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Making protected areas effective: Overview and National Trust experience

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This morning's topic arises directly out of yesterday's discussion about *Raising Awareness*, because without awareness there will be no public support; without public support politicians will not listen; and if politicians do not listen, areas of special value will not be designated for protection.

The title of my contribution is *Overview and the NT Experience*, a title I happily accepted when Mike suggested it to me six months ago; but, when I came to think about what I was going to say, I realise that while I could say something about the National Trust's experience – or that part of it which might be helpful to other members of the Forum – I did not feel I had a sufficiently lofty viewpoint to give an overview.

So, here are a few remarks about our own experience. I will then briefly describe three examples taken from countries which happen not to be represented here today.

I suppose there are four things needed to give protection to an area of land of special interest:

- official designation (or ownership)
- a sound management plan
- funding
- local support

Turning first to the National Trust's experience. When we came into existence in 1895 there were no laws on the statute book to protect either land or buildings for their historic, scientific or cultural value, though there was, it is true, some recently enacted legislation to prevent landowners from enclosing the common land on which certain people had an ancient right to graze animals, cut turf, gather firewood etc. Indeed, it was because there was no law which gave everyone the right of access to land for recreational purposes that the NT was founded. It was not, of course, animals and plants that the founders had in mind, but people and the inspirational qualities of wild landscape that the English had been taught to admire by Wordsworth and Ruskin. One of the three founders wanted to provide what she memorably called "open-air sitting rooms for the poor" and another, a disciple of Ruskin, wanted to keep the railways out of the Cumbrian dales.

The power to declare land inalienable proved so effective, however, that it was soon used for the defence of other interests. In 1899 a group of Cambridge scientists banded together to buy Wicken Fen, the last unreclaimed fragment of the Cambridgeshire fens and a habitat of plants and creatures which was even then under threat; thus, incidentally, creating Europe's first nature reserve.

So, the instrument we have used has been ownership and our experience has taught us that there is no more effective way of protecting areas of scientific or cultural value. Other legislation for protecting areas was not introduced until after the 2nd World War, but it is operated by local governments and they vary enormously in the rigour with which they apply it.

There is another instrument we use which has the advantage of being cheaper because it does not involve acquisition and ownership – and that is the *restrictive covenant*, known in the United States as an *easement*. From time to time we are given restrictive covenants over land or buildings, and sometimes we buy a piece of land and sell it on, retaining covenants over it. In this way the owner of the land is prevented in perpetuity from doing certain things on it unless he/she first obtains the Trust's permission. Covenants have proved effective, but they are always at the mercy of British law, which is inherently unsympathetic to anything which constrains the right of a landowner to do what he likes with land or on it, so long as he does not damage the interests of others. So far, on the rare occasions when we have taken a landowner to court for infringing our covenants, we have always won. But, it is never certain that we will do so, and if we were to lose a case, it would be cited against us in future actions. So, covenants are at the mercy of case law; they are a precarious form of protection and defending them involves steady nerves, careful judgement and an element of bluff.

And now to my three examples of effective protection of special areas of interest, each of which illustrates in varying degrees the presence of the four elements of legislative frame work (or ownership), a management plan, funding and local support.

First, the old city of Havana in Cuba, an area of about a square mile, bounded on one side by the sea and on



the other by the line of the old city wall, densely packed with the great houses of the old Spanish ruling class and semi-ruinous churches and convents, and criss-crossed with narrow streets which open out every now and then into city squares. The houses are all in multiple occupation and festooned with washing lines and redundant pipes and electric wiring. It is all intensely picturesque, teeming with life, very poor and in a terrifying state of decay. Every time there is a heavy storm a house or two is lost. But,

- the city is owned by the State and managed by the office of the city historian;
- the man in charge, the city historian, is a person with a rare combination of qualities. He is an aesthete, a good administrator and a man with a strong social conscience and a mission;
- his mission is to restore the city, building by building, street by street, without displacing the people who live and work there;
- with his mostly young staff, made up of architects, historians, planners and welfare workers, he has prepared a grand plan for the old city which involves an elaborate process of consultation with the inhabitants of each street.
- the operation is being funded by tourism; the number of tourists coming to Cuba is increasing at the rate of about 1 million a year;
- he has negotiated with the government to receive a percentage of every dollar spent in the old city.



So, the old city of Havana (both pictures above) is protected by ownership (in a Communist country there is no need for legislation), a plan, funding and local support.

The second example is taken from the city of Tallin in Estonia. Just outside the city is a prehistoric burial ground. During the Russian occupation it was well cared for, but after the Russians left, it became neglected and overgrown. Its deteriorating condition caught the eye and the imagination of a young woman doctor in Tallin. She gathered together a group of colleagues from the hospital where she worked, who restored order to the site and now tend it every week. This is a minor affair, but it is significant because it illustrates what can be done by the enthusiasm and unpaid effort of a small group. It is how the National Trust began in England a century ago: small groups of people banding together to rescue, and care for, places which they valued. With local support of this kind, none of the other three elements are needed.

My last example comes from the Bahamas. The National Trust of the Bahamas was founded in 1959. Several large areas among the islands are designated as National Marine Parks and they are owned and managed by the National Trust. One of these Marine Parks covers the northern half of a chain of atolls called the Exuma Cays. The park is a vast area of sea and atoll and it has been declared a 'no-take zone', which means that fishing is forbidden within it. Marine life therefore flourishes and the local economy benefits from services provided to the people who come in large numbers to dive and snorkel and from the fee they pay to moor or anchor. But, the local people also benefit in another way. The prevailing current carries the spawn of the conch and lobster northwards into areas where fishing is allowed and where they earn their living in the traditional way from fishing.

So successful has this park been that the National Trust has been approached by the people of the neighbouring island of Andros with a request that a Marine Park and 'no-take zone' be designated along their shores. This sends a powerful message to politicians: conservation is not only good for business, it is also popular with the electorate.

Here, as in Havana, are the four requirements for protection: legislation and ownership, a plan, funding and local support.

Little Water Cay Nature Trails and Middle Caicos Darwin Initiative Project

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Little Water Cay Nature Trails

A project, which has won renowned recognition for the Trust and international publicity for the Turks and Caicos Islands is the Little Water Cay Nature Trails Programme.

This programme is one of the great success stories in conservation management in the TCI.

