

Tourism on the Carnarvon-Ningaloo Coast Between Quobba Station and Exmouth and its Implications for Sustainability of the Coast

Prepared for the
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Introduction

Tourism development in the northern, coastal Gascoyne has taken place on a somewhat ad hoc basis. Coral Bay, one of the region's most popular tourist destinations, has grown incrementally from a family camping spot to a small town with a town planning scheme that postdates much of the town's development. However, Coral Bay has little basic infrastructure such as sewerage, a factor that causes concern to visitors and land managers alike. Smaller, predominantly informal camping developments occur along the coast on stations between Quobba and Ningaloo where some locations support an estimated 400 to 600 people. Here, many campers pitch their tents or park their caravans within the boundary of the Ningaloo Marine Park, which extends 40 metres above the high-water mark, and dispose of waste in the dunes and unlined, open tips. Other tourists stay at formal campsites in the Cape Range National Park, tourism developments on the west coast of the Exmouth Peninsula (Yardie Homestead and Lighthouse Caravan Parks) and adjacent to the and in Exmouth.

While development may be ad hoc, tourism has been considered a solution for a small, stagnant economy for at least the past 15 years. In 1993, Bill Kelty's Taskforce on Regional Development identified nature-based tourism as a major opportunity for economic development in the Gascoyne Region of Western Australia (Taskforce on Regional Development 1993). Tourism emerged in the 1980s as the Western world's largest and Australia's second largest industry as people with better access to credit and a desire to see the world travelled extensively and increasingly sought places with special environments and cultures (Urry 1990, 1995). These tourists often stayed in cheap accommodation, which they perceived, had local character, shopped in local shops, ate in local restaurants and spent their money on activities provided by local tourism operators. They sought experiences unique to localities and consequently, national receipts from tourism increasingly depended on the effectiveness of small local businesses and on the integrity or perceived integrity of local cultures and environments (Morris 1995; Urry 1995). Consequently, when the Commonwealth Government decided to stimulate growth in tourism to hasten economic recovery after 1992, its programs targeted the preservation and promotion of local tourism assets.

Kelty's predictions for potential growth in tourism may have given hope to the Gascoyne with its static population, narrow economic base, declining returns from pastoralism and a fishing industry that had reached sustainable catch limits. Furthermore, predictions for growth came only a year after United States forces withdrew from Exmouth resulting in a 20% loss in population and threatening the town with protracted decline. When Kelty visited the Gascoyne, the Western Australian Tourism Commission (WATC) believed that slightly more than 360,000 tourists visited the region annually. (This figure is for visitors to the entire region, including Shark Bay, Carnarvon and the hinterland.) Of these visitors, 85% were from Western Australia, 8% were from other Australian states and 4% were from overseas, the remaining 3% did not specify their place of origin (Dowling, 1992; Wood & Dowling 2002). These tourists stayed predominantly in Exmouth, at Conservation and Land Management (CALM) campsites in Cape Range National Park, on coastal stations throughout the region, at Coral Bay and in Carnarvon and Shark Bay. Eighty percent of all visitors came to the region to enjoy its warm winter climate and 73% came to fish its abundant waters (Wood & Dowling 2002).

Ten years after Kelt's visit to the Gascoyne, it is believed that tourism has undergone significant growth although a lack of quantitative data makes it difficult to establish a regional overview of tourist numbers. However, trends can be established through the analysis of longitudinal data collected by the study team between 1997 and 2003. While comparisons with data collected between 1989 and 1991 also may prove fruitful in some circumstances, it can be used for meaningful comparisons only where data was collected in the same locations at the same time of the year. Other useful data includes traffic counts at the entrance to Cape Range National Park and information collected at the Milyering Visitor Centre.

Methodology

This working paper documents tourism trends on the coast of the Northern Gascoyne, from the Quobba Station to Exmouth. It draws on a variety of sources but, in the absence of reliable quantitative data, relies on trends to discuss tourism markets and the changes they have undergone between 1997 and 2003. Assertions are made about tourism in the Northern Gascoyne and the implications for tourism on the region's economy, its environments and its social setting. The primary data source for the assertions is a longitudinal survey conducted by the author and planning students from Curtin University in:

- April 1997 (188 surveys);
- April 2000 (129 surveys);
- April 2001 (207 surveys);
- April 2002 (136 surveys); and
- July 2002 (293 surveys).

