

Sooty Terns on Ascension Island South Atlantic

Army Ornithological Society

Integrated Population Monitoring Programme

16th Report

October 2005

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Expedition Report 16 – November 2005

Summary: The expedition completed a full census of the Sooty Terns *Sterna fuscata*. The colony size at the end of October 2005 was 183,000 AON. Predatory activities on our three study sites were recorded. Rat numbers have increased significantly and high levels of rat predation (35 rats per 100 trap nights) were measured. A further 2,000 sooty terns were ringed and 116 re-trapped. DNA and biometric measurements were taken from 66 ringed birds. The DNA was used to sex the terns and a paper on sexing sooty tern from biometrics is being prepared. Sooty terns that were feeding large chicks were trapped and ringed, with green colour rings, with the aim of re-trapping the birds next season so as to determine the length of the breeding cycle.

Population Dynamics of Sooty Terns – Long Term Monitoring Programme

Background

British military ornithological societies have monitored the colony of sooty terns and other seabirds on Ascension Island in the South Atlantic since 1987. The first population census was completed in 1990 ten years prior to the commencement of the RSPB cat eradication on the Island. Sooty terns were closely monitored during the two years when cats were culled and now we continue the monitoring in the post eradication phase. This report contains the findings of the latest field trip and is the sixteenth in a series of expeditions that span twenty four sooty tern breeding seasons. The longitudinal study has focused on the breeding biology of the sooty tern. The study has concentrated on establishing trends in the breeding population, identifying and recording levels of predation, site fidelity, sub-annual breeding and investigating nest and adult survival rates.

Organisations

The long term monitoring programme on Ascension was not planned and there is no lead organisation dictating the direction of the project. The programme has evolved over time and the focus now is on publishing the information that has already been gathered, filling gaps in existing data sets and to continue with the monitoring work. Over the years the lead role has changed hands a number of times. Currently the project is steered by a group of ex-military personnel collectively referred to as “Wideawake Surveys”. The organisations involved are:

- Royal Air Force Ornithological Society (RAFOS) who mounted the first expeditions in Feb 87 and Nov 88 and contributed to most of the other expeditions.
- Army Ornithological Society (AOS) the main contributor who mounted expeditions in 1990, 1991, 1994, 1996, 1998, 2000, 2002, Jan 2004 and the most recent in Oct 2005.
- Royal Navy Bird Watching Society (RNBWS) who contributed field workers and ringers.
- Wideawake Surveys (WS) a small group of ex-military personnel largely self funded who have a strong interest in seabirds on Ascension. WS mounted expeditions to Ascension in March 03 and Nov 04 and also contributed to the RSPB expedition Aug 01.

Terms of Reference

The main aim of this long term monitoring programme, is to facilitate the expansion of the breeding population by identifying and reducing threats to the Sooty Tern colony. The following process is carried out:

- Surveys of the breeding population are undertaken at regular intervals.
- The levels of predation in the colony are measured and recorded.
- A ringing and re-trap programme is maintained so that inter and intra colony movements can be monitored and survival rates determined.
- Perceived threats to the colony are investigated.
- Long term, quantifiable data that can be used as evidence for making conservation management decisions on sooty terns is collected and made available to interested parties.

Secondary Aims

In addition to work on Sooty Terns the various military organisations maintain data bases on a wide variety of species and projects on Ascension. Sixteen different databases exist and all were started prior to the feral cat eradication programme. One database, holds records of breeding attempts by all avian species on three precisely defined study sites. The Royal Navy Bird Watching Society maintains a data base of some 35,000 birds seen from ships. There are also data based on the abundance and distribution of land birds and on sea-watches.

Aims of the November 2005 Expedition

1. To repeat the sooty tern breeding population survey by calculating the number of occupied nests. GPS is used to survey the area of colony and quadrats to determine average nest density.
2. To continue to monitor the threats to the sooty tern colony from cats, rats, myna birds, frigates and the spread of mexican thorn bush.
3. To continue with the ringing programme.
4. To carry out a re-trapping programme to establish the time interval between successive breeding attempts and adult survival.

