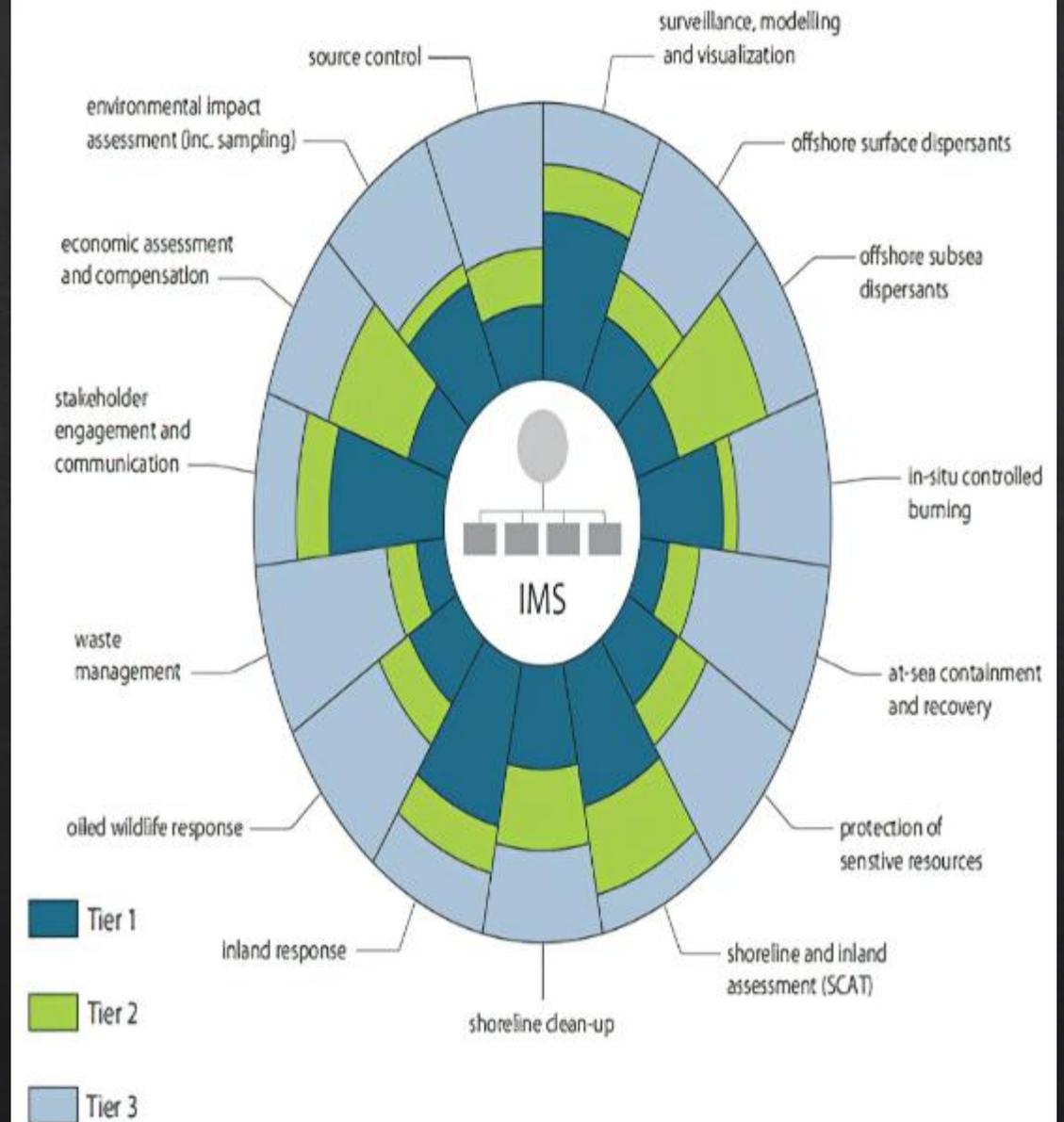
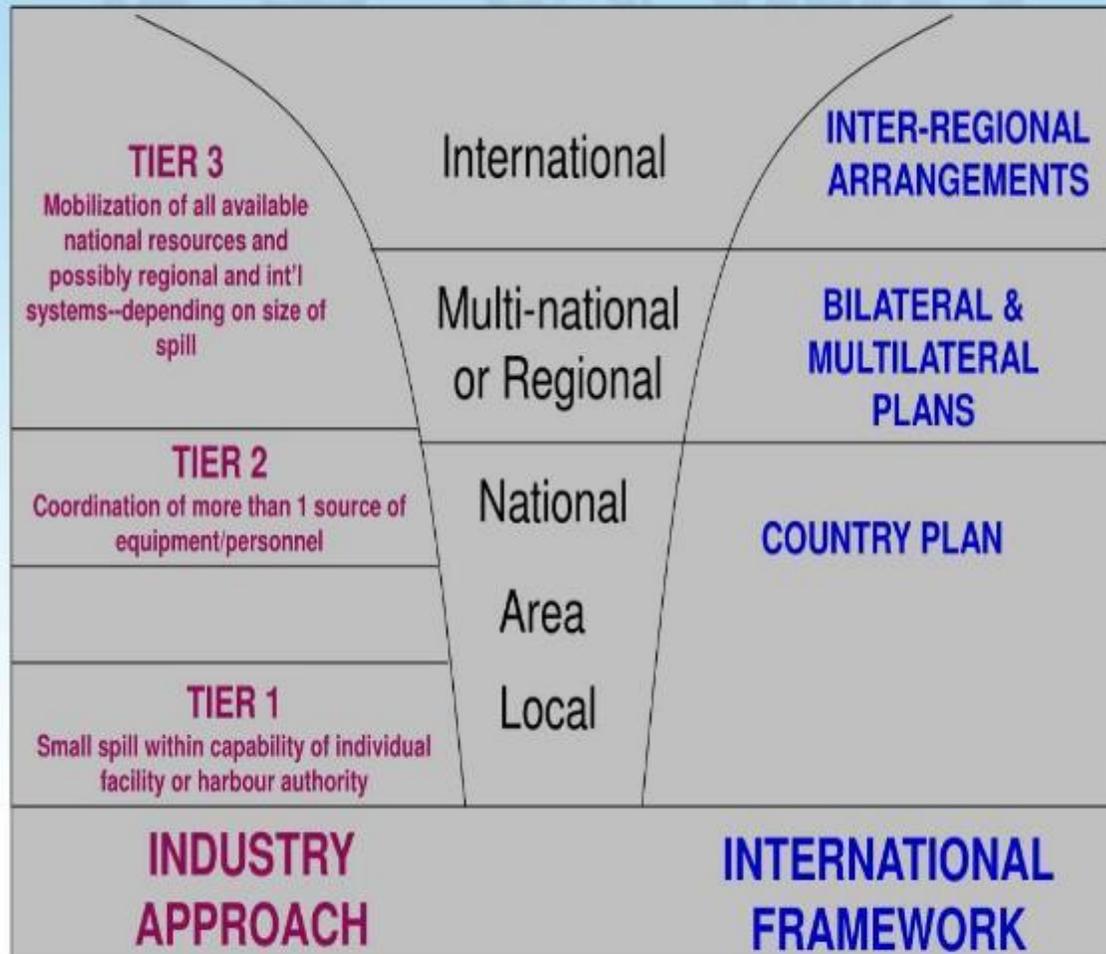


