



A bi-monthly electronic bulletin about interdisciplinary research, teaching and outreach at the
Centre for Resource Management and Environmental Studies (CERMES)
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Triple A alumni strategy for improving engagement

By Patrick McConney

The UWI Triple A Strategy for 2017-2022 is built upon three pillars: Access, Alignment and Agility. It seems like a good idea for CERMES to interpret and extend the triple A strategy to engage our alumni even more than it has in the past. Although the CERMES alumni network is already strong and formidable it can do much more to advance the region and the role of UWI. Let us discuss.



CERMES past and present students at the recently concluded 71st Gulf and Caribbean Fisheries Institute, San Andres, Colombia

Access — We need our alumni to provide us with access to a wider population of potential taught MSc, MPhil and PhD applicants. Spread the word. Social networking, website testimonials, word-of-mouth recommendations and other means of sharing information are critical. We cannot afford to be one of the best kept secrets. Share your views on how you can help us achieve better access.

Alignment — We need our alumni to help keep us better aligned with the sustainable development needs of the region. Our alumni who are subscribed to the Yahoo e-group frequently receives news of events and

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opportunities. Similarly, our alumni can inform us of new and emerging areas of interest in a large number of countries. This helps us to align courses, research and outreach.

Agility — We need our alumni to help us respond quickly and appropriately to a diverse array of opportunities. Several of our alumni have stayed closely connected to CERMES in jobs and projects, operating as our colleagues and consultants. As the demand for CERMES expertise grows we want to get available alumni more involved in the responses, especially via projects.

It is really rewarding to see and hear about our alumni in action all over the world. Gathering for some business networking or just enjoying shared interests informally is just a part of what we need to do. Over the next semester we will be reaching out more to alumni to assist in this areas. Engage.

Sargassum Symposium 2018

By Kareem Sabir

The University of the West Indies (UWI), Cave Hill Campus and the Food and Agricultural Organization (FAO) jointly hosted the second regional Sargassum Symposium in November 2018. The event took place over two days with the objective of raising awareness

and exchanging knowledge on challenges posed by sargassum and new opportunities it likewise provides. Organizers also used the event to continue dialogue on comprehensive management planning and development of products and services to aid response to sargassum influxes.



Participants discussed the essential components of a comprehensive management plan for responding to sargassum influxes and promoting livelihoods and growth using sargassum

In 2011, 2014-2015, and currently in 2018, thousands of tons of pelagic sargassum seaweed, referred to as sargassum influxes, have piled up to three metres thick on beaches and in the nearshore waters of many Caribbean states and territories. These events have triggered much consternation regionally about state, civil society and private sector capacities to cope and adapt. There has been concern, including among inter-governmental organizations, about long-term implications for the fisheries and tourism sectors especially, given that such events seem to be a 'new normal' due in part to climate change and variability. The interested parties also realize that sargassum influxes may offer opportunities ranging from agriculture to manufacturing, if the region can support innovation and entrepreneurship.



One of the sargassum products on display at the symposium.
Photo credit: Emma Doyle

Discussions on marine and coastal policy, management, science and technology at local, national and regional levels about how to deal with a sargassum influx as a new biological natural hazard with the potential for disaster, or as abundant raw material with potential for windfall gains, have considered issues of biodiversity, coastal management, fisheries and tourism livelihoods, foreign exchange earnings, public health, innovation and entrepreneurship opportunities and more.

Over 70 participants from across the region were in attendance representing academia, government officials, regional organizations, civil society groups and the private sector. Tourism, fisheries and agriculture were well represented as the sectors impacted and main beneficiaries of improved resilience and product development. This year's symposium saw the region strengthen ties with Western Africa through the presence of Dr. Kafayat Fakoya, Lagos State University, Nigeria. She shared similar experiences of Western African countries in coping with sargassum influxes and expressed great encouragement by the progress in the Caribbean region.

