Parks for People: Meeting the outdoor recreation demands of a growing regional population

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ABSTRACT • Rapidly growing regions such as South East Queensland strive to maintain the quality of life and standards of liveability that initially attracted the incoming population. Continued urbanisation invariably leads to a loss of open space, a loss of regional landscape quality and limitations on opportunities for outdoor recreation. This paper examines the potential role of regional parks as a policy option and as environmental infrastructure capable of addressing many challenges associated with rapidly urbanising regions. The paper proposes determining a regional parks network that can provide a full array of environmental, social, cultural and economic benefits. Investigations have considered a range of regional park types based on a recreation opportunity and level of service approach. If the concepts outlined are adopted and developed within the SEQ regional planning process, this will make a significant contribution to the achievement of the regional visions of sustainability and liveability.

Keywords: regional landscape, outdoor recreation, open space, regional park

Background

Rapidly growing regions bring unique challenges for planners and administrators. Continued rapid population growth and urban sprawl can leave a landscape that has lost the ability to provide for the environmental, economic, social and cultural needs of the region's population and its visitors.

Ironically, the high quality of life (QoL) and liveability that a community holds dearly and which attracts additional population to a region can be placed at serious risk from continued urbanisation of the regional landscape that is required to accommodate the growing population. This loss of open space is at the expense of a wide range of landscape values, in particular,

outdoor recreation. Noting the contribution that a region's landscape and open space can contribute to the noted QoL and liveability for a region, Low Choy (2004) has described this loss as '*The Regional Open Space Paradox*'. Maintaining the desired QoL requires planning processes that are capable of working through the conflicting demands on the regional landscape whilst addressing the emerging community concerns for loss of regional open space and threats to liveability. It will have to identify innovative ways in which emergent community needs such as opportunities for outdoor recreation can be met in this dynamic and changing landscape.

This paper addresses a regional scale response to the outdoor recreation challenges and expectations of a growing community. Interstate and overseas experience suggests that larger networks of parks and open space are being increasingly recognised for their wider benefits beyond recreation, particularly their contribution to environmental sustainability, urban liveability and regional identity. Unfortunately these innovative policy solutions have to date eluded the planning process for South East Queensland, the fastest growing region in Australia (Queensland Government & SEQROC, 2005a). The emphasis given to investigating the recreational role of regional open space in this paper should not detract from the importance of other benefits of open space which are inextricably linked.

As a major focus for this paper, outdoor recreation is defined as *free time activities that are participated in for their own sake and where the experience is enhanced through interaction with an element of nature in an outdoor setting* (adapted from Ibrahim & Cordes, 1993). Outdoor recreation, a subset of leisure, embraces active and informal activities that are carried out often beyond the confines of a building or home and consequently can have significant implications for resource management (Pigram & Jenkins, 2006; Pigram, 1983).

This paper has its origins in the planning for the regional landscape and open space, including outdoor recreation, of the South East Queensland (SEQ) region. Much of the research and data quoted in this paper, especially the SEQ case study, has been derived from a draft Discussion Paper on regional parks, prepared in June 2003 for the former Regional Landscape Strategy Advisory Committee (RLSAC) (RLU, 2003). Darryl Low Choy was the principal author of the Policy Paper: *Open Space and Recreation* which first introduced the notion of a regional park concept for SEQ (RPAG, 1993). He was subsequently the Chair of the RLSAC which commissioned and oversaw the development of the 2003 draft Discussion Paper on regional parks. Tony Prineas was the project officer who undertook the paper's original research and the principal author of the draft Discussion Paper.

Outdoor recreation challenges for growing regions

A region's QoL is significantly influenced by the quality of the regional open space, the values of its attributes and the functions that they perform. This inseparable relationship between the regional landscape and notions of QoL and liveability has been summed up as the value that a community places 'on landscape attributes such as scenery (or nature conservation or outdoor recreation opportunities) that are derived from the open space that constitutes the regional landscape' (Low Choy, 2004: 13).

However, increasing urbanisation can place a community's quality of life at risk as it experiences a decline of available open space as greenfield sites are cleared for new housing estates. This loss of open space severely limits accessible areas of open space where residents can fulfil their outdoor recreational leisure needs. This is being played out in an explicit manner at the regional scale in many developing regions. The recent resurgence of interest in the region as the relevant spatial unit for planning and management has been highlighted by Calthorpe (2000: 15) who comments:

it's becoming clear that the economic building blocks of the global economy are regions — not nations, states, or cities. It's equally clear that many of our environmental challenges are regional in scope . . . our basic infrastructure investments also are regional in scale and scope. Issues of economic equity, social integration, and race all now play themselves out in a regional geography . . . our sense of place is increasingly grounded in the region.