The Wakashio *an example of the potential of* **Tier 3** **Scientific Support and Monitoring**

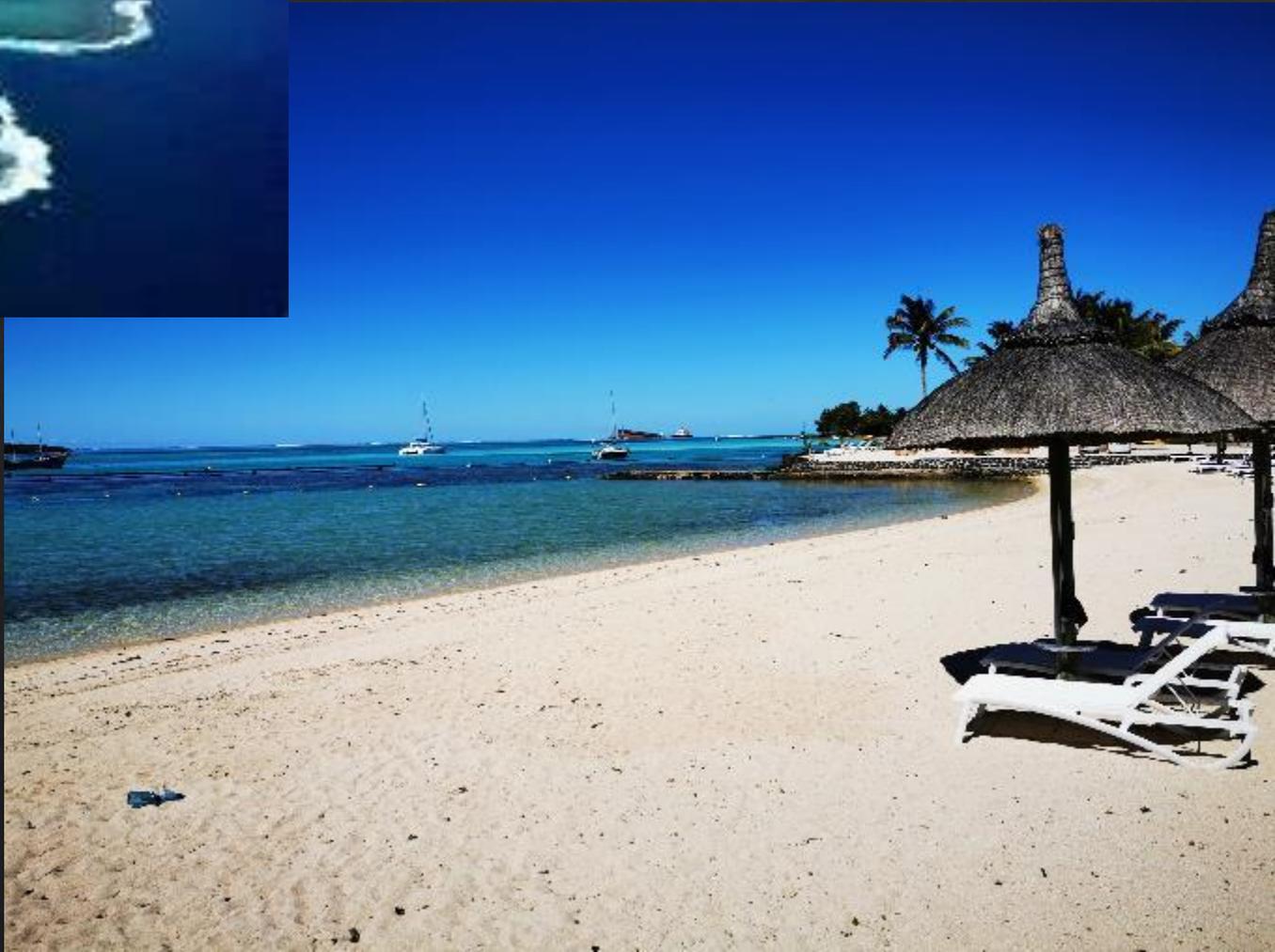
Matthew Sommerville
Spectrum Spill Services