The April surveys were conducted during the Easter school holidays, which also coincide with the arrival of whale sharks in the Ningaloo Marine Park, attracting a growing number of tourists who swim with these leviathans on organised charters between April and late June. The April surveys were conducted between the town of Exmouth and Yardie Creek at the southern end of the Cape Range National Park. They consisted of a survey, which was completed by students in face-to-face interviews with tourists in 1997, 2000 and 2002 and was self administered and returned to the author by mail in 2001.

The 2002 survey was distributed by accommodation providers, the operators of the Learmonth Airport, which serves Exmouth and Coral Bay, and by the research team at CALM camping grounds in the Cape Range National Park. The July 2002 survey was a self-administered mail-back survey distributed by the author and accommodation providers at coastal camps on Quobba, Gnaraloo, Warroora, Cardabia and Ningaloo Stations, at Coral Bay, at CALM campsites north of Yardie Creek and at the entrance to the Cape Range National Park.

The surveys revealed that the market segments that visit the towns of Coral Bay and Exmouth are different from those who choose to stay at the coastal stations. For this reason, data collected from the stations is separated from that collected in the towns. Similarly, data collected in July is separated from that collected in April and is used to compare markets at different times of the year rather than to establish trends about tourists. As each survey conducted is a snapshot of tourists and hence cannot claim to be independently, statistically reliable, this paper utilises longitudinal data from annual surveys to establish tourism trends.

To gain a better understanding of tourism in the Gascoyne, the surveys collected information about:

- visitor origins;
- modes of travel to and in the Northern Gascoyne;
- the socio-economic status of travellers, their age and whether they travel alone or in groups;
- why people choose the region for a holiday;
- what tourists do in the region;
- where tourists stay and their future accommodation preferences in terms of location and type;
- how much money tourists spend and on what they spend it on;
- if and when tourists will return; and
- visitor satisfaction levels with holidaying in the region.

The findings of the surveys, discussed below, are used to make assertions about the implications of tourism for planning and management in the Northern Gascoyne and is confined to data that is of direct relevance to planning and management in the region. For more detailed discussions of tourism in the Exmouth area, see Williams and Wood (2000), Wood and Hopkins (2001) and Wood and Dowling (2002), which are discussion papers prepared for the Department of Conservation and Land Management (CALM) and the Department for Planning and Infrastructure (DPI).

Visitor numbers

There is no reliable data for annual number of visitors to the Northern Gascoyne. Anecdotal information, from the Shire of Exmouth, suggests that 100,000 tourists visit the town annually, a figure supported by CALM car counters at the entrance to Cape Range National Park.

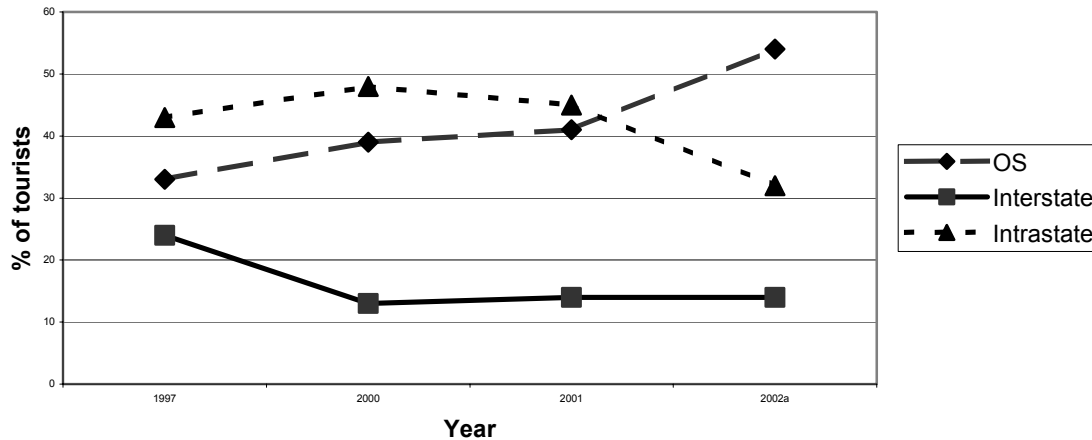
Bureau of Tourism Research figures provided by the Western Australian Tourism Commission (WATC) suggest that about 210,000 to 220,000 people visit the Northern Gascoyne annually with about 100,000 visiting the Shire of Exmouth (including Ningaloo Station) and 110,000 to 120,000 visiting the Shire of Carnarvon, which includes the coastal strip from Quobba to Cardabia Station, and Coral Bay. While the WATC is concerned about the accuracy of these figures due to small sample sizes, they are similar to earlier estimates.

