

Figure 16. The pattern of fish species distribution around the outer reef of Aldabra Atoll in November 1999 and February 2001.

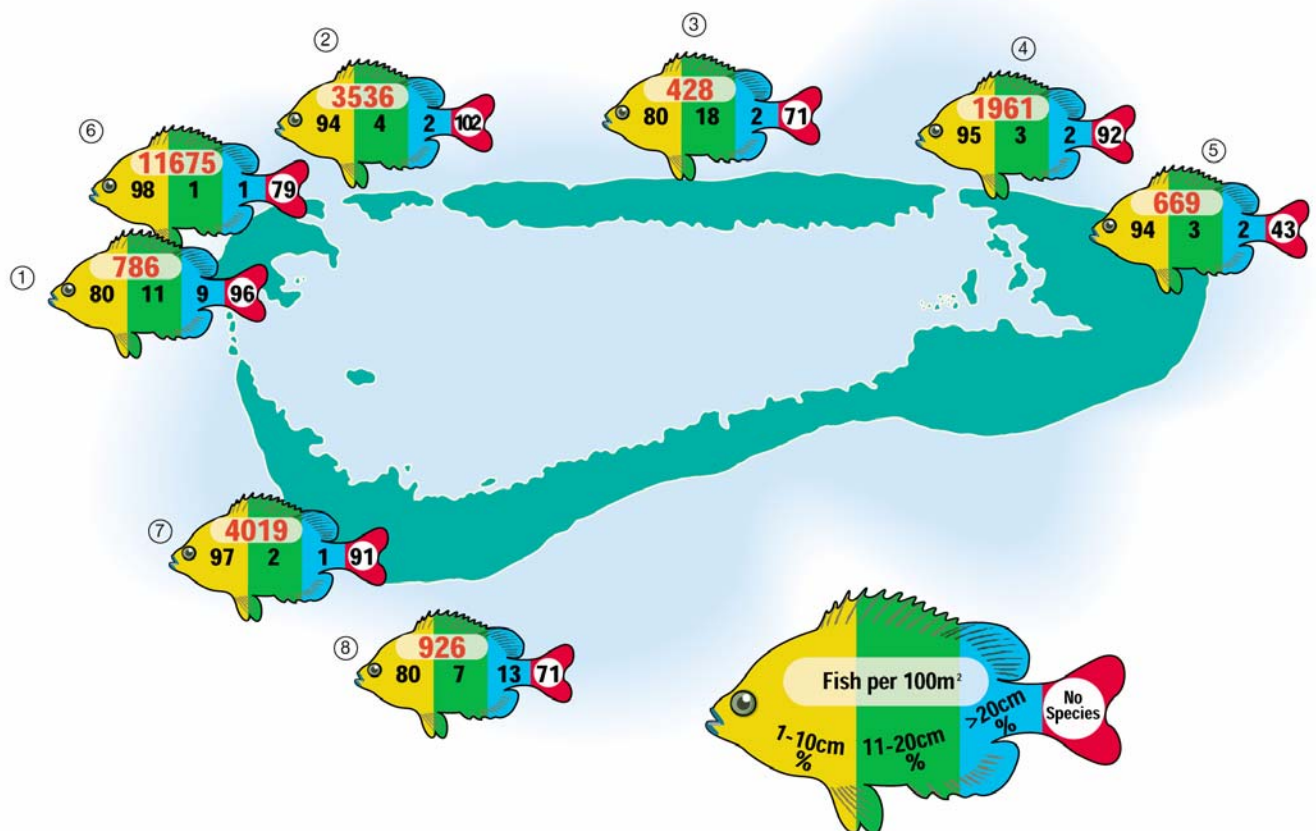


Figure 17. The pattern of fish species distribution around the outer reef of Aldabra Atoll in February 2002.

Numbers of Fish Recorded

The total number of fish counted was 71,999 combining the data from all 8 sites. This was equivalent to 3,000 fish per 100m², and compares closely with the 1999 figure of 2,949 fish per 100m². In 2001 the count was about half, at 1,501 fish per 100m².

At all sites the highest percentage of fish (80 – 99%) were counted in the <1 – 10cm size category, and only at Site 8 were more fish counted in the >20cm category than in the >10 – 20cm size band.

Fish Species Distribution

In 1999 and 2001, Sites 5, 3, 1, and 4 had the fewest species of fish, in that order. In 2002, Sites 5 and 3 retained their lowest position, but Site 1 had the second highest species count, followed by Site 4. While Site 6 had the highest species count in 1999, in 2001 it dropped to second position and in 2002 to fifth place. There were no correlations between the number of species recorded at the 10m or 20m depths and the east to west positions of the survey sites ($\alpha = 0.05$; $R^2 = 0.11$ and $R^2 = 0.19$ respectively).

Fish Numbers Distribution

In the distribution of fish numbers, the rankings have been largely consistent since 1999. Sites 6 and 7 remained ranked 1st and 2nd, while Sites 1, 3 and 5 have stayed in the same order at the bottom of the ranking. However, even when comparing 1999 with 2002, where the overall counts per 100m² are so similar, there have been some large changes. For example, at Site 6 the density increased from 7,241 (1999) to 11,675 fish per 100m² (2002). At Site 2 the density more than doubled from 1999, but at Site 4 it decreased from 4,072 (1999) to 1,961 fish per 100m² (2002).