Today's society demands that people have access to the full range of services that sustain and enhance their quality of life. This includes opportunities to satisfy their leisure needs for a wide range of outdoor recreation experiences. At the same time, the number of people participating in outdoor recreation is increasing significantly, particularly in western countries (Pigram & Jenkins, 2006). Driver, Brown and Peterson (1991) point to a dramatic increase in interest in leisure since about the 1970s and attribute this to changing lifestyles, increased incomes, changing leisure patterns, earlier retirement, better health and improved equipment. Allied to this increase in outdoor recreation participation is a growing preference for natural settings and increasing concerns for urban encroachment and overcrowding (DNR & DES, 1998; Kiewa et al., 2002).

In a world where the community is being increasingly encouraged to address community health through more active lifestyles, there must be a closer alignment between these initiatives and the provision of opportunities where the community can fulfil their outdoor recreation needs. This should

occur in ways that can compensate for the loss of natural areas of open space as a result of the urbanisation processes. To this end a range of options can be explored to address the emergent needs of these communities that can assist them to maintain their desired QoL and standard of living. However, this paper focuses its attention on the regional park concept as a principal option available to planners, policy makers and park managers to meet this growing demand for outdoor recreation.

Options for meeting the challenges

Options for addressing the challenges of declining opportunities for outdoor recreation in rapidly growing regions can range across a number of planning and policy alternatives including: doing nothing; maximising opportunities through improved efficiencies from existing resources; greater private sector involvement and government commitments to infrastructure investment.

The 'do nothing' option results in the absorption of changes, including increased numbers of participants, within existing resources namely the existing public estate of mainly national parks. Unfortunately, these parks were principally established for nature conservation and biodiversity protection. Multiple use of these areas including outdoor recreation is limited if not prohibitive.

Improved planning and management coordination between local and State government agencies may also lead to increased availability and range of recreation venues across a region allowing greater levels of service from existing reserves. Recent work in coordinating a network of regional trails for SEQ is an example (DNR&M & EPA, 2001). However, increasing the existing land area available for outdoor recreation remains an unmet challenge in many rapidly urbanising regions particularly where it must compete with calls for a host of other physical and social infrastructure requirements to meet the needs of the growing population.

In regions characterised by freehold rural land there may be potential for the farming and private sectors to provide services and facilities for outdoor recreation with mutual benefits to rural and urban communities (Pigram & Jenkins, 2006). The deficiency of information on the private landowner's role in outdoor recreation and the means of influencing the strategic direction of this sector deserve special attention in future planning endeavours.

The traditional response to urban expansion challenges has been through the provision of physical and social infrastructure in attempts to facilitate the community's desired QoL expectations. However, these traditional forms of infrastructure provision must now be complemented by investments in environmental infrastructure to make up for lost outdoor recreation

opportunities in order to maintain the holistic nature of the QoL that the community demands (Low Choy, 2005).

In this regard, the focus of environmental infrastructure is to satisfy a range of QoL requirements including, biodiversity protection and nature conservation, outdoor recreation, scenic amenity, clean air and water, and food production. In meeting these needs and as part of a region's landscape system, environmental infrastructure comprises public open space, national and conservation parks, regional parks providing outdoor recreation opportunities and regional corridors (Low Choy, 2005). However, in many instances, the missing element from these environmental infrastructure examples is regional parks.

Interstate and overseas experience highlights many precedents for meeting the recreational needs of expanding regional communities through a 'Regional Park' tenure. This is being addressed at least in part, through funded acquisition of regional parks. Most mainland states have regional park reserves established to meet the demand for regional scale outdoor recreation (RLU, 2003).

In NSW, regional parks provide large areas of regional open space and bushland that have high conservation, landscape and recreation values. They are generally located on the edge of rapidly growing urban centres and in some cases include landscapes largely altered since European settlement (NSW NPWS, 2006). In metropolitan Sydney, acquisition of regional open space has been ongoing for 40 years and has established a land bank of open space in advance of urban settlement. These areas are leased pending their eventual use to generate funds to develop regional park facilities. The Sydney Regional Development Fund, supported by the 44 metropolitan Councils and the State government, provides funding for acquisition of regional infrastructure including regional open space. Since 1975 over 35 000 hectares has been added to Sydney's public open space system with an annual expenditure of \$25 million (Fitzgerald, 2004).