Due to its close proximity to Providenciales (the main island for tourism and business), the tranquillity of the beach, and its resident population of endemic rock iguanas, Little Water Cay had long since been a popular attraction for islanders – and increasingly for tourists.

It had come to the attention of the Trust, following a nation-wide study of the population and habitat of rock iguanas in the Turks and Caicos Islands, that this particular habitat which is a nature reserve, was indeed under threat. A plan was then devised and initiated by the Trust to reduce the detrimental impact which the many visitors were having on the natural habitat and consequently on the animals.

Funding to construct raised boardwalks, viewing platforms, information signs and educational pamphlets was secured through RARE Center for Tropical Conservation and the MacArthur Foundation. The effect of these completed activities greatly reduced the damage to the natural habitat and the iguana population.

The management of Little Water Cay Nature Reserve was an undertaking of the Trust in partnership with the Watersports Association and the Turks and Caicos Government. A training course for Tour Operators and boat captains was also a part of the project.

Little Water Cay Programme is the only operating income-generating project developed by the Trust. A user-fee of \$3.00 per person is included in each package sold to visitors by tour operators who run excursions to Little Water Cay. This revenue is passed on to the Trust through the purchase of iguana pins, which serve as a ticket or pass. Revenue from the programme is applied to ongoing maintenance of the trails, other projects and core support.



Upon opening of the programme three years ago, the Trust had entered into a five-year lease agreement with TCI Government. Since then the Trust applied for a long-term agreement with the Government, and this year a ninety-nine year lease agreement was awarded to the Trust for both Little Water Cay and Little Ambergris Cay.

A management decision was made earlier this year, prompted by concerns from members of the Watersports Association, to increase surveillance on the cay. We now have a warden in place for the programme. Presently, the country is experiencing what we call 'slow season'; tourist arrivals are in a lull. At the Trust, we have taken this time to prepare for the forthcoming tourist season. Plans are in progress to conduct in October a short refresher course for Tour Operators and boat captains.

Darwin Initiative Middle Caicos

This is yet another challenging and exciting enterprise for the National Trust taken on in partnership with the UK Overseas Territories Conservation Forum and CABI.

The key component of the Darwin Project is to develop a Conservation Management Plan for the wetlands complex of North, Middle and East Caicos, including the internationally important Ramsar site.

The Project Manager has been in place since April 2000 and is quickly becoming familiar with the sites and unique culture of the islands. Plans are currently (September 2000) underway to commence the main period of research. International scientists and specialists are expected to arrive in November to work with the local people to record data on native plants, birds, and other wildlife.

Other progress by way of the project is the recent acquisition of the former school building in Bambarra, Middle Caicos, which will serve as headquarters for the project and eco-tourism centre. This was granted to the Trust by TCI Government pursuant to Section 5 (c)(d) of the National Trust Ordinance. Funding is now needed for renovation of the building.

Another objective of the project is to provide opportunities for small business development, training and employment for the local people. To this end, the Trust has conducted two Small Business Workshops

for persons interested in conservation management and eco-tourism. Community meetings are organised and held quarterly. As a follow-up activity to the workshops, the Trust will be hosting a Culture Fair in collaboration with the Tourist Board, 13th & 14th October 2000. Entrepreneurs from Middle Caicos are expected to participate.

There are also other small projects beginning to emerge from the Darwin Initiative, such as the fresh fruits, eggs and vegetables scheme, which will be spearheaded by the Project Manager.



Community meeting as part of the planning of the Darwin Initiative project



Rare West Indian Whistling Ducklings feed near their mother while the drake stands guard, Middle Caicos 1999

BVI National Parks Trust Marine Conservation Programme Case Study

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The BVI National Parks Trust is charged with preserving and managing designated natural and cultural areas in order to improve the quality of life in the British Virgin Islands. The National Parks Trust Ordinance of 1961 and the Marine Parks Ordinance of 1979 govern the Trust's work, which has expanded over the years to address the protection of 18 terrestrial properties and one Marine Park. In addition, the Trust manages 72 uniquely named locations in 9 geographic areas which constitutes a system of legally-defined Marine Protected Areas under a separate Ordinance. In the context of the British Virgin Islands, as in many other coastally defined areas, the tourist industry relies heavily on the presence of healthy reefs, sea-grass beds, Caribbean dry forests and mangroves. Such areas contribute tremendously to the recreation industry. For example, based on figures provided by the Development Planning Unit of the BVI Government in 1998, 392,290 visitors reported travel to the BVI for tourist purposes. Of those, 279,097 or 71.1% were overnight visitors with the remnant 113,193 or 28.9% being either "day-trippers or cruise ship passengers. 89,951 or 32.2% of visitors over-nighting in the BVI were charter boat passengers with other proportions of the 189,461 visitors utilising marine resources in varying degrees.

High numbers of visitors to a subset of areas managed by the Trust may be resulting in greater detrimental impacts to protected sites. Visitation to the Territory has fluctuated over a four-year period (Appendix D); however, forecasts indicate a continued increase in total visitation as a result of the continued aggressive promotion as a marine destination for yachters and other types of visitors. The National Parks Trust has managed the marine environment for several years through the Marine Conservation Programme. Approximately 200 moorings have been established at dive sites to prevent the damage and/or loss of coral reefs by means of anchor damage. Moorings were installed and are maintained by a dedicated staff of four who are responsible for the placement of the moorings, all maintenance aspects of the system and monitoring of permit compliance. Users pay for the ability to use National Parks Trust moorings. Dive Tour Operators and other stakeholders, originally involved in the establishment of the system, assist in the monitoring the system by reporting moorings requiring repairs. Reports are fed back to the Marine

Park Wardens who will do both required maintenance on the mooring and monitor for permit compliance.

While the Trust works under the assumption that the resource (i.e. coral reefs) is partially protected by its management intervention, no long-term studies have been conducted which would track the degree of attainment of the stated goals of the programme which are: the prevention of anchoring and increased rates of permit compliance.

Lack of information hampers the determination of the rate of programme efficacy, and ultimately additional interventions required to ensure resource protection. Identification of this problem led to the design of a project whereby Marine Park Wardens acquire the following variables as part of their normal maintenance and monitoring routine:

- Expected and actual number of moorings at a dive site (attrition resulting from misuse by boaters who damage components of the mooring buoy);
- Number of boats moored and anchored at the monitored dive site;
- Number of individuals complying with permit acquisition prior to the use of the mooring and number of permits sold on site;
- Number of dive sites without any boats using moorings.

