An oral history of Ningaloo Reef

Report

Dr Paul R. Weaver
Edith Cowan University

Sponsored by
Commonwealth National Fishcare Program, Fisheries WA and the Western Australian Department of Conservation and Land Management

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1. Executive summary

An oral history of Ningaloo Reef can be reviewed at three levels, firstly in this brief executive summary, secondly in a more detailed account in the main report, and thirdly through the transcripts, each having a description of contents set out in point format.

The project was conducted through 1997-98 under the sponsorship of CALM, Fisheries WA and the National Fishcare Program. Its intent was to identify and record interviews with people who have related to the fishery at Ningaloo Reef over time. In response to publicity, sixteen interviewees participated, comprising thirteen men and three women. Eight persons had some form of professional fishing background, six could be described as enthusiastic amateurs who fished at every opportunity, while the remainder fished occasionally. In this project the earliest experiences with the region took place in association with the Point Cloates whaling station during the early 1950s.

An interview guide which is described in the main report enabled the interviews to be conducted in a focussed format in order to generate information of interest to the sponsoring agencies. It was not expected that interviewees would be able to provide information about all of the matters in the guide. Sometimes fishers were knowledgeable about unexpected matters involving the Ningaloo Reef such as turtle hunting, and they were encouraged to elaborate on them because of the potential to contribute to a greater understanding of how people related to the fishery and its associated resources.

The interview guide identified the following as matters of primary interest: Initial involvement with the research region? How were fishing skills acquired? Target fish species? Changes to catch rates? Perceptions of environmental change? Seasonal considerations related to fishing? Reasons for moves to alternative fishing grounds? Perceived changes or threats to customary usage over time? Religious and customary beliefs which influenced fishing? Matters of secondary interest are listed in the research guide and discussed in the main report.

1.1 Peoples' early involvement with the region

One interviewee was involved with whaling at Point Cloates in the early 1950s however fishing opportunities were few, due to other priorities. In later years in another company this person controlled commercial turtle hunting operations along the reef. Two other interviewees provided graphic descriptions of their seasonal participation in these activities.

In respect to fish, one spearfisherman was hunting on Ningaloo in the 1960s. Another interviewee, a professional fisher was undertaking expeditions between Perth and Exmouth from about 1974 when the road was unsealed from Northampton. He had been motivated to do this because of increasing competition further south, but the plentiful supply of fish then obtainable from the Gulf and Ningaloo was to a great degree offset by the formidable transport logistics.

Planning for a US Communication Base on Northwest Cape had commenced in the early 1960s and resulted in the development of the Exmouth town site. Coincidentally the sealing of the adjacent Northwest Highway was completed a few years later. Several other interviewees first visited the region in the early 1970s and found employment opportunities with the Americans, or in association with the developing support community of Australians. For some, this eventually resulted in a permanent move to the region. Nowadays a number of interviewees have entered, or are approaching retirement there.

While most parts of the Ningaloo Reef had long been accessible via coastal station tracks, WAPET seismic survey lines from inland facilitated easy access to many parts of it from about the 1960s, and some interviewees remarked on their importance for fishing. The settlement at

Coral Bay was established at the end of one of these lines and this too provided residential and thus more intensive fish-orientated opportunities for two persons. Other interviewees made occasional visits to Ningaloo from the south, and one person from eastern Australia took up residence in the National Park as its first manager in 1988.

1.2 Acquisition of fishing skills

Most fishers have taken a lifelong interest in the subject, and to a great degree their skills are self-developed since childhood. Some interviewees approached fishing in a highly competitive spirit and endeavoured to keep themselves at the forefront by continuous upgrading of equipment and ongoing experimentation. One interviewee felt that in the face of a declining resource, sophisticated technology had become essential for maintaining catch rates. However, most persons appear to have reached what they consider is an adequate level of proficiency to cater for their needs, and were relatively content.

All of the interviewees with a professional fishing background had previously fished elsewhere. Most had fished in southwest Australia from an early age for crayfish or wetfish, however one person who originated from Victoria had also tried his hand in the Tasmanian and Queensland industries prior to arriving at Ningaloo.

1.3 Target fish species

Nor'west snapper and red emperors were frequently mentioned as the most favoured species to be caught at Ningaloo, and the bigger the better. Trevally, mackerel and larger gamefish were also desirable. Game fishers interviewed had a conservation outlook and have adopted a catch and release program, but an admission that no tagged billfish from the region have ever been seen again may be cause for closer scrutiny of the activity.

Few persons bothered with smaller species unless they had to. One professional fisher said in the 1970s he targeted nor'west snapper and whiting for the Perth market, however as the Exmouth community developed he also caught species such as the large and now protected nor'west groper for use in a retail outlet he developed. Large fish have also been desirable for trophy photographs by American service personnel and Australians, with disturbing anecdotes of them being dumped afterwards. Sharks were generally considered as vermin, although there is apparently a seasonal influence on their numbers.

1.4 Changes to catch rates

A common perspective amongst interviewees was that fish resources had declined at Ningaloo. This decline had been observed since the early 1970s. Human activity was generally attributed as the reason and this had also impacted on other species there.

A biological relationship exists between the reef and adjacent Exmouth Gulf. One interviewee was adamant that the Gulf was a nursery area for juvenile spangled emperor, one of Ningaloo's most sought after species. Another interviewee has worked in the Exmouth prawn trawling industry in a significant capacity since 1970, provided an informative and sometimes disturbing description of trawling practices over time. For him, an unfortunate aspect about the large bye-catch in the Gulf was that a feasibility study determined it was insufficient to support a fish-meal industry.

The prawn industry had its beginnings at Exmouth in the early 1960s and according to yet another interviewee with zoological training there has been major and detrimental ecological change caused by trawling. The rich diversity of species he collected from trawling grounds in the past on behalf of the WA Museum was now severely depleted, and the grounds had become a "stinking mass." How this has impacted historically upon fish stocks at Ningaloo would seem to merit investigation.

Ningaloo and it's environs have been the scene of many excesses, and one example has been a severe depletion of the octopus population. In the past, caustic chemicals and other poisonous agents have been used on the reef for catching octopus, which in turn were used for

fish bait. Intensive expeditions to fill freezers with fish fillets were apparently a relatively common practice in the not so distant past and these activities were also believed to have had a significant impact on populations of several species of large-fish.

One interviewee said that he had come to Ningaloo because fish were becoming scarcer elsewhere and he like to keep ahead of the crowd. Other interviewees remarked similarly how over the years they had transferred fishing activities to more remote parts of the reef in order to keep ahead of increasing numbers of people. With the relatively recent introduction of restrictive regulations concerning how much frozen fish fillets may be maintained then removed from Ningaloo, three persons indicated that fishers wanting to take larger catches had now moved further north. Undoubtedly there is a general recognition amongst interviewees that fishery resources are finite. As to how well this recognition has translated to sustainable practices is moot.

1.5 Environmental changes

Increasing numbers of people have generated pressure on favoured locations, with damage to vegetation from four wheel drive vehicles being mentioned as a problem. One person employed at Coral Bay felt that past concerns about environmental pollution there were overrated. However, the growing settlement is not without problems and some identified during the project, particularly relating to erosion, are discussed in the main report.

The problem of coral damage by the marine snail *drupella cornus* was discussed by several interviewees. Two people with long-time experience believed the rise in snail numbers was due to the overfishing of nor'west snapper. Another person took the view that overfishing of coral grazing fish may have triggered a replacement population of *drupella*. One former professional fisher mentioned that portions of the reef were periodically subjected to catastrophic damage through storm-action or silting, but said that within a few years recovery always took place.

Ningaloo has traditionally been favoured by recreational fishers during the winter months when the weather is more pleasant than further south. Uncertainty prevailed over whether or not there have been long-term climate changes influencing fishing activities.

