ISSN 1355-6746

Chagos News

The Periodical Newsletter of the
Chagos Conservation Trust

No.31 **March 2008**

EDITORIAL

This whole issue is devoted to the CCT Conference held at ZSL on 25 October 2007.

Professor Callum Roberts, University of York:

'The Chagos Archipelago represents a magnificent conservation opportunity that could be of lasting benefit to humanity. There can be few places on this planet that represent better value for leveraging spectacular returns. What are needed are vision and a leadership initiative by Britain to create the Chagos as an iconic, pristine area of the planet held in trust for the future of the world community.'

Dr Peter Bridgewater, Chair, UK Joint Nature Conservation Committee and former Secretary General, Ramsar Convention:

'Ramsar covers BIOT and it is certainly true that much if not all of the Archipelago could be nominated successfully as a Ramsar site. Yet it is important to remember that Ramsar is about the wise use of all wetlands in the territory of the country and getting the management right is much, much more important than labels. This means, as coral reefs are wetlands under the convention, that the whole Chagos ecosystem should be managed wisely. According to the convention a Ramsar site should be managed to ensure no change to the ecological character of the system.

Given the status of the Archipelago, and given wise management in future, should the World Heritage Convention be extended to the territory at some future time it is clear a nomination would be successful.'

www.chagos-trust.org is our new website. Please test it and let us know what you think. Comments to me, please, and any suggestions for improvement.

AGM. The Chairman's Annual Report to the AGM on 20 November is on our new website. A main theme was that in the coming months CCT will need to be active in encouraging the powers that be to implement the delayed measures for a long-term Chagos conservation framework. This should both ambitious and compatible with the outcome on the Chagossian case.

The Chairman also welcomed the steps being taken in the USA to set up a CCT (US) 'Chapter'.

Tony Humphries, attending in his last week as Administrator BIOT, accepted that his work had been dominated with legal issues but emphasised the Government's continuing commitment to conservation.

John Topp

‘THE FUTURE CONSERVATION OF THE CHAGOS’

A Chagos Conservation Trust Conference held at the Zoological Society of London on Thursday 25 October 2007 in association with the UK Overseas Territories Conservation Forum

RALPH ARMAND, Director General, Zoological Society of London, (ZSL) welcomed participants to ZSL which was significantly involved with the Chagos. It had, for example, taken part in the Chagos 2006 Scientific Monitoring Expedition, and the Chagos coral reefs were a model for the ambitious, new ‘Biota!’ London Aquarium project.

WILLIAM MARSDEN, Chairman, Chagos Conservation Trust (CCT) recalled words from Professor David Bellamy’s Foreword to CCT’s book ‘Peak of Limuria, the Story of the Chagos Archipelago’:
‘It has been my dream that the whole Chagos area should be an international nature reserve and sanctuary. The powers-that-be, the international commune of conservation and bodies such as the Chagos Conservation Trust can work together. Maybe the Chagossians too could have a role to play. Bring in a mix of vision and management and the Chagos can become a contributor to human well-being and to natural diversity’.
William Marsden hoped that the conference would address the big issues such as:
The national and international policy framework required for long-term Chagos conservation; the compatibility of the current fisheries and the conservation regimes (for example as regards no-fishing zones); the impact of climate change; and the adequacy of finance and resources available for effective conservation. On possible resettlement, thought might given to what could be compatible with the conservation vision, in contrast to some proposals suggested for new infrastructure and commercial and exploitative industries.

PROFESSOR CHARLES SHEPPARD (Professor of Biological Sciences, University of Warwick and Conservation Consultant to the BIOT Administration)
Professor Sheppard set the scene for the conference discussion. There was no doubt at all about the global ecological importance of the Chagos as one of the world’s tropical marine sites least damaged by local human impacts. However was it worth the effort of managing and conserving the area in a way that continued to prevent damaging ‘local’ impacts, if global impacts, notably global warming, were likely to predominate and eventually destroy the area anyway?

Scientific monitoring and studies certainly showed that a serious rise in Chagos sea temperatures was a critical fact. It was also the case that corals in the Chagos, like corals elsewhere, had been killed on a massive scale by the overheating (‘bleaching’) of 1998 which wiped out the coral down to around 30 metres. But what was crucial was that the science showed that the Chagos coral structures, on which the whole archipelago depended or its survival, had bounced back very well indeed in shallow water, recovering from the disaster and breeding new coral because of the favourable local environmental conditions. Sadly this was not the case in the Maldives, Seychelles etc where the human impacts such as

pollution, sewage and sediments were much greater. A similar picture emerged from analysis of other, earlier bleachings in the Indian Ocean.

