

[Explorers Club Flag Expedition creates world's first underwater biodiversity map](#)



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Peterson Cay National Park in the Bahamas is the focus



In the early years of the 20th century the Explorers Club was one of the hottest gigs around.

Back then its membership included men like Robert Peary and Matthew Henson - the white and black Americans who first reached the North Pole in 1909 (with the help of a few eskimos).

Sir Edmund Hillary, the New Zealander who was the first to climb Mt Everest in 1953 with the Nepalese sherpa Tenzing Norbay, was the club's honorary chairman for decades.

And astronauts Neil Armstrong and Buzz Aldrin took the Explorers Club flag with them on the first trip to the moon in 1969.

In fact, a good number of the 20th century's most influential adventurers were members of this society, whose New York headquarters contains a treasure trove of exploration artifacts and memorabilia.

Over the years the Explorers Club has sponsored hundreds of expeditions. And one of the most recent was to the Bahamas - to Peterson Cay National park off the coast of Grand Bahama to be exact.

"When the Explorers Club grants its flag that means your expedition has been determined to be a bona fide scientific exploration," explained Harvey Oyer, a lawyer-archaeologist from Florida who took part in the Peterson Cay field trip last month.



The Explorers Club Flag Expedition to Grand Bahama is part of a worldwide campaign by scientists aimed at raising awareness about the value of coral reefs and motivating people to take action to protect them.

Dubbed the International Year of the Reef, the campaign is designed to address the key threats to these unique ecosystems - over-fishing, pollution and coastal development.

Peterson Cay is about a mile off Grand Bahama's leeward shore. The windswept one-and-a-half acre island has been a national park since 1968, when the government leased it to the Bahamas National Trust. It is a seabird nesting sanctuary, and is surrounded by pristine coral gardens.

Like most other things in nature, Bahamians take reefs for granted, but scientists know they are extremely fragile. Over thousands of years they have provided habitats for valuable marine species like grouper, snapper and lobster, as well as forming spectacular tourist attractions. Without reefs, there's little reason for fish or divers to hang around in our waters.

The goal of the Peterson Cay expedition was to produce a map, but not just any old map. What the explorers created was an incredibly rich biodiversity map of the reef systems around the island. A map that combines layers of information from aerial photographs, satellite images, geographic information and global positioning systems, as well as underwater surveys.

"We want to know what those environments are, what their extent is, how they interact with each other; and use this as a baseline study so that in the future we can determine whether they are growing or contracting," Oyer said during the expedition, which ended last week. "And from that we can gauge the health of the reef and the ecosystems within it."

But it's not just the reef that's being mapped. Adjacent marine habitats and coastal mangroves on Grand Bahama are also included, as well as the little island itself - all aimed at creating a comprehensive environmental snapshot of Peterson Cay in August, 2008.



"This place is as pristine as we'll find anywhere, so we will have nice baseline data," according to marine biologist Dr Barbara Brunnick. "Years from now, we will be able to use these maps to see where things are going wrong, or going right; whether one species is dominating; what's the effect of invasive species; what will happen to the offshore sand or the grass or the creek if you put a building on that beach.

"With this map, the people who manage the park will know what aspects are important and need to be monitored. People come here to go diving, fishing, snorkeling and kayaking. All of those things require that there is a beach, that there is a clean ocean and pretty things to see, and this map is a means of protecting those for the future."

Aside from being members of the Explorers Club, Dr Brunnick and fellow expedition members Dr Stefan Harzen, a dolphin researcher, and Larry Wood, a sea turtle expert, are associated with the Florida-based Taras Oceanographic Foundation. Also taking part in the expedition was Canadian Explorers Club chairman Joseph Frey, a science writer who has travelled to seven continents and over 60 countries; and Harvey Oyer, a real estate lawyer who has worked in various parts of the world as an underwater archaeologist.

Brunnick and Harzen (who are married) were part of the team that worked on an earlier - but much bigger - biodiversity mapping project called the Bahamas

Ecoregional Plan. That was a year-long study funded by the University of Miami and the Nature Conservancy some eight years ago to develop a landscape-scale approach to natural resource management and conservation.