Relationship with Coral Habitat

As in previous years the relationship was analysed between a) the fish density and b) the number of species with coral habitat amongst the Holocentrids, Serranids, Chaetodontids, Pomacentrids and Labrids ($\alpha = 0.05$).

In the analysis of fish density with percent live coral cover there was a significant positive correlation for the Serranids ($R^2 = 0.56$) and the Pomacentrids ($R^2 = 0.61$) at 10m depth. When comparing fish density with percent combined live and dead coral cover there was again a significant positive correlation amongst the Serranids ($R^2 = 0.55$) and the Pomacentrids ($R^2 = 0.59$), but also with the Chaetodontids ($R^2 = 0.55$). Only amongst the Pomacentrids at 10m was there a significant positive correlation ($R^2 = 0.74$) between the number of species in that family and percent combined live and dead coral cover.

Assomption, Astove and St. Pierre

The fish surveys at Assomption, Astove and St. Pierre found the highest total count of species at Astove (133), although Astove also had the lowest number of species (83) seen in the transects (Table 7, Figure 13, Appendix 3). The surveys at Astove also found the highest number of families at 29. The total number of species at Assomption (100; Table 8, Figure 13, Appendix 4) and St. Pierre (109; Table 9, Figure 13, Appendix 5) compare favourably, as do the number of families (24 and 26, respectively). The fish density at St. Pierre was extremely high (5,845 fish per 100m²) more than double that at either Assomption (1,779 fish per 100m²) or Astove (2,049 fish per 100m²). This density was only exceeded by Site 6 on Aldabra (11,675 fish per 100m²; Table 6).

No correlations of fish density or species numbers with habitat are possible given that only one site per island was surveyed.

Table 6. Summary of Fish Count Data for Aldabra, Assomption, Astove and St. Pierre.

	Aldabra			Assomption	Astove	St. Pierre
	1999	2001	2002	2002	2002	2002
	Sites 1 - 7	Sites 1 - 8	Sites 1 - 8			
Species in transect	165	191	179	91	83	107
Species total	211	205	221	100	133	109
Families in transect	29	32	31	24	21	25
Families total	35	40	38	24	29	26
Fish total	61,939	34,901	71,999	5,336	6,147	17,534
Fish per 100m²	2,949	1,501	3,000	1,779	2,049	5,845

Table 7. Summary of the number of fish counted at Astove, by transect depths and fish size groups, during the Aldabra Marine Programme surveys in February 2002.

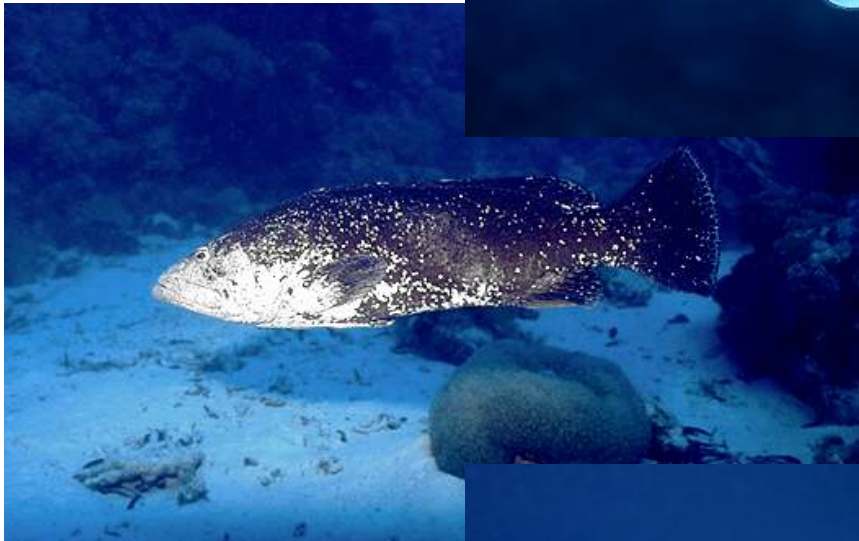
Survey Transect Depths	10m				20m				10+20m	Sighted off transect
Total Area Surveyed	200m ²				100m ²				300m ²	
Fish Size Group (Total Length)	<1-10cm	>10-20cm	>20cm	Total	<1-10cm	>10-20cm	>20cm	Total	Total	
Total Fish Counted	2184	320	223	2727	2686	666	68	3420	6147	
Number of Families	11	13	12	19	11	12	10	19	22	21
Number of Species	31	32	23	65	23	22	13	51	83	50
Fish/100m ²	1092	160	111,5	1363,5	2686	666	68	3420	2049	
Total Species Identified	133									

Table 8. Summary of the number of fish counted at Assomption, by transect depths and fish size groups, during the Aldabra Marine Programme surveys in February 2002.

