



NSW National Parks and Wildlife Service

NPWS wildlife response during emergencies guidelines



Acknowledgement of Country

Department of Climate Change, Energy, the Environment and Water acknowledges the Traditional Custodians of the lands where we work and live.

We pay our respects to Elders past, present and emerging.

This resource may contain images or names of deceased persons in photographs or historical content.

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The *NPWS wildlife response during emergencies guidelines* was developed by the NPWS Bushfire Emergency Response for Wildlife Team, through funding from the NSW Environmental Trust, NSW Bushfire Inquiry and the NSW Koala Strategy. The guidelines build on the *Wildlife Emergency Response Taskforce draft manual*, developed through funding from an NSW Environmental Trust grant.

Some of the content and approach in these guidelines is based on the Victoria Department of Environment, Land, Water and Planning's *Victorian response plan for wildlife Impacted by Fire* and on the NSW Department of Primary Industries' draft *Wildlife natural disaster response guide*.

Cover photo: Koala rescued from the Bills Crossing fire, NSW mid-north coast, 2019–20 fire season.
Desmond Augey/NPWS

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Foreword

The NSW 2019–20 fire season is regarded as the worst in the state’s history, burning approximately 5.58 million hectares of bushland. The scale and severity of the fires resulted in major impacts to native wildlife, and the response from the community was clear and strong, and demonstrated a very deep concern for fire-affected wildlife. Millions of dollars were donated from around the world to protect wildlife from the effects of bushfires. The NSW and federal governments acknowledged this concern by recognising the need to review wildlife response procedures during emergencies.

As part of the after-action reviews from the 2019–20 fire season, wildlife rehabilitators, veterinarians and emergency responders identified the need to improve wildlife response procedures in bushfires. Reviews following the recent flood events throughout New South Wales (2020, 2021 and 2022) also recognised the need for enhancing coordination and capability for responding to wildlife impacted by non-fire emergencies.

The *NPWS wildlife response during emergencies guidelines* has been prepared to set standards, define roles and responsibilities, and outline the inter-agency working relationships that facilitate the safe and efficient response to wildlife injured by bushfires and other incidents.

The *NPWS wildlife response during emergencies guidelines* sets out the arrangements for wildlife emergency prevention, preparedness, response and recovery in line with:

- NSW Environmental Services Functional Area (EnvSFA) Supporting Plan (EnviroPlan)
- EnvSFA Wildlife in Emergencies Sub Plan
- NSW Department of Primary Industries’ Animal and Agricultural Services Functional Area (AASFA) Supporting Plan.

The *NPWS wildlife response during emergencies guidelines* has been funded through the NSW Environmental Trust, the NSW Bushfire Inquiry, and the NSW Koala Strategy.

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Shortened forms

Term	Definition
AAR	After action review
AASFA	Agriculture and Animal Services Functional Area
AFAC	Australasian Fire and Emergency Service Authorities Council
AIS	Assets of Intergenerational Significance
AIIMS	Australasian Inter-service Incident Management System
BFMC	Bush Fire Management Committee
DPI	NSW Department of Primary Industries
EMPLAN	NSW Emergency Management Plan
EnviroPlan	Environmental Services Functional Area Supporting Plan
EnvSFA	Environmental Services Functional Area
EnvSFAC	Environmental Services Functional Area Controller
EOC	Emergency Operations Centre
EOCON	Emergency Operations Controller
EPA	Environment Protection Authority
IAP	Incident Action Plan
IC	Incident Controller
IMT	Incident Management Team
LEOCON	Local Emergency Operations Controller
LEMC	Local Emergency Management Committee
NPWS	NSW National Parks and Wildlife Service
PPE	Personal protective equipment
PPRR	Prevention, preparation, response, recovery
RFS	Rural Fire Service
SEMC	State Emergency Management Committee
SEOCON	State Emergency Operations Controller
SERC	State Emergency Recovery Controller
SERM Act	<i>State Emergency and Rescue Management Act 1989</i>
SES	State Emergency Service
TAW	Technical Advisor Wildlife
WERT	Wildlife Emergency Response Team
WHS	Work health and safety
WOM	Wildlife Operations Manager
WRP	Wildlife Response Plan

Part 1: Wildlife response during emergencies – context

1. Introduction

The *NPWS wildlife response during emergencies guidelines* (the guidelines) have been developed by the NSW National Parks and Wildlife Service (NPWS) through funding from the NSW Environmental Trust, the NSW Bushfire Inquiry and the NSW Koala Strategy. The guidelines outline the processes and procedures that should be followed by individuals participating in response and recovery activities relating to injured wildlife in New South Wales resulting from an incident or emergency (see Table 1).

Wildlife response actions might be required at emergencies arising from various causes. These guidelines are primarily focused on bushfires, however, can be used as a tool for other incidents and emergencies such as floods, storms, droughts, heatwaves, chemical spills, marine pollution or biosecurity events. The guidelines set out the standards for wildlife response roles, although the detail on how to respond to specific types of emergencies may not be covered by these guidelines. Other guidelines should be consulted for marine mammals and strandings (NPWS Marine Wildlife Management Manual; NPWS 2021) and oiled fauna (NSW State Waters Marine Oil and Chemical Spill Contingency Plan; NSW Government 2016).

Table 1 Definitions of ‘incident’ and ‘emergency’ for the purpose of these guidelines

Term	Definition
Incident	<p>An event, or occurrence of circumstances, that calls for human intervention. This can be a bushfire, flood, chemical spill, extreme weather event or a disturbance of any nature affecting wildlife and/or their living environment. These guidelines are focused on fire but could be used as a tool for other incidents.</p> <p>Incidents can be classified into 3 levels, as per the Australasian Inter-Service Incident Management System (AIIMS) (see Chapter 4 below).</p> <p>A hazard reduction burn is a planned activity, but if wildlife is affected during a burn this can be considered an incident.</p>
Emergency	<p>An emergency is an urgent, unexpected, and usually dangerous situation that poses an immediate risk to health, life, property or environment and requires immediate action.</p> <p>At a state level, ‘natural disasters’ can be declared. More information can be found on the NSW Government <i>Natural disaster declarations</i> website.</p> <p>At a national level, ‘national emergencies’ can be declared. Refer to the Australian Government <i>National Emergency Management Agency</i> website.</p> <p>In these guidelines we refer to an emergency as an incident that needs immediate human intervention. It does not have to be a declared natural disaster or national emergency.</p>

NPWS wildlife response during emergencies guidelines

1.1 Aim

The aim of this document is to provide a policy context, a planning framework and guidelines for the safe, humane and efficient response to wildlife injured during incidents and emergencies. The guidelines aim to:

- improve the response to wildlife during emergencies
- create an operational structure to enable the safe inclusion of wildlife response during emergencies
- encourage the involvement of volunteer organisations in emergency response, wherever it is safe and reasonable to do so
- manage wildlife response efficiently and cost effectively
- apply the current best practice standard operating procedures and protocols for assessing, treating and rehabilitating impacted wildlife
- provide a training guide and reference work for everyone involved in wildlife response.

1.2 Audience

These guidelines are relevant to all individuals participating in response and recovery activities relating to care and treatment of wildlife affected by emergencies in New South Wales. Any Incident Action Plan (IAP), instruction, prescription or training developed for wildlife welfare response activities should be consistent with these guidelines.

The audience for this document is:

- Incident Management Team (IMT) members undertaking emergency response
- prescribed burn planners and conductors where either wildlife has been affected, or there is a potential for wildlife to be impacted
- personnel from land management agencies or government organisations that might be involved with wildlife response during emergencies such as NPWS, the NSW Environment Protection Authority, NSW Rural Fire Service (RFS), NSW State Emergency Service, Forestry Corporation and local councils
- veterinarians undertaking wildlife rescue, assessment and triage
- wildlife rehabilitators responding to injured wildlife.

1.3 How to use these guidelines

It is essential that all personnel are familiar with these guidelines when planning or conducting a response to impacted wildlife. These guidelines should be read in conjunction with specific organisational doctrine, the Australasian Inter-service Incident Management System (AIIMS), and relevant IAPs, which may contain more comprehensive information in relation to the incident management procedures.

Part 1 (chapters 1 to 4) provides the details for:

- wildlife response within the context of the emergency management arrangements in New South Wales
- roles, relationships and accountabilities of government organisations and agencies
- incident management principles and structures and how they relate to wildlife response
- training standards for specific wildlife response roles.

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Part 2 (chapters 5 to 8) covers planning and operational activities for wildlife response during the different phases of emergencies. More specifically, this part focuses on:

- wildlife response roles, their specific tasks and responsibilities
- activation triggers
- the Wildlife Response Plan (WRP)
- risk management and mitigation, reporting, monitoring and evaluation.

2. Context

The NPWS Bushfire Emergency Response for Wildlife Program was established in 2020 and aims to establish and coordinate teams to care for wildlife during bushfires and other incidents. This includes recognising organisations that can contribute to the wildlife response, identifying skills and training requirements, and developing guidelines and standard operating procedures under the current bushfire and emergency response arrangements.

Feedback from the wildlife rehabilitation, veterinary and firefighting sectors highlighted the need for enhanced coordination and capacity for wildlife response during bushfires. This included: (1) direct support for existing wildlife rehabilitators and veterinary practices for treating wildlife; (2) working with emergency response agencies and other supporting organisations to develop management frameworks; (3) training and procedures for wildlife response in bushfires; and (4) improving access to veterinary services for wildlife in emergencies.

