

WORLD HERITAGE RAINFORESTS IN THE LIFE OF A COMMUNITY

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ABSTRACT

There is general agreement in the literature that the most effective management of tourism resources such as parks occurs when there is a high level of engagement with the community. The Wet Tropics World Heritage rainforests locate in the north of Queensland were first listed as a World Heritage Estate in 1988 and since that time the management authority, The Wet Tropics Management Authority has built an extensive network of committees to engage with the community. This paper reports on the perceived advantages and disadvantages of living within the Wet Tropics bioregion as reported by community members and compares these results with the findings of a 2002 survey of community values. Over the five year period community perceptions have remained very positive about the rainforest's contribution to residents' quality of life.

Key words: rainforest, community, World heritage, Wet Tropics Management Authority,

INTRODUCTION

World Heritage areas designated by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) aim to encourage the protection and preservation of cultural and natural heritage considered to be of outstanding value to humanity (UNESCO, 2005). In North Queensland the Wet Tropics World Heritage rainforest was inscribed on the World Heritage list in 1988 in recognition of its outstanding natural universal values. These values include: examples of major stages in the earth's evolutionary history; significant ecological and biological processes; an example of superlative phenomena; and important and significant habitats for in situ conservation of biological diversity (Australian Government Department of Environment and Heritage, 2006). Located adjacent to a relatively closed settled urban and agricultural landscape, the restrictions on use of the Wet Tropics World Heritage Area (WTWHA) rainforest have had some impacts on local communities in terms of recreation, restriction on access to some areas, restrictions on forestry and farming practices, and regulations on the use of the forest by the tourism industry. This paper analyses the engagement of the community in the management of a World Heritage listed site through a range of strategies and specifically focuses on understanding the perceived advantages and disadvantages, both at a personal and at a regional community level of North Queensland residents who live within the Wet Tropics bioregion.

The Wet Tropics World Heritage Area

The Wet Tropics World Heritage Area covers 894,420 hectares of tropical rainforest and extends from Paluma in the south to Cooktown in the north and west across the Atherton Tablelands to

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Ravenshoe. The World Heritage Area (WHA) contains rainforests, as well as numerous vegetation communities including wet and dry sclerophyll forests, riverine communities, melaleuca swamps, wetlands, coastal scrub and mangroves. These forests conserve an extraordinary diversity of plants and animals including cycad, conifer and fern species which evolved 200 million years ago. The region contains approximately 2800 vascular plant species and more than 600 vertebrate animal species, many being endemic, rare or threatened (Wet Tropics Management Authority, 2004).

The WTWHA has approximately 2,500 adjoining property owners on its 3,000 kilometre boundary and within the borders of the park has 300 separate parcels of privately owned land (Wet Tropics Management Authority, 2003). Approximately 350,000 people live within 50 kilometres of the World Heritage boundary and according to research undertaken by Bentrupperbäumer (2006) there are approximately 4.4 million visits to the park per annum. Aside from its significant natural attributes, the World Heritage Area (WHA) has important historical, cultural and spiritual values to the general community as well as the Aboriginal rainforest community (Wet Tropics Management Authority, 2004b). Eighteen rainforest Aboriginal tribal groups live in the Wet Tropics with many still having ongoing traditional connections to the land and sea in and around the WTWHA (Wet Tropics Management Authority, 2004b).

Management of the rainforest is vested in the Wet Tropics Management Authority (WTMA) which was established as an independent authority with its own Act of Parliament. A joint Federal State Ministerial Council oversees the agency. The WTMA is responsible for the overall management of forest including policy, planning, developing standards and the coordination of on-ground management. The Queensland Parks and Wildlife Service (QPWS), a state government department is responsible for the daily management of the park in aspects that include infrastructure maintenance, pest and weed control and commercial activity permit approval of National Park visitor sites within the WTWHA. Management strategies developed by the WTMA include:

