternative location was assigned a value of \$10 million. A value was not assigned to the economic impact the presence of the Dam had on recreation and tourism in the region (e.g. accommodation, fuel, supplies and indirect expenditure at wineries, etc) (*ACIL Tasman, 2006, Hughes et al., 2008*) but this is likely to be quite significant.

Social and environmental values

Recreation and tourism can also be measured by their social and environmental value. The popularity of sites dedicated to tourism and recreation are often based on the aesthetics of the environment, including the presence of clean water, the attractiveness of the surrounding forest, the size of the area and condition of facilities. As people become more environmentally conscious the need to preserve and protect areas of high aesthetical value becomes more pertinent.

Water bodies and related activity hold certain social values for users. These values relate to aesthetics, heritage, socio-cultural values, tourism, education, etc. According to Hughes et al (2008) these values cannot be adequately substituted once access is restricted. Using the Blackwood River as an example, the sites unique aesthetic characteristics, cultural heritage value and tradition of use cannot be substituted elsewhere. Social benefits also pertain to improved health, quality of life and a stronger sense of community (see overpage for more information on health benefits). These benefits have been proven to suppress anti-social behaviour (see *Hughes et al., 2008* and *Parks Forum, 2008* for more information).

Community health and wellbeing

There is a growing body of research related to the link between nature and health, including individual studies that point to a beneficial effect of nature. *Henwood (2001), Bird (2004) and Pretty et al (2005)* have, for example, respectively investigated the physical and mental health benefits of green exercise (i.e. walking, running, cycling, etc),

the combined effects of green space and biodiversity on physical activity levels and the links between health (both physical and mental) and nature.

Nationally, physical inactivity is recognised as one of the most important risk factors for ill health, second only to tobacco (*ABS, 2006 cited in Gazey, 2008*). In 2000, it was estimated that 54.2% of the Australian population were not participating in the level of physical activity required for good health (*Medibank Private, 2007 cited in Gazey, 2008*). In 2006, it was estimated that slightly less than half the population of WA was insufficiently active for good health (*Physical Activity Taskforce, 2007 cited in Gazey, 2008*).

Despite the presence of a physically inactive society, the health benefits of physical activity are widely recognised. Between 1999 and 2006 the use of public open space to perform physical activity nearly doubled from 10% to 18% (*PATF, 2007 cited in Gazey, 2008*). The health benefits of physical activity within natural areas are also widely recognised, with 'green exercise' and access to the environment promoting social interaction and wellbeing (*Sugiyami et al 2008 and Mind Foundation, 2007*).

Significantly, *Gazey (2008)* uncovered five key benefits associated with recreation in parks, including:

- Environmental (recreation in a clean environment): clean air, potable water, maintenance of biodiversity, detoxification of wastes, control of pathogens, etc.
- Physical health: parks are a naturally enjoyable place for getting active; the proximity of parks to residential areas increases levels of physical activity; different activities available to suit all levels of fitness and age, etc.
- Mental health: contact with nature has been proven to enhance immunity, reduce blood pressure, alleviate symptoms of depression, reduce stress, etc. *Grahn and Stigsdotter (2003 cited in Mind (Foundation), 2007)* found a relationship exists between a lack of green spaces and levels of stress.
- Social health: socialise with friends, meet new people, foster community involvement, provide a sense of place, etc.

This body of knowledge confirms a positive link between nature and physical and mental health, and demonstrates that this should be considered in the planning for recreation uses in water source areas. The Department for Environment and Heritage in South Australia has, for example, recognised that a key experience of its parks is a range of recreational opportunities and has put strategies in place to provide better recreational opportunities such as in the South Australian State Trails Strategy 2007-2017. See *DEH (2007)*.

Similarly, the Western Australian Government recently launched Top Trails WA. This project, which identifies the top 50 trails (equestrian, walking, mountain biking etc) in Western Australia, is a major initiative in promoting and encouraging residents and visitors to explore the State. Featuring the Bibbulmun and Munda Biddi tracks, this is a major undertaking in providing for recreation opportunities and includes areas that traverse through water catchments.

