

IMA NEWS

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Celebrating 40 Years

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Celebrating 40 Years of Operations



From l-r, Mr. Gerard Mahabir, Ms. Wendy Nelson, Dr. Darryl Banjoo, Ms. Tracey Medina, Ms. Ramona O'Brien, Mr. Jonathan Gomez, Ms. Maria Wyke, Mr. Addison Titus, Senator The Honourable Clarence Rambharat, Dr. Ahmad Khan, Mr. Hayden Alexander, Ms. Rhonda Joseph, Dr. Rahanna Juman, Mr. Evol Inniss, Ms. Lori Lee Lum, Ms. Rosemarie Kishore, Mr. Brent Yates, Ms. Lisa Chadee, Mr. Sean Carrington.

The Institute of Marine Affairs (IMA) commenced its Fortieth (40th) Anniversary Celebrations with the launch of its new and improved sleek website design, two new publications and an Awards Ceremony for staff who served between fifteen to thirty-nine (15-39) years. Held at the Auditorium of the Government Plaza Building on Wednesday April 18th. Senator The Honourable Clarence Rambharat, Minister of Agriculture, Land and Fisheries who delivered the feature address, Chairman of the IMA Board of Governors, Mr. Hayden Alexander, Governors Paul Gabbadon and Andrea Julien, Director of the IMA, Dr. Ahmad Khan and other former Directors of the IMA were among the specially invited guests gathered to commemorate this corporate milestone.

Looking back on our forty (40) years of marine research and conservation, much of the accomplishments would not have been possible without the sustained contribution and support of all our stakeholders, both internal and external. Our growth from a mandate limited to Coastal Zone Management and Data Collection and Dissemination in 1978 to one which encompassed responsibility for the Caribbean region, spanning both coastal and marine research in 1989, is testament to the capacity and competencies of staff and visionary leadership.

The twenty-first century presents new challenges (the thrust towards a Blue Economy and the mitigation of the global impact Climate Change on vulnerable small island states), which the work of the IMA will assist, in no small way, in providing advice for policy direction of not only Trinidad and Tobago but the Caribbean region.

It is the intention that our new website will detail our success, highlight our research programmes and projects as well as provide practical insights and advice to stakeholders on how to preserve and sustainably utilise our marine resources for the benefit of this and future generations in a more user-friendly manner. Visit us at <http://www.ima.gov.tt/> and tell us what you think.

As a gift to the public, we have also published a field guide entitled "Life Along the Seashore of Trinidad and Tobago", an easy-to-read guidebook of all the biodiversity one is likely to find on the beaches or other coastal areas. The second publication, "Coastal Reflections of Trinidad and Tobago" commemorates the work of the Institute by showcasing the spectacular images of sea and landscapes captured through the lens of our employees. Copies of both publications are available at the Institute for at an introductory price of TT\$250 for Coastal Reflections of Trinidad and Tobago and TT\$120 for Life Along the Seashore of Trinidad and Tobago.

IMA welcomes our new Director and Chief Information Officer



Director, Dr. Ahmad Khan

The IMA is pleased to welcome its new Director, Dr. Ahmad Khan, who took up his appointment from March 1st 2018. He succeeds Mrs. Toylan Arneaud who has been an interim Director since December 2015.

Dr. Khan has over thirty years' experience in the field of Environmental Management and Sustainable Development. The holder of a B.Sc. in Analytical Chemistry/Chemistry and a Ph.D. in Environmental Chemistry with post-doctoral qualifications in Ocean Sciences and management, Dr. Khan's graduate degree programme led to the development of Trinidad and Tobago's Oil Spill Fingerprint capability, which is currently housed at the Institute of Marine Affairs. His primary academic interests are in pollutant pathways in the marine and coastal environment as influenced by anthropogenic, coastal littoral and oceanographic processes.



Chief Information Officer, Alicia Carter-Fisher

The IMA welcomes Ms. Alicia Carter – Fisher.

