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Introduction

2019 has definitely been a year of ups and downs. In this review, as well as noting many achievements, we report also on some areas of concern and some situations where outcomes from actions are still uncertain.

There has been a lot of success on species conservation, including tackling invasive species; and on plastic pollution. Despite lack of external funding for our work in Montserrat, UKOTCF, with its own resources and donated contributions, continued to work with local partners. This is to encourage habitat conservation and replacement of invasive plant species with native plants, particularly focusing on the "Adopt a Home for Wildlife" programme.



Governor of Montserrat H.E. Andy Pearce and Dr Mike Pienkowski outside the Governor's Office after discussions, in March 2019

Photo: David Arkley, Head of Governor's Office

At the time of writing, the issue of the Port Development in Cayman is still not resolved. Climate change is a real event, and is having undeniable environmental effects in many parts of the world. The influx of vast quantities of *Sargassum* sea-weed may be a consequence of this, and warming sea-temperatures result in coral-reef bleaching. With much of the tourist economy of the Caribbean reliant on a healthy coral-reef system, and clean beaches, there is a threat to this important part of the economy of the Caribbean.

Another threat to coral reefs is Stony Coral Tissue Loss Disease (SCTLD), which is spreading rapidly, but is now being actively treated in the Turks and Caicos Islands (following research work in Florida). We lead with this article on page 2, hoping that the efforts of



*Orbicella cavernosa 28 May 2019
Infected and dying*

*Orbicella cavernosa 9 Jul 19
Completely dead*

Read the article in Times of the Islands at www.timespub.tc/2019/09/all-is-not-lost-yet/

the Turks and Caicos Reef Fund, supported by the Department of Environment and Coastal Resources, will have some effect in saving TCI corals.

2019 was fortunately a fairly quiet hurricane year, although Bermuda was hit by Hurricane Humberto in September as a category 3, causing a lot of tree and roof damage. Many of the trees lost were invasive species, but the Governor Laffan's Fern plantings were badly affected. Another unforeseen side-effect was a shortage of roofing materials resulting in old quarries being re-opened. This could affect fragile cave ecosystems.



Clearing a felled casuarina on Harrington Sound Road in the aftermath of Hurricane Humberto, in the Smiths parish of Bermuda, Thursday, 19 Sept 2019. AP Photo/Akil J. Simmons

Increasing number of severe weather effects driven by climate change are to be expected, and it is encouraging that the value of mangroves, both for protection and as a carbon-sink, is widely recognised, and there are many mangrove planting and restoration projects. Of course, better that mature mangroves are not destroyed.

In this review, we summarise some of these, and provide links to further information. We know that there are many more Caribbean UKOT success stories as well as issues of concern, such as invasive lionfish and coral bleaching, which we are not able to highlight in this review. In 2020, we hope to get back to a more regular eBulletin, so if there is anything you would like us to publish in an eBulletin, do please let us know. Contact WCWG Secretary, Ann Pienkowski, apienkowski@ukotcf.org

We greatly appreciate the information which members of WCWG supply us with. Sharing information is a key role of WCWG, and UKOTCF more widely, and we thank them for this.

Species Conservation

Stony Coral Tissue Loss Disease (SCTLD)

We were first made aware of the threat to coral reefs by stony coral tissue loss disease in the Turks and Caicos Islands at the WCWG meeting during the BirdsCaribbean conference in Guadeloupe in July 2019. Kathleen McNary Wood, on behalf of the TC Reef Fund, reported on its recent occurrence in TCI, the rapidity of its spreading, and the serious threat it posed to coral reefs.



Corals affected by SCTLD - the white areas are dead. Photos: Turks and Caicos Reef Fund

This bacterial infection was first noted off the Florida coast in 2014, where it has now affected 100,000 acres (40,500ha). It has spread through the Caribbean into several countries including Jamaica, Belize, the US Virgin Islands and the Dominican Republic. Its rapid spread and high mortality rate have seen it wipe out some of the region's most important reef-building corals, threatening tourism and those who rely on the ocean for a living. It is spread by water currents, fish and divers. It had been found in South Caicos in early 2019; by June it had affected West Caicos, whose reefs have suffered huge mortality, and shortly after spread to Providenciales, the main tourist island. Reefs around Grand Turk may also now have been affected. Researchers in Florida have been investigating different methods to combat SCTLD, and have found antibiotic application effective. South Florida PBS TV has produced a programme documenting the spread of SCTLD and the research work to find an effective treatment. This programme can be viewed at www.pbs.org/video/corals-in-crisis-1iajfd/