Similar regional park concepts emphasising recreational use alongside other environmental, social and cultural values have been developed in Victoria, Western Australia and South Australia (RLU, 2003). Parks Victoria considers that Melbourne's metropolitan open space network provides the foundation of urban liveability. This network comprises not only regional parks but a metropolitan trail network, waterways, green links, areas of environmental and cultural significance, coastal foreshores and bay waters (Parks Victoria, 2002a). Regional parks in Victoria are established within easy accessibility of urban centres and major tourist routes and provide informal recreation opportunities for large numbers of people (Parks Victoria, 2006).

South Australia has a number of reserve categories including Recreation Parks of which there are currently 14 located throughout the state. The stated aim of these areas is for public recreation and enjoyment in natural settings (SA DEH, 2006). Western Australia has established eight regional parks as part of its Metropolitan Regional Scheme which was adopted in 1963 (CALM, 2006). Under this scheme, regional parks are areas of regional open space that have been identified as having outstanding conservation, landscape and recreation values. It is also claimed that they offer the opportunity for a coordinated planning strategy by different land management agencies and private landowners. Management of each regional park is supported by a local community advisory committee (CCWA, 1990; CALM, 2006).

Baud-Bovy and Lawson (1998) have noted that the regional park concept has been adopted by many countries using a range of designations, including, country parks (UK), state parks (US), *parcs régionaux* (France), *naturparks* (Germany) and *recreatieschaps* (Holland).

The concept of regional parks is well developed in the US and Canada with national guidelines providing direction to regional and local authorities. The Twin Cities region in Minnesota cite regional parks as making the region more liveable from a residential, work and business point of view. Most regional facilities are within half-hour or less driving time from the urbanised area whilst national standards assume a one-hour driving time as acceptable (Twin Cities Region Metropolitan Council, 2001).

Baud-Bovy and Lawson (1998) sum up the characteristics of regional parks as generally being smaller in size than national parks and under regional, municipal or joint control rather than the state. Typically these parks are often located near important population centres with their primary purpose being recreation. Many are created in relatively poorer natural environments and generally offer a range of educational and cultural facilities. One of their principal objectives is to reduce the pressure for outdoor recreation in national parks. The establishment and maintenance of regional parks require that authorities necessarily consider both the protection of the environment and the development of the local economy.

Attributes of regional parks

Benefits

Driver (1999) has identified a wide range of benefits that have been attributed to leisure, including personal benefits of both a psychological nature (including better mental health and health maintenance; personal development and growth and personal appreciation/satisfaction) as well as a psycho-physiological nature. Other categories of benefits included

social/cultural, economic and environmental benefits. Driver also notes that no one category can be considered more important than another (Driver, 1997).

Regional parks offer opportunities to reconnect with nature and represent an important means for people living in urban areas to experience the natural environment. Research shows a wider range of benefits to health and wellbeing through contact with nature, including reduction in crime, fostering psychological wellbeing, reducing stress, boosting immunity, enhancing worker productivity and promoting healing (Driver et al., 1991; Parks Victoria, 2002b).

A number of studies have quantified the economic value of recreation to park visitors. Research based on Sydney's Centennial Park (with over five million visitors per year) shows that the economic value of recreation to visitors was \$23 to \$33 million per year (Kinhill Economics, 1998). Interestingly, the community use benefit, or the additional amount schools and other educational institutions would have to pay to use alternative open space, was estimated as \$4 million per year (SUPER Group, 2001).

Regional parks can also generate environmental, economic and social benefits beyond those experienced by park visitors. Similar to national parks, visitors to regional parks can generate a significant amount of economic activity in the regions in which parks are located. Based on studies of state reserves for the SEQ Regional Forest Agreement (Kinhill Economics, 1998), the contribution of regional parks to rural economies could be greater than the estimated recreational benefit derived by visitors to these parks. Environmental and other economic benefits would raise these estimates even higher.

A regional parks network can contribute to the conservation of regional biodiversity. The network could attract recreational use away from protected areas, help ensure sustainable management of significant natural areas, educate residents and visitors on the value of natural ecosystems and offer venues for recreational activities that might be unacceptable in protected areas (Baud-Bovy & Lawson, 1998). Regional parks situated in upper catchments can provide important nature conservation benefits including maintaining surface-water quality, enhancing aquifer recharge, filtering sediment and nutrients to wetlands and waterways and regulating stormwater.

However, the contemporary role of regional parks is broadening to include a range of functions from the strategic shaping of urban form and containing urban sprawl to the attraction of regional economic investment. New patterns of open space networks are being conceptualised which reflect new scientific and cultural understandings (Thompson, 2002).