Global Response Framework for Oil Spills



Graphic from IPIECA – Tiered Preparedness and Response



Experience Shared Lesson Learned



Dodo 1662, Tortoises 1884



Olive White Eye , Telfair's Skink, Giant Tortoise

Island of Mauritius

Port-Louis

Chamarel

Bel Ombre

Riviere Des Gallets



MV Wakashio

The Rational Trilogy - Dr Douglas Cormack

Imagination, Belief

- ◇ Tanker
- ◇ Deliberate Grounding
- ◇ No Action Taken
- ◇ No Contingency Plan

- ◇ Covid allowed to delay response

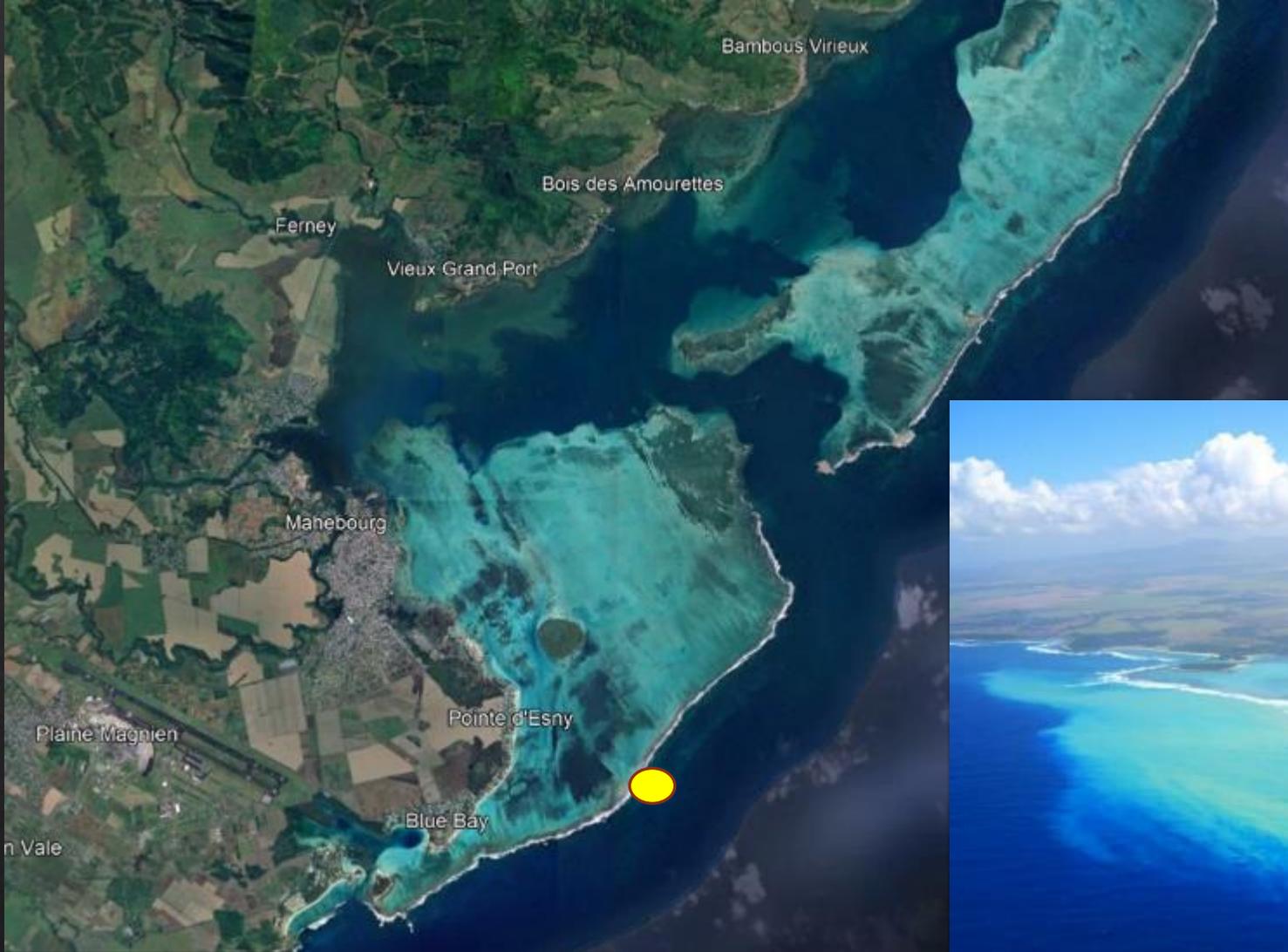
- ◇ Delayed activation on NOSCP

- ◇ Spill starts no one is prepared

Knowledge

- ◇ Bulk Carrier
- ◇ Accident , Human Error
- ◇ Plan Activated, Tier 2 event (No initial spill)
- ◇ Protective Boom Deployment RAMSAR
- ◇ LOF signed / Salvor mobilised
- ◇ Covid issue worked round
- ◇ Salvors arrive and inspect
- ◇ Ship crew evacuated
- ◇ Oil removal begins (Tier 3 risk of a spill)
- ◇ Hull cracks some oil lost (75% not spilled)









Grand Port
Fishing
Reserve
Zone A

Ile aux Aigrettes

Approx. 2.1Km

Pointe d'Esny

Approx. 2 Km

Blue Bay Link Road

Blue Bay

Approx. 3.2 Km

Ile des Deux Cocos

Approx. 2.6 Km

Blue Bay
Marine Park



MV Wakashio







VLSFO , Diesel Lubricating Oil, Cylinder Oil

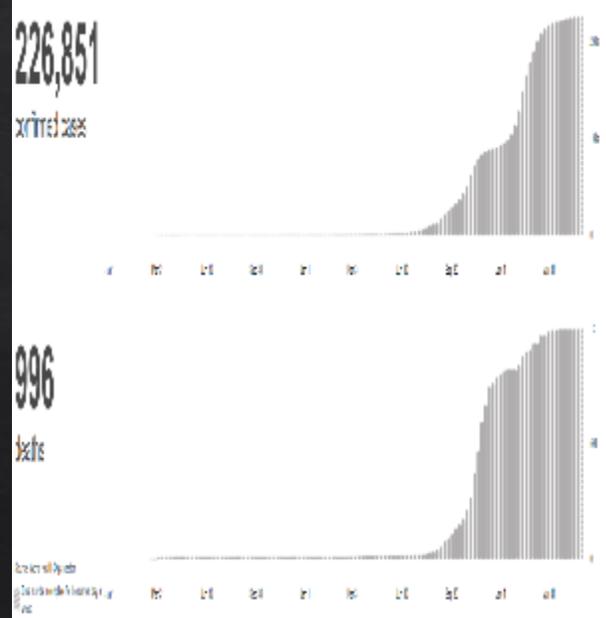






CORONAVIRUS

COVID-19





The United Nations System

UN Principal Organs

General Assembly

Subsidiary Bodies

Main and other sessional committees
Disarmament Commission
Human Rights Council
International Law Commission
Standing committees and ad hoc bodies