Development of a greater understanding of environmental dynamics within the broad spectrum of the community would seem to have merit as a strategy in future conservation issues.

1.6 Religious and customary views

Religion does not appear to have played a significant role in the fishing activities of those interviewed, although with a number of people it was apparent that a spiritual dimension exists in their lives. No persons spoken to laid claim to any semblance of customary rights over the reef's resources. It was mentioned that in the past, retirees who camped at various places along the reef for periods as long as six months had started to exert customary claims over these sites to the exclusion of others. There was general approval that this trend has been effectively curtailed by managed enforcement of shorter stays.

1.7 Limitations and value of the study

The sample of interviews obtained is relatively small and therefore the number of concurring views is constrained. Undoubtedly there are other individuals who could have made a valuable contribution to the project and some of these people or their representative organisations were approached directly, but for undetermined reasons they chose not to respond. Regional Aboriginal organisations were also canvassed with advance publicity, but regrettably no response was received from them.

It was felt by myself and the sponsoring agencies that currently-serving government officers at Exmouth with experience relating to Ningaloo would be able to provide a useful contribution to the project. In this respect, grateful appreciation is extended to the senior Fisheries WA inspector and the acting-director of the Gascoyne Development Commission for

their participation. Unfortunately, several attempts to elicit an interview from the current cadre of regional CALM workers were unsuccessful.

Regardless, all interviews which have been obtained are of good quality and it is believed they usefully raise matters for future management consideration. Commonly, people interviewed have sought out locations where there is an abundance of fish and a minimum of people. In the past at Ningaloo this occurred with professionals, then amateurs. As persons set up semi-permanent camps so did a notion of customary ownership of the resources begin to form. In addition, excessive catches of fish occurred as people endeavoured to take as much fish as possible to subsidise their trips. Improved management of the region has to a degree curtailed these excessive trends, however, as mentioned earlier, some people have apparently moved on from Ningaloo and are engaging in similar activities further north near Onslow. Expediently addressing this matter may be useful when developing future environmental and conservation policies.

The quantity of fish which people can take from the Ningaloo reef environs remains substantial, and reportedly, charter operators over time have needed to increase their range to satisfy their clients' quests to catch species such as the red and spangled emperors. In view of the government's desire to increase tourism, the question arises as to whether these fish are more valuable kept alive for ongoing observation by tourists, or as frozen fillets being transported away from the region as compensation for the cost of a person's holiday. The value of fillets can exceed two hundred dollars per individual. Should all tourists, including those from overseas, each expect to remove large quantities of valuable fish from the reef each time they come? In view of the likelihood that numbers of visitors to the region will increase, it is unlikely that such practices can be sustained. Undoubtedly fishers will always insist on the right to catch fish, but perhaps in the interests of sustainability it will soon become timely to foreclose entirely on the right to transport fish beyond the holiday precinct where they were caught.

Without exception, all the interviewees recognised the need for conservation strategies in one form or another. That so many acknowledged the folly of chemical usage in the aquatic environment was encouraging. It is undoubtedly illegal to use polluting agents to catch octopus or any other species,[1] although the existence of the ban is apparently not well publicised. There is a belief that the practice is ongoing and that legislation against it is still pending. It is matter perhaps worth taking up in future educational programs by respective agencies.

While all the interviewees have an ongoing interest in their particular pursuits, it is apparent that there is a need to raise the level of general knowledge within the community in relation to the broader natural history of the reef's flora and fauna. Effective sustainability of any practice probably requires considerate action beyond a single species level.

This study reveals there is potential for science educators and the sponsoring agencies to take up the challenge to more effectively demonstrate to all peoples that the Ningaloo Reef is a highly complex and sensitive system comprised of many thousands of species, each in their own way dependent on the existence of another. Furthermore, the dynamic relationship between the reef and areas such as Exmouth Gulf and more northerly fishing grounds is deserving of greater awareness.

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[1] Fish Resources Management Act (1995) Reg. 145 and Notice 527 *Government Gazette*, 141, 29 Nov. 1991.

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Contents

1.	Project description	3
2.	Project objectives	3
3.	The study region	3
4.	Project design	4
5.	The interview guide	4
6.	Other priorities	5
7.	Analysis of interviews	5
8.	Technicalities	6
9.	Ethical matters	6
10.	Publicity for the project	7
11.	The participants	8
12.	Discussion - A reef discovered, then lost, then rediscovered	8
13.	References	17
14a.	Appendix - initial survey form	18
14b.	Appendix - consent form	19
15.	Transcripts cover page	20

1. Project description

In August 1997 I was requested by Edith Cowan University to design and undertake an oral history of fishing on Ningaloo Reef, which is located south of Northwest Cape, near Exmouth. At the same time, I was asked to undertake a similar oral history relating to estuary fishing on the south coast of Western Australia, east of Cape Leeuwin. Both projects were sponsored by grants and assistance-in-kind from The National Fishcare Program, the Western Australian Department of Conservation and Land Management (CALM), The Fisheries Department of Western Australian, (FDWA; now Fisheries WA) and Edith Cowan University (ECU), the latter being responsible for management of all grant funds.

After a series of meetings with CALM and FDWA a methodology was designed which met the requirements of these organisations and the university's ethical standards. Publicity for the projects commenced in late September 1997, with the first round of interviews taking place after the Christmas break in late January 1998. A second round of interviews took place in mid February and a third in mid March. This process resulted in 16 interviews directly related to Ningaloo and 26 involving south coast estuaries. Transcribing of the interviews subsequently took place and was mostly completed by the end of July, however one late interview was conducted on 5 August.

In the original proposal it was anticipated that the final report would be submitted on 1 June 1998. Subsequent consideration of clause 1 (p.3) and section 9.3 (p.10) of the Deed of Agreement prepared by the Commonwealth of Australia and Edith Cowan University indicated this date should have been 28 August.

I believe the results of both projects can be regarded as successful. All the objectives were met, and the material gathered is of a high standard which will be of ongoing use to others in the future. I thank the sponsoring agencies for the opportunity to compile them. At the same time I would like to emphasise that these histories should not be regarded as the last word for the regions. Undoubtedly there will be other persons who would have been worthy of inclusion, and hopefully they will participate in a future project.

2. Project objectives

a. To identify persons who had a long standing knowledge of fishing activity with the respective region and to record their recollections.

b. To develop and refine a methodology appropriate for the compilation of an oral history.

It was hoped that the experience and observations of people interviewed would contribute to a better understanding of human interaction with the fishery in the past, and that this would contribute to the objectives of the State and Commonwealth fishcare programs; namely to enable management of Australia's fisheries on a sustainable, more productive level, to encourage greater community awareness of the need for protecting and restoring fish habitats, and to involve the community with integrated approaches to natural resources management and conservation.

The outcome of each project would be a report outlining the manner in which it was conducted, along with a discussion of the findings. The reports, intended for public dissemination, would be presented to the joint sponsors of the projects, the Commonwealth National Fishcare Program, the Fisheries Department of Western Australia (now Fisheries WA) and the Western Australian Department of Conservation and Land Management after mid-1998.

3. The study region

The Ningaloo reef system is approximately 260 km long and lies directly adjacent to the Western Australian coastline, south of Northwest Cape. The northern extremity corresponds with the northwest portion of Exmouth Gulf and there is a biological relationship with the reef and those waters.

Historically, people have interacted with the Ningaloo Reef system via the now defunct Point Cloates whaling station, from adjacent agricultural properties, from the nearby towns of Exmouth and Coral Bay, from more distant rural and mining locations. In addition, during preparation of the project it was anticipated some informants might be in the Perth metropolitan area, and possibly from the south coast where the other study was being conducted. This potential overlap provided justification for both projects being conducted simultaneously. As matters eventuated, no interviewees identified a direct relationship with the mining industry.