- *Wet Tropics Management Plan* (1997). This plan outlines the overall management strategies designed to ensure that the ecological, cultural and social importance of the Wet Tropics area is retained;
- *Wet Tropics Nature Based Tourism Strategy* (2000). This plan is designed to guide the development and management of nature-based tourism within the WTWHA;
- *Wet Tropics Walking Strategy* (2001). This plan focuses on the cooperation needed by stakeholders (i.e. WTMA, land managers, walkers, Aboriginal people and the tourism industry) to responsibly manage the diverse range of walking tracks in the WTWHA; and
- *Wet Tropics Conservation Strategy* (2004). This plan evaluated the major threats to the WTWHA and how landholders, the community and WTMA can help address these threats. The plan outlines actions to achieve the conservation, rehabilitation and transmission to future generations of the environmental, social and cultural values of the WTWHA.

In addition, three statutory advisory committees and two stakeholder liaison groups have been established to provide a two way flow of information between WTMA and stakeholders of the WTWHA. The Community Consultative Committee advises WTMA management on the views of the wider community relating to World Heritage management issues. Members of this committee are drawn from a broad spectrum of backgrounds including conservation, education, tourism, rural, scientific, local government and recreation. To identify and evaluate research needs, threats and development proposals in the social, biophysical and physical sciences a Scientific Advisory

Committee has been established. The final statutory committee, the Tourism Liaison Group, advises the Authorities' management on tourism issues related to the WTWHA. In addition to the statutory advisory boards two stakeholder liaison groups, the Conservation Sector Liaison Group and the Cassowary Advisory Group, have been established to allow WTMA to consult over a range of issues that are of interest to the stakeholders represented by these groups. The consultative strategies adopted by WTMA meet or exceed many of the criteria suggested by researchers including Dickman (2002) who identified four approaches (reactive, interactive, proactive and opportunistic) to community conservation. The proactive approach is singled out as the key strategy for successful long term management of community values.

A vigorous program of scientific and social science research programs has been instigated by the WTMA to enhance its management of the park. For example, research into the management of tourism at specific sites has been undertaken by Chester (1995), Carmody (1999) and Bentrupperbäumer and Reser (2002) while the economic value of the WTWHA has been investigated by Driml (1997) and Falco-Mammone and Prideaux (2007). Perceptions and issues of future sustainability of the area from various stakeholder perspectives has been undertaken by AGB McNair (1992, 1993, 1996); AC Nielsen (1999), Hardy and Beeton (2001a; 2001b), Dredge and Humphreys (2003) and Bentrupperbäumer and Reser (2006),

Bentrupperbäumer and Reser (2006) who undertook comprehensive research into the community values of the rainforest in 2001 - 2002 found that there was strong recognition of the environmental and social benefits from the location and protection of the WTWHA including contributing to quality of life as an integral part of the landscape, lifestyle and community. Findings indicated that the community strongly supported the World Heritage listing (93%) and was aware of the importance of protecting and conserving the Area (46%). The most important personal advantages (75%) perceived by the community were related to general quality of life issues rather than actual visits or economic benefits (Wet Tropics Management Authority, 2004a). From a community perspective, residents felt the WHA provided 'clean air and water' (92%), 'protection of rainforest plants and animals' (89%) and the 'protection of scenic landscapes' (88%). Less than 25% of the surveyed residents perceived personal or community disadvantages from living near or within the Wet Tropics area. The concerns that were identified mainly centered on management issues including management of feral pests and rules, regulations and restrictions. While Bentrupperbäumer and Reser's (2006) study found a high level of support for the WHA the findings are based on community attitudes that were evident in 2002. To reexamine the current standing that the WTWHA has in the local community and to assess any changes in community views that have occurred in the last 5 years a 2007 community survey was undertaken and is reported on in this paper. The 2007 study is based on the 2002 study thus allowing a base line to be established and changes recorded.