Hollis and Fulton (2002) note that 30 of the US's largest metropolitan areas are developing regional greenspace plans. The Twin Cities Region Metropolitan Council (2001) sees the role of a *regional park system* as foundation of Smart Growth:

The concept of a regional park system is a foundation of the concept of Smart Growth. Regional parks make the region a more attractive place to live, work and do business. In a high technology economy that provides businesses and workers with unprecedented mobility, amenities that add measurably to the quality of life, such as parks and natural open space, create a powerful draw for economic development . . . The new challenge posed by a broader concept of Smart Growth is for the regional park system to become more integrated with local, state and federal park and open space systems, and with housing and transportation systems.

Accommodation of a range of landscapes

Community based scenic amenity appreciation methods of SEQ open space have shown that some rural lands and productive farmland are at least equally preferred and sometimes more preferred scenically than some bushland areas (Forest Images, 2003). This suggests that rural and modified landscapes can deliver significant outdoor recreational benefits commonly provided by natural areas.

Contact with nature needs to be interpreted in its broadest sense as many people perceive green but heavily modified landscapes as 'natural'. Timber plantations and water storage dams provide significant recreational opportunities in landscapes that are human-made. Gravel extraction pits or degraded farmland in readily accessible locations can also be rehabilitated as regional parks to sustain outdoor recreational uses that are being displaced from natural areas.

Sites offering access to water for recreational use, particularly beaches, estuaries and rivers should receive priority treatment because of their high attraction for a variety of recreational users and their declining availability and escalating land values due to urban development pressure. In Auckland NZ, priority has been given to purchasing these landscapes for regional parks for public enjoyment (Auckland Regional Council, 1998).

Provision of a range of recreational opportunities

Regional parks can be conceived as providing a range of recreational opportunities that are most needed regionally and most appropriately provided in larger scale parks. Regional parks can play a complementary role to other

State and local government parks and private sites. This can be explored in a number of ways.

Regional parks could potentially deliver recreation opportunities across the full spectrum of landscape settings. For example, in SEQ the outdoor recreation inventory system (ORIS) has been developed in relation to a range of landscape settings. These landscape settings are defined through a combination of the naturalness of the landscape, the degree of social contact experienced by visitors and the degree of management presence. Table 1 illustrates the spectrum of nine ORIS landscape settings aggregated into three simplified Recreation Setting Groups (natural, semi-natural and modified). Three 'regional' park examples from SEQ are provided as reference points to illustrate how the range of typical recreation opportunity settings can be provided by regional parks. Importantly, regional parks of this nature could provide recreational opportunities which complement or meet deficiencies emerging largely from State and local government managed land.

Table 1. Typical recreation opportunity settings provided by regional parks
Modified from: RLU, 2003

ORIS Landscape Settings			Recreation Setting Groups	SEQ Regional-scale Park Reference Points
1		Remote	A Natural	<i>Brisbane Forest Park</i> — bushwalking, nature study, remote camping
2				
3				
4				
5				
6				
7			B Semi Natural	<i>Glen Rock Regional Park</i> — multiple uses: camping, picnicking, 4-wheel-driving, walking; nature conservation, catchment management, grazing
8			C Modified	<i>Somerset Dam</i> — waterskiing, camping; water storage
9	Urban Developed Built			

Regional park types and catchments

The complementary role of regional parks with other State and local government reserves and parks can also be interpreted in terms of where park users originate. For example, planners often distinguish urban parks (see Table 1: Landscape Settings 7, 8 and 9 or Group C — modified), in terms of a hierarchy of catchments reflecting different visitor travel distances. This hierarchy reflects different levels of people's willingness to travel for different levels of services, facilities or opportunities. The number of visitors attracted to a park and the proportion of visitors from increasing travel

Figure 1. Hypothetical hierarchy of park visitation relative to travel distance or origin of park visitors Source: RLU, 2003

distances or origins can be used to distinguish different park types within this hierarchy.

An expanded hierarchy of recreation catchment sizes could be extended to all parks across all recreation settings in a region. Figure 1 represents a hypothetical hierarchy of typical park visitation based on increasing catchment size from local to state/national/international scale. The State reserves within this hierarchy were historically established for a range of non-recreation related reasons and little attention was given to equitably serving the recreational needs of urban populations.

This hierarchical representation provides a basis to differentiate regional parks from the local and state scale parks provided by local and State governments respectively. The regional recreation role of State reserves (e.g., State forests, national parks) could be more accurately determined. It can also highlight opportunities for providing improved establishment and management coordination of potential regional parks that straddle local government boundaries. Regional parks could fill the gaps emerging from the past legacy of uncoordinated management responses.

