Wildlife Response Plan for Maritime Environmental Emergencies Procedure

Owner	**Incident Response Unit (ESR)**	**CHC/2019/9999**
Last Reviewed	**07/11/2024**	**Version 1.04**

1. Purpose

The Wildlife Response Plan for Maritime Environmental Emergencies Procedure (procedure) provides the Department of Environment, Tourism, Science and Innovation (department) with direction to ensure that its obligations as the custodian of the oiled wildlife plan and lead combat agency for oiled wildlife response for maritime emergencies under the Queensland Coastal Contingency Action Plan (QCCAP) are met.

The procedure identifies the custodianship framework for the department and assists departmental custodians to undertake their responsibilities regarding direction in the provision of a coordinated response, immediate and effective protection measures and rescue and rehabilitation of wildlife during maritime environmental emergencies.

The procedure also applies to land-based pollution events that impact or have the potential to impact the marine environment as detailed in QCCAP.

2. Principles

The principles against which decisions or actions are taken under which the procedure should be measured include:

1. Human health and safety must be prioritised over all wildlife response actions by establishing and maintaining safe workplaces and safe work practices
2. Protecting and responding to the welfare needs of wildlife threatened or impacted is a key response priority
3. Applying protective measures to wildlife and their habitats is important as a conservation management tool
4. Minimising the impacts to wildlife from incident response activities is important
5. Care for wildlife must comply with best available practices
6. The expectations of the community should be considered where feasible and where there is benefit to wildlife
7. Decision making should be supported by formal processes such as the Net Environmental Benefit Analysis (NEBA) or Spill Impact Mitigation Assessment (SIMA).

3. Associated policy

Queensland State Disaster Management Plan

4. Authority

Both the National Plan for Maritime Environmental Emergencies (the National Plan) and the QCCAP are threat specific plans under the national and state disaster management arrangements.

The National Plan identifies that each State and Northern Territory must have effective wildlife response arrangements in place.

The QCCAP, operating under the National Plan arrangements, identifies the different organisations engaged in maritime environmental emergencies including the department's delegated role in wildlife response.

Queensland's Animal Care and Protection Act 2001 (Section 17), Breach of duty of care prohibited, details that a person in charge of an animal owes a duty of care to it and that duty of care may be breached if the person does not take reasonable steps to treat the animal for its disease or injury. The response to or treatment of an animal that is threatened or impacted during a maritime environmental emergency may be regarded as a required Duty of Care. As the department is delegated the responsibility of wildlife through QCCAP, failure to respond to live wildlife may be in breach of Section 17 and therefore the Animal Care and Protection Act may also become an authority under which the department is also obligated too.

5. Scope

This procedure applies to:

1. Maritime environmental emergencies that occur within:
   - Queensland's coastal waters including gazetted port limits
   - Waters of the Great Barrier Reef Marine Park (GBRMP) as defined in section 31 of the Great Barrier Reef Marine Park Act 1975
   - Waters of the Torres Strait Protected Zone as described in the Treaty between Australia and the Independent State of Papua New Guinea concerning Sovereignty and Maritime Boundaries in the area between the two countries, including the area known as Torres Strait, and Related Matters of 18 December 1978, which entered into force on 15 February 1985
2. Land based pollution events that occur on Queensland terrestrial environments and impact or have the potential to impact the marine environments (as described above)

Consideration and recommendations for supporting wildlife responses outside the Scope of this procedure (e.g. interstate and commonwealth jurisdiction responses) will be made by the Chief Advisor Incident Management, Environmental Services & Regulation (ESR) (Chief Advisor) on a case by case basis in discussion with the relevant custodians identified later in this procedure. Assessment by the Chief Advisor for such support will consider the implications for wildlife conservation for species nationally and within Queensland and the exposure of Queensland to maintaining its own wildlife response obligations under this procedure.

The procedure applies to all personnel under the direction of the department associated with this procedure including:

- Employees
- Contractors/consultants (includes external agency/labour hire staff)
- Work experience/industry placement students
- Volunteers
- Visitors

Impacts to wildlife will depend on the incident specifics and particularly the presence of chemical contaminants (e.g. hydrocarbons) as a key factor. The effects of chemical contamination on wildlife will then be determined by the chemical composition of the contaminant, its form (e.g. vapour, liquid or solid), the route of exposure and the duration of exposure.

This procedure identifies that a broad range of wildlife can be threatened or impacted from maritime environmental emergencies and may include avian fauna, marine mammals and marine reptiles.

Avian fauna are commonly the wildlife group at greatest risk from pollution incidents. This includes birds that use the aquatic and marine environments either directly or indirectly. Avian fauna may include seabirds, coastal birds, freshwater bird inhabitants, shorebirds or waders and raptors.

Chemical contamination for avian fauna, at the acute phase, can cause a range of health problems including: chemical burns to the skin and feather damage; eye damage through chemical and physical impacts; hypothermia and waterproofing issues; dehydration; starvation; gastroenteritis; haemolytic anaemia; toxicity problems; pneumonia and other lung disorders; stress; other diseases; mortalities; egg losses and effects to juvenile stages.

Marine mammals, for the purposes of this procedure principally relates to dolphins, whales and dugong but may include seals (e.g. presence of fur seals during strandings Gold Coast 2016). These animals can be impacted during marine pollution incidents through toxicity effects, chemical burns, starvation, disease processes, displacement and separation effects within social groups resulting in increased predatory risks, increased stress and reduced care for juvenile age classes.

For marine reptiles, the procedure covers turtles, crocodiles and sea snakes. Impacts from marine pollution incidents for this group of animals may include toxicity issues, chemical burns, blockages of the gastrointestinal tract, disease processes and for turtle's effects on olfaction cues associated with nesting.

The wildlife response must also mitigate the impacts associated with responding to the maritime environmental emergency. What has been shown is that the actions associated with the overall response in dealing with the incident, especially those operations directly relating to contaminant and clean-up, can also have a negative impact on wildlife. These may include: boat strikes (marine operations); chemical injuries (dispersant application); fire related injuries (in situ burning); increased stress to wildlife (marine and shoreline operations); displacement and separation impacts to social groups (marine operations); and habitat destruction (shoreline operations). Through the response planning mechanisms, it is possible to implement measures to minimise impacts from the response activities on wildlife and certainly this has been achieved for well-planned responses in the past.

6. Delegations

Delegations are to be exercised in accordance with the department's Human Resource Management Delegations. Delegation Schedules are reviewed on a regular basis to ensure they remain current and relevant to the operational needs of the department. It is recommended that delegate authority levels are confirmed prior to exercising any powers in relation to determination.

7. Procedure

Responding to wildlife at risk or impacted during maritime environmental emergencies requires a system of both contingency planning prior to incidents and response processes applied during incidents.

For contingency planning this includes training of first responders, response equipment resourcing and equipment maintenance and practice exercises with these systems to be put in place prior to incidents occurring and to be undertaken on a regular basis.

For response processes this includes notification, assessment, activation and the application of primary, secondary and tertiary response actions when incidents occur. Associated with response processes is applying the Australian Inter-service Incident Management System (AIIMS), Wildlife Incident Action Plans, Wildlife Operations, Workplace Health and Safety and Financial Arrangements.

7.1 Training

For the department to provide effective wildlife response efforts it must have a pool of trained first responders that can be maintained in a state of readiness and be available for mobilisation on demand.

Training must meet best available practices supporting the safety of responders, welfare needs of animals and wildlife conservation principles.

Wildlife training for maritime environmental emergencies uses the nationally accredited unit AHCFAU303 Respond to wildlife emergencies. This is recognised nationally by the different jurisdictions responsible for wildlife response during maritime environmental emergencies.

Training using AHCFAU303 is the minimum requirement for first responders and team leaders under this procedure. It is also a requirement that these personnel receive refresher training at least every 2 years. This provides operational standardisation for any wildlife response actions under this procedure whilst maintaining skills in a state of readiness. Refresher training may be supplemented by exercise activities and direct wildlife response engagement potentially removing the need for additional refresher training.

Personnel supporting incidents under this procedure initially will comprise of trained departmental staff and then be expanded to incorporate other trained personnel (e.g. first nation ranger groups, wildlife carers, wildlife veterinarians and wildlife zoo staff) that will work under departmental officers who will act as team leaders using standard AIIMS principles (i.e. team ratios of 1:5).

It is recommended that as a minimum the department maintain a readily available trained first responder pool of 64 departmental officers to act as team leaders.

Records of personnel trained shall be maintained in a spreadsheet or database system that can be accessed for planning processes during response activities. The Chief Advisor will manage this system and make it will be available across the department for planning purposes.

7.2 Equipment resourcing and maintenance

The actions associated with responding to wildlife during maritime environmental emergencies requires dedicated equipment resources.

The department has available some wildlife response equipment that can be used when applying this procedure (i.e. training, exercise and response actions). The available equipment is limited and is designed principally as a first strike response capacity. Additional equipment will need to be purchased at the time of an incident and this will be driven by the wildlife at risk or impacted and the specifics of the incident.

The department's wildlife response equipment is stored at the Maritime Safety Queensland (MSQ) Marine Operations Base, MacArthur Avenue East, Pinkenba. The equipment is stored in Shipping Containers that can be easily mobilised through existing road transport services. Access to this site for equipment mobilisation is available 24/7 through the Regional Harbour Master and their delegates.

In addition to the department's equipment, the Australian Maritime Safety Authority (AMSA) has available, as a part of its National Plan stockpile, wildlife decontamination systems. These are established in shipping containers and are held at different key logistical centres nationally (e.g. Townsville). These wildlife decontamination systems can be mobilised as needed through a request process provided by AMSA.

To maintain a state of readiness the department's dedicated wildlife response equipment must be audited annually. This requires that equipment is checked generally, is electronically tagged for safety (e.g. centrifuge, pet driers etc.), is functional and within recommended manufacturer expiree dates. Secondly it is essential that the equipment resources are kept up with changing techniques and technology with equipment evaluations also being undertaken annually and equipment upgrades, and replacements being made as necessary.

7.3 Exercises

An exercise is a controlled, objective-driven activity used for testing, practising or evaluating processes or capabilities.

An exercise can be as simple as a planning group discussing an emergency plan or as complex as a major multi-agency event involving several organisations and participants.

Regardless of size, exercises are useful to:

- Evaluate plans

- Explore issues

- Promote awareness

- Develop or assess competence

- Demonstrate capability

- Practise interoperability

- Validate training

- Identify gaps

- Evaluate equipment, techniques and processes

Each year MSQ deliver a state-wide oil spill exercise and about every 5 years AMSA run a national oil spill exercise in Queensland (e.g. Exercise Torres 2018). Both exercise opportunities commonly include wildlife special ideas.

