IMA NEWS

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Our Oceans, Our Future!

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INSTITUTE OF MARINE AFFAIRS

State of the Marine Environment 2016 Report Launch

The Institute of Marine Affair (IMA), which falls under the Ministry of Planning and Development, launched its first State of the Marine Environment (SOME) Report 2016 on May 17th 2017 in Chaguaramas. The report

Honourable Camille Robinson-Regis, Minister of Planning and Development (c) Ag Deputy Director of Research Dr. Rahanna Juman (L) Ag Director Ms. Toyland Arneaud (r)

provides a scientifically grounded understanding of the condition of Trinidad and Tobago's coastal and marine ecosystems, habitats and species, which are extremely important for this country's development and sustainability. It also details how the status of these resources have been, and are being affected by the range of natural and human pressures to which they are subjected such as land-based pollution and impacts from climate change. The degradation of coastal and marine ecosystems (coral reefs, mangrove swamps, seagrass beds, beaches), which are mainly from anthropogenic impacts such as pollution has made them more vulnerable to impacts from climate change, and other emerging issues like impacts from invasive alien species (IAS) and Sargassum blooms. Within the context of the "ocean based economy" this report has also shown the imperative need to safeguard Trinidad and Tobago's fisheries resources – a source of livelihood and nutrition for some of this country's most marginalised groups and communities. Several species of commercially important fish have been found to be fully exploited or overexploited. Fish and shell fish nursery habitats such as mangrove swamps and seagrass beds also need to be conserved and restored to ensure food security. Although based on sound science, the findings of the report are written in non–technical language so it can be used bydecision-makers, policy makers and the wider public to inform decisions on development planning. Given the current state of our marine and coastal environment, there is an urgent 'call for action' to arrest impacts, and restore ecosystems.

Bathing Beach Water Quality - West Coast of Trinidad, pg17 of the SOME 2016 report

Thus far the State of the Marine Environment Report has garnered much interest in conventional and social media. Among the many important findings that has caught the attention of citizens is the fact that bathing beach water quality was found to be poor at several popular areas frequented by recreational users, tourists and the general public including:

- Near the mouth of the Maracas River, Maracas Bay
- Eastern section of Las Cuevas Bay
- Mid bay to the western section of William's Bay, Chaguaramas in the wet season
- Western section of Chagville Bay, Chaguaramas after heavy rainfall
- Welcome Bay, Chaguaramas in the wet season
- South of King's Wharf, San Fernando
- North of King's Wharf at Spring Vale Point and off the iron ladder south of the seawall, San Fernando
- North of Yacht Club, San Fernando

These areas have been found to be contaminated from sewage. Consequently, bathers are at risk to infection from swimming associated diseases such as gastroenteritis, hepatitis, respiratory illnesses and ear nose and throat ailments.

The Government of Trinidad and Tobago has noted with great concern these and other findings of the IMA's State of the Marine Environment Report and is taking steps to treat with identified problems in order to arrest further degradation of our coastal and marine space. To this end, Cabinet has agreed to an action plan for implementing the Integrated Coastal Zone Management Policy Framework, which is aimed at mitigating negative impacts on the coastal and marine environment. An inter-Ministerial Committee has been established to guide the implementation of this action plan and to monitor and report on progress in this regard. Among the objectives of this action plan is to promote and enhance pollution control and waste management activities to ensure that they have minimal adverse impact on human health and on coastal ecosystems. Improving watershed management, promoting installation of appropriate sanitation/waste management systems in coastal communities, regulating unplanned development and boosting the capacity of regulatory agencies so they may be better able to encourage compliance to legal provisions will all take place to meet this objective.

As evidenced by the creation and open publication of the State of the Marine Environment Report as well as the appointment of the Inter-ministerial Committee to oversee the Action Plan for implementing Integrated Coastal Zone Management Policy Framework, the Government of Trinidad and Tobago will continue to champion transparency and the use of objective science in identifying issues and making effective policy interventions. It also remains committed to enhancing society's knowledge on the protection and conservation of our marine and coastal resources and engaging all interested stakeholders in efforts to do so.

Ballast Water: the Travelling Sea!