4. Project design

Prospective interviewees were to be canvassed through media publicity, and through communication with officers from sponsoring agencies. Relevant organisations such as fishing clubs, environmental associations, Aboriginal associations and regional history groups were also sent details. Those people who responded were initially requested to provide basic information about themselves and their relationship with the fishery on a form (copy attached to this report) and return it 'reply paid' to the researcher's home address. The form had two purposes, firstly to enable cluster scheduling of interviews, and secondly if necessary, to enable filtering of the number of respondents to a manageable sample. It was estimated that due to available funding, there was unlikely to be more that 25 interviewees selected for each region. In fact most people who made contact were interviewed. Two persons became unavailable for an interview because of changes in personal circumstances. All interviews have been transcribed, and included in a volume of transcripts.

Interviews were intended to have a focussed format, which was facilitated by the advance compilation of an 'interview guide.' which is reproduced below. It was expected that field notes pertaining to each interview would be compiled immediately after the interview and provide an indication of content. In reality the compilation of highly detailed additional field notes after each interview proved impractical in a number of cases because of the close scheduling of interviews. In addition the focussed nature of the interviews meant that in most cases they would be relatively easy to diagnose as the transcripts were typed. Most interviewees were able to address the objectives of the interview guide in slightly less than an hour, and all were given the opportunity, without restrictions, to include any other information on the record which they thought relevant. In some cases interviews lasted much longer than an hour when usable information was forthcoming. All interviews were conducted on a face-to-face basis.

5. The interview guide

It was understood from preliminary meetings that CALM had an interest in learning of peoples' perceptions about environmental change and their relationships to the environment, and that FDWA were interested in information relating to adjusted catch efforts and actual results over time. These were in accordance with the aims of the State and Commonwealth fishcare programs. The list constructed below acted as a guide to the interview. This was not shown to the interviewees in advance, although they could have viewed it had they wished. It was realised not all of the subject material listed would be obtainable from all interviewees, and that they might wish to occasionally elucidate upon subjects of relevance not necessarily covered by the guide. Importantly, it was emphasised to all interviewees that there were no right or wrong answers. What particularly mattered were their own personal views.

Of primary interest

How, why and when individual became involved with the research region.
How fishing skills were acquired.
Target fish species.
Perceptions of environmental change.
Changes to catch rates - reasons. Moves to alternative fishing grounds - reasons?

Religious and customary beliefs which influence fishing.
Perceived changes or threats to customary usage over time.
Seasonal considerations related to fishing.

Of secondary interest

Perceived health matters related to fishing activities.
Social aspects relating to own and other fishing families through fishing.
Working conditions, dangers and lucky escapes while fishing.
Perceived relationship of individual to the aquatic environment.
Influence of fishing literature on fishing decisions.
Real or perceived economic returns from fishing.
Technology - Boat design and other fishing equipment - adaptations.
Navigation methods utilised in fishing.

6. Other priorities

A photograph of the interviewee was to be be taken with their permission for inclusion with the transcript. In addition, and also with their permission, relevant historical photographs would be copied in situ for similar inclusion. If interviewees were in possession of old diaries, logs et cetera relating to fishing a request would be made to examine these, with particular emphasis to be placed on the historical value in preserving such documents. Generally it resulted that most interviewees did not maintain any personal historical records of fishing. Professional fishermens' records tended for the most part to relate to copies of obligatory catch returns on FDWA stationary.

Similarly, while there were oral accounts about fishing activities of ancestors, little in the way of substantive material evidence about those earlier activities was sighted. Some people did have small collections of early photographs, and some of these have been reproduced with the transcripts. However, as with the south coast interviewees, most old images viewed were not well identified. It was emphasised to all the owners of the benefits of attempting to further address this.

Photographic media utilised was 35mm black and white film for copying photographs, and 35mm print film and slides for other purposes. In hindsight, a Polaroid camera would have been the most useful medium for taking portraits of interviewees.

7. Analysis of interviews

There are differing ways of considering the value of anecdotal statements presented in oral history interviews. Certainly distortion and embellishment can serve to obscure matters of fact which are not generally recognised. Nevertheless as a social document such interviews can stand alone and have substantial value because they provide a unique insight into how individuals perceive and exploit the environment, its species and any management initiatives. Such statements are made in the context of that person's own experience, which is for them the relevant truth. The various interviews were analysed for common perceptions and beliefs, and a determination attempted as to how well they concurred with each other. In addition there was scrutiny for matters of significance not previously recognised. While this report provides a summary of material gathered, the true value of the project remains in the words of the interviewees, and other researchers should take the time to read them. Points of interest for each interview are located on the first page of the transcript. It is quite possible that many of these subjects can be explored in greater depth with these people in the future, and others are encouraged to take up the challenge.

There was a shared belief amongst several interviewees that fish stocks have declined and there is support for effective management plans to be adopted in the interests of the resources. Management organisations did not receive serious criticism, but in both regions studied there is a fairly common perception that decisions in the past have too often been based upon political expediency.

What is clear is that while curiosity exists with most interviewees about the natural history of species and the environment, there is a capacity for improvement in some fundamental matters. There is an opportunity for some agency to develop more scientifically informative education programs directed at adults, whom after all, are the main exploiters of fisheries. Other matters raised by interviewees are discussed elsewhere in this report.

8. Technicalities

It was initially suggested that three hours of transcription time would be required for each hour of interview time. In fact this was a significant underestimation. Transcriptions were all typed by myself and the time to do each depended on the manner in which answers were given. When interviewees provided long answers and explanations, the transcribing time was reduced significantly, but nowhere near three hours. Short answers took much longer. Generally the overall time for a one hour interview could take eight hours to type although in practical terms this could extend over one to two working days because of the fatigue factor. Undoubtedly a trained transcription typist could have performed the task much faster, and this avenue was considered. However, there was some concern about accuracy with specialised terminology, indistinct words and confidential or potentially sensitive material. In addition, and in the interests of providing as accurate a record as possible, I particularly wanted to preserve colloquialisms verbatim, and this too takes much longer than imposing an edited, more free flowing text which would inevitably emerge from a typist not familiar with the subjects. Hesitations, and inadvertent speech mannerisms by the interviewee and interviewer are usually represented by a dash -.

Interviews were recorded on ordinary Akai C60 cassettes, and transcriptions typed up on a Macintosh Performer 5260/120. The word-processing software was MacWrite Pro. A Dictaphone Voice Processor with foot pedal was used for playback. Images were scanned on Macintosh 1200/30 Color One Scanner. The printer was a Personal LaserWriter LS. Text on the transcripts and report is 10 point Times. The report is 12 point Times. The main source for determining scientific names of fish was a field guide *The Marine Fishes of North-Western Australia*, by Gerald Allan and Rodger Swainston, published in 1988 by the Western Australian Museum.

9. Ethical matters

In the design of the project I was guided by the ethics policy of Edith Cowan University. The project could not proceed until approval of a specific research proposal was forthcoming from the University's Ethics Council. Importantly all interviews were conducted on the basis of informed consent. The objectives and foreseeable outcomes of the project were explained as fully as possible prior to interviews. Formal consent of the interviewee was required though a signed 'form of release'. (Copy attached). This form was based on a model published by the Oral History Association of Australia. The copyright of content of the recordings was to be retained jointly by the interviewee and the interviewer. Furthermore, all informants were advised that they had the right to anonymity, and at any time during the course of the project they could withdraw, delete or restrict any information they might provide. As it turned out, no interviewees exercised this option. However, some material has been expunged from transcripts when names of third parties or past activities were mentioned in a potentially embarrassing context. These points are marked on the transcripts.