Regional Development

Tourism and recreation, working hand-in-hand, employs people, supports regional economies and provides for economic independence, contributes to the development of cohesive communities, safeguards WA's heritage and culture, teaches people to appreciate and understand the necessity of protecting natural resources, and perhaps most importantly, better the psychological, emotional and spiritual wellbeing of people. For more detailed information see *Parks Forum (2008)*.

The importance of recreation and tourism to regional WA from a social, economic, cultural and environmental standpoint cannot be overstated, where 73% of WA tourism is intrastate, with 61% of this occurring in regional WA. This tourism activity sustains local communities (*TWA, 2009 - see section on Economic Value for further detail*).

Tourism WA can cite several examples where potential regional economic development has been impacted upon by water source protection planning. As part of Tourism WA's Naturebank program several potential eco-accommodation sites in Millstream-Chichester National Park had been identified and preliminary assessments completed. After initial indications from the Department of Water (DoW) that the developments would be considered due to precedents set by existing Department of Environment and Conservation (DEC) developments, the DoW has delayed any decision until the current water source protection plan is reviewed. This proposal involved potential regional infrastructure, social and economic development opportunities under a public private partnership for the Yindjibarndi people and, through application of appropriate environmental controls such as closed septic or pumped septic systems, water protection can be achieved.

This policy position restricts investment in WA tourism and represents a stark comparison to the recent \$125m investment in tourist accommodation by Emirates at Wolgan Valley in NSW (*O'Sullivan, 2009*). While Emirates has approached Tourism WA for the opportunity to develop similar facilities in WA in areas adjacent to Perth, water source protection areas and other impediments contribute to making this task a serious challenge.

In addition, many of the forested areas, rivers and dams are very important social assets to local communities, similar to Cottesloe Beach, Kings Park and Whiteman Park for the people of Perth. Regional communities often resent the fact that their opportunity for social development is compromised in order to supply water to city people. This is demonstrated by the South West Catchments Council's submission to the Environmental Protection Authority regarding a proposal to water proof Perth by tapping into the Yarragadee catchment, which stated that "*there is a real opportunity now to create a new and innovative model for developing a sustainable population base in the South West underpinned by its natural assets, resources and lifestyle opportunities as opposed to artificially propping up unsustainable growth in a "Los Angeles-style urban sprawl," which Perth is set to become.*" (*SWCC, 2007*)

Recommendation

- the economic, social, environmental and health benefits of recreation and tourism are considered and incorporated in water resource planning and management practices by the Department of Water and other relevant authorities.

2. RECREATIONAL USE PATTERNS: CURRENT AND PROJECTED RECREATIONAL/TOURISM USE OF WATER CATCHMENTS

Demand for recreation/tourism use of water catchments

Recreational based tourism has been occurring in water catchments in the South West of Western Australia for over 150 years, with demand increasing steadily over time. A summary of recreational access in urban water catchments in Australian jurisdictions can be found in *Hughes et al (2008)*.

It is inevitable that as Perth's and WA's population grows, demand for recreation and recreational based tourism intensifies. In 1984 the Tourism and Recreation Committee Report to the System 6 inquiry estimated that "*there would be at least a trebling of demand for outdoor recreation by the year 2000*" based on a doubling of the population by 2021 due to accelerated urban growth in adjacent eastern and south eastern corridors (*Ingram and Hughes, 2009*). These predictions have proved to be reasonably accurate.

The Feilman Report (*Feilman Planning Consultants, 1987*) predicted forest visitation in excess of 3 million visits per annum by 2010 and estimated that demand for outdoor recreation was increasing at a rate greater than the population of Perth. The 2002 Draft Forest Management Plan (*CALM, 2002*) records 4.6 million visits to DEC South West forest regions in 2000/01 but includes national parks and marine parks in coastal locations.