2.1 2019–20 bushfire season review

Inquiries following the 2019–20 bushfire season, including the NSW Bushfire Inquiry, the Royal Commission into National Natural Disaster Arrangements, and the NSW Parliamentary inquiry into koala populations and habitat in New South Wales highlighted the need for a coordinated wildlife response in bushfires, and other incidents, to improve animal welfare, human wellbeing, and conservation outcomes.

Recommendation 53 of the NSW Bushfire Inquiry proposed that:

Government develop and implement a policy on injured wildlife response, rescue and rehabilitation, including (a) a framework for the co-ordination and interaction with emergency management structures; (b) guidelines for Incident Management Plans to include wildlife rescue and rehabilitation as a consideration; (c) a requirement for all vets and wildlife rescue volunteers to obtain the Bush Fire Awareness accreditation; and (d) guidance for firefighters on handling injured wildlife.

Recommendations 19 and 20 of the NSW Koala Inquiry proposed improving access to firegrounds for wildlife response, providing training for wildlife rehabilitators in bushfire awareness, and the use of drones and detection dogs for wildlife search and rescue on firegrounds.

Chapter 16 of the Royal Commission report relates to wildlife and heritage, and discusses emergency wildlife response and recovery, the need for state and territory governments to work together with non-government organisations, integration of wildlife response and recovery into emergency planning, and training for volunteers.

Pillar 3 of the NSW Koala Strategy, Improving the safety and health of koalas – Action 3.8, aims to ‘improve emergency response actions for koalas and other wildlife’ through working with wildlife rehabilitators, vets/vet nurses and other agencies to enhance coordination of emergency response for koalas and other wildlife due to bushfire or extreme weather events.

These guidelines acknowledge the above recommendations by defining the roles, responsibilities and inter-service working relationships that facilitate the safe, humane and efficient response to wildlife injured by bushfires and other incidents.

2.2 Objectives

The principles outlined in these guidelines provide for an effective, coordinated and safe wildlife response by appropriately trained and experienced personnel from a range of organisations. In line with the aim of these guidelines, specific objectives are:

- organisational frameworks
 - ensure wildlife response fits with the overarching structure of AIIMS
 - ensure the guidelines are in line with the existing emergency management framework
- personnel
 - identify organisations, sectors and individuals that can provide wildlife response personnel
 - standardise personal protective equipment (PPE) for Wildlife Emergency Response Teams (WERTs)
 - standardise skills and experience required for WERTs, providing a training guide and reference work for further relevant training
- triggers and incident access criteria
 - identify triggers for the Incident Controller (IC) to consider the scale of wildlife response required
 - identify criteria for access to incident grounds
 - establish a system to ensure only trained and authorised wildlife response personnel are deployed to the incident ground.

3. Emergency management framework

The key legislation relating to emergency management in New South Wales is the *State Emergency and Rescue Management Act 1989* (SERM Act). It provides the general legal framework and governance for emergency management in New South Wales.

The SERM Act states that an Emergency Operations Controller (EOCON) will assume responsibility for operations where no specific combat agency is nominated, or where the combat agency requests the EOCON to assume control. In certain cases, at state level, the Minister may also direct the State Emergency Operations Controller (SEOC) to assume responsibility.

While the core NSW arrangements are tailored to deal with specific features of individual hazards, to the maximum extent possible, a standard approach is taken. Clarity of command and control is vital but there are also detailed arrangements in place to coordinate support for the combat agency. In New South Wales these arrangements are set out in the NSW Emergency Management Plan (EMPLAN), which emphasises collaboration, coordination and information sharing to support the combat agency.

In the preparation and planning stages, this is coordinated through supporting agency roles in hazard-specific and other plans. During the operational response, supporting agencies perform key roles that allow the combat agency to act consistently with its core role in dealing with the hazard. Information sharing is vital to these cooperative arrangements. Combat agencies operate their own control centres, and the supporting roles are coordinated through an Emergency Operations Centre (EOC), which can be co-located.

The recovery phase is complex, covering social and economic considerations together with restoring the natural and built environments. The newly established NSW Reconstruction Authority can play an important role in this. New South Wales arrangements emphasise the early commencement of recovery activities. These can be initiated by the EOCON, IC or combat agency Commissioner. Recovery will be coordinated at the lowest effective level but, depending on the circumstances, the State Emergency Recovery Controller (SERCON) may direct government agencies to assist with the recovery efforts.

Some key hazard types (e.g. bushfire, storm and flood) are assigned to specific agencies in agency-enabling legislation. The following Acts specify requirements about how the risks from these specific hazards are to be managed:

- *Biodiversity Conservation Act 2016*
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth)
- *Firearms Act 1996*
- *NSW Reconstruction Authority Act 2022*
- *Prevention of Cruelty to Animals Act 1979*
- *Rural Fires Act 1997* (NSW)
- *State Emergency and Rescue Management Act 1989*
- *Veterinary Practice Act 2003*.

3.1 Emergency management arrangements in New South Wales

These guidelines comply with the provisions of the SERM Act and align with the EMPLAN, which is controlled by the State Emergency Management Committee (SEMC). The EMPLAN is comprised of one plan and various sub plans and supporting plans (Figure 1).

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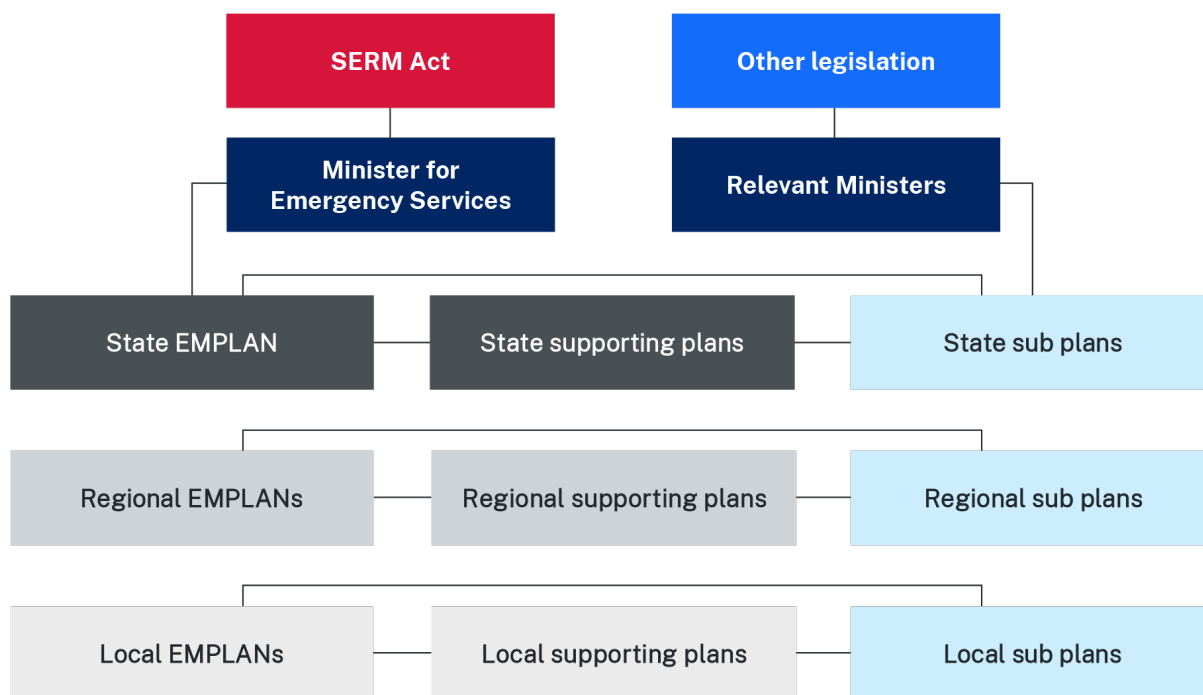


Figure 1 NSW legislative and planning framework

Source: EMPLAN

3.1.1 EMPLAN

The EMPLAN describes the NSW approach to emergency management, the governance and coordination arrangements, and roles and responsibilities of agencies. The objectives of the EMPLAN are to:

- provide clarity as to command and control, roles and coordination of functions in emergency management across all levels
- emphasise risk management across the full spectrum of emergency management phases, i.e. prevention, preparation, response and recovery (PPRR)
- emphasise community engagement in the development and exercise of plans as well as in their operational employment
- ensure that the capability and resourcing requirements of these responsibilities are understood.

The EMPLAN is supported by hazard-specific sub plans and functional area supporting plans. Two supporting plans and 2 sub plans have relevance to wildlife response activities during emergencies:

- Environmental Services Functional Area Supporting Plan (EnviroPlan)
- Agriculture and Animal Services Functional Area (AASFA) Supporting Plan
- EnvSFA Wildlife in Emergencies Sub Plan
- Coastal Waters Marine Pollution Sub Plan.

3.1.2 Environmental Services Functional Area Supporting Plan

As of 1 July 2022, under Recommendation 76 of the Bushfire Inquiry, the Environment Protection Authority (EPA), as a supporting agency under the EMPLAN and sponsor agency of EnvSFA, will coordinate the response to wildlife during emergencies in New South Wales. Previously, wildlife response was included under the AASFA Supporting Plan (see section 3.1.3). The AASFA and EnvSFA supporting plans are being modified to reflect this change, although there will still be areas, such as animal welfare in fires, where there is overlap in the 2 areas of responsibility.

When an emergency escalates and requires coordination of resources by EnvSFA, organisations with specialist wildlife expertise, resources and services may be asked to assist upon request by EnvSFA.

