



On Scene

Newsletter for the National Plan for Maritime Environmental Emergencies

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Exercise Westwind

Exercise Westwind was the annual exercise of the National Plan for 2015. The exercise simulated an integrated multi-sectoral response to a level three maritime environmental emergency. The exercise was conducted in two phases, strategic and operational, and focused on an offshore petroleum spill scenario.

The exercise was jointly managed by the Australian Maritime Safety Authority (AMSA), the Australian Marine Oil Spill Centre Pty Ltd (AMOSC), the Department of Industry, Innovation and Science, the Western Australian Department of Transport (WADoT) and the Department of Infrastructure and Regional Development.

Exercise Westwind took place across three locations in Perth, Exmouth and Canberra.

The strategic component of the exercise was conducted from 27 to 28 May 2015, in Perth and Canberra, and exercised high level communication and coordination between the Australian Government, the Western Australian Government and the offshore petroleum industry. This component engaged an industry Crisis Management Team, the Western Australian State Marine Pollution Strategic Coordination Group, State Emergency Coordination Group, and the Australian Government Offshore Petroleum Incident Coordination Committee.

The strategic component was coordinated by AMSA with input from industry, the Western Australian and Australian Governments.

The operational component of the exercise was conducted from 8 to 12 June in Perth and Exmouth. An Incident Management Team was mobilised with industry personnel in Perth and a forward field base was established in Exmouth to undertake field and aerial deployment operations. The Australian Marine Oil Spill Centre (AMOSC) led the planning and coordination of the operational component of the exercise.

The National Response Team (NRT) worked with AMOSC Core Group responders as part of the operational component of the exercise in Exmouth.

Exercise Westwind formed part of a week of development programs with a State Marine Pollution Controllers workshop being held in conjunction with the strategic component and NRT. Core group personnel training on response equipment was also held in Exmouth prior to the operational component of the exercise.

Exercise Westwind represented a number of developments for the National Plan. It was the first time an offshore petroleum scenario had been exercised with an oil company leading the response operation. It was also the first National Plan exercise that truly tested the strategic management of an incident across multiple jurisdictions and sectors.

The exercise provided an opportunity for incremental improvement but also presents a major capability development initiative. The integration of government and industry responders into combined teams was effective and supported the continued investment in the joint training initiatives of AMSA and AMOSC.

For further information refer to the Exercise Westwind Evaluation report available on the Forms & publications section of the AMSA website (amsa.gov.au).



Australia re-elected to International Maritime Organization Council

Australia was re-elected to the Council of the International Maritime Organization (IMO) in London on 27 November 2015, reflecting our nation's key role in international shipping.

The IMO is a specialised agency of the United Nations responsible for the safety and security of shipping and the prevention of marine pollution by ships. Australia was elected to the IMO Council, which consists of 20 IMO Members with a special interest in maritime transport and navigation.

Australia is a founding member of the IMO and has been a mainstay member of the Council since 1959 and is one of the few countries to have been represented on the IMO Council for more than 45 years.

The Acting Prime Minister at the time of the re-election, Warren Truss, said Australia's re-election to the IMO Council ensures Australia's interests are represented at the highest levels of international maritime policy making.

"This election reaffirms Australia's contribution to the development and implementation of international standards on maritime safety, security and pollution prevention," Mr Truss said.

"Australia has significant maritime interests and we continue to work towards improving the safety and reliability of shipping in Australian waters, as well as in the Indian Ocean and Asia Pacific regions more broadly."



2016 Oil Spill Handbook

Oil spill response is a demanding task. Often, reporting is delayed. Sometimes, we don't know what has been seen. Too often, by the time responders get there, the slick has moved, dissolved or dispersed. Clear, robust and dependable advice on what to do, why, how and when, is invaluable.

AMSA's 2003 Oil Spill Monitoring Handbook has been used for more than a decade, however, due to changes in science, response and community expectations it needs refreshing. CSIRO was appointed to lead a review of the Handbook and has worked closely with the National Plan Environment, Science and Technical network, to draft an updated version that is already drawing critical international acclaim from international peer reviewers.

The new draft of the Oil Spill Monitoring Handbook deliberately focusses on response-phase monitoring for maritime spills. Otherwise known as 'Type I' or 'operational monitoring', response phase monitoring tries to address the 'what, where, when, how and how much' questions that assist responders to find, track, predict, clean-up and assess their efforts.

Those of us in the planning and response business know that oil spills often occur in remote, sensitive and logistically difficult locations, in adverse weather.

