

Environmental Awareness Group (EAG) Council Members

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Contact Information

Address:
The Antigua and Barbuda Museum
Long Street,
P. O. Box 2103
St. John's

Telephone No.
268-462-6236/463-7740
Fax No.
268-463-7740

E-mail Address
eag@candw.ag

Website:**www.eag.org.ag**

Oral Browne - President
724-8139;
job_tech@hotmail.com

Chris Pratt - PCP Project Manager/
PCP Hotline
779-5120;
chris.pratt@yahoo.co.uk

Mykl Clovis - Turtle Conservation
771-3263
mdclovis@yahoo.com

Damien Quinland - EAG Field Trips
726-7007
dquinland@gmail.com

Donald Anthonyson - OICP
462-6236/728-9847
iyplin891@gmail.com

EAG AGM 2008

On November 15, the EAG held its first Annual General Meeting under the new By-Laws as a non-profit company. The guest speaker was Dr. Radcliffe Robins, who gave a very thought provoking and sobering address on "Antigua and Barbuda - Strategic Vision and the EAG". Brian Cooper, the outgoing President, presented his Annual Report and Joseph Prosper contributed the Treasurer's Report and presented a statement from the Auditors,

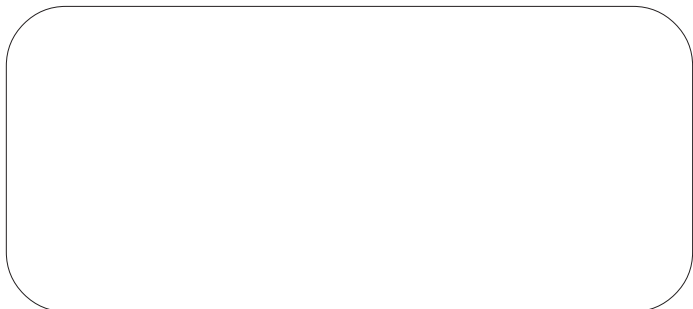
who had not completely finished auditing the accounts for 2007. A new Board of Management of the required nine members was elected and at a subsequent meeting of the Board in December, 2008, the officers for 2008-9 were selected. Mr. J. Oral Browne agreed to serve as the EAG's new president and other officers and ordinary members of the Board are listed in the side panel.



← **One of the illustrations in the National Park Guide**

Picture of birds on front page - top right hand corner
Whistling Ducks
(photo supplied by Agnes Meeker)

Know Your Plants Answers
[1] Coralita
[2] Dumps
[3] Sugar apple



The Environmental Awareness Group
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The EAG Newsletter

EAG Launches National Park Guide

by Chris Pratt, Plant Conservation Project Manager

On 30 November, 2008 at the Copper and Lumber Store in Nelson's Dockyard, the EAG presented to the National Parks Authority a guide to the plants and historic sites on the trails in the National Park. The event was attended by the Prime Minister and several Ministers.

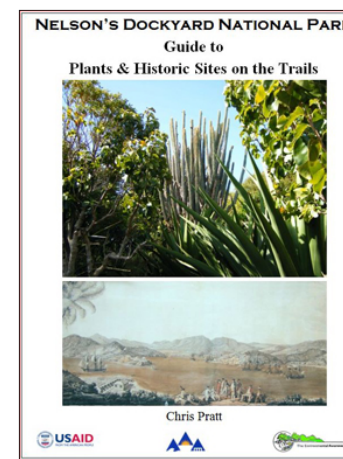


Prime Minister Hon. Baldwin Spencer on the trail looking at one of the identified plants

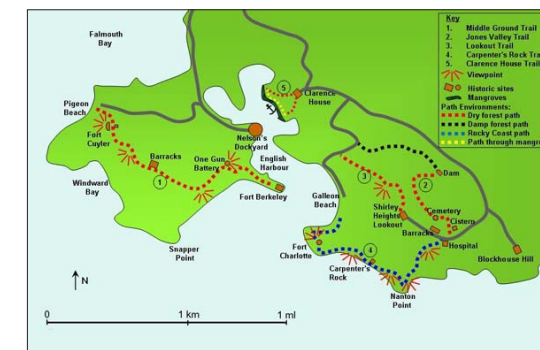
The guide book was produced with funding from the USAID Caribbean Open Trade Support Program.