Analysis of data associated with anchoring rates at different sites acquired over the initial five-month period has begun to elucidate important patterns of how users are interacting with the system. A total of 24 sites were monitored during the study. Twelve sites were monitored at least once while the other twelve were monitored more than that. In light of the fact that Wardens have ever-changing maintenance priorities, monitoring is limited to areas requiring some degree of attention at the time. Four popular dive sites (n = 4) were monitored on 22 to 41 separate occasions during the study representing the number of sites included in the analysis of the data presented. Furthermore, sites having no moored boats at the time of monitoring (n = 12) were independently listed¹.

¹ An arbitrary figure of ten individual monitoring events was chosen as the criterion to determine whether a site was frequently not moored.

Therefore, sample data (Appendix II) describe these sites.

Observed rates of anchoring at popular sites can be partially attributed to the fact that as mooring buoys rapidly become occupied during the day, users may be deterred from leaving a site that may be saturated with boats. Rates of anchoring also fluctuate according to the time of year (data not shown) as would be expected.

A subset of sites requires unique attention. Average anchoring at popular sites ranged from 2.54% to 8.37% of boats found at a site². The Wreck of the Rhone, the only declared Marine Park, was the least anchored site amongst the popular sites. This can be accounted for largely by the fact that the Wreck is the only site in the Territory where anchoring is strictly prohibited. The Wreck had on the average the least amount of anchoring taking place when compared to other popular sites. Rates of anchoring fluctuated significantly at some sites where boating volume was heaviest. For instance, the marine elements of the Baths National Park and the Caves exhibited a greater degree of variation over the study period as many visitors frequented the area and infractions to the suggested no-anchor zones are greater.

Equally important to the study are sites with no boating activity associated (Appendix III). Twelve monitored sites had at least ten events where no boats were encountered. Of particular significance, three of those sites are adjacent to the Wreck of the Rhone Marine Park. These dive sites are not adjacent to the main attraction and thus do not receive as many visitors.

Information gathered during this pilot phase of the study will augment the BVI National Parks Trust's capacity to manage effectively marine sites in the Territory. Anecdotal and observational information exists relating to both numbers of boats and their distribution along marine protected sites; however, such information cannot be the sole basis for making management decisions. Results acquired thus far validate common knowledge that a subset of over-promoted and over-utilised sites has relatively higher rates of anchoring. Concrete recommendations can be made regarding optional sites which can be used to shift visitors. Conversely, as under-utilised sites may become saturated, appropriate restrictions may be imposed which may arrest over-utilisation.

Since programme inception, stakeholder groups such as dive tour operators and charter companies have been involved in the design of the system and further monitoring of use. An aggressive campaign centring on informing users of visitation patterns can continue to protect the resource as stakeholders and user groups become aware of available alternate sites in a dynamic manner. Informal consultation with stakeholder and user groups will be instrumental in conveying under- and over-utilisation and the need to shift visitors from parts of the system to others in order to prevent saturation.

Long-term acquisition of visitor use patterns will assist in the refinement of the placement of moorings throughout the Territory and, therefore, the management of marine sites in the British Virgin Islands.

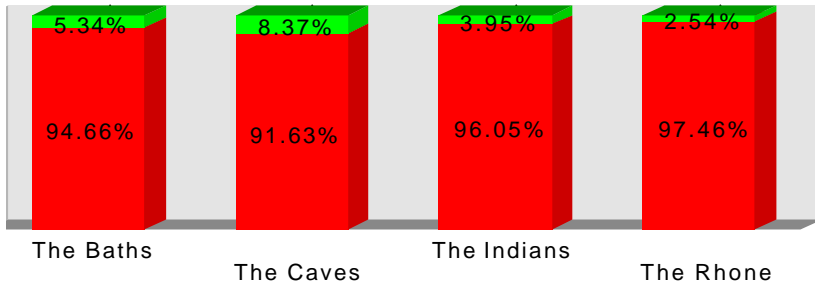
APPENDIX I: Visitor Patterns to the British Virgin Islands (1995-1998)

Tourist Arrivals by place of stay	1995	1996	1997	1998
Overnight				
Hotels	68,536	72,624	77,045	81,670
Charter Boats	101,360	101,288	76,147	89,951
Rented Acco	2,091	2,282	2,442	1,705
Own Acco	1,310	1,423	1,376	920
Friend	46,213	66,066	87,308	104,851
Total	219,510	243,683	244,318	279,097
Daytrippers	23,775	8,749	16,486	8,051
Cruiseship	122,054	159,600	104,864	105,142
Total	365,339	412,032	365,668	392,290
% Overnight vs. total visitation	60.1%	59.1%	66.8%	71.1%
% Single day stay vs. total visitation	43.7%	25.5%	28.8%	28.9%
% Charter boat visitors	46.2%	41.6%	31.2%	32.2%

² This represents eight locations along 3 distinct geographic locations.

APPENDIX II: Total Anchoring vs. Boats Encountered

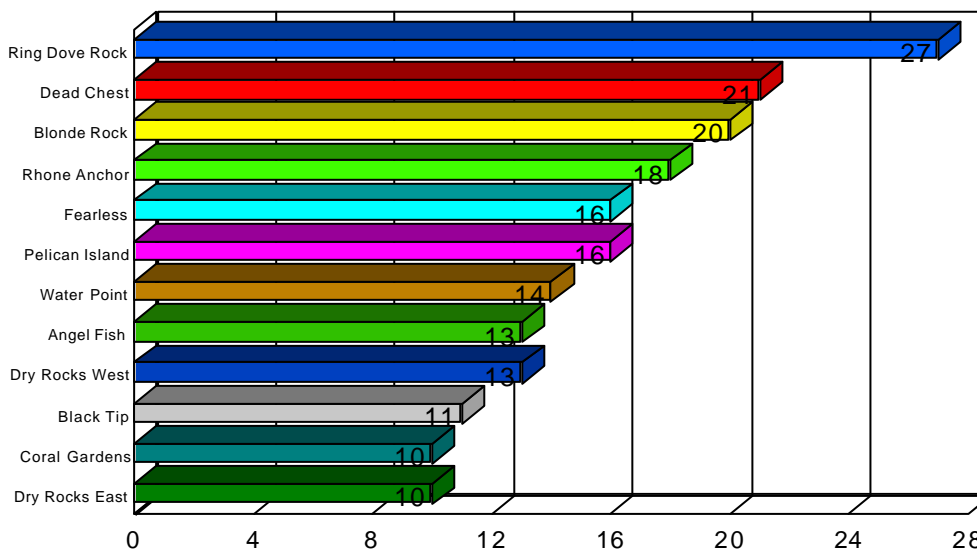
Percentage of Boats Anchored vs. Total Number of Boats per Site