Survey Transect Depths	10m				20m				10+20m	Sighted off transect
Total Area Surveyed	200m ²				100m ²				300m ²	
Fish Size Group (Total Length)	<1-10cm	>10-20cm	>20cm	Total	<1-10cm	>10-20cm	>20cm	Total	Total	
Total Fish Counted	1650	770	270	2690	1315	558	773	2646	5336	
Number of Families	11	14	14	19	9	8	14	21	24	7
Number of Species	36	42	27	75	23	20	22	55	91	9
Fish/100m ²	825	385	135	1345	1315	558	773	2646	1778,7	
Total Species Identified	100									

Table 9. Summary of the number of fish counted at St. Pierre, by transect depths and fish size groups, during the Aldabra Marine Programme surveys in February 2002.

Survey Transect Depths	10m				20m				10+20m	Sighted off transect
Total Area Surveyed	200m ²				100m ²				300m ²	
Fish Size Group (Total Length)	<1-10cm	>10-20cm	>20cm	Total	<1-10cm	>10-20cm	>20cm	Total	Total	
Total Fish Counted	10972	265	200	11437	5735	279	83	6097	17534	
Number of Families	12	15	14	21	12	13	12	20	25	2
Number of Species	38	45	42	85	27	35	25	71	107	2
Fish/100m ²	5486	132,5	100	5718,5	5735	279	83	6097	5844,7	
Total Species Identified	109									



Fish of Aldabra – From top: *Platax teira*; *Plectorhinchus plagiodesmus*; *Epinephelus* sp.; *Caranx ignobilis*. (All R. Sozzani photos).

Echinoderm Transects

A total of five urchin species, representing three families, were quantitatively sampled; *Echinostrephus molaris* and *Echinometra mathaei* (Echinometridae), *Diadema setosum* and *Echinothrix calamaris* (Diadematidae), and *Eucidaris metularia* (Cidaridae). Outside the transects, an additional urchin species was observed; the pencil urchin *Heterocentrotus trigonarius* (Echinometridae). All these urchin species were observed within the coral reef habitat.

Urchin densities varied considerably between islands (Table 10; Figures 18 & 19). The burrowing, non-target, *E. molaris* was notably the most abundant, reaching a maximum site density of 342 ± 11.3 at Astove (all echinoderm figures given as number \pm SD per 125m²), with similar densities of 2.5 ± 0.7 and 3 ± 1.4 at Assomption and St. Pierre, respectively. *Echinometra molaris* was estimated to be the most abundant urchin at two of the three island sites, Assomption being the anomaly. Only two target urchins, *D. Setosum* and *E. mathaei*, were recorded, and these were found in small densities (Table 10). *Echinometra mathaei* was found at all three sites with maximum density at Astove, while *D. setosum* was only found at Assomption. All of the *D. setosum* were juveniles. The remaining target species, *D. savigni*, was not seen during any dives. Other non-target species, *E. calamaris* and *E. metularia*, were only seen at Assomption, this being the only island to have all five species present. Astove showed the highest pooled urchin density per 125m² (343 ± 9.9), followed by Assomption (14 ± 13.4), and St. Pierre (4 ± 2.1), with *E. molaris* by far the dominant species.

Table 10. Mean species counts per 125m² (\pm SD) and pooled urchin counts per 125m² (\pm SD) for each quantitative survey site.

Site	<i>E. molaris</i>	<i>E. mathaei</i>	<i>D. setosum</i>	<i>E. calamaris</i>	<i>E. metularia</i>	All
Astove	342 ± 11.3	1.0 ± 1.4	0.0	0.0	0.0	343 ± 9.9
Assomption	2.5 ± 0.7	1.0 ± 0.7	6.5 ± 7.8	0.5 ± 0.7	3.5 ± 4.9	13.5 ± 13.4
St. Pierre	3.0 ± 1.4	1.0 ± 0.7	0.0	0.0	0.0	3.5 ± 2.1