The Department of Environment and Coastal Resources (DECR) granted the TC Reef Fund a research permit to monitor the spread of SCTLD, while the Ministry sought advice from the UK Foreign and Commonwealth Office (FCO, which leads on UKOTs for UK Government) about the use of antibiotics. FCO advised against the use of antibiotics, so there was some delay while the Ministry considered the situation. The good news is that the TCI Minister for the Environment decided that, based on the Florida evidence, antibiotic application was the best

option, and this will begin shortly. The work will be overseen by DECR, in partnership with the Turks and Caicos Reef Fund. Don Stark, Chairman of the TC Reef Fund, who has been working tirelessly to raise awareness in TCI of SCTLD, and raise funds for action, is pleased that remedial action can now start.

An interview with Don Stark can be found at

www.facebook.com/207211405984292/posts/2801550976550309/

and one with the TCI Minister for the Environment at

www.facebook.com/100001820424972/posts/3453040434766603/

At the time of writing, the Turks and Caicos Reef Fund are running training workshops on how to apply the antibiotic, and recruiting qualified divers to do this. This treatment needs to be done on a coral head basis, so is very labour intensive and time consuming. For more information see the TCRF Facebook page and www.tcreef.org/stony-coral-project



Divers apply the amoxicillin-based treatment to a SCTLD-infected coral head

Montserrat – Adopt a Home for Wildlife



Tim Orton and Mike Pienkowski discuss progress and future plans on the tropical dry forest restoration Tim is undertaking as part of the “Adopt a Home for Wildlife” programme.

Photo: UKOTCF

Unfortunately, follow-up funding for the *Adopt a Home for Wildlife Programme* has not yet been forthcoming, but UKOTCF and its personnel are using their own resources to give basic help and advice to the local partners who joined the programme, which has been successful in empowering local persons to take on lead responsibility for conservation – and in providing the only current means of keeping alien invasive plants from overwhelming endemic and other native species in parts of the Island. Amongst the partners, Tim Orton’s tropical dry forest restoration continues, with a focus on removal of invasive plant species, and planting and/or encouraging of native plant species. It was very pleasing that, as a consequence of this, his land has

provided a site for the Montserrat mountain chicken re-introduction and experimentation in ways to combat the chytrid fungus problem.

Newsletters about the UKOTCF Montserrat work, including *Adopt a Home for Wildlife*, can be seen on, or downloaded from, the UKOTCF website, at www.ukotcf.org.uk/Pages/News/Category/newsletters, as well as some YouTube videos about UKOTCF work in Montserrat www.ukotcf.org.uk/MontserratProject.

Bermuda Snails

The endemic Bermuda land snail *Poecilozonites bermudensis*, thought to be extinct for over 40 years, was re-discovered in Hamilton in 2014. A species recovery programme was set up, including *ex-situ* breeding at London and Chester Zoos. A second introduction of 14,000 snails (bred at Chester Zoo) to offshore islands (all nature reserves) was carried out in June 2019.

Research on the earlier first introduction on Nonsuch island has shown that, not only are the snails surviving, but they are reproducing and expanding beyond the areas where they were originally released. More information about Bermuda’s very rare endemic snails is at

<https://environment.bm/poecilozonites>



Adult Poecilozonites bermudensis marked with a fluorescent, numbered microtag
Photo: Bermuda Dept of Environment and Natural Resources.

Governor Laffan's Fern, Bermuda

Governor Laffan's Fern *Diplazium laffanianum* is endemic to Bermuda.



Governor Laffan's Fern transplanting in Sear's Cave. Orange tags on the lower slope denote 2019 plantings, while the large ferns on the upper slope (left of image) are Bermuda Cave Ferns

More information at
<https://environment.bm/governor-laffans-fern>

Photo: Alison Copeland, DENR



Close up of transplanted Laffan's Fern
Photo: Alison Copeland, DENR

First identified in 1882, this species was impacted by habitat change and exploited by Victorian fern collectors. By 1905, it was considered 'Extinct in the Wild'. By 2003, only 5 individuals of this species remained in pots in a greenhouse, when a

recovery project began to pull it back from extinction. Micropropagation has been ongoing since 2003 at Henry Doorly Zoo in Omaha, USA. Young ferns were returned to Bermuda in 2009, 2012 and 2014. Re-planting in the wild began in 2015. In 2019, twenty-seven Governor Laffan's Ferns were planted between January and March 2019, with fifteen (56%) surviving the year.