		Sum	Avg.	Variance	Std. Dev.
		(Boats at Site)			
The Baths n (Monitoring Events) = 20	Boats at Site	479	23.95	280.58	16.7504
	Boats Anchored	27	1.42	3.59	1.8949
The Caves n (Monitoring Events) = 35	Boats at Site	219	6.26	8.73	2.9540
	Boats Anchored	20	0.59	1.28	1.1313
The Indians n (Monitoring Events) = 41	Boats at Site	243	5.93	9.72	3.1176
	Boats Anchored	10	0.24	0.64	0.7994
The Rhone n (Monitoring Events) = 36	Boats at Site	230	6.39	13.79	3.7131
	Boats Anchored	6	0.17	0.73	0.8570
n (Monitoring Events) = 132		Boats at Site	Anchored Boats		
	Sum	1171		63	
	Average	8.87		0.49	
	Variance	90.56		1.41	
	Standard Dev.	9.5161		1.1866	

APPENDIX III:

Count of Dive Sites encountered without Boats



The St Helena Millennium Gumwood Forest Project

Rebecca Cairns-Wicks & Isabel Peters

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This talk will describe the St Helena Millennium Gumwood Forest Project, a community and conservation initiative to recreate a native habitat and celebrate the Millennium. This project is an example of how we on St Helena are trying to encourage involvement of civic society in the development and management of protected areas on St Helena.

The planting of young trees has brought new life to a barren and degraded wasteland and will provide a legacy of the conservation of the island's native heritage for future generations.

Why plant Gumwoods?

On St Helena, tree planting often marks special events and occasions. As an island just recovering from the effects of deforestation and with a highly threatened native flora, it seemed fitting to mark the Millennium with tree planting, and even more so with the planting of an endangered endemic species, the gumwood *Commidendrum robustum*, an arborescent member of the *compositae* family. Gumwood forests once covered approximately 1/3 of the island but quickly disappeared after the arrival of man and his associated animals. Today only one small remnant of Gumwood forest remains with less than 1000 individuals (below).



In 1977 the Gumwood was named as St Helena's National Tree, although prior to the Millennium Forest Project few islanders were familiar with it; and many would have been unable to identify a Gumwood tree or if they could, would not appreciate its value in terms of the world's biodiversity. The adult Gumwood has a crooked branched frame and rough bark with an overall umbrella shaped canopy. The seedlings are of a different shape to the adult trees being tall and slender and much straighter with larger leaves.

The Millennium Forest is situated in an area called Horse Point, which is on the North East side of the island. The surrounding scenery is breathtaking with some of the island's most spectacular geological features. However if you had seen the site before the project began, it seemed the most unlikely place to want to plant a forest. Adjacent to the island's refuse dump it was also used as such. The area is dry and dusty with an annual average rainfall of 400mm and littered with gullies caused by severe soil erosion that followed deforestation.

It is rather surprising that the area was once covered in Gumwood trees and formed part of the Great Wood which in 1716, although much reduced in size, occupied 1500 acres. The Great Wood was finally destroyed in the nineteenth century, as browsing livestock prevented regeneration and man felled the trees for timber and fuel. In the mid 1980s, a small patch of Gumwoods was planted at Horse Point. Since then this site has been designated as an area for their reintroduction.

In establishing the Millennium Gumwood Forest Project, its aims and objectives are:

To transform a degraded site into a forest, that will beautify the area and provide an amenity for everyone to enjoy.

The creation of the forest has aesthetically enhanced the area and presents an attraction for both locals and visitors.

To raise the profile of native flora, specifically the Gumwood

Through this project islanders became more aware of the ecology of the Gumwood tree. The promotion of the project overseas has also raised the profile of this tree internationally.

To increase and support local biodiversity

The Gumwood forest habitat is one that previously supported many endemic invertebrates particularly weevils. Horse Point was also home for the endemic giant earwig, *Labidura herculeana*, the world's largest earwig now thought to be extinct. Whilst it might be too late for the giant earwig, the establishment of vegetation cover is likely to support many insects and birds.

To enhance the community spirit of the island

The strong sense of community spirit on the island has declined in recent years due to a combination of factors. This project has embraced all sectors of the community and got most of them involved in something new: getting together to plant a forest.

To reduce soil erosion

Due to the physical conditions at Horse Point, the area is highly prone to erosion. Re-establishing the Gumwoods in this area will help to stabilise the soil and prevent further erosion.

To develop techniques that can provide important lessons for dry land rehabilitation on St Helena and elsewhere in the world

Currently over 60% of the island's land area is classified as wasteland. Through revegetation, a significant amount of land can be brought into productivity. This project can therefore act as an example of how this can be achieved.

And last but not least,

To provide a practical example of how a protected area can be properly developed through public consultation and participation.

The primary mechanism for landscape protection and management definition is the Forestry Ordinance (1954), which designates areas as either National (productive forests, unproductive, bare land or conservation) or Dedicated forest. There is little correlation between the actual physical area and that which it is designated as, as many areas have no tree cover. As the demand for land for housing and development increases there is increasing pressure to release protected forestland and the rationale for protecting the unproductive or barren land is not always understood by the public. To rectify this, a National Plan of Protected Areas (NPPA) is being developed that will encourage local participation in the planning procedure and ensure transparency of the criteria for designating protected areas.

For the first time this project is one that has got all sectors of the community directly involved in establishing a conservation area. In fact the project has gone further than this, it has stimulated local ownership and pride. People have ownership of their trees, and they have been returning to the forest to

place mulches around the tree, fertilise it or simply water it.

By introducing people to the benefits of conservation it is hoped that we have stimulated public interest in the development of protected areas. Thus we hope to build upon this to gain support for the development and implementation of the NPPA. Without this project, it is likely that the general public would have remained detached, or would have provided opposition to the NPPA.