The new draft handbook has been designed to be both a practical reference and, with it also being web-based, to evolve with future developments. It includes sections on the chemical properties of oil, the toxicological impacts of oil exposure, and the impacts of oil exposure on different marine habitats with relevance to Australia. An overview is provided on how monitoring integrates with the oil spill response process, the response organisation, the use of decision-support tools like Net Environmental Benefit Analysis, and some of the most commonly used response technologies.

General guidance of spill monitoring approaches and technologies is augmented with in-depth discussion on both response-phase and post-response-phase monitoring design and delivery. A set of appendices deliver detailed standard operating procedures for practical observation, sample and data collection.

The publication is expected to be finalised in May 2016.

Building relationships with National Plan partners

Letitia Lamb, Coordinator for Oil Spill Response for the Tasmanian Environmental Protection Agency, spent three weeks at AMSA during November and December 2015 on a relationship building exercise.



During the time spent at AMSA, Letitia worked alongside the Marine Environment team to experience how the team works.

"I work with most of the people in the Marine Environment division on a regular basis, and now I get to sit next to them and understand more fully what their capacities and roles are and how that best fits into the state response," Ms Lamb said.

"It's a good opportunity for all of us to work together on a more meaningful basis."

Ms Lamb said she was impressed at the working environment and it was a good experience to be part of a larger team.

"I normally work alone, I don't have a team, and it's been great for me to be part of a team which is all focused on the same goals."

Some of the highlights included getting to work on more nationally-focused reports and learning more about AMSA's National Environmental Maritime Operations (NEMO) System.

"One of the highlights for me was to have access to learn NEMO, and having Giovanna [Lorenzin] right next to me while I'm learning was a real help.

"I would like to implement NEMO fully into Tasmania and being up here at AMSA I can rapidly come up to speed on the platform."

The visit was also of great benefit to AMSA by improving our understanding of partner's operating environments and roles within the National Plan.

Having Letitia was of great benefit to the team, it was a great opportunity to exchange knowledge and experience with an important National Plan partner. The visit represents a successful trial of a program that AMSA hopes to extend to other jurisdictions and National Plan partners.

Calculator for shipowner's limit of liability for oil pollution damage

AMSA has a website tool which allows the user to calculate the shipowner's limit of liability under the International Convention on Civil Liability for Oil Pollution Damage 1992 (CLC92) and the International Convention on the Civil Liability for Bunker Oil Pollution Damage 2001 (Bunkers Convention). The tool was updated to reflect increased liability limits, which came into force in 2015.

The conventions define the shipowner's liability as a function of the ship's gross tonnage. The calculator allows the user to enter tonnage and identify whether or not the ship is an oil tanker. For non-oil tankers, the calculator provides the Bunkers Convention limit, and for oil tankers it provides both the Bunkers and CLC92 limits. The conventions use the International Monetary Fund currency known as 'Special Drawing Rights'. Therefore, the calculator also converts Special Drawing Rights to Australian Dollars based on the Reserve Bank of Australia exchange rate of the day. The time- and date-stamped output can be printed.

The calculator can be found via the Legislation and prevention measures page of the Environment section on the AMSA website (amsa.gov.au).

For further information please contact eps@amsa.gov.au

National Maritime Places of Refuge Risk Assessment Guidance

For vessels in distress or in need of assistance there can be, at times, a need to find an appropriate 'Place of Refuge', where steps can be taken to stabilise or repair the vessel and prevent the situation from worsening.

The Commonwealth and state and Northern Territory governments have, in cooperation with industry, developed the National Maritime Places of Refuge Risk Assessment Guidance, to inform and expedite decisions on requests for a Place of Refuge. The guidance provides for a nationally-consistent approach, and is designed to ensure that there is adequate and timely consultation between relevant stakeholders and that all risks are identified and, where practical, addressed.

AMSA, on behalf of the Commonwealth, state and Northern Territory governments, has the authority to assess and grant a Place of Refuge. A Place of Refuge request for a vessel located within internal waters or coastal waters of a state or the Northern Territory (that is waters to three nautical miles seaward) could be assessed by the respective state or Northern Territory government agency. A Place of Refuge request for a vessel located in any other waters, including waters beyond coastal waters within Australia's Exclusive Economic Zone, waters of the external territories and, in some cases, on the high seas, should be considered by AMSA.

The guidance was formally endorsed by the National Plan Strategic Industry Advisory Forum and the National Plan Strategic Coordination Committee in November 2015 and published in January 2016 (available on the Forms & publications section of the AMSA website).



Spillcon 2016

Spillcon 2016 will be held from 2-5 May 2016 at Crown, Perth, and will bring together 400 delegates and 60 exhibitors from all around the world, across industry, government and the service sectors. The conference program includes an array of guest speakers including Air Chief Marshal Sir Angus Houston AK AFC (Retd), Juliette Kayyem who teaches crisis leadership and homeland security at Harvard University, and Trefor Munn-Venn strategy, technology and sociology expert. The exhibition promises to bring delegates the latest in oil spill response and preparedness equipment/technology from national and international speakers.