Ms. Carter-Fisher is a Business Communications Professional who has over fifteen years' experience in the field of Communications. A Doctor of Business Administration (DBA) candidate, Ms. Carter-Fisher has worked in both the private and public sectors, providing high-level, evidence-based strategic communications and business strategy development services. This business communication professional undertakes to tailor the communications and marketing strategies to raise the public profile and image of the organisations she serves, increasing the level of awareness of their offerings and creating a preference amongst the organisation's target audience for the services of the organisation.

Prior to his appointment, Dr. Khan served as the Director at the Basel Convention Regional Centre (BCRC) for Training and Technology Transfer for the Caribbean Region for just over six years. At BCRC, he worked closely with regional governments to progress the principles of the "Green Economy", developed as one of the Millennium Development Goals (United Nations Conference on Sustainable Development in Brazil). His work also included developing and implementing training and technology programmes aimed at moving regional governments towards achieving a Sustainable Development Agenda.

The Board of the Directors wishes to record its appreciation to Mrs. Toylan Arneaud for her contributions, exemplary leadership, which added value to the IMA during her tenure as Acting Director.

The Board is also very confident that Dr. Khan, who began his career at the IMA as a Research Officer (Pollution Chemist), is the best candidate to assist the Board and the IMA in realizing its fullest potential.

Ms Carter-Fisher will join IMA after having served as Court Protocol and Information Manager at the Judiciary of Trinidad and Tobago for just under three years. Prior to the Judiciary, Ms. Carter-Fisher served in the Ministry of Energy and Energy Affairs as Communications Manager for over eight years and the Director of Corporate Communications at the Ministry of Justice for three.

She holds an International Masters in Business Administration from the Arthur Lok Jack Graduate School of Business, a Bachelor of Arts in Media and Communications(first class honours) from The University of the West Indies, Mona Campus and is a member of the International Association of Business Communicators. The Board is confident that Ms. Carter-Fisher is the most suitable candidate to assist the Board and the IMA in realizing the objectives for the Information Centre.

The IMA is now a regional institute!

The Minister of Planning & Development the Hon. Camille Robinson-Regis signed an agreement to have the IMA recognized as the Regional Activity Centre (RAC) of the Caribbean Environment Programme of the United Nations Environmental Programme (UNEP). The IMA - RAC was signed on April 4th 2018

There are currently four (4) RACs: One to support the implementation of the Oil Spills Protocol, two for the Pollution or LBS Protocol and one for the Biodiversity or SPAW Protocol.

The Minister told a captive audience that the “Parties [The IMA and UNEP] agreed that the IMA be the designated Regional Activity Centre for the English speaking islands of the Caribbean, undertaking activities aimed at implementing the Protocol on Land-Based Sources (LBS) of Pollution at the regional level. The LBS Protocol is a set of procedures developed to protect the marine environment and human health from land-based point and non-point sources of marine pollution. The LBS Protocol provides the framework for addressing pollution based on national and regional needs and priorities. It is focused on addressing the sources of pollution and promotes Environmental Impact Assessments (EIAs), the application of the most appropriate technologies, and best management practices.” Some actions recommended under the Protocol include:

1. Development of a National Programme of Action for Integrated Watershed and Coastal Area Management and/or prevention of pollution from land based sources and activities;
2. Identification and assessment of major sources and activities that contribute to pollution of the marine environment.
3. Classification of recreational water bodies at the national level to ensure that the most important areas are protected from the negative impacts of pollution.
4. Establishment of legally binding standards for sewage effluent and discharges; and,
5. Development of management plans and demonstration projects to reduce pollution of the marine environment.

At the signing the Minister was happy to report that Trinidad and Tobago has already undertaken some of the recommendations, for example, the IMA chaired a



Planning and Development Minister – the Hon. Camille Robinson-Regis signing the RAC agreement.

Cabinet-appointed Multi-sectoral Committee to develop an Integrated Coastal Zone Management Policy Framework, Strategy and Action Plan for Trinidad and Tobago. One of the objectives of the ICZM Policy is to promote and enhance pollution control and waste management activities to ensure that there is minimal adverse impact on human health, and on coastal ecosystems, and to foster the ability to support beneficial human uses. In 2017, Cabinet agreed to the implementation of the ICZM Policy and appointed an Inter-Ministerial Committee to oversee its implementation.