How it has happened

The project has taken two years to come about, during which time the project was designed, the site planned and primed, the project promoted (on island and abroad) and funding sought.

Although the project was a government initiative, the Project Steering Committee has striven to involve the public in all aspects of the project work through actively promoting the project amongst all sectors of the community.

It took a tremendous amount of hard work to get the forest to the planting stage as the area had to be primed and the microclimate for each tree modified to ensure optimal survival. Planting of the forest has taken place between June and September (during our winter months) this year (2000).

A tree for each island resident was provided free of charge. All that was needed was for individuals to give up a bit of their time to go out and plant it - their tree, in their forest.

Prior to the start of planting 38% of the local population had signed up to plant a tree and, as the time for planting grew closer, interest in the project increased. Despite a few hiccups, planting began officially on 4th August. This date was chosen, as it was HM The Queen Mother's 100th Birthday. Our Governor planted a tree for the Queen Mother and the zone was dedicated to her, and yes it does have 100 trees. Members of the public who came along for a special planting party three weeks later planted approximately 600 trees. To date over 2500 trees have been planted in the forest, and they are all doing very well.

To optimise user benefits from the forest and to promote the conservation of the Gumwood, an information building is being constructed at the entrance of the forest. As this is such a historic project the names of every person who has contributed to the project will be recorded and displayed in this building.

The total cost of the project was estimated at £32, 600, which included site preparation, design and promotion. The FCO Environment Fund for Overseas Territories provided the bulk of funding and other contributions came from the Governor's Discretionary Fund and a proportion of the costs has been met through Government Departmental budgets. In addition on island we raised £1400 through sponsorship and donations from private companies, and donations large and small amounting to some £1200 has been received from groups and individuals abroad. Monies are continuing to filter in.

What happens next with the forest?

No financial provision was made for the management and development of the forest after planting. However our post-planting objective is to make this project self sustainable. We anticipate achieving this through managing the forest as a charitable trust, marketing endorsed merchandise, encouraging visitors to buy trees and establishing a friends of the forest support group. We already have sufficient funds to cover the salary of a part-time forest warden to look after the trees during their first year.

This project has so far been a success. It has galvanised the whole island into action to create a forest and as such provides an example to the rest of the world of the island's community and conservation spirit. We need continued support to ensure that the Millennium Forest remains a success. From our end we will continue actively to promote the project and seek funding. You can help us by telling friends, family and colleagues about St Helena's Millennium Gumwood Forest.

The support financial and otherwise from many of you here today has contributed significantly to the success of this project, and I would like to take this opportunity to thank you for that support. The Millennium Forest was all about taking this (picture of site before planting)



and turning it into this (picture of forest now).



But without this (picture of people planting) it would have been just another forest.



On St Helena we took the simple act of planting trees and turned it into a Millennium project that brought our community together in a combined effort to conserve our native biodiversity, from which many valuable lessons were learnt. The Project Management will endeavour to ensure that the Millennium Gumwood Forest provides further such lessons for both those on island and others around the world.

Managing areas with no human populations

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You could be forgiven for thinking that this is a non-problem. So much of the threat to the environment in Overseas Territories comes from human activities of one kind or another that you might conclude “No Humans, No problem!” Not so.

First, as pressures increase in the places that are inhabited, people look to uninhabited areas to satisfy their aims. They may want to harvest natural resources, either for their own needs or for commercial gain. They may simply want to enjoy open spaces, but inflict inadvertent damage by their presence. As more people do these things, using ever more powerful technology, the threats to previously pristine systems intensify.

Second, there are few places which, even if they are uninhabited now, do not feel the effects of previous habitation or the impact of pollution, degradation, change - call it what you will - transmitted from elsewhere. Examples are the impact of global warming on sea levels in places which contributed nothing to the warming, or the ecological damage done to habitats through the chance import of invasive species. A simple example is flax, which risks taking hold in Inaccessible Island, off Tristan da Cunha.

Third, perhaps most important, we are inclined to forget that the life cycles of species essential to our own welfare often include stages spent in areas devoid of human habitation, not because they have sought refuge and not always because they have already been destroyed in populated zones. No, their patterns of existence were simply established long before the explosion of human demand. But their continued survival is now more critical to future human needs, never mind the abstract value of bio-diversity.

So, my first point is that we cannot regard the safeguarding of unpopulated areas as somehow disconnected from or less important than the protection of inhabited areas.

There are however two crucial differences when it comes to achieving in practice whatever degree of protection we may decide in principle is required. The first is the absence of economic activity to generate the resources needed to fund the protective measures all want. The second is the absence of local people to observe and report on the various sorts of interference

I mentioned a moment ago. Two blinding glimpses of the obvious, you might say! Yet there is much more to it than this. The absence of local people does not just make it more difficult to detect events and discern trends. There is no one on the spot to do anything about problems, even when they have been identified. And it is increasingly evident that benign neglect is not a solution: however remote, wildernesses need to be managed if their rich eco-systems are to be preserved.

This leads to my second main point: there is no choice, if we attach value to these uninhabited areas, but to bring to bear protection from outside. To put matters in a nutshell, it is not a case of No Humans, No Problem. Rather, we should say No Humans, No Protection or, perhaps, No Policing, No Protection – and, of course, as always: No Protection, Nothing left for anyone.

If we look at the variety of situations in the Overseas Territories linked to the United Kingdom, it is quickly apparent that in most cases there are at least some uninhabited areas. Quite often, these are small islands, difficult of access or impossible to stay on. They still add value to the territory concerned, by adding to exclusive economic zones, providing nature sanctuaries of tourist interest or breeding space to species of commercial or scientific importance. Rightly, the territories’ governments acknowledge their responsibility to ensure the requisite protection. They do not argue that they need concern themselves only with the populated parts of their domains. Admittedly, the British Government seems to find greater difficulty in seeing the link between the populated and unpopulated parts of a single Territory. DfID runs a mile when it is suggested that environmental conservation is critical to sustained human welfare. The FCO takes the point, but has nothing like the same resources at its disposal.