The EnviroPlan directs agencies that have a role in responding to emergencies or situations where the environment is at risk or being impacted. This incorporates the response to cultural and natural heritage assets including native fauna and flora. The aim of the environmental response plan is to outline emergency management arrangements for the protection of the environment prior to, during and after an emergency.

Types of environmental impacts and disasters that have occurred or have the potential to occur are:

- contamination of land, water or air from the uncontrolled release of chemicals
- significant erosion caused by rain from a storm or after a bushfire
- sedimentation of rivers, creeks and dams impacting marine ecosystems
- sedimentation of water storage facilities because of storms, floods or fire
- generation of significant waste material because of storms, floods or fire
- generation of large numbers of deceased animals requiring disposal of carcasses.

The EPA is the environmental regulator and lead agency for the protection of the environment in New South Wales and has the lead role in implementing the EnviroPlan. For specific environmental hazards identified within a regional or local area, the Regional and/or Local Emergency Management Committee must develop a consequence management guide for that environmental hazard.

Combat agencies, participating and supporting organisations are responsible for incorporating environmental impact considerations into their exercises and training elements where appropriate and relevant. The *NPWS wildlife response during emergencies guidelines* (this document) help to develop and maintain training and procedures to fulfil the roles and responsibilities assigned in the EnviroPlan. Examples of actions under the EnviroPlan are given in Box 1. The agency roles and responsibilities for each partnering and supporting agency identified with wildlife expertise, are outlined in the EnvSFA Wildlife in Emergencies Sub Plan (see 'EnvSFA Wildlife in Emergencies Sub Plan' below and section 3.2 of these guidelines).

If a large-scale wildlife response is required and EnvSFA is stood up, the EPA will coordinate this response with assistance from partnering and supporting agencies such as NPWS, Taronga Zoo, the Department of Primary Industries (DPI) and Transport for NSW. These guidelines can then be followed for a functional area response or a combat agency response.

Box 1: Examples of actions under the EnviroPlan

- Assisting the combat agency in prioritising action to protect the environment
- Providing appropriate, efficient and timely deployment of EnvSFA assets and resources (human and material)
- Providing capability to undertake Environmental Rapid Impact Assessments to appraise impact, or potential impact, of an incident or emergency upon the environment and public health
- Establishing and maintaining coordination structures across the participating and supporting organisations operating under the EnvSFA
- Participating in multi-agency IMTs
- Deployment of Environmental Services liaison staff to the relevant EOC(s) or Site Control
- Identifying a provider that can give specialist advice on, or assistance with, the protection of native animals and the management of animal carcasses

EnvSFA Wildlife in Emergencies Sub Plan

The Wildlife in Emergencies Sub Plan is implemented in conjunction with the EnvSFA Supporting Plan, the EnviroPlan, under the NSW EMPLAN. The guidelines (this document) are a supporting document to the EnvSFA Wildlife in Emergencies Sub Plan.

The EnvSFA Wildlife in Emergencies Sub Plan describes the strategic emergency management structure for wildlife response within New South Wales, including Lord Howe Island. All native birds, reptiles, amphibians and mammals (except the dingo) are protected in New South Wales by the *Biodiversity Conservation Act 2016*. The Wildlife in Emergencies Sub Plan defines wildlife as 'terrestrial, aquatic or avian vertebrates or invertebrates (birds, reptiles, amphibians, insects and mammals), in any stage of biological development that are indigenous to Australia or that periodically migrate to Australia. In most instances, but not always, these animals are listed or referred to as protected in Schedule 5 under the Biodiversity Conservation Act. It may also include land-based invertebrates, aquatic invertebrates, and fish species (protected or threatened)'.

As many species are listed as threatened, effective wildlife response during emergencies is critical to ensuring the conservation and protection of these species. An EnvSFA wildlife emergency response is implemented from either:

- a declared natural disaster such as fires, floods, storms, tsunamis and earthquakes
- when EnvSFA is otherwise engaged and it is determined by the SEOCON, the SERCON or the Environmental Services Functional Area controller (EnvSFAC) that there is, or could be, a wildlife emergency.

The IC of the combat or lead agency will determine when the EnvSFAC will mobilise and demobilise a wildlife response. The EPA Incident Management System Guide provides internal activation arrangements and responsibilities within the EPA.

The Wildlife in Emergencies Sub Plan includes:

- potential risks and consequences from emergencies affecting wildlife as determined by the SEOCON, the SERCON or the EnvSFAC
- emergency policies and programs in place to mitigate these risks before, during and after a wildlife emergency response

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- control and coordination arrangements for managing wildlife during an emergency occurring across New South Wales
- an outline of systems and responsibilities for a wildlife emergency response
- multi-agency management arrangements at the state, regional and local levels
- links to the emergency policies and programs in place to mitigate risks before, during and after a wildlife emergency response
- links to sources of information for additional advice and guidance to ensure best practice wildlife emergency PPRR.

The tables in Appendices 2a and 2b of the EnvSFA Wildlife in Emergencies Sub Plan outline the roles and responsibilities for each partnering and supporting agency that has been identified as having wildlife expertise.

3.1.3 Agriculture and Animal Services Functional Area Supporting Plan

DPI is the combat agency for plant and animal biosecurity emergencies in New South Wales, and a supporting functional area agency for natural disasters and other emergencies (such as bushfires, floods or marine pollution). DPI is also responsible for implementing the AASFA Supporting Plan that details the control and coordination arrangements for the use of all agricultural resources available within the state in response to, and initial recovery from, the impact and effects of any emergency. The AASFA Supporting Plan covers all animals including livestock (sheep, cattle, goats, pigs, horses, etc.) and companion animals (dogs, cats, aviary birds, etc.). Until 1 July 2022, wildlife (terrestrial, aquatic and marine) was also included under the AASFA Supporting Plan.

3.1.4 Aboriginal community consultation

NPWS (as author of these guidelines) respects and acknowledges the role of Aboriginal people in the management and protection of Aboriginal cultural heritage and their connection and involvement in the management of Country within NPWS parks. Input from the Aboriginal community is an essential part of assessing the significance of Aboriginal objects or places likely to be impacted by an activity, including wildlife. Hence, NPWS requires proponents (such as the IC, Wildlife Coordinator or Technical Advisor Wildlife (TAW)) to undertake consultation with representatives of the relevant Aboriginal community or groups as an integral part of the wildlife response planning phase. Relevant Aboriginal groups may include Aboriginal joint management groups, native title claimants, native title holders, and registered Aboriginal parties. Extensive guidance on consultation with Aboriginal people and communities can be found in *Aboriginal Cultural Heritage consultation requirements for proponents*. The NPWS Aboriginal Partnerships, Planning and Heritage (APPH) Branch is likely the best place to find out about who to contact and how to approach the relevant Aboriginal groups.

3.1.5 Other related plans

Some other response plans, sub plans and manuals exist that are related to wildlife response during emergencies. The guidelines as presented here are aligned and consistent with these plans and manuals as much as possible, however, some variation exists. For example, for marine-related incidents the NPWS Marine Wildlife Mammal Manual should be applied.

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Response and sub plans related to wildlife response are:

- DPI emergency response roles (DPI 2017)
- NSW codes of practice for injured, sick and orphaned protected fauna (see Appendix A)
- NPWS Marine Wildlife Management Manual
- NSW State Waters Marine Oil and Chemical spill Contingency Plan
- Coastal Waters Marine Pollution Sub Plan
- National Plan for Maritime Environmental Emergencies.

(Refer to Chapter 10 for links to these plans).

3.1.6 Standards of care for wildlife rehabilitation – codes of practice

Wildlife rehabilitation in New South Wales relies on licensed wildlife rehabilitation providers with volunteer members providing mostly home-based and some centre-based care facilities. Wildlife rehabilitators must ensure the welfare needs of injured and sick protected animals are met, so the conservation benefits from their rehabilitation and release are optimised.

Of special importance for wildlife rehabilitators, are the:

- *NSW Code of practice for injured, sick and orphaned protected fauna* (all species, general)
- species-specific codes of practice (for almost all native animals in New South Wales).

These codes can be found on the *Our standards of care* webpage and an overview of the available codes is given in Appendix A. The codes provide the current and best practice protocols for the assessment and treatment of protected animals in New South Wales. They also set standards for the care and housing of protected animals that are incapable of fending for themselves in their natural habitat. The codes comprise both enforceable provisions and guidelines. Enforceable provisions are identified by the word 'standards' and must be followed.

The codes of practice define the minimum requirements for the rescue, rehabilitation and release of animals in care. The codes also specify training and reporting requirements, and measures to reduce the risks to the health and safety of wildlife rehabilitators. Compliance with the standards in the codes is a condition of the biodiversity conservation licence issued to wildlife rehabilitation providers.

The codes of practice are complemented by guidelines for the initial treatment and care of protected animals. These guidelines provide current and detailed information on how to assess and provide first aid to native animals. They are a resource for wildlife rehabilitators and can be very valuable for wildlife response roles such as the TAW and WERTs. The *Our standards of care* webpage also links to short videos (*Practical techniques in wildlife rehabilitation*), which are focused on how to correctly apply selected standards in line with the code of practice.

3.2 Stakeholder roles and responsibilities

The Wildlife in Emergencies Sub Plan identifies several agencies as having wildlife expertise to assist EnvSFA during an emergency. The roles and responsibilities of these agencies are outlined in the Wildlife in Emergencies Sub Plan.