Expedition Booby 10 - Oct 05 - Participants

Major Andrew Bray	Expedition Leader
WO Richard Seargent	AOS
WO Mark Easterbrook	AOS
S/Sgt Colin Holcombe	AOS
C/Sgt Mike Vincent	AOS
S/Sgt Lynn Camm	AOS
John Hughes:	AOS & Wideawake Surveys
Colin Wearn:	RAFOS & Wideawake Surveys

Members of the expedition were on the island from 18 October to 10 November 2005. A total of 98 man days were spent in the field.

Long Term Population Trends

The population survey this season was carried out just after the colony reached its peak and 71 days after the first egg of the season was laid. The colony on Ascension is at its greatest 42-60 days after the first egg of the season is laid.

Timings

Ascension Conservation Office are thanked for their reports which helped to identify the start of the season. "Sooty terns were seen to return to Ascension during the week ending 14 August 2005 - two large colonies have arrived at Waterside Fairs" (Status report 115). "On the 25 August the first eggs of the season were reported on both of the fairs" (Status report 116). This season it was difficult to calculate accurately the date of first breeding at Waterside and at Mars Bay. Our best estimate is that the first egg at Waterside was laid on 15 August 2005 and at Mars Bay on 22 August 2005.

Survey

The area of the colony was determined from GPS observations and then plotted to scale onto Chartwell graph paper. The area was surveyed using similar techniques to those used on the previous seasons. Co-ordinates around the perimeter of each sub-colony at intervals of about 20m, were recorded and plotted to determine the area of the colony. The colony this season was made up of 9 sub-colonies and as in previous years a "Fair Description Sheet" was completed for each sub-colony. The total area occupied in October 2005 was 11.36ha.

Nest Density

Nest densities were measured by counting all eggs that were passed over by a string 1.784m long, rotating 360 degrees around a stick, at random points within the sub-colonies. In total 4,028 apparently occupied nests (AONs) were counted in 456 quadrats giving an average density of 1.610 AONs per sq metre (Table 1). Fourteen of the nests contained double clutches.

Population Size

The statistics were calculated using a bootstrap method. The total population of breeding sooty terns on Ascension during the October 2005 season was 182,906 pairs, lower 95% CI 173,290 and upper 95% CI 192,090. At Mars Bay on 23 October 2005 the colony contained 61,000 (AON) and at Waterside the sub colony contained 122,000 (AON). The highest breeding population (202,000 pairs) was recorded in Oct 1996 and the lowest (75,000 pairs) in Nov 2000.

Table 1 Breeding population of pairs of sooty terns at the two colonies on Ascension in October 2005. Population determined by multiplying area by mean average density.

Sub Colony	Area Hectares	No of Quadrats	No of Nests Counted	Av. Density Per sq. m	Population Size Pairs
Waterside	7.60	231	4028	1.7437	122,000
Mars Bay	3.76	225	3337	1.4831	61,000
Total	11.36	456	7365	1.6151	183,000

Predation - Natural Limiting Factors

Exposure to predation and habitat studies were conducted to help ascertain breeding success.

Dead Adults

Ten dead sooty terns were found five at Waterside and five at Mars Bay. One of the dead birds found at Mars Bay was wearing a ring DD52818. This bird was ringed the previous season at Mars Bay. No signs of any cat predation were found on any of these birds or on our three study site during this field trip.

Rat Index

In our December 2004 report we recorded high levels of rat activity at Waterside. This season we found worryingly high levels of predation at Mars Bay. We completed rat indexes on our three study site (Table 2). Two detailed reports on rat predation were prepared and distributed to the Ascension Conservation Office, the RSPB and other interested parties. A copy of the executive summary from each report is below.

Table 2 Summary of rat indexes on three study sites on Ascension Island November 2005
The index is the count of the number of rats trap per 100 trap nights.

Location	Dates	Traps Set	Trap-nights lost	Corrected trap-nights	Captured	Index
Letterbox	21-23 Oct	80	1	79.5	0	0
West side of Waterside	2-4 Nov	88	8	84	2	2.4
Mars Bay combined	6-8 Nov	79	33	62.5	10	16.0
Edge of Lava Mars Bay	6-8 Nov	35	3	33.5	0	0
Along Cable Mars Bay	6-8 Nov	44	30	29	10	34.5

More than 52% of the large chicks ringed at Mars Bay this season were predated by rats. Details of this predation are at Annex D.