Back by popular demand, Spillcon 2016 will also include an impressive on-water display, where delegates will have the opportunity to observe spill response equipment in practice. The on-water display is scheduled to take place on the Swan River adjacent from the conference venue and will be supported by both AMSA and AMOSC. A variety of equipment will be on display such as wildlife, decontamination, storage, skimming and sweep systems. Larger booming activities are planned to be deployed into the Swan River. The display will culminate with a low level fly by from one of the Air Tractor's which will demonstrate the joint AMOSC/AMSA dispersant spraying capability.

The social program for Spillcon 2016 will, again, be a highlight with the Welcome Reception, Exhibition Showcase and Outback-themed Conference Dinner tickets part of the registration cost. The global profile of delegates from all around the world and, of course, within Australia promises excellent networking opportunities and sharing of industry information.

The final day of the conference offers the opportunity for delegates to participate in optional masterclasses - spaces are limited so book now to secure your spot.

If you are interested in attending Spillcon 2016, please see the website (spillcon.com) for further program and registration information.

REGISTRATION TYPE	TICKET PRICES (GST inc)
STANDARD Delegate Registration	\$1800
EARLY BIRD Delegate (Group Discount) Registration (10 or more delegates)	\$1500
STANDARD Delegate (Group Discount) Registration (10 or more delegates)	\$1700
DAY Delegate Registrations	\$550
ADDITIONAL Exhibitor Pass	\$575
ADDITIONAL TICKETS – Welcome Reception & Exhibition Opening	\$70
ADDITIONAL TICKETS – Conference Dinner	\$175

Stream 1

Behavioural change through Social Media

Chair: Trefor Munn-Venn

Price: \$150

0900 - 1700

Attendees will explore the relationship between the 'social' and the 'media' and discuss why most efforts online do not generate the desired outcomes. It will provide an overview of how to drive behavioural changes in the way followers perceive think and act and refine delegate's understanding of the voice that their organisation conveys to ensure consistency across their social media presence. Delegates will learn to create social media posts and messages, identifying the right themes to focus on and exploring how to improve the effectiveness of messages.

Finally, the session will address the key issues to take into account to put the strategic and tactical plan developed into action.

Stream 2

Science and innovation in oil spill response

Chair: Dr Kenneth Lee

Price: \$150

0900 - 1700

The past five years have seen increased investment and innovation in spill response science and technology. This has been driven largely by unfortunate spill experiences worldwide and the strong expectation that we can do better.

With funding from various sources, a wide range of innovative technologies and approaches for spill prevention, response, mitigation and damage assessment are emerging. From early monitoring technologies, improved recovery technologies, dispersant formulation and application practice, to improving decision-support capabilities, the innovation focus is addressing the challenge from the wider range of oils being transported and used through an increasingly diverse and sensitive range of environments.

Global research leaders will share their views on where spill response innovation is, and should be, taking us over the coming decade and how we should alter our current operational practices to benefit from the new strategies that have been developed and verified.