This schema also suggests that two types of regional parks can be distinguished:

- R1. Regional parks located closer to large urban settlement, emphasising popular day use activities (walking, nature study, water activities, bicycle riding, picnicking, cultural education) in modified, natural and cultural landscape settings and attracting the greater proportion of frequent visitors from nearby urban centres. Annual visitation per park could be in the order of one million people or greater.
- R2. Regional parks located to take advantage of unique or outstanding natural settings and used for nature based activities such as bushwalking and camping. Alternatively, they could be situated in specific recreational settings offering opportunity for activities with more exacting site needs (e.g., mountain-biking, hang-gliding, canoeing, waterskiing). These parks would not necessarily be close to larger urban centres. Significant proportions of visitors would be attracted from across the region or beyond including national and international tourists. Visitor numbers would depend on the quality of the setting, participation rates in the particular activity and to some degree, proximity to population. Annual visitation to R2 parks would vary greatly.

This conceptualisation of regional parks is supported by the findings from the SEQ Outdoor Recreation Demand Studies (DNR & DES, 1998; Kiewa et al., 2002). Activities which recorded high participation rates, (including walking or nature study, water activities, picnicking and bicycle riding), most frequently occurred in the least natural of landscape settings. These activities also comprise by far the greatest number of activity events (approximately 75%) of all outdoor recreation activities. It is suggested these activities could be accommodated in smaller, R1 type regional parks, closer to urban settlement where land in recreation setting Group C is more available and acceptable to users.

Other activities with much lower participation rates and greater occurrence in more natural landscape settings (e.g., camping, 4-wheel-driving, motorised and un-motorised boating, trail-biking) could be accommodated in a range of larger R2 type regional parks, further from urban settlement where land in recreation setting Groups A and B might be more available and cost-effective to acquire.

This schema also provides an insight into how funding for regional parks might be more fairly allocated across State and local government jurisdictions. Local government is particularly reluctant to use resources from their local rate base to acquire, develop and manage regional scale parkland where significant numbers of users would come from beyond their local government boundaries. Park users pay little attention to local authority boundaries in deciding where to recreate.

A strategy incorporating these types of regional parks balances many competing needs and provides a way forward for a growing region. It can provide convenient access for the most popular activities (balancing safety and social crowding), allow cost-effective land acquisition, protect more natural landscapes for remote and less impacting experiences, and relieve pressure on the most environmentally sensitive areas.

Community recreation needs and values

There has been insufficient local research on which parks offer the most appropriate response to community needs and values. For example, 'lack of time' is a major reason given for non-engagement in outdoor recreation for urban residents (Kiewa et al., 2002). Consequently, a network of smaller, linked open space areas that are highly accessible to urban centres may be more effective in achieving community health and wellbeing outcomes than larger, fewer but more remote open space areas. Finding the right balance between local and regional provision and discriminating the associated benefits and costs deserves greater research.

Application to a rapidly developing region

The SEQ region, as Australia's fastest growing region, provides opportunities to examine how these regional park concepts can be applied to address outdoor recreation needs of existing and future populations. SEQ's population grew by 25% from 1991 to 2000. The current projection is for an extra one million residents in the next 20 years, growing the region's 2001 population of 2.5 million to 3.7 million by 2026 — a further increase of 48% (QG & SEQROC, 2005a, 2004, 2003b). Placing these projections in local and contemporary context, Brisbane Forest Park currently receives in excess of 2 million visits per year, the three main SEQ Water Board storages average over 1.6 million visits per year, whilst all visits to all national and other conservation parks in the region total 4.9 million per year (ES&S, 1999; RLU, 2003). Assuming outdoor recreation participation rates remain stable, it has been estimated that the magnitude of the projected population growth could lead to an increase in outdoor recreation visitor numbers across the region from

170 million in 2001 to 240 million visitor days (or activity events) per year by 2021 (RLU, 2003). This 40% increase in visitor numbers across the region will place a significant additional burden on existing recreation sites.

Clearly the provision for outdoor recreation in SEQ has not kept pace with population growth (DNR & DES, 1998; Kiewa et al., 2002; RLU, 2003). The region is facing increasing demands on a diminishing resource. This situation highlights doubts over the ability of the region's existing outdoor recreation venues to sustain the magnitude of likely increased usage. The region's plentiful beaches, bay and islands as well as its protected forests which provided a quality outdoor lifestyle in the past may not sustain the same quality of life for future residents and visitors. Against this background of increasing constraints on an already limited supply, an appreciation of the magnitude of the growing demand for outdoor recreation needs to be made.

Outdoor Recreation Challenges for SEQ

Management of outdoor recreation opportunities in SEQ has been largely polarised between local government concerned with a broad range of urban sporting, ornamental and bushland park types and public beaches and State government agencies managing natural reserves, timber plantations, marine parks and water storages. The deficiencies created by this polarisation have been acknowledged in a recent Recreation and Sport Discussion Paper that noted:

At present recreation and sport planning is not well integrated into other strategic planning decisions . . . Local Governments are providing a high level of local services and infrastructure for residents and visitors and the State government is providing significant State-level infrastructure. However, land, infrastructure and services that need to be provided on a regional and sub-regional basis are not being planned for and provided in a similar manner. (QG & SEQROC, 2003a: 16).

