

# ANDROS CONSERVANCY AND TRUST NEWSLETTER

## ANCAT

Fall 2010: October, November, December

### THE BLUE HOLES OF THE BAHAMAS

The August 2010 edition of the National Geographic magazine highlighted the Blue Holes of The Bahamas. The team of divers, including Dr. Broad from the University of Miami, Brian Kakuk, and Wes Skiles are the cave explorers who made over 150 dives into the blue holes to research and prepare for this magazine article. The article concentrates on Stargate

blue hole found in South Andros and Sawmill Sink in Abaco. The expedition made it a goal to publicize the importance of blue holes and the threats they face.

Inland blue holes are unlike any other environment on earth. A thin lens of fresh water supplied by rainfall lies on top of a denser layer of salt water. This fresh water acts as a lid isolating the salt water from oxygen and bacteria and prevents organic material from decaying. These holes are living laboratories, in fact **“inland blue holes are the scientific equivalent of Tutankhamen's Tomb, to divers they are on a par with Everest.”** The work done inside these blue holes will deepen our understanding of geology, water chemistry, biology, paleontology, archeology and astrobiology, which is the

study of life in the universe.

At the current rate of sea level rise many inland holes will flood with salt water in the coming decades and this will disrupt their delicate chemistry and destroy the conditions which make them valuable to science. Despite their incredible value to the human race blue holes are often used as dumping grounds which not only will destroy the integrity of the information but also will pollute a primary source of fresh water for the islands.

The Stargate blue hole consists of a central shaft which is 340 feet deep with passages which extend north and south. The south passage has been explored by Kakuk, who has probed 2,500 feet into its depths. He has found Lucayan remains here, identified as Lucayan because their foreheads sloped dramatically, it is known that from the 6th to the 15th century Lucayans on Andros bound boards to their children's foreheads to achieve this feature. Kakuk believes that these holes could be burial sites. Also he has found preserved fossils, bones of crocodiles, tortoises, bats, owls and beetles, all creatures that thrived on the island before the Lucayans.

Inside these underwater caverns the divers found **stalactites** (they hang tightly from the ceiling) and

**stalagmites** (rise from the floor of a limestone cave due to the dripping of mineralized solutions and the deposition of calcium carbonate) which form only in the air and yet are now found hundreds of feet deep in the holes. These rock formations hold a priceless record of climate change in every year of their growth. In fact., Saharan dust which blew across the Atlantic ocean from Africa thousands of years ago has been found in the rock, deep inside the holes.

The Bahama Islands are visible slivers of a great underwater limestone platform, which was most fully exposed when the seas were 400feet lower, approximately 21,000 to 18,000 years ago. The sea levels fell when ice sheets expanded across the earth, then the sea levels rose as the ice melted. When the Bahamas limestone platform was exposed rain seeped into the rock and carved passages and as the rising sea water penetrated the limestone a chemical reaction between the fresh and salt water further dissolved the rock.

More than 1,000 blue holes are believed to be in the Bahamas and less than 20% of them have been probed. It is believed that “the great age of Bahamian Blue Hole exploration lies ahead.”

Taken from August 2010 National Geographic. Visit their website: [www.nationalgeographic.com](http://www.nationalgeographic.com) for further information with amazing photographs.

“From a diver’s perspective blue holes are on a par with Mount Everest”



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#### ANCAT cleans Captain Bill’s Blue Hole in Love Hill, Andros

Ancat participated in the pinnacle cleanup event of the year, International Cleanup Day, held on 25th September. The cleanup event is held annually in partnership with the Ocean Conservancy's International Coastal Cleanup. On this day 15,000 Divers in more than 100 countries around the globe documented every item found beneath the water's surface to help prevent the marine debris epidemic affecting our ocean planet.

Here on Andros, Ancat’s Peter Douglas worked with Small Hope Bay Lodge, Forfar, Greenforce, Andros Island Dive club and BNT to remove debris from Captain Bill’s Blue Hole in Love Hill, Andros. Captain Bill’s is a

cone shaped hole with a lip starting at 35 feet, gradually descending to 50 feet and then dropping to depths as yet uncalculated. Our 16 divers were split into two teams with team one entering the water at 10am and team 2 taking over the work at 11 am. They said that once they started to work picking up the debris, they disturbed the silt and it became very difficult to see as the water became murky. The Big Mouth Sleeper Goby, a fish which grows to about 15 inches long, was curious about these unusual visitors and approached their masks to look into their eyes.