SPELLCON

GLOBAL

REGIONAL

LOCAL

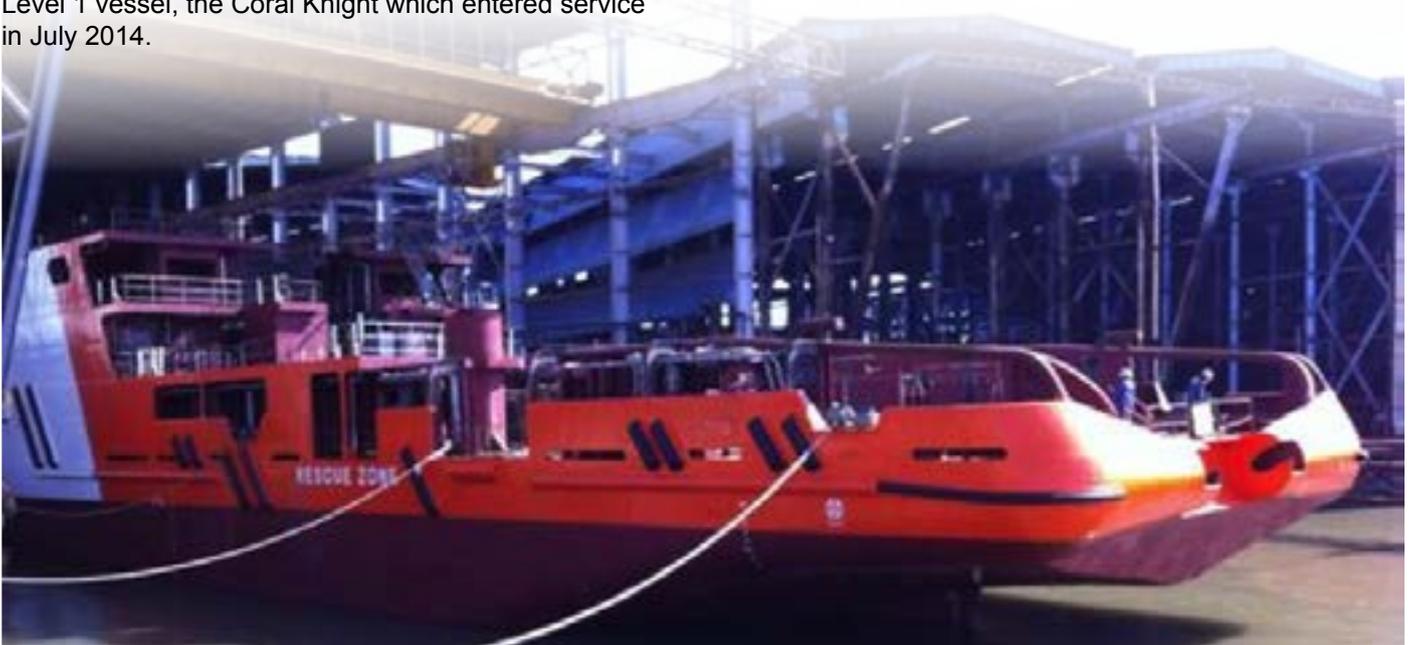
Status of AMSA New Build Level 1

The new build AMSA Level 1 Emergency Towing Vessel is currently under construction in the Yuexin Shipyard, Guangzhou, China. The construction is well advanced, with the vessel being officially launched on 22 January 2016. The vessel was floated out of the dry-dock with senior representatives of the shipyard and the shipowners (Gardline Shipping Limited) in attendance.

The vessel is awaiting the addition of key mechanical components such as steer propellers, main and auxiliary generating sets, winch equipment and the offshore crane. The construction control methods implemented by the shipowners and the classification society are producing a high quality product as verified by an independent Australian-based marine surveyor. The vessel is scheduled to enter service for AMSA in the second half of 2016 where it will replace the existing Level 1 vessel, the Coral Knight which entered service in July 2014.



The new build vessel's bow and accommodation block prior to launching



The new build vessel's stern

Salvage and wreck workshop

AMSA is planning to host a salvage and wreck workshop in June 2016. The purpose of the workshop is to bring together stakeholders who have a stake in significant maritime casualty incidents, which may have direct or indirect impact to Australia.

Key topics expected to be discussed include:

- AMSA's role under the National Plan to manage maritime casualties in Australia
- are insurers' prepared for bigger claims?
- salvage and wreck removal contracts
- dealing with cargo related claims
- Place of Refuge guidance
- preparedness to deal with Hazard and Noxious Substances (HNS) related incidents
- group exercise / panel discussions.

Key stakeholders expected to attend and contribute include:

- AMSA
- Australian Government departments
- state and NT maritime safety agencies
- Ports Australia and its members
- vessel owners
- vessel protection and indemnity and hull and machinery insurers
- cargo insurers
- legal practitioners
- salvors.

What's happening in Western Australia?

Maritime Environmental Emergency Response Training

On 26 November 2015 WA's Department of Transport (DoT) formed a new group named DoT Maritime Incident Management Team (MIMT). The team comprises dedicated DoT employees from across the department who have been selected to receive both initial and ongoing specialist training, to enable them to perform their assigned roles in the event of maritime environmental emergencies.

These roles are in line with the emergency management system Australasian Inter-Service Incident Management System (AIIMS).

To ensure adequate readiness levels and capabilities are maintained, members will receive both initial and ongoing nationally-recognised training to enable them to perform their nominated roles in times of need.

The Maritime Incident Management Team (MIMT) was formally launched on 26 November 2015 during the first WA AMSA Incident Management Course. Nina Lyhne, Managing Director Transport Services, and Ray Buchholz, General Manager Marine Safety (SMOPC), were both at the launch.

The DoT's Maritime Environmental Emergency Response Team continues to deliver training, including courses that award nationally-recognised units of competency delivered under auspices of AMSA's Registered Training Organisation.

The MEER 2016 training calendar is published on the DoT website (transport.wa.gov.au).

