Senate Environment, Communications, Information Technology & the Arts

Legislation Committee

ANSWERS TO QUESTIONS ON NOTICE

Department of the Environment and Heritage

GREAT BARRIER REEF MARINE PARK AUTHORITY

Additional Estimates 2000-2001, (21/2/01)

Outcome 1.2, **Question: 39**

Topic: NELLY BAY HARBOUR

Hansard Page: ECITA page 5

Senator Bolkus asked:

Can we get a copy of the 1992 Whitehouse Inquiry Report into the Magnetic Quays development?

Answer:

A copy of the report has been forwarded to the Committee.

Please note due to the size of the report, a copy of the cover and table of contents are attached. Copies of the report may be requested from the ECITA Committee Secretariat.

Outcome 1.2, **Question: 40**

Topic: NELLY BAY HARBOUR

Hansard Page: ECITA page 5

Senator Bolkus asked:

Why did the supplementary EIS not discuss submissions suggesting that the bund be separated from Magnetic Island?

Answer:

A review of submissions received during the public participation phase of the 1999 Supplementary EIS process for the Nelly Bay Harbour development has not revealed any submission which provided a substantive comment on the need for the finger bund to be separated from Magnetic Island. The submission from the North Queensland Conservation Council did note that the finger bund was shown as attached to Bright Point and that this would appear to change the boundary of the GBR Marine Park. The issue was not considered significantly relevant to any of the impact assessment processes that the Nelly Bay Harbour development underwent in 1995 and 1999 because these processes commenced from a standpoint that existing structures would remain as they had been left in 1990. This position concurs with the findings of Whitehouse in his 1992 review and accords with decisions of the GBR Marine Park Authority on which both Commonwealth and Queensland Governments are represented.

Outcome 1.2, **Question: 41**

Topic: NELLY BAY HARBOUR

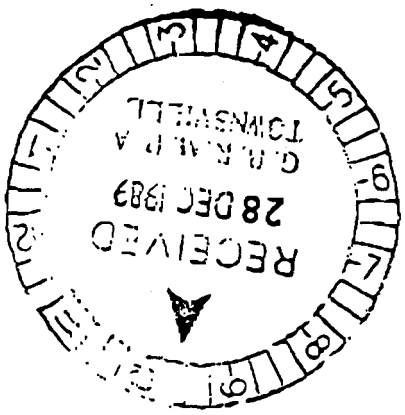
Hansard Page: ECITA page 6

Senator Bolkus asked:
Can the Committee have a copy of Graeme Kelleher's decision requiring that temporary bund walls not be removed?

Answer:
A copy of the Authority's advice to the then proponent of the Magnetic Quays development has been forwarded to the Committee.

5.5.4.1.4

21 December 1989



Mr D Dunn
Superintendent
Linkon Constructions
PO Box 1754
TOWNSVILLE QLD 4810

Dear Mr Dunn

I refer to your recent discussions with staff of the Authority concerning the construction of the Magnetic Quay marina, and in particular the requirement for removal of the temporary bund to the island breakwall. I have reviewed the requirements in this regard and advise that in the case of the island breakwall removal of the temporary bund will not be required.

The size of the main (Kelly Street) breakwall dictates that it will be necessary to remove the temporary bund in that instance.

Yours sincerely

G. G. Kelleher 11/12/89

Graeme Kelleher

cc Mr T. Walker
Q.DEC Townsville

Mr D. Hughes
Australian Construction Services
Boc 5696Mail centre
TOWNSVILLE QLD 4810

Outcome 1.2, **Question: 42**

Topic: NELLY BAY HARBOUR

Hansard Page: ECITA page 6

Senator Bolkus asked:

Can we get a copy of the more general legal advice relating to the de minimus principle and the boundary of the Great Barrier Reef Marine Park?

Answer:

The legal advice on this issue obtained by the Authority relates to specific development applications and is subject to legal professional privilege.