Visitor origins

April 1997-2002

During the month of April, the proportion of overseas visitors to Exmouth exceeds the proportion of travellers from other parts of Western Australia (referred to as intrastate) and Australia (referred to as interstate). This trend of steady growth in international markets has been evolving since 1997 (see Figure 1).

Figure 1: Visitor origins: April 1997 – April 2002



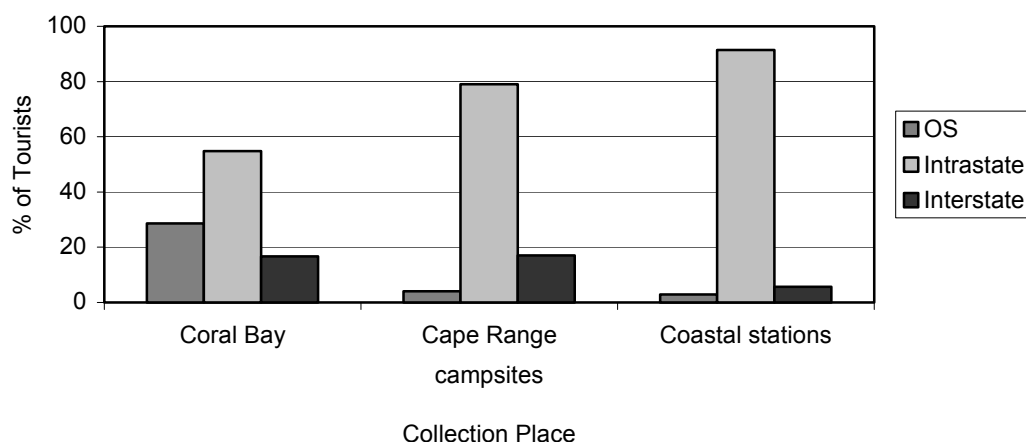
While there has been growth in the proportion of international travellers visiting Exmouth, it is believed that the number of intrastate and interstate visitors has also grown. These trends suggest that there has been a significant growth in the total number of tourists visiting Exmouth between 1997 and 2002 and that growth is most pronounced in international markets.

Most international travellers to Exmouth were from Great Britain and Ireland and other significant international markets were Germany and the Netherlands. Most interstate travellers came from Victoria and New South Wales and intrastate visitors came predominantly from Perth.

In July 2002, visitor origins differed significantly on the basis of where they were surveyed and are detailed by where they completed the surveys, that is, on coastal stations, in Coral Bay or in Exmouth. Coral Bay had the highest proportion of international visitors (28.6%) followed by CALM campsites north of Yardie Creek (4.0%) and coastal stations (2.9%). Most travellers in the region in July were from Western Australia (54.8% in Coral Bay, 79% at CALM campsites and 91.4% on coastal stations) however there were a higher proportion of interstate visitors in July than April at Cape Range (16.7% in Coral Bay, 17% at CALM campsites and 5.7% on coastal stations). It should be noted that access to coastal stations may be difficult without a 4-wheel-drive and that these stations do not feature in some international guidebooks, two factors that probably affect the proportion of international visitors on stations.

The figures for Exmouth may have been affected by the collection method. Surveys were distributed at all CALM campsites and at the entrance to Cape Range National Park. A disproportionately high percentage of respondents were campers from the west coast and the town of Exmouth appeared to be underrepresented. Future surveys will seek a more representative sample for the area. However, it is believed that surveys collected on stations and at Coral Bay were representative. Figure 2 depicts the places of origin of tourists at Coral Bay, Cape Range campsites and on coastal stations.