The roles and responsibilities of wildlife rehabilitators are further discussed in Chapter 5 of these guidelines. As previously noted, any actions of wildlife rehabilitators should be in line with the *Code of practice for injured, sick and orphaned protected fauna*. Furthermore, wildlife rehabilitators should meet the training requirements as outlined in Chapter 5, wear the appropriate PPE, and follow instructions from the IC or Fire Crew Leader.

4. Incident management systems

An incident management system enables agencies to come together to resolve incidents through an integrated and effective response. Through the application of a common system in training, exercising and incident response, people from fire and emergency services, government agencies, volunteers and wildlife rehabilitators can build trust and confidence in each other's ability to work effectively together to manage the most challenging of incidents.

4.1 Australasian Inter-service Incident Management System

AIIMS is broadly accepted and in use across Australian emergency management agencies. It provides the foundation for teams to form and begin work immediately, confident in the knowledge that those they work with use the same terminology, understand the processes and structures in place, and appreciate the information flow that must occur to make the team successful.

AIIMS provides a common incident management system that enables the seamless integration of activities and resources for the effective and safe resolution of any incident. AIIMS structures are applied by all combat agencies, participating and supporting organisations identified in the EMPLAN in New South Wales.

AIIMS is founded on several principles and concepts that are the foundation on which the system operates, and these principles provide benchmarks for those applying AIIMS.

4.1.1 Principles

AIIMS is founded on 5 core principles, which guide the application of the system, and against which the activities of incident management are tested. These principles are summarised in Table 2.

Table 2 AIIMS principles – summarised

Principles	Summary
Flexibility	Applicable to all hazards/incidents and agencies. The team expands and contracts as required by the incident.
Management by objective	The IC, in consultation with the IMT and supporting agencies, determines the desired outcomes of the incident. This ensures that all personnel are working towards the same goal.
Functional management	The use of specific functions (as described in section 4.1.2 below), defined as an activity or grouping of activities addressing core responsibilities, to manage an incident.
Unity of command	Each individual should only report to one supervisor. There is one set of common objectives for all those involved in the response to an incident, leading to a consolidated plan for the IMT.
Span of control	The number of groups or individuals that can be successfully supervised by one person is monitored and managed accordingly to fit the tasks required.

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These principles are related to wildlife response at incidents, in the following ways:

Flexibility

The wildlife response might consist of different actions, depending on the nature of the incident. Wildlife personnel might come from different organisations and agencies. The duration of the response will vary and the size of the response may range from a single field team to a more complex arrangement across the Planning and Operations IMT functions for large-scale events.

Management by objective

Wildlife response teams will contribute to meet the incident objectives. They must understand the desired outcomes of the incident and act in accordance with the current IAP.

Functional management

WERTs, Wildlife Coordinators and Wildlife Operations Managers (WOMs) will be working within the Operations function. The TAW is part of the Planning or Intelligence function, providing specialist advice to the IMT to assist with coordinating the wildlife response.

Unity of command

Everyone involved with the wildlife response should know who they report to and be clear which functional area they are working within.

Span of control

The span of control for wildlife response will depend on numerous factors, such as:

- context and complexity of the incident
- level and volume of operational activity
- capability of personnel
- nature of the task
- any safety risks.

The makeup of a WERT should be between 2 and 5 people.

4.1.2 Functions

There are many different combinations of tasks that could be grouped together as sections or 'functions' (Figure 2). AIIMS identifies 8 groupings as the most useful for managing incidents (Table 3). The most relevant functions for wildlife response are Control, Operations, Planning, and Logistics.

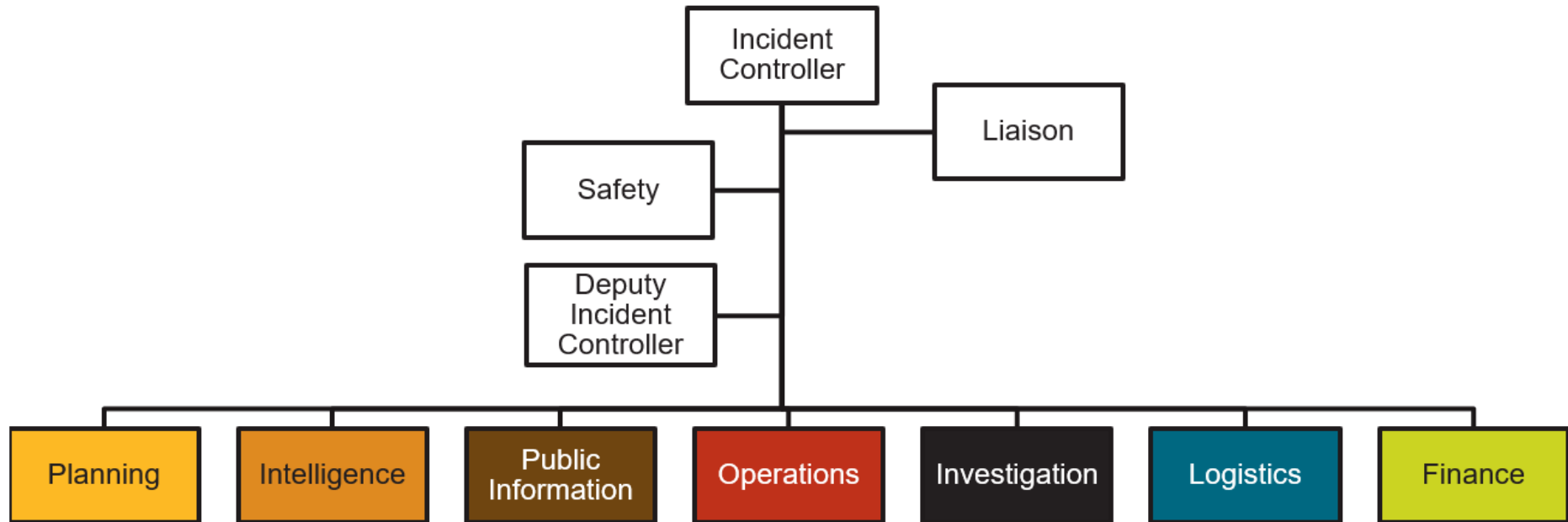


Figure 2 Overview of the functions within an incident management structure
Source: AFAC (2017)

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Table 3 Summary of the 8 functions within AIIMS and the relevance of these functions for wildlife response

AIIMS function	Description	Relevance for wildlife response
Control	The management of all activities necessary for the resolution of an incident	All actions in relation to wildlife response will require IC's approval
Planning	The development of objectives, strategies, and plans for the resolution of an incident based on the outcomes of collection and analysis of information	The TAW (Appendix B) sits under Planning, unless the Intelligence function is activated
Intelligence	The task of collecting and analysing information or data, which is recorded and disseminated as intelligence to support decision making and planning	The TAW (Appendix B) sits under Intelligence if this function is activated
Public Information	The provision of warnings, information, and advice to the public, and liaison with the media and affected communities	Messages about wildlife response to be shared with the public. Also, information from the community about wildlife in distress can enter the IMT through channels monitored by the Public Liaison Officer
Operations	The tasking and application of resources to achieve resolution of an incident	Fire Crew Leaders, WERTs, Wildlife Coordinators and WOMs (Appendices C, D, E, F and G) work under the Operations function
Investigations	The task of conducting investigations to determine the cause of an incident and/or to determine factors that contributed to the impact of the incident or specific events	Not necessarily directly related to wildlife response
Logistics	The acquisition and provision of human and physical resources, facilities, services and materials to support achievement of incident objectives	As requested by a TAW and approved by the IC, logistics will assist in provision of resources such as WERT personnel, wildlife equipment or a triage facility
Finance	The task of managing: <ul style="list-style-type: none"> accounts for purchasing supplies and hire of equipment insurance and compensation for personnel, property and vehicles collection of cost data and provision of cost-effective analyses and providing cost estimates for the incident 	An example: once a wildlife response has been approved by the IC, Finance (if activated) will manage invoices for required veterinary care, medication and wildlife equipment required

4.1.3 Incident classifications

The organisational structures will vary according to the level and complexity of the incident. AIIMS identifies 3 levels of incident and describes them in generic terms, as outlined in Table 4.

Table 4 AIIMS incident classifications

Incident classification	Description
Level 1	In New South Wales, a level 1 incident is under the control of the local responsible land management agency, e.g. NPWS, RFS, Forestry Corporation or the local council. Sometimes low-level assistance is provided by other agencies. The IC is responsible for all functions and the incident can normally be resolved within the duration of one shift.
Level 2	Level 2 incidents may be more complex due to size, resources, risk or consequence. A level 2 incident involves, by necessity, more than one agency. The incident is of growing complexity, and the consequences can extend beyond the incident area. Some functions of the IMT will be activated and the duration of the incident can be an extended time or multiple shifts.
Level 3	Level 3 incidents are characterised by degrees of complexity and consequence that may require the establishment of significant resources and structure for the effective management of the situation. At a level 3 incident, most functional areas of the IMT are activated and a level 3 IC is appointed. The consequences of the incident extend across area boundaries, across communities, and the duration will be multiple days, weeks or months.

Classes versus incident levels for bushfires

Firefighting agencies in New South Wales refer to class 1, 2 and 3 (section 44, *Rural Fires Act 1997*) bushfire incidents, instead of level 1, 2 and 3. However, there are great similarities between the classification systems. The bushfire classes are described in Table 5.