Internally the department is also expected to run in house exercise activities, as a standard contingency planning practice, though based on a much smaller scale. They should be held annually and engage departmental response personnel from across the state filling in shortfalls that national and state exercises do not meet.

Exercises at all levels (national, state and internally) are an essential part of maintaining capability and require support from across the department in terms of planning, execution and participation.

7.4 Incident Notification

Notifications of maritime environmental emergencies to the department may be through AMSA, MSQ, Queensland's emergency services, Great Barrier Reef Marine Park Authority, the department's Pollution Hotline to the State Incident Response Network (SIRN) or the Community Response Team (CRT) by the general public, industry of other government organisations or directly from departmental officers.

Notifications will normally be assessed initially by either the Incident Response Unit (IRU), SIRN or CRT then forwarded to the Chief Advisor to determine if there are wildlife likely to be at risk or impacted from the incident. Advice from QPWS & Partnerships may also be sought to assist in the wildlife risk determination process. This is a standard practice applied to all incident notifications that are received through ESR.

The Chief Advisor where it is believed that wildlife may be at risk or impacted will immediately notify as a group the Director General, Senior Director (Office of Director General), Deputy Director Generals for Environmental Services and Regulation (ESR) and QPWS & Partnerships, Corporate Communications, Executive Director Operational Support ESR, Director Communication Support, Director Media, Media Unit and other relevant executives under ESR and QPWS & Partnerships divisions of the incident and wildlife matters as a normal communication practice for Major incidents. This will then be followed up with the normal Alert processes providing further detail of the incident and actions by the department.

7.5 Assessment & Activation

The Chief Advisor, in leading the department's actions for maritime environmental emergencies, will determine if the response actions of this procedure will be activated and when they will be terminated.

Any response actions associated with this procedure will be applied using AIIMS. For incidents involving QCCAP, MSQ will be responsible for establishing the Incident Management Team (IMT) and for land-based pollution incidents threatening the marine environment ESR will be responsible for the IMT.

The Chief Advisor will determine if a Wildlife Response Incident Action Plan (Wildlife Response IAP) will be developed and what response strategies should be considered.

The level or scale of the wildlife response, through the Wildlife Response IAP process, will be determined by several factors including:

Groups of wildlife impacted	The department formally recognises that a range of wildlife groups including avian fauna, marine mammals and marine reptiles can be impacted by spill events. Each of these very different wildlife groups have significantly different requirements in terms of how they are responded to and managed. Therefore, as the number of wildlife groups threatened and impacted increases then so does the level or scale of the wildlife response.
Diversity of species	As the diversity of species (within wildlife groups) increases then the level or scale of the response operation often increases as well. This is created where species do not conform to the same care needs (e.g. seabirds compared to shorebirds). Hence as diversity increases the need for a greater range of different requirements, such as capture, housing, feeding and care generally, can increase the response scale.
Number of wildlife	When the numbers of wildlife increase then so does the requirement for increased personnel support and equipment. As a general guide oiled wildlife responses for birds require one person per animal over the entire response (i.e. 200 birds require about 200 people over the total wildlife response period).
Duration of the response	If the spill event continues for some time, then the long-term availability of response personnel also becomes an issue independent of the wildlife factors. Most wildlife responses under this procedure commonly require personnel support for up to 12 weeks but may be longer if the marine pollution source is unable to be controlled or contained (e.g. *Prestige* oil spill Spain 2002 required wildlife response support for 18 months). Personnel are typically limited by the time that they can commit due to personal needs, work commitments and fatigue management principles in the long term. Generally, it is requested that personnel commit a minimum of 10 days to the wildlife response though staff may be expected to work several 10-day rotations over the course of the total response period. The department has in place fatigue management principles for incidents that must be applied to all response activities (e.g. Field Activity Procedure—ESR/2016/2513). It must be noted however that these

	principles were not designed for months of response support effort that may be required with the activation of this procedure.
	The personnel needs are also complicated given response personnel must be available to support back-to-back shift periods (e.g. multiple 10 day shifts). Hence if you have 30 personnel supporting a shift period then 60 must be available as a minimum to allow for continuation of the response effort in the first instance as a part of the shift changeover.
Specialist requirements	There are commonly specialist needs associated with a maritime environmental emergency for wildlife matters. The needs include risk management for workplace health and safety (WHS) protecting responders and the specifics of the wildlife encountered and their response needs.
	For WHS this may include the risk management for dangerous wildlife (e.g. crocodiles, stinging jellyfish etc.), remote area operations (e.g. Cape York and Coral Sea), dangerous goods and contaminants released to the environment from the incident (e.g. oil and other chemicals) and other chemicals applied during the incident (e.g. dispersants), extreme weather events at the time (e.g. cyclones, flood events, king tides, electrical storms etc.), and extreme ambient weather conditions (e.g. daily temperatures of 32C with high humidity feeling like 39C). For these types of risks and others likely the department's risk management principles and practices will be applied as a standard practice. The risk management processes required to support a wildlife response can have an increased effect on the scale of support necessary benefiting all involved.
	Specialist expert support may be necessary to meet the response needs of the wildlife involved. This may require unique skill sets to support the management of large numbers of response personnel (e.g. 1200pax daily *Treasure* oil spill 2000), specialist wildlife capture and rehabilitation techniques (e.g. responding to oiled marine turtles and shorebirds *Shen Neng 1* 2010) and Incident Management Team (IMT) wildlife roles (*Rena* oil spill NZ 2011). Commonly such specialist personnel can only be accessed internationally as this resource is largely beyond the capacity available within Queensland and Australia. These specialists are available from recognised international organisations that work in oiled wildlife responses on a regular basis (e.g. International Bird Rescue, USA).

One of the critical features for an effective wildlife response is limiting the time required to respond to wildlife threatened or impacted. The greater the time to respond to wildlife the reduced effectiveness of response actions and therefore the increased likelihood of stress on wildlife and wildlife mortalities. Early notification of incidents, wildlife threatened, wildlife impacted, and the timely activation of the wildlife response is therefore essential.

With early notification there is a greater opportunity to have Incident Action plans and actions in place (such as staff and equipment mobilisation) before the first impacted wildlife are seen. Once impacted wildlife (e.g. oiled birds) start being observed without this level of preparedness it is very difficult for response efforts to be effective.

The Chief Advisor will brief the Director General, DDG ESR and DDG QPWS & Partnerships on the details of the actions planned and the resource requirements (personnel and equipment) necessary to support the Wildlife Response IAP.

The Chief Advisor will be responsible for activating National Plan wildlife resources from AMSA as deemed necessary through the IMT.

The Chief Advisor will also ascertain the need for international specialist support and will activate their mobilisation on a case-by-case basis through the IMT approval processes.

7.6 Response actions

Response actions under this procedure may include Primary, Secondary or Tertiary activities or a combination of the three. These make up best available practices for wildlife response during maritime environmental emergencies.

The following table details each of these activities and Figure 1 then holistically represents the individual elements of these activities and their relationship to each other.

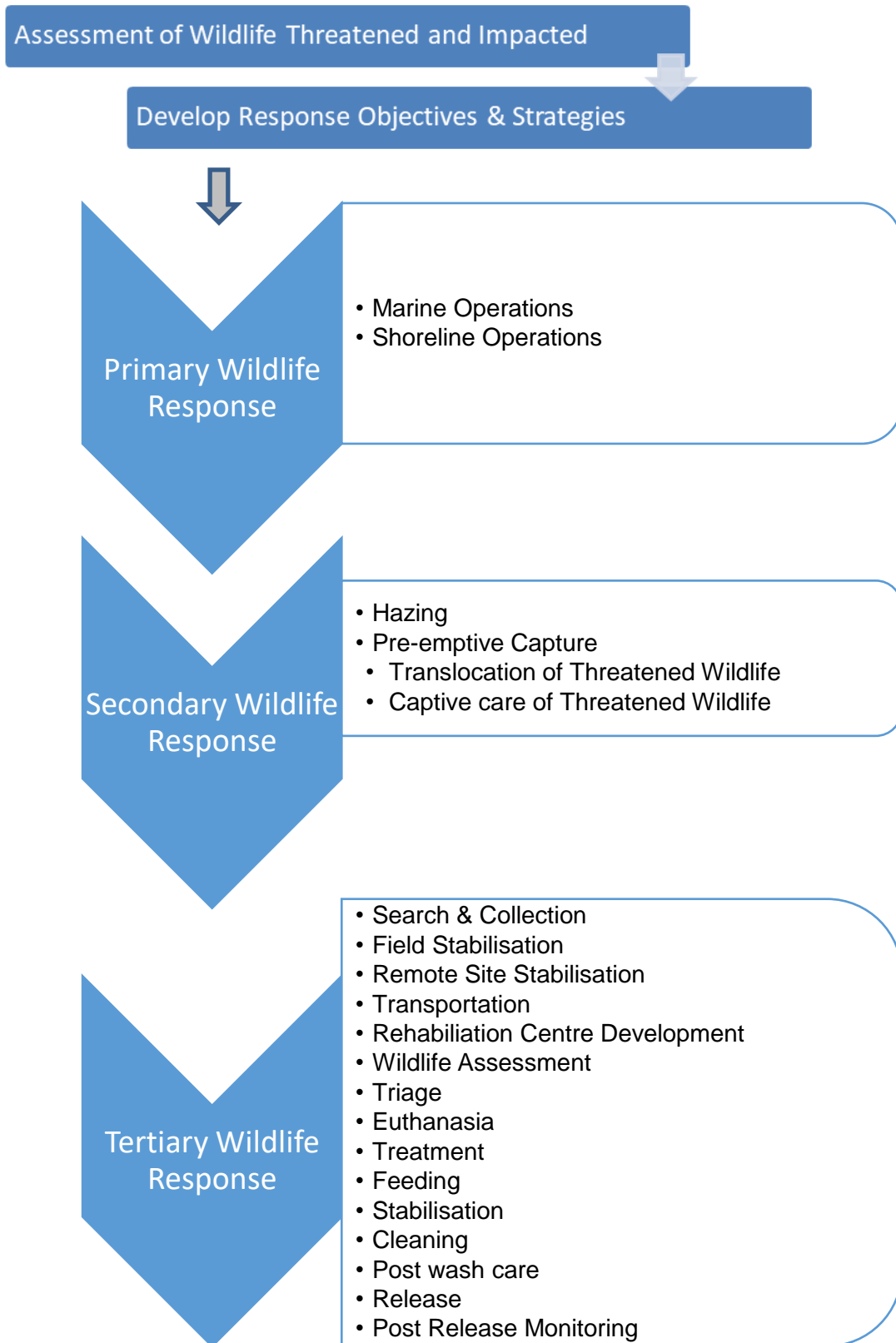| Primary Response Actions	This involves removing or minimising the threat to wildlife in the first instance. For oil spills this may include prioritising the Marine Unit (response activities including physical and chemical dispersion, containment and recovery of contaminants, protection of habitats directly and deflection of contaminants away from habitats) and the Shoreline Unit (hand cleaning and mechanical removal of contaminants from shoreline habitats) to focus on wildlife habitat and wildlife protection measures and not just general environmental clean-up. These actions, if effective, limit the level of contamination to the environments that wildlife commonly use therefore reducing the likelihood of wildlife becoming contaminated.