10. Publicity for the project

From the outset it was assumed that prospective interviewees might be widespread, therefore publicity of the project would need to be statewide. For practical reasons it was decided to design advance material to include both projects, and that if possible, most publicity would be generated with a minimal financial outlay. Initially a mailout of information took place to organisations or businesses. These included:

Local history groups.
Regional Aboriginal organisations.
Recreational fishing associations.
Regional recreational fishing tackle shops.
Regional professional fishermen's associations and cooperatives.
Western Australian recreational and professional fishing publications.
Regional and statewide newspapers.
The Australian Broadcasting Commission (ABC) offices at Karratha and Perth.

As a convenient starting point for other researchers, listings of such organisations can be found in "Yellow Pages" telephone directories, bearing in mind that for large areas such as Western Australia, there are several regional editions. Sponsoring agencies can often provide alternative listings of appropriate organisations.

No response was received from any Aboriginal, environmental or recreational fishing organisations. One personal reply was received from an employee of a small recreational fishing-tackle retailer.

Media organisations were sent two single-page sheets of information. One describing the projects and one describing the background of myself. The personal information was included in order to provide potential interviewees an image of the person they were being asked to invite to their homes. In particular it was intended that a message be given that the interviews would be conducted in an understanding and non-threatening manner. For them to be open in their discussions, it was felt that first I needed to demonstrate openness. It was an exercise in familiarity and turned out to be a worthwhile strategy. In all cases when potential interviewees or organisations made contact, their response was warm and cooperative.

The information package used the Edith Cowan University letterhead, and invited people to contact me at my residential telephone number and address, the latter with a FreePost number so that no stamp was necessary. FreePost is easily arranged through the nearest sorting post office and a small surcharge is added to the normal cost which would apply to each article. Periodically an account is sent to the destination address. In fact, most initial return contacts for this project came by telephone, with country callers taking advantage of lower evening rates. These calls lasted on average about ten minutes each. A surprising number of people who wrote did not take advantage of the FreePost option. Every initial contact was followed up with a letter of acknowledgement.

The ABC were pleased to arrange publicity interviews with me, and one lasting about ten minutes took place by telephone with a presenter based at Karratha. This was broadcast throughout the northwest of the state, but the first response from a potential interviewee came from a person at Augusta on the south coast, who had also been listening. Further publicity was generated from this interview when it was discussed later during the week in a statewide roundup of regional news conducted by Perth ABC presenter Ted Bull.

A studio interview with me was also conducted in Perth by ABC presenter Peter Holland. Mr Holland is a well respected radio and television identity. The interview ran for about twenty minutes and was broadcast statewide. The first part of this interview was based upon my personal background and again was intended to establish a degree of familiarity and relaxed rapport with the listeners, then it concentrated on the aims of the projects. The skill of the ABC presenters enabled both interviews to be conducted smoothly. While I had prepared notes, it was impractical, and unnecessary to refer to these during the interviews.

It is important to remember that background briefing for presenters in such situations often

takes place moments before the actual interviews. Appreciation was expressed privately for the concise one page summaries I had provided. Initial responses from Mr Holland's interview came that evening from the south coast, and then there was a week long lapse before more calls came in.

Newspaper articles in both regions based on the press releases were particularly productive. In one case a newspaper took up the invitation to phone me at home and further discuss the projects. Another newspaper did not contact me personally, but did contact some south coast fishermen for their views on the project before publication. A common theme amongst callers was that a history of fishing activity in both regions was well overdue.

11. The participants

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Doug Hunt
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12. Discussion - A reef discovered, then lost, then rediscovered

While this project has primarily endeavoured to examine fish-exploitation by people, the view has been taken that it would be unwise to exclude exploitation of other marine species in the vicinity. Any reef system, by the very definition of the term, comprises an inestimable number of differing species, each in their own way dependent on another. It is probably fair to say that the scientific understanding of any such system is still very much in its infancy. Clearly fishers do not exploit only fin-fish. People interviewed in this study have, when it suited them, also taken molluscs, crustacea, turtles and even whales from the region. Therefore interviewees have been encouraged to discuss all of these activities in order to better understand how this may have impacted on the fish populations of the reef system. It is for want of a better term, a holistic approach. It is probably necessary too, to have some idea of the history of the reef system prior to the experience of the interviewees, the earliest of which begins in the early 1950s.

It is reasonable to assume that the present reef system became established since the ocean level stabilised during the mid-Holocene, approximately 5,000 years or so ago. Lithic evidence reveals that Aboriginal people certainly ranged over the adjacent mainland prior to, and since that event, however little information has been identified as to how, or if intensive exploitation of the reef resources occurred in prehistoric times. Similarly there is no evidence of water craft usage by Aborigines living in the traditional mode in this region. Post colonial disruption of what have been called the *Nganda* peoples was apparently swift and devastating, with the result that there is little anthropological information about them. Therefore, matters pertaining to the earliest human associations with the reef system are obscure.

Certainly numerous European vessels sighted this part of the coast well before settlement. In 1697 the de Vlamingh expedition worked its way northwards along the coast during a search for lost Dutch ships, and the *Geelvinck* journal for 18 to 20 February describes the reef 's

presence.[1] A 1753 Dutch chart drawn up as a result of the these observations clearly delineates the reef,[2] as does one drawn in 1697 by Victor Victorszoon.[3] Other early non-Dutch charts also clearly indicate its presence, for example Arrowsmith's 1798 'Chart of the Pacific Ocean.'[4] In colonial times Phillip Parker King visited the region in 1818 and made partial survey of the coast. Apart from a short section near NW Cape there is little indication on his chart published in 1826 of the existence of Ningaloo Reef, although he felt he was sufficiently close to record observations about the adjacent terrain continuously from the south, beyond Point Cloates.[5] Interestingly a chart of Australia published earlier in 1814 in association with a folio atlas relating to the explorations of Matthew Flinders accurately shows the extent of the reef, although Flinders did not actually survey this part of the coast.[6] On many other maps of the region produced in the post-settlement period there is no indication at all that a reef is present, and this trend continued well into the twentieth century.

A number of sailing and steam ships were wrecked on various parts of the reef during the latter part of the nineteenth century, and these traumatic events no doubt served to provide a warning to other mariners to stay well clear. Some interviewees for this project make reference to some of these wrecks as landmarks during their activities on the reef system from the 1950s, but generally the extant folk-knowledge does not compare with the more detailed information found in works such as Cairns and Henderson's *Unfinished Voyages.*[7]

The waters well offshore from the reef have long been known as a place where several species of whales aggregate after migratory journeys from the Antarctic. Because of declining Atlantic stocks, these were being exploited as early as 1790 by American Quaker whalers, but those operations were exclusively pelagic.[8]

Intensive shore-based whaling commenced in 1913 at Point Cloates, which is located midway on the reef, with a second operation commencing nearby in 1915. These were associated with a Norwegian business group, which had also operated a whale station at Albany on the south coast since 1912. The operations at Point Cloates temporarily ceased in 1916. An Australian company restarted operations in 1922, but went into liquidation two years later in 1924. Another company took over the whaling rights and operated more successfully between 1925 and 1929. A hiatus in whaling activity occurred between 1929 and 1935, but there was intensive offshore activity by foreign whaleships between 1936 and 1938, beyond state territorial waters.[9]

Following the second world war, another whaling company established itself at Point Cloates. The Nor' West Whaling Company commenced operations in July 1949 using three navy surplus Fairmiles as whale chasers. The company closed down this operation in 1956 and subsequently concentrated its efforts from a Carnarvon location. One interviewee, Max Dease, provided some information in relation to the Point Cloates operations in the early nineteen fifties. Max as a young man had been in charge of a group of men at the whale station

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[1] Geelvinck Journal, in Schilder, G. (1985). *Voyage to the Great Southland.* Sydney: Royal Australian Historical Society. p.139.