Community Engagement

The definition and boundaries of a community can be arbitrary. Community is defined in *The Australian Modern Oxford Dictionary* (2003, p. 157) as "a body of people living in one place or country and considered as a whole". In the context of this research, the community is the residents of the Wet Tropics bioregion of North Queensland, Australia. There has been considerable discussion in the literature on issues of impacts of tourism on host communities (Murphy, 1985; Pearce, Moscardo & Ross, 1996; Pearce & Moscardo, 2002; Goodwin, 2003; Scheyvens, 2003;

Gill, 2004; Reid, Mair & George, 2004). Others have approached the concept of communities and tourism from ecotourism or planning perspectives (Scheyvens, 1999; Dowling, 2003; Jones, 2005). Hall (2007, p. 302) suggested that a community approach to tourism planning is a 'bottom-up' form of planning and that public participation can help identify conflicts and opinions. Community strengthening can be achieved by enhancing connectedness, engagement and partnership between various stakeholders in the community (Considine, 2004, cited in West, Wiseman & Bertone, 2006).

McIntyre-Tamwoy (2004) explored the role of community values in protected area management to better understand local community attachment to conserve protected areas based on the World Heritage listed Great Barrier Reef. She found that local communities often have a sense of attachment to parks or particular places within the landscape that are personally linked to their sense of identity. This attachment may not just be an appreciation of the scientific or resource value of a protected area but from the perspective of the community may include "... individual and collective 'memory' of the protected area based on an experiential engagement of the landscape or seascape over time" (McIntyre-Tamwoy, 2004, p. 290). It is well recognised that engagement with the community will present more positive than negative social, cultural and economic benefits when dealing with the management of a protected area which is part of a community's region. The basic premise is that collecting and sharing "information on community values along with other cultural and natural values, in the absence of specific threats or issues will prove the most effective in building a deeply layered knowledge of the cultural and natural values of any protected area, particularly if it is a long term approach" (McIntyre-Tamwoy, 2004, p. 296). A long term approach will be the most beneficial in understanding the community's views.

The Wet Tropics Management Authority provides an example of a cooperative management approach with the various communities. In 2004, the WTMA indicated survival of the Wet Tropics for future generations requires the "willingness of local governments, landholders, Aboriginal Traditional Owners and the broader community to offer their expertise and participate in conservation and rehabilitation measures" (p. 1). Recognising the need for community engagement, the WTMA commissioned community surveys to understand and assess community attitudes in 1992, 1993, and 1996 (AGB McNair). Surveying of neighbouring landholders also took place in 1999 by AC Nielsen. In 2001/2002, these studies were expanded to ensure community views were better understood and considered in future management of the area. The survey findings suggested that community views have changed leading up to and following the controversy that surrounded the 1988 listing of the region on the World Heritage list

It is apparent that community involvement is an important element in managing a World Heritage Area. The WTMA has put in place a number of steps to involve four main community groups associated with the Wet Tropics World Heritage Area: the tourism community, the local residents, the business community and the Aboriginal Rainforest communities. In April 2005 the Wet Tropics Regional Agreement was signed by the 18 Rainforest aboriginal tribal groups and the Australian and State government agencies responsible for management of the WTWhA (Wet Tropics Management Authority, 2006). This strategic document recognised the engagement of Rainforest Aboriginal people in all aspects of decision-making and management and resulted in a second Aboriginal Director being appointed to the Wet Tropics Board as well as ensuring continued support for the Aboriginal Rainforest Council (ARC) and the Rainforest Aboriginal Advisory Committee (RAAC).

METHOD

The aims of the research reported upon in this paper are to:

- understand residents' awareness and knowledge of the WTWHA;
- identify community support for World Heritage listing;
- understand community perceptions of the advantage and disadvantages of living in the Wet Tropics bioregion; and
- identify concerns about conservation and management.

After reviewing Bentrupperbäumer and Reser's methodology, a decision was made in consultation with officers from WTMA to retain the basic structure of the 2002 survey with several additional questions used to further understand the community's knowledge and awareness of the significance of having two World Heritage Areas in North Queensland, the other being the Great Barrier Reef Marine Park.