Figure 2: Visitor origins: July 2002



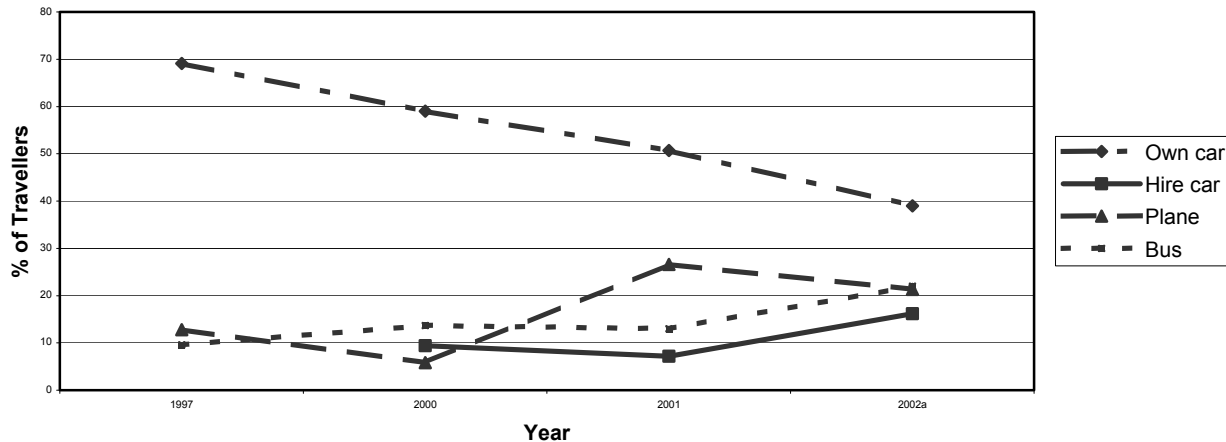
Commentary

A higher proportion of international tourists visited Exmouth in April than at any other time of the year. Intrastate and interstate visitors were outnumbered by international visitors in April 2002. However, it appeared that in July, intrastate tourists predominated while those from interstate outnumbered those from overseas. Coral Bay had a higher proportion of international visitors in July than Cape Range or the coastal stations but the highest proportion of visitors in July were from Western Australia. Station tourism was found to be the domain of Western Australians as very few international or interstate visitors ventured into these areas.

Getting to Exmouth

While the private car was the most popular mode of transport to Exmouth, the proportion of travellers using their own cars declined steadily from 70% in 1997 to about 40% in 2002 and the proportion arriving in hire cars (16%), planes (21%) and buses (22%) grew (see Figure 3). It should be noted that data presented in Figure 3 was a measure of the proportion of travellers using different modes of transport and that the number of visitors arriving in their own cars probably remained constant or may have grown. The results showed a close correlation between mode of transport and growth in the proportion of international visitors choosing to holiday in Exmouth. In effect, almost equal proportions of international travellers arrived in Exmouth in planes, buses and hire cars and growth occurred in the use of these modes of transport from about 30% in 1997 to 60% in 2002.

Figure 3: Mode of transport



Travellers who arrived by plane or bus were dependent on local buses, hire cars and other modes of transport to access the Ningaloo Marine Park and Cape Range National Park. Table 1 illustrates the use of transport provided by local operators in April 2001.

Table 1: Travelling around Exmouth having arrived by plane or scheduled bus

Mode of travel around Exmouth	Numbers of respondents	Percentage of respondents (%)
Hire car	37	54.4
Local bus	25	36.8
Other	6	8.8
Total	68	100.0

Commentary

Exmouth’s tourism industry is becoming increasingly dependant upon effective air and bus transport services and the hire car industry. However, all three modes of transport have experienced difficulties recently, the most dramatic being the demise of Ansett Airlines, the marginal profitability of its old subsidiary, Skywest Airlines, and the bankruptcy of Greyhound Pioneer. While there have been substantial increases in scheduled and small tour bus (Coaster) services to Exmouth since 1997, there has been no significant increase in the number of scheduled flights from Perth. Furthermore, anecdotal evidence suggests that the small bus services may be having a detrimental effect on the viability of the larger, scheduled bus companies and some local tour operators. Whatever the case, Exmouth’s tourism industry is now dependent on buses, planes and hire cars for primary access to the town and on tour and local scheduled buses and hire cars for access to the Ningaloo Marine Park and Cape Range National Park.

Duration of stay

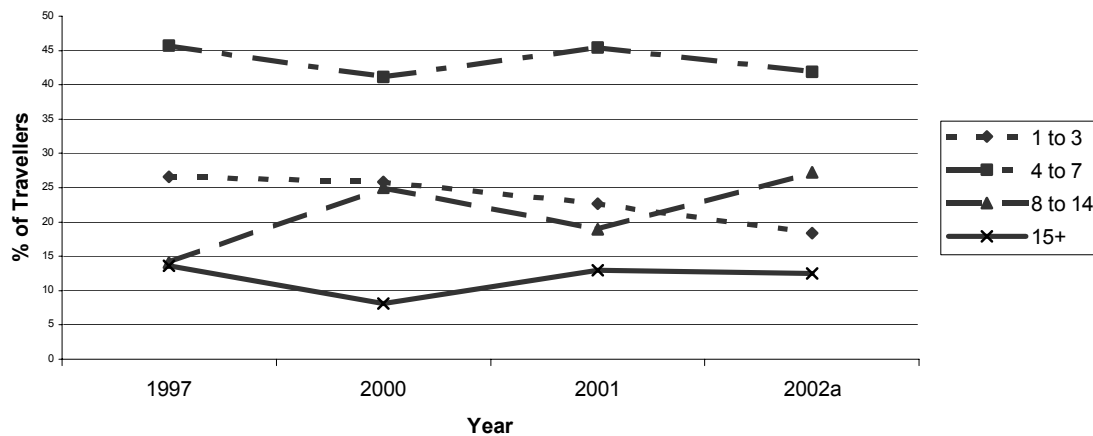
Most visits to Exmouth were relatively short with 68% of respondents staying for one week or less and 87% staying for two weeks or less. A further 3% of respondents stayed for between two and three weeks and the remaining 10% for between three weeks and 1 year. The median duration of stay in Exmouth area was 6 days. Table 2 summarises duration of stay figures.