Executive Summary - Rat monitoring on the Sooty Tern colonies of Ascension Island South Atlantic November 2005

The Black Rat *Rattus rattus* is now a serious predator of Sooty Tern *Sterna fuscata* on Ascension Island. Predation is patchy but it occurs on both of the main sub-colonies on the island. We have insufficient data to ascertain if the losses due to rat predation are large enough to threaten the survival of the colony. However, there is an urgent need to develop contingency plans for reducing the rat population, on the seabird colonies at Mars Bay and Waterside. Continual monitoring of the threat is essential. Until recently, rat predation on Sooty Terns has been negligible. A half century ago the British Ornithologists' Union Centenary Expedition found no evidence of predation. Service ornithological societies have monitored predation by alien species on the Sooty Tern population of Ascension for more than 20 years and it is only recently that we have recorded rat predation. During the years 1982 to 2002, despite the fact that we spent over 1,000 man-days monitoring the colony, we never saw a rat, live or dead on our study sites. We have used night vision goggles to monitor the colony after dark, but again no rats were seen.

Today the picture is quite different. The two large colonies of Sooty Terns on Ascension are littered with highly visible poison bait stations, rat corpses can easily be found in the colonies, egg predation is widespread and some of this can be attributed to rat predation. The most telling evidence of rat predation is freshly killed juvenile Sooty Terns, with small segments of the back muscles missing. Our ringing and trapping programmes have revealed a rapid increase in the numbers of rats in the colonies and a major increase in the level of rat predation. In this report we have documented the evidence we have collected from the most recent expedition and added it to the evidence we collected in June 2002, April 2003, February 2004 and November 2004. While visiting Ascension in October 2005 we monitored rats on our three study sites. We completed rat indices at these three locations and investigated predation by rats in the Sooty Tern colonies. We found no evidence of rats on the Letterbox site. On the Waterside and Mars Bay sites we found significant but localised populations of rats preying on Sooty Tern eggs and juvenile birds. We examined corpses of dead terns but found no evidence that rats were preying on the adult Sooty Terns. We marked eggs and ringed chicks and monitored their survival rates. Egg survival rate at 8% was lower than all but one of the previous seasons. Rats destroyed 20,000 eggs this season. The rats found in one colony at Mars Bay are considerably larger than the Black Rats previously trapped. These rats were responsible for the heavy predation found on the site. Of the 200 chicks that we ringed on a sub-colony at Mars Bay, 38 chicks were found dead less than 2 weeks after they were ringed and after eight weeks, a total of 102 chicks were found dead. Rats preyed on over half of the chicks ringed in this area. There is no doubt that rats are the cause of this high mortality, as chicks that were killed shortly before they were found, showed clear evidence of rat predation. The local rat index at this location was the highest we have recorded at 34.5 rats per 100 trap nights.

Executive Summary – Rat predation and survival rate of Sooty Tern chicks April 2006

The rat, namely *Rattus rattus* and probably *Rattus norvegicus*, are now the principal predators of Sooty Terns *Sterna fuscata* on Ascension Island. During the October 2005 breeding season, less than three years after feral cats were eradicated, rats have filled this predatory niche. We used rat indices to determine the expansion in rat numbers. The Sooty Tern chick survival rate was determined from ring recoveries and by counting carcasses in sample quadrats. At Mars Bay the rat population has expanded five-fold and rats now take a higher number of chicks than were previously preyed on by cats. In the study area, rats killed a minimum of 52% and possibly

extended to 100% of the chicks. Monitoring of the rat population is crucial for managing this problem. If the colony is to survive extensive and continual rat control measures will be required.

Frigate Predation

A report by Richard Sargent on the extent of frigate predation on young sooty tern chicks is an Annex B.

Myna Predation

Mynas predate on sooty tern eggs. Mynas prick and destroy many more eggs than they devour. Nests were marked and egg survival rates measured. Mynas were seen on the breed colony most days. We monitored sighting of myna in the breeding colony and the frequency of occurrence this season was 77%. Nest survival rate this season was 8.0% but only 7 out of the 92 eggs that failed could be positively attributed to myna predation. November appears to be the start of the myna breeding season. A pair of myna was holding territory on the edge of the lava flow overlooking Mars Bay at GPS 0566524, 9117557. They were seen nearly every visit and this is our first record of myna nesting at Mars Bay. On 5 Nov 2005 we trapped our first myna. The bird was ringed, full biometrics was recorded and a blood sample for DNA was collected. The bird was caught close to our accommodation at Travellers, in a cat trap using an apple as bait.

