



UKOTCF

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September saw the Caribbean devastated by Hurricanes Irma and Maria, as reported in Forum News 47 (<http://www.ukotcf.org/pdf/fNews/47.pdf>). Infrastructure damage was huge in British Virgin Islands, Turks and Caicos Islands, and Anguilla, with Montserrat also experiencing a lot of damage to vegetation.

Communications were very disrupted, and in some areas are still very difficult.

However, recovery work began as soon as feasible, with energy and determination by our friends and colleagues, and many others.

In this eBulletin we share some of these positive recovery efforts. There will, of course, be many other positive ongoing efforts, which communication challenges and the priority of getting things done mean news of these have not yet reached us. Please let us know if there is anything you would like included in the next eBulletin (apienkowski@ukotcf.org)

With our very best wishes for 2018, and calm times to allow further recovery to occur.

Dace, Ann and El

Seasons Greetings & Best Wishes for 2018



2017 marked the 30 year anniversary of the creation of the Forum. Whilst we spent some time looking back over what the organisation has achieved in *Forum News 46* (available online), we have also spent a lot of time moving on-going and new projects and initiatives ahead.

At the end of April, representatives from 13 UK Overseas Territories participated in productive discussions at the 2nd Environment Ministers' Council meeting held on the Channel Island of Alderney (photo bottom right). Participants discussed the future of the environment in their jurisdictions, common priorities and ways to exchange knowledge and skills. The meeting was jointly chaired by Victor Brownlees, Alderney's Chief Executive, and Dr John Cortes, Minister for the Environment of Gibraltar, and was made possible by the work of the UKOTCF.

Another highlight for the team this year has been the progress made in our joint projects in Montserrat, part-funded by the Darwin Initiative. This includes stakeholders agreeing on a vision for the future of the south of Montserrat, an increase in public appreciation of the island's insect fauna, and the local support for the 'Adopt a Home for Wildlife' initiative (newsletters available online).

2017 has also seen challenges, in particular for those in the Caribbean Territories affected by the hurricanes. While the damage and loss is difficult for us as outsiders to envisage, we continue to be impressed and inspired by the resilience of the communities in these areas.

We have been pleased to see the progress made this year to understand, protect and promote the wonderful natural, cultural and built heritage of the UK Overseas Territories by our collaborators and other Government Departments and NGOs, and wish everybody the very best for continued success in 2018. UKOTCF remains on hand to contribute to any efforts where needed. 2018 will also see the launch of the new and improved, smart phone-friendly, UKOTCF website—watch this space...



From the UKOTCF Team

Photos: Top Left—South Soufrière Hills, Montserrat, with pyroclastic flow to the sea (Dr M Pienkowski) Top Right— Male oriole bird, endemic to Montserrat (Dr M Pienkowski) Bottom Left— Hon Claude Hogan MLA, Dr M Pienkowski & Hon David Osborne, Minister for the Environment at the 4th Workshop on the future of the south of Montserrat (C Wensink) Bottom Right—Some of the UKOT/CD Ministers visit the gannet colony off Alderney (C Wensink).

For more information about the work of the UKOTCF and the biodiversity of the UK's Overseas Territories please visit www.ukotcf.org