[2] *Ibid.* (endpaper)

[3] Reproduced in Eisler, W. (1995). *The Furthest Shore, Images of Terra Australis...* Cambridge: Cambridge University Press. p.130.

[4] Facsimile in Perry, T.M. (1982). *The Discovery of Australia.* Sydney: Thomas Nelson. p.146.

[5] Facsimile of chart in Hordern, M. (1997). *King of the Australian Coast.* Melbourne: Melbourne University Press. (Insert)

[6] Flinders. M. (1814). *A Voyage to Terra Australis - Atlas.* "General Chart of Terra Australia or Australia." (Facsimile edition 1989) Adelaide: State Library of South Australia and The Royal Geographical Society of Australasia.

[7] Cairns, L. and Henderson J. (1995). *Unfinished Voyages: Western Australian Shipwrecks 1881-1900.* Nedlands: University of Western Australian Press.

[8] Weaver, P. (1997). Maritime resource exploitation in southwest Australia prior to 1901. Unpublished PhD thesis. Perth: Edith Cowan University

[9] *The Australian Encyclopaedia.* (1963). Sydney: Grolier. v.9; pp.276-7

and was involved in most of the day-to-day activities, and the transferal of whale-oil south to the deep-water anchorage at Maud's Landing near Coral Bay, where it was loaded onto ships. In later years as a senior employee of the Western Australian company, Tropical Traders, he oversaw the company's successful turtle hunting franchise along the inshore waters of Ningaloo Reef, activities which are discussed elsewhere in this report.

A lonely coastal track from Carnarvon to Northwest Cape has long facilitated the transport of mail and supplies to various sheep stations, and these pioneering efforts and those related to the Point Cloates whale station and nearby lighthouse have generally become ingrained in the folk knowledge of the region. There is however, another aspect of local history relating to this track not so well known. According to Doug Bathgate, who has been researching the somewhat obscure WW2 history of the region, the Australian military maintained a coastwatch presence along the coast. The derelict remains of observation emplacements still survive between NW Cape and Carnarvon. Portions of the Ningaloo Reef were used for bombing practice by the RAAF, and remains of expended ordinance still existed on the reef shelves until recently. There remains too an adjacent tract of Commonwealth Land designated as a bombing range. According to Doug, the reef was also fished in some parts by service personnel during WW2, and fish were occasionally transported back to provide for military detachments at Learmonth, using the circuitous route which runs beneath Cape Vlamingh lighthouse. Unfortunately no persons who were directly involved in these activities have been identified.

Certainly after WW2 the reef appears to have lapsed into relative obscurity, being the exclusive domain of whalers and pastoralists; although the region was not forgotten by military authorities. The development of the cold war brought American engineers and surveyors to Cape Range in 1960 as plans were initiated for the establishment of a US Navy communications station.[10]

The Ningaloo Reef is not one continuous barrier, but perhaps can better be described as a chain of outcrops, both of coral which has settled since the ocean level stabilised in the mid-Holocene, and far more ancient limestone shelves. Marine fossils including the teeth of large sharks in the adjacent Cape Range are believed to be 1.6 to 2.3 million years old.[11] The diversity of fish on the reef and the immediate region is substantial. Hutchins (1994:8) recorded 482 species, far in excess of species numbers anywhere southward. Most species are found near the higher energy parts of the outer reef and near the intermittent passages to the lagoons. Readers desiring more information on this are directed to Hutchins work.[12]

The reef structures vary in distance from the shore and can range from a few metres to several kilometres away. As a result, small craft can travel on the inner lagoons for much of the system's approximate 260 km length. The onshore winds are strong and notorious, and combined with the unforgiving dangers of the reef, provided the incentive for larger vessels to have plenty of leeway. Anthony "Thomo" Tomlinson, who has been a prawn trawler skipper with Kailis at Exmouth since the beginnings of operations in the 1970s, says in his interview that even with modern navigation aids, his company tries to ensure that vessels voyage in company along this section of coast during their seasonal voyages between Fremantle and Exmouth.

Nevertheless, it is probable that some skippers of smaller vessels chose the inshore option during the latter half of the nineteenth century, especially after F.T. Gregory's exploration of the coast north of Shark Bay in 1861. Andy Cassidy, another interviewee related how the reef system provided safe passage for smaller fishing vessels travelling en-route between Exmouth Gulf and places further south during the 1950s. This sheltered stretch also facilitated an ambitious turtle hunting project sponsored by the Western Australian Company, Tropical Traders. Initially a Dutch family, the Pluggs were engaged by the company, and supplied with a large wooden vessel the *Nardi Mar*. Former Managing Director of Tropical Traders, Max Dease, related in an interview how this government licensed enterprise was initiated after inquiries by German manufacturers of turtle soup.

[10] Ball, D. (1980). *A Suitable Piece of Real Estate*. Sydney: Hale and Ironmonger.

[11] Taylor, G. (1994). *Whale sharks: The giants of Ningaloo Reef*. Sydney: Angus and Robertson. p 54.

[12] Hutchins, B. (1994). *A Survey of the Nearshore Reef Fish Fauna of Western Australia's West and South Coasts - The Leeuwin Province*. Perth: The Western Australian Museum.

Turtle hunting had its own specific methods, and the subsequent butchering processes certainly generated morbid fascination for this researcher. Interesting too was that from the outset it became apparent there was a realisation that publicity of these activities had the potential to outrage public sensitivities, and so appropriate steps were taken to keep the landing of carcasses from the public eye. The Pluggs retired prematurely from the turtle fishing business following the wreck of the *Nardi Mar*, and the contract was subsequently offered by the company to the Cassidy family. Both Andy and Shirley Cassidy, now residing at Exmouth, have each generously provided a frank narrative of their turtling activities, and of how they interacted with various other species of the Ningaloo Reef, including large predatory sharks during those pioneering times.

Another Exmouth resident, Harold Dodd, a pioneering professional fisherman of the region, tells how he departed from the south coast where he had been a shark fisherman; and with a partner regularly made the appalling journey over an unsealed track from Northampton to Exmouth Gulf to net fish, then astonishingly, took them back to the markets in Perth. As Exmouth became more developed he took up residence in the new town and this enabled him to commence exploitation of fish stocks on Ningaloo Reef. Initially there were few others participating, and the logistics of sending fish to a market did not improve. However, as the Exmouth population increased following the establishment of the US base, so came the opportunity to open a fish and chip shop, and Harold's logistical problems were solved at last. Harold generously provided a photograph of him standing alongside a huge cod which he caught on the Ningaloo reef, well before they were protected. The photograph appears with his transcript. He said this fish provided an inestimable number of serves of the culinary speciality at "Doddies" which was operated in partnership with his former wife. Now retired, their reputation still stands high amongst the locals.

The arrival of the Americans can be seen to be a benchmark in the intensification of human activity on the Ningaloo Reef. Large numbers of Americans flew in for relatively short terms of service, and were eager to exploit the recreational opportunities of the region. Sue Osborne who became the first manager of the Marine Park, felt they brought with them a refreshingly broader cultural outlook to the region. Previously mentioned Doug Bathgate, a former Australian teacher at Exmouth resigned from the WA Education Department and took up more lucrative education-orientated employment on the base, eventually becoming one of the most senior civilian employees. Doug related in his interview how the foreign service-personnel were enthused by the region, but like so many Australians at the time, they generally lacked awareness of the need for greater environmental responsibility. A machismo ethos existed which obliged some US fishers to seek and catch the largest of fish for trophy photographs, after which the fish were usually disposed of at the local rubbish tip.