Feral Cat Sightings

Six cats without collars were seen in the RAF accommodation at Travellers. The cats all appeared to be semi-wild and some were scavengers. One small tabby cat that looked as if it was half grown gave us particular concern. We borrowed a chip scanning instrument from the conservation office and on 28 Oct 05 we managed to coax the animal close enough to check for a chip. The cat was chipped number 977.200000480479. This information was passed to the conservation office. On 3 Nov 05 a large black cat without a collar was trapped at travellers in a cat trap that had been baited with an apple in the hope of catching a myna. The cat was released without checking for a chip. Details of the six cats all seen in the vicinity of "bunk-bed city" Travellers grid 692217 and just 4kms from the nearest tern sub-colony are:

Cat 1 Full grown black and white

Cat 2 Full grown tabby

Cat 3 Very small tabby pin number 977.200000480479 checked

Cat 4 Full grown tabby light fawn back and white belly

Cat 5 Tabby light fawn and white belly but smaller than cat 4

Cat 6 Large, well fed all black

Site Fidelity

Re-trap Adults

In total 116 sooty terns (1.5% of the total ringed) were re-trapped this season none of these were controls. Some inter colony movement between seasons was noted. Time allocation to re-trapping this season was 18 hours.

Desertion

It is common for a minority of the sooty tern population to desert their eggs. This season two sub colonies at Waterside and one at Mars Bay with a total area of 2.33ha and containing some 37,500 eggs were deserted.

Sub-annual Breeding

During this field season we gathered more data on sub-annual breeding. Sooty terns return to Ascension every 9.6 months to start a new breeding season. We ringed sooty terns feeding large chicks, these we are assuming are birds that will successfully fledge their chicks. In August 2006 we hope to sight or re-trap these birds so as to establish the length of time between consecutive breeding seasons. Ashmole observed three pairs of sooty terns that were parenting chicks that were more than five weeks old in 1958 and these birds laid again in the following season in 1959. We are endeavouring to record that birds that have successfully bred in one season, return to breed in the following season. With low survival rate of nests © 0.43 only a few sooty terns will manage to raise a chick successfully in two consecutive breeding seasons. Secondly we attempted to calculate the length of time between two successive laying dates. For the three birds observed by Ashmole, the interval between laying of successive eggs was 44, 44 and 51 weeks a mean of 325 days (10.8 months). It could be that birds that successfully raised a chick in one season return late the following season and attempt to breed again. In these cases the length of time between successive laying dates is approaching one year.

Field Method

During the October 2005 field season adult sooty terns feeding or parenting large chicks that looks as if they were more than four weeks old (too big to be eaten by frigates), were green colour ringed. Details of the parenting activity and the GPS location of each bird were recorded. We attempted to ring 300 sooty terns parenting chicks but we were only able to capture 66 adults. Each bird took 1.5hrs of effort to trap and the expedition ran out of time. Chicks that we ringed were at stage 3 - 4 of Feare's plumage development diagram. Re-trapping of adults next season will be given the highest priority.

Potential sources of error in this study are:

- A few birds will not return the next season because the adult survival rate is © 0.95.
- For statistical purposes target number for re-sighting / recapture in the 2006 season should be about 30.
- Some of the chicks who parent were ringed will not fledge. In this case the adult birds might well return the next year for another attempt even if they breed on alternative seasons.
- Intermittent breeding could be a problem in establishing this aspect of the breeding phenology.
- Inter sub-colony site fidelity on Ascension is fairly high but some terns do breed in one sub-colony one season and in another sub-colony the next season.
- Many birds will not be found or re-captured. Re-capture rate are low at © 0.03.
- Egg survival rate is © 0.43 so there is a significant chance that sooty terns ringed while incubating, will not successfully hatch the egg. Adults with old chicks need to be ringed.
- El Nino years might well influence the findings.
- As the breeding cycle is independent of any annual variation in the environment low survival rate of nests © 0.43 may well be the reason for early starts to breeding attempts in the following season.
- Sooty terns that are re-sighted and their nest site fixed accurately using GPS are unlikely to be double counted with other re-sighted or re-trapped birds.