Programmes and Funds

UNCTAD United Nations Conference on Trade and Development
• **ITC** International Trade Centre (UNCTAD/WTO)
UNDP United Nations Development Programme
• **UNCDF** United Nations Capital Development Fund
• **UNV** United Nations Volunteers
UNEP United Nations Environment Programme
UNFPA United Nations Population Fund
UN-HABITAT United Nations Human Settlements Programme
UNHCR Office of the United Nations High Commissioner for Refugees
UNICEF United Nations Children's Fund

UNODC United Nations Office on Drugs and Crime
UNRWA¹ United Nations Relief and Works Agency for Palestine Refugees in the Near East
UN-Women United Nations Entity for Gender Equality and the Empowerment of Women
WFP World Food Programme

Research and Training Institutes

UNICRI United Nations Interregional Crime and Justice Research Institute
UNIDIR¹ United Nations Institute for Disarmament Research

UNITAR United Nations Institute for Training and Research
UNRISD United Nations Research Institute for Social Development
UNSSC United Nations System Staff College
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Other Entities

UNAIDS Joint United Nations Programme on HIV/AIDS
UNISDR United Nations International Strategy for Disaster Reduction
UNOPS United Nations Office for Project Services

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IAEA² International Atomic Energy Agency
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WTO World Trade Organization

Economic and Social Council

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Crime Prevention and Criminal Justice
Narcotic Drugs
Population and Development
Science and Technology for Development
Social Development
Statistics
Status of Women
Sustainable Development
United Nations Forum on Forests

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ESCWA Economic and Social Commission for Western Asia

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United Nations Group of Experts on Geographical Names
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WHO World Health Organization
World Bank Group
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• **ICSID** International Centre for Settlement of Investment Disputes

IMF International Monetary Fund
ICAO International Civil Aviation Organization
IMO International Maritime Organization
ITU International Telecommunication Union
UPU Universal Postal Union
WMO World Meteorological Organization
WIPO World Intellectual Property Organization
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OIOS Office of Internal Oversight Services
OLA Office of Legal Affairs
OSAA Office of the Special Adviser on Africa

SRSR/CAAC Office of the Special Representative of the Secretary-General for Children and Armed Conflict
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UNON United Nations Office at Nairobi
UNOV United Nations Office at Vienna

International Court of Justice

Trusteeship Council⁴

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MOBILISATION
NATIONALE
WAKASHIO

OIL SPILL
FIGURES



Oil pumped
from the ship
2 150 m³

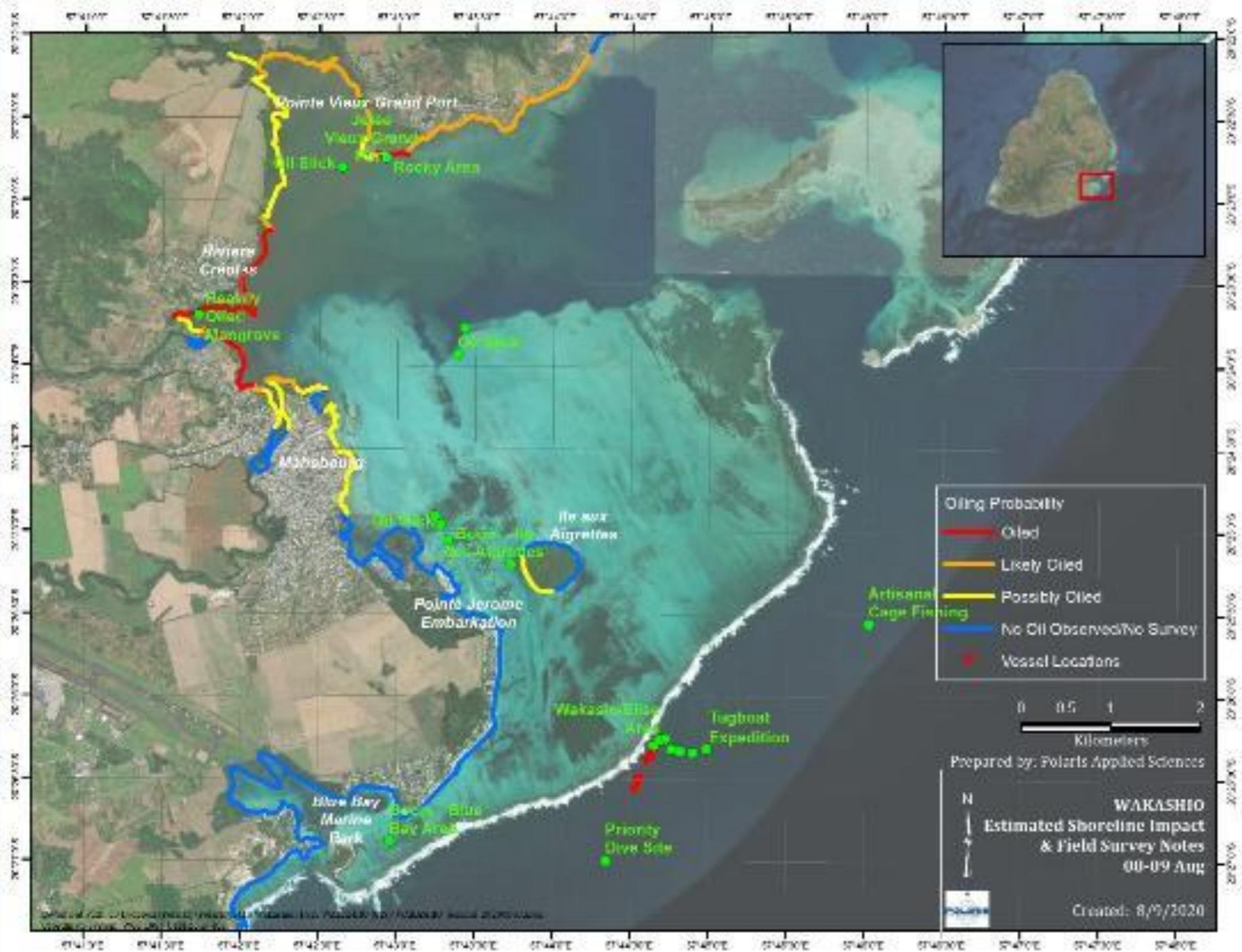


Oil remaining
on the ship
1 103 m³



Oil spilled
into the sea
800 m³

AS AT 13:15 | 11 AUGUST 2020





Building Relationships
when you can see a
face



Work with it





Never Talk to the Media
Communicate with everyone





MATTHEW SOMMERVILLE
INTERNATIONAL MARITIME ORGANISATION - UN

PIERRE GELAS
UN OFFICE FOR THE COORDINATION OF HUMAN AFFAIRS

Mauritius

Mauritius: African Development Bank approves emergency up of marine oil spill

News and Press Release • Source: [AfDB](#) • Posted: 19 Sep 2020 • Originally published: 18 Sep 2020

The Board of Directors of the African Development Bank on Wednesday approved a \$500,000 emergency assistance grant to support international recovery efforts after a significant oil spill earlier this year off the coast of Mauritius.