Let us turn now to the two Territories that have no settled populations on them - British Antarctic Territory and British Indian Ocean Territory. There are so many differences. One is a land mass, snow and ice-bound for much of the year; the other a constellation of tiny islands, basking in continual heat. One is governed under a Treaty regime giving priority to environmental protection, while the other’s Treaty gives priority to defence. One benefits from



So what does all this add up to? I think we can reduce the question of managing areas with no populations to the following four propositions:

1. If the sustaining of bio-diversity is an accepted aim, then there is no ground for making less effort in unpopulated than in populated areas. In fact, it is nonsense to distinguish between inhabited and uninhabited Territories in matters of environmental protection. Human development depends upon the maintenance of bio-diversity generally. This is particularly true where marine habitats and resources are concerned.

substantial research expenditure every year; the other gets the odd bit of scientific examination when fishing licences generate a slight surplus.

But more striking than the differences are the similarities. Both are large, both remote. Both retain near pristine environments (though BIOT's may be the cleaner). Both are subject to strict access controls to protect their environments and the delicate ecological balance. Both are embedded in seas having alluring living resources. One is a nominated World Heritage Site, the other is said to be treated with no less strict regard than nominated World Heritage Sites. The two even share governorship by the same individual in the FCO. Neither can generate on its own all the monies needed to finance its own protection or the environmental obligations accepted by Britain. In both therefore the deficiencies in men, money and transport need to be made good by Britain, if pollution and pillaging are to be kept in check.

The sad fact is that in neither Territory is enough being done. In the Southern Ocean, IUU fishing is a major threat to stocks, and not only to fish and perhaps whale stocks, with potential to affect a much wider area. The habit of long-lining is also causing serious damage to the albatross populations. What do the letters IUU stand for? Illegal, Unregulated and Unreported - and this phenomenon is now so widespread that the acronym has become standard usage at meetings of the FAO. In the Indian Ocean, the process of sweeping into oblivion every creature that swims is less advanced, but the pressures are growing, while the means to prevent over-fishing and control illicit predation are even more limited than in the Antarctic.

2. By the very nature of things, unpopulated Territories cannot generate what is required to ensure their own environmental protection. Remoteness compounds this problem. It also tends to introduce delay in responding to the threats, once they have been noticed.

3. The sovereign authority must accept the implication of its power by taking responsibility for securing in such territories the aims of the various international Conventions and agreements to which it has subscribed. Sheltering behind the constitutional nicety that the Foreign Office officials are real governments 'out there' is not good enough.

4. The eco-systems of uninhabited territories cannot look after themselves. As the experiences of Antarctica and South Georgia show, an ongoing research presence is needed to measure what is happening and a permanent means for detecting and dealing with activities detrimental to the environment is equally essential.



French Départements Outre-Mer and Territoires Outre-Mer (DOM-TOMs)

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Location of the French DOM-TOMs

There are two types of territories – départements and territories; the political difference is explained below. The French DOM-TOMs are, for the most part, islands in the tropics with the exception of the French

sub-Antarctic islands, Terre Adélie on Antarctica and Saint-Pierre et Miquelon a tiny group of islands at the mouth of the St Lawrence river. One DOM is found on the South American continent, French Guiana.

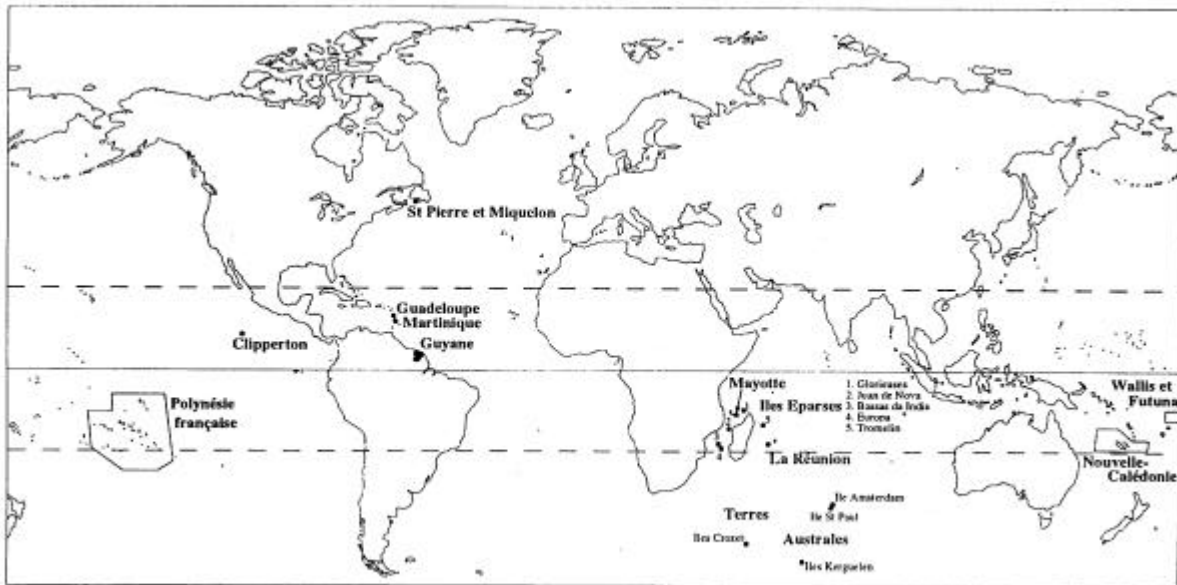
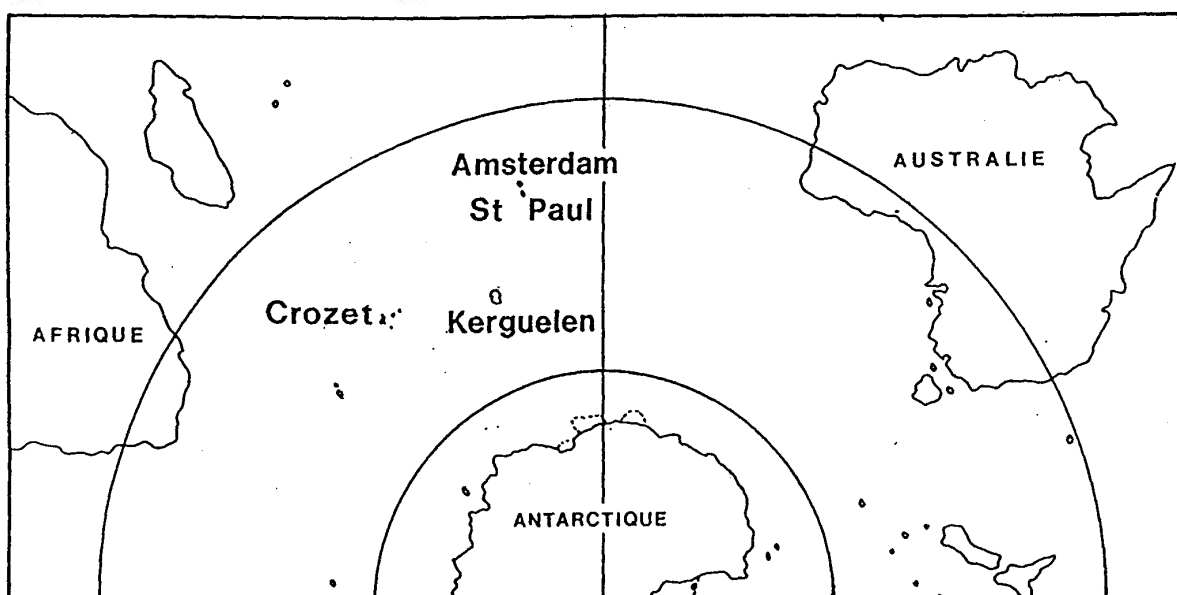
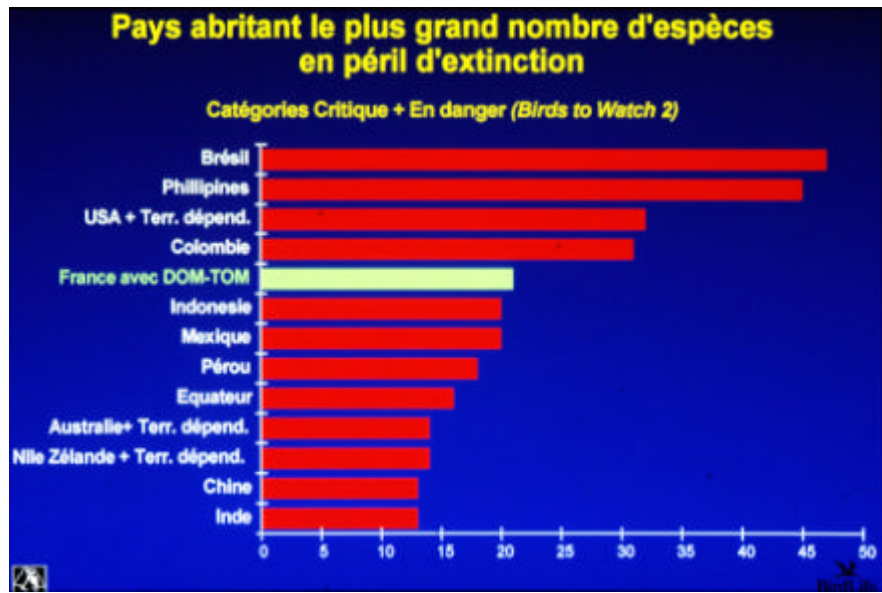