Staff movements

Serkan Yakacikli has been promoted to the role of Operations and Logistics Team Leader. This is a newly created position within the MEER team. This position leads and manages the day-to-day activities of the Operations and Logistics Section, including training.

Training courses delivered

Course name	Month	Location
Oiled Shoreline Response Course	October 2015	Albany
Use Basic Equipment Operations	November 2015	Geraldton
AMSA WA IMT Course	November 2015	Perth
State Response Team deployment	December 2015	BP Kwinana
Use Basic Equipment Operations	February 2016	Fremantle
State Response Team deployment	February 2016	Fremantle

Training courses / exercises planned February to May 2016

Course name	Month	Location
AMSA WA IMT Course	February 2016	Fremantle
Incident Management introduction workshop	February 2016	Fremantle
State Response Team Deployment	March 2016	Fremantle
Deployment	May 2016	Fremantle
State Response Team Deployment	May 2016	Fremantle
Level 2 IMT course	May 2016	Fremantle
Oiled Shoreline Response Course	May 2016	Fremantle

Photo: MIMT members



What's happening in New South Wales?

Wildlife training

In the event of a marine pollution incident in NSW where animals are impacted, the Animal and Agricultural Services Functional Area (headed by the Department of Primary Industries – DPI) would be used as part of NSW's wider Emergency Management Arrangements. They would provide personnel to fill the roles of Wildlife Coordinator and Wildlife team members.

There are up to 30 different 'participating and supporting agencies' within the Animal and Agricultural Services Functional Area, which include organisations such as the RSPCA, the Wildlife Information and Rescue Services (WIRES), Seabird Rescue, Local Lands Services, Animal Welfare League, National Parks and Wildlife Services etc. Their specialist staff would be used in the wildlife section of a response in the event of an incident.

NSW currently has two Wildlife Courses on offer to personnel who wish to be involved in marine pollution response:

- Wildlife Coordinators Course:** This course is for personnel who would be expected to perform in a supervisory wildlife role during a marine pollution incident. It focuses on ensuring participants are able to establish, run and demobilise a wildlife treatment centre using the NSW Oiled Wildlife Container. It also looks at strategic wildlife issues during a response, such as risk management.
- Wildlife Responders Course:** This course is for hands-on wildlife team members who will be handling and caring for affected wildlife. It covers both theory and practical components – with the latter including the use of live ducks which are washed in a warm soapy household dishwashing detergent to simulate contaminant removal, tube fed fluids, assessed using standard animal health assessment practices (such as taking body temperatures, body condition assessment and blood analysis) and cared for, as would normally be undertaken in an oiled wildlife treatment centre.

The Wildlife Responders Course was newly introduced in 2015 and so far two courses have been delivered in Port Kembla (October) and Coffs Harbour (November). The courses were a huge success with animal experts from QLD and Taronga and National Parks involved. The two groups who undertook the training provided excellent feedback and it is anticipated that further courses will be run in 2016.



What's happening in Victoria?

In September 2015 Victoria's marine pollution section became part of the Emergency Management Division (EMD) within the Department of Economic Development, Jobs, Transport and Resources (DEDJTR).

2015-16 training and exercises

- A field deployment exercise was run by the Westernport Coastal Response Agency on 8 December 2015. This exercise was used to refresh equipment operators in the use of State assets and to review Occupational Health and Safety procedures.
- A basic equipment operator's course was held in Gippsland from 14-15 October 2015 with a total of 14 officers trained from within the ports, local councils, catchment management authorities and departmental staff.
- In October 2015, Gippsland Coastal Response Agency facilitated a cross-border desktop exercise with NSW. This exercise focused on establishing a Victorian incident management team and testing the information flows and communications between the two states in the event that an incident was to occur across both state jurisdictions. 21 participants were involved in the exercise from Victoria's State Response Team, AMSA, Transport for NSW and NSW Maritime Division.



Relocation of platform from Westernport to Gippsland



Acceptance testing of new boom in Williamstown

- In October 2015, marine pollution EMD staff members were observers of the relocation of an offshore platform from Westernport to Gippsland. The platform had been in Westernport undertaking repairs.

New projects

The Victorian Government has allocated over \$3 million in funding over several years to replace and/or upgrade a range of marine pollution assets. New equipment will ensure that the state can mount and sustain efficient pollution response. Integration is also planned for a marine pollution incident management system (IMS) with other state incident management systems, in line with a multi-agency whole-of-government approach to emergency management.

Phase one of the project has taken place over the past 18 months and is almost complete, which has included the replacement of 1700m shoreline (land-sea based), 40 lengths of curtain (self-inflating), 600m curtain (general purpose inflatable) and 1200m fence boom. This will be distributed to higher risk areas following acceptance testing.