Professor Sheppard compared the ability of corals to survive to that of fish stocks. They both needed conditions allowing enough young stock to be produced and enough of the young stock to grow to maturity for effective breeding.

One of the vital functions of the coral in atolls like the Chagos was to provide breakwaters which prevented the Ocean from flooding the very low-lying small islands (normally less than 2 metres high in the Chagos). In particular the coral breakwaters kept the sea out of the freshwater 'lenses' (natural reservoirs on the islands, on which the island vegetation depended). With the rise in Chagos sea levels of around 8mm a year this was clearly a threat. In 2007 yachtsmen had observed that the natural high spring tide had unusually washed over from the lagoon side of Boddam island in Salomon atoll, reaching up to the old plantation building.

So what could be done to protect these delicate coral island structures? Experience showed that good management, with the careful reduction of all damaging local environmental impacts, could provide protection at least for 20 years, though the global impacts remained threatening for the longer term.

As regards ideas for resettlement activity in this context, some of the ideas suggested were frankly 'weird' (for example a hardwood forestry, flying out fresh fish to Japan or a car distribution centre). Quite apart from the environmental considerations, such ideas took no account of the remoteness or minute scale of the Chagos islands. Some ideas came from 'small island states' suggested as models; but the 'models' were orders of magnitude larger than the tiny Chagos islands. A more realistic approach was needed for considering any possible resettlement and the governance, perhaps drawing on the experience of Aldabra which provided some useful employment and revenue, combined with a low level of damaging impact on the environment.

PROFESSOR MICHAEL DEPLEDGE, Professor of Environment and Human Health, Member of the Royal Commission on Environmental Pollution and Formerly Chief Scientific Adviser to the Environment Agency.

Professor Depledge said that though no-one was more committed to the Chagos Conservation Trust's aims he was going to be something of an agent provocateur.

The basic message about the importance of biodiversity had to be got out in new ways. When asked what biodiversity was, part of the public thought it was a biological washing powder. And the real issue to be tackled was not simply having a lot of biodiversity but having the right biodiversity at the right place at the right time. We had to explain what biodiversity meant for people and why we wanted to conserve it.

'How well are marine systems functioning? The Chagos is a rare, even unique, special, remote example of wonderful natural ecosystems functioning as they should.'

Professor Depledge argued that there was a real relationship between human health and the functioning of ocean ecosystems. More and more people were moving to coastal areas (notably in China) and putting huge pressure on seafood supplies. At the same time ground level ozone quantities were rising which was reducing territorial food production by 10%. Algae from pollution were causing cancer of the liver. Drugs given to cattle also worked their way through to humans in a damaging way. Even low levels of marine pollution by humans can have an insidious and damaging effect over long periods.

Yet it was inevitable that, though there would be support for conservation from some of the population for ethical and moral reasons as well as practical ones, much o the population would just want to get on with their lives. The underlying challenge was to convince people that conservation offered real benefits to humans themselves, as well as the planet.

DR PETER BRIDGEWATER,

Chair of the Joint Nature Conservation Committee (JNCC).
(JNCC is Adviser to the United Kingdom Government on Nature Conservation issues).

'First let me thank the organisers of this timely Conference by the Chagos Conservation Trust. The afternoon ahead promises to be an informative and challenging one! As you will have comments on key conservation issues from Chagos experts later, I will limit my remarks to more general ones, emphasising perhaps why the JNCC is an important voice in these discussions. But I also want to wear a little my hat as former Secretary General of the Ramsar Convention. But to start let me go back to an even older hat, when I was head of the Australian Nature Conservation Agency. Not that Australia is likely to have a claim on Chagos, but rather to illustrate the complexity and urgency of Indian Ocean Conservation issues…

As head of ANCA I had responsibility for the two island territories of Australia, Christmas Island and Pulu Keeling. The former is a former extensive Phosphate mining environment, now 60% National Park, the latter an outlying atoll of the Cocos-keeling group. Christmas Island is important because of its high elevations, carrying subtropical rainforests, whose trees are the perfect breeding ground for Abbots booby. This bird was once circum-Indian Ocean in distribution but now is restricted to Christmas Island. The conservation challenge there has been to manage habitat to ensure no further degradation of the rainforest patches, and to contain invasive alien species.

On Pulu Keeling the issue has been to manage for climate change, but also to manage against the predatory effects of non-indigenous humans. This is not the place to debate the failures or successes of these programmes, although there are both, but rather to show that management for conservation purposes must, in this century, be targeted and cognisant of the global impact of human activity. For even though an area like Chagos can easily carry epithets like pristine and uninhabited (for the large part), human presence is everywhere, all the time… Let me take up these issues a little later. First, though, to outline just why JNCC might be interested in this area.