The survival of the 2019 plantings was heavily impacted by the passage of Category 3 Hurricane Humberto on 18th September 2019. Humberto delivered salt-spray to the island for approximately 48 hours, while only 2-4 inches (5-10 cm) of rain were associated with this storm. Therefore, the salt was not washed off the vegetation as the storm passed, resulting in a lot of the vegetation being burnt island-wide. The damage to the forest canopy resulting from Humberto also opened the woodland allowing more light into the understory. This may lead to drying and higher temperatures next summer, which will affect future *D. laffanianum* plantings.

The Bermuda Cahow (petrel) *Pterodroma cahow*



Cahow chick and returning adult, 28 March 2019

Screen Grab from
www.youtube.com/watch?v=Qv_f2CHVfnY

Another endemic species thought to be extinct, and rediscovered in 1951, has been saved by a very

successful and intensive species recovery plan. From less than 20 pairs in 1951, in 2019 131 breeding pairs produced 73 chicks. GPS tagging on adult cahows nesting on Nonsuch Island has revealed that one cahow undertook a six-day feeding visit to Massachusetts waters. After spending two days on the bank catching squid and fish, it then returned to Bermuda, hitting speeds of nearly 50mph and covering a total of 1,600 to 1,800 miles. For more information, see www.nonsuchisland.com/blog/summary-2018-2019-cahow-season

Green iguana cull in Cayman

The green iguana is not a native of the Caribbean, but comes from Central and South America. Where they have been introduced into Caribbean Islands, they cause many problems for the native fauna and flora, decimating foliage and competing for food.

In Grand Cayman the number of green iguanas had exploded to over a million animals, so the Department of Environment launched a

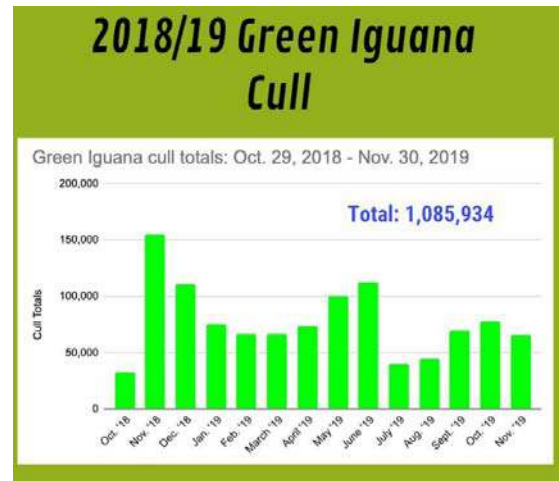


Green Iguanas
Photo: The Guardian

massive green iguana culling programme on Grand Cayman in October 2018. As of 2 November 2019, the cullers had removed 1,028,305 of the animals from the population.

A survey carried out by the DoE in August 2019, indicated population numbers dropping more than 90% since the previous year's count. Earlier surveys, done over the previous five years, had shown that the green iguana population had increased fivefold from 2014 to 2018, from about 254,000 to about 1.3 million.

The culling will continue in 2020 to prevent the population numbers from exploding again.



Action on plastic pollution

According to the UN, 70%-85% of marine litter in the Caribbean Sea comes from land, and most of it consists of plastics. Together with agrochemical run-off and domestic wastewater, it is one of three priority pollutants for the wider Caribbean region. If present trends continue, by 2050, the oceans will have more plastic than fish. So the campaign to reject single use plastic, and refuse that can't be reused, has taken off.

See www.unenvironment.org/news-and-stories/story/caribbean-addresses-scourge-plastic-pollution

And here is a link to a short video produced by the UN – *Breaking up with plastic*:

<https://youtu.be/j0FHWQSAP1M>

An interactive map showing data regarding styrofoam and plastic bag bans in the Caribbean can be found at:

www.unenvironment.org/cep/news/blogpost/styrofoam-and-plastic-bag-bans-caribbean-interactive-map

The wider Caribbean UKOTs have been responding to this challenge:

Anguilla

Single Use Plastics Are Banned in Anguilla

PLASTICS AIN'T SO FANTASTIC. On 31 MARCH 2019, Anguilla banned the importation of single use plastics, including:

- Cups
- Cutlery
- Plates & Bowls
- Straws & Stirrers
- Bags
- Styrofoam containers

DID YOU KNOW? Almost ALL the plastic ever produced STILL EXISTS. A MILLION METRIC TONNES of plastic pollution ends up in the ocean every year. BY 2050 there will be more plastic than fish in the ocean if our current practices continue.