The funding, to be sourced from the Special Relief Fund, will complement ongoing activities by the government of Mauritius, development partners, and other actors to undertake salvaging and cleaning operations, conduct damage and loss assessments, along with other socio-economic evaluations. The United Nations has assumed a lead role in coordinating the response.

“The \$500,000 emergency assistance grant from the African Development Bank to Mauritius is an important contribution to the International Recovery effort towards restoring the primary marine ecology, so important for livelihoods in the blue economy and tourism sectors now threatened by the unfortunate oil spill,” said Martin Fregene, Bank Director for Africa and the Middle East. “These institutions are working with experts from the International Maritime Organisation, the United Nations Development Programme, United Nations Environment Programme, United Nations World Food Programme, and other agencies to develop a strategy for the long-term monitoring and management of the oil spillage.”

As at date, continuous monitoring has shown that there has been a significant decrease in the level of Oil and Grease in the coastal water quality. This has been achieved following actions of the authorities, volunteers and Non-Governmental organisations.

Government Information Service, Prime Minister's Office, Level 6, New Government Centre, Port Louis, Mauritius. Email: gis@govmu.org Website: <http://gis.govmu.org> Mobile App: Search Gov

Mauritius

MV Wakashio: Environmental monitoring of terrestrial and marine resources

News and Press Release • Source: [Govt. Mauritius](#) • Posted: 30 Aug 2020 • Originally published: 28 Aug 2020 • Origin: [View original](#)

GIS – 28 August 2020: A continuous environmental monitoring of terrestrial and marine resources is being maintained by the Ministry of Environment, Solid Waste Management and Climate Change and key stakeholders following the grounding of MV Wakashio at Pointe d'Esny and the resulting oil spill in the region. This exercise comprises the monitoring of coastal water quality, sediments, air quality as well as an ecosystem survey for the benefit of the local population.

The monitoring is being done with the collaboration of the National Environmental Laboratory (NEL), the Albion Fisheries Research Centre (AFRC) and the Mauritius Oceanography Institute (MOI).

An integrated monitoring programme was set up, as from 07 August 2020, among NEL, AFRC and MOI for the affected sites. The number of coastal sites monitored was increased to 27 covering the regions from La Cambuse to Trou D'eau Douce. The AFRC and MOI are also conducting ecological surveys using rapid assessment techniques to assess the impact of the oil spill on the ecosystems in the affected areas.

These institutions are working with experts from the International Maritime Organisation, the United Nations Development Programme, United Nations Environment Programme, United Nations World Food Programme, and other agencies to develop a strategy for the long-term monitoring and management of the oil spillage.

Primary country:
[Mauritius](#)

Source:
[Government of Mauritius](#)

Disaster:
[Mauritius: MV Wakashio Oil Spill - Aug 2020](#)

Format:
[News and Press Release](#)

Themes:
[Agriculture / Climate Change and Environment](#)

Disaster type:
[Technological Disaster](#)

Language:
[English](#)

MINISTRY OF BLUE ECONOMY, MARINE RESOURCES, FISHERIES AND SHIPPING
August 28, 2020

This report provides an update on the established facts with regards to the electra dolphins (also known as melon-headed whales) found on the coast of Mauritius over the past three days.

- Wednesday 26 August 18 deceased dolphins
- Thursday 27 August 8 additional dolphins
- Friday, 28 August 10 more dolphins were found

- In total, 37 animals found dead in the lagoon of the South East region

- Initial results do not indicate that these animals succumbed to the effects of the fuel spill following the running aground of the MV Wakashio

All samples taken will be subject to further bacteriological and toxicological analyses. The toxicological analysis will be carried out at the Forensic Science Laboratory. The results are expected in the coming days and will be made available as soon as possible.

WHY THE NEED FOR BETTER AND MORE EFFECTIVE POST-INCIDENT MONITORING?

- We need to ensure we provide **early evidence of potential impact** to government and **the general public**.
- We need to have an **appropriate and effective way of investigating** the impact on the wider marine environment.
- Impact **assessment methodology** needs to be considered that not only assesses the **short-term impacts**, but also allows the prediction of potential **longer-term impacts**.
- We need to ensure a more **effective use of resources** so that **unnecessary procedures are avoided** but that potentially useful ones are not overlooked.
- We need **provide** important **information about the effectiveness, or not, of spill response activities**.

Integrated Monitoring Plan parties

National Environment Laboratory (NEL)
Mauritius Oceanography Institute (MOI)
Albion Fisheries Research Centre (AFRC)
National Coast Guard (NCG)
Special Mobile Force (SMF)
University of Mauritius
Mauritian Wildlife Foundation (MWF)
Reef Conservation
Eco-Sud

Commonwealth Secretariat
Japanese Disaster Relief (JDR)
Indian Coast Guard
ITOPF, CEDRE
Centre for Environment, Fisheries and Aquaculture Science (Cefas)

UK Aid
The Foreign and Commonwealth Office (FCO)
Maritime and Coast Guard Agency (MCA)
Department for Environmental and Rural Affairs (DEFRA)
Department for International Development (DFID)

Scientists Dr Sue Ware, Dr Phillipe Bersuder, and Dr Michelle Devlin and Mr Andrew Bell Shipping Legal expert and British High Commissioner Keith Allan in discussion with Khemraj Servansing Commissioner of Police and Chair of National Crisis Committee.