Table 5 Bushfire incident classes

Incident classification	Description
Class 1	A bushfire under the control of the responsible firefighting authority, whether or not incident/low-level assistance is provided by other agencies
Class 2	A fire that, by necessity, involves more than one agency and where the Bush Fire Management Committee executive has appointed a person to take charge of firefighting operations
Class 3 (s 44)	A major bushfire or fires where an appointment has been made, or is imminent, under the provisions of section 44 of the <i>Rural Fires Act 1997</i>

4.1.4 Triggers for wildlife response

It is of outmost importance to realise that **the level (or class) of incident, regardless of the type of incident (e.g. fire, flood), is not necessarily in line with the scale of the wildlife response required.** See Box 2 below for 2 examples. The activation triggers for wildlife response are described in section 5.3.1 of these guidelines. In general, the wildlife response will depend on the need (i.e. animals affected yes/no, number and species of animals) and the availability of resources.

Box 2: Examples of how the scale of the wildlife response required might differ from the level (or class) of incident

Example 1. Small fire (class 1), medium to large-scale wildlife response required

A lightning strike has started a small fire, 100 x 100 m. The local firefighters are controlling it and are confident that the fire will be out by the end of the day (class 1 bushfire). However, this particular location was known habitat of endangered brush-tailed rock wallabies. Given the endangered status of the rock wallabies, a medium to large-scale wildlife response might be required, e.g. TAW to develop a Wildlife Response Plan, WERTs are deployed to survey the area and assess any animals found. WERTs may then capture, euthanise and/or transport animals for treatment and rehabilitation. A long-term plan for the rehabilitation and reintroduction of the brush-tailed rock wallabies may be required.

Example 2. Large fire (section 44), limited wildlife response required

A section 44 fire (class 3) is burning in agricultural grassland (pasture) on the fringe of a major city. Many emergency services have been activated given the proximity to houses and infrastructure, and the extreme fire behaviour. However, there are no reports of injured wildlife and no known record of endangered wildlife in these grasslands. The wildlife response might therefore be non-existent or at small-scale only (e.g. consideration of post-fire wildlife survey).

4.1.5 Incident Action Plans

Incident action planning is a process that is central to the application of AIIMS. After consideration of all known factors affecting an incident, an IAP is developed to manage the incident and is used as a tool to communicate the incident objectives. The objectives and strategies are reviewed regularly to ensure they reflect what is happening and what predictions were made.

Once approved by the IC, the IAP is distributed to responders and supporting organisations. When preparing the IAP, a key consideration is risk: risk to the responders, risk to those directly threatened by the incident, and risks to the wider community as a consequence of the incident. Assessing and managing risk is a critical part of incident management, and the IAP will reflect an assessment of risk in the objectives, strategies and tactics chosen to resolve the incident.

In short, the function of an IAP is to:

- specify the IC's intent, and the overall incident objectives and strategies
- identify key threats and risk exposures (including the impact on the community and the environment)
- establish continuity of command and control
- ensure the safety of all response crews and the community
- ensure effective use of resources
- identify anticipated resources needed
- identify communication protocols.

Depending on the situation, wildlife response can be included in the IAP.

4.2 Wildlife response within the AIMS framework

The wildlife response roles that have been developed are summarised in Table 6. More information about these roles can be found in the relevant appendices (as specified in the table). Please note that the activation of these roles will vary depending on the species and number of animals affected, and resource availability. The wildlife response roles fit within the AIMS framework as per Figure 3, Figure 4 and Figure 5.

Table 6 Wildlife response roles

Wildlife response role	Summary of activities	AIMS function	Appendix no.
Technical Advisor Wildlife (TAW)	Supporting the IMT with arranging a coordinated wildlife response	Intelligence or Planning [in IMT]	Appendix B
Wildlife Emergency Response Team (WERT) – member	Surveying, assessing, capturing, treating, transporting and/or euthanising wildlife affected by an incident	Operations [on-ground]	Appendix C
Wildlife Emergency Response Team (WERT) – leader	Leading the WERTs on the incident ground; ensuring the safety and welfare of team members and wildlife	Operations [on-ground]	Appendix D
Fire Crew Leader (for fire-related incidents)	An experienced, fire trained person, who can lead the WERT safely on the fireground, focusing on fireground safety	Operations [on-ground]	Appendix E
Wildlife Coordinator	Coordinating the on-ground wildlife response efforts; overseeing WERTs, organising transport, equipment, facilities and disposal of carcasses; providing briefings; ensuring JSAs are adhered to	Operations [on-ground]	Appendix F
Wildlife Operations Manager (WOM)	Overseeing the wildlife operations when multiple Wildlife Coordinators and WERTs are activated; ensuring the WRP is implemented	Operations [in IMT]	Appendix G

4.2.1 Small-scale wildlife response

The organisational structure for a small-scale wildlife response is shown in Figure 3. If the required wildlife response is small, for example, one individual animal with burns, the crews within the Operations function may respond to the injured wildlife in the field by rescuing the animal and handing it over to a wildlife rehabilitator. Alternatively, if known populations of vulnerable wildlife are present in the incident area, a TAW may be appointed to provide advice to the IMT and support field operations to coordinate wildlife rescue and rehabilitation.

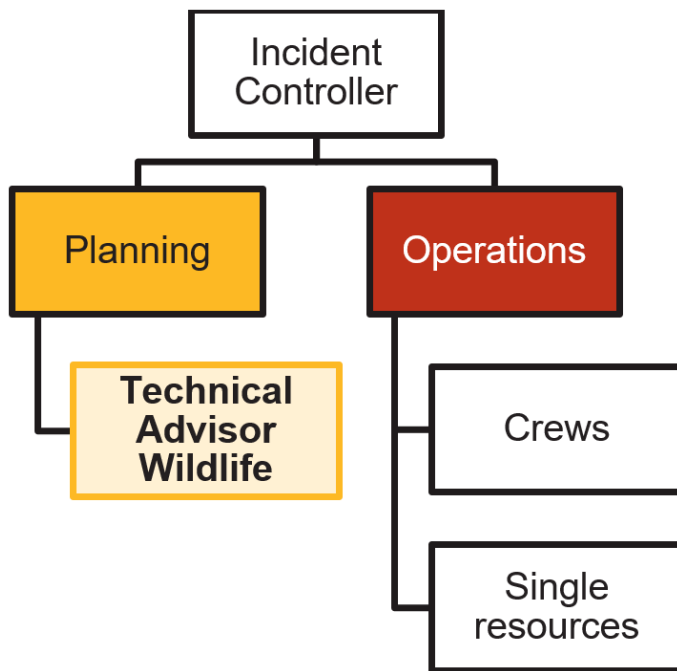


Figure 3 Structure for a small-scale wildlife response with a TAW in the Planning function
Note that other functions of the IMT may have been activated as well (not depicted here).

4.2.2 Medium-scale wildlife response

The organisational structure for a medium-scale wildlife response is shown in Figure 4. For a medium-scale wildlife response, WERT(s) may be assembled within the Operations function. The WERTs report to a Wildlife Coordinator (if appointed) or the sector/divisional commander. A TAW may be appointed to the Planning function to provide expert advice and assist with developing a WRP (as part of the IAP, or as a separate subplan) for the WERTs to implement.