OUR TIPS ON SINGLE USE PLASTICS ALTERNATIVES

- Biodegradable and compostable products can now be sourced locally.
- Read the labels of your products. Look for the conditions required for the products to breakdown into smaller pieces.
- Avoidance of greenwashing.
- Choose reusable.
- Carry your own: reusable bag, food container, cutlery, etc.

IT STARTS WITH YOU!

- Be a more conscious consumer.
- Refuse and reduce plastic. Carry your own if possible.
- Let's shift our thinking and behaviour.
- It's time that we care more about our health and our island.

Infographic created by the Ministry of Environment and Sustainable Development of Anguilla.

On March 31 2019 single use and plastic shopping bags, single use plastic utensils, and polystyrene foam containers were banned. This followed from concerted efforts by a working group set up by the Anguillan government. The working group comprised the Ministry of Environment/Department of Environment, the Ministry of Tourism, the Ministry of Infrastructure, the Ministry of Health, the Anguilla Tourist Board, the Anguilla National Trust and the Anguilla Hotel and Tourism Association. The working group had the remit to:

- investigate ways in which retailers can encourage consumers to use 'green'/reusable shopping bags and 'green'/biodegradable

single-use items

- survey public opinion to obtain views on phasing out and banning single-use plastic bags and plastic utensils
- develop a national plan of action for public awareness on litter reduction;
- draft appropriate legislation for to come into effect by March 2019.

Bermuda

The government of Bermuda, in its 2018 throne speech, announced its plans to phase out and ban single-use plastics by 2022. In the interim, the government undertook to implement public awareness programmes about recycling and re-use, and the impact of plastics on the oceans. Additionally, government undertook to place a charge on single-use plastics by 2020, as a step towards eliminating their use.

By November 2019, 8,000 Bermudians had signed a Change.org online petition calling for a ban on single-use plastics in Bermuda. There have also been demonstrations

for positive action by the Bermudian Government on climate change. Numerous supermarkets and businesses have already switched to alternative products such as paper straws, recycled paper bags and home-compostable produce bags.



British Virgin Islands

In November 2018, the Cabinet agreed on a policy to reduce plastic waste that would prohibit food and drink containers made of non-compostable plastics including styrofoam, as well as non-biodegradable single-use plastic bags, according to a summary of the Cabinet meeting held that day. Meanwhile, eco-friendly alternatives to such products would be exempted from import duties for five years, the summary stated. A tax would also be levied on plastic water bottles and paid into a recycling fund, and a deposit-refund system would be implemented for single-use beverage containers such as cans and bottles in order to encourage recycling and reuse.

The Ministry of Health and Social Development have instructed the Attorney General's Chambers to draft the relevant legislation for a subsequent debate and passage. Learn more at:

www.bvi.gov.vg/media-centre/government-moves-ahead-plans-ban-plastic-straws-and-styrofoam



*Recycling bin in BVI.
Photo: Genevieve Glatsky*

In April 2019 the BVI government signed an MoU with nonprofit Green VI to implement a territory-wide recycling system. The new program plans to keep the majority of the waste on the island by partnering with local businesses and entrepreneurs that upcycle waste as raw material input. GreenVI organise a system of recycling bins throughout the BVI, where plastic, glass and aluminium can be deposited. They are looking for ways to turn glass into art, styrofoam into beanbag chairs, plastic into fence boards and cardboard into compost.

See www.greenvi.org/ and <https://viplasticsrecycling.com/>

Cayman Islands

In July 2019, the Government set up a committee, chaired by the Environment Minister and the Planning Minister. The committee comprises government officials, businesses, distributors, grocers, environmental groups and a youth parliament representative. Their work would involve public consultation. This is something that "Plastic Free Cayman" have been campaigning for. A petition is seeking to ban single plastic use, by 19th September, had just over 7,000 signatures. Cayman's shoppers use some 12 million plastic bags annually.

Learn more at: www.caymancompass.com/2019/07/23/government-considering-single-use-plastics-ban/



Plastic Free Cayman are organising a Youth Summit in April 2020 - see <https://plasticfreecayman.com/>

Montserrat

The Government of Montserrat committed to banning single-use plastics in October 2018, beginning with banning use within its own departments. It has not yet been able to take forward legislation to ban the importation and use of single-use plastics island-wide.