JNCC has a clear legislative remit to advise on nature conservation issues affecting the UK Territories for there is no other UK Government nature conservation agency support available to them. JNCC '*promotes measures that effectively protect and enhance biological and geological diversity in the UK Overseas Territories and Crown Dependencies*'.

The Overseas Territories and Crown Dependencies of the United Kingdom collectively and individually make a significant contribution to global biological and geological diversity. The Overseas Territories hold regionally or globally important concentrations or assemblages of species. For example, Ascension Island supports the second largest green turtle rookery in the Atlantic; Gough Island (Tristan da Cunha) has been described as, arguably, the most important seabird island in the world; and, the subject of today's discourse, the reefs of the Chagos Archipelago (British Indian Ocean Territory) are described as some of the most pristine and best protected in the Indian Ocean (and account for some 1.3% of the world resource).

JNCC does not currently have a high profile in the Territories. This is probably because, apart from the usual resource constraints, there is little understanding of our role, function and skills within the Territories and because we undertake little direct work within the Territories themselves. Moreover, our advisory role to Government is not suited to the time-limited project work typical of most UK Government-funded work within the Overseas Territories.

But in even our modest role, what do we know of the major conservation issues, including threats to overseas territories?

Essentially, the key threats are:

- invasive non-native species,
- climate change and

- impacts of development.

Nothing, you might say, different from any other place in the world… except, BIOT has low-lying landforms. So all three of these key threats, separately or, worse, together, make for a greater potential impact than in metropolitan Britain.

On invasive species, the worlds most invasive is perhaps the Norwegian brown rat. A project was undertaken last year with the aim of enabling seabird (and enhance marine turtle) recovery on *Eagle* island. the largest island (240 ha) in the Chagos bank group and the only one with rats. Eagle island has only 12 seabird nests recorded compared with 14,000 on 18 ha Sea Cow island. Unfortunately, the eradication seems to have failed – we need to understand why and learn lessons for future attempts elsewhere.

Of course in talking about BIOT we cannot avoid the issues of sovereignty and defence, and the views and thoughts of the people who feel they are Chagossian. But these are issues for the politico-legal domain, and we can concentrate on conservation without needing to resolve these issues, except in a general way.

In terms of Conservation, the isolation of the Chagos, far from maritime trade routes, and restrictions on access to the islands, mean that they and the adjoining reef areas enjoy an exceptionally pure environment, free from the contamination normally associated with human activity

This condition does not just result in a particularly varied and abundant marine and bird life; it also provides a standard for measuring the impact of human pressures on other reef systems. In addition, recent research has provided important information about long term changes in sea levels and sea temperature, and consequently, about the role which this part of the ocean plays in world weather patterns.

There are limited *anthropogenic* threats to the biodiversity of Chagos as a result of the limited presence of humans. Currently the only human settlement is associated with the (American) military base on Diego Garcia which has a non-permanent population of c. 4,000. The northern islands are frequently visited by recreational yachts with impacts arising from their anchoring and exploitation of coconut crabs; they also pose a risk of introducing non-native species. Fishing is licensed by the British Authorities resulting in a number of vessels being permitted to catch tuna in the territorial waters of Chagos. Sharks and other large pelagic fish appear to be the subject of illegal catches.

Sea level rise and associated phenomena from global climate change are real threats and could result in the future disappearance of islands from the archipelago

As a coral archipelago, the issue of coral degradation through bleaching is ever-present, although Chagos seems to have escaped relatively well from the devastating effects of previous bleaching events, and the effects of the 2004 Indian Ocean tsunami. The recently report on the effects of the Tsunami from the GCRMN says, in part, and I quote:

"Most coral reefs in the Indian Ocean escaped serious damage from the December 2004 tsunami and could recover naturally within 5-10 years if human impacts are managed effectively."

This is the most comprehensive report to date on tsunami impacts to reefs in the region. It reports that the cumulative effect of anthropogenic stresses on the environment remains the major threat to Indian Ocean coral reefs. These stresses include over-fishing, destructive fishing methods, sediment and nutrient pollution, and unsustainable coastal development."

Continued variability in sea surface temperatures is part of reef life, but wildly extreme variations, especially upward, are not. The position of BIOT in the centre of the Indian Ocean positions it effectively as a real life monitoring station for changes in temperature of the sea, and can serve as an alert for possible bleaching effects. The panoply of global efforts under the GCRMN are indeed helpful here.

Conservation is also effected through compliance with international agreements: UK signature of the many international agreements has been extended to BIOT. However, the UK ratification of the World Heritage Convention is not extended to BIOT

National legislation: Wildlife in Chagos is protected under the Wildlife Protection Ordinance 1970 and the Wildlife Protection Regulations 1984. The latter states that all marine and island wildlife of Chagos are protected. There are also Strict Nature Reserves, covering several of the outer islands, and a Conservation Area in Diego Garcia, to which access is strictly controlled.