**Ad Hoc teams
only get
Ad Hoc facilities**



THE PRINCIPLES OF A MONITORING PLAN

- When do we need to monitor?
- Why do we monitor?
- What do we monitor?
- Where do we monitor?
- How frequently do we monitor?
- When to stop monitoring
- Survey design
- Co-ordination and an Integrated Approach

SURVEY PLANNING

- Purpose
- Establishment of baseline data and information
- Design process
- Site selection
- Statistical considerations

SAMPLE COLLECTION AND MANAGEMENT

- Introduction
- Sampling
- Sample preparation
- Sample labelling and tracking
- Transport and storage

KEY METHODOLOGIES

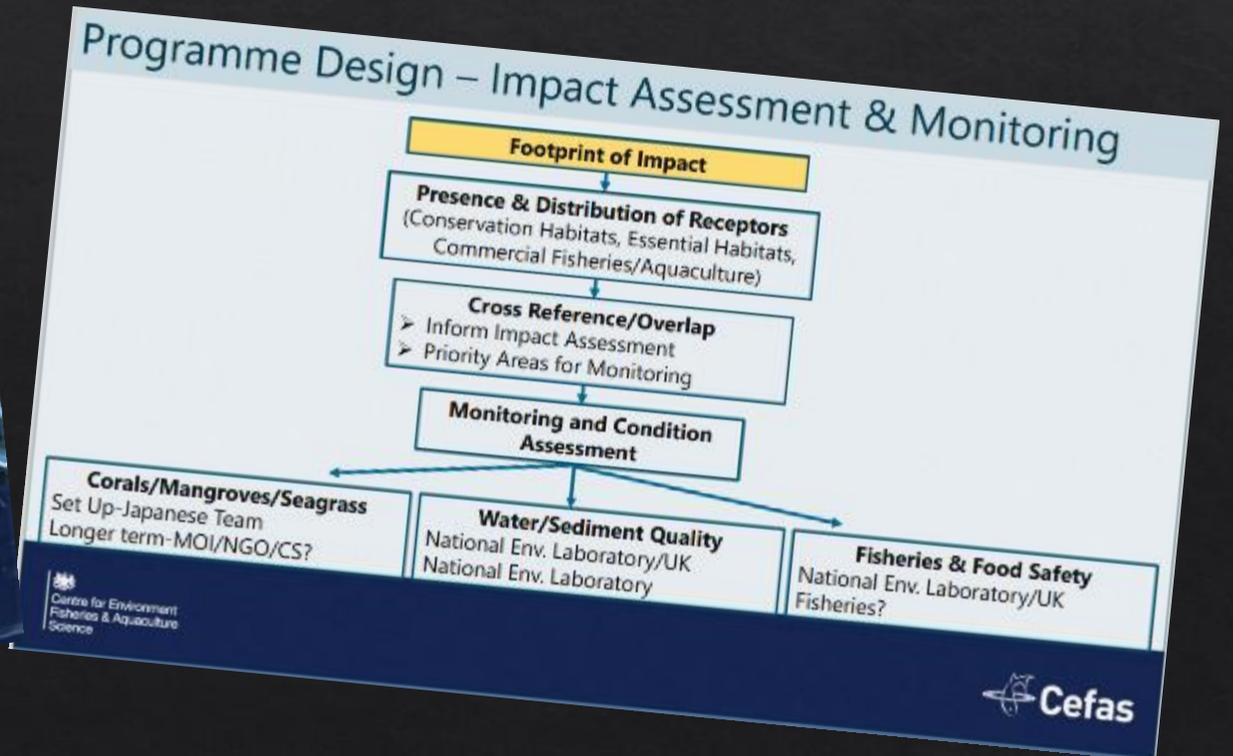
- Chemical analysis
- Ecotoxicology in Post-incident monitoring
- Ecological Assessment – General guidance
- Ecological Assessment – Specific resources: habitats and wildlife
- Modelling
- Remote sensing, autonomous platforms and other technologies

Help the Mauritian government departments and agencies and other relevant bodies to

Develop an integrated approach to post spill monitoring and assessment applying best scientific practice introduced in the UK Premium guidelines.

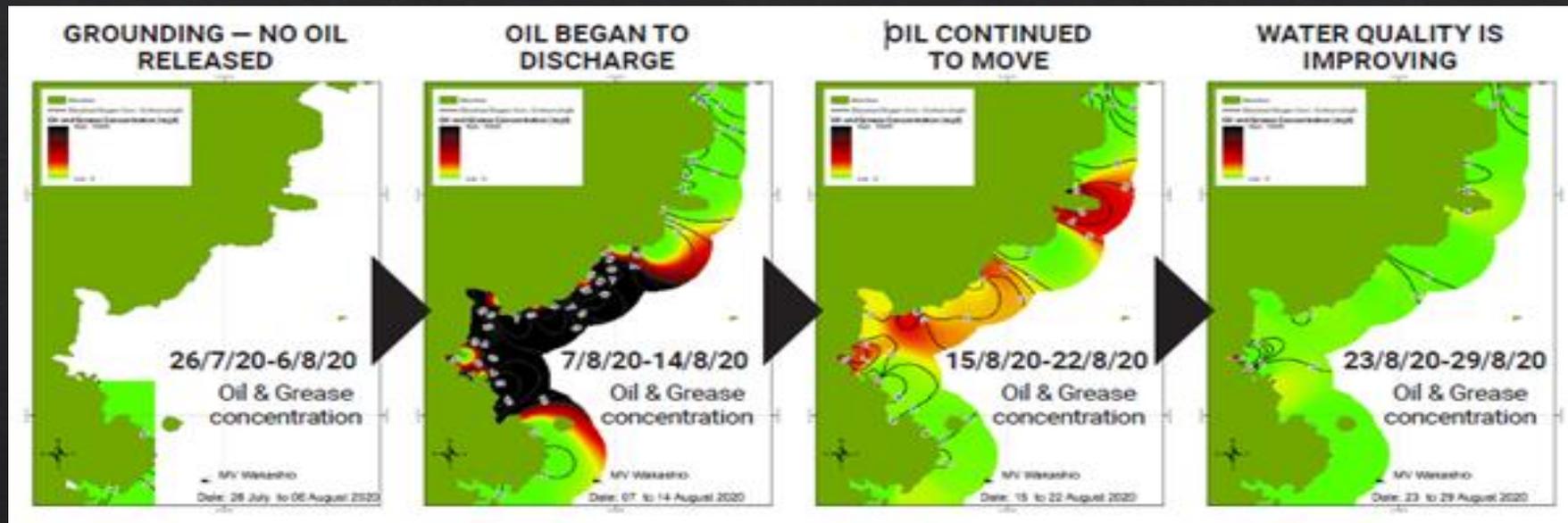
Monitor and assess both physical impacts at the casualty site and also any issues resulting from the entry of oil into the lagoon and coastal areas.