These fishes have no natural predators, so were simply checking out the new comers with no fear. Our divers managed to bring to the surface 30 bags of debris, the main offender was the Bud light bottle, there were hundreds of these littering the blue hole. So we ask if you like this beverage and you like to swim in the Blue hole, please use the bins provided or take your trash home. We managed to clear at least 50 per cent of the seen trash and will be planning another plunge in the near future. Thanks to all the helpers both on land and in the water, it is great to unite and work together.

**HELP KEEP  
ANDROS  
CLEAN**

## Coral Reefs and Global warming

This year's extreme heat is putting the world's coral reefs under severe stress, wide spread die offs may be the result of above normal temperatures. Coral reefs are the richest ecosystems in the ocean and the fisheries feed millions of people world-wide. All over the world corals are reacting to the heat stress by bleaching, or shedding their colour and going into survival mode. Many have already died, and more are expected to do so in the coming months. Computer forecast of water temperatures suggest that corals in the Caribbean may undergo drastic bleaching in the next few weeks. This is the second known global bleaching of coral reefs, 1998 was the hottest year in historical record and an estimated 16 per cent of the world's shallow water reefs died.

The trouble with reefs is linked to climate change. Corals are highly sensitive to excess heat and they serve as an early indicator of the ecological distress on the planet caused by the buildup of greenhouse gases. Coral reefs occupy a tiny fraction of the

ocean, but they harbour a quarter of all marine species, they are often called the "rain forests" of the sea, they are the foundation of important fishing industries and also tourist economies worth billions of dollars. Coral reefs are made up of millions of tiny animals, called polyps, that form symbiotic relationships with algae. The polyps act as farmers supplying the algae with nutrients and a place to live. The algae in turn capture sunlight and carbon dioxide to make sugars that feed the coral polyps. The algae gives the reefs their brilliant colours.

Coral bleaching occurs when high heat and sunshine cause the metabolism of the algae to speed out of control and they start creating toxins. The polyps recoil and the algae are spat out. The coral looks white afterwards as though they have been bleached. If the temperature drops the corals' remaining algae can reproduce and help the polyps recover. But corals are vulnerable

to disease in their weakened condition and if the heat stress continues, the corals

starve to death. When the corals die the fish are not immediately doomed, but if the coral polyps do not recover, the reef can eventually collapse leaving the fishery far less productive than before.

Fortunately for the Andros Barrier Reef, which is the third largest reef in the world, the tropical storms and hurricanes moving through the Atlantic have cooled the water and may have saved some corals. Further south, though, temperatures are still high and is putting Caribbean reefs at risk and in the southern hemisphere the summer is only just beginning and water temperatures off Australia are already above normal, scientists are worried about the fate of the The Great Barrier Reef, which is the largest reef on earth. Information taken from NY Times



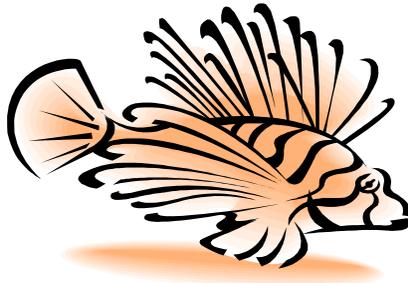
## Lionfish for dinner

While acknowledging that the lionfish is an invasive species and dangerous if we touch the spikes, the truth remains that they taste delicious and we could EAT them.

Here are a couple of recipes to entice all to eat this species out of our waters.

### Fluffy Battered Lionfish

Take pancake mix, lemon pepper, milk and egg mix together / dip the lionfish with slits cut on the side in the batter then deep fry / make a dipping sauce out of mayonnaise hot sauce, salt, pepper, and finely chopped fresh cilantro / Serve with home-



made deep fried potatoes cole slaw and a slice of lime.

### Buttered Lionfish Grill Style

Place butter, Lionfish filet, sliced onion, squash, zucchini, and carrot with a squeeze of lime in a piece of aluminum foil and place over a fire for

## YUM yummy YUM

around 6 to 8 minutes. Serve with a roll (so you can dip it in the sauce).