For many of the US service families who took up temporary residence at Exmouth, collecting exotic shells from Ningaloo Reef appears to have become something akin to a crusade. This trend is also mentioned by other interviewees. Allan Ross had particularly noticed the impact on various species of cowrie shells. Allegedly, after a period of subterranean interment in Exmouth gardens, many shells were apparently exported in large quantities on USAF MAC flights back "stateside." Changes in global circumstances mean the Americans for the most part have departed, but there are still occasional reports of caches of Ningaloo shells being turned up in the gardens of their residences by subsequent Australian occupiers. Of course American visitors did not have exclusive franchise over such activities, another interviewee, Phil Tickle mentioned that elderly retirees, particularly women from eastern Australia were also engaged in shell collecting, and there were probably plenty of west Australians too. Sue Osborne also said Americans were not solely responsible for shell collecting. Whomever is to blame, restraint does not seem to have ever been a serious consideration and as a consequence the molluscan fauna has apparently been severely depleted in the most accessible places, particularly on the intertidal shelves towards North-west cape.

Octopus populations have also been substantially lowered by human activity at Ningaloo and several interviewees including Phil Tickle, Allan Ross, Des Ryan and Doug Bathgate remarked on this matter. In the past the use by others of chemicals such as caustic toilet cleaner and copper sulphate to flush these sensitive creatures from their holes was apparently a

relatively common practice. It was believed the contaminated lairs were not reoccupied. Sue Osborne as manager of the Marine Park from 1988 had also heard of the practices, but had not witnessed them personally. Octopus were prized as fishbait because the relatively tough flesh remained on the hook.

During the course of this project I have been on the lookout for mention, or lack of mention of the reef system in old publications. For example in Roughley's many editioned treatise on Australian coral reefs which first appeared in 1936, he discusses the systems of the nearby Abrolhos, but there is not a hint of the long near-shore chain which comprises the unique Ningaloo system. Even by 1946 this renowned expert on Australian coral reefs was apparently quite unaware of it's existence, which is curious even for those times.[13] For want of a better explanation I attribute this to the rudimentary lines of communication which were present for so long, and perhaps also to the reclusively isolated priorities of the people who inhabited the region. Another contributing factor to the reef escaping Australian public attention after the war might also be because MacRobertson Miller Airlines, (MMA) which became legendary for the valuable service it provided to remote parts of the state did not fly over the North West Cape. Instead its slow, low flying (by current standards) aircraft were routed further inland, thus precluding casual observations of, and any curiosity about the reef by airborne travellers. Furthermore for any adventurers bold enough to attempt the then unsealed track between northern and southwest Australia the logistics of attempting such a substantive detour would have been discouraging. Even in 1988, Sue Osborne, a marine biologist with experience on the Great Barrier Reef, said the existence of the reef only became known to her after the position for a marine park manager was advertised nationally.

Therefore, scientific examination of the reef is still in its infancy. As recently as 1994, a report published by the WA Department of Conservation and Land Management noted that there was little information available on the reef's flora and fauna.[14] Some work has been taking place since, but scientific researchers are regularly confronted by a frustrating quest for sufficient funding. Therefore it should not be surprising that lack of knowledge about the natural history of species inhabiting the reef, beyond other than a rudimentary level, is apparent in most interviews.

One of the more knowledgeable interviewees about scientific aspects was Dr Geoff Taylor, who was a pioneer in recognising the uniqueness of whale sharks which have a seasonal relationship with coral spawning in the reef system. A paper by Geoff in *The West Australian Naturalist* in 1989 must surely have alerted many people that the Ningaloo region was significant.[15] Subsequently he has published other papers relating to the fauna of the region, and a widely distributed book.[16] The interview with Geoff was undertaken at Busselton, where he now resides. He is still actively involved in conservation issues and the Ningaloo Reef, and his interview reflects the broad depth of knowledge he has acquired.

Predatory sharks were another matter of interest and the Cassidys certainly had some encounters with big ones when they were turtle hunting in the seventies. There are apparently still quite a few sharks about. Doug Schmidt believes that the larger ones arrive at Ningaloo seasonally, being most plentiful from February to March. Sue Osborne says that 1998 appears to have been one of the most prolific for sharks, not only at Ningaloo, but elsewhere in the state. Sue added the sobering thought that she had once found a huge shark tooth in the reef's lagoon, which may have come from a great white.

Alarm occurred amongst marine biologists in 1987 over the proliferation of a coral grazing mollusc *Drupella cornus* and the destruction of large areas of coral. Longtime professional fisherman Ray Wann offered the following view:

> ... the snapper lived on those *drupella* shells, they were always - every time you

[13] Roughley, T.C. (1946). *Wonders of the Great Barrier Reef.* Sydney: Angus and Robertson.

[14] *A Representative Marine Reserve System for Western Australia.* (1994). Perth: The Department of Conservation and Land Management. pt.V, p.21.

[15] Taylor, G. (1989). "Whale Sharks of Ningaloo Reef, Western Australia: A preliminary study." *WA Nat.* v.18. no.1. pp.7-12.

[16] Taylor, G. (1994). *op. cit.*

gutted them they were just chock-a-block full of the crushed up *drupella* shells. The snapper have all been cleaned out and what are the shells going to do now, they're going to thrive aren't they, you know, you don't have to be a scientist to work that out, and you don't have to be a scientist to see what the snapper eats. All you have to do is to catch one and cut him open.

The Wann family have professionally fished the Ningaloo Reef since before it became a popular amateur destination. As numbers of visitors increased they established their camps in more remote locations, but inevitably there was nowhere else to go. Jo and Ray Wann have seen many changes at Ningaloo, and have provided a photo of Jo in one of those camps.

Phil Tickle also said that nor'west snapper ate hard shelled molluscs, but Geoff Taylor offered an alternative hypothesis for coral damage inasmuch that over fishing of predators of coral-grazing fish had allowed their numbers to rise disproportionately. This was also cited as one of the theories by Sue Osborne who has done some scientific surveys on the species, although she cautioned that the *drupella* problem is complex and by no means fully understood.

Coral Bay, was once known to the older hands as Bill's Bay, but I never did find out who Bill was. Now a developing tourist resort, it is a place of considerable beauty but provides cautionary lessons for how unregulated development has the potential to clash with the environment. A report in 1995[17] raised concerns about the impact of human activities on the marine environment there, but one gained the impression in unrecorded conversations with some residents that they perceived such fears as groundless exaggerations. Intensive development continues at Coral Bay, but there remains a lack of sophistication in several facilities, which some might argue lends to the charm.

The settlement provides a hub for amateur and commercial charter activities, supported by multi-strata accommodation comprising hotel, caravan parks, and backpacker facilities. The town infrastructure also includes fueling and boat launch facilities plus a supermarket, bakery and other entrepreneurial ventures. While many visitors are content to confine their activities to the immediate Coral Bay area, and to the services offered by various charter operators, there are those who choose to range in their four-wheel drive vehicles and camp at favoured locations a considerable distance from the settlement.

Local businesses have long provided facilities for amateurs to freeze fish to take home. A charge applies for this service and the large quantities of fish fillets that were and are still taken away is a matter of fact. Currently Fisheries WA regulations impose a 17 kg limit on fish fillets which may be frozen and stored until departure, but in the view of Les Garbellini they are still generous, especially if there is a large fishing party involved. Phil Tickle who first fished at Ningaloo in about 1962 had no doubt that fish filleting was a very wasteful practice, and encouraged people to take larger catches. Phil indicated that for him in the past, taking frozen fish home was an important social catalyst when they were distributed amongst friends and relatives.

It is apparent too in some of the interviews that such a privilege is considered essential by entrepreneurial interests to attract visitors, but implicit in this is a failure to recognise that every large fish surplus to immediate requirements which is exported from the reef is one less for future visitors to observe or catch. Seventeen kilograms of prime fish fillets has a significant dollar value, and for many people is possibly a factor in offsetting the cost of a holiday, but there is a real question of whether or not this should be a continuing role for declining fish resources. Given the government's desire to attract international tourists to Western Australia it is inevitable that numbers of visitors to Ningaloo will increase significantly. In all likelihood an industry based upon the passive observation of live fish in their habitat will be more sustainable than one based upon killing them.