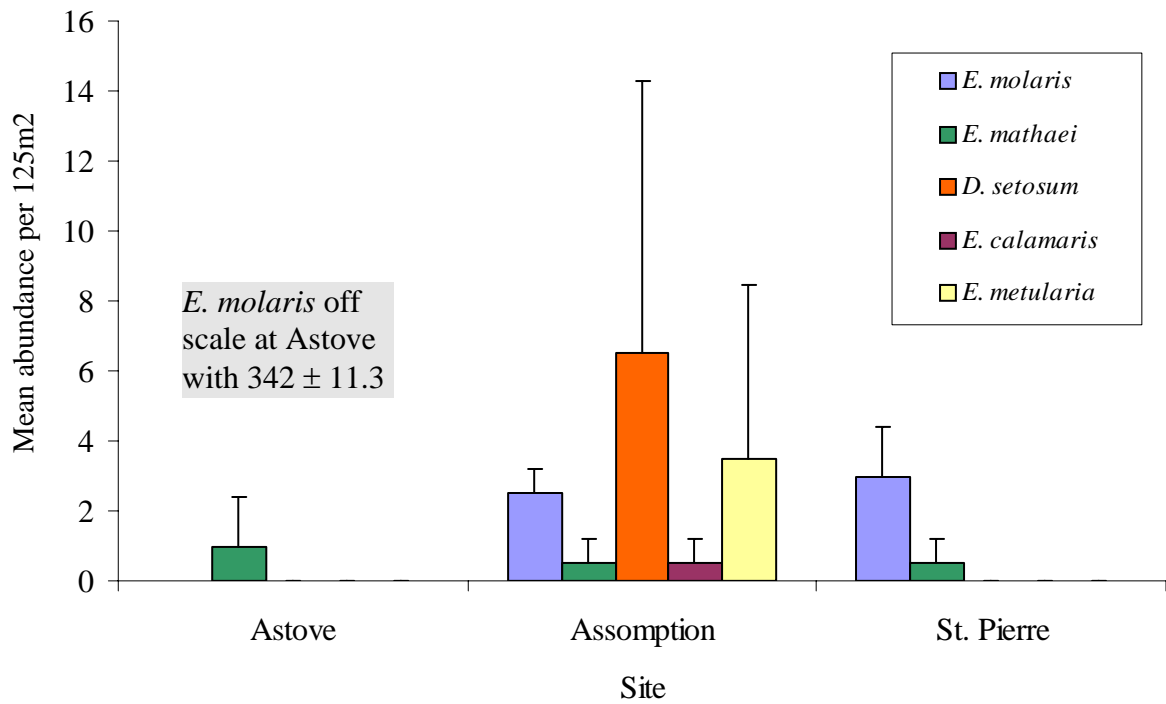


Figure 18. Mean counts ($n = 2$, \pm SD), per survey site, of the urchin species quantitatively sampled at Astove, Assumption and St. Pierre.

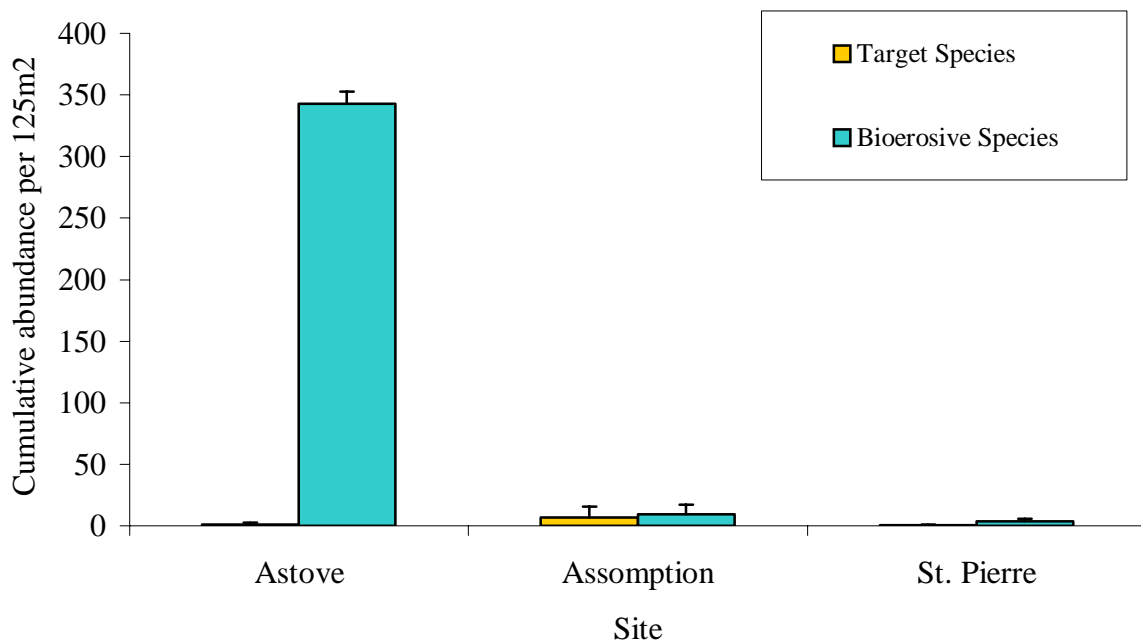


Figure 19. Cumulative counts ($n = 2$, \pm SD), per survey site, of the target and bio-eroding urchin species quantitatively sampled at Astove, Assumption and St. Pierre.

When focusing solely on the target urchins (*E. mathaei*, *D. setosum* and *D. savigni*) the BSU (black spined urchin) index value of 1 was registered at all sites, but never exceeded (Figure 20). In contrast, ‘bio-erosive’ urchin counts (*E. mathaei*, *D. setosum*, *D. savigni* and *E. molaris*) showed only Astove to be above the BSU threshold index value of ‘3’, with a BSU index value of ‘5’. The two remaining sites showed BSU index values of ‘1’. Table 11 provides details of urchin composition for Aldabra Atoll, and of the three islands surveyed in this study.