This is the most important strategy for wildlife protection and where overall response effort should be prioritised in the first instance for wildlife response.

The department's role for this action is largely through the Intelligence function within the IMT prioritising wildlife habitat for protection by Operations (IMT). Under some circumstances departmental staff may be required to support the Shoreline unit with hands on effort cleaning shorelines in the short term (e.g. Phillip Island Victoria oil spill 2000 and Cape Upstart Queensland oil spill 2015) in an effort to protect wildlife in a timely manner.

Secondary Response Actions	If the primary wildlife response actions are not effective or likely not to fully benefit wildlife, then the secondary strategy of hazing and pre-emptive capture is considered.
	Hazing involves the use of deterrents (e.g. noise or visual scaring devices) or physical obstructions (e.g. fencing) to keep animals away from the contamination.
	Pre-emptive capture is the collection of non-oiled or clean wildlife that are at risk of contamination and taking them into captive care or translocating them to other clean habitats whilst the contaminants and threat is being removed from the environment.
	These approaches have been used worldwide, on large scales and have been shown to be very effective for a range of species including penguins (39,000 animals during the *Treasure* oil spill 2000) and shorebirds (New Zealand Dotterel during the *Rena* oil spill 2012).
	Because of the potential for negative effects on wildlife during the application of pre-emptive capture these actions are generally only undertaken when the risk of contamination is extremely high.
	Validation supporting these approaches is typically undertaken through systematic processes such NEBA or SIMA as a necessary step in the decision-making process.
Tertiary Response Actions	During incidents where wildlife are contaminated tertiary response actions are applied.

Tertiary response actions commonly include wildlife capture, stabilisation, transport, medical assessment, triage processes, decontaminated and rehabilitated.

This is the most complicated of all the wildlife response actions because of the specialised resource requirements necessary (i.e. human skills, infrastructure and equipment). Tertiary response actions have however resulted in the successful release of large numbers of wildlife even during difficult and complex situations.

In some instances, wildlife are captured, as a part of a Tertiary response, but are euthanized as a welfare need without rehabilitation. This is considered where not all animals can be medically saved even when using best available practices. Formalised triage practices determine this outcome and specialised assessment processes are used to validate this action.

Figure 1: Wildlife Response (Flow diagram of activities)

Assessment of Wildlife Threatened and Impacted

Develop Response Objectives & Strategies

Primary Wildlife Response
- Marine Operations
- Shoreline Operations

Secondary Wildlife Response
- Hazing
- Pre-emptive Capture
  - Translocation of Threatened Wildlife
  - Captive care of Threatened Wildlife

Tertiary Wildlife Response
- Search & Collection
- Field Stabilisation
- Remote Site Stabilisation
- Transportation
- Rehabiliation Centre Development
- Wildlife Assessment
- Triage
- Euthanasia
- Treatment
- Feeding
- Stabilisation
- Cleaning
- Post wash care
- Release
- Post Release Monitoring

7.7 AIIMS Structure

The IMT through AIIMS can address all the operational requirements for managing and responding to a maritime environmental emergency including wildlife matters. As a specialist expertise area, often outside of the scope of most IMT personnel, wildlife will be represented by department staff or their recommended nominees to full fill several key roles across the IMT. Specifically, this will include the roles:

- Wildlife intelligence officer
- Wildlife planning officer
- Wildlife logistics officer
- Wildlife finance officer
- Wildlife operations officer

Depending on the scale of the incident each of these positions may also be supported by specialist wildlife experts to create supportive teams.

The scope of the **wildlife intelligence officer** supporting the Intelligence function includes:

- Collection of information on the current and forecast situation specific to wildlife matters

- Processing of that information into timely, accurate and relevant intelligence

- Organising and displaying the wildlife intelligence information in the form of a Common Operating Picture (COP) so that it is relevant and accessible

- Focussing these activities so that critical intelligence needs are met, and a COP is shared to support decision making, planning, operations and monitoring of the wildlife response

The scope of the **wildlife planning officer** supporting the Planning function of the IMT includes:

- Evaluation and analysis of intelligence on the current and forecast situation specific to wildlife
- The preparation of options analysis, and development of potential incident objectives and strategies for wildlife
- Undertaking risk assessments associated with wildlife matters
- Preparation and dissemination of the plans that are used to support the wildlife response
- Provision of specialist and technical wildlife advice to the Planning Officer
- Collection and maintenance of information about the resources that are allocated to the wildlife aspect of the incident

The scope of the **wildlife logistics officer** supporting the Logistics function includes:

- Specific to the wildlife response obtaining and maintaining:
  - Human and physical resources
  - Facilities and staging areas
  - Services
  - Materials

The scope of the **wildlife finance officer** under the Finance function includes:

- For the wildlife response supporting the management of:
    - Contracts and procurement
    - Account payments and accounting records
    - Compensation and insurance claims
    - Time records for all wildlife personnel deployed to the incident

The scope of the **wildlife operations officer** under the Operations function includes:

- Implementation of wildlife strategies
- Management of all wildlife activities
- Management of all resources (people & equipment) assigned to wildlife operations

A more detailed explanation of the wildlife operations officer role is provided later in this procedure (7.8 Wildlife Operations).

The AIIMS 2017 manual and the Aide Memoire for Marine Pollution Response both provide more detail for these types of positions and should be referenced by those fulfilling these roles.

7.8 Wildlife Incident Action Plan

The IMT though AIIMS uses a formalised administrative process of incident action plans (IAP). These detail the response actions necessary to support the response including the details of the situation and resourcing and provide a pathway for approval processes to be applied by the Incident Controller.

More specifically the function of the IAP is to:

- Specify the overall incident objectives, the strategies to be applied and the Incident Controller's intent
- Identify the key threats and risk exposures from the incident and response actions
- Establish continuity of command and control
- Ensure effective use of resources
- Identify anticipated resources needed to support response actions

Supporting the production of the IAP, AIIMS has a standard documentation style that is applied.

The wildlife IAP is a part or subsection of the overall IAP produced for managing and responding to the incident and is not a standalone document.

The wildlife IAP component includes several generic aspects that are standard. These have been detailed in Appendix A as the pro-forma to be used as a guide for the development of the wildlife section of the IAP. Noting that some of the features will already be included to the overall IAP (e.g. incident objectives, weather forecast etc.) and do not need to be duplicated.

7.9 Wildlife Operations

Using AIIMS for complex or protracted incidents it is common that the Operations function manage the scale of the event with tasks delegated to a system of commanders and units (e.g. Division

Commanders, Sector Commanders, Team Leaders and Teams). This expanded system allows for better control and command principles to be applied resulting in a better managed structure.

For the purposes of this procedure the wildlife operations officer will be known as the Wildlife Division Commander (WildlifeDC) reporting to the Operations Officer leading the Wildlife Division within the IMT.
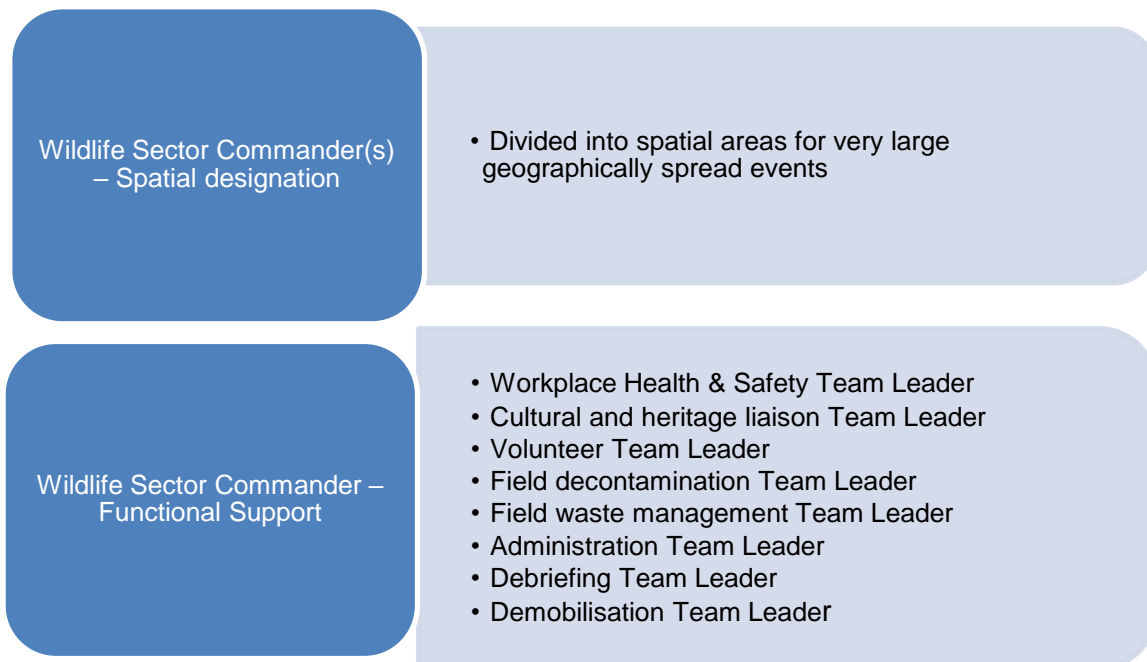
Wildlife matters under the control of the WildlifeDC include wildlife at risk or threatened from impacts and wildlife directly impacted during incidents with responder safety and animal welfare being the key factors for all response considerations and actions. The wildlife risks to be managed may include direct chemical contamination from the pollutant (e.g. hydrocarbons) as well as the operational impacts associated with the overall IMT activities (e.g. vessel and vehicle strikes, habitat destruction etc.) as described earlier.

The WildlifeDC is responsible for applying best available response practices to wildlife during maritime environmental emergencies. This includes assisting in driving primary wildlife response processes across the whole IMT and the direct application of secondary and tertiary wildlife response actions to the response.