Present demand for recreation to South West forests reached 2.4 million visits in 2008/09 (*DEC, 2009*). Recreational use of South West forests (excluding coastal areas) has grown consistently at an average of just under 2% per annum since 1995/96. This compares with DEC's State-wide 10 year rolling average of 4.2% increase in visitation. DEC visitor data indicates that there are significant changes occurring in the patterns of recreation use across the South West forest regions. For further information see *Ingram and Hughes (2009)*.

In 2008 Perth's population reached 1,518,700 and is projected to reach 4,200,000 by 2051. Between 2005 and 2021 Perth's population is forecast to grow at 45%, which is unprecedented, and will have a massive impact on the requirement for both physical and social infrastructure to sustain this growing population (*Weller, 2009:57*). To cater for this growth and provide for a diversity of facilities and recreational based tourism activity (from picnicking to competitive sports), recreation must be considered a key land use. Areas of natural or near natural settings must be protected from land use decisions that

render them unavailable for recreation as part of strategic planning processes, while capital investment in recreational facilities needs to be provided for.

Ongoing planning for alternative drinking water sources, including desalination plants, must also be considered as part of this process. This will support and complement existing water supply sources, cater for population growth and assist in the management of water in WA.

Types of recreation experience

The types of recreation people seek are quite varied. *Ingram and Hughes (2009)* documented 13 different types of active recreational activity (with some activities including several variations) within the Southern Darling Range of WA. This indicates not just diversity in terms of the type of recreation, but also diversity within each recreation type in terms of people and their requirements. For more information see (*Ingram and Hughes, 2009:11-50*).

This research, which includes a review of existing utilisation of recreation facilities, and mapping the current and potential outdoor sport and recreation visitation use patterns of organised recreation groups, indicated that:

- There is a historical demand for recreational based tourism in WA water catchments. (*p. 2-3*)
- Present demand for recreation in the upper South West is declining in real terms and growing rapidly in the lower South West. For example, visitation to the forested catchments adjacent to Perth shows a consistent pattern of decline over the past 10 years. This is most likely due to restrictions on recreational access to metropolitan water catchments, which are yet to be applied further south with the Blackwood District increasing (19% p.a.), Wellington District (4.5% p.a.) and Warren Region (7.5% p.a.) showing a comparatively large increase. (*p. 3*)
- There is a history of diverse recreational pursuits (*refer to Ingram and Hughes p.3-5*). For example, up until the 1970s recreation in the South West mainly centred on “passive pursuits” such as picnicking and pleasure driving. Improved access, facilities (e.g. the development of the Bibbulmun Track) and a growing population saw a greater emphasis being placed on active types of recreation based tourism by the 1980s.
- Recreational based tourism use patterns (*p. 9-10 & 54-56*)
 - Recreational access is centred on day trips or overnight stays on weekends, one to two hours drive from place of residence.
 - Recreation is widely distributed.
 - The Perth Hills is used by a range of recreation types (proximity to residence).
 - Growth in population on the Swan Coastal Plain (e.g. Mandurah and Bunbury) has resulted in more intense use of the adjacent Darling Range areas.
 - Access to a range of terrain for skills testing and aesthetic appeal is generally preferred.

These examples demonstrate that future growth of recreational based tourism demand is inevitable. The types of recreational pursuits are also changing, and people seek sites and facilities that support their choice of recreation. Areas capable of meeting this demand and supporting a variety of recreational uses are diminishing due to restrictions on recreation in water catchment areas. This scenario can only lead to access, management and capacity issues elsewhere and there is a need for planning processes for water source protection areas to acknowledge this.

Recommendation:

- the Department of Water recognises the long history and ongoing demand for recreation and tourism uses as a legitimate use, and activity within water catchments areas as part of its planning and statutory processes.
- the Department of Water and the Water Corporation continue to explore opportunities for the development of alternative water source options including, for example, desalination plants to complement and support existing water source infrastructure.