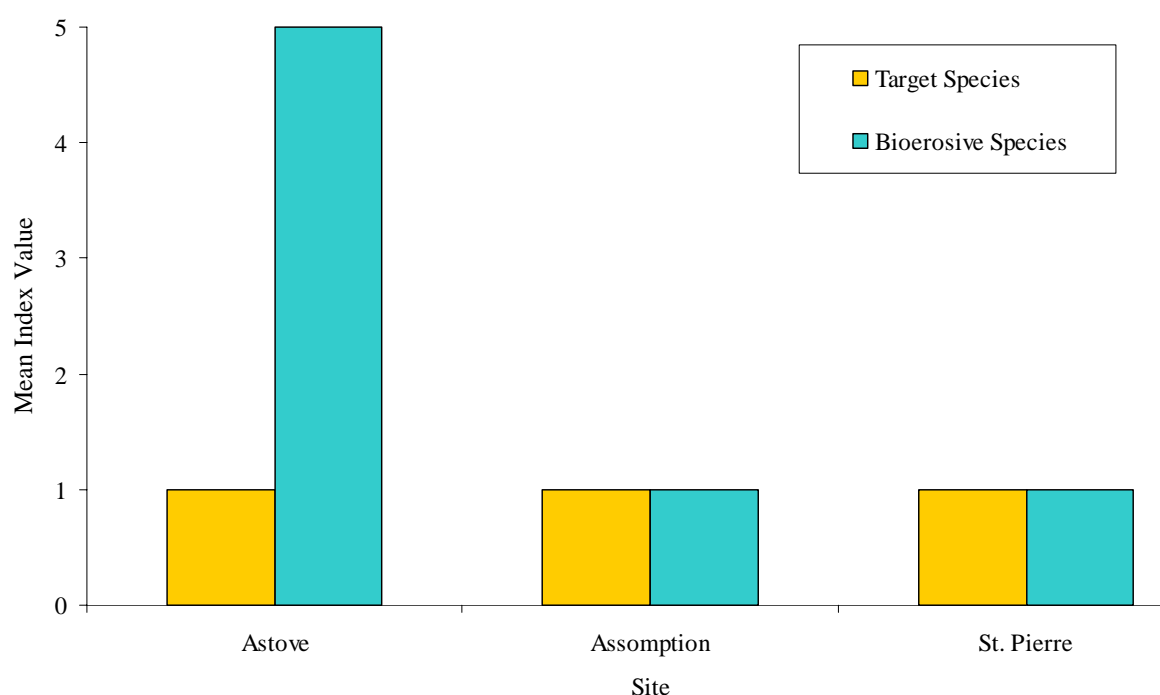


Figure 20. Black spined urchin (BSU) index values for target (*E. mathaei*, *D. setosum* and *D. savigni*) and bioeroding (*E. mathaei*, *D. setosum*, *D. savigni* and *E. molaris*) species.



Eucidaris metularia.

The obligate coral predator, *Acanthaster planci*, was not observed in the surveys of any of the island transects, nor in qualitative investigations.



Acanthaster planci.

Table 11. Regular Echinoidea observed on the reef habitat of Aldabra Atoll (Callow *et al.* 2001) and of Astove (1), Assomption (2) and St. Pierre (3) islands. The list combines qualitative (*) and quantitative observations.

AMP Phase II (February 2001), Aldabra	AMP Phase III (February 2002), Astove, Assomption and St. Pierre
Cidaridae	
	<i>Eucidaris metularia</i> (Lamarck, 1816) (2)
Diadematidae	
<i>Astropyga radiata</i> (Leske, 1778)	
<i>Diadema setosum</i> (Leske, 1778)	<i>Diadema setosum</i> (Leske, 1778) (2)
<i>Echinothrix calamaris</i> (Pallas, 1774) *	<i>Echinothrix calamaris</i> (Pallas, 1774) (2)
Toxopneustidae	
<i>Tripneustes gratilla</i> (Linnaeus, 1758)	
Echinometridae	
<i>Echinometra mathaei</i> (de Blauville, 1825)	<i>Echinometra mathaei</i> (de Blauville, 1825) (1,2,3)
<i>Echinostrephus molaris</i> (de Blauville, 1825)	<i>Echinostrephus molaris</i> (de Blauville, 1825) (1,2,3)
<i>Heterocentrotus trigonarius</i> (Lamarck, 1816) *	<i>Heterocentrotus trigonarius</i> (Lamarck, 1816)*

Temperature Data Loggers

A problem with the reliability of the Optic StowAway Temp temperature data loggers was noted by the Aldabra Research Station on 26 November 2001 (Table 12). The temperature logger retrieved from Passe Dubois would not completely download the data stored since redeployment on 17 September 2001. It had moisture inside and was inactive. The Site 1 and Ile Esprit temperature loggers were also retrieved on 26 November 2001 and were successfully downloaded and redeployed. The record recovered from the Site 1 logger showed high temperatures at the 10m depth ranging from 30 to 33°C for over one month. This range and duration of high temperatures on the outer reef was indicative of a coral bleaching event in the making.

Table 12. Retrieval of Optic StowAway Temp temperature data loggers deployed by AMP Phase II at Aldabra.

Retrieval date	Logger location	Deployment depth	Logger condition
26 Nov. 2001*	Passe du Bois - lagoon	3m	Flooded
26 Nov. 2001*	Site 1 – outer reef	10m	OK
26 Nov. 2001*	Ile Esprit - lagoon	3m	OK
3 Feb. 2002	Ile Esprit - lagoon	3m	OK
3 Feb. 2002	Site 1- outer reef	10m	OK
4 Feb. 2002	Site 6 - outer reef	10m	Flooded
4 Feb. 2002	Site 6 - outer reef	6m	Flooded
4 Feb. 2002	Site 6 - outer reef	20m	Flooded
5 Feb. 2002	Site 3 - outer reef	6m	Flooded
5 Feb. 2002	Site 3 - outer reef	10m	Flooded
5 Feb. 2002	Site 3 - outer reef	20m	Flooded
6 Feb. 2002	Site 9 (East Channel) - lagoon	5m	Flooded