A comprehensive nine page survey was distributed to residents of the Wet Tropics region in North Queensland between May and July 2007. Two methods were used to distribute a total of 3,131 surveys across the wet tropics region. These methodologies were used to achieve consistency with the community attitude survey undertaken by Bentrupperbäumer and Reser (2002). The first method utilized a postal distribution method where 2,100 surveys were delivered to private post boxes in regional towns from Port Douglas to Townsville. Each survey was sent by Australia Post as 'unaddressed mail' with each envelope addressed "To the Wet Tropics Resident". Postmasters were requested to deliver envelopes into every second private post box at their post office. This ensured a random distribution process. Surveys were sent in this manner to the towns of Port Douglas, Atherton, Ravenshoe, Kuranda, Millaa Millaa, Herberton, Cardwell, Ingham, Rollingsstone, Halifax, and the Townsville suburbs of Deeragun and Belgian Gardens. The second method of distribution was a drop off/ pick up procedure. This involved 1,031 surveys being randomly distributed to every second house in selected areas on a Saturday to maximise personal contact with residents. The purpose of the survey was explained to the resident and they were asked if they would participate in the research project. This was often pitched as "This is your chance to have a say on the future management of our rainforests". Residents were then advised that the survey would be collected the following day. The emphasis of this distribution method was to collect the survey personally, not have it posted back. As a consequence, pre-paid reply envelopes were not given to residents until the interviewer returned on the following day (Sunday) to collect the survey. This method of distribution was used in the towns of Babinda, Miriwinni, Gordonvale, Mission Beach and Innisfail. While not included in this paper, surveys distributed in Cairns will be reported upon separately.

Quantitative data was analysed using the SPSS statistical software program. Both frequencies and cross tabulations were used. Intercoder reliability was used to analyse the open-ended results of the personal and community disadvantages of living near the Wet Tropics. This method of content analysis allows independent coders to evaluate a characteristic of a message, whereby actual agreement on the coded values is the basis for assessment (Lombard, Snyder-Duch & Bracken, 2005). Using three coders for the statements of disadvantages supplied by respondents resulted in a less than optimal reliability (46.8% for community disadvantages and 50.5% for personal disadvantages). Reducing to two coders resulted in a reliability of 84.1% for community disadvantages and 77.3% for personal disadvantages.

Although the two methods of distribution used a random sampling technique, the average age of the respondents was 52 years. This is relatively higher than the average age of the Far North Queensland statistical division which is 35 years of age (Australian Bureau of Statistics, 2005). It is apparent that respondents who are older, lived and worked in the area for some time were more willing to complete the survey compared to younger residents. A limitation is also recognised in the methods of survey distribution. The postal method did not allow for a reminder to be issued due to the random selection of private postal boxes by post office masters.

RESULTS

A total of 597 respondents returned the *Resident Survey in the North Queensland Region* from the Wet Tropics bioregion (total response rate of 19.1%). Just over half of the surveys (52%) were collected from the drop off/ pickup procedure. Overall, the gender of respondents' was relatively evenly distributed with 51.3% males and 48.7% females. Respondents had a mean age of 52 years, ranging from 14 years to 93 years of age and had lived in North Queensland for an average of 28 years. The level of education for respondents was mainly secondary high school (41.9%). Less than half of the respondents (41.4%) lived in a suburban residence and 95.0% were Australian citizens. Residents responding to the survey came from 70 different towns or suburbs around the WTWHA. The highest number of surveys were returned from the Mission Beach area (n=179) where 400 surveys were distributed face-to-face to residents. The largest group of respondents were pensioner/ retired/ unemployed people (24.7%), management and administrators (17.3%), professionals and associate professionals (16.8%).