The Montserrat Recycling and Waste Reduction Initiative (2018 to 2020), run by Scuba Montserrat, was provided with funding by Darwin Plus. This project has the remit of creating the country's first island-wide recycling programme and providing alternatives to single-use items such as plastic bags, cups, and containers to reduce waste.



Governor and Mrs Pearce (in white hats at centre left) taking part in a beach clean-up organised by Fish 'N Fins, Montserrat.
Photo: Fish 'N Fins

Turks and Caicos Islands

The Turks & Caicos Islands Tourist Board launched its nationwide *Go Green* initiative with emphasis on the ban on single-use plastic bags in January 2019. By law, the import ban on single-use plastic bags came into effect on 1 January 2019, and a ban on the use of single-use plastic bags by retailers came into effect on 1 May 2019. The Government also reduced the customs import duty to 10 percent on select tariff codes for alternative products.

The statement from the Office of the Premier stressed that plastic bags, which are often referred to as the environmental villain of the 21st century, are one of the most visible signs of the pollution problem that extends across the TCI.



Learn more:

<http://tcweeklynews.com/ban-on-plastic-bags-comes-into-effect-on-may-p9579-127.htm>

As yet unresolved

Cayman Port Development

Proposals for cruise-liner berthing facilities have been raised many times for years, and discussed, at the request of local conservationists, by UKOTCF, and especially by members of its Wider Caribbean Working Group. Grand Cayman is one of the few islands in the Caribbean visited by cruise-liners where these ships must still transfer their passengers ashore by tenders (small boats). The Cayman Government decided that this was responsible for a decline in their cruise-ship economy, and decided to construct a berthing facility in George Town. Huge public outcry has been generated by the government's determination to go ahead with the cruise-berthing facility (which incorporates a small, and arguably more easily justified, improvement of the port's cargo handling capacity), despite the findings of environmental impact assessments on the damage to the coral-reef system that would be caused.

An NGO, Cruise Port Referendum Cayman, was set up to launch a petition to trigger a referendum on the proposed berthing facility. This achieved the required number of signatures, the signatures were verified, and a referendum scheduled by Government for 19 December. Concerns were raised that much of the information about the environmental impact and even the final business case justifying the controversial proposal would not be available until 2020, after the referendum, and that the developers were trying to avoid a full environmental assessment.

Forum News 51, published in November 2019, contains an article about this, which can be found at

www.ukotcf.org.uk/News/forum-newsvers2

A judicial review was sought by a member of the Cruise Port Referendum campaign group, and supported by the National Trust, to have the referendum postponed until all relevant information, including an updated environmental impact assessment, is available. At the time of writing (January 2020), the court hearings continue, and an environmental assessment scoping update on the \$200 million cruise-berthing and cargo project has been submitted to the Environmental Assessment Board (EAB). The Department of Environment Director, Gina Ebanks-Petrie, confirmed that she had received this document in her capacity as chair of the EAB. This is the first time since the department was removed from the steering committee for the cruise port project in 2018 that the experts at the DoE will be involved with the process. For more information, see

<https://caymannewsservice.com/2020/01/cruise-scoping-update-given-eab/>

Sargassum

For the last few years, large quantities of *Sargassum* floating seaweed have been causing problems in the Caribbean. The floating rafts of *Sargassum* are ecologically important, and a habitat for many kinds of marine life. However, when carried ashore by prevailing tides and winds, they build up a rotting mass of foul-smelling vegetation. This is not good for the tourism economy but could also be affecting fisheries and wildlife which depends on a shore habitat. The equilibrium of coastal ecosystems is being affected, for example by killing off the seagrasses that help keep sand in place, causing beaches to erode more rapidly.



Schematic of the proposed cruise dock development in George Town



*Sargassum rafts clogging shores and inlets, East Caicos.
Photo: Kathleen Wood*

Seagrass is also a critical marine ecosystem.

There is evidence that this huge influx into the Caribbean originates from the equatorial waters between Brazil and West Africa, where sea temperatures are rising as a result of climate change, and where pesticide and fertiliser runoff from the Amazon and Congo rivers is causing this increased growth.

Strategies to date have included manual removal from beaches (which is very expensive and time-consuming) with the harvested seaweed used for fertiliser, energy production, etc.