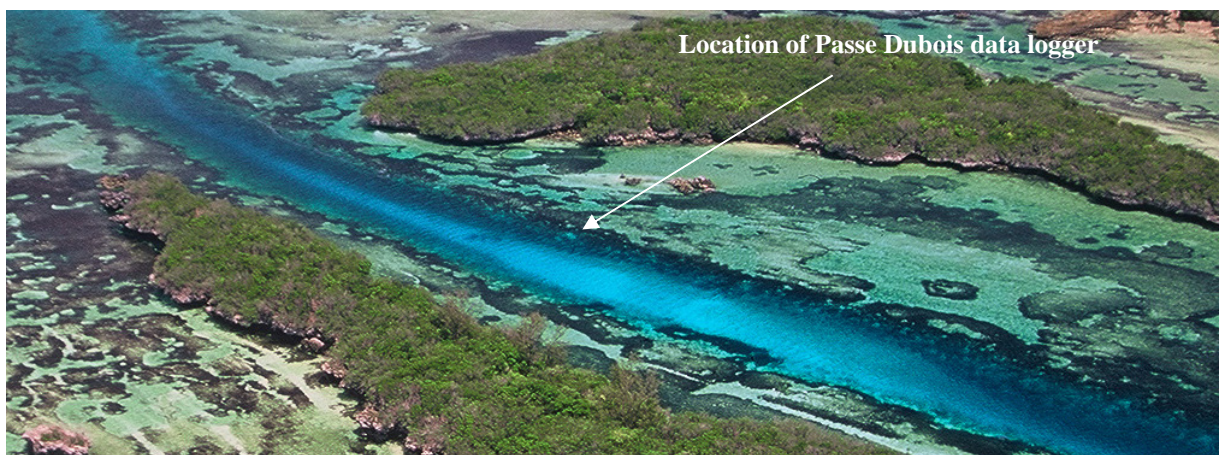
* Retrieved by Aldabra Research Station

On 3 February 2002 AMP conducted a visual examination of the Site 1 corals at 10m and confirmed that there was no evidence of recently bleached or dead corals. This raised questions about the accuracy of the high temperatures previously recorded by the Site 1 logger. To test the relative accuracy of the Site 1 logger, 10 temperature loggers were deployed for 6.5 hours adjacent to the Site 1 logger. During the test period the Site 1 logger

recorded temperatures that averaged 31.8°C while the other 10 loggers recorded temperatures that averaged from 28.6 to 28.8°C (Table 13). The overall average temperature for the 10 loggers was 28.7°C which was 3.1°C lower than the Site 1 logger average temperature. This analysis of the temperature records was conducted after the Site 1 logger was redeployed (Table 14).

On 3 February, the temperature logger at Ile Espirt was retrieved and downloaded in the field, then redeployed along with a back-up logger (Table 14). The failed logger at Passe Dubois was also replaced on this date. The remaining seven temperature loggers deployed in February 2002 by AMP Phase II were retrieved on 4-6 February. All were found flooded and inoperative (Table 12).

On 1 February 2002, the first day of field operations for AMP Phase III, temperature loggers were deployed at 6m, 10m and 20m depths at Site 8 following the original deployment plan (Table 14). Temperature loggers had not been placed at this southern shore site in AMP Phase II. Following the discovery of the massive failure of the loggers deployed in Phase II, the logger deployment plan for Phase III was revised to maximise the potential for obtaining temperature records for one research site at Aldabra over the next year using the only loggers available in the field. Seven loggers were deployed at Site 3, one at 6m depth, and three each at 10m and 20m depths (Table 14). The remaining five temperature loggers were deployed one each at Sites 6 and 9 at Aldabra, and at the Assomption, St. Pierre and Astove sites.



Passe Dubois.

Table 13. Temperature readings (°C) of 10 Optic StowAway Temp temperature data loggers deployed adjacent to the Site 1 logger at 10m depth, 3 February 2002.