Recently, in collaboration with Microsoft, Fujitsu Caribbean, Digicel and the fishing community of Claxton Bay, Otaheite and environs, the IMA installed a Water Quality Monitoring Buoy, as a proof of concept, on Wednesday October 25th 2017, in the Gulf of Paria, approximately a mile and a half off the coast of the Claxton Bay Fishing Depot. This initiative utilises state of the art technology aimed at addressing marine pollution and other environmental matters in the Gulf of Paria.

It was mentioned that the Government of the Republic of Trinidad and Tobago is committed to supporting the IMA-RAC by ensuring the availability of adequate premises needed for the work of the IMA-RAC, including the furnishing and maintenance of the premises, telecommunication facilities and other financial support, for the implementation of the regional activities assigned to IMA-RAC.

IMA's 4th Community Research Symposium, Caroni to Pointe-A-Pierre

Caroni to Pointe-a-Pierre “Conserving Our Coastal Environment” was the theme at the Institute of Marine Affairs fourth community research symposium. The goal was to provide relevant scientific information to all stakeholders of the area (from Caroni to Pointe-a-Pierre) and to create a space for pertinent discussions on the state of the coastal environment as well as possible solutions and mitigation measures.

One of the presentations delivered by IMA Research staff, which focused on the hydrology of the Caroni River basin, revealed that the Swamp, which is situated at the hydrological endpoint of the Caroni River Basin, absorbs and sequesters some of the sediments and nutrients, thereby reducing the level of pollution that is released into the marine environment. Other presentations such as heavy metal content and water quality along the coast as well as human health concerns related to oyster consumption, were also given. In community symposia it is always important to make the link between the research that is conducted and the potential impacts on the environment and its users. External presentations were also conducted by various entities including National Agricultural Marketing and Development Corporation (NAMDEVCO), Ministry of Agriculture, Lands and Fisheries, Point Lisas Industrial Port Development Corporation Limited (PLIPDECO) and Food and Agriculture Organization of the United Nations FAO/UN. These presentations covered topics



such as good agricultural practices, methods to reduce bycatch and options for expanding the protected area of the Caroni Swamp.

Questions were fielded after each presentation where issues such as water quality pollution, fish processing, mangrove preservation, coastal erosion and compliance with regulations were addressed.

The symposium, held on March 28th 2018 at the Chaguanas Borough Corporation, facilitated a multi-stakeholder discussion which would foster future cooperation in national policy development. In attendance were members of the Environmental Management Authority (EMA), Regional Corporation, Meteorological Office, private citizens and other organisations. Opening remarks were given by Dr. Ahmad Khan -Director of the IMA, Mr. Hayden Alexander- Chairman of the Board of Directors of the IMA, His Worship the Mayor of Chaguanas- Alderman Gopaul Boodhan and Ms. Malikha Henry on behalf of Mr. Henry Awong - Chairman of the Couva/Tabaquite/Talparo Regional Corporation. The feature address was delivered by Ms. Joanne Deoraj Permanent Secretary of the Ministry of Planning on behalf of the Minister.