Outcome 1.2, **Question: 44**

Topic: NELLY BAY HARBOUR

Hansard Page: ECITA Page 7

Senator Bolkus asked:

In anticipating that possibility, does it in any way limit the amount that may be stockpiled?

Answer:

No. The Wet Season Management Plan requires stockpiles of loose topsoil or other materials to be either removed from the site or stored above known highest stormwater flood levels. As work on the harbour basin proceeds it inevitably creates piles of material won from the hole being excavated. Much of this material is marine sediment and is suitable for fill. This material is placed above the high water mark and is continually utilised to achieve the final levels and contours required for the project. The Wet Season Management Plan allows this material to be used in this way.

Outcome 1.2, **Question: 45**

Topic: NELLY BAY HARBOUR

Hansard Page: ECITA Page 7

Senator Bolkus asked:

What is the distance of the discharge pipe from the reef edge of Geoffrey Bay?

Answer:

The Environmental Site Supervisor for the project has advised that the discharge pipe is 55 metres from the nearest Reef edge.

Outcome 1.2, **Question: 46**

Topic: NELLY BAY HARBOUR

Hansard Page: ECITA page 8

Senator Bolkus asked:

Did Sinclair Knight Merz advise that extending the outfall pipeline to 400m would cost only $120,000?

Answer:

GBRMPA staff understand that Sinclair Knight Merz did provide an estimate to the Queensland Government that the additional cost of extending the pipeline would be of the order of $120,000.

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ANSWERS TO QUESTIONS ON NOTICE

Department of the Environment and Heritage

GREAT BARRIER REEF MARINE PARK AUTHORITY

Additional Estimates 2000-2001, (21/2/01)

Outcome 1.2, **Question: 47**

Division:

Topic: NELLY BAY HARBOUR

Hansard Page: ECITA Page 8

Senator Bolkus asked:

Has discharge ever exceeded the limitations set by the Authority? Could you take this on notice, but I would like to get some ideas as to what the trigger levels are and how they are different to the compliance levels.

Answer:

The Environmental Impact Management Plan provides for a warning trigger level for turbidity — at which point intensive monitoring commences — and a critical trigger level at which point discharge stops. There have been occassions when the critical trigger level has been reached and pumps have been shutdown. This is exactly as contemplated in the Environmental Impact Management Plan. Discharge has not continued where critical limits have been exceeded. A copy of the reactive monitoring program forming part of the Environmental Impact Management Plan has been forwarded to the Committee.

Senate Environment, Communications, Information Technology & the Arts

Legislation Committee

ANSWERS TO QUESTIONS ON NOTICE

Department of the Environment and Heritage

GREAT BARRIER REEF MARINE PARK AUTHORITY

Additional Estimates 2000-2001, (21/2/01)

Outcome 1, Environment **Question: 48**

Division: Great Barrier Reef Marine Park Authority

Topic: Great Barrier Reef Water Quality

Hansard Page: ECITA Page 12

Senator Bolkus asked:

Could I just ask you to provide on notice details of the budget since the financial year 1995-96 for that compliance and enforcement area?

Answer:

Resources allocated by the Authority on water quality issues since 1995-96 are:

Year	Expenditure $'000	Staff Levels ASL
1995-96 Actual	636	3.0
1996-97 Actual	502	3.0
1997-98 Actual	482	3.0
1998-99 Actual*	825	7.0
99-2000 Actual	873	8.5
2000-01 Budget	997	8.5

- The Water Quality Critical Issues Group commenced.

In addition, since 1993-94 the Authority has been a partner, and significant financial contributor, to the Reef Cooperative Research Centre. The Authority will provide funding of $1.9m to the Reef CRC in 2000-01. The figures above do not include expenditure on water quality monitoring by the Reef CRC or by the Australian Institute of Marine Science.

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ANSWERS TO QUESTIONS ON NOTICE

Department of the Environment and Heritage

GREAT BARRIER REEF MARINE PARK AUTHORITY

Additional Estimates 2000-2001, (21/2/01)

Outcome 1, Environment **Question No. 49**

Division: Great Barrier Reef Marine Park Authority

Topic: Giant Triton Shell

Written question on notice: Tabled

1. Senator Bolkus asked:
Is the giant triton a natural predator of the Crown-of-thorns starfish?

Answer:

Yes, several studies have indicated that the giant triton does prey upon crown-of-thorns starfish (COTS).