Part of the Chagos archipelago has been nominated and accepted as a Wetland of International Importance (or Ramsar site). There was much discussion about how much of the archipelago should or could be so nominated due to the politico-legal situation.

In addition it is oft-stated that the area is managed "with no less regard for natural heritage considerations than areas actually nominated as World Heritage Sites".

Frankly, as someone who had the responsibility for managing 2 of Australia's most iconic world heritage site I am at a loss to understand what this really means!! For there is no special formula that world heritage sites receive that others do not, except to ensure a continuation of the reasons for initial inscription on the list. But given the lack of coverage of the WH Convention to BIOT it is an academic argument. Ramsar does indeed cover BIOT and here it is certainly true that much if not all of the Archipelago could be nominated successfully as a Ramsar site. Yet what would change? It is important to remember that Ramsar is also about the wise use of all wetlands in the territory of the country. Which means, as coral reefs, mangroves and sea grass beds are wetlands under the convention, the whole Chagos ecosystem should be managed wisely. According to the convention a Ramsar site should be managed to ensure no change to the ecological character of the system. Again we don't have time to debate what this means now – perhaps over the promised wine at 1700!!

My point here though is that getting the management right, rather than worrying about labels, is much, much more important. And right management means a framework of wise use *(sensu* Ramsar) and including protected areas as appropriate for a range of management objectives. Given the status of the Archipelago, and given wise management in future, should the World Heritage Convention be extended to the territory at some future time it is clear a nomination would be successful. But nomination and acceptance should certainly not be critical to ensuring the right management or its long-term conservation.

For the future, next year is International Year of the Reef. I hope Chagos/BIOT can happily celebrate this year, secure in the knowledge it has, and will continue to have the right management for this iconic area. Perhaps one thing that needs promoting in this year is the importance of healthy coastal ecosystems and the impacts human activities can have, if badly managed. A role for the Trust, JNCC and other parts of government together, perhaps.

Meanwhile I wish us all a very successful conference this afternoon, and hope the outcomes will influence us in securing a sustainable and safe future for Chagos, in whatever form that will take.'

Dr Peter Bridgewater

PROFESSOR CALLUM ROBERTS
Professor of Marine Conservation, University of York

'The Chagos Archipelago represents a magnificent conservation opportunity that could be of lasting benefit to humanity. There can be few places on this planet that represent better value for leveraging spectacular returns. If the Chagos Islands are resettled then conservation strategy should underpin the needs of these people by protecting at least 30% of the marine environment from exploitation. If there is no resettlement the British Government should be far more bold and place most of the Chagos under strict and permanent protection as the US has recently done by creating the Northwest Hawaiian Islands National Monument. What is needed is vision and a leadership initiative by Britain to create the Chagos as an iconic, pristine area of the planet held in trust for the future of the world community.'

Professor Roberts's illustrated presentation on 'Marine Reserves and their role in Conservation of The Chagos' included the following key points:

-The Chagos is a global coral reef biodiversity hotspot.
-The objectives of the required coral reef management agenda should be:
1) maintain or recover reef growth and structural complexity of habitats;
2) maintain or recover fish stocks and sustain fishery yields;
3) prevent, reverse or minimise local losses of species;
4) ensure that no species are driven to extinction.

- At the 2002 World Summit on Sustainable Development the coastal nations of the world, including the UK, committed themselves to establish national networks of marine protected areas by 2012.

-There is clear evidence that marine reserves work. Reserves all over the world show dramatic increases in spawning stocks. In Florida yellowtail snappers in sanctuary protection zones in Florida have increased by 15 times in only 5 years. In St Lucia (Soufriere), after 35% was closed to fishing in 1995, the biomass of commercial fish within the reserve increased by nearly 5 times in 7 years and the biomass of commercial fish outside the reserves doubled. Other examples of the positive impact of no-fishing zones are the Merritt Island Wildlife refuge and the Cape Canaveral closed area in the USA, the Nabq Protected fisheries area in Egypt, the Anadara clam closed area in Fiji.

-Strict marine reserves typically lead to fish stocks increasing by 2 to 3 times within 5 years of the protection. Habitats are protected, Fish catches increase. Fish live longer, grow larger and produce tens of times more offspring.

-But multiple stresses are overwhelming local efforts to protect reefs. We need to scale up protection from local to regional. Theoretical work indicates we should protect between 20% and 40% of the sea to maximise fishery benefits and maintain sufficiently large populations so that species can bounce back quickly after shocks. Such source populations and adequate inter-reserve connectivity can only be guaranteed when large marine networks are created-of the order of 30% or more of habitat.