*Mr. Hamish Asmath
Research Officer, Geomatics
Unit
Institute of Marine Affairs*



*Invited guest voicing their
concerns*

International Year of Coral Reef: Building resilience to climate change impacts

Rachael Amoroso, Research Fellow,
Institute of Marine Affairs

Coral reefs are one of the oldest ecosystems on Earth, supporting a rich diversity of species and providing man with numerous ecosystem services. They cover less than 1% of the Earth's surface yet, they are home to 25% of all marine fish species. At least 500 million people rely on coral reefs for food, medicine, coastal protection, livelihoods and a sense of well-being. It is estimated that coral reefs provide \$375 billion USD per year globally in goods and services. In fact, in Tobago alone in 2016, Tobago's reef associated tourism and recreation directly contributed \$852 million USD to its GDP [around 36%] and around 69,000 jobs were directly supported by coral reefs. This is projected to rise in the following years [2017-2027] to over \$1 billion USD. Tobago's reefs also provide an estimated \$18-33 million USD annually in shoreline protection. This is also expected to increase with rising sea levels and increasing storm activity associated with climate change. Despite their importance, 20% of the world's coral reefs have been destroyed; an additional 30% or more severely degraded; and close to 60% may be lost by 2030. Caribbean coral reefs have already been reduced by 80% in three decades. Tobago is no exception and many of its reefs have lost between 20 to 60 % of its hard corals in the last three decades. One of the sharpest and most recent declines occurred in 2010 during a global coral bleaching event.

Corals are actually a collection of tiny animals called polyps that are related to jelly fish. They contain plant-like cells, which are not visible without a microscope, called zooxanthellae that live in their tissues in a symbiotic relationship. Zooxanthellae give corals their stunning colour and provide corals with most of the food they need to thrive. Coral polyps secrete calcium carbonate around themselves to form a hard shell and hundreds of thousands of coral polyps live together to form a colony. Corals thrive in low nutrient environments

with clear water [zooxanthellae need lots of light] and are especially vulnerable to human activities and to climate-related threats. Reef walking, destructive fishing techniques (e.g. dynamite), and anchoring can physically destroy colonies. Land-based sources of pollution from activities such as deforestation, agriculture and improper sewage disposal cause nutrients and sediment to smother and kill corals.

Projected increases in greenhouse gases, such as carbon dioxide and temperature over the next 50 years greatly exceed suitable conditions under which coral reefs have flourished over the past half-million years. Corals survive in a very narrow range of temperatures and cannot easily adapt to extremes outside this range. Increases in sea surface temperatures of as little as 1° to 3° C would result in more frequent coral bleaching events (expulsion of symbiotic zooxanthellae) and widespread mortality.



Further, the progressive acidification of oceans due to increasing atmospheric carbon dioxide is expected to have negative impacts on calcareous organisms such as corals and their dependent species. Additionally, the increase in frequency and intensity of hurricanes in some regions, would lead to a shorter time for reef recovery between storm events.

In light of the need to monitor reefs for impacts of climate change the IMA, in 2014, installed two Coral Reef Early Warning System [CREWS] buoys in Tobago; one over Buccoo reef and one in Speyside over Angel reef. These scientific buoys periodically measure the sea temperature, along with other water quality parameters such as chlorophyll a, salinity and turbidity, throughout the day and transmit the data to the National Oceanic and Atmospheric Administration [NOAA] repository where it can be publicly and freely accessed. This data is then used to predict when a bleaching event is likely to occur and the IMA has also developed a Coral Bleaching Response Plan. There has also been international initiatives to raise awareness of the value of and the threats to reefs. This year, the International Coral Reef Initiative has declared 2018 to be the third International Year of the Reef [IYOR]. It is a yearlong campaign to promote conservation, research and effective management of reefs and associated systems. An IYOR was also previously declared in 1997 and 2008 in response to the increasing threats to coral reefs and the urgent need to increase awareness and understanding of coral reefs.

These efforts are essential since a few coral species have shown a natural ability to tolerate climate change induced bleaching events while others have been able to adapt to these thermal events. Reefs that are able to adapt may very well survive climate change rather than disappear. This ability for a system to adapt to stressful conditions is called resilience. Reef resilience therefore describes the ability of a reef to change and/or persist and recover after a catastrophic event. In addition to monitoring and awareness campaigns, building reef resilience is crucial to reef survival.

Reef resilience experts agree that the effects of bleaching cannot solely be lessened by no-take zones, boundaries, regulations, or management efforts. It is imperative that the design of Marine Protected Area (MPA) networks cater for reef survival; by being large enough to be self-replenishing and sustainable. Marine resource management is ultimately dependent on managing the

resource users and their willingness to support management efforts and regulations.