### Lionfish Jerky

Whisk 1/4 cup soy sauce, 1 tablespoon light brown sugar, 1 teaspoon olive oil, 1 teaspoon minced garlic, 1/2 teaspoon black pepper and put on low heat until sugar melts. Cut Lionfish fillets into 1-inch wide strips lengthwise soak in soy mixture in the fridge for 4 hrs. Remove, pat dry, and place in dehydrator or oven on lowest temp for the desired dryness level.

Happy eating!

## SEA CUCUMBERS: what is their role ?

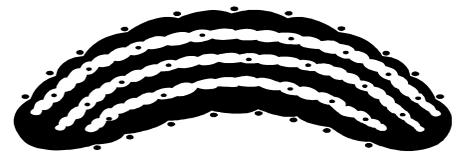
Sea cucumbers are echinoderms—like starfish and sea urchins. There are some 1,250 known species, and many of these animals are shaped like soft-bodied cucumbers. All sea cucumbers are ocean dwellers, though some inhabit shallows and others live in the deep ocean. Sea cucumbers feed on tiny particles like algae, minute aquatic animals or waste materials, which they gather in with 8 to 30 tube feet that look like tentacles surrounding their mouths. The animals break down these particles into even smaller pieces which become fodder for bacteria. Earthworms provide a similar function in terrestrial ecosystems.

Sea cucumbers, particularly eggs and young larvae, are food for fish and other marine animals. When threatened some sea cucumbers discharge a sticky liquid. Others can mutilate their own bodies as a defense

mechanism, they violently contract their muscles and jettison some of their internal organs out of their anus. The missing body parts are quickly regenerated.

On average a sea cucumber can live from 5 to 10 years. A remarkable feature of these animals is the catch collagen that forms their body wall. This can be loosened and tightened at will, and if the animal wants to squeeze through a small gap, it can essentially liquefy its body and pour into the space. To keep itself safe in these crevices and cracks, the sea cucumber hooks up all its collagen fibers to make its body firm again.

A seafood company in North Andros has started harvesting sea cucumbers by the thousands to feed Chinese ap-



petites and environmentalists are concerned about the environmental impact of harvesting 5,000 sea cucumbers a day for export to Hong Kong. Mr. Eric Carey of the Bahamas National Trust said the Asian appetite raises concern for an impact on wildlife not traditionally harvested in the Bahamas.

Legislators need to consider the job the sea cucumbers perform in our waters before allowing this harvesting to continue: 1. Sea cucumbers eat waste material and therefore help to maintain the crystal clarity of the ocean around The Bahamas and 2. The sea cucumber eggs and larvae provide food for fishes. They are an established part of the ecosystem and a depletion of their numbers is not acceptable if we are to maintain a healthy ocean and reef ecosystem.

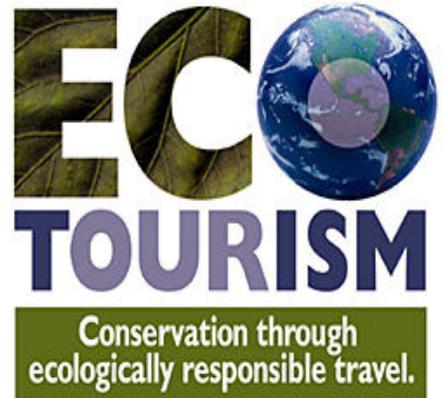
## ECO TOURISM FOR ANDROS: guides needed

One of the oldest known human activities, guiding, has been a necessity since the days of the earliest nomadic tribes. These early pathfinders did not guide for pleasure's sake, their work was a matter of survival. Guides led hunting parties and moved whole communities as seasons changed or food supplies ran low. In modern times touring has become a fashionable leisure pastime. Being a tour guide has become the dream job of many.

An escorted tour is one for which passengers pay extra money for the convenience of having somebody along who knows a specific geographical area. Handling the demands of a weeklong group tour involves quite a bit of work, but the benefits can be great. Guides meet people from all over the world, serve as cultural ambassadors to their customers and become the unofficial spokes person for the area in which they work. In addition tour guides act as educators, all round experts in the history, geography and culture of the areas they live in. Being a tour guide may mean leading a group of up to 40

persons from site to site, caring for their every need, answering questions and dealing with every emergency. Virtually all of your time is spent with your customers so you have to really get along well with people, you may ride on buses, planes and boats with them, you eat together and tour with them all day long. The tour guide's job is demanding while pleasurable as the guide must be a travel companion, coordinate sightseeing and transportation, set up campgrounds, maybe make hotel reservations. Sometimes challenges mean the tour guide has to think fast while on their feet.