WORKING SESSION: BIOT FISHERIES AND CORAL CONSERVATION

Dr Mark Spalding (The Nature Conservancy), [Dr] Ian Payne (Managing Director, Marine Resources Assessment Group Ltd) John Pearce (MRAG) Professor Callum Roberts, University of York.

Presentation by John Pearce, Marine Resources Assessment Group Ltd

John Pearce explained the background to the BIOT Fisheries Management Zone (FCMZ). The Zone was declared in 1991 and with it the initial (and current) licensing mechanism consisting of a recreational fishery (yachts and Diego Garcia) and 3 licensed commercial fisheries:
-Offshore (Purse Seine for yellowfin and skipjack tunas)

-Offshore (Longline for bigeye and yellowfin tunas)
-Inshore (Bank fishery for snappers, groupers).

Catches for the Purse Seine fishery (mainly Spanish and French flag vessels) in BIOT waters are highly variable, ranging from about 1000 to 35000 tonnes annually (see Fig 1). The Longline fishery (mainly Spanish and Japanese flags) (Fig 2) is rather less variable and takes catches year-round; it targets the larger individual fish: yellowfin and bigeye tuna, swordfish, marlin and sailfish. The inshore, demersal fishery targets particularly snappers, groupers and emperors with up to 20 Dories per mother ship fishing with hook and line.

The BIOT fisheries management regime involves scientific stock assessment and research, and the management of the migratory tuna stocks through the Indian Ocean Tuna Commission. The inshore fishery is assessed annually and management advice is given on the limits, involving:
-An effort limit 6 80 day licences maximum;
-Seasonal restrictions (fishing only between April-October);
-Gear restrictions (hook and line only).
-Data Reports are provided to the Indian Ocean Tuna Commission and the BSFC.-

The most significant monitoring, control and surveillance (MCS) issue at the present time is it that of illegal Sri Lankan vessels and fishing camps.

Presentation by Dr Mark Spalding

Dr Spalding outlined the background for BIOT marine conservation and management. BIOT's marine area is 554,000 square kilometres (about 4 times the size of England) but the land area is only 53 square kilometres. BIOT's coral reef area is 3770 sq kms.

As regards the current regulatory framework for conservation, 35% of the land is covered by some form of protection but only 3% of the shallow sea area and virtually none of the deep sea area is protected.

The declared territorial sea limits extend to only 4 nautical miles, whereas 12 nautical miles is now the norm.

Dr Spalding listed the main UK conservation regulations in force for BIOT (including species, pollution, access and protected areas legislation and the recently proclaimed 'Environmental Protection Zone').
So far, despite the UK Government's announced intention to designate the whole of the Chagos under the Ramsar Convention, the only designated Ramsar site is on Diego Garcia.

Implementation of the conservation policy relies essentially on enforcement by the BIOT Support Vessel, 'BritOp' operations carried out by the British military authorities, and so far only sporadic scientific monitoring observations.

Fisheries and Coral: Working Session Discussion

The ensuing discussion raised key questions relating to the overall policy on fisheries management and conservation policy in the half million square kilometres of ocean, as well as that of the sources and size of funding required for implementation.

Poaching continued and pressures on BIOT's habitats would increase. It was forcefully argued that large scale no-take zones should be created and that one fisheries protection vessel was inadequate for such a huge area; the single patrol vessel was clearly struggling with its (necessary) multiple tasks. The vessel sometimes seemed primarily as a revenue-raising vehicle.

Yet it was suggested that the tuna licensing brings in very little money, the income stream, as explained in the conference is also highly variable year-on-year. Investigations should be started into the possible alternatives which would include strict no-take for the majority of the EFZ and territorial waters, with funds for two permanent patrol vessels securely funded in perpetuity by a large endowment. This would not guarantee complete protection for the highly migratory tuna stocks of the Indian Ocean, but it would undoubtedly reduce pressure a little and would further protect other oceanic species such as sharks which are impacted as by-catch.

A discussion lead by Dr John Turner, Bangor University, with panel consisting of Prof Charles Sheppard (Warwick University), Prof Callum Roberts (University of York), Rachel Jones (ZSL) and Yves de Soye (IUCN)

Dr Turner said that the aim of the session was to consider the effects of climate change on:

a) Ecosystem structure & function of the Chagos islands;
b) Existing infrastructure, eg naval base facilities;
c) Human resettlement;
and to consider the global significance of BIOT as a site with minimal current human interference at which to assess the effects of climate change alone, ie as a control site.