Reef resilience is achieved by:

- i. managing for risk by protecting multiple sites of the different habitat types found in MPAs and networks;
- ii. protecting critical refugia, which are usually high priority conservation areas important to provide larvae to replenishment reefs damaged by bleaching, hurricanes or other events;
- iii. maintaining the connectivity and ecological linkages that link nearby and adjacent habitats within species ranges; and
- iv. effective management, which if practiced correctly can maintain maximum reef health, resulting in reefs better able to resist or recover from bleaching events. BUT, not all of these have to be in place for an area to exhibit resilience.

Buccoo reef has been designated an MPA 1973 and a Ramsar* site in 2005 and was expected to be designated an ESA (Environmentally Sensitive Area). An MPA which would encompass several large coral reef formations in the north-east of Tobago is also expected to be established.

Each successive year since 2015 NOAA Coral Reef Watch's Satellite Bleaching Alert has placed Tobago under a bleaching watch. Strong El Nino events in 2014-2016 set up conditions for strong bleaching seasons and NOAA declared a Global Coral Bleaching event in 2015 though bleaching conditions persisted in some regions of the Caribbean until December 2017. Mass bleaching in the Caribbean has occurred in 2005 and 2010, subsequently followed by an outbreak of coral disease. To date, some reefs have not fully recovered from these event and the hard coral cover at many reef sites remain below 20%. To build resilience against climate impacts, other impacts on our reefs such as pollution and sedimentation have to be controlled. Incorporating resilience principles into our coral reef management is not a difficult task, but it requires concerted effort by all citizens.

**A Ramsar Site is a wetland site designated of international importance under the Ramsar Convention.
visit <https://www.ramsar.org/> for more information*

IMA EVENTS & ACTIVITIES

Reaching Sustainable Goals

The Sustainable Development Goals (SDGs), otherwise known as the Global Goals, are a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity.

There are 17 Goals which build on the successes of the Millennium Development Goals (which started a global effort in 2000 to tackle the indignity of poverty), while including new areas such as climate change, economic inequality, innovation, sustainable consumption, peace and justice, among other priorities.

January 17th - 19th 2018 Attish Kanhai, Research Officer –Benthic Ecology attended a workshop, Implementing and Monitoring the SDGs in the Caribbean: The Role of the Ocean. This workshop was held in St Vincent and the Grenadines (SVG) and identified the knowledge needed to make progress toward these goals. It involved agreeing on specific targets to attain, indicators to measure progress and provided a basis to identify those social, economic and environmental variables that need to be monitored.

Executive summary http://www.gstss.org/2018_Ocean_SDGs/index.php?file=WS_ExeSum&print=YES&blurb=NO



Thirty- two workshop participants from fifteen different countries.
(Mr Attish Kanhai 5th from right)

At the opening of the workshop, Hon. Saboto Caesar, Minister of Agriculture, Forestry, Fisheries, Rural Transformation, Industry and Labour of the Government of SVG, noted that the workshop was about solving problems that many in the Small Island Developing States (SIDS) had nothing to do with. He stated, there was often disconnection between theory and implementation, “so we need to come up with relevant solutions, grounded in practical actions”.

Intergovernmental Oceanographic Commission Group of Experts Capacity Development Meeting



L-R: Lorraine Barrow, Bradford Brown, Emma Cagliari, Cesar Toro, M. Pinheiro, Michelle Da Silva, Ms. Cagluca

The Intergovernmental Oceanographic Commission (IOC) was established in 1960 as a body with functional autonomy within the United Nations Educational, Scientific and Cultural Organisation (UNESCO) and a proficient organization for marine science within the UN System. The IOC Group of Experts convened in 2015 and out of this, the IOC Assembly adopted the

IOC Capacity Development Strategy 2015-2021. It was noted that capacity development is a fundamental tenet of the IOC’s mission, thereby enabling all Member States to participate in, and benefit from, ocean research and services that are vital to sustainable development and human welfare on the planet.

The objective of the meeting was to develop programmatic and regionally relevant work plans based on the Capacity Development 2015-2021 Strategy. Lorraine Barrow Officer in Charge (Ag), and Librarian at the IMA, attended the Intergovernmental Oceanographic Commission (IOC) meeting on Capacity Development in Paris, France from the 20th 24th March 2018.