Figure 1: Localisation des DOM-TOM français



The importance of these DOM-TOMs for French biodiversity

Biodiversity in the French DOM-TOMs is of international importance. French Guiana contains one of the largest remaining blocks of tropical rainforest in South America; this is the only “European” tropical rainforest. In terms of bird species there are one endemic family, 3 endemic genera, and 59 endemic species; these are all found in the French DOM-TOMs, rather than metropolitan France. France, or rather its DOM-TOMs, together with Brazil, Philippines, USA (including its overseas territories) and Colombia, is one of the five most important countries in the world for the number of bird species which are endanger of extinction (critical and endangered criteria IUCN).



Graph: France, particularly its DOM-TOMs, is ranked 5th country in the world with the largest number of bird species in danger of extinction

Political link to France

The *départements outre-mer* are integral parts of France, and therefore the European Union. Money for development is thus forthcoming from France and the EU (“Objective 1” for structural funds), but responsibility for the protection of the environment is rather confused, and legislation for environmental protection is more limited and not so well applied in the DOMs as in metropolitan France. There is, however, in each DOM a representative of the Ministry of the Environment (DIREN).

TOMs have a looser political link to France as they govern themselves except for foreign policy and defence. Each TOM has a different administration for the protection of the environment. For example, in French Polynesia there is a ministry of Environment, and in New Caledonia the environment is the responsibility of each Province. The application of

legislation, particularly at an international level, lacks clarity. The sub Antarctic islands have a different status because there are only scientific bases on these islands with military support; their administration is Paris based, as it is for the island of Clipperton .

There is yet another status for other territories – *Collectivité territoriale*.

Examples of different levels of protection

For DOMs

Under the Nature Protection Act of July 1960
National Park: *Designated by Conseil d’Etat (highest court in France) after public enquiry. Management body financed by Ministry of Environment.*

Under the Nature Protection Act of July 1976

Table 1. Biological criteria showing the importance of the French DOM-TOMs for biodiversity

	DOM	DOM	DOM	DOM	CT	TOM	TOM	TOM
Biological criteria	GUADELOUPE	MARTINIQUE	FRENCH GUIANA	REUNION	MAYOTTE	NEW CALEDONIA	FRENCH POLYNESIA	TAAF
Endemic families	0	0	0	0	0	1	0	0
Endemic genera	0	1	0	0	0	3	0	0
Endemic species	1	1	1	4 + 2	3	21	23 + 3	2+1

Table 2. Protected Areas in French Overseas Departements

STATUS	DOM	DOM	DOM	DOM	
	GUADELOUPE	MARTINIQUE	GUYANE	REUNION	
Administration	DIREN	DIREN	DIREN	DIREN	
Protected Areas					TOTAL
Parc National	1	0	0 under discussion	0	1
Réserves naturelles	2	2	5	1	10
Arrêté de Biotope	5	1	4	1	
Site classés	5	1	0	0	
Réserve biologique domaniale	0	0	1	6	
Site Ramsar	1		2	0	
Réserve biosphère	1		0	0	
Réserve biogénétique	0	1	0	0	
Total	15	5	13	8	

Table 3. Protected Areas in French Overseas Territories

STATUS	CT	TOM	TOM	TOM
	MAYOTTE	NEW CALEDONIA	FRENCH POLYNESIA	TAAF
Administration	DDAF	3 Provinces	Ministry of Environment	TAAF administration
Protected Areas				
Réserves naturelles	0	1	6	
Site Ramsar	0			
Réserve biosphère	0		1	
Réserve biogénétique	0			
Parc Provincial		4		
Parc terrestre et marin	1			
Réserve spéciale botanique		13		
Réserve spéciale faune		7		
Réserve spéciale faune et flore		2		
Parc provinciaux marin		5		
Réserve spéciale de faune marine		1		
Réserve spéciale marine		3		
Parc Naturel Territorial			1	
Total	1	36	8	

Réserve Naturelle : These sites are officially designated by French government after public enquiry. Protection by management, financial support is given to the managing body by the Ministry of Environment.