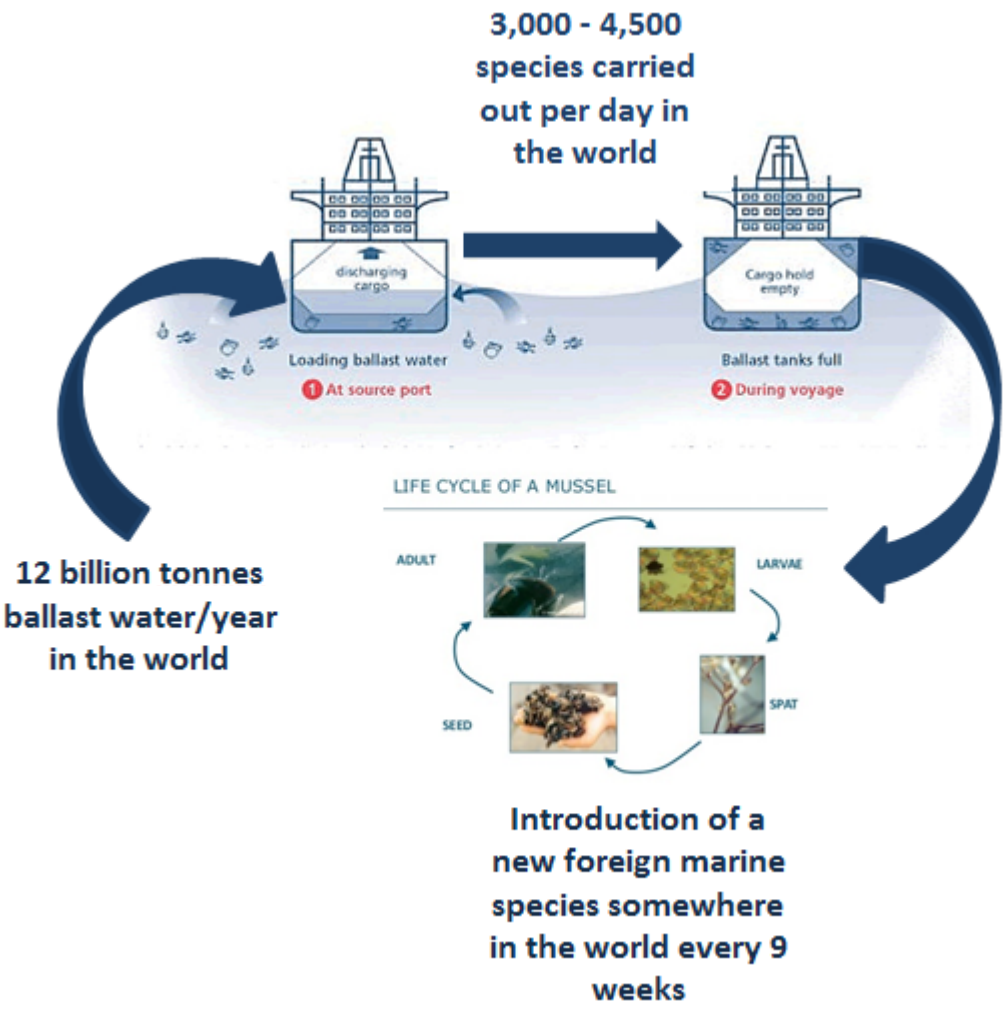
Alana Jute,
Institute of Marine Affairs

Trinidad and Tobago's coastal waters are rich in both renewable and non-renewable natural resources. These resources play a very important role in the economic growth of the nation by supplying food (fish and shell-fish) and livelihoods options via the fishing, oil, gas and the tourism sectors. All of these industries are dependent on the use of vessels for transport, and ports and marinas for docking facilities. Since the 19th century, ships have been using ballast water for safety, stability, thrust and maneuverability, depending on the quantity of cargo being transported; as well as to compensate loss of fuel weight, water consumption, and to maintain structural stress at acceptable levels. These cargo vessels can carry enough ballast water to fill approximately 4,000 Olympic size swimming pools. Globally, up to 5 billion tonnes of ballast water is transferred internationally by ships each year. This is a vast volume of water travelling from one end of the world to the next.