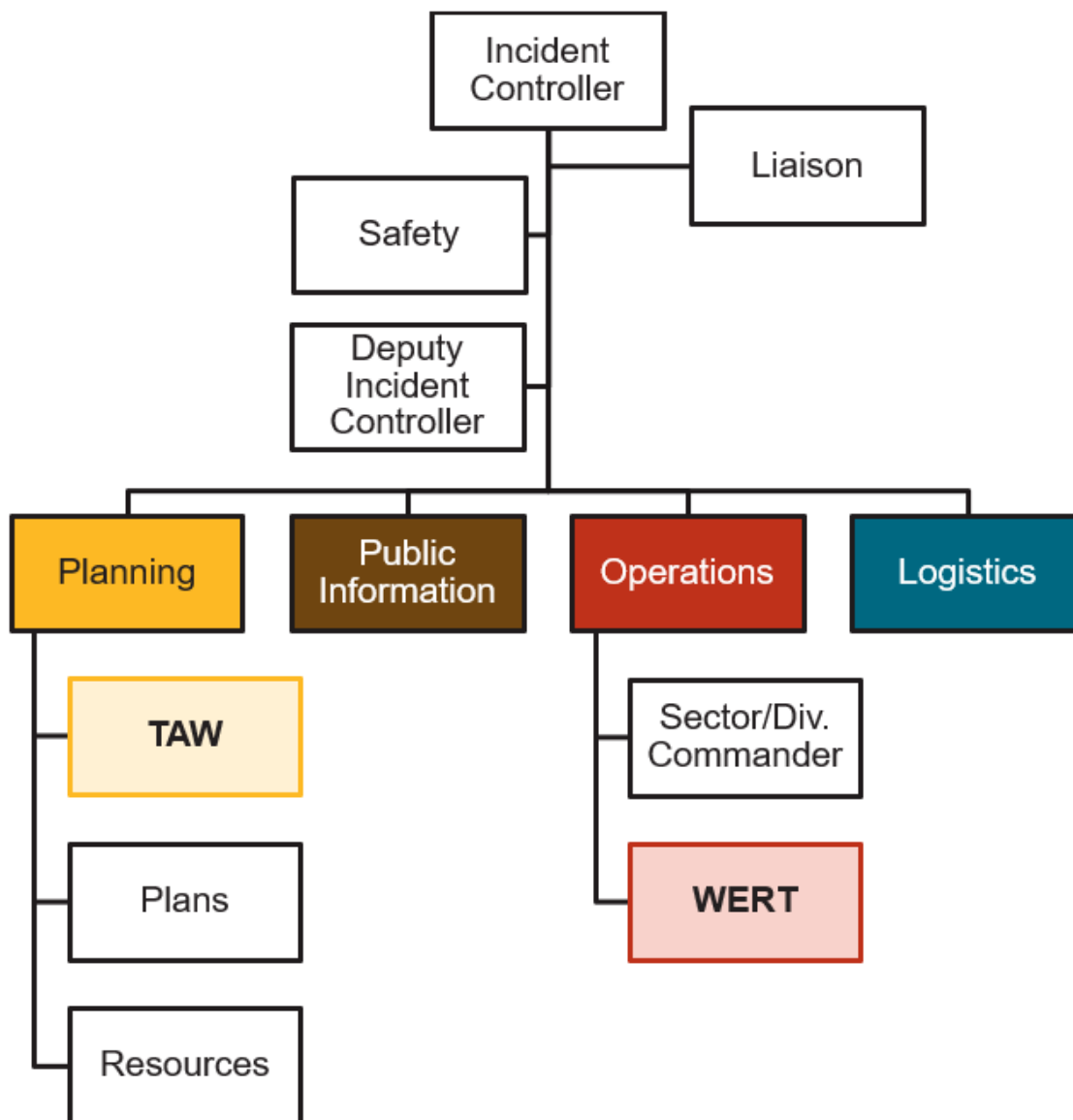


Figure 4 Structure for a medium-scale response with wildlife roles highlighted

A TAW may be appointed to the Planning function, and WERT(s) may be working within the Operations function. Note that other functions of the IMT may have been activated as well (not all of them are depicted here).

4.2.3 Large-scale wildlife response

The organisational structure for a large-scale wildlife response is shown in Figure 5. If a large-scale wildlife response is required, it could be coordinated as a stand-alone function within the Operations function. A WOM may be appointed, and Wildlife Coordinators can be activated. The WERT(s) report to their Coordinator(s). The WOM will work closely with the

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TAW (in the Planning or Intelligence functions) to develop and implement the WRP for that specific incident.

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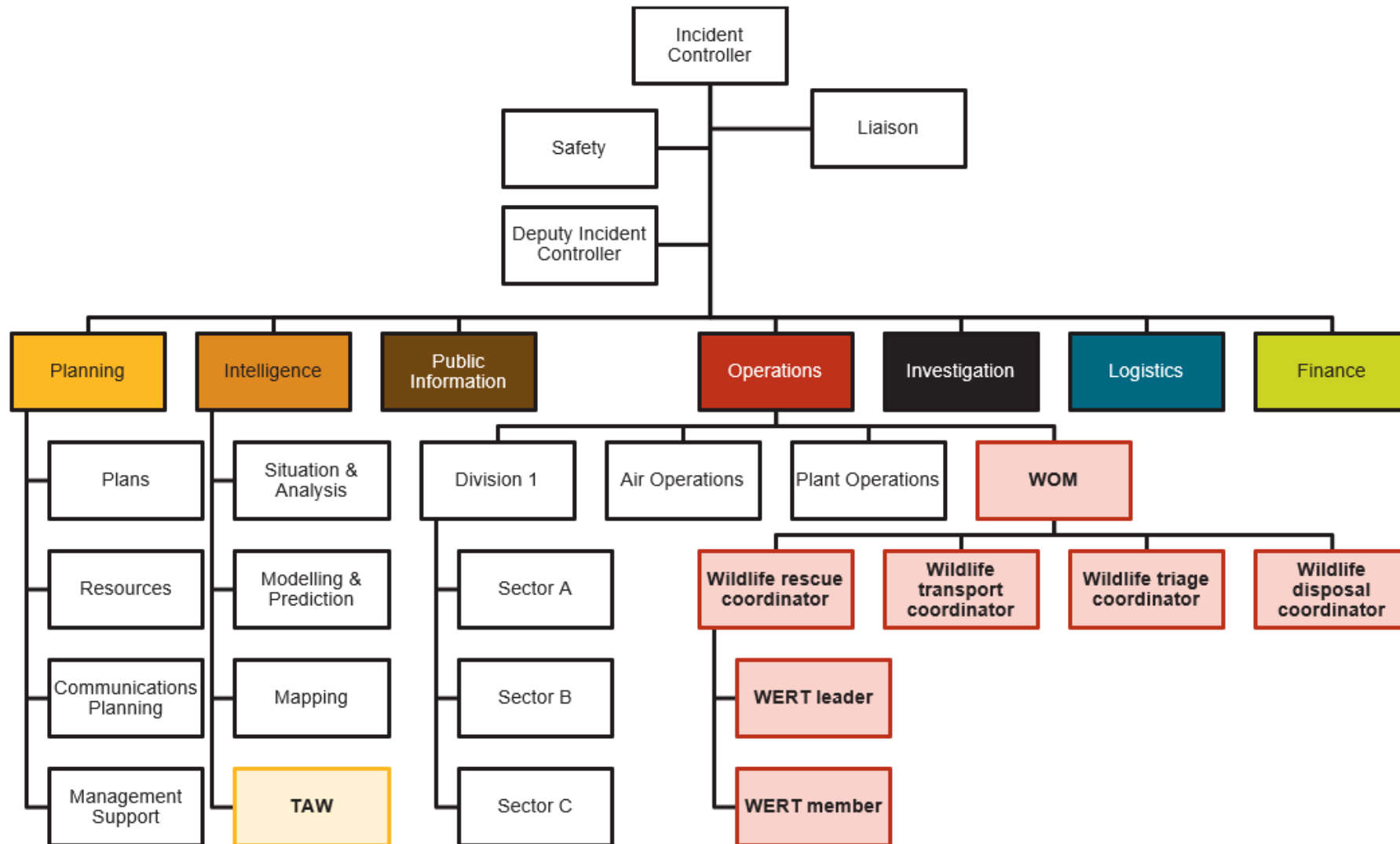


Figure 5 Structure for a large-scale wildlife response

These wildlife roles may or may not be activated, depending on the need and resource availability. Please note that not all other functions of the IMT need to be activated (e.g. Air Operations or Plant Operations) because wildlife response could be a stand-alone function within the Operations function.

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5. Wildlife response during emergencies

Effective wildlife response during emergencies is integrated within the broader incident management structures, using the accepted AIMS principles and incident management phases, that is, PPRR. The wildlife response ranges from the pre-planning phase through the response phase and can extend well into the recovery phase of an incident as indicated in Table 7. The 4 phases (PPRR) of wildlife response are detailed in the following sections and summarised in the table.

Table 7 Incident management phases and the associated wildlife response

Phase	Wildlife response	Wildlife roles that could be activated
Prevention	<ul style="list-style-type: none"> Pre-incident planning Hazard reduction activities 	<ul style="list-style-type: none"> Technical Advisor Wildlife
Preparedness	<ul style="list-style-type: none"> Assessment of wildlife populations and local resources Training PPE provision 	<ul style="list-style-type: none"> Technical Advisor Wildlife Wildlife Emergency Response Team(s)
Response	<ul style="list-style-type: none"> Survey and rescue Triage and treatment Transport Euthanasia 	<ul style="list-style-type: none"> Technical Advisor Wildlife Wildlife Emergency Response Team(s) Wildlife Coordinator Wildlife Operations Manager
Recovery	<ul style="list-style-type: none"> Rehabilitation Installation of drinking stations or temporary shelters (as required) Release of animals 	<ul style="list-style-type: none"> Technical Advisor Wildlife Wildlife Emergency Response Team(s) Wildlife Coordinator Wildlife Operations Manager

5.1 Prevention

The prevention of negative impacts from emergencies on wildlife is mainly achieved through planning processes. In relation to bushfires, landholders, land managers, fire authorities and community organisations are organised in Bush Fire Management Committees (BFMCs). The BFMCs develop Bushfire Risk Management Plans for certain areas, and ecological risk assessments and wildlife considerations are included in this process.

5.2 Preparedness

5.2.1 Assessment of wildlife populations and local resources

One way to be prepared for potential impacts on wildlife, is to maintain current records of the most important wildlife populations in the national park estate and forested areas. Up-to-date spatial layers (maps) of important areas for wildlife are of vital value. These should include:

- sites for critically endangered, endangered or vulnerable species
- important areas for breeding, feeding or shelter
- locations where locally extinct mammal species are being reintroduced
- areas where the national park (or forest, e.g. Forestry Corporation or council land) otherwise provides important habitat.

To this extent, the Assets of Intergenerational Significance (AIS) and associated conservation action plans are an important source of information.

Other important information to accumulate pre-incident are:

- contact details for local vets and other relevant specialists
- contact lists of trained wildlife rehabilitators and rehabilitation shelters
- approved or recommended contractors or suppliers relevant to the treatment and care of wildlife.

This pre-existing information is often gathered for each area in documents such as pre-incident plans, conservation action plans, risk plans, agency Geographic Information System (GIS) layers and in ICON¹ maps. Ideally, an app (to be developed) should bring all this information together. This should make the information readily available for the IC, TAW and/or Wildlife Coordinators.

For NPWS staff, a TAW checklist is available on ParkSite. This checklist has numerous helpful links to assist with assessing the local wildlife populations and resources.