Further detail on the roles and responsibilities of the WildlifeDC and a checklist of deliverables is provided in Appendix B.

The WildlifeDC may appoint several supportive roles as commanders and units to support their responsibilities. These are identified in Figure 2.

Figure 2. The Wildlife Sector Commander and Team Leader structure supporting the WildlifeDC.

Wildlife Sector Commander(s) – Spatial designation	• Divided into spatial areas for very large geographically spread events
Wildlife Sector Commander – Functional Support	• Workplace Health & Safety Team Leader • Cultural and heritage liaison Team Leader • Volunteer Team Leader • Field decontamination Team Leader • Field waste management Team Leader • Administration Team Leader • Debriefing Team Leader • Demobilisation Team Leader

Wildlife Sector Commander – Assessment of wildlife at risk and impacted	• Reconnaissance Team Leader
Wildlife Sector Commander - Secondary wildlife response actions	• Hazing Team Leader • Pre-emptive capture Team Leader
Wildlife Sector Commander - Tertiary wildlife response actions	• Collection Team Leader • Remote Site Stabilisation Team Leader • Transport Team Leader • Rehabilitation Centre Team Leader • Food Management Team Leader • Assessment Team Leader • Triage Team Leader • Intensive Care Team Leader • Pre-wash Stabilisation Team Leader • Washing Team Leader • Rinsing Team Leader • Drying Team Leader • Post-wash Stabilisation Team Leader • Release Team Leader • Post-release Monitoring Team Leader

For large scale responses the roles identified in Figure 2 may be individually allocated and for small scale events individuals may be delegated more than one role. These staffing arrangement will be identified in the IAP process. The deliverables to each of the positions identified within Figure 2 is provided in Appendix C as a guide.

7.10 Workplace Health and Safety

The key principle of this procedure directs that human health and safety must be prioritised over all response actions and this is achieved through establishing and maintaining safe workplaces and safe practices.

The department's standard approaches and systems supporting WHS apply under this procedure.

For several maritime environmental emergencies (including oil spills) most risks can be pre-identified, and risk managed through contingency planning before incidents occur.

Appendix D provides a copy of the Effects of Oil on Wildlife Conference peer reviewed paper "Managing human risk during an oiled wildlife response". This paper details examples of treatments and controls that can be applied to risk management specific to wildlife for an oil spill both prior and during incidents.

7.11 Financial Arrangements

For maritime environmental emergencies where the National Plan or QCCAP apply the cost recovery processes under these arrangements will be activated. Cost recovery will apply to all approved response actions (i.e. actions identified in the IAP and approved by the Incident Controller) including wildlife.

For land-based pollution events the department is responsible for the management of the incident as the lead organisation. The costs associated with the wildlife response and all other response actions will be met in the first instance by the department. Cost recovery from the responsible party under this circumstance will then be pursued through normal legislative tools available to the department.

7.12 Wildlife Response Equipment Hire

Wildlife response equipment held by the department is charged out as a part of the response as the standard applied by other combat agencies engaged in maritime environmental emergencies (e.g. AMSA, & MSQ).

Charge or hire rates are activated when equipment is mobilised, and rates are categorised as either stand-by or operational charges. Stand-by rates are when equipment is held on site at a staging area, ready for use. Operational charges are when the equipment is activated for use.

Standby and operational charge or hire rates increase annually using the Australian Consumer Price Index (CPI) as the guiding reference.

All costs associated with the transport of wildlife response equipment and items that form consumables and need to be replaced (e.g. tube feeding equipment etc.) and servicing costs (including electrical test tagging) will be charged in addition to the charge or hire rate.

The department's wildlife response equipment, located at MSQ Marine Operations Base Pinkenba, is stored across 5 twenty-foot shipping containers and 1 ten-foot shipping container and categorised into the following sets with the charge out or hire rates listed.

December 2022 CPI Data	Equipment Set Focus	Standby Rate*	Operational Rate*
Container 1 (20-Foot): CPIU 251061(8)	Hazing & Collection	$720**/Day	$1440**/Day
Container 2 (20-Foot): CPIU 251062(3)	First Response	$720**/Day	$1440**/Day
Container 3 (20-Foot): SCFU 319260(8)	Wildlife Rehabilitation Facility Equipment	$2880**/Day Charged as a single set	$5760**/Day Charged as a single set
Container 4 (20-Foot): CPIU 559385(3)			
Container 5 (20-Foot) :COTU 800164(6)25G2			
Container 6 (10-Foot) : TBC MTBU 00116(5)12GB			

*These rates are independent of transport costs (including quarantine requirements) for equipment movement, any costs for replacement of consumables and servicing expenses.

**Rates listed have been updated based on December 2022 CPI rate increase. Rates will be updated annually based on CPI increases from this timeline.

Recovered costs from equipment charges or hire (Standby and Operational fees) returned to the department will be managed by the Chief Advisor and used for OWR contingency planning and equipment replacement and upgrades.

8. Responsibilities

The department is the custodian of the oiled wildlife plan and lead combat agency for oiled wildlife response across maritime emergencies under QCCAP.

The department has in the past delegated some of its other wildlife responsibilities (e.g. marine standings) to wildlife care organisations (i.e. wildlife carers) and industry wildlife organisations (e.g. Australia Zoo and Sea World) in some locations.

For wildlife matters under this procedure the response activities cannot be delegated to wildlife care organisations due to several factors. These organisations are not set up for the types of response activities addressed by this procedure with their focus being principally to support very small numbers of sick, injured and orphaned wildlife in a home care setting. Most incidents under this procedure will involve chemical contaminants and these wildlife organisations do not have the skills, risk management processes, capacity or resources to respond to and work independently with contaminated wildlife. These wildlife organisations, although often very experienced, only have a very limited capacity to support land or marine based activities and cannot support large scale operations especially where remote areas (e.g. Cape York, Coral Sea etc.) are involved. These organisations also have a limited knowledge of AIIMS especially at the functional or operational level to run response activities which is essential. These wildlife organisations also have a limited capacity to coordinate their efforts on a large scale even with the support of bodies such as Volunteering Queensland (e.g. *Shen Neng 1* oil spill). These organisations are set up as small, localised groups where they are very effective in their day-to-day routine activities on a limited scale but cannot fully facilitate the response requirements identified in this procedure.

MSQ as the lead agency overall for maritime environmental emergencies have identified that non-government wildlife organisations would be categorised as volunteers if engaged during a response. MSQ however do not have the systems to formally engage volunteers into a response under their existing arrangements. The department uses volunteers for a range of activities on a regular basis and has the policies, procedures and mechanisms necessary to support this type of engagement. MSQ requires that volunteers associated with wildlife activities (under QCCAP) must therefore be registered and managed under the department's volunteer system.

For responses under this procedure trained departmental staff will act in key leadership roles, including team leader positions. Where trained (7.1 Training) wildlife carers are engaged though the departments volunteer systems to support the activation of this procedure they will be allocated to departmental team leaders as team members. This is the only and best mechanism that wildlife carers, can be engaged to support wildlife responses under this procedure.

Established industry wildlife organisations and non-government organisations, including Taronga Zoo, Australia Zoo, Currumbin Wildlife Sanctuary, Sea World and the RSPCA have been approached to support wildlife responses under this procedure as professional wildlife bodies. They have however advised that they have a very limited capacity to support this procedure due to their existing organisational demands. Staff from some of these wildlife organisations have been trained in oiled wildlife response by the department (12pax in 2018; 2pax in 2022) and other non-trained staff (7.1 Training) may also be available for specialised response support (e.g. capture). Overall support from these organisations can only be considered on a case-by-case basis with only very limited numbers likely being available and for very short periods of time.

Historically response support for wildlife across the IMT and field activities for the actions of this procedure had been provided by QPWS & Partnerships with up to 120 trained personnel (2002-2012) being available to support the necessary wildlife roles.

The staffing support necessary for the activation of this procedure is large, even for small scale incidents, and does require across departmental support over protracted periods of time.

The following table identifies the membership roles and responsibilities necessary for the activation of this procedure from across the different departmental divisions, namely QPWS & Partnerships, ESR and Corporate Services (CS).

Responsibilities	Specifics	Custodian
Wildlife Response Plan for Maritime Environmental	Coordination of reviews and procedure updates	ESR
Training (AHCFAU303 Respond to wildlife emergencies)	Course Delivery	ESR
Wildlife Response Equipment Resourcing and Maintenance	Checks Maintenance Procurement	ESR and QPWS & Partnerships
Exercises	Planning Delivery Evaluation	ESR and QPWS & Partnerships
Incident Notification	Coordination	ESR and QPWS & Partnerships
Procedure Levels of activations	Alert Lean Forward	ESR and QPWS & Partnerships

	Stand Up Stand Down	
IMT Roles	Wildlife planning	QPWS & Partnerships
	Wildlife intelligence	ESR and QPWS & Partnerships
	Wildlife logistics	QPWS & Partnerships
	Wildlife finance	QPWS & Partnerships and Corporate Services (CS)
	Wildlife operations	QPWS & Partnerships
Wildlife Sector Commander (S) – Spatial designation	Divided into spatial areas for very large geographically spread events	QPWS & Partnerships
Wildlife Sector Commander – Functional Support	Wildlife Response Workplace Health & Safety	QPWS & Partnerships and CS
	Wildlife Cultural and Heritage liaison	QPWS & Partnerships and ESR
	Wildlife Volunteers	QPWS & Partnerships and CS
	Wildlife Field Decontamination	QPWS & Partnerships and ESR
	Wildlife Field Waste Management	ESR
	Wildlife Administration	QPWS & Partnerships and CS
	Wildlife Debriefing	QPWS & Partnerships and ESR
	Wildlife Demobilisation	QPWS & Partnerships
Wildlife Sector Commander – Assessment of wildlife at risk and impacted	Wildlife Reconnaissance	QPWS & Partnerships
Wildlife Sector Commander - Secondary wildlife response actions	Wildlife Hazing & Pre-emptive capture	QPWS & Partnerships

The first row's left cell reads "(See Appendix E)".