Arrête de biotope: Designated by the Prefet, in the name of the government, no public enquiry. Protection by forbidding certain activities.

Under the Act to protect natural monuments May 1930, **Site Classés:** Designated by a départemental

committee for sites. Owner not allowed to alter the site

Under a general convention between the Ministry of Environment and Ministry of Agriculture and Office National des Forêts, February 1981, **Reserve biologique domaniale**: A means of protecting forest habitats

There is currently only one National Park in the French DOMs, in Guadeloupe. Discussions for a second one in French Guiana to protect the only European tropical rainforest have been going on for nearly twenty years now. There are 10 nature reserves in the DOMs, the majority were designated only recently, from 1992 onwards.

For TOMs

There is no uniformity in the protective status of sites in the TOMs. Frequently the sites are protected only on paper, e.g. New Caledonia (see Tables).

Examples of effective management in protected areas

- Amsterdam Island and St Paul Island
- New Caledonia

Amsterdam Island

The principal biodiversity interest of Amsterdam is the highly endangered endemic Amsterdam Island Albatross *Diomedea amsterdamensis* of which there were only 5-6 regular breeding pairs. There are also >37 000 pairs, the world's largest colony of yellow-nosed albatross *Diomedea chlororhynchos bassi*, and a number of other seabird colonies. Bird habitat has been degraded by a combination of several fires and the expansion of a feral population of cattle which was introduced in 1871. Brown rats, cats and pigs have also been introduced.

The vegetation needed restoring, so in 1987 management was begun with the aim of controlling the impact of the cattle population. A fence (8 km) was built to divide the island into two parts, and then the cattle population was reduced by roughly 50%, 1059 were killed in 1988 in one section of the island. A second fence was erected in 1992 on the high plateau to stop cattle incursions here, in order to protect the breeding area of the endemic albatross. Other actions included fencing off the remaining patch of forest and the planting of several thousand native trees *Phyllica nitida* in the cattle-free section. The size and status of all population of seabirds will be monitored, and the characteristics of the soil, plant and

animal communities in the cattle-free and cattle-occupied area.

Today there are 15 breeding pairs of the Amsterdam Island Albatross, and the vegetation is regenerating.

St Paul Island

In 1994, an interministerial committee, Ministry of DOM-TOMs and Ministry of Environment, on the environment announced that environmental protection in the DOM-TOMs was a priority.

These two islands, St Paul and Amsterdam, were the most degraded of the French sub-Antarctic islands, so it was decided to make an effort to restore St Paul as a habitat for the smaller sea-birds, like petrels, which were prevented from using Amsterdam due to the continued presence of cats and rats.

Of particular interest is the endemic subspecies of petrel Macgillivray prion *Pachyptila salvini macgillivrayi*. This was once abundant on St Paul, but by the early 1990s was found only on its last refuge Roche Quille, a small, adjacent island. Other seabird colonies on the island had declined due to habitat degradation.

This project of eradication of the rats and rabbits was supported by funds from the Development Directorate-General of the European Union, and carried out by the TAAF administration, with support from the CNRS at Chizé, France. Eradication took place in 1997. 14 tons of poison (.02g/kg brodifacoum) was spread by helicopter over the island's 800 ha. Afterwards, 5 people (3 French and 2 New Zealanders) stayed on the island to check the effectiveness of the poison. After 2 weeks there were no longer any rats alive. Some rabbits were left, but these were dealt with by trained dogs. A year later, a return visit established that the rat population was extinct. Monitoring of the situation will continue for 10 years. Petrels have already started to return to use the island.

New Caledonia

This is the gem in the crown of French biodiversity: 21 endemic bird species, about 2 500 endemic plant species, 40 endemic reptiles... Here the Kagu *Rhynochetos jubatus*, an endemic flightless bird species and unique member of its family, has suffered from introduced European mammals such as rats, cats, dogs and pigs. There are an estimated 1000 individuals left on the main island.

Although there is a large number of protected areas noted on paper in New Caledonia, in fact only one of

them is actually managed: The Provincial Park of the Rivière Bleu.

Set up in 1960, management began only in 1980 and this consisted essentially of putting down poison on the day the park was closed, around dustbin areas and wherever animals were seen. The following day the poison was removed. For pigs, they were shot on sight.

The park's technician, Yves Letocart, has been monitoring kagu numbers for the past 15 years. It would appear that within the park the population has increased. They can now be seen relatively easily crossing the tracks. A radio-tracked individual has been followed for 12 years and has seen its territory reduced by its own offspring, as they leave to set up their own territory.

Today, however, what is urgently needed is to increase the number of areas which are managed like the Parc de la Rivière Bleu. The kagu population over the island is fragmented.

N° Kagus counted	1984	1991	1999
	42	164	208

Kagu (*Rhynochetos jubatu*) population in Parc de la Rivière Bleu, New Caledonia, 1984-1999. (Letocart, Y and C Lambert 2000, unpub. report)



Kagu

Conclusion

French DOM-TOMS contain globally important biodiversity. The responsibility for this is rather confused particularly with respect to international conventions. Tools for the protection of this biodiversity exist in the DOMS, but awareness of the importance of conserving it is not well-developed. This can be seen from the very small budgets made available for species and habitat protection and the slowness with which protected sites have been designated.

The national French government has little or no control over biodiversity protection in the TOMs, with the notable exception of the TAAF.

As an NGO we should be devoting more effort to the protection of this biodiversity, and we would like to benefit from the experience of other national NGOs working with their overseas territories.

Acknowledgements

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