Participants heard updates on new research into the sargassum phenomenon; the source of influxes, how it interacts with the environment in nearshore waters and on beaches. Experiences were shared on cleanup and overall response efforts. Researchers and entrepreneurs shared progress in developing products from sargassum ranging from material design to agricultural applications. Some existing products were on display for participants to be inspired.

The symposium also focused on creation of management tools. Rich dialogue led to refinement of an outline management plan which presents the essential intervention areas that can be built upon at any level of governance. The result is a suite of priority action areas to build resilience and promote development of livelihood opportunities at all scales.

Post-doctoral researcher, Shelly-Ann Cox, updated participants on the development of a sargassum early warning and tracking product to be finalized and distributed across the region to aid in preparation. A plethora of communication ideas for awareness-raising were also developed, prioritizing youth engagement and social media.

For more information visit the [Sargassum Symposium](https://www.sargassumsymposium.org/) website.

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Caribbean Protected Areas Gateway investigates the 'Keys to Success' regarding protected areas as a tool for biodiversity conservation

By Dionne Carbon



Biodiversity continues to decline, ecosystem services are diminishing and human well-being is being threatened despite significant efforts to use and apply various management tools, such as protected areas (PAs). Regarding PAs, there is the added pressure placed on countries (particularly Small Island Developing States [SIDS]) to meet the various international and regional conservation targets (e.g. Aichi Biodiversity Target 11 and the Caribbean Challenge Initiative Target, respectively) set regarding the conservation of biodiversity and ecosystems. This leads to an increasing number of PAs being designated, and oftentimes for SIDS, these PAs are not managed effectively (due to limited human and financial resources) and end up existing as paper parks (i.e. a legally established PA where experts believe current protection activities are insufficient to halt degradation).

Within the 12 English-speaking, Caribbean ACP countries¹, some countries (e.g. Belize) are leading the way regarding the effective use of PAs for conservation and progress being made towards various conservation targets. Valuable insights - best practices, lessons learned, success stories etc. - can be gained from such countries and potentially utilized by PA decision-makers, managers and practitioners within other countries. The Caribbean Protected Areas Gateway is currently investigating the differences that exist among the 12 English-speaking, Caribbean ACP countries, focusing on various components such as legislation, management effectiveness, data collection *inter alia*, in hopes of elucidating key factors for success regarding PAs as a tool for biodiversity conservation. An

informative communication product, e.g. a story map, will be utilized to showcase and disseminate the results of the investigation.

¹Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago

Follow-up to PAME workshop

By Carmel Haynes

As a result of the highly engaged regional workshop on protected area management effectiveness (PAME) held in Saint Lucia in June 2018, the Biodiversity and Protected Areas Management (BIOPAMA) Programme facilitated follow-up workshops on the topic in Antigua and Barbuda and St. Vincent and the Grenadines in November 2018.

From November 6 to 9, BIOPAMA Caribbean Coordinator Hyacinth Armstrong-Vaughn and Jose Courrau, Senior Protected Areas Officer of the International Union for Conservation of Nature (IUCN) regional office in Costa Rica, facilitated a national workshop in Antigua and Barbuda, where participants reviewed the PAME framework and tools they could use to more effectively manage their protected areas (PAs). Management effectiveness assessments were also conducted for two sites and technical guidance was provided in the development of a draft management plan for a proposed protected area. The technical support was well received and will help guide a more coordinated effort for PA management in the country.



The two, accompanied by Julian Walcott, Technical Officer with responsibility for the Caribbean Protected Areas Gateway, then visited St. Vincent and the Grenadines between November 19 and 23 to facilitate

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PAME training of the PA professionals within responsible management agencies, including the National Parks, Rivers and Beaches Authority, Forestry Services, Fisheries Division, and non-governmental organizations.