The major impacts of climate change are

1. Sea surface temperature rise

The IPCC (2007) concludes that for the Planet a rise of 2– 4.5 degrees Celsius is likely, and a rise of 2.4 - 6.4 ^{o}C possible. The effects will be:

- A warming of deeper ocean layers (>3000m)
- Increased regularity of coral bleaching (annual by 2030?)
- Shifts in species composition in sea & on land) (but which species?)
- less CO2 uptake by ocean
- increased rainfall

2. Sea level rise

3 - 9.7 mm yr^{-1} (IPCC, 2007).
Reef vertical accretion (aggregated) is about 0.9 mm yr^{-1} (Spencer, 1995). The effects will be:

- increased vulnerability to storm waves, floods and submergence (parts of Diego Garcia have already been breached)
- salinisation of ground water
- change in island morphology; erosion and sediment deposition (monitoring is required to obtain data for models; must distinguish from normal variation)
- change in reef growth and structure (Can reefs catch up?)

3. Ocean acidification

Increased acidity will reduce aragonite saturation state by 30% and
calcification will reduce by 14-30% by 2050 (Kleypas et al. 1999). The effect will be a:

- decline in coral reef growth
- change in marine ecosystems and food chains (especially base of food chains) (we need to know their current state)
- CO_2 absorption function undermined

For The Chagos/ BIOT information is required to:

- Specifically identify likely impacts;
- Quantify the range of magnitude and significance of impacts;
- Suggest realistic mitigation measures;
- Prioritise research (What are the questions & gaps?);
- Prove the 'pristineness' of the Chagos islands ecosystems, thereby verifying their value as a regional Control;
- Inform new policy, not least on possible resettlement.

The Climate Change Session Discussion highlighted:

- The possibility of EU funding for addressing biodiversity and climate change issues in European overseas territories (John Turner & Yves de Soye to follow up).

- The possibility of Large Marine Ecosystem Funding through GEF International Waters Directorate (But probably no human component).

-Tuna stocks are affected by temperature, but probably not at deep water temperatures.

- The Chagossians are poorly informed of likely impacts of climate change. Education on the environmental implications is essential because this will play an important part in determining practical decisions regarding resettlement and vulnerability.

- Enormous resources would be required to mitigate against factors such as sea level rise, salinisation, and erosion.

- The importance of base line data against which to measure changes in the Chagos and worldwide.

-The importance of BIOT as a refuge from which future degraded ecosystems may receive larval supply (eg Indian ocean rim?). The value of the region to the health of human populated areas of the Indian Ocean.
-Marine ecosystem will adapt, evolve and develop despite climate change, but may be different, with more banks and swash atolls.

WORKING SESSION: FRAMEWORKS FOR INTERNATIONALLY-SUPPORTED CONSERVATION OF THE CHAGOS

Leader: David MacLennan (CCT and Former Commissioner, BIOT), Ian Orr (UKOTCF)

Remarks by David MacLennan

Speakers have already mentioned various frameworks relevant to the Chagos. These include UK and BIOT primary and secondary legislation. At the international level, the frameworks relevant to Dependent Territories are diverse and range from binding intergovernmental treaties. Or they can be looser and more consultative and exhortatory. In some cases the arrangement involves governments. In other cases the work is devolved to an international secretariat. Whatever the format, in matters to do with the environment and biodiversity the scientific community tends to play a strong role eg Ramsar and IUCN. However provisions designed for inhabited and larger OTs not always relevant in the case of BIOT. Nor are all frameworks available since the controlling government can decide which commitments it will extend to its dependencies.

In practice, UK/US Treaty seems to take priority over all other obligations. If we look at the wider global picture it seems likely that the base on DG will continue to be required and the treaty will be extended beyond 2016. The Chagos environment has been an accidental beneficiary of the Treaty though we cannot rely on it being so in the future. Moreover, the existence of the Treaty can in itself be an obstacle to applying internationally supported arrangements governing the environment to BIOT.

In the case of BIOT, the situation is currently complicated by ongoing legal action initiated by representatives of former civilian inhabitants of Chagos seeking a right of return. The sovereignty claim of Mauritius is a further issue that affects HMG's room for manoeuvre.

Against that background what further role might the international community play in supporting conservation on Chagos? How effective is the existing set of arrangements? Are they enough in themselves? Can they be used to get HMG to raise its game?

Climate change is now the major driver of international scientific cooperation. What international cooperation is in the pipeline (eg post Kyoto) that might be relevant? Are there areas where the BIOT

administration could obtain international assistance without putting into question the smooth running of the Treaty? World Heritage is one possible example – moving from "as if" to an actual commitment.