Table 2: Duration of stay

<i>Duration of stay</i>	Number of respondents	Percentage of respondents (%)
1-3 days	47	22.7
4-7 days	94	45.4
8-14 days	39	18.9
More than 2 weeks	27	13.0
Total	207	100.0

While most visitors stayed for less than one week, the proportion of very short stays (1 to 3 days) is declining and there is proportionate growth in stays of one to two weeks as illustrated in Figure 4.

Figure 4: Duration of stay April 1997-2002



Campers on stations in July, stayed for longer periods with 45% spending more than two weeks in the region. Consequently, the proportion of visitors staying for less than one week was lower while the proportion staying eight to fourteen days was similar to the April group suggesting that around 25% of these people were visiting the region for school holidays. The proportion of long-stay visitors was significant to management as station campers were more likely to fish than those staying in Exmouth and Coral Bay.

Commentary

The rise in the proportion of visitors in April staying for between one and two weeks and the decline in the proportion of short-stay visitors is positive for the tourism industry as there also has been overall growth in visitor numbers since 1997. Increases in visitor nights have created greater demand to accommodation in Exmouth and Coral Bay and have led to higher use of campsites in Cape Range National Park and on stations generating more activity in the region's local economies. However, the longer duration of stay amongst campers on stations causes some concern as these visitors contributed less to the local economies per day and sustained themselves with fish caught in the Ningaloo Marine Park.

Traveller characteristics

The following information was compiled from the survey work undertaken to prepare this paper.

Gender

Similar proportions of men and women were found to visit Exmouth.

Age

Of the travellers to Exmouth in April, 64.2% were between the ages of 18 and 45, 11.2% were under 18 and only 24.6% were over 45. Exmouth was not a popular choice for families with young children, a factor that probably relates to long travel times between Exmouth and Perth and possibly to the types of activities available to visitors.

Groupings

Most visitors to Exmouth travelled in groups with family (50%) or friends (40%) and only a little more than 7% of visitors travelled alone. Given the small proportion of young travellers in Exmouth, it is assumed that families consist of parents with children over the age of 18 or possibly siblings.

Income

More than half (57.7%) the visitors had a household income greater than \$50,000 and a surprisingly large proportion of respondents (24.0%) had a household income of greater than \$100,000. The large proportion of international visitors participating in the survey may have accounted for the high levels of household income given the low value of the Australian dollar between 1997 and 2002. Equal numbers of respondents had household incomes between the \$10,000 to \$20,000, \$20,000 to \$30,000 and \$30,000 to \$40,000 (9.1%) income ranges. Table 3 illustrates the household income of respondents surveyed.

Table 3: Visitor household income April 2001

Household income	Number of respondents to this question	Percentage of respondents (%)
\$10,000 – \$20 000	16	9.1
\$20,001 – \$30 000	16	9.1
\$30,001 – \$40 000	16	9.1
\$40,001 – \$50 000	26	14.9
\$50,001 – \$100 000	59	33.8
\$100,001+	42	24.0
Total	175	100

Commentary

Travellers to Exmouth are predominantly young, travel in groups with family and friends and are relatively wealthy.

Where tourists stay

Most tourists to Exmouth in April stayed at campsites in the town and along the west coast of the Exmouth Peninsula in and outside Cape Range National Park. Others stayed in backpacker accommodation, the hotel, holiday units or houses in Exmouth. The clear

preference of visitors in all income groups was low-cost camping and backpacker accommodation. More interstate and wealthy overseas visitors stayed in unit or hotel accommodation than intrastate travellers and international tourists fell squarely in the backpacker market segment. Table 4 provides data on accommodation choice based on place of origin.