With more than twenty agencies and other parties each operating within their own recreation planning paradigm, there is a need to derive an integrated approach for efficient and complementary provision of recreation opportunities across the region and the state.

Overseas trends suggest outdoor recreation management has moved away from activity-oriented management, which focused on supply considerations, towards optimising benefits to on-site users, local communities and other stakeholders (Cordell, Betz & Bowker, 1999). Significant effort is needed in SEQ to understand the 'customer' and to evolve benefits based management

methods that go beyond a recreation opportunity perspective (Driver, 1999; Driver et al., 1991). Nevertheless much can be learned from a demand-supply approach to outdoor recreation that has been traditionally applied.

The need to provide a wide diversity of outdoor recreation opportunities has been acknowledged in a range of SEQ recreation and regional planning initiatives and debates (QG & SEQROC, 2005a, 2004, 2003a; QORF, 2002a). There remains the challenge to determine the nature and extent of opportunities required across a continuum of scales and recreation opportunity settings to meet the needs of existing and future populations.

Within SEQ some significant initiatives have commenced. The previously described Outdoor Recreation Inventory System (ORIS), has been developed to inventory state and local government managed lands (Parkin et al., 2001; QORF, 2002b). To date, ORIS has only been partially implemented and its extension to the remainder of the region remains an outstanding need.

On the demand side, the nature and extent of participation in outdoor recreation has been determined through SEQ Outdoor Recreation Demand Studies completed in 1998 and 2002 (DNR & DES, 1998; Kiewa et al., 2002). A third SEQ Outdoor Recreation Demand Study is to be completed this year. The completed studies report a trend towards higher rates of usage of very natural or totally natural recreation settings with problems of crowding already evident and future population growth likely to put more pressure on natural settings. Other evidence from park managers indicates increased visitation over the last ten years at most popular natural recreation sites, particularly at peak weekends and holiday periods where maximum capacities are reached (RLU, 2003).

A significant outcome of the recently released SEQ Regional Plan has been the policy commitment to complete a regional Outdoor Recreation Strategy in order to 'establish and maintain a network of accessible outdoor recreation areas, including regional parks, trails and waterways, as well as private lands with the voluntary agreement of landowners' (QG & SEQROC, 2005a).

In SEQ, 83% of the land is freehold tenure and only 17% is State land (RLU, 2001). Further, the role of the State-owned lands in providing for outdoor recreation is under some uncertainty due to the imminent tenure conversion of large areas of State forests to the protected estate under the SEQ Regional Forest Agreement. In these instances, some outdoor recreation activities will be inconsistent with the primary purpose of the protected estate.

The availability of natural areas for outdoor recreation is further reduced due to the increasing threat to the region's biodiversity from land clearing,

development, pollution and climate variability and the importance being placed on the region's remaining biodiversity. Only 43% of the SEQ bioregion is remnant vegetation whilst some 62% of its regional ecosystems are listed as endangered or of concern (EPA, 2003a, 2003b). Declining rainfall and increasing water needs and water quality requirements are also challenging expansion of outdoor recreation in the region's water storage reservoirs.

In 2002, local governments in SEQ raised in excess of \$29 million through environmental levies that was used primarily for the acquisition of nature conservation areas (RLU, 2003). These areas provide some recreational value. State acquisition of public land suitable for outdoor recreation has not been substantial in recent years. Little information exists on the role of private landowners and their potential to provide a range of outdoor recreation and cultural opportunities for residents and visitors.

Escalating land prices particularly in peri-urban areas makes the task of acquiring significant areas for outdoor recreation difficult for governments. Individual local authorities are also concerned about the cost to their ratepayers of acquiring and managing regional scale open space for recreation purposes that also serve significant populations from outside their local area.

Changing community values and trends in outdoor recreation will almost certainly place greater emphasis on establishing an accessible network of sustainable open spaces that can accommodate changing activity and experiential needs over time.

Towards a Regional Parks Network for SEQ

Overseas experience convincingly demonstrates that regional parks should be developed as part of a regional network. Calthorpe and Fulton (2001) describe the Yaro and Hiss 1996 alternative regional plan for the New York metropolitan region, titled 'Region at Risk' and note one of the plan's five regional initiatives as the *Greensward* which comprises a parks and open space network. Simonds (1998: 370), in describing the desirable features of a region, comments that 'the programmed provision and strategic allocation of all basic service centres and amenities needed for living the good full life . . . [includes] a unified park, recreation and open space system'.