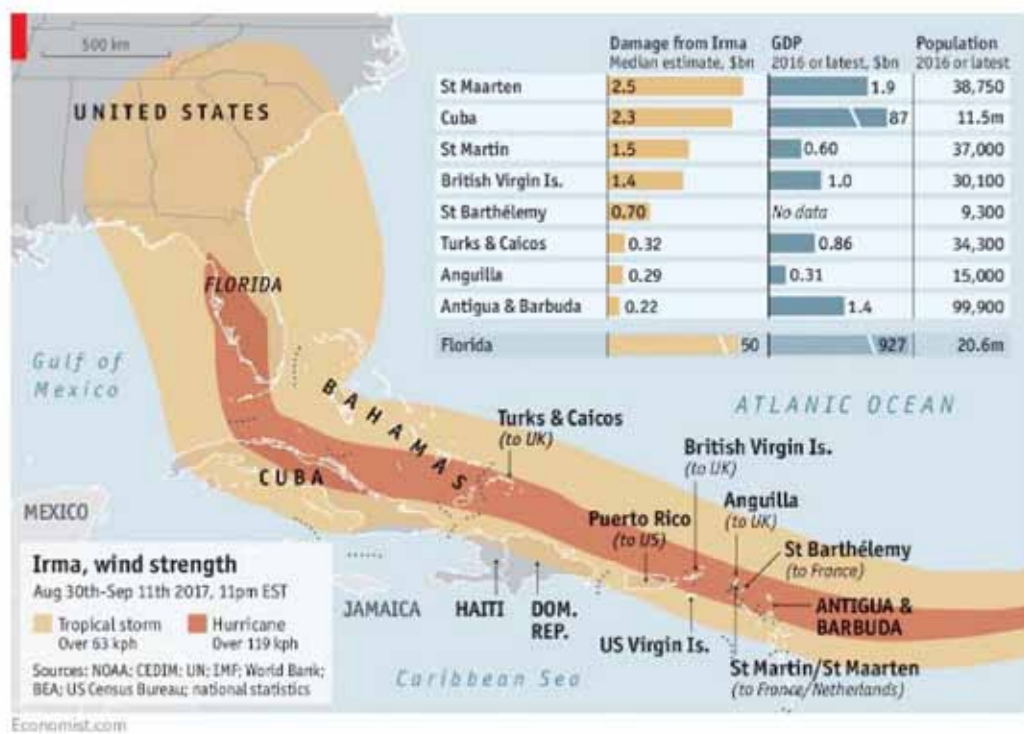
Resilient Hurricane Recovery

In the aftermath of any hurricane consideration of future resilience is a hot topic of discussion and debate. It is with this in mind that we were very interested in an article published by the Economist, in late September: “Paradise Lost – How Hurricane Irma will change the Caribbean: The region must adapt to climate change, not simply rebuild.”

This is very relevant to the recovery operations ongoing in the affected Caribbean Territories. There is of course an obvious need to restore power and repair housing as quickly as possible. And “fast” will often mean rebuilding on a “like-for-like” basis. But what of the future?

The article also draws attention to the cost of recovery compared with GDP. See:

<https://www.economist.com/news/americas/21729007-region-must-adapt-climate-change-not-simply-rebuild-how-hurricane-irma-will-change>.



Planning Ahead

Hurricanes Irma and Maria severely affected 3 UKOTs at the same time, and this proved to be a logistical challenge for the pre-planned UK Government relief and contingency exercise. The military personnel did a great job, once they arrived on territory, but there were delays, especially in reaching TCI, over 700km from Anguilla and BVI. So a need has been identified to widen the scope of UK Governments strategy for hurricane and disaster relieve in the Caribbean UKOTs.



Left: Royal Air Force airlifting supplies to Salt Cay, TCI.



Right: Royal Marines repairing the roof of the Salt Cay airport building.

Anguilla

Around 90 percent of the electricity infrastructure was damaged, along with the main water supply. There was also a huge amount of damage to buildings. However, a great deal of work has resulted in most areas having power restored, and many local restaurants have re-opened.

The remains of the ferry terminal at Blowing Point will be demolished, and plans are already being commissioned for the design and construction of the new facility. Air services have resumed.

The Anguilla National Trust, whose offices survived the hurricane, were back in action very quickly. Within a few days, damage assessments were carried out with beach and wetland surveys.



*Farah Mukhida (ANT Executive Director) and staff member Janeczka Richardson, undertaking an assessment survey just after Hurricane Irma hit Anguilla.
Photo: still from video by Kevin Archibald*

This short video can be seen at <https://www.facebook.com/KSharp88/videos/10155328102670379/>

Farah Mukhida, Executive Director of the Anguilla National Trust and her team are to be congratulated on keeping their excellent work programme going. The ANT has continued with monthly bird counts since the passing of Hurricane Irma. She reports that the water levels on the ponds have been exceedingly high and the number of smaller wading birds may be a bit lower than normal because of this, hundreds of waders have been seen on some of the ponds, especially in October. The land birds did take a bit of a hit; very few were seen or heard directly after the hurricane when there were few leaves on the trees. After the hurricane, though, there was some rain which washed the salt off of the trees and the vegetation has rebounded nicely. With the re-growth of leaves and some flowers, there has been a return of land birds, and even some hummingbirds seen.

ANT has visited Dog Island, Prickly Pear cays, and Sombrero as well as conducting surveys on the main island. Farah reports that the frigatebird colony on Dog Island is healthy. They also saw pelican on Prickly Pear West (one of their breeding grounds). Brown and masked boobies are breeding, in lower numbers, but that is usual for this time of year, as is the low numbers of laughing gulls. The main nesting season in 2018 will might give some indication of the effect of the hurricanes on bird numbers.