Wildlife Sector Commander - Tertiary wildlife response actions	Wildlife Search & Collection	QPWS & Partnerships
	Wildlife Field Stabilisation	
	Wildlife Remote Site Stabilisation	
	Wildlife Transportation	
	Wildlife Rehabilitation Centre Development	
	Wildlife Assessment	
	Wildlife Triage	
	Wildlife Euthanasia	
	Wildlife Treatment	
	Wildlife Feeding	
	Wildlife Stabilisation	
	Wildlife Cleaning	
	Wildlife Post wash care	
	Wildlife Release	
	Wildlife Post Release Monitoring	

9. Forms

AIIMS – refer to AIIMS 2017 Manual

MSQ – provided at MSQ led incidents by MSQ during events

ESR – through the IRU SharePoint site

10. Employee complaints and appeals

An employee who is the subject of an administrative decision or action is entitled to lodge a complaint in accordance with the departmental Employee Complaints Management Policy and Procedure should they feel that the administrative decision is unfair or biased.

Employees who are unsatisfied with the outcome of their employee complaint may be entitled to lodge an appeal in accordance with Directive – Appeals which can be found on the Public Service Commission website at https://www.qld.gov.au/gov/directives-policies-and-guidelines

An appeal may be started by giving the Industrial Registrar an appeal notice. Further information on starting an appeal and appeal rights is available from the Queensland Industrial Relations website at https://www.qirc.qld.gov.au/public-service-appeals

11. Definitions and glossary of terms

AIIMS - Australian Inter-service Incident Management System

AMSA - Australian Maritime Safety Authority

Chief Advisor - Chief Advisor Incident Management, Environmental Services & Regulation, Department of Environment and Science

COP – Common Operating Picture

CS – Corporate Services

CRT - Community Response Team

Department - Department of Environment and Science

ESR - Environmental Services & Regulation

Employee – all permanent, temporary employees including trainees and cadets of the department.

GBRMP - Great Barrier Reef Marine Park

Hydrocarbons - organic chemical compounds composed only of the elements carbon and hydrogen. Hydrocarbons are the principal constituents of petroleum and natural gas.

IAP – Incident Action Plan

IMT - Incident Management Team

IRU - Incident Response Unit

MSQ - Maritime Safety Queensland

National Plan - National Plan for Maritime Environmental Emergencies

NEBA - Net Environmental Benefit Analysis

Procedure - Wildlife Response Plan for Maritime Environmental Emergencies Procedure

QCCAP - Queensland Coastal Contingency Action Plan

RC – Rehabilitation Centre

RSSC – Remote Site Stabilisation Centre

SIMA -Spill Impact Mitigation Assessment

SIRN - State Incident Response Network

WildlifeDC - Wildlife Division Commander

WHS – Workplace, Health & Safety

12. References

National Plan for Maritime Environmental Emergencies

Queensland Coastal Contingency Action Plan

13. Further information

Should you require any further information or clarification, please contact:

- o Chief Advisor Incident Management, Environmental Services & Regulation

14. Review

This procedure shall be fully reviewed within two years of the **Last Reviewed** date.

Regularly where incidents are responded too, and exercises are undertaken the learnings from these events should also be applied to more frequent reviews of the procedure with improvements made as deemed necessary.

15. Approval

Signed: …………………..…………..…..

Jamie Merrick
Director-General
Department of Environment and Science

Date: 08/10/2023

16. Version history

Date	Version	Action	Description / comments
12 August 2020	1.00	Approved by the Deputy Director General ESR	New draft document
15 September 2020	1.00	Reviewed by QPWS & Partnerships and CS	Document circulation with comments and edits provided
6 November 2020	1.01	Document revised based on input from across the department	Final document produced
22 February 2021	1.01	Approved by the Director-General	
7 July 2023	1.02	Biennial review and updates including testing during State oil spill exercise Bee, Townsville June 2023	Revised document include the changes: • Minor grammatical adjustments across document • AHCFAU301 updated to AHCFAU303 based on training unit revision by ASQA • Equipment hire rates increased based on CPI changes since Version 1.00 • Inclusion of a calculation system supporting annual increases in rates over time independent of plan updates • Minor change based on the revision of QCCAP (2021) • Updates for details and arrangements for the activation of the procedure • Listed addition of Shipping Container 5 to the equipment response set
10 June 2024	1.03	Document revised to compliment MOG changes	New department name updates only. No need to progress to DG for endorsement of changes.
7 November 2024	1.04	Document revised to compliment MOG changes	New department name updates only. No need to progress to DG for endorsement of changes.

17. Keywords

Maritime environmental emergencies

Oil Spill

Oiled wildlife

Oiled wildlife response

Appendix A

Wildlife Incident Action Plan pro-forma

The Wildlife IAP is generally integrated directly into the overall IAP as a specific section or chapter and not as a standalone document. The following table provides the pro-forma of the detail necessary to support the development of the Wildlife IAP. Noting that some of the features detailed may already be included to the overall IAP (e.g. incident objectives, medical plan, weather forecast etc.) and do not necessarily need to be duplicated.

Situation report	• Operational period of the IAP • Location of the incident • Assessment of the situation • Predictions of the incident's likely development o Including any key risk exposures • Actions taken so far
Incident objectives	• Overall incident objectives • Specific objectives to be met for the operational period of the IAP
Strategies	• Strategies to achieve the incident objectives • Alternate strategies that may also be applied
Risks	• Risk to delivering the strategies • Health and safety risks for responders • Actions to mitigate risk

Organisational structure	• Management arrangements including the establishment of any Divisions and Sectors etc.
	• Identification of the tasks and resources required and where allocated to specific Divisions and Sectors
	• Organisational list
	    o List of personnel fulfilling key IMT functions
	    o List of personnel fulfilling key wildlife operational roles (exclusive of the IMT)

Communication plan	• Generic Incident Control Centre contact (communication) details • Contact details for personnel fulfilling key wildlife operational roles across both the IMT and non IMT components • Wildlife Facility contact details • Sector contact details
Safety plan	• Overall safety objectives

	- Workplace, Health & Safety (WHS) risk management processes to be applied including: - Safe work practice systems - Inductions - Regular toolbox meetings - Reporting near misses / incidents - Monitoring and review of WHS processes - Risk management controls being applied
Primary wildlife response actions	- Identify and detail wildlife priorities (including habitats) for protection from impacts against: - Incident specific risks - Response activity risks - Detail response recommendations to be applied
Secondary wildlife response actions	- Type of activity - Description of activity - Sector Supervisor - Resources assigned - Physical resources - Team Leader(s) - Team (persons) - Sector assignment - Special instructions
Tertiary wildlife response actions	- Type of activity - Description of activity - Sector Supervisor - Resources assigned - Physical resources - Team Leader(s) - Team (persons) - Sector assignment - Special instructions
Medical Plan	- First aid station - Identifying name, location and contact - Level of support available (e.g. first aid officer, paramedic support etc.) - Transportation service - Land, Air and Sea support - Base location and contact

	o Level of support provided (first aid officer, paramedic or full medivac support)
	 • Hospitals
	    o Name, address and contact
	    o Travel times (road & air)
	    o Specialist units available (e.g. burns)
	    o Helipad availability
	 • Any special emergency activation procedures necessary

Weather Forecast	• Period valid • Time issued • Warnings • Situation • Forecast • Outlook • Swell forecasts • Tides etc.
Media Plan	• Media liaison contacts IMT • Advice for response personnel engaging with media • Key messages from the media unit IMT

Situation Map	• Map detailing locational information including
	    o Incident site
	    o Areas impacted
	    o Response zones (hot, warm & cold)
	    o Divisional operational areas
	    o Operational sectors
	    o Key response facilities
	    o Medical facilities
	    o Transport routes etc.

Meetings	• Type • Schedules and locations
Changeovers	• Timing and locations
Accommodation	• Details of accommodation including contact and location details • Listing of personnel allocated to each accommodation
Catering	• Suppliers including contact information • Arrangements for delivery (locations and timing)
Welfare Arrangements	• Identify personnel support arrangements available and how personnel can connect

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Logistical arrangements	• Details of any special arrangements necessary to support logistical actions
Traffic Management Plan	• Identifying any special routes and limitations and direction of travel requirements
Information Plan	• Details for managing inquiries from stakeholders and disseminating information too stakeholders

Appendix B

Wildlife Division Commander

The following table identifies the key roles and responsibilities for the Wildlife Division Commander (WildlifeDC) position within the Operations cell. The position leads the wildlife response actions of the IMT. A checklist is also provided to assist delivering the function.

WildlifeDC Roles	• Activate and mobilise wildlife resources, including equipment and personnel, early
	• Promote and support Primary wildlife response processes across the IMT
	• Implement Incident Action Plans (IAP) associated with Secondary & Tertiary wildlife response activities
	• Determine the tactics to implement the strategies to achieve the objectives of the IAP
	• Ensure animal welfare principles are applied as a priority across the Wildlife Division and the IMT
	• Coordinate and allocate resources under the Wildlife Division supervision
	• Report on the wildlife incident situation, the progress of wildlife operations, emerging risks and the status of wildlife resources
	• Maintain effective two-way information flows within the Wildlife Division
WildlifeDC Responsibilities	• Identify and obtain briefings from the Operations Officer
	• Provide a safe working environment for personnel within the Wildlife Division
	• Establish the Wildlife Division relative to the size and complexity of the incident
	• Delegate tasks within the Wildlife Division, as required
	• Manage personnel within the Wildlife Division
	• Adjust the structure of the Wildlife Division throughout the incident as necessary
	• Establish and maintain a log of activities and decisions of the Wildlife Division

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	- Communicate Wildlife Division performance to the Operation's Officer
	- Prepare shift handover and brief the incoming WildlifeDC
	- Manage the continuity of the Wildlife Division activities across shift changes

WildlifeDC Checklist

- Confirm the identify and location of the Operation's Officer and establish a communication arrangement

- Mobilise wildlife resources, including equipment and personnel, early using the standard response principles of "Be Ready- Go Early - Respond Quickly"

- Liaise with and monitor the actions of all wildlife personnel, including non-combatant, within the Wildlife Division

- Identify and mitigate risks within the Wildlife Division

- Provide briefings and debriefings to:

  o Sector Commanders and Team Leaders

  o Other Officers with direct reporting relationships (e.g. Wildlife Workplace Health & Safety, Wildlife Cultural & Heritage etc.)

- Confirm communication arrangements within the Wildlife Division

- Allocate and modify specific tasks in relation to the Wildlife Division as necessary

- Ensure tactics are consistent with the strategies approved within the IAP and provide input into the review of strategies as required

- Maintain ongoing exchange with the Operation's Officer on the wildlife incident situation, progress towards achievement of allocated tasks, and when:

  o IAP (wildlife section) is to be modified

  o Additional wildlife resources are needed

  o Surplus wildlife resources are available

  o Hazardous situations are present

  o Significant events occur

  o Demobilization is required

- Identify new and potential risks within the Wildlife Division and monitor safety of personnel

- Maintain ongoing liaison with the Intelligence function to provide specific information on the wildlife incident situation, progress towards achievement of incident objectives, emerging risks and effectiveness of strategies

- Maintain ongoing exchange of information with subordinates regarding work progress, resource status and location, and any significant changes or emerging risks

- Resolve identified logistics problems within the Wildlife Division

- Coordinate activities with adjacent operational Division Commanders (e.g. Marine Unit, Shoreline Unit, Air Operations Unit etc.)