Time	Temperature Loggers (Temperature readings °C)										
	*Site 1	OSA-R	OSA-R	OSA-R	OSA	OSA	OSA	OSA	OSA	OSA	OSA
11:00	31.5	28.5	28.6	28.5	28.6	28.6	28.6	28.6	28.6	28.6	28.5
11:15		28.5	28.6	28.9	28.6	28.6	28.6	28.6	28.6	28.6	28.5
11:30	31.9	28.5	28.6	28.9	28.6	28.6	28.6	28.6	28.6	28.6	28.5
11:45		28.5	28.6	28.9	28.6	28.6	28.6	28.6	28.6	28.6	28.5
12:00	31.9	28.5	28.6	28.9	28.6	28.6	28.6	28.6	28.6	29.0	28.5
12:15		28.9	29.0	28.9	29.0	28.6	28.6	28.6	28.9	29.0	28.9
12:30	31.9	28.5	28.6	28.9	29.0	28.6	28.6	28.6	28.9	29.0	28.5
12:45		28.5	28.6	28.5	28.6	28.6	28.6	28.6	28.6	28.6	28.5
13:00	31.9	28.5	28.6	28.5	28.6	28.6	28.6	28.6	28.6	28.6	28.5
13:15		28.5	28.6	28.5	28.6	28.6	28.6	28.6	28.6	28.6	28.5
13:30	31.5	28.5	28.6	28.5	28.6	28.6	28.6	28.6	28.6	28.6	28.5
13:45		28.5	28.6	28.5	28.6	28.6	28.6	28.6	28.6	28.6	28.5
14:00	31.9	28.9	29.0	28.9	29.0	28.6	28.6	28.6	28.9	29.0	28.9
14:15		28.5	28.6	28.9	28.6	28.6	28.6	28.6	28.6	28.6	28.5
14:30	31.9	28.5	28.6	28.9	28.6	28.6	28.6	28.6	28.6	29.0	28.5
14:45		28.9	29.0	28.9	29.0	28.6	28.6	28.6	28.6	29.0	28.9
15:00	31.9	28.9	29.0	28.9	29.0	28.6	29.0	29.0	28.9	29.0	28.9
15:15		28.9	29.0	28.9	29.0	28.6	29.0	29.0	28.9	29.0	28.9
15:30	31.9	28.9	29.0	28.9	29.0	28.9	29.0	29.0	28.9	29.0	28.9
Max	31.9	28.9	29.0	28.9	29.0	28.9	29.0	29.0	28.9	29.0	28.9
Min	31.5	28.5	28.6	28.5	28.6	28.6	28.6	28.6	28.6	28.6	28.5
Avg	31.8	28.7	28.7	28.8	28.7	28.6	28.6	28.7	28.7	28.8	28.6

*Site 1 = OSA deployed at Site 1 in February 2001

OSA = Optic StowAway Temp - new logger

OSA-R = Optic StowAway Temp - refurbished logger

Table 14. Deployment of Optic StowAway Temp and prototype HOBO Water Temp Pro temperature data loggers by AMP Phase III at Aldabra Atoll, Assomption, Astove and St. Pierre in February 2002.

Deployment date and site	Logger	Deployment depth	Logger model
Aldabra Atoll			
1 Feb. 2002	Site 8 - outer reef	6m	OSA
1 Feb. 2002	Site 8 - outer reef	10m	OSA
1 Feb. 2002	Site 8 - outer reef	20m	OSA
3 Feb. 2002	Site 1 - outer reef	10m	OSA-ReD
3 Feb. 2002	Passe Dubois - lagoon	3m	OSA-R
3 Feb. 2002	Ile Esprit - lagoon	3m	OSA-ReD
3 Feb. 2002	Ile Esprit - lagoon	3m	OSA-R
5 Feb. 2002	Site 3 - outer reef	6m	OSA
5 Feb. 2002	Site 3 - outer reef	10m	OSA
5 Feb. 2002	Site 3 - outer reef	10m	OSA-R
5 Feb. 2002	Site 3 - outer reef	10m	HOBO
5 Feb. 2002	Site 3 - outer reef	20m	OSA
5 Feb. 2002	Site 3 - outer reef	20m	OSA-R
5 Feb. 2002	Site 3 - outer reef	20m	HOBO
6 Feb. 2002	Site 9 (East Channel) - lagoon	5m	OSA-R
10 Feb. 2002	Site 6 - outer reef	10m	OSA
Assomption			
13 Feb. 2002	Outer reef site	10m	OSA
Astove			
15 Feb. 2002	Outer reef site	10m	OSA
St. Pierre			
18 Feb. 2002	Outer reef site	10m	OSA

*OSA = Optic StowAway Temp - new logger

OSA-ReD = Optic StowAway Temp - 2001 logger redeployed after download

OSA-R = Optic StowAway Temp - refurbished logger

HOBO = prototype HOBO Water Temp Pro

Aerial Surveys

During a visit to Aldabra in March 2002 one of the AMP team had the opportunity to make several low level flights over the western side of the atoll in the area between the station, Ile Esprit and Grande Passe. On two separate occasions a single dugong (*Dugong dugon*) was seen swimming near the mangroves at Bras Monsieur Clairmont in an area of shallow water. Both sightings were made during falling spring tides. Flights also revealed a substantial population of rays and sharks inside the lagoon, including large schools of eagle rays (*Aetobatus* sp.), stingrays, schools of 8-10 blacktip reef sharks (*Carcharhinus melanopterus*) and large solitary tiger sharks (*Galeocerdo cuvier*). Sharks appeared to be particularly abundant in the deeper water surrounding Ile Esprit. Other species seen within the lagoon during dives include lemon sharks (*Negaprion* sp.) at Passe Houareau, a bull shark (*Carcharhinus leucas*) at Passe Dubois and large (>4m) hammerhead shark (*Sphyrna* sp.) at Grande Passe. A very large population of turtles was also seen. It was clear that the extent of mangroves within the surrounds of the lagoon is vast and must therefore play a significant role as a key habitat for, amongst others, marine organisms.



Hammerhead shark – *Sphyrna* sp.

Discussion

Coral Community

The 2002 survey results for Aldabra are very encouraging. There is indication that live coral cover is increasing, or remaining stable at most sites around Aldabra. The only exceptions are at Site 1 (shallow) and Site 4 (deep). Negative growth results for these sites are not surprising as Site 1 shallow is very near to the research station and vulnerable to anchor damage. Site 4 deep is on a steep slope that is not very stable and therefore coral is vulnerable to damage from rubble and sand moving down the reef slope. Steady decrease in the amount of dead coral recorded over the past three years indicates that no further perturbations have occurred since the study started.