What more could be done to beef up the BIOT authorities domestic agenda, not least as regards illegal fisheries? There seems to be little or no framework for planning and land use. These issues are themselves linked to the tourism and resettlement agendas. In turn the possibility of civilians returning to the outer islands does not just have environmental implications. There is a read across into the international obligations on governments to provide properly for all their inhabitants including those in remote places.

Remarks by Iain Orr

My perspective is one shared by many: concern to protect the reefs, atolls and ecosystems of the Chagos Archipelago; and concern for justice for the Chagossians.

A large number of international environmental agreements already apply to the Chagos archipelago. (A significant omission is the Convention on Biological Diversity (CBD) to which the UK is Party.) However, this presentation concentrates on the World Heritage Convention (WHC) and the Ramsar Convention on Wetlands of International Importance.

WHC listing recognises that parts of the Earth's heritage are so precious that the interests of non-nationals - including future generations – should be taken into account in ensuring their protection and good management. Listing does not just depend on agreement about a site's importance, but also on how it will be managed; and inspections may lead to a site being put on the "in danger" index. The WHC can deal with the complexities of sites that are used for multiple purposes, but the tough external approval and inspection regime may be one reason why the Great Chagos Bank has not yet been put forward by the UK for listing. Another reason is the dispute over sovereignty with Mauritius. However, that is less of a difficulty as the convention explicitly notes that listing does not affect sovereignty disputes. In theory, that should mean that a joint submission by Mauritius and the UK would be approved by UNESCO's World Heritage Committee. Provided the management plan passed muster.

Realistically, such a formal listing may be some way down the road. However the UK government has acknowledged ever since the BIOT Conservation Policy Statement of October 1997 that BIOT should be treated in accordance with the requirements of the WHC, "subject only to defence requirements". What matters in the short term is that this position is fully respected; and that it features in the regular UK/US discussions on the management of the environment on and around Diego Garcia. A question for the scientists here is how they can help make the government aware of what it means to manage BIOT "as if" it were a World Heritage Site.

The Ramsar Convention is very different. The initiative for listing sites lies with the nominating state (in line with the criteria of the convention). That is why BIOT already has one Ramsar site - number1077 (details below), inscribed in 2001.Considerable work has already been done to identifying areas suitable for future Ramsar designation. I suggest that these possibilities should be discussed with Chagossians. The scope for close co-operation between environmentalists and islanders is not new.
The then Chairman of the UK Chagos Support Association said in 2002: "Professor David Bellamy stated recently that to repopulate the Chagos could be made to benefit the environment of the northern atolls by freeing them of their massive feral rat populations, thus allowing re-colonisation by seabirds, and control of rogue fishing and abuse and damage by visiting yachts. A resident population could also benefit the palm forests by removing older trees and encouraging younger stock, eventually returning these valuable forests to good order."

Let us hope that the documents for the UK delegation to Ramsar COP 10 in Changwon Korea (28 October – 4 November 2008) take into account the possibility of additional Ramsar sites in BIOT.

Appropriate points should be made to Defra (who will lead the UK delegation to COP10) well before 31 March 2008, the deadline for the Ramsar secretariat to receive national reports.

Meanwhile, I suggest this conference might usefully discuss the following questions:
How best can the work of CCT, conservation scientists and NGOs dovetail with the aspirations of the Chagossians?
How could a resident community of Chagossians contribute to improved management of the terrestrial and marine environment of the Chagos Archipelago?

Discussion

In discussion The Chagos Conservation Trust (CCT) was urged by the Secretary of the Chagos Support Association (CSA) to engage with the Chagossians on conservation science and skill training. CCT confirmed that it was keen to be of assistance in the area of education and training for conservation. Simon Hughes (Secretary (CCT) said that he would be attending CSA's forthcoming AGM and would make this clear. The CSA also expressed appreciation for the offers of co-operation in this area from Dr Mark Spalding (CCT).

WORKING SESSION: PRIORITY CONSERVATION PROJECTS FOR BIOT, AND FUNDING

Leader: Rachel Jones (ZSL), Bruce Dinwiddy (UKOTCF), Professor Charles Sheppard, Pete Raines, Founder and Chief Executive Officer Coral Cay Conservation

Presentation by Rachel Jones

The Chagos archipelago presents an opportunity for a wide range of research topics in marine, terrestrial and atmospheric environments. To-date access to these environments has been limited and piecemeal, relying largely on the interests and funding of individuals joining the infrequent expeditions to the region.

A co-ordinated and focused strategy for research will benefit the advancement of conservation in the Chagos by establishing links with practical management strategies. Identifying and encouraging funding support for research can be challenging. A strategic set of research objectives will also provide clearer priorities for funding agencies who may be interested in supporting research projects.