Life History - Survival Rates

A further 2000 sooty terns were ringed by Colin Wearn this season bringing his total to 7,450 (Annex A). When this figure is added to the ringing completed by the RSPB and Dr Gale in Nov 1975 who used USA rings the overall total of ringed sooty terns on Ascension is 8,224.

Egg Survival Rate

Egg survival rates were monitored using the Mayfield technique 1101 egg days were recorded and the survival rate was calculated. This season egg survival was unusually low at 8% possibly because the survey was conducted late in the season. Of the 164 nests that were monitored 92 failed. The causes of failure were: 7 due to myna predation, 13 due to rat predation, 68 nests were deserted and 4 due to unidentified causes.

Sexing sooty terns from morphometric measurements

Male and female sooty terns are identical in their plumage. Rapid sexing of sooty terns in the field will help with our studies into their reproductive biology. Males are larger than females but there is a considerable overlap between the sexes. We collected small samples of blood from the brachial vein to determine the bird's sex using standard PCR-based molecular techniques. Seven morphometric measurements were also recorded. From our sample of 63 sooty terns we hope to find a field technique for sexing the bird.

Fledging Success

In field report number 15 we started to gather evidence in an attempt to identify fledging success. Anecdotal evidence in the form a line or two in a letter or e-mail were collated and average, source and sink seasons were identified. At this stage of the programme a source season is one where it is believed that more than 20,000 juvenile Sooty Terns (10% of the maximum number of breeding pairs) fledged.

Other Activities

Training and Support

We delivered two days of ringing training to two staff from the Ascension Island Government. We provided conducted tours of the Waterside site and explained our activities to six workers from the Conservation Office. We took part in the beach clean up on 6 Nov 05. The disappearance of brown noddy eggs at Ladies Loo was investigated. Our conclusions that the eggs had been washed away were reported back to Margaret Cribbs, Conservation Office.

Collection of Sooty Tern Corpses

The corpses of ten sooty terns, mainly young chicks were collected and forwarded to the Natural History Museum at Tring. The curator supplied labels for use on future expeditions. The museum has requested samples of dead sooty terns (Annex A).

Mexican Thorn

The spread of Mexican Thorn *Prosopis juliflora* to the edge of the sooty tern colonies was first recorded in 1998. Since that date the steady but relentless progress of encroachment by this plant onto the nesting ground has been mapped using GPS. The height, spread and co-ordinates of 35 thorn bushes at Waterside and 4 at Mars Bay in the close vicinity of the colonies were measured. At the moment ample open space is available for sooty terns to find nest sites.

Study Sites

Once again all bird species attempting to breed on the three study sites established in 1990 were noted (Table 3). The only avian species that were breeding at the Mars Bay study site were the sooty tern and for the first time one pair of myna.

At Waterside in addition to the sooty tern, five pairs of brown noddy were prospecting inside the tern colony and the first brown noddy egg of the season was laid at the end of December 2005. November & December is one of the two peak laying periods for brown noddy (Dorward & Ashmole 1993). We have observed brown noddy prospecting and securing nest sites at Waterside every season since cats were eradicated. Mike Bell saw brown noddy chicks on the site in December 2004 but none were seen to fledge. In December 2005 six pairs with eggs were recorded by the Ascension Island conservation office, in their report number 132 week ending 4 January 2006. The Ascension Island conservation office found a further two nests bringing the total to eight brown noddy nests on 26 Jan 06. In a search of the site on 6 February 2006 Andrew Bray saw three pairs of brown noddy with large chicks. During the week ending 12 February 2006, three more nests were occupied at Waterside but by 21 February all nest sites were empty. It is probable that two juveniles fledged but the rest failed.

On the Letterbox study site we found 12 masked booby nests and a non-breeding roost of 170 birds. The last time we recorded significant numbers of masked booby on this site was on 31 October 1996 when we recorded 24 pairs of masked booby nesting on Letterbox and a roost of 85 non-breeding boobies (adults and juveniles). We collected samples of what we assume to be Guano for analysis. The samples were collected to establish the extent of historic bird colonies on the study site. A summary of seabird abundance on Ascension in November 2005 is contained in the Species Record at Annex D.