*The frigatebird colony on Dog Island.
Photo: Dr Mike Pienkowski*



Turks and Caicos Islands

Different islands in the Turks and Caicos Islands archipelago were affected very differently, and their recovery needs therefore also differed. Power and water supplies were quickly restored in Providenciales, but it was 60 days before power was restored to all the inhabited islands. This could have taken even longer, but the power company, Fortis, drafted in a big team of specialists from Canada to speed up power restoration to all areas. The airports on Providenciales and Grand Turk were re-opened very quickly, and this aided the recovery effort.

Saving endangered corals

Like all Caribbean UKOTs, TCI depends on its environment to support its mainstay economic activity, tourism.

The Turks and Caicos Reef Fund (TCRF), led by Don Stark, together with the Department of Environment and Coastal Resources (DECR), and local dive company Blue Water Divers, undertook a recovery programme on Grand Turk at the end of October, to rescue large quantities of the critically endangered elkhorn corals *Acropora palmata* damaged by Hurricanes Irma and Maria. After being kept off the sand using improvised trays on top of cinder blocks, TCRF staff and volunteers used the fragments to install coral ladders (bamboo poles suspended by ropes to which coral is attached) off Governor's Beach. See the TCRF Facebook page for more information, including how to donate to support their work.

To read the full report by the Turks and Caicos Sun, visit

<http://suntci.com/critically-endangered-corals-saved-after-hurricane-damage-p3058-106.htm>



Left: Breaking a coral fragment into smaller pieces.

Right: A fully populated coral ladder.

Photos: TC Reef Fund

The endangered, endemic Caicos pine

The Caicos pine recovery programme (CPRP) had hundreds of Caicos pine saplings, grown from seed, in its nursery at Government Farm on North Caicos. Although the nursery was completely destroyed during Hurricane Irma, the nursery stock was rescued, thanks to great preparation by the CPRP staff, Bryan Naqqi Manco and Judnel Blaise. The Caicos pine saplings were kept from blowing away by the shade cloth and the fallen structure caused only minimal damage to a few trees.

Instead of repairing the nursery, efforts are being focussed on completing the expansion nursery which had previously been partially started. Additional funding of about \$8000 is sought to complete it. Please contact UKOTCF if you would like information on how you can support this work.



Left: Caicos pine saplings under the collapsed shade netting.

Right: The Caicos pine saplings being rescued after Hurricane Irma.

Photos: Caicos Pine Recovery Programme Manager Bryan Naqqi Manco, DECR.

Turks and Caicos National Museum Report

The buildings at the Turks and Caicos National Museum site on Providenciales were relatively undamaged. Three large trees, known locally as the Three Shady Ladies, were blown over. These trees were an important cultural feature, providing welcome shade in a dry and dusty environment. Due to the efforts of a team from Environmental Arts, the Three Shady Ladies were propped up, and are now doing well. The Development Office & Caicos Heritage House, at The Village at Grace Bay, Providenciales, are open, and welcome visitors. See



**Rescue of a Shady Lady, by Environmental Arts:
Photo: Turks & Caicos National Museum**

<https://www.tcmuseum.org/> for details.

The Museum Building, in the historic Guinep House, on Grand Turk, and the Science Building behind, were both damaged. The balcony and porch on Guinep House were blown away. Heat, high humidity, and lack of electricity meant that the exhibits, collections, and files remain were put at risk. Insurance will eventually help repair and replace some things. It will not cover the costs of damage assessment and conservation to the collections, exhibits, books, and files, or the ongoing costs for fuel to power generators. The Museum hopes to re-open in January or February 2018. Anyone wishing to help the Museum's recovery can donate via their webpage (see previous page)



Aerial Photograph of Grand Turk just after Hurricane Irma. The Museum area is circled in red. The ruined botanic garden is on the left, with historic Guinep House in the foreground, and the science block behind.

Phot: Shaun Malcolm

Salt Cay

Salt Cay was severely impacted, and struggled for many days with desperately short supplies of food and freshwater. A huge community effort, overseas fund-raising, aid from the UK military and TCIG, and re-connection to power supplies after 60 days (thanks to hard work by the Fortis team) has seen Salt Cay well on the way to recovery. Coral Reef Grill and Bar, Salt Cay Divers, and other local enterprises and accommodations are open for business. The humpback whale watching season is just around the corner, in January and February, so then would be an excellent time to visit. See the Spotlight on Salt Cay Facebook Page, Salt Cay Divers Facebook page, or email scdivers@tcway.tc for information.