The maritime industry in Trinidad and Tobago (T&T) is a growing industry and has become very important over the years as T&Ts export and imports have grown. However, the booming shipping and trade business has opened up our coastal waters and native marine species to a great risk from ship's ballast water. The cargo vessels that transport goods around the world have large tanks in the hull of the vessels called ballast tanks. When a ship's cargo is unloaded, it fills up its ballast tanks with ballast water obtained from proximal port areas. When the vessel is later reloaded, often on the other side of the world, the water is discharged.

This water consists of fresh or saltwater that sometimes contains sediments and a variety of plant and animals at various juvenile and egg stages. Ballast water has also been found to contain bacteria and viruses such as Cholera, fecal coliforms and E.coli which can affect human health.

Perna viridis Green Mussel Photo: http://www.ciasnet.org/2010/08/10/green-mussel-perna-virdis/



Cargo vessels transporting and introducing 'non-native' species across the globe via ballast water

The UN-led Global Ballast Water Management Programme (GloBallast) estimates that at least 7,000 species are able to be carried across the globe in ships' ballast tanks. While the vast majority of animals will not survive the journey to the point of discharged, some may survive and thrive in their new environment. These 'introduced and non-native species', if established can become invasive and can have a serious ecological, economic and public health impact on the receiving environment. For example, the Green Asian mussel (Perna viridis) that invaded T&Ts waters in the early 1990s caused severe economic problems in the Point Lisas area where they clogged industrial effluent pipes. Ecologically, they also competed with the native brown mussel (Mok) for food and space in the mangrove swamps.

Ballast water discharge from ships and tankers has been identified as the primary pathway for the majority of invasions by non-native species and are considered one of the major threats to the world's oceans. This global threat to economies and ecosystems has lead the International Maritime Organization to develop the Ballast Water Management Convention which was adopted in 2004 and aims to prevent the spread of harmful aquatic organisms from one region to another by establishing standards and procedures for the management and control of ships' ballast water and sediments. In January 2012, Trinidad and Tobago became a signatory to this Convention and in April 2012 the Government proceeded to draft legislation to put this convention into effect. This legislation requires that certain standards be put in place for the treatment and discharge of ballast water, such as, ships should exchange ballast water mid-ocean and/or install an on-board ballast water treatment system. Ships in international traffic are also required to carry a ballast water record book and an international ballast water management certificate. These protocols are crucial to the future implementation of Ballast Water Management Systems (BWMS) on a large scale in Trinidad and Tobago, and to ensure the preservation of our native marine species and all associated livelihoods.

New Board Appointed to IMA

'The Honourable Camille Robinson-Regis, Minister of Planning and Development (centre) is flanked by newly appointed IMA Board Members. (L-R) Paul Gabbadon, Andrea Julien, Hayden Alexander (Chairman), Ricardo Alfredo, Nadine Jardine, Dave Elliott, Beverly Khan

The Institute of Marine Affairs (IMA) welcomes its newly appointed Board of Governors, who received their instruments of appointment from the Honourable Camille Robinson-Regis, Minister of Planning and Development at a ceremony held on the 20th July, 2017, at the Old Fire Station Building, Port of Spain.

The Board will be led by Hayden Alexander, Chairman, and members include Ms. Andrea Julien, Mr. Paul Gabbadon, Ms. Beverly Khan, Ms. Nadine Jardine, Mr. Dave Eliott and Mr. Ricardo Alfredo.

The Board of Governors bring a fresh perspective to the IMA with relevant expertise in marine environmental sciences, communications, legal and professional business management skills.

IMA Events & Activities

IMA at Regional Consultation of the Draft Environmental and Natural Resources Action Plan

The Government of the Republic of Trinidad and Tobago, in conjunction with CARICOM, hosted a National Consultation on August 21-22 in Trinidad and Tobago. This was an effort to ensure that Trinidad and Tobago's national interests are represented in the Draft Caribbean Community Environmental and Natural Resources Policy Framework 2017-2022 and Draft Environmental and Natural Resources Action Plan. The IMA was represented by the Mr. Lester Doodnath, Project Implementation Officer. The CARICOM Environmental Policy has been formulated with the awareness that unsustainable use of resources could undermine regional sustainable development options within the context of the CARICOM Single Market and Economy (CSME), and the 2030 Sustainable Development Goals.