Tours should be made to suit the ages of the tourists, for example an elderly group would enjoy a less strenuous agenda than a group of school children, so the tour guide needs to be able to plan tours with different levels of activity. Guides are expected to be the expert on their chosen destination so it is important to learn as much as



possible about the areas you plan to show to tourists.

Tourism is the largest and fastest growing industry in the world. Eco tourists love to be outdoors and Andros has all that it takes to keep these visitors happy. Guides could be scuba divers, fishing guides, bird watchers, they could arrange land trips to the blue holes, boat trips to the Joulter Cays and Westside of the island, these and more like these are the tours we need on Andros.

## SAWFISH on the Westside of Andros

In May of 2010 Ian Hamilton and Shawn Riley joined an expedition to the Westside of Andros in search of the small tooth sawfish which is reported to live and breed in this secluded spot.

Ian and Shawn were in the advance team out in a boat for days before the arrival of the National Geographic team and camera crew. They looked for sawfish for one whole week and not a glimmer was spied, Ian admitted to being nervous because the expedition would be a failure if the sawfish remained elusive. However, the men



were not disappointed, and on day 8, they managed to see a 10.5 feet female and later a 7.5 feet male. The men photographed the sawfish and then managed to put a satellite tag on the animals. The tags last for six months and during this time scientists at Florida State University will be able to track the animals to produce a study showing patterns of behavior. The tags record data about the location, depths, salinity, turbidity and temperature of the water where the sawfish is swimming.

The footage shot of these animals will be shown on a TV show called, 'Dangerous encounters with extreme fish' early in 2011.

## Migratory songbirds

The winter months in The Bahamas sees an invasion of migrant songbirds from North America and Canada. These birds fly south when the weather starts to turn cooler, the days shorter and insects become hard to find. Here in The Bahamas they find rich amounts of insects, fruits and nectar. Migrant birds, generally follow major land features, such as the coast, rivers or mountain ranges to find their way here. They orient themselves using the sun and the stars. Birds return year after year to the same spot, how they find their way is quite remarkable, especially when we consider that they have flown hundreds of miles to spend the winter here. The Cape May warbler, pictured here, flies overland, approximately 1,500 miles from Canada and then flies back in the spring.



Once in the tropics these migrants contribute to the local bird fauna, in fact during the winter months over 50 percent of the land birds on the island may be migrants.

Shown here the Cape May Warbler, can be seen on An-

dro by the end of September. This bird is one of the easiest to enjoy from your back porch as they have a fondness for cultivated plants. They eat insects and often launch aerial attacks on their prey from exposed perches. They also feed on nectar in winter.

Information and picture from Dr. Mike Baltz

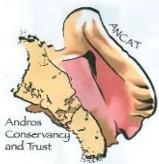
*The best friend of earth and of man is the tree. When we use the tree respectfully and economically, we have one of the greatest resources on the earth.*

Architect, designer and writer, Frank Lloyd Wright

## Andros Conservancy and Trust: ANCAT

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WE'RE ON THE  
WEB!

[WWW.ANCAT.NET](http://WWW.ANCAT.NET)

Ancat has 373 members now, join us to make a positive difference in your community. Bottles collected 16,800 in the Fresh Creek inlet. Remember to take a bucket with you when you go out fishing, fill it up with trash and be a part of the solution

### **BNT Summer Camp at FORFAR**

Four Androsian students were overjoyed to be chosen to represent Andros during the BNT summer camp in Blanket Sound. Lucky Davinia and Randi Anderson, Latica Munnings and Jamal Levy, all spent one week with the group. Their agenda was all about outdoors, with trips to the reef, camping in the blue Hole National Park and walks along the logging roads included. These young people will become the eco warriors of the future. Thanks to Portia Sweeting and all who made this a highly successful adventure for these environmental cadets.