Appendix C

Wildlife Division Team details under the direction of the Wildlife Division Commander (WildlifeDC)

Wildlife Workplace Health and Safety (WHS) Team Leader	1. Nominate WHS officers to each wildlife response workplace 2. Provide advice and input into workplace safety and safe work practices associated with the wildlife response 3. Identify all contaminants and chemicals involved, source safety data sheets for each and factor this information directly into the safety considerations for the wildlife response 4. Provide specific safety plans for the wildlife response operations and facilities specific to the incident 5. Comply with all departmental WHS policies including the reporting requirements for near incidents and injuries 6. Deliver to all wildlife personnel training to allow personnel to work safely. As a guide this may include elements on: • Specifics of the incident • Workplace health and safety generally • The department induction requirements • Basic first aid considerations • Work obligations • The command structure • Hygiene standards • Reporting system for near incidents and injuries • The designated task to be undertaken • Risk management systems • Specific risk management practices to be applied whilst responding to the incident 8. Support the arrangements for medical services to each wildlife response workplace 9. Comply with the department's procedures for fatigue management
Wildlife Cultural and Heritage liaison Team Leader	1. Engage specialised departmental personnel who have experience with traditional owner liaison 2. Make direct communications with traditional owners that have an association with the wildlife response area and/or wildlife impacted 3. Where this procedure is activated, notify relevant traditional owners within 24 hours 4. Seek input from traditional owners on wildlife resources at risk and make this information available to the Intelligence function to maximise effective response outcomes across the IMT 5. Where possible include traditional owners to the planning aspects supporting the wildlife response activities 6. For heritage matters use specialist departmental personnel to identify any heritage values at risk from wildlife operations 7. Where heritage values are at risk put in place practices to limit impacts

Wildlife Volunteer Team Leader	1. Comply with all departmental policies and procedures for volunteer engagement
Wildlife Field Decontamination Team Leader	1. Develop field decontamination plans for all hot zone and warm zone activities and locations, remote site stabilisation centres, other staging areas, transportation systems and wildlife care facilities addressing both personnel and equipment needs 2. Decontamination plans should be focussed on WHS protection and cross contamination matters 3. Activate the decontamination plans early to compliment the timing of the wildlife operational phases
Wildlife Waste Management Team Leader	1. Work with the Waste Management Officer (Operations function IMT) to develop plans relating to all wildlife response activities (considering chemical, biohazard and other operational waste types) 2. Activate the wildlife waste management plan prior to the activation of the wildlife operational phases.
Wildlife Administration Team Leader	1. Manage and collate all administrative records associated with the wildlife response 2. Records may include: • Wildlife response data (e.g. wildlife collection forms; wildlife assessment forms; wildlife care forms etc.) • Cost recovery for IMT and operational costs (in accordance with AMSA or MSQ guidelines for cost recovery) • Donated goods and services in accordance with departmental procedures
Wildlife Debriefing Team Leader	1. Provide both hot and cold debriefing opportunities for all personnel involved with the wildlife response 2. Collate the resulting information to form a summary document to be used as learnings 3. Discuss the learnings with the Wildlife DC to actively consider improvements during the response and post response
Wildlife Demobilisation Team Leader	1. Identify the timeframes for when resource requirements (personnel and equipment) are likely to be scaled back and require demobilisation and brief the WildlifeDC 2. Develop demobilisation plans considering both personnel and equipment needs. For equipment this may include elements of decontamination, maintenance, repair requirements and transport back to their source location. For personnel this may include transport arrangements to their home base and debriefing (including counselling opportunities). 3. Activate demobilisation plans using a staggered or staged approach to maximise efficiencies

Wildlife Reconnaissance Team Leader	1. Source from the Wildlife Intelligence Officer important wildlife habitats that may be at risk or impacted by the maritime environmental emergency
	
	2. Confirm from real time reconnaissance data:
	
	   • The wildlife species and numbers at risk from the incident and possibly from response activities
	
	   • The actual wildlife species and numbers that are impacted from the incident or response activities
	
	3. Continue to monitor wildlife and habitats for wildlife at risk and impacted within and adjacent to the incident response zone
	
	4. Provide data to the WildlifeDC for progress to the Intelligence function.

Wildlife Hazing Team Leader	1. Source from the Intelligence function the wildlife species and numbers that are at risk from the incident and are highly likely to be impacted 2. Identify those animals that may benefit from hazing practices and assist the Planning function in developing the hazing incident action plan (IAP) 3. Activate the hazing (IAP) when directed 4. Monitor the hazing response report to the WildlifeDC the movement and behaviour of all hazed wildlife and the resulting benefits
Wildlife Pre-emptive Capture Team Leader	1. Source from the Intelligence function the wildlife species and numbers that are at risk from the incident and are highly likely to be impacted 2. Identify those animals that may benefit from pre-emptive capture and assist the Planning function to develop pre-emptive capture plans for translocating wildlife to either clean habitats away from the risk of the incident or to captive housing environments whilst the clean-up continues 3. Activate the pre-emptive capture IAP when directed

Wildlife Collection Team Leader	1. Assist the Planning function in developing IAPs for the collection of live wildlife that require intervention for pre-emptive capture, rescue and removal from the environment
	
	2. Activate the collection IAP when directed
	
	   • Collect live wildlife that require intervention and provide primary field stabilisation practices
	
	   • Collect all dead wildlife and dispose of them in accordance with the waste management IAP and evidence collection protocols

Wildlife Remote Site Stabilisation Centre Team Leader	1. Work with the Intelligence and Planning functions to identify if remote site stabilisation centres (RSSC) are required as a part of the response 2. Where an RSSC is needed assist Planning in the development of an IAP

	3. Activate the RSC IAP when directed: • Establishing the RSC • Undertaking wildlife assessment and triage processes. • For wildlife to be transported for rehabilitation provide further stabilisation • For wildlife to be euthanized manage wildlife in accordance with the waste management IAP and evidence collection protocols.

Wildlife Transportation Team Leader	1. Work with the Planning function to develop the transport IAP considering transport systems specific to wildlife needs with an emphasis on:
	
	   a. Animal welfare matters
	
	   b. Geographical locality
	
	   c. Logistical issues
	
	2. Transport may include wildlife collection efforts supporting pre-emptive capture, impacted wildlife and wildlife for release after rehabilitation.
	
	3. Activate the wildlife transport IAP when directed

Wildlife Rehabilitation Centre Team Leader	1. Work with the Intelligence and Planning functions to develop a Rehabilitation Centre (RC) IAP. This should include: • Identification and selection of suitable sites/facilities to support the establishment of a wildlife RC based on the type of wildlife, species and numbers of wildlife likely to be received • The operational requirements to establish and function a RC specific to the wildlife expected 2. Activate the RC IAP when directed
Wildlife Food Management Team Leader	1. Provide the food and fluid requirements necessary to meet the nutritional needs of captive wildlife as directed by the RC IAP
Wildlife Assessment Team Leader	1. As directed by the RC IAP develop protocols and assessment criteria for managing wildlife in captive care during the rehabilitation process 2. Clinically assess all incoming wildlife to the RSC or RC in line with the developed protocols and assessment criteria
Wildlife Triage Team Leader	1. As directed by the RC IAP develop triage protocols for captive wildlife 2. Arrange for the euthanasia of all Priority 3 triaged wildlife using RSPCA officers operating under their authority of the Animal Care and Protection Act 2001 3. Manage euthanized wildlife in line with the Waste Management IAP and evidence collection protocols
Wildlife Intensive Care Team Leader	1. Assess and provide additional specialised medical care to wildlife as necessary 2. Manage wildlife considering disease quarantine restrictions that may be required across the RC

Wildlife Pre-wash stabilisation Team Leader	1. Provide stabilisation care for Priority 1 triaged wildlife
	2. Stabilise Priority 2 triaged wildlife when resources allow
	3. Select stabilised wildlife for the decontamination phase (washing and rinsing) using the established protocols developed by the Wildlife Assessment Team Leader
Wildlife Washing Team Leader	1. Remove contaminants from wildlife using best available wash processes
Wildlife Rinsing Team Leader	1. Remove all contaminants (namely detergents used for contaminant removal) from wildlife through the rinse process
Wildlife Drying Team Leader	1. Manage the drying activity for wildlife post rinsing
Wildlife Post-wash Care Stabilisation Team Leader	1. Continue to apply stabilising practices to captive wildlife
	2. Complete the waterproofing process for avian species
	3. Prepare wildlife for release (e.g. fitness)
	4. Select wildlife for release based on the protocols developed by the Wildlife Assessment Team Leader
Wildlife Release Team Leader	1. Arrange for banding/tagging of all wildlife to be released
	2. Identify with the Intelligence and Planning function suitable sites and time of day for wildlife release
	3. Make arrangements for the release of wildlife including transport actions with the Wildlife Transport Team Leader
Wildlife Post-release Monitoring Team Leader	1. Develop a post release monitoring program to assess survivorship and offspring success for released rehabilitated wildlife
	2. Instigate the post release monitoring program/s
	3. Review the effectiveness of the wildlife response based on the post release monitoring data
	4. Apply the learnings to future wildlife responses

Note: The first row's role label "**Wildlife Pre-wash stabilisation Team Leader**" appears in bold in the left column.

Appendix D

Managing human risk during an oiled wildlife response

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ABSTRACT

Human risks during an oiled wildlife response (OWR) can be divided principally amongst physical, chemical and biological hazards. This paper identifies the risks associated with these hazards to oiled wildlife responders, other responders and the general public. Hazards and risks are managed by specific risk management procedures. These commonly include identifying individual steps in the activity, identifying associated hazards and risks, quantifying the risks and then applying treatments and controls to eliminate or reduce risk exposure to an acceptable level. For treatments and controls to manage risks effectively these are applied as a part of pre-incident contingency planning, during incidents and post incidents. Treatments and controls identified in the paper include responder training, registration of personnel, incident planning, use of safety data sheet recommendations, personal protection equipment, minimising exposure times, applying call in procedures and communication systems, making available emergency supportive equipment, providing food and fluids, vaccinations for responders, applying dangerous wildlife risk reduction practices, safe manual handling and transportation practices, safe motor driving and vessel handling practices, fatigue management practices, working in pairs as a minimum requirement, safety precautions when working near water and at industrial sites, equipment maintenance and safe use, safe practices around sharps, compliant waste disposal practices, reporting mechanisms for near misses and injuries and the systems to prevent their re-occurrence. Mental health hazards during incidents and post incident phases are also a key feature to manage and are often overlooked. Risks associated with mental health include stress and trauma. Supportive treatments and controls include response planning, professional counselling and medical support. The information to develop this paper was taken from a range of international responses.