Awareness and Knowledge

An objective of the *Resident Survey in the North Queensland Region* was to understand the community's knowledge and awareness of the Wet Tropics rainforests and the World Heritage listing. More than half of the residents indicated strong support for the WHA listing (58.6%) and the general level of protection of the WTWHA (53.1%). High levels of importance are placed on the role of the Wet Tropics rainforests in the life of a community from a personal perspective (Table 1). Based on a rating scale of 1=not important to 6=very important, residents personally value the fact that it is good to know the WTWHA is there (mean=5.42, 2% considered the WTWHA as not important) and that it contributes to enhancing their quality of life (mean=5.02; 4.9% responded that the WTWHA did not enhance their quality of life). A low level of importance was placed on direct (35.5%) and indirect (33.8%) commercial/ economic/ employment opportunities by residents.

Table 1
Level of Personal Importance of Advantages of the WTWHA

	Not important	Slightly important	Somewhat important	Moderately important	Considerably important	Very important	Mean
To know it is there	2.0	2.0	5.5	6.7	16.6	64.5	5.42
Enhance quality of life	4.9	3.0	5.9	8.7	24.3	51.1	5.02
Rest/ relax	4.5	4.4	7.7	10.4	23.1	47.4	4.92
Recreational opportunities	4.7	4.5	8.4	13.7	21.9	44.7	4.82
Be with/ share with family & friends	4.5	4.5	8.5	13.2	22.8	43.9	4.81
Direct commercial/ economic/ employment opportunities	35.5	7.5	12.6	9.2	9.9	16.2	3.11
Indirect commercial/ economic/ employment opportunities	33.8	10.4	12.7	10.4	9.4	13.1	3.63
Other	4.9	.7	1.2	1.7	2.3	9.7	4.27

The benefits of the WTWHA being a part of the regional community as a whole (Table 2) indicates that residents place a high level of importance on the protection of the rainforest plants and animals (77.6%), the provision of clean air and water (77.2%) and the protection of the scenic landscape (71.2%). Once again, a low level of importance was placed on commercial/ economic/ employment opportunities for the regional community (27.8%). There were no significant differences between the respondents' age and gender with their perceived personal or community advantages when living near the WTWHA.

Table 2
Level of Importance of Advantages of the WTWHA for the Regional Community

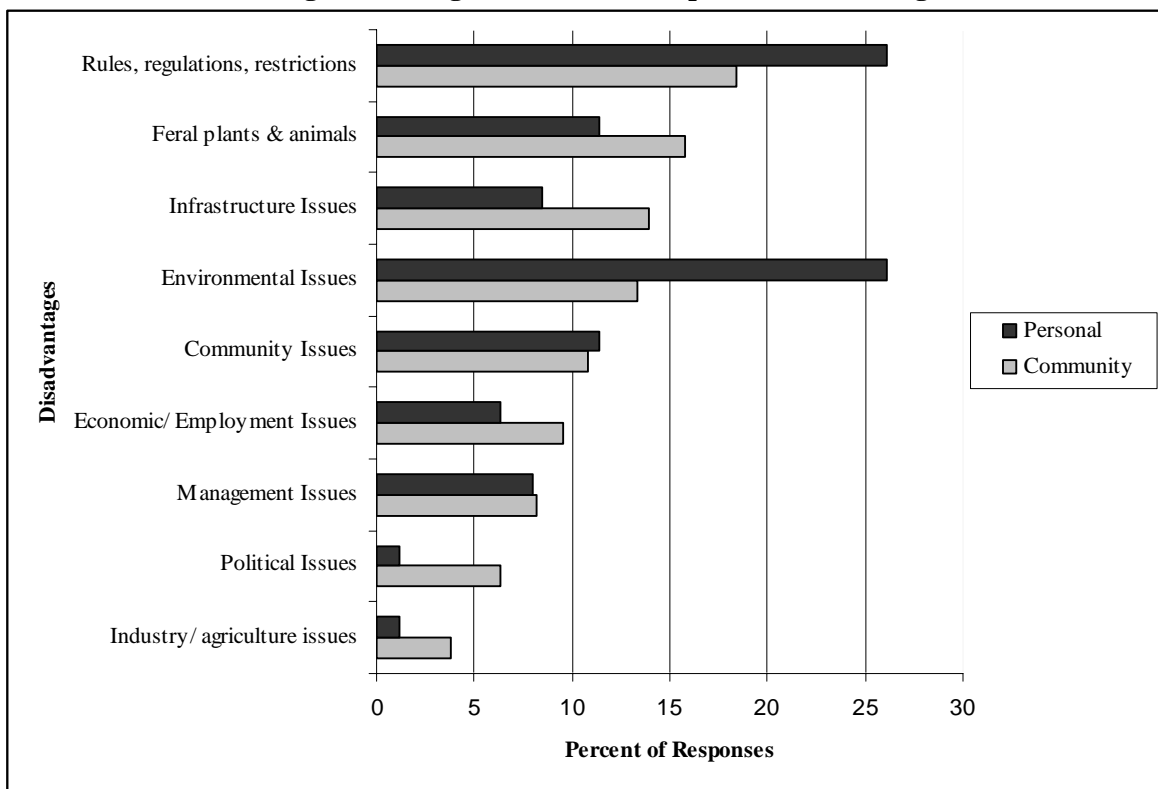
	Not important	Slightly important	Somewhat important	Moderately important	Considerably important	Very important	Mean
Protect plants and animals	0.7	1.3	1.8	3.9	12.9	77.6	5.75
Provide clean water & air	0.7	0.3	2.3	4.0	13.7	77.2	5.86
Protect scenic landscape	1.2	1.3	2.5	5.9	16.1	71.2	5.63
Enhance environmental awareness & knowledge	2.2	0.8	3.5	8.4	17.8	64.2	5.49
Commercial/ economic/ employment opportunities for the community	9.7	5.5	13.7	20.6	18.1	27.8	4.31
Other	2.8	0.2	1.2	1.2	2.0	7.5	4.38