Table 3 Summary of breeding pairs on three long term study sites on Ascension – Oct 2005

Species	Waterside	Mars Bay	Letterbox
Sooty Tern	© 122,000	© 61,000	Nil
Masked Booby	Nil	Nil	12xAONs. 6 with juveniles and one with 2 eggs. In addition we found a roost of 170 none breeding masked booby
Brown Booby	Nil	Nil	None seen by our teams but Conservation Office has seen 3 breeding attempts
Tropicbirds	Nil	Nil	Nil
Brown Noddy	6 Pair with eggs of which 2 chicks probably fledged	Nil	Nil
Frigates	Nil	Nil	Nil
Myna	Nil	1 Pair at 0566524 9117557	Nil

Chicks killed by Neighbours

Sooty tern chicks aged from two or three days to seven days old are routinely pecked by neighbouring adult birds if they stray from their nest. The average density of the pairs on Ascension is 2 nests per m² but this frequently increases in some places to 4 or 5 per m² and has reached 7 per m². Chicks do not have to move very far < 30 cm to become a target for pecking.

Walking around fair 08/2005 at Mars Bay on 24 Oct 05, I counted 19 chicks of age 1-7 days that had been dead for up to 4 days. None of these were predated and all were inside the boundary of the colony. Planes that fly over the fairs at Waterside often trigger a major “start”, causing many thousands of adults to take to the air. The ensuing mayhem could result in the death of some chicks that stray from their nest. Some measure of the number of fatalities due to pecking can be obtained from counting dead chicks while walking around the colonies.

Table 4 Counts of chicks presumed killed through pecking by adults – Oct 2005

Date	Colony	No of Dead Chicks	Perimeter Length	Area x 10m	Chicks killed per hectare
24 Oct 05	9/2005 P35	19	510m	0.51ha	37.2 Mars Bay
26 Oct 05	2/2005 P.93	5		0.05ha	100.0 Waterside
28 Oct 05	2/2005 P.93	3		0.05ha	60.0 Waterside
31 Oct 05	8/2005 P.129	5	160m	0.16ha	31.2 Mars Bay
10 Nov 05	8/2005 P.172	4	1050m	1.05ha	3.8 Mars Bay most chicks in this fair are now older than 7 days

N.B. Both Feare and Ashmole have written extensively on this subject.

Concerns

We are concerned with discrepancies between the monitoring data collected by the AOS on their short field expeditions and the regular monitoring conducted by AIG. There are significant differences in the abundance of predators recorded by the two monitoring teams. The top two predators are rats and feral cats. In sharp contrast to the occasional record of a single cat reported by AIG, the AOS during one week of observation at the end of October 2005 sighted six cats without collars at Travellers. All the animals appeared to be semi feral. The rat index (35 rats per 100 trap nights) that we carried out in the barren valley at Mars Bay was much higher than those recorded by the AIG elsewhere on the island. Loss of rat traps may in part account for the differences in rat indices that we recorded when compared with the rat indices completed by the AIG. It is our practice to collect old bottles and other litter from the fairs and to deposit them in bins on our return to base. This season we collected 5 rusty rat traps (2 pairs) from Waterside fair and a single rusty trap from the brown noddy site close to Ladies Loo where the AIG had run rat index lines.

Survey Effort

Long term monitoring programmes are an expensive business. We are fortunate to have a dedicated team that has been willing to self fund to ensure continuation of the project. The majority of the funding has come from the MoD largely through their adventure training budget. Expedition costs are calculated using standard cost figures. Food and accommodation on Ascension is costed at £26.43 per person per day, vehicle hire or use on Ascension at £20 per day, travel costs including flights to and from Ascension at £1000 per person and daily field work at £250 per day. The survey effort of this expedition was 98 man days at a cost £36,050. The breakdown of the costs are self funded £11,810, RSPB £2,000 and the remainder from the MoD. Wideawake surveys are very grateful to the RSPB for their continuous support for this programme. The total survey effort of this long term monitoring programme now stands at 1351 man days at a total cost of £460,816.

Future Work

The next expedition is scheduled for February 2006. This will be a short visit with a team of four and the aim is to complete the land bird survey. A second expedition in August 2006 is also planned with re-trapping as the main aim. Sooty terns that were caught while feeding large chicks and fitted with green rings will be the prime re-trap target. A population survey and predation monitoring is also planned.

Acknowledgements

We are very grateful to Sarah Saunders of the RSPB for her continual support and help and with a travel grants. Our sincere thanks go to the staff at the Ascension Island Conservation Office for their assistance and for another most enjoyable fish BBQ.