An in-depth introduction to the PAME framework and associated tools was provided, in particular on the Enhancing Our Heritage Toolkit and Management Effectiveness Tracking Tool (METT). The Caribbean Gateway goals and aims were also introduced, including the need for national engagement via CREWs (Credible Reliable Energetic Willing persons) and an appeal for additional participation in the CREWs was made to those present. This workshop was very important for the development of an effective PA performance management and evaluation system for the country.

EU funded BID project 'Tracking the red lionfish invasion in Barbados' coming to an end

By Julian Walcott



The Biodiversity Information for Development (BID) is a multi-year programme funded by the European Union (EU) and led by the Global Biodiversity Information Facility (GBIF), with the aim of increasing the amount of biodiversity information available in the 'ACP' nations of sub-Saharan Africa, the Caribbean and the Pacific. The small biodiversity data mobilization grant awarded to CERMES in May 2017, through the EU-funded BID programme which is led by GBIF, has been effectively utilized to compile and mobilize available data and information on the invasive lionfish in Barbados and make it freely accessible via one location (i.e. Barbados lionfish invasion and mitigation webpage). The major achievements arising from the project which is set to conclude at the end of December 2018 are as follows:

- Establishment of CERMES as a GBIF data publisher in June 2017
- Mobilization (publication) of two datasets, regarding lionfish in Barbados (i.e. CERMES

Barbados lionfish sightings 2012 and CERMES Barbados lionfish derby data), via the GBIF

- Development of the Barbados lionfish invasion and mitigation webpage for information dissemination and increasing public awareness relating to:
 - key stakeholders, research, publications, projects, management, useful resources etc.
- Creation of a catalogue of data holdings, experts and literature
- Capacity development for a local NGO (East Coast Conservation Organisation - project partner) via the recently concluded 'Data Use for Decision Making' workshop held November 27 - 30, 2018 in Suriname.

One final achievement stemming from this project will be the publication of a data paper - i.e. a peer-reviewed document describing a dataset and the circumstances of the collected data, which is published in a peer-reviewed journal - pertaining to the two mobilized datasets.

The body of work undertaken throughout this project is intended to: identify what has been done regarding the lionfish invasion in Barbados; highlight gaps and opportunities that exist; drive public awareness and education; and ultimately inform management.

Contribution to IDB discussion on climate resilience

By Antonio Joyette

On November 21 2018, CERMES PhD Candidate and Affiliated Lecturer, Antonio Joyette, participated in a Panel Discussion hosted by the Civil Society Consultative (ConSOC) Group of the Inter-American Development Bank (IDB) at the Barbados Country Office. The event, titled 'Towards A Climate-Resilient Barbados' aimed to promote dialogue and knowledge-sharing between civil society, development institutions, government agencies and students, was moderated by Mr. Lalu Hanuman, Chairman of the IDB Barbados ConSOC. Other expert resources on the panel included Mr. Yuri Chakallal – Senior Specialist, Natural Disaster and Risk Management, Mr. Rickardo Ward – Senior Environmental Officer, Barbados, Mr. Erle Rahaman-Norondha – Director Regeneration, Walkers Institute for Regenerative Research Education and Design (WIRRED)

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and Dr. Leo Brewster, Director, Coastal Zone Management Unit (CZMU).



Opening remarks by Mr. Francisco Javier Urra, IDB's Chief of Operations, highlighted the need for a climate-vulnerable Barbados to embrace resilience planning and action and the growing role of the IDB in the country's expanding efforts to do so. His remarks were followed by those of Mr. Elsworth Reid, Permanent Secretary in the Ministry of Environment who emphasized the climate-vulnerable nature of Barbados and the government's continuing efforts to boost the country's climate resilience.

Following preliminary remarks by each member of the panel, the audience, particularly the secondary school students, posed questions. Many of the questions focused on how and what opportunities existed for students to contribute to national climate resilience. There was consensus among the panellists that for Barbados to be a climate-resilient success, the widespread involvement of the young people, and their communities by extension, was a fundamental and critical starting point. This was not only because government resources were limited, but also because communities were the first line of disaster management before the central emergency services arrived.