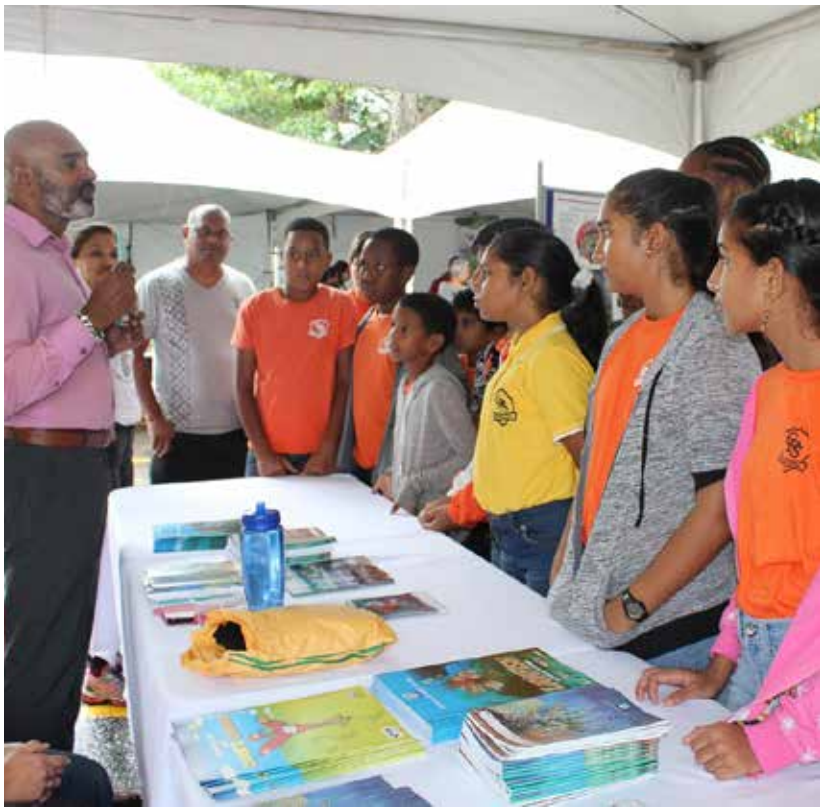
It proposes a structure for environmental and natural resources management in CARICOM, balancing the need to exploit the land, air, water and oceans for economic development while maintaining healthy environments in the Community.

Dr. Yarde of the CARICOM Secretariat welcoming participants

World Environment Day

The theme for World Environment Day 2017 -"Connecting People to Nature"- encourages us to go outdoors and into nature, to appreciate its beauty and its importance, and to take forward the call to protect the Earth that we share. World Environment Day, celebrated every June 5th, is the largest annual event for positive environmental action. IMA participated in EMA's World Environment Day Exhibition at St. Clair. Information on Marine Conservation was shared with approximately 220 Primary and Secondary students as Oceans are the cradle of life, contributing fundamentally to the Earth's functioning World Environment Day is a day for everyone, everywhere. Since it began in 1972, global citizens have organized many thousands of events, from neighbourhood clean-ups, to action against wildlife crime, to replanting forests.

This year's theme invites you to think about how we are part of nature and how intimately we depend on it. It challenges us to find fun and exciting ways to experience and cherish this vital relationship.



Lester Doodnath, Project Implementation Officer, engaging students at World Environment Day exhibition

Addressing Ocean Acidification

Dr. Rahanna Juman, Deputy Director (ag.) was invited to be a panelist for Partnership Dialogue 3: Minimizing and Addressing Ocean Acidification at the United Nations Ocean's Conference on June 6th at the UN Headquarters in New York. Ocean acidification continues to be a threat to marine organisms, ecosystems, services, and resources. It is important to note that many of the physiological changes from ocean acidification are expected to affect key functional groups –species or groups of organisms that play a disproportionately important role in ecosystems. These include expected effects on phytoplankton, which serve as the base of marine food webs, and on ecosystem engineers, which create or modify habitat (e.g., corals, oysters, and seagrasses). Such changes may lead to wholesale shifts in the composition, structure, and function of these systems and ultimately affect the goods and services provided to society.