***Sterna Fuscata* corpses from Ascension Island South Atlantic**

Collected by John Hughes The Old Shop High Street Shipton Bellinger Hants SP9 7UE
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Summary of Sooty Tern corpses sent to the Natural History Museum, Tring – June 2006

Corpses collected at Mars Bay at UTM zone 28 Eastings 0566500 Northings 9117600

Date	Number	Specimen	Remarks
30 Oct 2005	BJH01	Chick	
30 Oct 2005	BJH02	Adult	
30 Oct 2005	BJH03	Chick	
30 Oct 2005	BJH04	Chick	
30 Oct 2005	BJH05	Chick	
30 Oct 2005	BJH06	Chick	
30 Oct 2005	BJH07	Chick	
30 Oct 2005	BJH08	Chick	
30 Oct 2005	BJH09	Chick	2 days old
30 Oct 2005	BJH10	Chick	2 days old

Frigate Predation
Waterside and Mars Bay Fairs
19th and 20th Oct 05
Richard Seargent

On the 19th and 20th October Waterside and Mars Bay Fairs were monitored to ascertain the strength of Ascension Frigate predation on the Sooty Tern Fairs.

Initial observations were made on the 20th at Waterside between 1110hrs and 1300hrs looking directly south from Grid 0569982 9117647. The Frigates were seen from within 20 metres throughout from high ground so observation was not impeded.

For the whole period there were only six successful predations and all these were made by adult birds. Three of these involved chicks too big to be eaten and these were dropped.

There appeared to be a constant stream of birds throughout the period all travelling from the West and possibly from the Mars Bay fair.

The following events of note were seen:

1110hrs - 4 adult females, 2 juv.

1115hrs - first successful predation by adult male.

1130hrs - 3 adult males, 4 juv, second successful predation

1155hrs - 1 adult male, 4 juv present, third successful predation

1210hrs - 4 adult males (1 light phase), 1 juv.

There were many attempts to take Sooty Tern chicks during the whole period. As mentioned three were successful and a further three involved chicks which were far too old. All successful attempts were made by adults and all were followed by much harrying by the juveniles present. My general impression was that the area involved was quite small and there may have been some difficulty on the Frigates part in gauging where the chicks were before that part of the fair finished. I was extremely surprised about the number of unsuccessful, attempts after reading various references to the contrary.

Day two observations at Mars Bay were more comprehensive and involved myself and Lynne Camm. Between 0930hrs and 1400hrs two areas some 100 metres west of Grid 0565965 9117428 were monitored from higher ground and the number of successful predations are shown in the table below.

It should be noted that the majority of successful catches up to 1200hrs involved juvenile birds. There were numerous unsuccessful attempts by juveniles and the adults present appeared to be observing the juveniles as a teacher would students. From 1300hrs onwards all successful attempts were made by adults but again there were numerous unsuccessful ones by both adults and juveniles. More birds were present after 1300hrs

Time	0930	0945	1000	1015	1030	1045	1100	1115	1130	1145	1200
Success	1	4	2	0	2	0	1	1	2	4	4
Birds*	3/3	3/3	2/3	2/1	2/3	3/6	1/7	2/5	2/10	3/7	5/7
Time	1300	1315	1330	1345	1400						
Success	1	5	4	3	4						
Birds*	1/6	4/8	4/12	5/15	4/12						

* Adult birds are shown in bold

Large chicks were dropped at 1115 and 1131hrs by adults. Both chicks were immediately caught by attendant juveniles and once the birds had figured out they were too big they too dropped them. This might account for the large number of large dead chicks on the fairs.

In addition one Common Myna was seen at 1025hrs predating a Sooty Tern egg. The bird was surrounded by three or four brooding Sooty Terns who seemed initially unconcerned about the Myna's presence. This soon changed when the Myna turned its attention to other eggs; the Terns then turned aggressive and forced the Myna away using pecking movements towards it.

Again it seemed surprising that so many attempts were unsuccessful. Apart from one juvenile identified by flecking on the breast area all birds seemed to move eastwards towards Waterside after 5 or so minutes or a number of unsuccessful attempts. Whether these birds were returning from the sea and were just passing over the fairs on the way back to Boatswainbird Island is yet to be ascertained and may need further investigation.