A thematic performance by Rum & Koke precede concluding remarks of gratitude by Dr. Wayne Charles-Soverall, a ConSOC representative, who especially congratulated the students for their presence and participation. Light refreshments and the viewing of displays by two affiliated organisations followed.

A review of SocMon Caribbean

By Hilary Lohmann

Fulbright Fellow at UWI-CERMES 2018



Between 2005-2018, baseline SocMon assessments were conducted at 26 sites in twelve Caribbean island nations and territories. A recent review of SocMon Caribbean evaluated the impacts of the assessment activities and results to site and resource management. Thirteen practitioners from eight nations and territories who led SocMon projects were interviewed about their experience with SocMon and the fate of SocMon reports, results and recommendations after project completion.

All thirteen interviewees perceive that decision-makers are compelled by economics, specifically related to livelihoods and revenue. SocMon defines itself as a socio-economic tool but overwhelmingly the information gathered is more social than economic. Within SocMon's menu of 159 total questions to pick from as presented in the GCRMN *SocMon Manual* (2000) *Appendix A*, only 23 address economic themes and only 14 address quantitative economics, accounting for less than 15% of SocMon data. If fiscal socio-economics are driving decisions then SocMon should increase its economic focus in order to be more effective, for example quantifying the values of ecosystem services and reporting on costs and gains in specific coastal livelihoods. Greater coverage of these aspects of the coastal zone and its stakeholders would align SocMon results with conversations and priorities that already exist in the realm of influence upon decision-making.

Beyond the lack of available resources to regularly complete socioeconomic monitoring, practitioners agree that often there is no customary or obvious leader to follow-up on results and recommendations nor resources allocated to do so.

Practitioners want help improving access and communication channels for use and uptake of research results and recommendations. The individuals conducting SocMon received training for data collection and reporting, so it makes sense to add training and

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support in follow-up methodology. SocMon could add a final section that describes and exemplifies how to communicate its findings, from visualizations and infographics to policy briefs and presentations.

The results of this study suggest that best practices for social science as outlined by experts are appreciated but not reflected in marine and coastal resource management. Past socioeconomic assessments offer strong baseline data but there is little to no regular monitoring and a chronic lack of uptake of results into management. There is even less evidence of socioeconomic data making it into policy discussions, despite the fact that SocMon final report documents were often shared with upper level management like department deputy directors and directors, Parliamentary representatives and Permanent Secretaries.

The current lack of social science expertise in coastal zone and marine protected area management means that SocMon has no leadership at the site level when it comes to planning, implementation, and follow-up. There is a lack of understanding at the institutional and the community levels as to what SocMon is and what it can offer. Two approaches could increase the effectiveness of SocMon Caribbean in the future: a mobile team of social science experts whose priority is SocMon implementation and communication while secondarily building capacity at sites; and/or increased ownership and commitment at the site level through the institutionalization of SocMon as part of management plans, work plans and budgets.

CERMES at LME: LEARN Network Meeting and Ocean Governance Training, Panama City, Panama

By Sanya Compton

Sanya Compton, UWI-CERMES PhD candidate and research assistant recently participated in the Latin American-Caribbean (LAC) Regional Network Meeting (1-2 October, 2018) and the Global Environment Facility (GEF) LME:LEARN Ocean Governance Training (3-4 October, 2018) in Panama City, Panama. During the LAC meeting proceedings Sanya provided the network with an update on the work she is doing with the Caribbean Regional Oceanscape Project (CROP) in the five

participating CROP countries (St. Vincent and the Grenadines, St. Kitts and Nevis, Saint Lucia, Dominica and Grenada). The CROP, which is an ICO-UNESCO, LME:LEARN, GEF - UNDP supported initiative is being implemented by UWI-CERMES and the OECS-OGF. The aim of the CROP is to learn from and improve the understanding and good practices for marine and coastal governance arrangements.