Randolph (2004: 98) provides further definition of the specific requirements to support a community's QoL objectives: green infrastructure is 'an interconnected network of green spaces that conserves natural ecosystem values and functions and provides associated benefits to human populations', and comprises:

- hubs — reserves, native landscapes, working lands, regional parks and community parks; and
- links — landscape linkages conservation corridors, greenways, greenbelts and riparian floodplains.

The success of interstate and overseas regional park networks strongly suggests that it warrants serious consideration for the SEQ situation and that the new SEQ Regional Plan is on track to provide the necessary framework to facilitate a full range of outdoor recreation opportunities. This should include the provision of regional parks through the local and State governments' infrastructure programs (Low Choy, 2005).

The concept of regional parks as an appropriate response to the SEQ situation had its genesis in 1993 through the Queensland government's SEQ 2001 regional planning project (RPAG, 1993; Low Choy, 1994). Subsequently a number of approaches were taken in defining regional parks and identifying a network for SEQ.

Determining a network of regional parks

The determination of a suitable regional parks network for SEQ needs to acknowledge its complementary roles of providing outdoor recreation opportunities and addressing the loss of open space in the region. Based on work directed by the RLSAC, the following strategic attributes and intentions have been proposed to assist in the determination of regional park network (RLU, 2003) (see Table 2).

The desired intentions are being refined regionally to embrace community input, for example determination of biodiversity significance and scenic amenity. Attribute 3, dealing with equity of access, was also investigated to highlight the insights to be gained through a fully developed research approach across all criteria. Achieving an equitably distributed network of regional and higher order parks has emerged as a key objective for many other regional planning authorities.

GIS based modelling was used to develop measures of relative accessibility reflecting the proximity by road of the 2001 regional population to state reserves, lakes and dams offering recreation sites within SEQ. This research was heavily influenced by Parks Victoria's work on the equitable provision of open space across Melbourne (Zanon, 1999). The research has limitations due to the unavailability of the distribution of future populations, landscape settings, and data on local government sites within SEQ, the bay islands and accessible sites outside of SEQ (particularly south of the state border).

Table 2. Strategic attributes and criteria for determining a network of regional parks

Attribute	Intent
1. Regional recreation need	To respond to deficiencies in regional outdoor recreational opportunities and emerging trends
2. Quality of recreation resource	To include open space with high suitability for sustainable outdoor recreation and characterised by culturally, scenically or environmentally significant landscapes and potential access to water
3. Distributional equity of resource	To offer equity of access to the regional population from urban centres across the region
4. Contribution to regional sustainability, liveability and social justice	To facilitate: <ul style="list-style-type: none"> • the inclusion of land with an important natural resource function, e.g., catchment management, nature conservation • its function as a strategic buffer or separator of urban settlement • access by public transport or non-motorised means • resource distribution in a compensatory manner that recognises socio-economic disadvantage
5. Optimisation of benefits	To optimise environmental, social and economic benefits to park visitors and adjoining local and regional communities
6. Integrated management opportunities	To take advantage of: <ul style="list-style-type: none"> • significantly enhanced coordinated management • promotion of regional entity • preventing an imminent loss of opportunity, e.g., land development threat • opportunities to transform a degraded asset

Modified from: RLU, 2003

The major findings include:

- recreation sites (state reserves, inland dams and lakes) are poorly distributed across the region relative to the distribution of the existing population. Areas to the north of Brisbane were shown to be well provided for in comparison to the southern areas of the region;
- Ipswich and the western corridor, subsequently recognised as a preferred growth corridor in the SEQ Regional Plan, was also shown to be poorly serviced with regional outdoor recreation settings;

- indications are that the region's most disadvantaged socio-economic areas are also underprovided in terms of access to regional outdoor recreation opportunities; and
- several state-owned sites (including Daisy Hill Forest, Brisbane Forest Park, Lake Samsonvale, Hinze Dam and Numinbah forest reserve and the Beerburum pine plantations) were rated high as they all serviced populations within a half-hour drive.

Regional urban growth is likely to exacerbate existing regional inequity. Further, expenditure within existing reserves based primarily on their recreation suitability (such as Brisbane Forest Park), while meeting growth needs locally, will further exacerbate regional inequity. Acquisition of new sites is needed to address existing and future inequity in access to recreation opportunities.

Extending this work to explore new acquisition sites based on multiple criteria (including environmental and other social values) and future population is strongly recommended. Opportunistic and strategic approaches are important. Given the rate of regional growth and loss of critical inter-urban, near urban or coastal landscapes, opportunities to secure key land parcels should be given priority and not delayed pending further planning undertakings in the light of future population growth.