Read the article by David Jessop, from June 2019, at

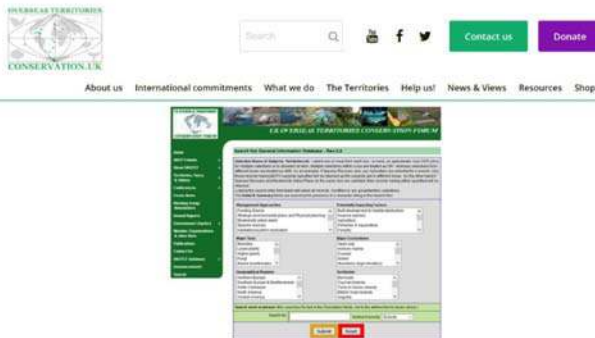
www.barbadosadvocate.com/columns/view-europe-sargassum-continuing-challenge

The University of Greenwich is conducting a research project in the Turks and Caicos Islands with funding from Darwin Plus, to assess the extent and composition of macro-algae on the shoreline and promote biodiversity/environmental awareness. The project will also look at the feasibility for exploiting the macro-algae, specifically the potential for anaerobic digestion for biogas and composting as an alternative to disposal as waste. UKOTCF were pleased to respond to an enquiry from the University of Greenwich to provide contacts and information on the birds utilising the shores in TCI.

UKOTCF Database of UK Overseas Territory and Crown Dependency projects (proposed, in progress or completed)

UKOTCF's Wider Caribbean Working Group, at its meeting in Guadeloupe in July 2019, identified the need for a means of both sharing the information in the outputs of projects and also collaborating to avoid the duplication of projects – which seems to have increased in recent years, with some bodies now controlling funds having little background knowledge. UKOTCF's other regional Working Groups have agreed this need. UKOTCF noted that it had, some years ago, developed a database system to fulfil this need. It had been well used, but its usage declined when an unintended consequence of changes in UK Government funding was increased competition (and confidentiality) between organisations and reduced co-operation between them. It is pleasing that some of the organisations involved have, despite this, seen again the advantages in collaboration. Accordingly, UKOTCF agreed to review the suitability of the database for present needs.

To view the UKOTCF Projects Database, go to www.ukotcf.org/infoDB/infoDBnewForm.cfm?appln=projects. This page allows you to select the categories on which to search. Please note that the database contains projects data from various periods of time, depending on when partners decided to supply information. To select additional categories from each box, use Control-Click. Control-Click can be used also to deselect a selected item. Please note that, because of when this database was developed, it is best viewed on a computer and is not well suited to phones or tablets. Apart from this, the database does indeed seem to be useful for present needs.



Screen shot of the page to define a search of the UKOTCF project database

The database was originally designed for data-entry by partners – indeed, 20 years ago, it was a pioneer in multi-access data-entry. However, the format is not familiar to more recent electronic data users. Therefore, in the first instance, UKOTCF officers will input data sent, as email attachments, by users on an MS Word form. We will review this, as data are received, to consider whether a return to direct entry is practicable. Please note that this work is currently not resourced, but UKOTCF volunteers will do their best to keep pace with any material sent on copies of the form below.

The data-entry form is available at:

www.ukotcf.org.uk/web-database-for-conservation-practitioners (with a link to the form)

and the form itself at:

www.ukotcf.org.uk/Handlers/Download.ashx?IDMF=cb6fd179-4e9e-43f2-8f2a-aa56c483bda0

The purpose of this projects module of the database is several-fold. Accordingly, some projects will use some fields and some others. Some might use the database throughout so that all fields are (eventually) filled:

One use would be for a local organisation to flag up a need (using just the first few fields) so that others could see areas in which they could usefully team up with those seeking to fill this need.

A second use might be, once projects are defined, to help in seeking resources – effectively providing a portfolio of projects for potential sponsors. For both the local bodies and some of the sponsors, the link to strategic priorities will be important, to ensure that work is focussed.

For other uses, it is envisaged that database will continue to provide capacity to track projects, including ensuring that the results are disseminated and wasteful duplication of effort avoided.

Thus, this database includes projects at various stages from the ideas stage, through resourcing and implementation, to completion. Hence not all information items will relate to all projects. Some of the information items will not be appropriate to a particular project for other reasons. Such areas can simply be left blank. There is more explanation on the data-entry form.

UKOTCF is pleased to have been able to respond to requests from partners and hopes that the work it has, and will, put into this will be useful.