Table 4: Accommodation by tourist origin – April 2001

Accommodation	Intrastate (%)	Interstate (%)	International (%)
Campsite	28.6	27.6	16.9
Caravan Park	33.0	31.0	16.8
Backpacker	8.8	13.7	35.3
Resort/Unit	25.3	44.8	27.7

The majority of July 2002 surveys were distributed at campsites on stations, in Coral Bay and between Yardie Creek and Exmouth. The conclusions drawn from the July 2002 data therefore only relate to these areas. Respondents of all surveys were asked whether they would stay on the west coast if accommodation were available. The majority of surveys completed stated that they would prefer to camp on the west coast with camping, backpacker and other low-key accommodation being the most requested. There was very low demand for five star accommodation amongst market segments visiting the Northern Gascoyne Coast. These findings were consistent with those of the Australian Tourist Commission, which suggested that the type of tourists likely to visit areas such as the Gascoyne spend their money on activities in preference to expensive accommodation (Australian Tourist Commission 1994).

While tourists to Coral Bay and Exmouth and its environs stayed at places with waste treatment systems albeit sometimes of dubious quality, those who stayed on stations had no access to formal waste disposal and disposed of human excrement and other waste directly into the environment often within the boundaries of the marine park. While this practice may have been relatively benign when visitor numbers were small, it is of serious concern now that numbers have grown so dramatically. Drawing on Remote Research (2002) figures, it has been estimated that, for July 2003, approximately 1,350 campers will have utilised informal sites with no formal toilet facilities on Ningaloo, Cardabia and Warroora Stations. Moreover, there are no formal roads through campsites and no mechanisms to control vehicle movements leading to a proliferation of tracks, vegetation damage and dune erosion as illustrated in the Figures 5 and 6.

Figure 5: Campsite on Ningaloo Station



Figure 6: Campsites on Cardabia Station



Commentary

Most visitors to the Northern Gascoyne coast stayed at campsites, backpacker accommodation, at hotels and small resorts in Coral Bay and Exmouth and at campsites in Cape Range National Park and on coastal stations. The growing number of station campers is of concern due to the lack of suitable facilities for waste disposal and the lack of formal roads, particularly in the case of Ningaloo Station and areas of Cardabia. Access appeared to be better controlled on Warroora and Quobba although the primary dune system was degraded by vehicle traffic at campsites on Warroora. Significantly, many campsites on Ningaloo, Cardabia and Warroora stations were in the marine park where evidence of effluent disposal in the marine park was observed. Most tourists wanted to stay on the west coast and preferred camping, backpacker and cheap hotel accommodation.

Activities

Most visitors to Exmouth were attracted by the natural assets of the Ningaloo Marine Park and Cape Range National Park but Western Australians were less likely to nominate these CALM managed natural resources (79.3% and 55% respectively) than their international counterparts (89.3% and 59.5% respectively). Station campers were least likely to nominate the marine park as the main reason for visiting the area even though they enjoyed the park's assets and many exhibited non-support for the Mauds Landing proposal. Discussions with station campers suggested that there is animosity towards CALM management of the marine park and a fear that their camping activities may be curtailed or regimented if CALM became the custodian of the coastal strip or imposed restrictions on the use of the marine park.

Most visitors to Exmouth in April cited snorkelling from the shore (73%) as a favoured activity, as did campers surveyed in July in Cape Range (64.4%), Coral Bay (78.6%) and coastal stations (66.4%). Swimming with whale sharks was very popular in Exmouth in April (the whale shark season). While fishing was popular in Exmouth in April, it was cited as the most popular activity by only 10% of visitors and did not feature significantly among international tourists. In July, fishing was nominated as the most preferred activity by 48% of campers in Cape Range, 50% of campers on stations and by 24.4% of people staying at Coral Bay outweighing snorkelling as the most popular activity in Cape Range and on the stations (39% and 21.2% respectively). Of Coral Bay respondents 58.5% nominated snorkelling as the most popular activity. While fishing was a favoured activity among Western Australian campers at Cape Range and on coastal stations, it has declined in popularity since 1989-91 when Dowling found that 73% of people across the region nominated fishing as the favoured activity (Dowling 1992; Wood and Dowling 2002). Significantly, fishing was least popular among visitors to Exmouth in April (10%) and Coral Bay (24.4%) in July. The high proportion of fishers on the stations and at campsites may be attributed to the lack of proximity to stores and an ethos of self-sufficient survival amongst these groups, also influenced by the origin of visitors. The popularity of fishing amongst station campers is a significant management issue because of the numbers of campers, their long duration of stay, that only 48% take what they need for meals for a couple of days and that 38% of fishers will continue to fish until they reach the maximum allowable bag limit (Sumner, Williamson and Malseed 2002).