INTRODUCTION

The safety of response personnel and the public is of paramount importance and the primary objective at any incident. This paper guides personnel on the mechanisms for managing workplace health and safety (WH&S) specific to oiled wildlife response (OWR). The information used to develop this paper was taken from firsthand experiences and lessons learnt during OWRs in Australia, Timor Sea, New Zealand, Thailand, Brazil, South Africa, Spain and Alaska.

DISCUSSION

Background

During maritime environmental emergencies where contaminants are released into the environment wildlife may be threatened or directly impacted. Under these circumstances OWR personnel are commonly mobilised into the field to identify wildlife at risk, provide protection measures for wildlife or to respond to impacted wildlife. For wildlife protection measures devices may be used to keep wildlife away from any threats, they may be transported to alternate clean

environments or may be taken into captive care during the response phase. Where wildlife are impacted animals are generally taken into care and rehabilitated using best available practices.

OWR personnel either in the field or in care or rehabilitation facilities can be exposed to a range of hazards and risks. Broadly these can be categorised into physical, chemical and biological hazards.

Physical hazards may include the use of untrained personnel, transportation processes, general fieldwork, exposure to dangerous animals independent of the response, manual handling, vehicle driving, vessel operation, working near roads and water, construction activities, equipment use, exposure to sharps, working with animals and fatigue.

Chemical hazards may include the pollutants that responders are exposed to as a part of the incident, operational chemicals applied during the response to respond to the pollutant and chemicals in use at the wildlife care or rehabilitation centre.

Biological hazards include those that naturally occur in the environment (e.g. tetanus, melioidosis and insect spread diseases etc.) and zoonotic diseases from working with wildlife.

Managing Risk

Hazards and risks in the workplace, including during incidents, are managed by specific risk management processes. These are supported by a range of systems available and include processes such as Job Hazard Analysis (JHA), Job Safety Analysis (JSA) and Work Safe Practices (WSP) of which there are many others. These and other common systems used for risk management all follow a standard set of principles (Table 1).

Table 1 The broad risk assessment principles applied to risk management

1. Identify individual steps within the activity
2. Identify possible hazards for each step
3. Asses the risks associated with those hazards and quantify the risk numerically
4. Develop treatments and control measures to eliminate the hazards or minimize the associated risks
5. Apply treatment and control measures
6. Monitor and review the effectiveness of each treatment and control measure
7. Monitor for hazard or risk changes

Treatments and control mechanisms to manage risk can be applied during a number of incident stages including the pre-incident, incident and post incident phases (Table 2). Certainly, pre-incident opportunities for applying treatments and controls maximises the opportunity to strengthen risk management and should be applied where ever possible.

Table 2 Treatment and control application processes to manage risk during the different incident phases

Pre- incident Phase
1. Contingency planning specific to risk management
2. Pre-incident training (risk assessment processes, general safety, personal protective equipment (PPE) use & wildlife activities)
3. Collation of Safety Data Sheets for operational chemicals and high-risk pollutants

4. Vaccinations for responders

5. Development of generic risk assessments to support incidents

6. Development of mechanisms for reporting near misses and safety incidents with follow up actions

7. Maintaining PPE stores that can be mobilised with response personnel at the time of an incident

Incident Phase

1. Register all personnel including data collection on skills, experience, medical information and emergency contacts

2. Screen personnel to specific tasks based on individual skill and experience assessments and medical data

3. Planning during the incident including the use of Incident Action Plan processes that provide operational considerations and approvals across all incident activities

4. Applying Safety Data Sheet recommendations for chemicals at risk

5. Monitoring and modelling of contaminants including volatiles

6. Media releases to the general public specific to safety matters

7. Preparation of safety notifications for all responders

8. Map zonation of the incident site for risk categories (e.g. hot, warm and cold risk zones)

9. Provide a low-risk work environment for all risk zones

10. Provide general incident and individual site inductions

11. Provide tool-box meetings immediately prior to each activity daily with all personnel directly involved

12. Instigate personnel management and tracking systems for managing fatigue and locational awareness of teams

13. Provide adequate fluids and food to responders

14. Apply strict hygiene controls (chemical and biological considerations)

15. The provision of PPE based on risks including training on use

16. Apply systems for reporting near misses and safety incidents with follow up actions

17. Having available medical support on standby for acute and chronic care

Post Incident Phase

1. Provide access to medical support for possible chronic health matters

Risk Management specific to OWR

As a part of the pre-incident phase there is significant value in preparing a generic risk management model to expedite the process during incidents. Table 3 provides an example of pre-identified steps, hazards, risks and supportive treatments and controls specific to OWR that has been applied to oil spill events in Queensland, Australia (e.g. Cape

Upstart Spill 2016). This is not an exhaustive list but can be used as an initial guide or template for preparing a risk management processes during the incident response planning stage for a range of spill events.

Table 3 A model of information that can be used to facilitate risk management processes for OWR

Step: Use of untrained or inexperienced personnel

Hazard: Personnel are not aware of OWR risks or treatments or controls to manage risk

Risk: Physical injury, Chemical injury, Toxicity affects, Disease processes, Death

Treatments & Controls:

- All personnel appropriately inducted and trained specific to the risks and task

- All personnel to complete registration paperwork including skills, experience, medical information and emergency contacts

- All personnel to be allocated tasks based on individual skills, experience and medical assessments

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Step: Exposure to chemicals

Hazard: Chemical contamination

Risk: Chemical burns, Toxicity effects

Treatments & Controls:

- For activities in the hot and warm zones seek operational approvals through the Incident Action Plan process factoring in safety considerations and other concurrent operational activities (e.g. application of chemical dispersants to the pollutant)

- Refer to Safety Data Sheets and apply recommendations including PPE for chemicals at risk

- Minimise exposure times generally to contaminants

- Provide decontamination facilities for personnel across the different risk zones

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Step: Travel & General Field Work

Hazard: Environmental factors and features

Risk: Physical injury

Treatments & Controls:

- Ensure personnel adhere to strict "call in times"

- Have in place emergency systems to activate for "call in" failures

- Run regular checks on "call in" communication equipment and systems

- Ensure minimum of 2 persons are involved in each field activity

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Step: Remote Area Operations

Hazards: Isolation, Extended time frames to provide assistance during emergencies

Risk: Physical injury, Death

Treatments & Controls:

- The provision of at least 2 forms of communication with at least 1 providing voice to voice capability (e.g. mobile/cellular phone; VHF & UHF Radio; Satellite Phone)

- Personnel must be trained/experienced in the use of available communication equipment

- Develop a communication plan prior to tasking including formalised "call in" procedures

- Provide direct access to appropriate safety/emergency support equipment (e.g. adequate volumes of water, shelter equipment, food & remote area first aid kits etc.)

Step: Working outdoors

Hazard: Solar Radiation (Extreme high temperatures, UV exposure & heat radiation)

Risk: Sunburn, Skin Cancer, Heat stress, Dehydration, Fatigue

Treatments & Controls:

- Wear broad brimmed hat, apply sunscreen (SPF 30+) regularly, wear suitable clothing (long sleeve shirts and long pants), safety glasses / safety sunglasses (with UV protection)

- Utilise shade where possible

- Plan work during cooler parts of day where feasible

- Drink water routinely in line with climatic conditions and recommendations

- Take regular rest breaks

Step: Working outdoors

Hazard: Cold, Wet (extreme temperatures and climatic conditions)

Risk: Hypothermia

Treatments & Controls:

- Wear appropriate clothing to suit expected climatic conditions and risks (e.g. wet weather apparel, thermals, immersion suits etc.)

Step: General field activities

Hazard: Naturally occurring diseases

Risk: Disease processes, Death

Treatments & Controls:

- Current Tetanus vaccination

- Take precautions to prevent disease inoculations from insect vectors (cover skin with insect resistant clothing, use personal insect repellents)

- Cover adequately all skin breaks to prevent infections

- Maintain strict hygiene measures

- Wear appropriate PPE based on disease risk assessments at the time of incident

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Step: Working at construction and industrial sites

Hazard: Flammable products; Crush and pinch sources; Heavy equipment and machinery activity; Exposure to hazardous materials; Risk of falling into open voids, dams or the ocean.
Respiratory or eye irritation from particulates and inhalation of chemicals; Skin irritation from chemicals and materials

Risk: Physical injury, Burns, Chemical impacts, Death

Treatments & Controls:

- Restrict access of high-risk individuals using medical assessment data (e.g. asthmatics, immunosuppressed etc.)

- Refer to Safety Data Sheets and apply recommendations including PPE

- Undertake site inductions prior to entering site

- Use recommended site supplied PPE where available

- Where site management is in place personnel to be always under their control and direction

- Conform to any legislative workplace requirements where directed (e.g. construction site certification)

Step: Exposure to dangerous animals

Hazard: Crocodiles, Marine Stingers, Snakes, Sharks

Risk: Bites, Poisoning, Death

Treatments & Controls:

Crocodiles

- Be aware, crocodiles may be present

- Apply crocodile risk reduction principles and assessment systems

    o Complete Crocodile Awareness training

    o Personnel must be aware of the surroundings when working in crocodile habitats and always maintain vigilance

    o Ensure that at least one team member watches the waterway or crocodile habitat at all times to monitor for crocodiles

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- o   Personnel to avoid operating with their back to the watercourse or marshland

- o   Personnel are not to access within 5 meters of a watercourse or marshland
    that are known to be inhabited by crocodiles and must ensure that a visual risk
    assessment be performed before undertaking activities in these environments

- o   Personnel must withdraw from the area to a safe place or higher ground if a crocodile is sighted or suspected

Marine Stingers

- Wear stinger suits (or equivalent), protective boots etc. so no skin is exposed if entering water

- Be aware that stingers washed up on the shoreline may still sting

Snakes

- Avoid high grass or snake habitat areas

- Wear heavy long pants or specialised snake proof gaiters and boots in the field

Sharks

- Avoid wading into marine and estuarine waters that are murky and during dusk, dawn and night times

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Step: Loading and unloading of equipment

Hazard: Manual handling

Risk: Physical injury

Treatments & Controls:

- Vary handling tasks to avoid repetition

- Check weights of objects before lifting

- Tag heavy objects

- Work in partnership for heavy loads or use lifting equipment

- Decide on best position, clear a path and face direction of movement before moving load

- Ensure sufficient space to lift load

- Ensure no obstructions in path of movement

- Ensure the load is carried as close to body as possible

- Ensure when lifting loads use straight back utilising leg muscles

- Apply above methods for placing load to its destination

Step: Transporting equipment

Hazard: Falling objects

Risk: Physical injury, Death

Treatments & Controls:

- Check all loads are correctly secured

- Check load weights do not exceed vehicle safety capacity

- Do not walk, stand or operate under loads

Step: Motor vehicle driving

Hazard: Collision, Fatigue, Vehicle failure, Driving conditions, Other road user

Risk: Physical injury, Permanent injuries, Death

Treatments & Controls:

- Ensure vehicle is fit for purpose

- Ensure driver is licensed for the class of vehicle

- Driver is to familiarise with operation of vehicle before driving

- Check vehicle before driving

- Take regular rest breaks

- Plan and study route beforehand to consider any hazards including road and weather conditions

- Advise supervisor of your intended route

- Be-aware of the emergency notification procedures in place

- For long trips plan for adequate rest breaks and have 2 drivers to share drive

- Drivers must be fit for work

- Drivers must be experienced for conditions and vehicle type including towing of trailer where applicable

- For travel in off road conditions drivers must be trained and experienced in driving these conditions (e.g. 4WD Beach driving etc.)