Sanya is currently the field agent/PhD researcher for the CROP. Apart from her presentation at the LAC regional meeting, she also successfully completed the LME:LEARN ocean governance in-person training (this was preceded by a three-week mandatory online ocean governance) and was a panelist on day 2 of the training, sharing her experience with successes, challenges and barriers to effective governance in the Caribbean region. Sanya's work with the CROP will be used to inform the OECS-OGF, CLME+ and the LME:LEARN on the status and perceptions of National Intersectoral Coordination Mechanisms (NICs) in the Caribbean and the capacities needed to support the development and implementation of NICs.

New publication on managing food and water security in SIDS

Check out the latest publication by CERMES Post-Doc Abdelaziz Gohar, former CERMES Director Adrian Cashman and their colleague, Frank Ward entitled, "Managing food and water security in Small Island States: New evidence from economic modelling of climate stressed groundwater resources." Recently published in the Journal of Hydrology (<https://www.sciencedirect.com/science/article/pii/S00>

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[22169418309399?via%3Dihub](#)), the work contributes to the conceptualization, development, application and interpretation of an integrated hydro-economic framework to understand interconnected physical and economic linkages from managing an unconfined regional aquifer system under each of three climate and two policy scenarios. The application is to Barbados, a SIDS, for which current and future irrigation and urban demands compete for water. The framework integrates groundwater hydrology, climate scenarios, economics, land use, and groundwater management, with the intent to mitigate impacts of climate stress on current economic values of water as well as protecting future aquifer sustainability. The results provide a framework to guide water management for SIDS vulnerable to climate stress for which water of the right quantity, quality, timing, location, and price are essential elements of economic development.

More from our alumni: words from Arlenie Rogers (née Perez)

CERMES was tough! But guess what? I learned a lot! What I didn't learn in undergraduate studies, I learned it in detail at CERMES. There were topics that I was completely unfamiliar with, like Statistical Package for the Social Sciences (SPSS). Having computers available to practice on different datasets made it much easier. Data analysis scared me but being someone who likes academic challenges, I made sure I learned it. Several years later, data analysis is just too important in my professional career as a research faculty at the University of Belize.



All the teaching passion, organization of the course content, field visits and a few beers at St. Lawrence Gap with our CERMES classmates, staff and faculty made my student experience unforgettable and incomparable. I was always eager to complete the additional worksheets and research questions from the shared drive

that Dr. Oxenford prepared and challenged us to do. Maybe she won't realize but these are activities that very few teachers will do - give themselves more work for students to do more work and learn.

After CERMES, I went on to teach full-time at the University of Belize, and completed a PhD in Marine Affairs and Marine Resource Management at the National Taiwan Ocean University. Upon returning to Belize in 2010, I became a full-time faculty once again at the University of Belize and soon started studying sea cucumbers and never stopped. The creation of the University of Belize Environmental Research Institute provided me with the opportunity to teach, which is one of my passions and to do research, another professional objective.

I have completed several studies regarding sea cucumbers in Belize (have a look at some here <http://www.uberibz.org/>). My CERMES experience proved to be invaluable, especially with my scientific research, following methods, analyzing data and creating a publication masterpiece from these findings. Most importantly, applied research that will make a difference regarding how a species is managed is valuable to any country, as is sea cucumber culture research in Belize.

Japan state minister visits

By Patrick McConney

Responding to an invitation from Ambassador Shinada of Japan, on 20 December CERMES briefed visiting State Minister of the Environment of Japan, Minoru Kiuchi, and his delegation on Caribbean environmental issues. The briefing by Research Assistant Kareem Sabir at UWI was followed by a field trip to Folkestone Marine Park and Reserve. There, the Manager, John Nicholls, and his staff provided additional information, including a tour of the marine museum and its aquarium room.



State Minister Kiuchi and Ambassador Shinada watch a video. Kareem Sabir [L] and John Nicholls [R] are in green shirts.

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