3. STRATEGIC PLANNING FOR RECREATION IN WATER SOURCE PROTECTION AREAS

There have been several inter-governmental reports, investigation and reviews of recreation in WA water catchments, including:

- The Advisory Committee on Purity of Water 1977, *"A Study of Catchments and Recreation in Western Australia"* (as part of the System 6 study);
- WA Water Resources Council (WAWRC) (1985) Report on *"Recreation on Reservoirs and Catchments in Western Australia"*. (WAWRC, 1985);
- Ministry of Sport and Recreation WA and the WAWRC, 1991 *A Review of Water based Recreation in Western Australia*, Martinick and Associates.

None of these processes has adequately achieved changes that would address the imbalance between recreation and tourism, and water source protection.

Typically, recreation, tourism and other social considerations are given little credence in the water planning processes. This is emphasised in the incremental rollout of water source protection planning by the DoW across large areas of the South West, which has displaced much of the recreation that once used to occur in water catchments. A lack of strategic planning that recognises recreation and tourism as legitimate land uses has not occurred, and opportunities have been lost through the cumulative affect of this planning approach.

As an example, the draft South West Regional Water Plan (DoW, 2008) failed to consider the non-consumptive uses of water, such as recreation and tourism as a legitimate and appropriate water use. The management of water dependent features

such as reservoirs, dams, lakes, wetlands, rivers, streams and catchments for cultural, heritage, recreation and tourism uses have not been adequately recognised, and their needs not planned for in a fair and equitable manner, and integrated with other water uses.

When aligned with appropriate community education programs, participation in outdoor recreation can promote positive behaviours within activity settings, and ultimately lead to appreciation of natural areas, protection of drinking water quality and stewardship of the environments where outdoor recreation occurs. This approach is being followed in the preparation of the Southern Darling Regional Recreation Strategy. This strategy recognises that effective management of outdoor recreation and tourism activities can encourage responsible interaction within natural environments.

However, the Southern Darling area only represents a small component of the south west land division. Given the long history of recreation use in a number of catchments throughout this division, increasing population pressures and the need to effectively manage demand for a range of activities, a holistic planning approach needs to be adopted. Consequently, it is recommended that a strategic inland water catchment recreation and tourism development plan is prepared for the South West Land Division to address this matter.

Recommendations:

- all formal and informal water and catchment planning processes, including strategic land use planning, preparation of water source protection plans and the development of water management plans, recognise and fully consider recreation and tourism as a key value within catchment areas.
- funding is identified and allocated to the preparation of a strategic inland water catchment recreation and tourism development plan for the South West Land Division.

4. LEGISLATIVE, GOVERNANCE AND POLICY FRAMEWORK

Legislative Framework

There are at least ten key areas of legislation and at least eight policies relevant to the management of recreation and tourism in water catchments. Of these the most relevant to this inquiry are the *Conservation and Land Management (CALM) Act, 1984*; the *Country Water Supply (CAWS) Act 1947*; the *Metropolitan Water Supply, Sewerage and Drainage (MWSSD) Act 1909* and the *Land Administration Act* and the proposed *Water Resources Management Bill (Hughes et al., 2008:5)*.

The Curtin Sustainable Tourism Centre's 2008 detailed review of land and water legislation relating to recreational access to catchments, indicates that the key statutory provisions overlap in areas of responsibility and function, and there is a lack of clarity

regarding primacy of management of public drinking water source areas. There is also an apparent absence of policy, legislative and department (functional) integration (Hughes *et al.*, 2008).

This current legislative and policy environment creates uncertainty and operational conflict between managing agencies, which in turn creates confusion within the community as to rights in accessing water catchments. At the policy and operational level this is expressed in an absence of joint or cooperative land management planning (for State forest and CALM Act reserves) and for public drinking water source areas.

Governance framework

Many of Australia's and Western Australia's critical urban water resources lie within or adjacent to protected natural areas, which also serve as regional open space. While there is recent evidence of more inclusive and collaborative approaches to governance emerging in both sectors, this is yet to be applied in Western Australian urban water catchments. Water catchment planning and management in Western Australia appears to be autonomous, hierarchical (command and control) and involving well controlled public consultation techniques. A detailed examination of governance issues relating to recreation, tourism and water resource management can be found in Ingram (2009).