National Plan Training March to October 2016

Course name	Month	Location
Incident Management Team	14-18 March 2016	Victoria
Logistics	18-22 April 2016	Victoria
Incident Management Team	16-20 May 2016	Victoria
Operations	18-22 July 2016	Victoria
Incident Management Team	15-19 August 2016	Victoria
Planning	19-23 September 2016	Victoria
Incident Controller	17-21 October 2016	Victoria

Procurement planning has commenced for phase two of the project. This phase of the project is expected to conclude in mid-2018. The phase will include identifying a potential integrated IMS.

Currently Victoria is running Emergency Management Common Operating Picture (EMCOP), an interactive site for tracking incidents on a state map; EMAP (mapping tool) as a new home for OSRA maps; and NEMO as the state's IMS. Over the coming months EMD will be working with AMSA to develop options that could enable integration of NEMO with the Victorian systems in operational use.

Staff movements

There has been a number of staff changes within the marine pollution section.

We farewelled Anna Silvestri, our former Project Support Officer and welcome Anna's successor, Rebecca Harper, who will continue to coordinate Victoria's training for the Victorian State Response Team. Rebecca brings with her a wealth of experience from a number of divisions.

We also farewelled Donovan Croucamp, who left the Department in January 2015 to pursue his own business. We would like to take the opportunity to thank Don for the work and direction that he provided in the two years with DEDJTR.

Victoria has a new State Marine Pollution Controller, Tim Wiebusch. Tim is currently on secondment to DEDJTR until the middle of the year as the Director, Capability and Response, EMD. You may know Tim from his substantive role as the Deputy Chief Officer Operations at VICSES, where he has led the planning for and response to large scale, multi-agency operations, including leading and/or participating in the State Control and Emergency Management Teams.

Tim has been an active contributor to the improvement of the emergency management sector, both in Victoria and across Australia, for over 22 years. Tim has experience in managing and collaborating with government and non-government stakeholders at both the state and federal level. Tim has been awarded the Emergency Services Medal and the National Emergency Medal. Prior to joining VICSES Tim undertook a Bachelor of Law and Commerce degree and worked in the corporate sector. His breadth of experience in large scale emergencies across many agencies and issues is a great asset for the department.



What's happening in the Northern Territory?

The Northern Territory Marine Oil Spill Environment, Science and Technology team has been working to develop a tool to assist with decision making in the event of an oil spill. Building on the experience of Victoria, the Northern Territory has developed a NT coastline oil spill vulnerability and sensitivity map. The map displays ratings for sections of the coastline based on vulnerability and sensitivity to marine oil spills to enable identification of key priority protection areas in the event of a spill incident. It adds value to the existing NT Oil Spill Response Atlas by providing a synthesis of expert opinion and local knowledge on coastline ecology.

Traditionally, oil spill response atlases have been developed using dots on a map representing anything from an individual sighting of a turtle or a bird, to colonies of water birds, subject to more comprehensive research. The information supporting the dots is often limited and is not always easily interpreted by those people making decisions on the day. Coastline oil spill vulnerability and sensitivity mapping aims to provide accessible information on environmentally vulnerable and sensitive areas to inform decision making and response strategies prior to, and during, marine oil spill incidents. It provides a tool that can be called upon at any time of day to provide valuable top-level information to inform immediate actions in a response.

Page 13 outlines the processes that were used to develop the map and an example of how the map may be used to determine appropriate response strategies.

Marine Incident Preparedness Coastline Vulnerability and Sensitivity Mapping

The problem: To provide accessible information on environmentally vulnerable and sensitive areas of the Northern Territory coastline to inform decision making and response strategies prior to and during marine oil spill incidents.

The solution: Prepare a graphical representation that rates vulnerability and sensitivity of the Northern Territory coastline to marine oil spill incidents.

The process: Conducting a coastline vulnerability and sensitivity mapping workshop by engaging relevant experts with experience and or knowledge of marine ecosystems.

1. Define habitat classifications and working criteria for assessing ecological value

Habitat Classification
Adapted from shoreline classification of NOAA (NOAA 2000; based on features including substrate type, slope, wave exposure, and biological utilisation).