# Ancat appeals for HELP

The Andros Conservancy and Trust (Ancat) is a local Non Governmental organization (NGO) which was formed in 1997 by a group of concerned Androsians who feel that Andros is the best place on earth. Ancat was formed to protect, preserve, restore and enhance the natural beauty of the island and its marine environment. The ways Ancat has chosen to do this is through education of both the young and old, conservation; encouraging the government to declare the National Parks of Andros and management of the island's incredible unspoilt natural resources..

Over the last 13 years Ancat has performed many tasks on the island and our plans for 2011 include:

A green bag drive

Complete restoration of Captain Bill's Blue Hole and Fresh Creek waterway.

Instruction of ten persons to PADI open water dive certification

Restoration of Cargill Creek, Andros

Trail making to two Cargill Creek Blue Holes

Development of a waste management plan for Central Andros

Teaching the children of Fresh Creek Primary School about their environment through field trips, research, and youth activities.

Ancat rests solely upon grants and donations to survive. Recently we received small grants from Eco Ed Foundation, Project Aware, Lyford Cay Foundation and Cable Bahamas Cares. Our donations for 2010 have almost disappeared and we would like to encourage our readers, visitors to the island and residents alike to consider making a donation to The Andros Conservancy and Trust. If you would like to see our organization's work continue it is vital that you help us.

To make a donation to Ancat make cheques payable to ANCAT and send to PO Box FC 23338, Fresh Creek, Andros, Bahamas.

US citizens may make a tax deductible contribution through Eco Ed Foundation. Send these donations to Eco Ed Foundation Inc., Co/ June J Norman, 3780 N 169th Street, Brookfield WI 53005.

## Summer of FUN ..... lots of eco activities to chose from on Andros

Fresh Creek children had plenty of fun in the sun during the 2010 summer holidays. Ancat and BNT ran a month long summer school funded by a grant from Cable Bahamas Cares, for ten deserving children from the area. These children had a great time learning about their environment and having adventures. The focus for the school was eco systems and the children learnt that there are six ecosystems on the island, sandy beach, rocky shore, pine forest, white land coppice, black land coppice, and mangrove. Every day the group would learn something new during an educational presentation given by BNT's Juanita Munroe, then the group would pile into the jeep or a boat and off we would go to explore and see for ourselves what we had just learned about. 'One noteworthy achievement was to teach the girls to swim,' said Mrs. Douglas, the organizer of the school. 'and to get the boys out on the coral reef snorkeling was marvelous. No matter how much time they spent in the ocean they NEVER wanted to get out, they swim like fish.' Swimming is the best exercise, its fun and a healthy way to stay fit, a mask opens up a whole other world to us and we can see fishes, corals and then consider careers as marine scientists, fishermen or dive masters. The summer school also led

the youngsters into the forests where we saw birds, and learned to recognize them from their song, shape of beak or colour of their legs. We learnt that blue holes are both found on land and in the sea and we swam in the delicious fresh water of Captain Bill's Blue Hole and The Guardian Hole in Cargill Creek. In North Andros we visited Captain Morgan's cave, Conch Sound Oceanic Blue Hole and walked out to Morgan's Bluff, looking out over the breathtaking ocean. We had casting lessons from the world famous bone fishermen, Andy Smith and Glister Wallace, who showed us how to use a fly-fishing rod and explained the joy of being a fishing guide. We spent time removing invasive species from our beaches and planting native plants, picnicking on deserted cays, peering into mangroves to see juvenile fishes, visiting a backyard farm where we got



Summer school students: Darren & Antonio Neely, Astrad Moxey, Kendrick Thompson, Tyrone Bain, Cardeo Munroe, Destiny & Daleisia Adderley, Jordan Moxey and Daria Hanna

to pet the goats and chickens and pick up our own fresh eggs. We toured the Autec recycling facility and we learnt how to be more careful with the garbage we produce. All in all it was a great summer, the children said they wished REAL school could be this much fun and I agree, who says it can't be??

Many thanks go out to Peter & Adam Douglas, Annie Libert, Miko Thompson, Juanita Munroe, Makel Neely, Kentorica Pearce, Andy Smith, Glister Wallace, Deacon Frank & Ginny Trembley, Don Goodman, Ricardo Johnson, Ryan Stolee & Austen of Forfar Harmony & Emerson Humes, Michelle & Stuart Cove, Eric Cronk, Diane, Chuck Dominic and AIC and all who donated time and talent to making this venture a great success. Special thanks to Cable Bahamas Cares.