- Reduce vehicle speed when loaded or towing a trailer

- Check validity and currency of driver's licence

- Obey all road rules

- All occupants to wear seat belts

- Drive at the speed appropriate to the road condition and loads

- Reduce risk by avoiding or minimising alcohol consumption prior to drive

- Consider any medication that may affect the ability or eligibility to drive

- Understand signs of fatigue

- Have sufficient sleep before driving and do not drive when feeling tired

- Take 15minutes rest break with exercise after every 2 hours of driving as a minimum

- Plan only to drive during normal waking hours

- Reduce the risk by not using mobile/cellular phones, iPad or similar when driving

- Have the non-driving passenger (2nd driver) manage any incoming calls or messages or pull over when safe

- During storms when lightening is overhead or close park vehicle and wait till the weather passes

- Do not drive through flooded or fast-moving waters

- Do not eat or drink when driving

- Pre-set music/radio, climate control, seat belts and mirrors before driving

- Secure any loose objects within vehicle

- Pull over to adjust equipment, check maps etc.

Step: Vessel operation

Hazard: Fatigue, Vessel failure, Adverse weather, Dangerous wildlife, Person overboard

Risk: Physical injury, Permanent injury, Bites, Drowning, Death

Treatments & Controls:

- Ensure vessel is fit for purpose

- Ensure vessel checks are undertaken and all safety equipment is available and operational

- Ensure adequate communications systems in place

- Ensure adequate fuel and water is available

- Do not overload vessel and ensure vessel is loaded to meet stability requirements

- Provide vessel inductions for all personnel

- All personnel must be competent swimmers and a sufficient number of personnel on board must have current first aid including Cardiopulmonary Resuscitation (CPR)

- Vessel master must be suitably qualified and experienced

- Vessels master to be supported by competent crew member/s

- Vessel operations must be limited to licenced area and hours of operation and within capability of vessel considering weather conditions and activity

- Perform visual inspections for hazards before performing vessel operations

- Apply safety requirements for launching vessel

- Factor in crocodile and shark attack considerations when launching and working in shallow waters

- Implement actions to minimise crush injuries, personnel falling overboard and general injuries

- Take regular breaks

- Maintain regular weather checks

- Abide by all maritime legislative requirements

- All personnel to wear personal flotation devices and suitable PPE specific to the climatic conditions

- Comply to fatigue management principles

Step: Working near roads

Hazard: Mechanical, Moving objects

Risk: Physical injury, Permanent injury, Death

Treatments & Controls:

- When parking vehicle assess roadside risks before pulling over

- Park the vehicle to provide maximum protection to personnel from other vehicles

- Maintain flashing lights (safety & hazard) when parking and whilst parked

- Two persons to be present at all times with one acting as a spotter for the other

- Hi-vis clothing must be worn at all times

Step: Working near water

Hazard: Excessive flooding, Tidal/Ocean and Aquatic hazards

Risk: Physical injury, Permanent injury, Dangerous wildlife, Drowning, Death

Treatments & Controls:

- Undertake visual assessment for hazards before approaching or entering water body

- All personnel must be competent swimmers

- Sufficient number of personnel must have current first aid and CPR

- Show caution and care when entering water bodies

- Never jump or dive into water

- Wear dive boots, sea boots or consider wearing waders if safe

- Be aware of high water velocities, slippery or irregular stream beds, whirlpools, floating and submerged debris, deep water, cold water and dangerous wildlife

Step: Construction activities

Hazard: Hand tool operation, Hot Work (Grinding, welding, thermal, cutting brazing),

Power tool operation (Noise, electrical, vibration, contact with others)

Risk: Physical injury, Permanent injury, Heat Burns, Electrocution, Death

Treatments & Controls:

- Competent people only to use tools and undertake construction activities

- Tools to be used for intended purpose only

- Wear minimum PPE including steel capped footwear, long sleeved shirts and long pants and have available hand, head, eye and ear protection

- Wear additional PPE based on manufacturers recommendations and risk assessments specific to tools and activity

- Tools to be maintained in line with manufacturers recommendations

- All electrical tools to be test tagged and current in line with WHS requirements

- Defective tools are to be tagged and removed from service

- Flash arrestors must be fitted to all oxy-fuel welding equipment

- Select equipment with noise suppression devices where possible

- Rotate workers for repetitive tasks regularly

- Isolate noise risk sources from others

- Create safe work zones

- Restrict general pedestrian movement through the construction zone

- Where there are risks to others incorporate a spotter to the activity

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Step: Equipment use generally

Hazard: Injuries

Risk: Physical injury, Permanent injury, Electrocution, Death

Treatments & Controls:

- Comply with all manufacture recommendations for equipment use and maintenance

- All electrical equipment to be test tagged and current in line with WHS requirements

- Defective equipment is to be tagged and removed from service

- Operator of equipment must be appropriately licensed or competent

- Operate only on stable ground

- Wear minimum PPE including steel capped footwear and make available hand, head, eye and ear protection

- Wear additional PPE based on manufacturers recommendations and risk assessments specific to tools and activity

- Where there are risks to others incorporate a spotter to the activity

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Step: Exposure to sharps

Hazard: Cuts and Stab wounds

Risk: Physical injuries, Disease processes

Treatments & Controls:

- Provide sharps specific induction training

- Make use of sharps containers apply appropriate waste disposal practices

- Supervise high risk sharp areas

- Have available first aid care to support sharps injuries

Step: Working with animals generally

Hazard: Cuts, Scratches, Pecks, Bruising, Zoonotic diseases

Risk: Physical injuries, Disease processes

Treatments & Controls:

- Provide animal handling training specific to species likely to be encountered

- Apply close supervision of activities by competent staff

- Handle animals correctly in line with best available practices

- Wear appropriate PPE for animal handling (species specific) and disease protection

- Dispose of animal carcasses as directed by waste management guidelines

- Apply hygiene standards appropriate to disease risk

Step: Reporting of all near misses to supervisor

Hazard: Actual injuries

Risk: Physical injuries, Permanent injuries, Disease processes, Chemical effects, Death

Treatments & Controls:

- Personnel to report all near misses to supervisor as soon as practical

- Supervisor to apply immediate actions to minimise the incident recurring and report to Operations officer

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Step: Reporting all injuries to supervisor

Hazard: Repetitive injuries occur from unsafe practices

Risk: Physical injuries, Permanent injuries, Disease processes, Chemical effects, Death

Treatments & Controls:

- Having readily available medical support on standby for acute care

- Personnel to report injuries to supervisor as soon as practical

- Supervisor to apply immediate actions to minimise incident recurring and report to Operations officer

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Step: Managing working hours and rest breaks

Hazard: Fatigue

Risk: Physical injuries, Permanent injuries, Disease processes, Chemical effects, Death

Treatments & Controls:

- All personnel will endeavour to work no more than a 10-hour day unless approved by their supervisor

- Working a 14-hour day is the maximum permissible in exceptional circumstances

- 10-hour breaks must be observed after each shift ends

- Personnel are not to work longer than 10 days in total without having a minimum full day break and ideally two days

- In situations when personnel are not likely to comply with these requirements a specific risk assessment process must be applied to minimise the risk to an acceptable level

- Staff are to use their time away from work in a reasonable manner in order to rest and recuperate

Chronic Health Issues

Mental health hazards during and post incident is certainly a key element to consider for risk management especially for protracted or large scale OWR events. To date this has been addressed as a part of pre-incident contingency planning and planning during the incident to manage the risk in the first instance using standard fatigue management practices and then to have in place supportive mechanisms that can be applied where circumstances require (including post incident). Risks for mental health include stress and mental trauma with supportive mechanisms including professional counselling and medical support. The issue with mental health hazards for OWR is that the trauma of working with large numbers of sick and injured animals and being exposed to animals dying for some people can be overwhelming and difficult to apply effective treatment and control measures. Mental health specific to OWR is an emerging topic and one that requires further investigation by qualified health professionals for practices on how to better manage.

CONCLUSION

Risk management is a standard for protecting the public and responder safety in all workplaces and environments associated with incidents. The processes described in this document identify physical, chemical, biological and mental health hazards and includes treatments and controls to eliminate or manage their associated risks for OWR. The information in this paper has been drawn from a range of OWR incidents globally demonstrating what has been applied during real applications reinforcing the practicality and effectiveness to the solutions listed.

Appendix E

Levels of activation

The procedure will be activated in accordance with the four-phase model used in Queensland's disaster management arrangements.

Level	Definition
Alert	A heightened level of vigilance and preparedness due to the possibility of an event in the area of responsibility. Some action may be required and the situation should be monitored by staff capable of assessing and preparing for the potential threat.
Lean forward	An operational state prior to 'stand up' characterised by a heightened level of situational awareness of a disaster event (either current or impending) and a state of operational readiness. Resources are on stand-by; prepared but not activated.
Stand up	The operational state following 'Lean Forward' whereby resources are mobilised, personnel are activated and operational activities commenced.
Stand down	Transition from responding to an event back to normal core business and/or recovery operations. There is no longer a requirement to respond to the event and the threat is no longer present.