Dr. Rahanna Juman, Deputy Director (Research) IMA
Photo source: https://oceanconference.un.org/PartnershipDialogue3

Lionfish Public Awareness Update

During May and June the IMA educated Lifeguards of the Ministry of National Security about the threat of the invasive Lionfish to marine ecosystems and associated livelihoods such as fishing and dive tourism. These public awareness sessions were conducted at nine lifeguard stations in Trinidad including Maracas, Salybia, Los Iros, Vessigny, and Mayaro. Information was shared on proper handling techniques, First Aid treatment for stings and the widely used management strategy in the Caribbean – hunting and consuming this marine pest. The Lifeguards appreciated the initiative, which was supported with tokens of a hot water thermos, car sun visor, and an IMA tidal calendar for the station desk. On 25th August, a Lionfish tasting event was held on the busy Brian Lara Promenade in Port of Spain. IMA staff shared information, brochures and tokens on this invasive species. Chefs of the Trinidad and Tobago Hospitality and Tourism Institute served up tasty bake and Lionfish sliders and a fruit drink to interested persons. Lionfish T-shirts were raffled off every hour to lucky cell phone owners. More events like this are planned in the future to help spread the message about eating Lionfish to help control the population. Lionfish used for this event was sourced Trinidad waters.

Caribbean Marine Atlas

A Caribbean Marine Atlas (CMA) Phase 2 Meeting was held on 1st May 2017 at the IMA's auditorium. The Caribbean Marine Atlas is an online web platform comprising a repository of geospatial data and information to support decision making in Integrated Coastal Zone Management (ICZM) as well as for monitoring and evaluation of Caribbean Large Marine Ecosystem (CLME).

Under the ICZM, there is to be special attention paid to coastal hazards, climate change, biodiversity and habitats, fisheries and land based sources of pollution. The platform is being piloted in selected countries for regional and national-level consultation and decision making.

The direct beneficiaries of the CMA-2 Project are national (pilot countries) and regional-level advisors, decision-makers and managers linked to the governance bodies and institutions/units with a stake in the management and use of coastal resources. The project aims to cover the Caribbean region, and as a result encompasses the Greater and Lesser Antilles and the sections of Central, South and North America that border the Caribbean Sea.

Sea & Me 2017

Sixty-nine Standard 5 students of primary schools in Carenage and Point Cumana took part in IMA's annual Sea & Me Programme during May and June. This was the 14th year of the project which started in 2003, as part of our 25th year of operations, and the final year being taught by Mrs. Lori Lee Lum, Project Co-ordinator, who will retire in 2018. A memento booklet on the first 10 years to capture the output of the successive Standard 5 students was prepared and presented to the schools' Principals. Tokens of appreciation were presented to Mrs. Lee Lum from the schools – Carenage Boys Government Primary, Carenage Girls Government Primary, Point Cumana Government Primary, and Point Cumana RC St. Peter's School, for her 'enthusiasm and commitment to nourishing students' minds and bringing an appreciation of the role of the sea' to these coastal communities.

Lori Lee Lum with Ms. Daniel, Standard 5 Teacher and Mr. Telesford, Principal - St. Peter's R.C. Primary

INSTITUTE OF MARINE AFFAIRS

THE GREEN FUND

Have you tried LIONFISH yet?

Lionfish Accra

The Institute of Marine Affairs has embarked on a public awareness campaign to inform citizens about this recent challenge facing our marine environment. Eating Lionfish is beneficial to reefs and marine ecosystems. It is a white, flaky meat with a mild taste similar to Snapper, and can be prepared in a variety of ways.

Request it at your next dining experience to encourage chefs to put Lionfish dishes on the menu!

THE BLUE CORNER

Sand Dollars *Mellita* sp.

What are Sand Dollars?

Sand Dollars are found in the surf zone of the sandy sea floor. They live just below the sand surface and lie camouflaged by a covering of sand. They are covered with a dense, velvety layer of short spines and tubular feet, which they use to burrow into the sand and move around.

Why are they called sand dollars?

Sand Dollars get their name, not from their value, but from their appearance. When the skeletons (called tests) of dead sand dollars wash ashore, they turn bright white when bleached by the sun. Long ago, people who found these dead animals thought they looked like old Spanish dollar coins, so they called them Sand Dollars.

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https://wonderopolis.org/wonder/how-much-is-a-sand-dollar-worth
Photo: Lori Lee Lum

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