Commentary

All visitors travelled to the Gascoyne to enjoy the natural assets of the Ningaloo Marine Park and Cape Range National Park, however April visitors to Exmouth and Cape Range (53.6%) and July visitors to Coral Bay (60%) were most likely to identify the parks as primary

attractions. Only 25.4% of July station campers cited the parks as the primary reason for their visit. Notably 83.6% of international visitors to Exmouth stated that the Ningaloo Marine Park was the region's primary drawcard.

All visitors liked to snorkel along the Northern Gascoyne coast. Campers at Cape Range and on the stations placed higher value on fishing than those staying at Exmouth and Coral Bay. While in the area more intrastate visitors fished than international visitors. Snorkelling and fishing have serious consequences for management on the Northern Gascoyne coast. The number of people snorkelling must affect coral reefs and thus careful management is required, particularly in relation to dramatic growth in visitor numbers. Furthermore, snorkelling on reefs adjacent to stations is subject to less scrutiny than in Coral Bay and beaches adjacent to Cape Range where rangers visit sites regularly. Managing snorkelling on Ningaloo Reef is the responsibility of CALM and the agency will need to consider issues such as the localisation or dispersal of activities to concentrate or spread impacts. CALM also may choose to establish more sanctuary zones to provide greater visitor satisfaction. However, managing impacts also has planning implications that relate to access and the location of future developments. For example, better access to the coast will spread visitors and probably encourage greater visitation to stations, and encourage new developments that are a distance from coral. This is likely to impact on adjacent areas where coral is plentiful, increase traffic on coastal roads and physically impact on popular snorkelling spots.

Fishing also has serious implications for managers (CALM and Fisheries) and planners. Fishing was most favoured among campers who typically launched their boats from beaches thus affecting primary dunes and the beaches. Furthermore, growth in visitor numbers, the high proportion of fishers on stations, the long duration of stay amongst station campers and their propensity to catch more than is needed for a couple of meals must impact on fish stocks and create conflict with snorkelling through stock depletion and the presence of boats and fishing equipment among swimmers. Nowhere is this more evident than at Coral Bay where the boating channel passes through the best snorkelling spots. However, the risks of accidents also are significant on coastal stations, which are remote and have no medical facilities.

Visitor spending

Visitors to Exmouth in April spent approximately \$142 per day mostly on accommodation, food, drinks, and activities. While these figures are undoubtedly inflated by the fact that many visitors in April swim with whale sharks, an activity that costs up to \$300, there is an appreciable difference between per capita daily expenditure in the towns of Coral Bay and Exmouth and the Cape Range and station campsites, as illustrated by Table 5.

Table 5: Mean daily expenditure

Item	Exmouth (April 2001)	Cape Range (July 2002)	Coral Bay (July 2002)	Stations (July 2002)
Local travel	\$15.50	\$12.90	\$43.10	\$16.40
Accommodation	\$41.22	\$11.10	\$16.10	\$14.30
Food/drinks	\$46.58	\$10.30	\$12.20	\$7.50
Activities	\$34.84	\$ 6.90	\$19.00	\$11.90
Equipment	\$3.88	\$4.90	\$5.50	\$2.90
Total	\$142.02	\$46.10	\$95.90	\$53.00

The other expenditure category has been excluded from this table due to an anomaly in the data. Most visitors spent about \$13.00 per day in this category although Coral Bay figures were abnormally large.

Although it was difficult to estimate annual visitor figures, it is believed that Exmouth currently hosts approximately 100,000 tourists each year and each tourist stayed for an average of six days, which equated to a local spend of approximately \$85.2 million annually. Altering figures to cater for additional costs associated with whale shark expeditions in April, it is estimated that tourists contributed a minimum of \$80 million annually to the local economy based on average activity spending in Coral Bay.

It should be noted that spending on food and drinks in restaurants and hotels was about one-quarter of that in local shops, a finding that is consistent with the large numbers of campers and backpackers who stayed in self catering accommodation. It also should be noted that local travel expenditure in Coral Bay was higher than in Exmouth, which probably was the result of more diverse sightseeing, including access to the coastal stations.

Accommodation expenditure is particularly significant to future planning and management in the region. At the time of this report, fees in Exmouth and Coral Bay were paid to commercial providers whereas fees on the stations were paid to the station owners. Station fees varied and average daily expenditure was dependent on the type of accommodation provided. For example, Quobba and Gnaraloo currently provide built and camping accommodation. Warroora provides predominantly camping accommodation and Ningaloo and Cardabia only provide campsites. It is believed that Warroora charges an access fee of \$50.00 per vehicle per week and Ningaloo charges \$15.00 per head per week. It is also believed that there are more than two hundred campsites on Ningaloo in the July peak season with an average of four people per campsite.