There is no evidence of significant change in the algal community, with the exception of Site 5 where the abundance of *Halimeda* has increased considerably in both shallow and deep water. Site 5 is dominated by *Halimeda* growing on a loose substrate so it can be expected to vary in cover as rough weather removes it and when it then grows back. This idea is supported by the fact that *Halimeda* cover decreased between 1999 and 2001 and then increased dramatically between 2001 and 2002 suggesting a “boom and bust” cycle of growth.

Coral cover in the lagoon remained stable with only Site 9 showing an increase in live coral cover. The environment at Site 9 is very protected with moderate current and enough water depth for corals to grow unhindered, therefore rapid growth at this site can be expected.

During the AMP III expedition and the subsequent visit in March large numbers of spherical coral balls were noted inside the lagoon in the vicinity of Passe Dubois and Passe Gionet. These are known as “coralliths” (J. E. N. Veron, AIMS, personal communication) and occur when corals become detached and rolled along the seabed. At Aldabra these grow to about 15 cm diameter and are very abundant.

Sites east of Aldabra were clearly affected by the 1998 coral bleaching, probably to a greater extent than Aldabra in view of the abundant remains of dead coral colonies. In spite of this coral cover at these sites is comparable to Aldabra, with the exception of Astove that has high

live coral cover in shallow water, including many plate *Acropora* colonies, and poor coral cover in deeper water. Furthermore, at depth there is rampant growth of *Caulerpa* that spans a large depth range and must be damaging the coral. Future AMP expeditions will monitor the progress of this algal bloom. The coral community at St. Pierre also was notable due to the high number of *Pocillopora eydouxi* colonies and recruits. This species was noted in abundance by Teleki *et al.* (1999^b) and it seems likely that following the devastating bleaching event at St. Pierre in 1998 it was able to self-seed the local reefs very successfully.

Coral recruitment at Aldabra remained high in February 2002, and again most recruitment occurred at 10m. Recruitment increased significantly at only 3 sites. Levels of recruitment at the new locations east of Aldabra were comparable, though Astove had surprisingly low recruitment. It is noteworthy that Astove had the only echinoderm BSU index above the critical threshold (see discussion on echinoderms). A large echinoderm population may be reducing recruit survivorship, though the high BSU figure is driven by *E. molaris*, a species that is not thought to graze far from its burrow. Furthermore, a similarly high *E. molaris* population did not affect recruitment at Aldabra. Astove is very remote and not in the vicinity of any nearby reefs. It is possible that locally produced coral larvae are washed away towards Aldabra and Assomption by the prevailing southeasterly current. If this is true Astove may be primarily a source reef and both important for recruitment at other reefs and unlikely to recover fast from perturbations due to poor recruitment to its own reefs.

Evidence of moderate coral cover increase at Aldabra, coupled with high coral recruitment, indicates that reef recovery is continuing. Possibly with the exception of Astove, recovery is also likely at the new sites east of Aldabra.



Lobophytum sp.

Fish Community

The total species count of 221 at Aldabra in 2002 is the highest yet recorded since the AMP surveys began in 1999. The AMP surveys in 1999 and 2001 identified 211 and 205 species, respectively. These species counts are all lower than the 251 species identified by M. Spalding in 1998 (University of Cambridge, unpublished), during the peak of the bleaching episode but before the subsequent coral mortality. However, because the survey methods differ between the 1998 and AMP studies it is not accurate to make direct comparisons. The 1998 survey emphasised searching extensive areas to identify species and record their average abundances in broad categories. The technique used in the current AMP quantitative surveys of fixed transect areas, which counts species in distinct length groups, together with the amount of time available at each site, has not lent itself to making exhaustively detailed inventories.

A more useful examination of the status of the fish community at Aldabra since the 1998 bleaching event is to compare the 251 species identified in 1998 with the total species count of 289 for the 1999, 2001 and 2002 AMP surveys. The total AMP species count includes 189 (75%) of the species on the 1998 list. The 62 species identified in 1998 that have not been seen on the subsequent AMP surveys were apparently not abundant prior to the bleaching event. They were primarily (89%) in the average abundance categories of <1 and 1 per survey. The total AMP species count includes an additional 100 species not identified in 1998. The current species richness at Aldabra is indicative of healthy fish populations.

In the 2001 AMP report a note was made of the large difference in total fish counts between the 1999 and 2001 surveys (2,949 vs. 1,501 fish per 100m²). In 2002, the count was 3,000 fish per 100m², back at the 1999 level. Although further analysis is needed to elucidate the drop in 2001, it is clear that the densities can be driven by just one or two species of fish. At Site 6, 88% of the count (11,675 fish per 100m²) was made up of one species, *Lepidozygus tapeinosoma*. If, for example, all counts of this fish are excluded from all eight sites, the average density drops to 962 fish per 100m² for 2002.

As in previous years there are overwhelmingly more fish in the <1 – 10cm size category than in any other. Whereas in 1999 at only one location (Site 7) were there as many or more fish in