Determining desired level of service

The research that was undertaken quantified relative regional measures of access and not desired levels. A number of methods were also investigated to suggest the quantity of land resource required to meet the region's outdoor recreation needs. Equitable distribution of regional parks based on minimum travel times and service of population centres (numbers of people) could be determined and set as desired outcomes in the same way as access standards are set for lower level parks. Parks Victoria considers having seven parks within a 15-km drive as a good level of service for Melbourne residents (Parks Victoria, 2002a). The best methods rely on structured inputs from the broader community and recreation interest groups so estimates derived need to be heavily qualified (NRPA and AAPRA, 1996). Setting a level of service based on a maximum of a half-hour driving time or less, may be appropriate for the R1 type regional parks. Levels of service might apply for particular activities (eg horse-riding, mountain-biking, trail-biking) and a range of recreation settings but may not be appropriate for larger natural areas. Table 3 suggests a format which might be further explored.

Table 3. Level of service format for regional parks

Recreation Setting or Activity	Level of Service (LOS)
Recreation Setting Group C Modified landscapes (or natural where available) Typically R1 type regional park	Regional parks of 200–250 ha in size within a half-hour travel time of urban areas containing up to 200 000 people (Existing regional and State+ recreation opportunities would need to be recognised)
Recreation Setting Groups A & B Natural and Semi-natural Typically R2 type regional park	Resource availability largely determines outcome No LOS specified.
Activities such as horse-riding, trail-biking, waterskiing, mountain-biking. Activities can be accommodated within other parks or as special-use sites	Sites distributed on a regional or sub-regional basis, meeting, e.g., maximum travel time criteria

Source: RLU, 2003

A potential embryonic network for SEQ

A schematic representation of a potential network for future regional parks that can commence to address the previously noted deficiencies in outdoor recreation in SEQ is illustrated in Figure 2. This model is based on the application of the strategic selection criteria for the nominated suitability attributes for regional parks (see Table 2). It also seeks to maximise the desired level of service requirements for regional parks (see Table 3).

Achieving a SEQ regional parks network

No single agency has sole responsibility for outdoor recreation and hence it is imperative that a cooperative approach involving all core sectors and stakeholders is operationalised. The initiative needs to be championed and a lead agency identified. This should be addressed in the regional outdoor recreation strategy currently underway.

Given the complexity of relationships, a number of preconditions should be initiated to achieve the desired network, including:

- alignment of five core sectors — State and local government, professionals, peak recreation bodies, private land owners and business, education and research institutions
- the clear definition and support for a regional parks vision
- awareness raising and engagement of the community in public discussion

Figure 2. Schematic representation of potential regional parks for SEQ

- empowerment of stakeholders and community
- community ownership of initiatives
- funding support from local and State governments
- research into community needs and regional park practice nationally and internationally
- coordination of research, planning and management
- establishing incentives for private landowners and commercial providers
- enacting legislation to support the establishment and operation of regional parks particularly across multiple landholders

Awareness of the benefits of cooperative activity should seek to facilitate the continued cooperation of public agencies, including non-traditional ones in the recreation fields such as Queensland Health, Queensland Transport, Powerlink, and Water providers as well as programs supporting catchment management, protection of biodiversity, natural resource management, tourism, and regional and rural development.

There are strong arguments for the serious consideration of regional park acquisition as a component of the State Government's infrastructure program currently acknowledged in the SEQ Regional Plan and the associated Infrastructure Plan (Low Choy, 2005). This approach will require a major shift in the conventional paradigm of government-sponsored infrastructure provision to meet community needs which has traditionally been limited to physical and social/community infrastructure. This paper has demonstrated the extensive overseas precedence of these initiatives and approaches for meeting community recreation needs in rapidly growing regions.

Conclusion

There is a unique opportunity for innovative responses that can match both the demand and community expectations for outdoor recreation and at the same time safeguard the SEQ environment and its highly sought after unique standards of liveability. The current research suggests that a regional park concept can make a significant contribution in this regard and thereby contribute to the achievement of the desired regional vision of contemporary regional planning initiatives.

To maintain the quality of life that residents and visitors expect of the region, it will be imperative that proactive steps are taken now to safeguard the important landscape values and in particular, to provide for the population's outdoor recreational needs in ways that maintain their strong desired connections to the region's 'great outdoors'.

The achievement of the full suite of community objectives, especially those related to community health, quality of life and liveability, will require the implementation of an outdoor recreation strategy that acknowledges and delivers the full range of benefits from a cooperative regional parks network.

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