Commentary

Visitors to the towns of Exmouth and Coral Bay spent between two and three times more per day than campers in Cape Range National Park and coastal stations, despite having similar income levels. In particular, visitors to Exmouth spent considerably more on accommodation, food, drinks and activities than any other visitors to the region. Given the popularity of fishing on coastal stations and the level of expenditure on food and drinks, fishing clearly contributed to their low cost of living. It should also be noted that coastal station fees were predominantly paid to station owners by campers in or adjacent to the marine park. In most cases, station owners have not provided toilets, allowed solid waste to be disposed of in open tips and did

not contribute to the provision or maintenance of public infrastructure. In addition, primary station access was via roads provided and maintained by the local governments in the region, which did not benefit financially through provision of this infrastructure. Campers on stations contributed significantly less to the local economy than their counterparts staying in towns and, it is clear that fish taken from the marine park were a major source of food.

Finding out about the region

Most interstate and intrastate visitors found out about the Northern Gascoyne via word of mouth while international visitors discovered the region primarily through guidebooks and word of mouth. It is also believed that a campaign against a tourism proposal at Mauds Landing has raised awareness of the region amongst Western Australians. The sources of information that stimulated visits are likely to trouble natural resource managers concerned about the carrying capacity of the region's natural resources. Given the power of personal recommendations and guidebooks, the only viable control mechanisms are likely to be price and availability of accommodation.

Conclusion

The Northern Gascoyne was found to be a popular destination for tourists from Western Australia, other Australian states and from overseas. The latter outnumbered intrastate tourists in Exmouth in April and many international tourists also stayed at Coral Bay and in Exmouth at other times of the year contributing significantly to local economies. Intrastate tourists also stayed at Coral Bay and Exmouth but many chose coastal stations, camping in or adjacent to the Ningaloo Marine Park, where there were no formal systems for waste disposal and where many created their own access tracks through the coastal dune system adding to coastal degradation. Furthermore, these visitors launched boats from beaches using 4-wheel drive vehicles causing additional negative environmental impacts on the coastal zone.

Most visitors to Coral Bay and Exmouth cited snorkelling as their preferred recreational activity and attached little importance to fishing, a reversal of Dowling's 1989-1991 survey results. However, most July campers on coastal stations and Cape Range cited fishing as their most popular activity. The combination of the popularity of fishing, the proportion of campers who fish and their long duration of stay had raised concern for the preservation of fish stocks in the Ningaloo Marine Park, a problem exacerbated by many fishers' admission that they do not stop fishing when they have enough fish for meals for a couple of days.

Furthermore, the availability of fish and the distance of campsites from shops had a direct impact on visitor spending to the extent that campers in these locations spent between one-quarter and one-third of the amount that tourists who stayed in Coral Bay and Exmouth, even though they had similar household incomes. Consequently, while visitors to the towns had a significant positive impact on local economies, their station-camping counterparts did not. It must also be stated that informal camping on stations results in degraded coastal environments and additional costs to the local governments that provide access roads through the stations.

Visitors to the Northern Gascoyne stayed predominantly in camping and backpacker accommodation although hotels, resorts and rental accommodation were popular among wealthier interstate and international visitors including a small proportion of Western

Australians. There was strong demand for cheap accommodation on the west coast and limited demand for more expensive accommodation among those surveyed. These findings are consistent with Australian Tourist Commission research that suggests the existing market most likely to visit such a region would have a limited demand for luxury accommodation.

Guidebooks and word of mouth were the primary sources of information that stimulated visits to the region. This finding has serious implications for limiting future growth should that become a priority. Tourism, however, is seen to have positive economic impacts in the Northern Gascoyne as around \$80 million was contributed to the Exmouth economy in direct spending. Tourists to Exmouth spent another \$40 million in other parts of the State and a significant proportion of all tourism expenditure was from international and interstate visitors, positively affecting the State's economy. Initial examination of survey data collected in January 2003 indicated that, while most intrastate visitors would probably spend their holiday budgets in other parts of Western Australia if the Northern Gascoyne did not exist, many chose the region in preference to interstate or international destinations. This has further beneficial economic impacts for the State's economy. Less significant, however, was the economic contribution of tourists who stay on coastal stations.

Many of the negative impacts of tourism on the coastal stations and at Coral Bay can be attributed to incremental growth and the absence of appropriate plans and management regimes. The future of tourism in the region depends on its sustainability and the maintenance of the natural environment, the very attribute that attracts visitors to spend their discretionary dollars in the Northern Gascoyne rather than competing destinations in Australia and abroad.

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