ESI Rank

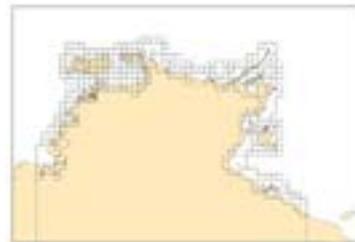
10. Upper water column; shallow subtidal biogenic reefs; wetlands & mangroves backed by beach)
9. Sheltered rocky shores & man-made structures (may be exposed tidal flats)
8. Exposed tidal flats*
7. Exposed rocky shores & man-made structures
6. Gravel beaches & Riprap
5. Mixed sand & gravel beaches
4. Coarse-grained sand beaches
3. Fine- to medium-grained sand beaches
2. Exposed wave-cut platforms*
1. Exposed rocky shores & man-made structures*

* exposure refers to wave action, not tide state

Working criteria for assessing Ecological Value

Ecology \ Value	V Low	Low	Mod	High	V High
Rarity/uniqueness *	Abundant/ubiquitous	Common	Uncommon	Rare	Unique/Endemic
Nursery area *	Yes				No
Species aggregations *	Yes				No
Protected area/species (significance)*	No	Local	Regional	National	International
Primary productivity *	Low		Medium		High
Biodiversity *	Low		Medium		High
Ecosystem Services	None			High, extensive	
Resilience (restoration)	Takes long time			Quick, short term	
Habitat condition	Not damaged			High potential	
Connectivity of habitat	Connected			Isolated	

2. Segment the coastline



3. Rate segments

Key habitats are agreed for each segment as a group.

Ecological values and sensitivities of each segment is discussed drawing on:

- existing flora and fauna maps
- research papers
- aerial photographs
- expert knowledge

Individuals rate ecological value of each key habitat within a segment noting their individual reasons for each ranking.

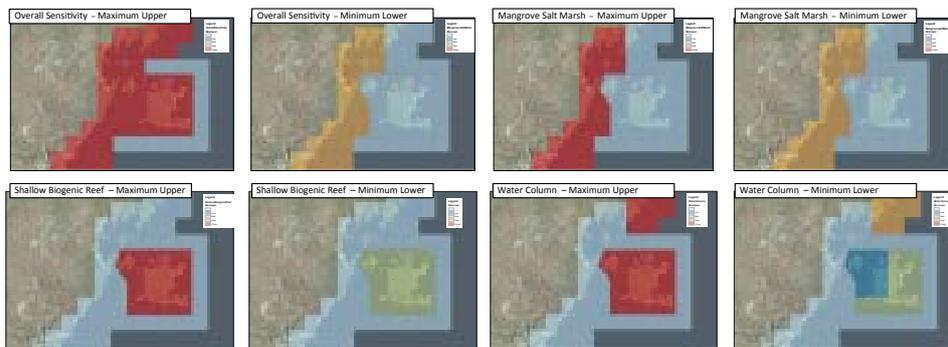
Individual rankings are entered into a computer model and analysed.

The results: Maps displaying overall, low, median and high rankings for key habitats with background notes that can be accessed through the meta data.

Each segment includes a number representing uncertainty. The number represents the range of ratings that have been applied by individuals e.g. five means ratings were applied across the range from very low to very high this means there was a greater difference in opinion between the experts and or a lack of knowledge about the area.



Applying the maps in a marine incident scenario: A ship is leaking oil and it is projected to enter the waters around Bickerton Island and Groote Elyandt - what do I protect?



Looking at Bickerton Island

The overall rating for the segment is low to very high.

Breaking this down into habitat types:

- Mangrove and salt marsh is not ranked
- Biogenic reef is ranked medium to very high
- Water column is ranked low to very high.

Protect the reefs!

Other Uses

- This method can be applied to any environment from very high level analysis that covers a wide area to a very detailed analysis of a very small system
- May be applied to any type of emergency or disaster whether it be a result of anthropogenic activities or natural phenomena
- Identify data/knowledge gaps
- Inform research and strategic planning and development projects
- May be used as part of an environmental assessment process for development and industry
- May be used as an education tool and made available to the public

Acknowledgements:

The NT EPA would like to acknowledge the Northern Territory Government and other participating marine ecology experts and the Australian Maritime Safety Authority for their support and participation in the NT oil spill coastline vulnerability and sensitivity mapping workshop that has allowed us to produce this valuable resource.

What's happening in AMOSC?

Comings and goings

There has been some movement within the AMOSC team over the last few months with Neil Rowarth and Rowena Bucklow both having moved on from the team. We wish them all the very best with their future endeavours. We have welcomed Michael Simm and Lee Mould, both of who will be based in the Geelong office, working in operations and oiled wildlife response respectively. Michael joins AMOSC with an extensive warehouse, operations and 20 plus years' maritime experience, while Lee has many years' experience in environmental management for the oil and gas sector in Australia.

Training

In 2016 AMOSC is offering its full suite of oil spill training programs accredited to the IMO Level I, II and III levels, in both Geelong and Perth. In addition, we have a 'new' split operations course, which allows participants to complete three, two-day operations modules, over a six month period to allow for eligibility for the IMO qualification. AMOSC's 2016 training calendar can be found on page 13, or accessed via the AMOSC website (amosc.com.au).