The basic idea is that for conservation to work, we have to do more than just protect individual species or specific natural features. We have to take account of regional interactions on multiple levels. The Bahamas Ecoregional Plan produced a data atlas of the entire archipelago to support the expansion of protected areas and the drafting of environmental laws.

This is important for the Bahamas National Trust, which for the past 50 years has been building a network of national parks throughout the country to conserve important ecosystems and natural assets. Today, there are 25 parks covering some 700,000 acres, ranging from Peterson Cay in the north to Inagua in the south, and including the world's first land and sea park in the Exuma Cays.



But as we all know, the pressure on our environment is being ratcheted up by residential resort developments and marinas in more and more formerly unspoiled areas. While we cannot avoid this, and some collateral damage has to occur, it makes sense to ensure that whatever development does take place is as sustainable as we can make it. In other words, that it will not end up destroying the quality of life of the very communities it is supposed to benefit.



"People have always relied on the Earth, and the things that the Earth provides, not to mention every other critter there is in the world," said Larry Wood. "So preserving those things, especially the unique ones that are found in certain locations, is a good thing to do."

"It all comes back to the future," he added. "if species are depleted to the point where they can't recover, then that resource is lost. Properly managing waste is terribly important, and also properly managing how chemicals are used. One thing leads to another, and everything is connected."

This is the value of ecotourism, which is defined as travel to destinations where the environment and cultural heritage are the primary attractions. People are willing to spend big bucks these days to see these resources, so it makes good business sense to protect them.

Or, as Dr Brunnick put it, "If you depend on tourism, you must take care of the things that bring visitors here. And those are the things that Peterson Cay has. And if you can say we have 'x' acres of coral reefs for you to explore that are pristine and beautiful and we know so because we've mapped them out, you have a little bit of a leg up from the guys that say, 'we got a reef.'"

"We're mapping not just the habitats, but also some of the important species - like Elkhorn Coral for example. This will allow the managers to know that we have this much of that endangered species. If we take care of the Elkhorn, everything else on the reef will be taken care of too. You won't have to think about each grunt or parrotfish out there."



Setting aside national parks is one thing, but managing them takes money. And lots of it - to build public access infrastructure like boardwalks and visitor centres, to develop educational materials and signage, to hire wardens, to conduct scientific monitoring and to enforce regulations.

Take a stroll through the Clifton Heritage Park, for example, and check out the parking areas, all-weather signage, and extensive gravel pathways through the silent coppice and along the uncrowded beach. Or stop by Wilson and Harrold Ponds National Park off Faith Avenue in the heart of the city and amble along the raised boardwalks over a wetland oasis teeming with birds and other wildlife.

Until recently, the BNT has been forced to rely largely on volunteers and aid from foreign conservation groups. But soon it will embark on a campaign to raise millions to tip the scale in favour of long-term conservation of our most precious natural resources - the species, ecosystems and scenic vistas that provide our bread and butter.



"This is a beautiful planet." Dr Brunnick said. "It's a gift to every one of us. We would not be here if this planet did not have all this diversity. We need national parks so we can understand how beautiful nature is. We need to keep some places safe. And Peterson Cay is a place that's been set aside to show us some beautiful things in the ocean. It's not for one person; it's for everybody."

Back in the high-ceilinged, oak-paneled rooms of the Explorers Club on East 70th Street in New York, the Peterson Cay expedition leaders may one day attend a ceremonial dinner to discuss their findings with fellow adventurers.

They will note that Bahamians have every right to economic development and prosperity. But if we think ahead and do it right, with common sense and an ethical approach, we can succeed economically at the same time as we preserve the environment for future generations.

The bottom line is that we need to learn about our own natural resources and the reasons to protect them if we want to achieve long term strategic benefits from economic growth.

There's an old saying in management: 'What you don't measure you can't manage.' By measuring and mapping Peterson Cay, we now have the tools to make sensible choices for the future of that particular part of the Bahamas. It's something that should be applied throughout the country and at all levels of policymaking.



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