Major Aspects of Coastal Environmental Management Workshop II held in Coquimbo, Chile

Mrs. Wendy Nelson Research Officer- Heavy Metals attended the workshop, “Major Aspects of Coastal Environmental Management II” held in Coquimbo, Chile from 5th – 9th March 2018. The workshop was part of the cooperation agreement between the Directorate General of the Maritime Territory and Merchant Marine of Chile (DIRECTEMAR), “Fondo Chile” (Chile/ UNDP). The objective of the workshop was to assist CARICOM countries in achieving the United Nations Sustainable Development Goal 14, “Conserve and Sustainably Use the Oceans, Seas and Marine Resources”. Five CARICOM countries were represented at the workshop- Antigua and Barbuda, Belize, Guyana, Jamaica, and Trinidad and Tobago. Two representatives from the Environmental Management Authority also attended the workshop.

Participants delivered presentations on the macro/ micro-litter sampling exercises conducted in their countries after Phase I of the workshop, which was held in Jamaica in October 2017. Presentations were delivered on the methodology for sampling of seawater for microplastics and lessons learnt from the Chilean Coastal Clean-up, conducted as part of the Ocean Conservancy’s International Coastal Clean-up. A seawater sampling exercise for microplastics, facilitated by the Chilean Navy, was conducted in Herradura Bay. Participants were allowed

to view the operation of two types of samplers - a traditional sampler and a sampler that was developed more recently, which can be used with larger vessels at higher speeds. Macrolitter sampling exercises were conducted at two beaches using two different sampling methodologies (3m x 3m quadrants along transects perpendicular to the water line, and a line (belt) transect parallel to the water line).

Participants visited the Coquimbo Green (Clean) Point - a community - led initiative in which several categories of waste (electronic waste, tetra packs, plastic bottles, plastic bags, photocopy paper, other paper, boxes, aluminium and other metals) are collected and sent to the capital, Santiago, for recycling. Various initiatives by the city, including banning the use of plastic bags in coastal towns and public education and awareness activities, were outlined during a visit to the Coquimbo City Hall. Participants were also taken to a location in one of the municipalities at which items, that would otherwise be discarded, were used to create useful items e.g. large plant pots from the (bamboo covered) drums of old washing machines, recreational benches from old cylinders. Plastics and other marine debris continue to be a problem in Trinidad & Tobago as over 25,000 lb of garbage was collected at the 2017 International Coastal Clean-up.



Closing ceremony at the Foreign Affairs Ministry, Santiago



Vessel used for sampling of microplastics in seawater in Herradura Bay



Researcher preparing sampler for microplastic sampling



IPBES

Photo credit: <http://enb.iisd.org/ipbes/6-plenary/20mar.html>

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) is an independent intergovernmental body, established by member states in 2012. It provides policymakers with objective, scientific assessments about the state of knowledge regarding the planet's biodiversity, ecosystems and the benefits they provide to people, as well as the tools and methods to protect and sustainably use these vital natural assets. Its mission is to strengthen the knowledge for better policy through science, for the conservation and sustainable use of biodiversity, long-term human well-being and sustainable development. Mostly, IPBES does for biodiversity what the IPCC does for climate change. Dr Rahanna Juman, a lead author for the regional assessment for the Americas, represented Trinidad and Tobago at the 6th IPBES Meeting which was held in Medellin, Columbia from March 17th -24th 2018. Summary for Policy Makers (SPM) for 4 regional assessments (Africa, Americas, Asia-Pacific and Europe and Central Asia) as well as for the assessment on Land Degradation and Restoration were approved by the member states and released to the media.