5.2.2 Training

Training and accreditation are essential risk mitigating measures relevant to all personnel and organisations that respond to incidents. To be deployed to an incident in a wildlife role (e.g. WERT member, WERT leader or Wildlife Coordinator), individuals must meet the appropriate prerequisites for the role that they undertake and meet their organisation's health and fitness requirements. These prerequisites are outlined in Table 8 and are further discussed in the specific role summaries (Appendix B to Appendix G). Some regular refresher training will be required (e.g. for hazardous trees and first aid provision). Regular wildlife handling courses should be facilitated by the wildlife rehabilitator groups. Wildlife rehabilitators need to understand and act in accordance with the codes of practice (see also section 3.1.6 of these guidelines). It is advised that wildlife rehabilitators revise the codes of practice for the specific animals on a regular base, to retain and develop their knowledge and skills.

For firefighters, training in wildlife first response is available online. This is accessible through the firefighter's organisation's learning page, as well as via the *Wildlife first response training for NSW firefighters* webpage. A handbook entitled *Wildlife first response for NSW firefighters* that summarises wildlife response on the fireground has also been distributed to firefighting vehicles in New South Wales. See Chapter 10, 'Online resources' for links to

¹ ICON = Incident Control Online System. The core incident control system in use by the NSW RFS.

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these resources. A practical handling course is being developed in conjunction with Taronga Conservation Society and will be available from June 2024.

All wildlife response personnel that intend to access a fireground are required to complete a Basic Wildfire Awareness (BWA) or Bush Fire Awareness (BFA) course. This course teaches participants to understand the behaviour of bushfires and how fires are managed in Australia. This is offered through external providers such as NSW RFS, TAFE NSW and other private training companies (RTOs). It is also recommended that WERTs have completed the AIIMS awareness course or principles course, to have a clear understanding of where they fit in the incident management structure and an understanding of the need to follow chain of command procedures.

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Table 8 Summary of training requirements for wildlife response roles

See role summaries, Appendix B to Appendix G, for more detail.

Course, qualifications and currencies*	Technical Advisor Wildlife	WERT				Wildlife Coordinator				Wildlife Ops Manager
		Leader	Vet/handler	Shooter	Member	Triage	Rescue	Transport	Disposal	
For all incidents										
22459VIC – AIIMS	R	D	D	D	D	R	R	R	R	R
Wildlife handling skills	X	R	R	D	R/D	D	D	D	D	X
HTLAID011 or HTLAID003 Provide first aid	R	R	R	R	R	R	R	R	R	R
TLIC2025 Operate 4WD vehicles	X	D	D	D	D	R	R	R	R	R
Tree Hazard Awareness	X	R	R	R	R	R	R	R	R	R
PUAOPE014 Navigate to an incident	X	R	D	D	D	R	R	R	R	X
Arc GIS/MapDesk	R	X	X	X	X	X	X	X	X	D
ICON Operator	D	X	X	X	X	X	X	X	X	D
Relevant vaccinations	X	R	R	D	R	D	D	D	D	X
For fire-related incidents										
Wildlife 1st Response Training for NSW Firefighters	R	R	D	D	R	R	R	R	R	R
22541VIC Basic Wildfire Awareness (BWA – 5 yrs) or Bush Fire Awareness Training (BFA – 3 yrs)	R	R	R	R	R	R	R	R	R	R
Fire Medical Assessment	R	O	O	O	O	R	R	R	R	R
Task Based Assessment	O	O	O	O	O	O	O	O	O	O
Assessment, triage and treatment of bushfire affected wildlife module (Taronga Conservation Society)	D	D	D	D	D	D	D	D	D	D

*R = required; D = desirable; O = organisation specific; X = not applicable

5.2.3 Personal protective equipment

The IC is responsible for ensuring all agency personnel and volunteers are appropriately equipped with PPE when being deployed to the incident ground. Volunteers will need to provide their own PPE when being deployed to an incident.

For fire related incidents, the PPE must meet the Australasian Fire and Emergency Service Authorities Council (AFAC) guidelines (AFAC 2019). Table 9 provides a list of PPE to be worn on the fireground and other essential equipment, based on the AFAC guidelines.

Table 9 PPE and other essential equipment for a fireground

Source: AFAC (2019)

Item	Guideline
PPE to be worn on the fireground	
Uniform	2-piece, consisting of trousers and jacket, complying with AS 4824 and AS 4602.2 and related standards
Boots	Bushfire boots rated to AS 4821 (Type 1 or Type 2) with toe protection
Gloves	Bushfire gloves rated to AS 2161.6:2003 (Level 1 or Level 2)
Goggles	Bushfire goggles rated to AS 1337
Helmet	Bushfire helmet rated to AS 1801 (Type 3)
Hood	Bushfire hood rated to standard NFPA1971
Smoke mask	Smoke mask (otherwise known as particulate filtration): particulate filter rated to AS 1716 (Minimum Class P2)
Whistle	–
Compass	–
Other essential equipment	
Head lamp	Or torch
Socks	Woollen socks, must be at least 75% wool
Sunglasses	Rated to AS 1337 and AS 1338.2:1992
Ear protection	Rated to AS/NZS 1270:2002
Sunscreen	SPF 30 minimum
Water containers	Minimum 2 L capacity
Food for 24 hours	–
First aid kit	At least one kit per team

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WERT members will be briefed on the required PPE when they are deployed. It is the WERT leader's responsibility to check and ensure that each member has the requisite PPE at the commencement of each shift. Any member arriving in inappropriate clothing or missing specified equipment will not be deployed onto the incident ground.

Additional PPE may be required when using firearms or when handling wildlife. Disposable items such as surgical gloves, face masks and aprons, are required in a wildlife triage centre.

5.2.4 Rescue equipment

Wildlife response activities require certain equipment such as rescue gear, assessment gear (e.g. binoculars) and communication devices. Many of these items can be assembled and checked before an incident occurs. The equipment list in Table 10 is provided to assist with selecting and preparing equipment items for a wildlife response. Equipment items required include, but are not limited to, the items mentioned in this list.

Table 10 Recommended equipment for assessing and assisting injured wildlife

Equipment segment	Items
Transport	<ul style="list-style-type: none"> <input type="checkbox"/> Vehicle suitable for the terrain (e.g. 4WD, see specifications in Table 12) <input type="checkbox"/> Vehicle suitable for animal transport, in line with the code of practice <input type="checkbox"/> Containers appropriate for different species, sizes, strengths and temperaments of fauna <input type="checkbox"/> Containers must be ventilated <input type="checkbox"/> Containers must minimise light, noise and vibrations <input type="checkbox"/> Containers must be labelled for identification and tracking purposes
Survey and search	<ul style="list-style-type: none"> <input type="checkbox"/> IAP, WRP, contact details (e.g. property owners) <input type="checkbox"/> Topographic maps, electronic device with mapping capabilities <input type="checkbox"/> GPS <input type="checkbox"/> Flagging tape <input type="checkbox"/> Binoculars <input type="checkbox"/> Camera <input type="checkbox"/> Drone technology (if available and approved)
Rescue gear	<ul style="list-style-type: none"> <input type="checkbox"/> Containers such as pet crates, washing baskets, flat packs <input type="checkbox"/> Pillowcases, large canvas/hessian sacks with ventilation <input type="checkbox"/> Artificial 'pouches' for transporting marsupial young <input type="checkbox"/> Towels, blankets <input type="checkbox"/> Catching pole, nets

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Equipment segment	Items
Communication	<ul style="list-style-type: none"> <input type="checkbox"/> Radios (UHF, VHF) <input type="checkbox"/> Mobile phones, satellite phone <input type="checkbox"/> Tracking device <input type="checkbox"/> Personal locator beacon (PLB)
Data collection	<ul style="list-style-type: none"> <input type="checkbox"/> Animal recording forms – preferably on an app (to be designed) <input type="checkbox"/> Field activity logbook (including euthanasia, disposal and firearm logbooks) <input type="checkbox"/> Camera (on phone), log of photos taken <input type="checkbox"/> Portable microchip scanner
Assisting wildlife	<ul style="list-style-type: none"> <input type="checkbox"/> Bandages <input type="checkbox"/> Gauze swabs <input type="checkbox"/> Saline solution <input type="checkbox"/> Water for flushing burns
Euthanasia	<ul style="list-style-type: none"> <input type="checkbox"/> Firearms and suitable ammunition, safely stored <input type="checkbox"/> Disposal bags
Safety of personnel	<ul style="list-style-type: none"> <input type="checkbox"/> First aid kit, automated external defibrillator (AED) <input type="checkbox"/> PPE <input type="checkbox"/> Food and drinking water <input type="checkbox"/> Warm clothes <input type="checkbox"/> Sun protection (sunglasses, hat, sunscreen) <input type="checkbox"/> Whistle
Other useful items	<ul style="list-style-type: none"> <input type="checkbox"/> Hand sanitiser, sanitiser for equipment <input type="checkbox"/> Paper towel, rags <input type="checkbox"/> Cable ties <input type="checkbox"/> Pliers, wire cutters, multitool <input type="checkbox"/> Labels <input type="checkbox"/> Pen and paper, permanent markers <input type="checkbox"/> Torch <input type="checkbox"/> Batteries for electronic devices

It is recommended that wildlife organisations and NPWS/firefighting depots have ‘ready-to-go’ rescue kits in their storage facilities. People fulfilling the wildlife roles might have additional (personal) equipment that they would like to bring such as a backpack with a water bottle, sunscreen and snacks. All WERT members must be self-sufficient regarding food and water for a 24-hour period. While food and water are often provided for incident response personnel, this is not always guaranteed, and all personnel must be prepared to sustain themselves.