There are also a considerable number of long existing holiday shacks at Coral Bay. In spite of local publicity for the oral history project, no long-term owners of these dwellings offered to participate. Two persons with a long-time commercial association with Ningaloo who do live at Coral Bay have provided a valuable insight into how they personally interrelate

[17] Simpson. C.J. and Feild. S. (1995). *Survey of water quality, groundwater, sediments and benthic habitats at Coral Bay, Ningaloo Reef, Western Australia.* Perth: Department of Environmental Protection. Technical series 80.

with the reef. Doug Hunt conducts tours of the nearby reef system on a state-of-the-art underwater-viewing vessel, where people can marvel at the coral and associated fish in a sanctuary off-limits to all fishers. I am grateful to Doug for inviting me to accompany him and his young family-crew on one of these trips. Doug revealed in his interview an intriguing fishing background. A former professional fisherman in Victoria, he then fished with his brother for crayfish in the dangerous waters of Western Tasmania before coming to Western Australia. Doug entered the Rottnest ferry business and enjoyed a modicum of success, in part enhanced by utilising his ferry in the off-season to participate in the early "gold rush" for banana prawns in the Gulf of Carpentaria. Doug and his family then developed a large fishing enterprise, but he frankly relates how he eventually fell into financial trouble and lost everything. With true entrepreneurial spirit, he is starting out again. Doug views the future of the Ningaloo Reef with optimism, which is encouraging seeing as his business is dependent on maintaining an abundant fish population.

Equally optimistic is long time resident and Coral Bay worker Doug Schmidt. Doug visited the region years ago as an amateur and liked the place so much he decided to stay, and now works in the general store. A single man without a car, he is also one of a rare breed of fishermen who enjoy walking to their favourite fishing location, although occasionally he does go out on a charter boat in pursuit of the increasingly elusive red-emperor snapper. Sadly it is apparent from various interviewees that charter fishing operators are being obliged to increasingly extend their range in order to cater for the demands of the increasing numbers of fishing-tourists. Noticeably, no charter-fishing operators volunteered to participate in this study.

No professional fishermen now operate on the Ningaloo Reef, but there are a great number of amateurs still fishing; and some interviewees indicate there is burgeoning commercial interest in species found in the deeper waters of the continental shelf, beyond the boundaries of the southern part of the marine park.

Ningaloo Station to the north of Coral Bay has experienced devastating fires from lightning during the past twelve months. As a result, large areas of rangeland have been reduced to a sandy waste and huge quantities of soil are being transported by winds. This is, according to locals, an unprecedented and catastrophic event. It has effectively isolated the inhabitants of Ningaloo, and unfortunately prevented my visiting them for interviews. An offer to conduct a telephone interview was declined. For many kilometres during my drive between Coral Bay and Exmouth in 1998, visibility was seriously reduced by dust storms, and I was told informally that when an easterly wind blows, large quantities of dust are blowing onto the reef and lessening water clarity. The impact of this is yet to be determined, but at the very least it is a cautionary warning of how easily major environmental change can occur. Then there is the matter of continuing apathy by people who should know better. On my return from Exmouth I briefly called in again to Coral Bay on a day which had officially been declared one of extreme fire danger, but the local rubbish tip had been set on fire deliberately and left to burn unsupervised. The surrounding landscape bore evidence of previous fires which had escaped. It was surprising considering the community is so totally dependent on the maintenance of the reef system.

The reef has long been a workplace, and the number of people who have contributed to this project are but a small representation of the many thousands who have come and gone. Max Dease, whom it was earlier disclosed had worked at the Point Cloates whaling station said that in the two seasons he was there in the 1950s he never went fishing. Ten hour shifts involving exhausting work effectively sapped the mens' energy sufficiently to deter them from thinking of little else but eating and sleeping. Harold Dodd said that for him it was just a reef, no more and no less; and just one of the many reefs which Western Australian fisherman learned not to run their boats on to. Those were times when economic survival was the main priority. Esoteric appreciation was a luxury to be reserved for succeeding generations. As a contrasting example, Geoff Taylor said his association with visiting Japanese film crews had revealed that they now regarded Ningaloo as one of the best dive sites in the world. It is a message which those who apply all their entrepreneurial efforts in encouraging visitors to catch fish might consider.

Seismic lines bulldozed by WAPET during the 1950s provided more ready access to the reef by negating the need to travel along the lonely coastal track running between Carnarvon and NW Cape and apparently this was quickly recognised by fishers. Doug Bathgate and Harold Dodd both utilised these new routes with their four-wheel drive vehicles, and Doug claimed he was one of the first recreational fishers to get to Bill's Bay (Coral Bay) in this way. Those who enjoy the luxury of bitumen road access today could probably barely begin to comprehend the difficulties, and risks of such solo ventures into these places in the not so distant past. Doug, a zoology graduate, in association with others, was instrumental in having the Ningaloo Marine Park declared in 1987.

There was a general understanding amongst interviewees that fish numbers have substantially declined since when they first visited the region. Fisheries WA inspector Les Garbellini said that he had received a number of complaints from fishers that 1997 had been the worst year in living memory for fishing on Ningaloo, but expressed caution that other factors such as inclement weather might be involved. Doug Hunt also thought there has been a noticeable deterioration of some fish stocks. Phil Tickle has long observed such declines elsewhere in the state and at Ningaloo. With a tendency to be a leader in discovering new places to fish, Phil's strategy over the years has been to expand his range as others made the same discovery. He has always had the appreciation that fish stocks were finite, and would be rapidly subject to over-exploitation. In his view high-technology is increasingly being needed to overcome fish scarcity. Jo and Ray Wann also said that in the past they periodically moved further afield as others encroached on their favourite spots.

Official agencies have introduced management strategies for Ningaloo. In the midst of this Les Garbellini felt that a high percentage of the public were generally receptive to conservation strategies on Ningaloo, although a small minority of intensive fishers have probably transferred their activities to waters north of Exmouth. This latter view also emerged in the interview with Allan Ross, but he said that taking of undersize fish was still rife in the region. Allan felt that the region was very large for two Fisheries officers to oversee, and there was a need to authorise others such as shire rangers for an ancillary role in Fishery management. Phil Tickle felt that historically there was a tendency for the WA Fisheries Department to continue to support non-sustainable practices such as trawling, and in essence, their management strategies tended to be reactive rather than proactive.

A valuable insight into trawling activities in Exmouth Gulf can be seen in Anthony Tomlinson's transcript. The Ningaloo Marine Park extends into the northwest portion of the gulf. It is reasonable to hypothesise that what happens there may influence adjacent reef system.

Trawling for prawns commenced in about 1963 and then continued to intensify until the industry almost collapsed in the early 1980s. A management plan has seen a recovery, but even so there is now a further consolidation effort taking place with experimental reduction of trawlers and doubling of the number of trawls being dragged. Allan Ross said that the gulf is the habitat of juvenile spangled emperor, one of the most sought after fish along the Ningaloo system. Not mentioning trawling, Geoff Taylor said that there had been a noticeable decline in fish numbers on Ningaloo at favoured locations from about 1983. Des Ryan said he believed anecdotes about declining fish numbers on Ningaloo were being related by the mid-1970s.