“In the **Americas**, rich biodiversity makes an immense contribution to the quality of life, helping to reduce poverty while strengthening economies and livelihoods,” said Dr. Jake Rice (Canada), co-chair of the Americas assessment with Dr. Cristiana Simão Seixas (Brazil) and Prof. Maria Elena Zaccagnini (Argentina). “The economic value of the Americas’ land-based nature’s contributions to people is estimated to be more than US\$24 trillion per year – equivalent to the region’s GDP, yet almost two-thirds – 65% – of these contributions are in decline, with 21% declining strongly. Human-induced climate change, which affects temperature, precipitation and the nature of extreme events, is increasingly driving biodiversity loss and the reduction of nature’s contributions to people, worsening the impact of habitat degradation, pollution, invasive species and the overexploitation of natural resources.” Under a ‘business as usual’ scenario, climate change will be the fastest growing driver negatively impacting biodiversity by 2050 in the Americas, becoming comparable to the pressures imposed by land use change. On average today, the populations of species in an area are about 31% smaller than was the case at the time of European settlement. With the growing effects of climate change added to the other drivers, this loss in GDP is projected to reach 40% by 2050.



Dr. Rahanna Juman (second from left) with other Caribbean representatives at the meeting.



Green Team for the Green Dream

IMA's Green Team

IMA's Green Team for the Green Dream participated in an iCare TT photo competition. iCare TT (Community, Awareness, Recycle, Everyday) is a Recyclable Solid Waste Collection Project managed by the EMA and

is geared towards increasing public awareness about recycling. For the competition, persons posted a photo of themselves using the (#Ronnie The Recycler bins) and ask their Facebook friends to like their photo! The 12 most liked photos won a prize. Green Team was a recipient of one of the 12 prizes! The Green Team would like to thank all employees who liked the photo as well as everyone who is helping make the IMA a greener place!



iCare has recycling bins throughout Trinidad where citizens can take glass, aluminium, plastics and tetra-paks to be recycled.

IMA's Green Team representative, Tyann Henry (left) claiming the team's prize for participating in the EMA's iCareTT awareness competition in 2018



Life along the Seashore

OF TRINIDAD AND TOBAGO

Lori M. Lee Lum E. Julian Duncan

In commemorating the 40th anniversary of the Institute of Marine Affairs (IMA) presents the reference field guide – ‘Life along the Seashore of Trinidad and Tobago’.

It focuses on the identification of the rich biodiversity found along the seashore of our beautiful twin-island Republic. Packed with detailed descriptions supported by vivid photographs, the book enables users to develop an appreciation for our seashore life.

Get your copy now!

Call 6344291 ext 2406

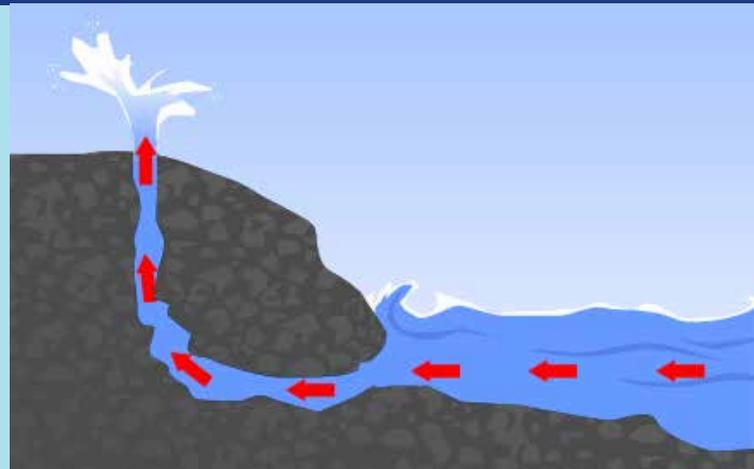
\$120.00

THE BLUE CORNER

Coastal Blowholes

In geology, a blowhole is formed as sea caves grow landwards and upwards into vertical shafts and expose themselves towards the surface, which can result in blasts of water or air from the top of the blowhole. These coastal features are likely to occur in areas where there are crevices in rock along the coast.

A popular blow is found at Galera Point Toco. As powerful waves hit the coast, water rushes into these crevices and bursts out in a high pressured release. It is often accompanied by a loud noise and wide spray, and for this reason, blowholes are often sites of tourism.



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