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The interest in our native vegetation which is under great threat from grazing livestock, fires and unnecessary bulldozing.



Map showing trails

The guidebook has a map of the trails in the Park with interesting photos and descriptions of the many historic sites on the trails as well as photographs and descriptions of over 100 native and naturalised trees, shrubs, cacti and other plants to be found on the trails.

If you would like to learn more about our natural heritage, the beautiful native plants to be found in our National Park and elsewhere in Antigua and Barbuda, please call the EAG office to obtain a copy.



Frigatebird Nesting Colony Barbuda

The guidebook is being provided to schools, colleges, government departments, community groups and interested individuals to stimulate

Our Beautiful Plants

Tree of the Month: Stinking Toe

By Carolyn S Thomas, Botanical Assistant

The stinking toe tree or West Indian locust, *Hymenaea coubaril* is a large native legume tree up to 25m tall. The fruit matures to a brown pod up to 10cm long which looks amazingly like a very large toe and has a strong aroma, hence the name!



some water, milk, ice and spices to give an excellent nutritional drink!



The tree can be grown as a lovely garden tree as well as for its edible fruit. Indeed, many older Antiguans are accustomed to eating the stinking toe fruit.

The fruit is hard and does not open naturally because it protects 3 or 4 large seeds encased in a powdery, cream coloured pulp. Once the shell of the legume is broken it releases an unappealing odor, but the pulp is edible and quite tasty. Although you may like the fruit, some people may be put off by the smell and the sticky consistency of the pulp. Try blending the pulp with

Beside being eaten, the lumber of the Locust tree is quite important. The wood is strong, hard and tough. It is difficult to saw, machine and carve, but bends well after steaming. It is commercially used for flooring, handles, sporting equipment, furniture and railroad tiles. The seeds of the fruit are also used in the production of jewelry. They are cleaned, painted and polished and strung together to make beautiful natural jewelry. It is also used in traditional medicine in some countries.



The tree is a native forest species that existed here long before man arrived – indeed ancient fossilized specimens have been found in the region. The tree can be found in forested areas such as Wallings, Sugar Loaf and Shekerley although many trees have been cut down over the years. It fruits about three times throughout the year.

Field Trip To Barbuda

by Melanie Pearson, Botanical Assistant

In October the EAG Plant Conservation Project team spent a fascinating long weekend documenting the plant biodiversity of Barbuda. We had previously drawn up a list of approximately 20 rare regional endemic species that we hoped to find.

This included: *Pectis ericifolia*, a species endemic to Barbuda.

Our host for the field trip was John Mussington, head teacher and marine biologist. His enthusiasm and knowledge of the local environment made our trip memorable.



Kevel Lindsay surveying sand dunes at Palmetto Point

Know Your Plants



Antigonon leptopus
(Do you know this plant [1] - See back page)



Ziziphus mauritiana
(Do you know this plant [2] - See back page)



Annona squamosa
(Do you know this plant [3] - See back page)

Field Trip To Barbuda

continued from page 3

we never did find the solution holes. This is one of the most dramatic landscapes in the Caribbean and worthy of preservation for its views alone.



Near Pelican Point

During our field trip we managed to photograph and document almost two thirds of the species on our list. On some wasteland near Codrington Kevel remembered seeing a *Malvaceae* species that is unique to Barbuda and before long we had found a beautiful specimen for the herbarium. Despite searching, we did not find the Barbuda endemic species *Pectis ericifolia* so this will be high priority for our next visit to this amazingly beautiful island.