Contribute to a long-term strategy to consider the ecological assets and what remediation and mitigation is required

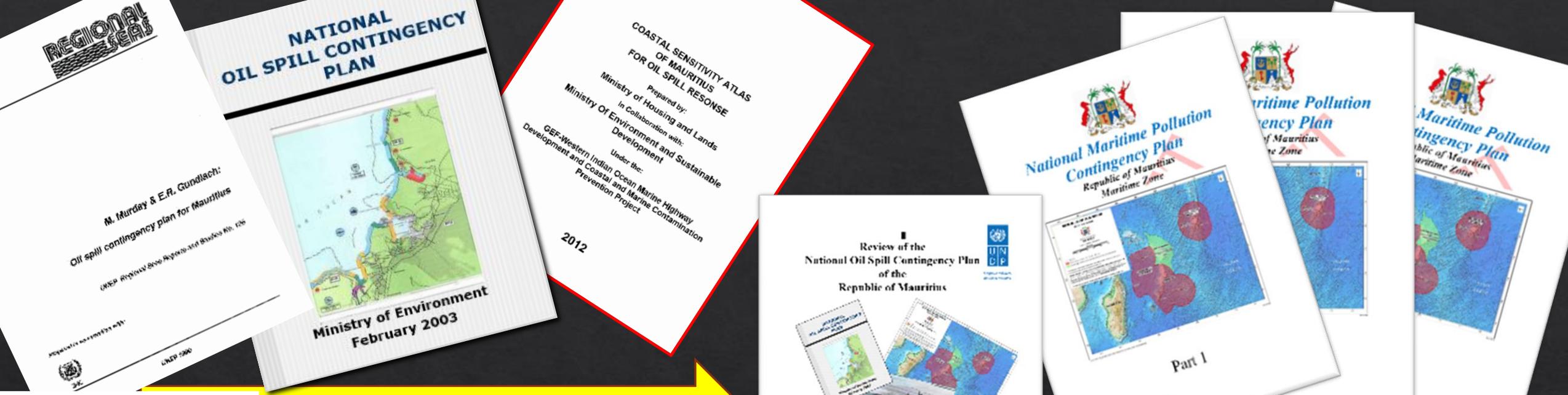


One of the modelling approaches applied to help estimate the footprint of oil released from the grounded vessel.

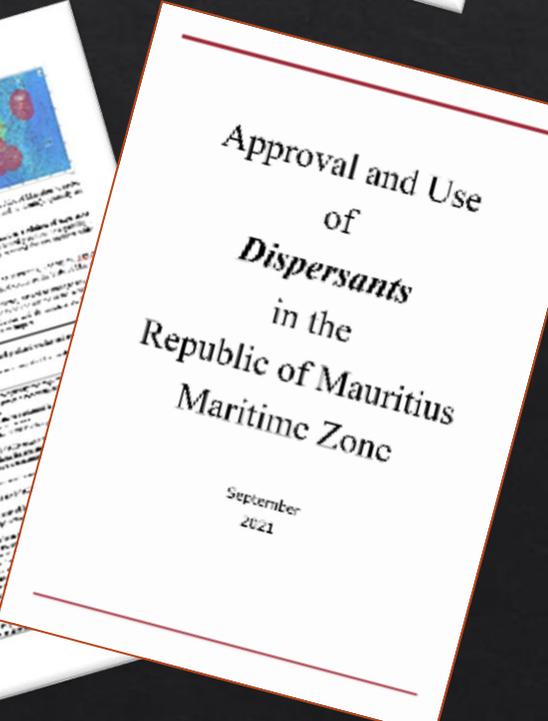
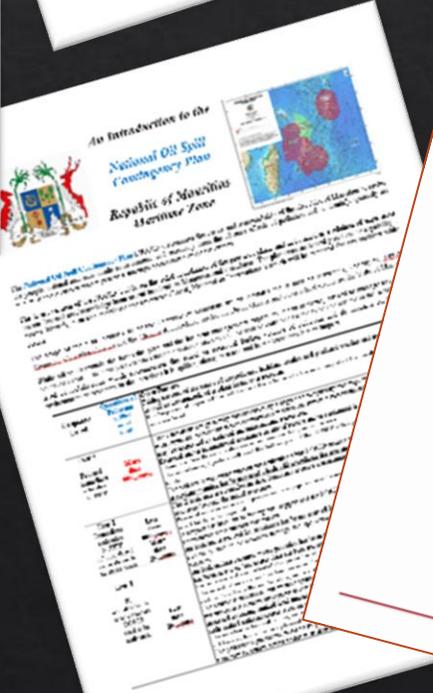
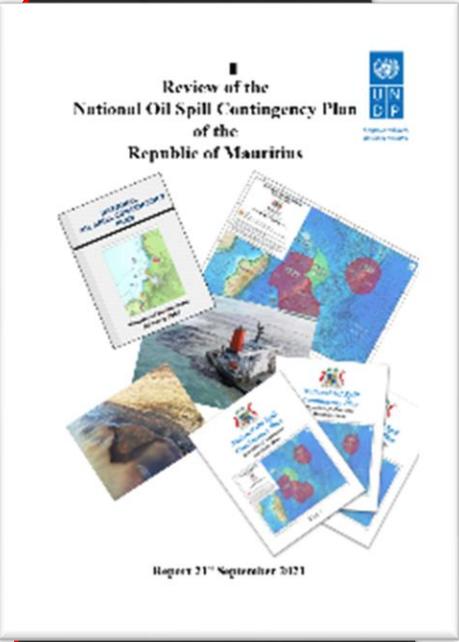
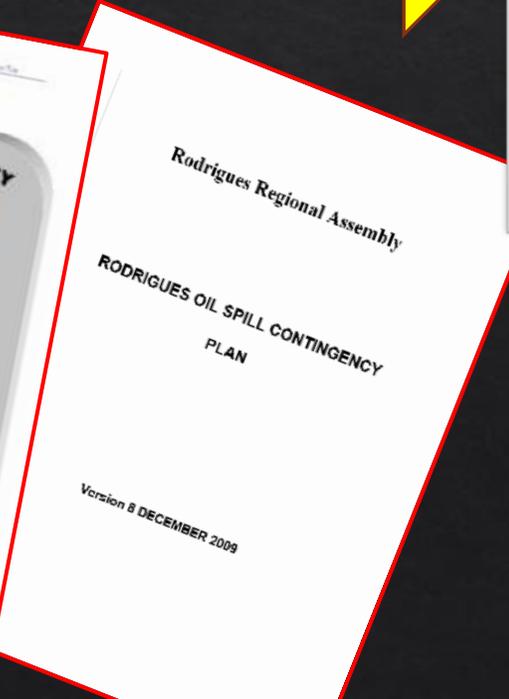
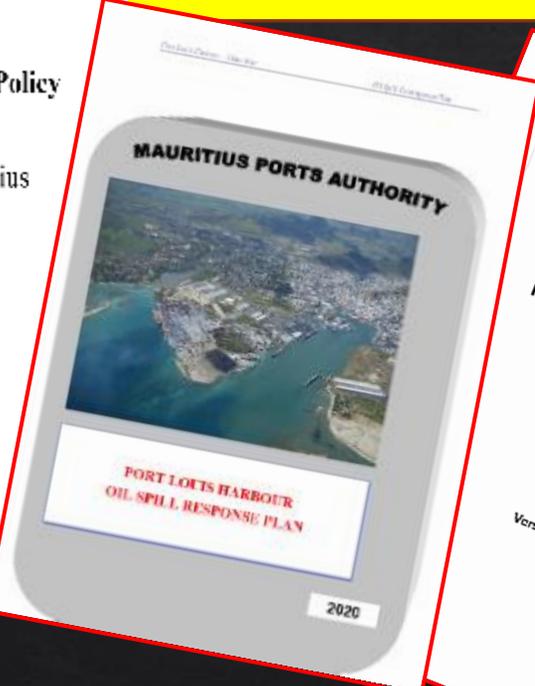
Modelling and mapping of the movement of the oil spill has provided information on the extent and duration of the oil on the coastal communities and marine environment. Knowledge of where the oil has gone informs the clean-up action and will identify areas of high risk, where long term monitoring and mitigation actions will be required