Preparedness activities

In 2015, AMOSC was contracted by BP to develop four tactical response plans, in preparation for BP's upcoming drilling campaign in the Great Australian Bight (GAB). These plans include:

- Offshore Surface Dispersant
- Offshore Containment and Recovery
- Shoreline Protection and Clean-up
- Waste.

The project represents a major commitment by BP to ensure that, prior to drilling, the company has in place very specific and detailed tactical responses to an oil spill, particular to the GAB. The scope of the project is considerable: shorelines from Albany in WA to Beachport in SA; the distances offshore; and the tiered national and international spill response logistics involved. AMOSC has invested heavily in studying and understanding the coastlines of Southern WA and SA as well as the conditions of the GAB. The logistics and staging considerations for response and waste management represent a step change in terms of Australian oil spill preparedness.

During January, Phillip Starkins and Nathan Young from the AMOSC project team undertook a 'ground truthing' survey of particular sections of the WA and SA coastlines. This included areas in and around Albany and Esperance, the Eyre Peninsula, Kangaroo Island and the mouth of the Murray River.

Photos at right and on page 15 indicate some of the sites that were visited.

The site visits have proven to be critical in terms of ensuring that plans drafted remotely using satellite imagery and marine charts are able to be implemented on the ground, with a high degree of confidence of success.



Phillip Starkins on an Oyster Punt in Smoky Bay, South Australia. Phillip was hosted by local oyster farmer Mr Judd Evans.



Examples of the pristine environment of Smoky Bay, Eyre Peninsula, South Australia. AMOSC 'ground truthing' survey.



Entrance to Venus Bay, Eyre Peninsula, South Australia. AMOSC 'ground truthing' survey.

Training programs

Course name	Dates	Location
Course in Oil Spill Response Operations	29 February- 4 March 2016	Geelong
Offshore Operations Course	6-7 April 2016	AMOSC Perth
Course in Oil Spill Response Management	18-21 April 2016	Geelong
Course in Oil Spill Response Command & Control	18-21 April 2016	Geelong
Core Group workshop- Operations- Spillcon	2-5 May 2016 Spillcon	Perth
Revalidation Course in Oil Spill Response Command & Control	11-12 May 2016	Geelong
Revalidation Course in Oil Spill Response Management	11-12 May 2016	Geelong
Nearshore Operations Course	18-19 May 2016	AMOSC Perth
Revalidation Course in Oil Spill Response Command & Control	20-21 June 2016	Perth
Revalidation Course in Oil Spill Response Management	20-21 June 2016	Perth
Shoreline Operations Course	23-24 June 2016	AMOSC Perth
Course in Oil Spill Response Command & Control	4-7 July 2016	Perth
Course in Oil Spill Response Management	4-7 July 2016	Perth
Aerial Surveillance Course	18-19 July 2016	Perth
Core Group workshop- Operations	1-4 August 2016	AMOSC Geelong
Core Group workshop- Management	1-4 August 2016	AMOSC Geelong
Revalidation Course in Oil Spill Response Command & Control	10-11 August 2016	Perth
Revalidation Course in Oil Spill Response Management	10-11 August 2016	Perth
Course in Oil Spill Response Command & Control	22-25 August 2016	Perth
Course in Oil Spill Response Management	22-25 August 2016	Perth
Course in Oil Spill Response Operations	5-9 September 2016	Perth
Course in Oil Spill Response Command & Control	19-22 September 2016	Geelong
Course in Oil Spill Response Management	19-22 September 2016	Geelong
Core Group workshop- Operations	3-6 October 2016	AMOSC Perth
Course in Oil Spill Response Operations	24-28 October 2016	Geelong
Course in Oil Spill Response Command & Control	14-17 November 2016	Perth
Course in Oil Spill Response Management	14-17 November 2016	Perth



Coffin Bay Headland (looking south), Eyre Peninsula, South Australia. AMOSC 'ground truthing' survey.

Dispersant testing

AMOSC has adopted the ExxonMobil ExDet testing protocol as its preferred protocol to test dispersant, and to ensure dispersant stockpiles held by the centre are fit for the purpose. This provides Member Companies and National Plan partners with the confidence that AMOSC dispersant has maintained a certain threshold during its lifespan.

This program is now also being rolled out to member stockpiles in Australia, and is available on request to other National Plan partners.

Exercises and drills

Notable exercises planned for 2016 include a Broome Supplementary stockpile deployment, scheduled for March. Additionally, AMOSC intends to run a full deployment exercise to coincide with Spillcon in May.

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