**Humpbacked whale, Salt Cay.
Photo: Salt Cay Divers**

British Virgin Islands

The British Virgin Islands (BVI) suffered immense damage during the hurricanes and will require multiple, large efforts to recover.

Following the destruction of offices, the JR O'Neal Botanic Gardens, and over 95% of infrastructure in BVI, the National Parks Trust of The Virgin Islands has relocated to the Conservation and Fisheries Department, along with two other Government departments. They are working tirelessly to replace as many items as possible.

Deputy Director of the NPTVI, Nancy Pascoe, has been working to keep links open between BVI and UK partners. Plans for the existing Darwin and BEST projects have been delayed until next year to allow for recovery. A promotional video with footage from Stewart McPherson is being planned with RGB Kew and the RSPB, with help from Justin Albert of INTO.

NPTVI have organised clean-up days, and the Christmas Bird Count will take place, despite all the difficulties.



The Jost van Dykes Preservation Society has been working very hard to fund-raise and undertake recovery actions on Jost van Dyke. As a recent example of their efforts, on 12 December a 3,000 gallon-per-day-capacity reverse osmosis water-maker had arrived on JVD. This water-maker was purchased by Foxy's and Kenny Chensney's 'Love for Love City Foundation'. JVDPS had originally intended to purchase a system; however, the support of these two organisations reduces that need. JVDPS will be responsible for putting in a community standpipe that will be publicly accessible to JVD residents – there are still many living in tents and there may be disruption of water provision in future hurricane seasons. The value of this system is \$28,000 USD; however, JVDPS needs only to cover the costs (probably just a few thousand dollars) for the community standpipe and water centre.



See the JVDPS Facebook page for more information about actions and their fund-raising appeal.

<https://www.facebook.com/search/top/?q=jost%20van%20dykes%20preservation%20society>

Montserrat

Mike Pienkowski, Chairman of UKOTCF, visited Montserrat in November, along with other members of the UKOTCF team, for work on the Darwin Plus project. Montserrat had a near-miss from the Hurricanes but still suffered a great deal of damage to communications, roofs, trails, trees and other vegetation. All the necessary preparations, and subsequent follow-up, for a hurricane hit were made for both Irma and Maria as it was unsure

how much damage would be experienced.

All the hiking trails suffered from fallen trees, which need clearing. Tenders have gone out for this work to be carried out. On the steep trails, this will be specialist work.



*Blockages on the Oriole Trail caused by trees felled by Hurricane Irma.
Photo: Dr Mike Pienkowski*

Bermuda and Cayman

On this occasion, Bermuda and Cayman escaped severe hurricane impact, but have both suffered terribly in the past. There was some damage to some equipment at the Central Caribbean Marine Institute (CCMI), but this was repaired quickly. CCMI President Carrie Manfrino reported that the cone of impact moved into and out of their region and big waves from Irma took a toll on one of CCMI's installations. They were able to make repairs. There was concern for the coral reef nursery structures, but these were largely unaffected. As part of their hurricane resilience planning, they had just finished a major upgrade to hurricane-rated windows and doors.



*Coral nursery ladders installed by CCMI at Little Cayman'
Photo: CCMI*

Bermuda has been experiencing very high tides recently, and a raised water-table due to a warm eddy around the island. Tides have been much higher than normal since September. This has led to flooding in a lot of inland wetlands, as well as coastal areas. These high tides and raised water-table are possibly a climate-change effect, although there is some evidence that it is cyclical: there were extreme high tides due to eddies in 2002 and 2011 as well. This happens when a warm eddy spins off the Gulf Stream and surrounds the island; warm water takes up more space, so tides rise. However, this current flood situation has lasted longer than previous occurrences. David Wingate noted that the 2002 event raised the water-table enough to drown the old Bermuda cedars in Paget Marsh, so it will be important to see what effect this one has on habitats. The usual consequence of a hurricane is actually a fall in sea temperature for a short time; the low pressure centre causes upwelling of colder deep ocean waters.



*High tide flooding in Bermuda, on November 4th.
Photo: Bernews*