2. Senator Bolkus asked:
Is the giant triton protected in Queensland?

Answer:

In 1969, the Queensland government introduced a ban on the collecting of giant triton. The Regulations to the *Qld Fisheries Act*, *1994* lists the giant triton in Schedule 4, Part 3, Division 5, as a fish regulated by species and thus is not to be collected. Within the confines of the Great Barrier Reef Marine Park, the giant triton is referred to as a protected species in Schedule 3 to the Regulations of the *Great barrier Reef Marine Park Act 1975*. In the Far Northern, Cairns and Mackay/Capricorn sections of the GBRMP the regulations state that: *"an organism included in Schedule 3 is not to be collected, except by a traditional inhabitant, within the meaning of the zoning plan, for his or her own use."*

3. Senator Bolkus asked:
Is the giant triton protected internationally?

Answer:

The UNEP World Conservation Monitoring Centre database reveals that the giant triton is not listed as a threatened or endangered animal, nor is it listed on the IUCN Red lists or on Convention on International Trade in Endangered Species (CITES) lists. However, Australia did support a proposal to list this species on CITES in October 2000.
Nevertheless, protection of the giant triton internationally currently depends on the management initiatives of the individual countries where giant triton are found. For example, the giant triton is protected in some Pacific countries such as Fiji.

4. Senator Bolkus asked:
Are giant tritons for sale in Australian shell shops?

Answer:

Yes, giant triton shells can be purchased in Australian shell shops

5. Senator Bolkus asked:
How much do they usually sell for?

Answer:

The retail prices for giant triton shell varies between $20-$200 depending on the size and condition of the shell.

6. Senator Bolkus asked:
Would these giant tritons have been collected live from coral reefs?

Answer:

Most probably.

7. Senator Bolkus asked:
Would these giant tritons have come from outside Australia?

Answer:

Most probably.

8. Senator Bolkus asked:
How do we know that these giant tritons don't come from the Great Barrier Reef?

Answer:

There is no way to determine if a triton shell for sale was collected from the Great Barrier Reef or overseas

9. Senator Bolkus asked:
What do we know of the present abundance of the giant triton on the GBR?

Answer:

Very little is known about the present abundance of giant triton on the GBR. However, the triton is considered by some as rare. Surveys conducted by Endean of over 130 reefs between 1966 and 1972 showed only 78 tritons. Nevertheless, the triton is a cryptic and nocturnal animal. Coral reefs provide many hiding places for cryptic animals and this complicates efforts to accurately assess their numbers. The nocturnal habits of the giant triton make them even more difficult to locate and accurately count in the reef environment.

10. Senator Bolkus asked:
What do we know of the past abundance of the giant triton on the GBR?

Answer:

The is no scientific survey information available before the 1960's to indicate what the natural abundance of tritons would have been on the GBR. However, the Qld Fisheries Service advised the Hon. Rod Welford in October 2000 that records do not indicate a large amount of commercial collection as they are a cryptic and naturally non-abundant species.

11. Senator Bolkus asked:
Do we know how many of these giant tritons were collected in the past?

Answer:

There are few records pertaining to the collection of giant triton. However, it is known that indigenous people have traditionally harvested triton, and it is also known that since the 1930's, giant triton have been harvested by shell collectors and until about 1960, they were also collected by the crews of fishing luggers involved in the trochus trade. Nevertheless, with a dozen of these luggers operating at any one time, Endean estimated that these crews collected about 10,000 triton per year and there is anecdotal evidence that triton were very abundant prior to collecting.

12. Senator Bolkus asked:
Has the collection of giant triton shells reduced their population numbers?

Answer:

Because there are no historical records for the numbers of triton naturally occurring on the Great Barrier Reef, there is no way to accurately determine whether collection of giant triton shells for sale between 1930 and 1960 has

caused a decline in their population. However anecdotal evidence is that collection of giant triton has reduced their numbers.