A joint application for funding from The Royal Society was submitted recently by ZSL and Warwick University. It was an ambitious programme of work touching upon several priority areas. Its main research themes were:

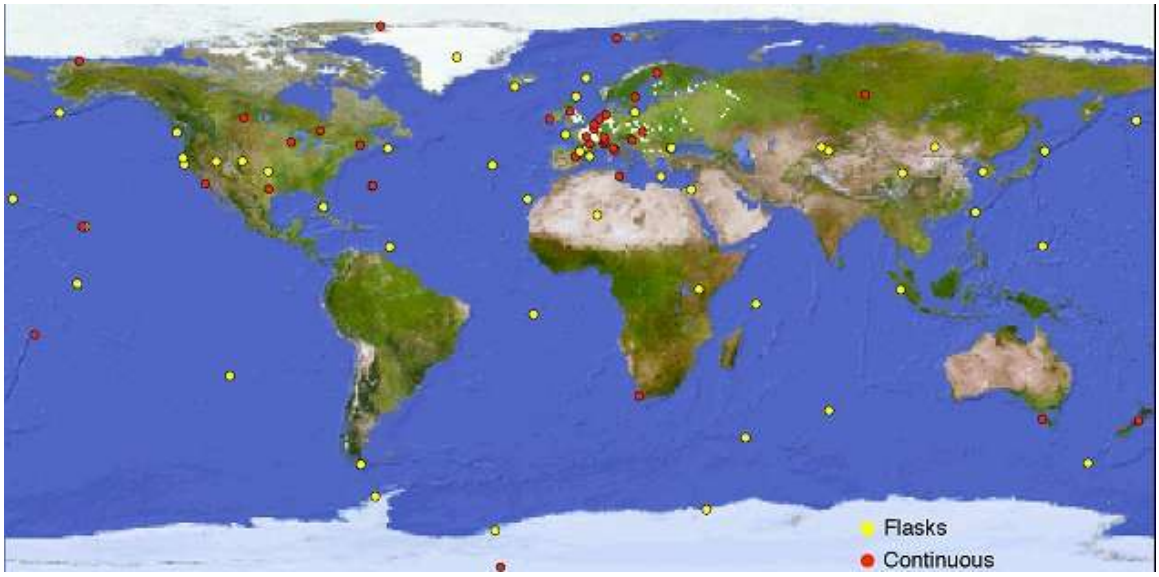
1. Establishing Chagos as a global reference site for biodiversity, ecological and biogeographical analysis.

2. Long-term, global climate change monitoring for atmospheric gases, sea levels, sea surface and deeper temperatures.

3. Research facilitation through permanent field station in Diego Garcia atoll.

4. Public understanding of science to communicate the ground-breaking, diverse and interdisciplinary science on Indian Ocean coral reefs being carried out in a remote, minimally impacted region to the UK public and beyond.

The need for a sampling station in the Indian Ocean is highlighted by the map that shows existing sampling sites worldwide and the large gap that exists in the data collection:



In the event the Royal Society reported that the grant application was good, but their own audits told them that they did not have the funds after all! The programme of work remains a good one either in its entirety or as a modular set of tasks, and future funding will be sought for the same topics.

In addition there are other research and conservation issues which are high priorities for the region such as:

- Human impacts – the possible re-settlement of a resident population will have an impact on the natural environment. How complete is the baseline data against which to compare anthropogenic influences? What needs to be done to ensure the sustainability of such a re-settlement?

- De-ratting outer islands – what are the options and opportunities for further work to eliminate rats from valuable nesting sites for birds and turtles?

- Deep sea biology – BIOT represents a gap in the data as far as deep sea environments are concerned

- Access and security issues for visiting scientists

This session aimed to identify and agree a set of priority research objectives for Chagos and BIOT and to discuss potential sources of funding to support those objectives.

Discussion

The group suggested several areas that should the list of research priorities (not in order of importance):

- Firstly providing infrastructure for repeat research in situ in the form of a field station
- Deciding how 'pristine' the area is in comparison to other sites in the Indian Ocean
- Using IYOR (International Year of the Reef) in 2008 to gain leverage for the field station
- Getting the 30% MPA in place and ensuring it is strictly enforced
- Supporting a competent and complete feasibility study for any re-settlement

- If Chagossians were to return, identifying and developing roles for Chagossians in monitoring, practical conservation programmes and enforcing regulations
- Establishing the role Chagos reefs play as a stepping stone for more impacted reefs elsewhere in the Indian Ocean.

There are a few large potential sources of funding that have expressed an interest in the region (NERC have recently funded a large programme of deep sea exploration in the Indian Ocean) but at this stage much research in the Chagos depends on small grants such as those from OTEP. The global importance of this archipelago and associated ocean would definitely benefit from a more substantial and strategic approach to funding and resource provision in the future.