The governance of south west water is dominated by government. A shift is occurring away from a 'top-down' style of management (Eagles, 2008) or 'hierarchical governance' (Newman *et al.*, 2004), and more towards greater decentralisation (Inglis *et al.*, 2005) or local empowerment and self-reliance (Graham *et al.*, 2003; Vernon *et al.*, 2005). Research on the trends in protected area governance undertaken for the 2003 World Parks Congress also showed that there has been a major movement towards an inclusive and participatory approach to protected area planning and management (Dearden *et al.*, 2005). This is evident in the UK, USA and across much of Western Europe where governments are attempting to shift the focus towards various forms of co-management with other agencies, and with the community through partnerships and public involvement (Newman *et al.*, 2004; Ingram, 2009).

Managing recreation in water catchments in WA requires a cooperative governance approach involving a range of government agencies, interested stakeholders, non-governmental organisations and the community. This is not currently the situation and there is a need to adopt more of a flexible approach supporting a mix of uses and integrated management. Building the capacity and skills necessary to achieve more effective agency-agency relationships and agency-community relationships are crucial factors in the development of collaboration, and are critical for successful co-management arrangements.

Policy framework

DoW's Policy 13 is based largely on exclusion of land uses, including recreation and tourism from Priority 1 (P1) catchments and Reservoir Protection Zones (RPZ). The policy treats all recreation as having the same environmental/health impacts. RPZs

(gazetted under the MWSSDA) are 2km exclusion zones surrounding water impoundments within P1 catchments where no activity is permitted. While Tourism WA supports the concept of protection zones, their application via arbitrary catch-all zoning of RPZs lacks a scientific basis and is therefore not based on any understanding of the specific environmental impacts of different forms of recreational activity and their variability across different environmental settings.

The boundaries of RPZs need to be determined through an understanding of the physical and biophysical elements of the catchment, the spatial and temporal distribution of the types of recreation occurring there and the available scientific evidence that can inform decision makers about the extent, likelihood and consequences of these impacts on water quality. For example, water quality sampling results in the Stirling Dam Water Source Protection Plan (*WRC, 2000*), at the time of converting from an irrigation dam which had been used for recreation for several decades, show that water in the Stirling Dam is of high quality requiring only chlorination before supply.

Tourism WA believes that managed access is a far more sustainable and achievable outcome than prohibition. The benefits of managed access are that there is significant capacity to ameliorate potential visitor impacts and bring about positive visitor/community attitudes and behavior. This can be achieved by:

- Developing appreciation and understanding of nature and the need to conserve and protect natural areas for a range of beneficial uses;
- Developing appreciation and understanding of the value of catchments and water quality issues, and educating users about the health and environmental implications of water contamination;
- Promoting education and providing for integrated management of activities; and
- Developing ownership and incentives for individuals, groups and community to take up a responsibility for managing and protecting water catchments.

The incentive for unauthorised users to act responsibly is greatly diminished and, as such, the potential for more significant environmental and health impacts is escalated. Managed/regulated access builds a responsibility and “ownership” (community stewardship) that serves the purpose of complementing formal management services by providing a free monitoring and surveillance service.

As an example, large areas of State forest in South West WA are designated as water catchments. In Western Australia, State forest has always been considered multiple use tenure; its purposes include conservation, water production, timber production, and recreation and it serves to accommodate uses that are not appropriate for other categories of protected area. In addition, large areas of State forest are mined for bauxite under State agreements.

Tourism WA considers that current water source protection planning is inconsistent with these multiple use management policies and practices that have been evident in State forest for almost 100 years, and there is a need to reconsider this approach.

Recommendations

- that the existing legislative, governance and policy framework be amended, as appropriate, to recognise multiple use management policies and practices, including recreation and tourism;
- that WAPC Statement of Planning Policies (SPPs), including SPP 2.7 Public Water Source Protection Policy and 2.9 Water Resources, be aligned consistent with any recommendations arising from this inquiry;
- the boundaries of RPZs be determined on a case by case basis and informed by the best available scientific evidence of specific recreational use and their impacts;
- managed use of catchments be determined on a case by case basis and informed by the best available evidence of specific recreational use and their impacts.