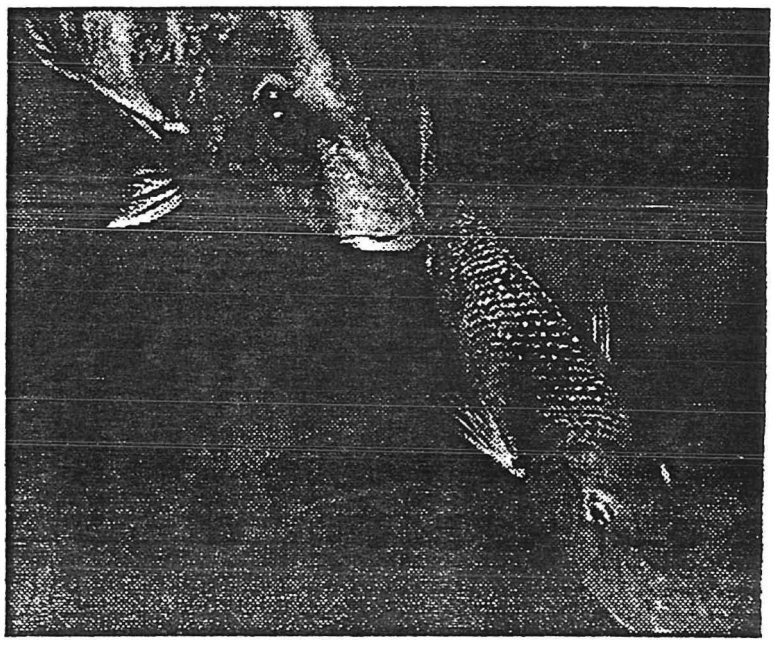
Des is an enthusiastic game fishermen at Exmouth, having lived there for about 23 years and has been instrumental in the organisation of several game fishing competitions held annually. These activities attract people from far and wide, and their efforts can relate to the waters along the outside of the reef. Very occasionally billfish such as marlin are sighted in the sheltered inner waters of the lagoon. Most captured billfish are now tagged and released, but Des revealed an interesting statistic about the program inasmuch as no billfish tagged in the region have ever been recorded a second time.

Subsequent to the gazetting of the Ningaloo Marine Park, Sue Osborne was appointed as its first manager in 1998. With a scientific background in zoology and marine biology, Sue had previously worked on the Great Barrier Reef with the Queensland Parks and Wildlife Service, and with the Australian Parks and Wildlife Service in Canberra. At Ningaloo she embarked on an educative role with the public with the intent of encouraging an ethos of conservation. As

part of a management plan to provide a more equitable sharing of the region's resources, persons who had formerly occupied camp sites for long periods to the exclusion of others became limited to a maximum stay of 28 days in a year. As more and more people came to Ningaloo in the new urban status symbol of the '80's, the four wheel drive, in search of the ultimate fishing spot, so did new tracks appear on the fragile dunes. Erosion occurred, and as tracks became impassable, new ones were made. Feral goats were another of Sue's problems, and she related how large flocks used to graze contentedly on whatever was edible at the water line. Turtles, having to cope with greater problems of beach aridity that their counterparts in other parts of the continent were now confronted with a perhaps worse threat to their egg laying activities, curious tourists with torches. Now working in an educative role with CALM in Fremantle, Sue is optimistic for the future of Ningaloo Reef, but adds that there is a need to guarantee the preservation of wilderness areas from intensive human encroachment.

The true value of a study such as this lies in the words of the interviewees. In revealing something of their interesting lives in the past, their experiences provide lessons to all users of the reef for the future. The time frame covered by the interviews is short in human terms, less than fifty years, and the sample obtained is relatively small. Nevertheless, they have been sufficient to demonstrate how quickly human activity can impact negatively upon a quite large ecosystem, and that in parts of the reef this is ongoing.

Other researchers are encouraged to read the transcripts and develop some of the themes further. All the transcripts have notations at the beginnings on subjects discussed. On behalf of the sponsoring agencies, I sincerely thank all the participants for their valuable contributions. Paul Weaver.



Nor'west snapper at Ningaloo - Photo: P. Weaver

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14a. Oral histories of fishing on Ningaloo Reef, and South Coast Estuaries

During 1997-98 two oral history projects, one involving fishing on the Ningaloo Reef System, and the other involving estuarine fisheries east of Cape Leeuwin are being undertaken by an independent researcher from Edith Cowan University, acting under joint sponsorship of the Commonwealth National Fishcare Program, the Western Australian Fisheries Department's Fishcare Program, and the Western Australian Department of Conservation and Land Management.

If you have regularly fished either of the above regions over a long period of time you probably have some historically valuable stories to put on record for future generations. There are many matters of interest. For example, how did you learn to fish? Has fishing had an important effect on your life? Has the way you have traditionally fished been diminished? Can others learn from your experience?

It is important to tell those in the future what it was like for you. Interviews should take an hour or so, and can be done on confidential basis if required. The researcher is PAUL WEAVER, who has fished by various methods in WA waters since he was a kid in the 1950s.

Interviews finish in April 1998, so there is a need to hear from participants as soon as possible to allow for regional scheduling of visits.

If you consider you have a long standing knowledge of fishing activity in either of the above regions Paul would like to hear from you, and to make arrangements to record your unique story for posterity. Please fill in the form as appropriate and send it post-free to:

Reply Paid M8
FISHING HISTORY PROJECT
23 Waddell Rd.
Palmyra. WA. 6157

Your name .....Age.....
Address.....

Post code.....
Telephone (....) ..... Best phone contact time.....
Which region? Ningaloo ☐ South coast estuaries ☐ Which estuaries?.....
Roughly what year did your fishing activity in the region begin?.....
How many years have you fished in that particular region?.....
Do you still fish there? .....
Please estimate how many times you fish in that region each year?.....
Reason for fishing? Professional ☐ Recreational ☐ Other?

What species do you like to catch?.....
Tick favourite methods? Net? ☐ Rod or hand Line? ☐ Spearfishing? ☐ Dynamite? ☐
From shore? ☐ From boat? ☐ Night? ☐ Day? ☐
Have you noticed any significant changes to your catch success over time?.....
Have you observed any significant changes to the fishing environment over time?.....

Please jot down on the back of this form some information about your fishing experience in the region.

Feel free to copy this form and pass it to others

14b. **Oral history of Ningaloo and South coast estuaries**

Consent form[18]

This form is an agreement confirming that you (the informant) have given permission for Paul Weaver (the interviewer) of Edith Cowan University to record an interview with you and use it in an oral history of Ningaloo and/or south coast estuaries. Clause 4 allows him to place the record of interview and its transcript in an archive when the project is completed.

1. The informant hereby agrees to an interview, and to a sound recording being made by him of the interview called, 'the record of interview.'

2. The informant shall have the right to hear the full record of interview and to place restrictions upon its use or access to the whole or any part of that record of interview, or to require any part to be destroyed PROVIDED THAT the informant shall give written details before conclusion of the project in June 1998.

3. Subject to any restrictions under clause 2 the interviewer shall have non-exclusive licence in relation to the contents of record of interview to:
   a) compile an index thereof:
   b) edit; and
   c) reproduce an edited version for the purpose of conservation, loan, sale or publication.

4. The informant gives permission for a copy of the recording and/or transcript to be lodged in an public archive for access by other researchers. (Strike out if permission is not given)

5. Copyright in the interview shall belong to the informant. Copyright in the sound recording shall belong to the interviewer.

Signature.....Date.....

Your name (print).....Age.....
Address.....

Post code.....
Telephone (.....) .....

Contact address

Reply Paid M8
FISHING HISTORY PROJECT
23 Waddell Rd.
Palmyra. WA. 6157

[18] The legal format is taken from an example published by The Oral History Association of Australia. See Banki, P. (1980). "Copyright and oral historians", *The Oral History Association of Australia Journal*, 2. 42–43.

15.

An oral history of Ningaloo Reef

Transcripts cover page

Dr Paul R. Weaver
Edith Cowan University
August 1998

Sponsored by
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