COTS COMMS

Issue Number 3 June 1989

In the interests of timeliness, this special issue is brief and primarily concerned with seeking YOUR opinion on cots research. Read on.

A Letter to the Editor!!

Much to my horror and chagrin, I see 2 typographic errors in a paper I wrote for American Scientist on *A. planci.* I feel I should make sure these errors are not repeated from this paper. Since everyone, or nearly everyone who is publishing on *A. planci* probably reads COTS COMMS, do you think it would be appropriate for me to make the editorial corrections via your newsletter? If so, maybe it could read something like this:

"Charles Birkeland apologizes for missing 2 typographic errors in proof reading a recent paper in American Scientist on the "Faustian traits of the crown-of-thorns starfish". So that these errors are not quoted and perpetrated like a virus, if you ever come across that paper please change 1968 to 1967 (page 155, column 2, line 4) and $215,000 to $225,000 (page 162, column 1, line 7)."

Sorry Charles, but I don't think this is appropriate for COTS COMMS. (Ed.)

Births, Deaths & Marriages

In his review of the crown of thorns starfish research program, Professor Don Anderson noted that for the GBRMPA to run the program effectively, it needs the support of a review committee that could be active in determining the initial funding and annual renewal of all projects. Because of the size and composition of the Crown of Thorns Starfish Advisory Review Committee (COTSARC), this was not possible.

Following this recommendation, the GBRMPA has established a new advisory committee - the Crown of Thorns Starfish Research Committee (COTSREC). In line with Anderson's recommendations, it is intended that COTSREC will meet three times a year to review applications for funds, to receive and deliberate upon the reports of assessors on these applications, and to review progress of the program before the next round of applications.

Membership of the committee should be as follows:

Professor J.M. Swan (Chairman); Mr G. Kelleher and Dr L. Zann (GBRMPA); Dr J.T. Baker and Dr P. Moran (AIMS); Professor R. Golding (JCU); Mr R. Pearson (Q.DPI) and Dr K. Sainsbury (CSIRO). Professor R. Slatyer (eminent ecologist and recently appointed Chief Scientist to the Prime Minister) has been invited to join the committee, but he is unable to make a commitment until he knows his availability.

1990 and Beyond

To help fulfill COTSREC's charter there will be a workshop held in conjunction with the first COTSREC meeting planned for 17-19 July 1989. Objectives of this workshop are:

1. To provide new COTSREC members with a broad background of knowledge of the *Acanthaster* phenomenon and an overview of past research.

2. Within a management context, to use experts to advise on:

a. the types of research that should be undertaken in the future;

b. the priorities, schedules and approximate costs of this research; and

c. mechanisms for achieving this research.

The agenda will include presentations and discussions on predation, impacts of fishing, anthropogenic influences, geological studies, coral recovery, biology, ecology, recruitment, hydrodynamics and controls.

Unfortunately, for logistical reasons, not all the experts who could or should provide an input to this workshop can be invited.

If you have an opinion on future directions of *Acanthaster* research that you believe COTSREC members should hear, please submit your views (in writing) to Brian Lassig or Leon Zann of the GBRMPA before 30 June. These will presented to the COTSREC members for their consideration.

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Current COTS

David Johnson of the AIMS Survey Team has kindly sent GBRMPA results of the latest (May 1989) surveys in the Whitsunday and Pompey Complex sectors. Because of unreasonably good weather the team surveyed 42 reefs in the Pompeys, Whitsunday, Cape Upstart and Townsville Sectors. As well as looking for cots, the team was able to make some assessment of damage caused by cyclone AIVU.

Pompey Complex: Cots were recorded in low numbers (*ie* <10 starfish per reef) on six reefs, and were not observed on the remaining 12 reefs. All reefs within this sector were regarded as "Not Affected" by recent outbreaks except for Credlin Reef. At Credlin a total of 9 starfish were seen on the north-west back section, in the region where a small outbreak has been identified since 1986. Further observations during snorkel and night dives in this area suggest that this population has declined since the last survey in 1988.

Whitsunday Sector: In this sector cots were not observed on 15 reefs, were in low numbers (*ie* <10 starfish per reef) on one reef, and constituted outbreaks on two reefs (Reef No. 20-104 and Hardy Reef). On Reef No. 20-104 (adjacent to Tideway Reef) starfish were recorded around the entire perimeter of the reef and on Hardy Reef a number of starfish were observed along a small area of the south-east front (adjacent to the "lagoons" on the reef flat).

Cyclone Damage: There appeared to be minimal damage caused by cyclone Aivu to the 12 reefs surveyed that were in the general path of the cyclone. No large areas of major change or extensive damage were recognised. Damage was restricted to overturned dead *Acropora* tables at the base of the slope, dislodged massive *Porites* colonies, "scouring" of the slope, breakages amongst staghorn *Acropora* thickets and a "cropping" phenomenon amongst short branching colonies in shallow water. The damage was very inconsistent in nature and patchy in its occurrence around the reefs surveyed.

More Prickly Problems?

Leon Zann has just returned from a "fact-finding mission" to Fiji and Tonga to gather information for a study on cots and fishing pressure and to collect data on juvenile recruitment for the 11th year.

After nine "person days" of searching thousands of pieces of coralline rubble in his monitoring site and elsewhere, it appears that 1989 was not a good year for settlement.

Although no 0+ year recruits were seen, a few 1+ juveniles (40-120mm diameter) and many hundred 2+ year adults (200-300mm) were located. Leon's colleagues in Fiji had previously picked up a small settlement in 1988 and a large settlement in 1987, and the sizes closely match those of a cohort monitored over three years. Samples brought back for ageing appear to confirm a good relationship between age and size in *A. planci* .

Leon also had a couple of days re-surveying some cross reef transects which he set up 5 and 10 years ago. There were massive changes in several sites. Most conspicuous were "outbreaks" of several echinoids, mainly the rock-boring *Echinometra matheai, Diadema, Echinothrix, Tripneustes, Toxopneustes,* and the holothurian *Stichopus chloronatus.*

At one site, a 1.2ha area of 70% *Acropora* cover (with a population of ca. 14,000 cots) in 1984 had been transformed into bare coral rock and rubble by *Echinometra* in densities averaging 20-80/sq m. Following predation by the cots a coral dominated community has been replaced by a benthic algal dominated one, and *Echinometra* "outbreaks" have shorn off not only the dead standing corals but tens of centimetres of coral rock. Similar outbreaks have recently been described from Okinawa and East Africa.

Does anyone else have similar post-cots observations?

Don't forget, COTS COMMS is for communication of the people, by the people, for the people.

COTS COMMS is edited by Brian Lassig. Views expressed are not necessarily those of the Great Barrier Reef Marine Park Authority.