5. Research

The history of water governance in Australia will show that water management agencies and policy makers have been under no compulsion to consider recreation as a water user. As Pigram notes, *"it is readily apparent that most water management authorities regard recreation as ancillary"*. The need for research to understand the socio-cultural values of in-stream uses of water has been largely ignored. As a result, insufficient attention has been given to such uses in water resource decision-making (Pigram, 2006).

Nationally, there is limited data and research into the non-consumptive use (i.e. usage, use patterns, activities, benefits, behaviour, trends etc) of water, despite recreation and tourism being a major water user (Pigram, 2006). There is also limited research on the impacts of water policy and programs (i.e. restrictions on access) on cultural, health and the tourism and recreation industries. This contrasts with the extensive research into the impacts of recreation on water quality. Despite the considerable research into human impacts on water quality there is little or no evidence to link outdoor recreation with any significant incidence of potable water supply contamination.

The Sustainable Tourism Cooperative Research Centre has commenced a national research project to understand the impacts on recreation and tourism in a water constrained economy. The research team is yet to complete its work, however a number of key lines of enquiry have emerged, including:

- the potential that different ways of thinking can bring to problem solving;
- the existence of complementarities between a number of user groups (health, tourism, Aboriginal/cultural, heritage, environmental, tourism and recreation) and the potential this provides to develop collaborative arrangements and mutually beneficial outcomes;

- the difficulties in determining the total economic value of recreation and tourism for inland water sources and catchments, and the disadvantage in which this places the tourism industry;
- the potential for environmental and recreation non government organisations (Water Trusts) to enter the water market, and purchase water for environmental and recreation/tourism outcomes;
- the necessity to understand and develop trade-offs to arrive at more balanced outcomes;
- the potential for the carbon economy (polluters) to embrace broader environmental offsets that may include water allocation purchases.

In WA, further research into the recreational demand and range of recreational settings available is critical for ongoing planning and management of recreation and tourism in catchment areas (see Strategic Planning section (page 8) for further detail on this issue). As a comparison, the planning for recreation in SE Queensland water catchments and supplies was greatly enhanced by two major outdoor recreation demand studies in 1997 and 2007 (*SEQWater and Griffith University, 2007*).

Risks and trade-offs

There is a lack of substantiated evidence regarding the specific links between varying forms of recreation and water quality in drinking water catchments (*Hughes et al., 2008:23*). Further detail can be found in *Hughes et al (2008)*. Many of the human related causes of in-water water borne disease outbreaks in recreational settings are not relevant to water catchments. Even the Sydney water crisis of 1998, often attributed to recreation and involving outbreaks of *Giardia* and *Cryptosporidium*, was caused by poorly maintained sewerage treatment systems (*Stein, 2000*).

Given the lack of specific hard data linking recreational pursuits with water quality the *WAWRC (1993)* recommended a risk management approach based on the risk posed by any given activity. If this policy were applied by the DoW in its water source protection planning, greater emphasis would be applied to managing broader catchment impacts, such as chemical and fertilizer pollution from agriculture, mining, salinity, urban sewerage and waste.

Aquatic systems have a range of features (some of which provide ecosystem services) that have significant appeal to recreators and tourists, including water values such as water quality, aesthetic views, water temperature and clarity and biodiversity values, such as aquatic species and lack of pathogens and invasive species. Where recreation facilities and services are provided some changes to those values will occur. Understanding the relationship between different recreational activities and experiences and aquatic ecosystems processes, and quantifying the extent to which these ecosystem services are compromised is essential to determining the most appropriate trade-offs.

More detailed information about the impacts and monitoring of recreational activities in freshwater aquatic systems can be found in *Hadwen et al., 2008, Hadwen et al., 2006*.

Recommendation

- that priority be given to undertaking identifying appropriate funding and undertaking detailed research into the relationships between specific recreational activities, their impacts and appropriate trade-offs, and demand for recreational activities in catchment areas to support legislative and policy changes.

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