13. Senator Bolkus asked:
When was this predator of the crown-of-thorns starfish discovered?

Answer:

The first scientific studies to indicate that the giant triton is a predator of crown-of-thorns starfish was published in 1969.

14. Senator Bolkus asked:
Do we know for sure what is the feeding rate of the giant triton?

Answer:

Research by scientists such as Chesher, Pearson and Endean in the late 60's has shown that tritons consume crown-of-thorns starfish at a relatively slow rate, as slow as 0.7 starfish per triton per week. Furthermore, research by Chesher in Micronesia has demonstrated that these attacks are not always successful and that the starfish may often escape and regenerate any damaged tissue or limbs.

15. Senator Bolkus asked:
Do we know for sure what is the prey preference of the giant triton?

Answer:

Research conducted in the late 60's by scientists such as Chesher, Pearson and Endean indicates that although giant triton do consume COTS, they prefer other species and should be considered as a generalised predator that feeds on a variety of starfish and holothurians. To quote Potts 1981: "*Indeed, A. planci* (the Crown-of-thorns starfish) *seems to be very low in the triton's hierarchy of food preferences*."

16. Senator Bolkus asked:
What research has been undertaken on the ecology of the giant triton?

Answer:

Research into the feeding preferences and feeding habits of the giant triton were conducted in the late 60's, and triton were counted at reefs where COTS outbreaks were taking place. Other than that I am not aware of any field

based studies of giant triton ecology. As cryptic and nocturnal animal, field studies into the giant triton's ecology are difficult to conduct. To quote Engelhardt and Lassig 1996, "*The identified lack of information on key parameters combined with an inability to obtain sufficient numbers of c. tritonis for quantitative studies remains the main obstacle in improving our understanding of its role as a natural predator of a planci.*"

17. Senator Bolkus asked:
What abundance of giant triton would it take to keep starfish rare?

Answer:

Widely accepted scientific opinion is that giant triton are unable to keep the Crown of thorns starfish rare, no matter what their abundance. There is no scientific evidence to suggest that predation by the giant triton could either prevent or control COTS outbreaks. At the height of an outbreak, a single reef may harbour up to 2 million starfish, as reported by Cameron and Endean on Green Island in 1981. Given the slow feeding rate (0.7 starfish per week) and the fact that attacks on COTS by tritons are not always fatal, the ability of tritons to control or prevent COTS outbreaks is doubtful. To quote Chesher 1969: "*My studies indicate that predation by C. tritonis would not result in adequate controls of A. planci populations.* " and "*even if triton were abundant, it would be doubtful that it could control A. planci.*". Furthermore, scientists such as Endean, Chesher, and Ormond have recorded COTS outbreaks on reefs in Micronesia and the Red Sea where tritons are relatively abundant (Potts, 1981).

A review of COTS research by Potts in 1981 and later by Moran in 1988, reinforces these views. Potts notes that of all the hypothesis to explain COTS outbreaks, the predator removal hypothesis (that is, removal of predators such as the giant triton) was "*the least satisfactory on both theoretical and empirical grounds*" and Moran states that "*there are little direct, quantitative data to suggest that predation plays an important role in limiting the numbers of starfish on reefs.*"

18. Senator Bolkus asked:
What research has been undertaken on breeding the giant triton?

Answer:

I am not aware of any research programs that investigated breeding of the giant triton at this time.

19. Senator Bolkus asked:
What is the future of the Giant Triton Research program?

Answer:

All research associated with the Crown-of-thorns starfish phenomenon is currently being reviewed by the Cooperative Research Centre for the Great Barrier Reef World Heritage Area. Any further research on the giant triton will be subject to the findings of this review. However, given the theoretical and quantitative problems with the predator removal hypothesis, and the lack of scientific evidence to support this theory, it is likely that other avenues of research into the Crown-of-thorns starfish will be of higher priority.