The concentration of oil and grease and the dissolved oxygen measurements taken in shoreline samples from 26 July to the 29 August. Sampling was daily and undertaken by Mauritius Oceanographic Institute, National Environmental Laboratory and AFRC.



Oil Spill Dispersant Policy for the Republic of Mauritius



Premiam 2011
Recommendations of
Robin Law and Jon Rees of CEFAS
Environmental Research and Monitoring post-Macondo

Responders to future spills would do well to mobilise as rapidly as possible a scientific understanding of the unique characteristics of the spill to establish what the best possible approach will be to minimise the risk and impact of the spill on the environment

Expert guidance

Integrated decision making and
Co-ordination processes already, developed

Committed to continue to work together to
apply best practice in terms of science and co-
ordination to post spill monitoring and impact
assessment



Tier 3 Scientific Support and Monitoring

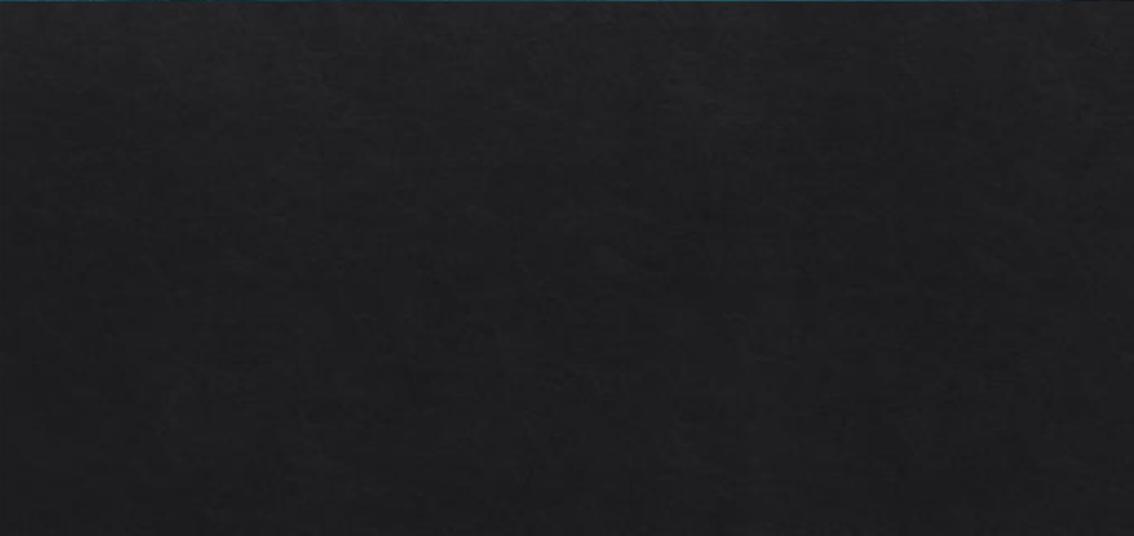
- ◆ Locals can do it but support makes it easier, faster and more efficient and allows them to concentrate where most needed
- ◆ Provided additional resources and fresh impetus to the activity after the initial activity
- ◆ An independent but trusted partner to help collaboration and priority setting
- ◆ Specialist teams (Japan in this incident) who could focus on specific issues (Mangroves)
- ◆ Remote support expertise but need to have links , filters and to be managed
- ◆ Experience with specific spilled products , impacts , monitoring strategies and experience in the sampling planning, mobilisation, sustainment and logistics .
- ◆ A establish guide via Premiam

- ◆ An independent party to review results, advise on gaps and help prepare communications to civil society.

The Wakashio *an example of the potential of* **Tier 3** **Scientific Support and Monitoring**

Matthew Sommerville
Spectrum Spill Services





Thank You