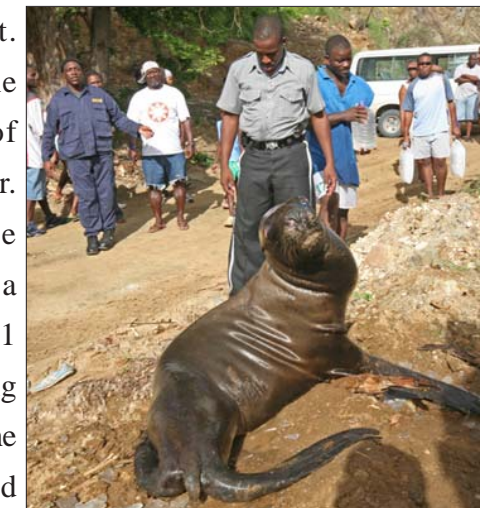


Malvaceae species

A Sea Lion on Darkwood Beach

This Sea Lion came ashore at Darkwood Beach around noon on Sunday 16th November after escaping from an enclosed facility on the coast of St. Kitts. Sea lions are not native to the Caribbean and this one would have surely perished within a very short time had it not been rescued. Several other seals and sealions that escaped the facility have still not been found. This event was a harsh reminder of the conditions of captive marine facilities and the undue risks placed on the lives on the animals that are kept there. For more on the story of Bart the sealion go to http://antiguaisland.blogspot.com/2008_11_18_archive.html Mykl Clovis

arrived on the scene to find close to 200 onlookers surrounding the sea lion in the middle of the main road. Everyone was undoubtedly concerned about the survival of the very emaciated animal and several people had brought water and ice to the animal's aid. Having received information about the search for the missing sea lions the previous



Operator seeking assistance with the situation and project personnel

and return it to Marine World in St. Kitts. Sea lions are not native to the Caribbean and this one would have surely perished within a very short time had it not been rescued. Several other seals and sealions that escaped the facility have still not been found. This event was a harsh reminder of the conditions of captive marine facilities and the undue risks placed on the lives on the animals that are kept there. For more on the story of Bart the sealion go to http://antiguaisland.blogspot.com/2008_11_18_archive.html Mykl Clovis

Magnificent Frigate Project: Unraveling a Mysterious Mating System

by Sarah Trefry

With their long wings, graceful flight, and remarkable mating display, Magnificent Frigatebirds are certainly one of the most recognizable seabirds. While they are considered one of the most threatened seabirds in the West Indies, we still have a rather incomplete understanding of their ecology and breeding system. With more than 1700 nests counted in 2008, the Codrington Lagoon on Barbuda harbors one of the largest known breeding colonies. Therefore, it has been recognized that this site is important to manage and protect, and Codrington Lagoon has recently been designated as an Important Bird Area, a Ramsar site, and a National Park.



Frigatebird Colony with boundary markers

In cooperation with the Barbuda Council, the Environment Division, National Parks, and the Environmental Awareness Group, researchers from Canada (PhD student Sarah Trefry and Dr. Antony Diamond) are initiating a project to

unravel the mysterious mating system of Magnificent Frigatebirds. This species has several quite unusual characteristics. For example, while in most seabirds males and females look very similar, in frigatebirds the brown females are larger than the males, which are heavily ornamented with shiny black feathers and a red throat pouch that they inflate when performing courtship displays. Like most seabirds, both parents help to raise their single chick. Males collect all of the nest material, and females build the nest. Both parents take turns going on multi-day foraging trips for flying fish and squid. However, in an unusual twist, male Magnificent Frigatebirds abandon their chick by the time it is 160 days old, leaving the female to continue to care for a juvenile that is dependent on her for over a year. Presumably he goes somewhere to moult and recover between breeding attempts. This extended length of parental care raises the question of whether females breed only every second year, since they also need time to moult after nesting, while males breed annually. Sarah's PhD project will determine if males and females do have different breeding cycles, by wing tagging individual birds and following them through several years. Other aims of the project include determining whether this breeding system results in selection for a larger proportion of females produced relative to males, testing several hypotheses for

the evolution of size differences between males and females, and learning where adults forage by using small satellite transmitters carried on the birds' backs. Breeding colonies of Frigatebirds around the world are threatened by the encroachment of human development and the invasive species that so often arrive on islands with such activity. A slow rate of reproduction and colonial breeding exacerbates the extinction risk of seabird species like Frigatebirds. The aims of this project will advance our knowledge of the ecology and movement of Magnificent Frigatebirds, which will inform future conservation management of the species. Specifically, determining whether females are only breeding and present on the colony every other year will enable more accurate estimates of population size. The project welcomes local involvement—individuals interested in undertaking fieldwork on Barbuda early in 2009 should contact Sarah (s.trefry@unb.ca).