Disadvantages of living around the Wet Tropics World Heritage Area

Only 25% of the surveyed respondents stated that they suffered a personal disadvantage with living in the Wet Tropics region and 26.5% of the surveyed respondents indicated disadvantages at a community level from living in or around the WTWHA (Figure 1). The residents who indicated personal or community disadvantages were mainly living in the Johnstone Shire. Personal disadvantages were mainly related to ‘rules, regulations and restrictions’ (26.1%) and ‘environmental issues’ (26.1%). Examples of statements made included “nowhere to go with my dog”, “unable to hunt feral pigs” and “no animals, no motorbike riding”. Representative statements for environmental issues were “rain, possible cyclones, heat” and “wet season”.

Disadvantages for the regional community were also related to ‘rules, regulations, restrictions’ (18.4%) and ‘feral plants and animals’ (15.8%). Typical statements of disadvantage to the community were “restricting access to areas I had always had access to as a child”, “restricted freedom and movement” and “local community can’t enjoy the area and have less rights than tourists or companies”. The community is also well aware of the impact from feral pests with statements such as “control weeds and feral animals, especially pigs”, “explosion of feral animals – pigs, cats, etc” and “too many feral pests and weeds”.

Figure 1
Disadvantages of Living near the Wet Tropics World Heritage Area



DISCUSSION

Understanding how the local community relates to and value the World Heritage listing and the cultural, natural and heritage values of the listed property is important for management agencies. In this regard the Wet Tropics Management Authority regularly consults the community on current and future management issues through stakeholder liaison groups, public consultation and by funding community attitude surveys.. For example the *Wet Tropics Conservation Strategy* (2004) was instrumental in recognising the role of the community and neighbouring landholders for the conservation, protection and transmission to future generations of the WTWHA. The research reported upon in this paper builds the WTMA's policy of engagement and reports on residents' perceived advantages and disadvantages of living within the Wet Tropics bioregion both at a personal level and at a community level.