Courting male - balloon inflated

(See page 5 for more pictures) 

Field Trip To Barbuda

continued from page 2

After a stunning early morning flight on Friday we were ready to explore Palmetto Point, a unique habitat with native Pimetta forests (*Thrinax morrisii*). Unfortunately sand mining takes place here for export to Antigua and to other islands in the Caribbean region. Sand quarrying has gone on since the 1970's but increased rapidly in the 1980's and more so in recent years. It has destroyed some very unique plant communities found only at Palmetto Point and nowhere else. It may have caused the extinction of species, contributing to a loss of biodiversity and allowing invasive species to take hold; we just don't know because no proper studies were done before and since mining was initiated.

The dunes are a complex of young and old sand that has been piled up by marine drift and take decades to establish. One last high dune, the ones targeted for mining, stands as a barrier preventing salt water from entering the Codrington Lagoon in the event of a high storm surge, thus destroying a unique marine habitat.



Chrysobalanus icaco *Thrinax morrisii*

Mining has also created temporary freshwater aquatic communities, and as these increase they encourage the breeding of mosquitoes. It was at Palmetto Point that we had the first of many unpleasant encounters with the Barbudan mosquito. Hurricane Omar had left much of the island waterlogged and the mosquitoes were thriving. The

only repellent that proved effective was John's homemade remedy of Guyanese crab oil (traditionally used by Amerindians) mixed with DEET.

On Saturday John accompanied us on a coastal tour by boat. First stop was a unique desert environment where xerophytes flourished. There were cacti in abundance: *Melocactus intortus* with multiple cephalia, *Opuntia dillenii*, and *Pilosocereus royeri*.



Carolyn Thomas surveying *Melocactus intortus*

This is a popular camping ground for the local fisherman; though remote there are many solution holes for fresh water. At one of these we found *Cissus obovata*, a beautiful regional endemic vine.



Cissus obovata

At Goat Point on the shore we found the rare *Scaevola plumieri*, the native species with black berries; the invasive introduced species, *Scaevola sericea* has white berries and is more commonly seen on Antigua's beaches.

Next stop was Sandstone, at the south end of Codrington Lagoon, to see an example of original maritime forest with the oldest sand dunes on Barbuda, a very dry ecosystem and again teeming with mosquitoes.



Coastal forest at Sandstone

On Sunday afternoon we drove to the East coast where we were excited to find the Warri bush, *Caesalpinia ciliare* with black warri beads. This variety is unique to Barbuda and the offshore islands. Usually the fruit is yellowish brown. Moving on, there is an ancient uplifted sea cliff (see photo), pocked with caves, caverns, overhangs and solution holes. There are many bats and other creatures that rely on these caves for survival, including nesting Tropicbirds, the Red-billed Tropicbird (*Phaethon aethereus*) and the White-tailed (*P. lepturus*), which are quite rare.



Spanish Point with the maritime cliffs

John explained that this was an old Amerindian site and their middens were still visible. Barbudans have historically used this area as a hunting ground, especially for wild boar. The terrain here is almost impregnable and we had to cut our way through thickets of invasive Pick Evil (*Comocladia dodonaea*) with machetes. However, despite a valiant attempt at following cattle tracks

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The Off-Shore Islands Conservation Project

Conservation In These Times Part 1 by Donald Anthonyson Project Coordinator (OICP).

“Conservation is the foresighted utilization, preservation and/or renewal of forests, waters, lands and minerals, for the greatest good for the greatest number for the longest time”, Gifford Pinchot

The above statement, made by one of the most influential people at the start of the modern conservation movement, is still the mantra for most conservation efforts today. In practice though, this principle has not always been the greatest good that it could have been, owing to its dependence on who adhered to it and how. Even at the start, there were already evidence and warnings of ... “the operation of causes set in action by man has brought the face of the earth to a desolation almost as complete as that of the moon”¹.

Nowadays, the phrases “wise use”, “sustainable development”, echo the nineteenth century principles, but have in many instances, tragically in some, furthered the desolation mentioned above. Common to both times is the idea/belief that Nature can be treated as a commodity, subject to be bought or sold. As stated by Pinchot back in those times... “The object of our policy is not to preserve the forests because they are beautiful...or because they are refuges for the wildlife..... but ... the making of prosperous homes Everything other consideration comes as secondary.”² “Jobs... Livelihoods Growth” ... are the new chants of the mantra.