Compared to the findings of the 2002 survey, respondents had on average lived longer in North Queensland (28 years in 2007 compared to 25 years in 2002) and were older, averaging 49 years in 2002 and 52 years in 2007. There was relatively little change in the 2007 community survey regarding tertiary education (22.3% compared to 21.3% in 2002) and from an occupation perspective, slight variations were recorded with less professionals and associate professionals (16.8% compared to 23.5% in 2002), but slightly more management and administrators (17.3% in 2007). The percentage of residents who indicated they were pensioners/ retired or unemployed residents had remained virtually constant (24.7% compared to 25.1% in 2002).

In the five years since the previous *WTMA Community Resident Survey* perceived advantages and disadvantages on a personal and at a community level have increased. In both 2002 and 2007, the highest rated personal advantage of the WTWHA was the knowledge that it is there, and that it exists. The mean level of importance has increased from 5.11 (2002) to 5.42 (2007). The results of the 2007 survey, undertaken almost 20 years after World Heritage listing in 1988, show that there is increased acceptance from the community of the benefits of conserving and protecting this significant natural asset. With urban development occurring at a rapid rate, it may well be that a higher level of importance is now placed on the knowledge that the rainforests are there and are protected from development, as well as knowing that the region is being protected for future generations.

It is also interesting to note that resident's perceptions of direct and indirect commercial/ economic/ employment opportunities from the WTWHA are not important on a personal level nor from a regional community perspective. Results indicate that from a community aspect, residents placed a higher level of importance on the environmental values of the WTWHA than on previous economic benefits derived from logging. Results also indicate that the contribution of the forest to a high quality environment is seen as directly contributing to respondent's everyday quality of life.

The perceptions of disadvantages for the community stem from the imposed rules, regulations and restrictions that are required to protect the natural attributes of the World Heritage Area, not from loss of economic value from logging. These are, in reality on-ground management issues and caused by the increased awareness of community knowledge of the impacts caused by feral animals and other invasive species as well as restrictions imposed on previous recreational use of the area. Overall, the results indicate that the perceived benefits outweighed the perceived disadvantages. Further, many of the perceived disadvantages reported by respondents were related to the 'wet season' which is a part of the processes that sustain the rainforests. As Bentrupperbäumer and Reser (2006) noted, consideration must be given to an individual person who may have a particular

problem with regulations or economic loss, but would more than likely have a different view to more general community impacts. On the whole, the results indicate there is a strong sense of attachment to the Wet Tropics World Heritage Area.

With its significant natural attributes, cultural and spiritual meaning, the WTWHA plays an important role in the life of many residents within the bioregion. Before World Heritage listing in 1988, the rainforest was a major contributor to the economic development of the region, providing employment in the logging industry. The rainforest is now more valuable as a tourism resource than any other use. The concern expressed by respondents over the impact that feral animals and invasive plant species can have portrays concern that is conservation focused rather than being concerned about commercial or economic benefits. These comparative results indicate the resident community is predominantly a static, relatively stable society that has a deep sense of attachment to the area.

CONCLUSION

The results of the research reported upon in this paper indicate that residents have perceived advantages as well as the perceived disadvantages both on a personal level and at a community level. Perceived advantages far outweigh perceived disadvantages. It is apparent that the presence and continued protection of the rainforest is important to the community; however, the ability to use the area in a more active way appears to be the crux of the disappointment expressed by some respondents. Although the rainforests are important for resting and relaxing, there are a small number of respondents who would like to be able to share these areas with their dogs, drive on access roads which are now closed and even hunt the feral pigs which are ecologically impacting on certain parts of the rainforest. While it is unrealistic to expect 100% support for the management strategies implemented by the WTMA, the high level of support identified in the study did indicate that in general respondents recognised the need for the current suite of rules, regulations and restrictions as instruments to maintain the quality of the resource.

In the five years since the previous survey of the community there has been a slight increase in the level of support of the concept of World Heritage listing as well as support for the management agency. This is an important finding and indicates that the extensive level of engagement with the community through specific committees, community surveys and print media has been effective as a sounding board for the WTMA's management as well as a vehicle through which the public can gain information and make concerns known.

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