Back then, other voices in the conservation movement spoke to alternative and workable concepts which put preservation first and profits second. Socialist preservationist Robert Marshall was labeled a dangerous radical for arguing that ... “the fundamental advantage of public ownership {of the “commons”} is that in the former, social welfare is substituted over gain as the major objective of management”³. In these times, it is still considered dangerous, if not radical, to advocate for similar types of ownerships or stewardships. Yet the foresightedness of earlier ‘radical’ conservation efforts slowed some of the degradation that accompanied and still accompanies, the dominant exploitive system used to achieve the ‘greatest good’, though in these times, there are less resources, both physical and human, and far more degradation than those earlier conservationist could have ever imagined.

It is this same foresight that Dr. Radcliffe Robbins spoke to in his presentation, “Strategic Visioning”, at the EAG’s most recent AGM. The story that he shared about the resource users planting trees that would take hundreds of years to mature, but would do so in time for the restoration of a structure built hundreds of years before is practical proof that the principle, the mantra, in its truest form, does achieve the greatest good for the longest time. In contrast, conservationists of today are faced with trying to stop the ever-worsening degradation with the shortest of time to do so. In these times, it would appear

that we lack the leisure and at times the leadership, to apply foresight and long term vision to our efforts, yet we do have successes that highlight the need for more open-minded and open-eyed approaches to conserving and preserving nature for the “greatest number”.

In the second part conclusion, a case will be presented for a local concept of ownership/stewardship of our “commons”, with its “foreseeable implications” and long term hopes. And speaking of hope, I end with quotes from two different times, different people, but with the same message for all time.

“There is just one hope of repulsing the tyrannical ambition of civilization to conquer every niche on the whole earth. That hope is the organization of spirited people who will fight for the freedom of the wilderness.” Robert Marshall, 1930

“The activist is not the one who says the river is dirty. The activist is the one who cleans up the river”. Ross Perot

Notes:

1. Marsh, Man and Nature, pp.ix.35-36,42-43
2. Pinchot quoted, ibid., pp41-41,191; Samuel Hays, Conservation and The Gospel of Efficiency (Cambridge, MA, Harvard University Press, 1959)
3. Robert Marshall, The People’s Forests (1933)



Turtle Conservation Project

Updates from the Turtle Season by Mykl Clovis

The 2008 turtle nesting season is just about over for Antigua’s turtles, although there are still nests hatching almost every week. With only one year of nesting data behind us, we were not sure what we would find this year, but thankfully the turtles came back to nest in their numbers. Final figures are not in yet, but we can estimate that we have seen similar level of nesting to 2007, when we had 173 total nesting crawls. Leatherbacks accounted for 35 of last year’s nests while Hawksbills were responsible for the rest. This year we had a similar pattern, with the addition of several Green turtle nests. Though Green turtles are common in Barbuda, this was the first time any of our patrollers had observed Greens nesting in Antigua. Greens can be extremely large and they make elaborate nests, adding a lot of excitement to the regular patrols.

One of the new elements of the turtle project this year was the use of flipper tags as a means of identifying individual

turtles. Tagging can provide important information on population trends, movement, and reproductive patterns of the turtles. Once applied the tags typically last for many years, so returning turtles or turtles found in other waters can be quickly identified. Our project uses flipper tags, which consist of a small metal clamp (similar to a livestock tag) with a unique code imprinted on them. The tag is attached to the front flipper using a special applicator and that individual turtle can then be identified by anyone that encounters it by the unique tag code.



An Inconel flipper tag shown here is attached to the front flippers of the female turtles”

region, tags were obtained from the Marine Turtle Tagging Centre of the Wider Caribbean Sea Turtle Network (WIDECAS). The turtle team at Jumby Bay provided training to all our patrols before they set out onto the beaches fully armed. Although the tags are applied very quickly and cause little disturbance to the turtles, it can still be somewhat disconcerting at first. However the value of getting to know our individual turtle mothers is undoubtedly worth the discomfort. To keep abreast of more turtle news please check in on our turtle project blog at www.antiguaseaturtles.blogspot.com or contact Mykl Clovis at 720 6955.



Turtle Patrol volunteers practice tag application at Jumby Bay

To enable coordinated tagging and data collection throughout the Caribbean

Featuring Barbuda



Juvenile Frigatebird, Barbuda

Sarah Trefry with frigates



Pectis species