5.3 Response

A wildlife response is activated once there are potential, suspected or known significant impacts to wildlife, and the IC (or appropriately delegated officer) has requested that a wildlife response be commenced. Key indicators that a wildlife response may be required include:

- when an emergency unfolds in an area with pre-identified vulnerable species (refer to section 5.2.1 of these guidelines)
- receiving information about injured and/or vulnerable wildlife from operational personnel (e.g. firefighters on the incident ground), supporting agencies, or from local knowledge (including Aboriginal knowledge)
- intel from community meetings, social media and local wildlife rehabilitators about injured or vulnerable wildlife.

5.3.1 Activation triggers

Wildlife response roles should be activated using standard resource request protocols. The decision on activation sits with the IC. The decision on the size and scale of the wildlife response is determined by the quantity of work, the span of control, geographical spread and the capability of response personnel. The activation triggers in Table 11 provide guidance for the scale of the wildlife response.

5.3.2 Activation of Technical Advisor Wildlife – assessing wildlife needs

The trigger for injured wildlife response will depend on the need (i.e. reported number of animals affected, number and species of animals affected) and the IC can request a TAW to identify wildlife at risk and evaluate the current and future impacts of the incident on wildlife. The TAW will be established within the Planning function of the IMT (or Intelligence function, if activated).

The TAW will lead and/or assist with:

- identifying and mapping the location of vulnerable species or wildlife populations within the affected areas
- identifying vulnerable areas not yet impacted by the incident and providing advice to the IMT on risks related to wildlife (an example of an environmental values report can be found in Appendix H)
- gathering intelligence on the location of animals that may have been injured over the course of the incident
- engaging and coordinating the wildlife sector (i.e. involvement of wildlife rehabilitators) (Figure 6)
- ensuring wildlife response strategies are integrated with the broader incident management effort
- documenting wildlife response strategies and actions, and gaining approval via the IC
- developing a safe approach to assess, capture, treat or euthanise affected animals, including the identification of safe areas for these activities
- providing advice on triage requirements, rehabilitation and release of wildlife, or euthanasia and disposal of carcasses.

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Table 11 Activation triggers for wildlife response during emergencies

Activation trigger	Response actions
Small-scale wildlife response	<ul style="list-style-type: none"> • Known populations of vulnerable wildlife within/near the affected areas • 1–10 animals seen by operational personnel that require assessment <ul style="list-style-type: none"> • A TAW may be considered by the IC, to provide advice to the IC/IMT • A WERT may be deployed (or on standby) to assess animals, euthanise animals or capture and transfer animals for treatment and rehabilitation
Medium-scale wildlife response	<ul style="list-style-type: none"> • Impacted area is known to contain a high density of wildlife (large number of animals present) • Known populations of vulnerable species • 10–40 animals detected that require assessment <ul style="list-style-type: none"> • A TAW may be appointed by the IC to provide advice to the IC/IMT and develop a WRP • WERTs may be deployed to assess animals, euthanise animals or capture and transfer animals for treatment and rehabilitation • Wildlife Coordinator(s) may be deployed to direct on-ground wildlife response activities • A triage centre may be established, such as a mobile wildlife hospital
Large-scale wildlife response	<ul style="list-style-type: none"> • Impacted area is known to contain a high density of wildlife (large number of animals present) • Wildlife population contains a high density of vulnerable or threatened species • More than 40 animals seen that require assessment <ul style="list-style-type: none"> • A TAW may be appointed by the IC to provide advice to the IC/IMT and develop a WRP • WERTs may be deployed to assess animals, euthanise animals or capture and transfer animals for treatment and rehabilitation • Wildlife Coordinator(s) may be deployed to direct: <ul style="list-style-type: none"> ○ rescue ○ transport ○ triage ○ disposal of wildlife • A WOM may be appointed to direct wildlife activities and to implement the WRP • Triage centres may be established, and triage teams may be deployed • The logistics officer may be tasked to coordinate, track and roster wildlife rehabilitator involvement

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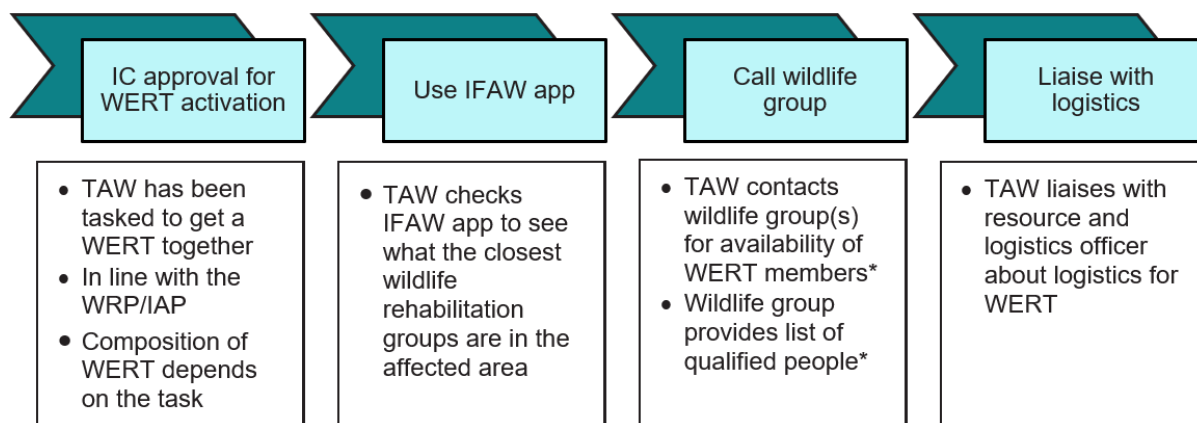


Figure 6 Current resourcing flowchart for how a TAW would request a WERT at their location

* WERT members need to come from a registered organisation that covers them for insurance; this includes registered vets and vet nurses. In the case of a fire, WERT members must have completed BWA or BFA training.

Wildlife Response Plans

Depending on the scale of wildlife response required, the TAW may be tasked with developing a WRP. The WRP, as part of the IAP or as a stand-alone sub plan, will specify the strategies and actions in relation to wildlife response within the scope of the overall incident management. An example of a WRP can be found in Appendix I.

Developing a safe and effective WRP requires an understanding of:

- animal species affected
- the incident's behaviour, such as fire behaviour or flood dynamics
- incident management structures and operations (AIIMS)
- risks associated with the incident and wildlife response
- key players involved, such as wildlife rehabilitators, vets, shooters, firefighting and/or emergency management personnel and the skills they can contribute
- number of WERTs required
- requirements for appropriate treatment and triage facilities
- euthanasia protocols and disposal of carcasses.

Explicitly, the WRP should consider the species most likely to be impacted, how many animals will need treatment and where they are likely to end up. The plan should contain details about transport, cages, food, enclosures, drugs and the skills and experience level of wildlife rehabilitators required. It should stipulate the number of WERTs required, the type of specialists required, and if triage or treatment centres are needed.

The WRP needs to consider the disposal of carcasses and these arrangements need to be in place early in the response phase. In New South Wales, municipal councils are responsible for the coordination of clean-up activities including disposal of dead animals, under advice from DPI and the EPA. Approved municipal animal waste facilities should be used and these should be identified in the WRP. Sometimes there might be special arrangements in place with the Aboriginal community about the burial of carcasses on country – whoever is involved with organising the disposal of carcasses should check with the local groups.

All WERT and support personnel should be identified in the WRP. The names and phone numbers of individuals and their supporting organisations should be identified in the WRP together with their role and location for each shift. The WRP should also include

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communication protocols, safety instructions, and information about exclusion zones and warnings. The WRP should include detailed maps of the area of operation with escape routes and refuge areas clearly marked.

The IAP (including the WRP) will be provided to WERTs at the briefing at the start of each shift. All team members are required to follow the tasks, directions and any modifications or warnings that are issued by the IC or the Operations Officer during the shift. WRPs will be regularly reviewed and updated by the TAW.

5.3.3 Activation of operational wildlife response personnel

Wildlife surveys, rescue operations and euthanasia are all examples of response actions that should fall under the Operations function of the IMT, directed by the Operations Officer. The operational wildlife roles are briefly summarised in the following paragraphs. More detailed information on these roles can be found in the relevant role summaries (Appendix B to Appendix G).

Wildlife Emergency Response Teams – Appendix C and Appendix D

WERTs are deployed to undertake the on-ground assessment of impacted wildlife, euthanasia or the capture and transportation of animals to a care or triage facility. These WERT actions are further discussed in section 5.3.4. Led by a WERT leader, WERTs can consist of a minimum of 2 to a maximum of 5 individuals. The WERT should be supervised by someone with incident-specific experience (such as firefighting experience, e.g. Fire Crew Leader, divisional commander or sector commander). It is also possible that the WERT members and/or leaders are experienced firefighting personnel themselves with the appropriate incident-specific training and expertise. Regardless, the WERT remains under the direction and authority of the Operations Officer or IC (see Figure 5 and Figure 7).

WERTs should have an appropriate mix of skills and include experienced and/or qualified personnel that can, depending on the situation, locate, identify, capture, handle, immobilise/sedate, and/or euthanise animals.

Specific roles include, but are not limited to:

- veterinarian, veterinary nurse
- wildlife handler
- shooter/darter
- drone operator
- detection dog handler
- tree climber/arborist
- snake catcher
- administration.

Please refer to Appendix C and Appendix D for the role summaries for a WERT member and WERT leader, respectively.

WERTs should act in line with the code of practice at all times and can ask for expert advice from specialists, vets or by means of Televet services (if activated). More details on the WERT activities such as survey, assessment, treatment, rescue or euthanasia and disposal can be found in section 5.3.4.

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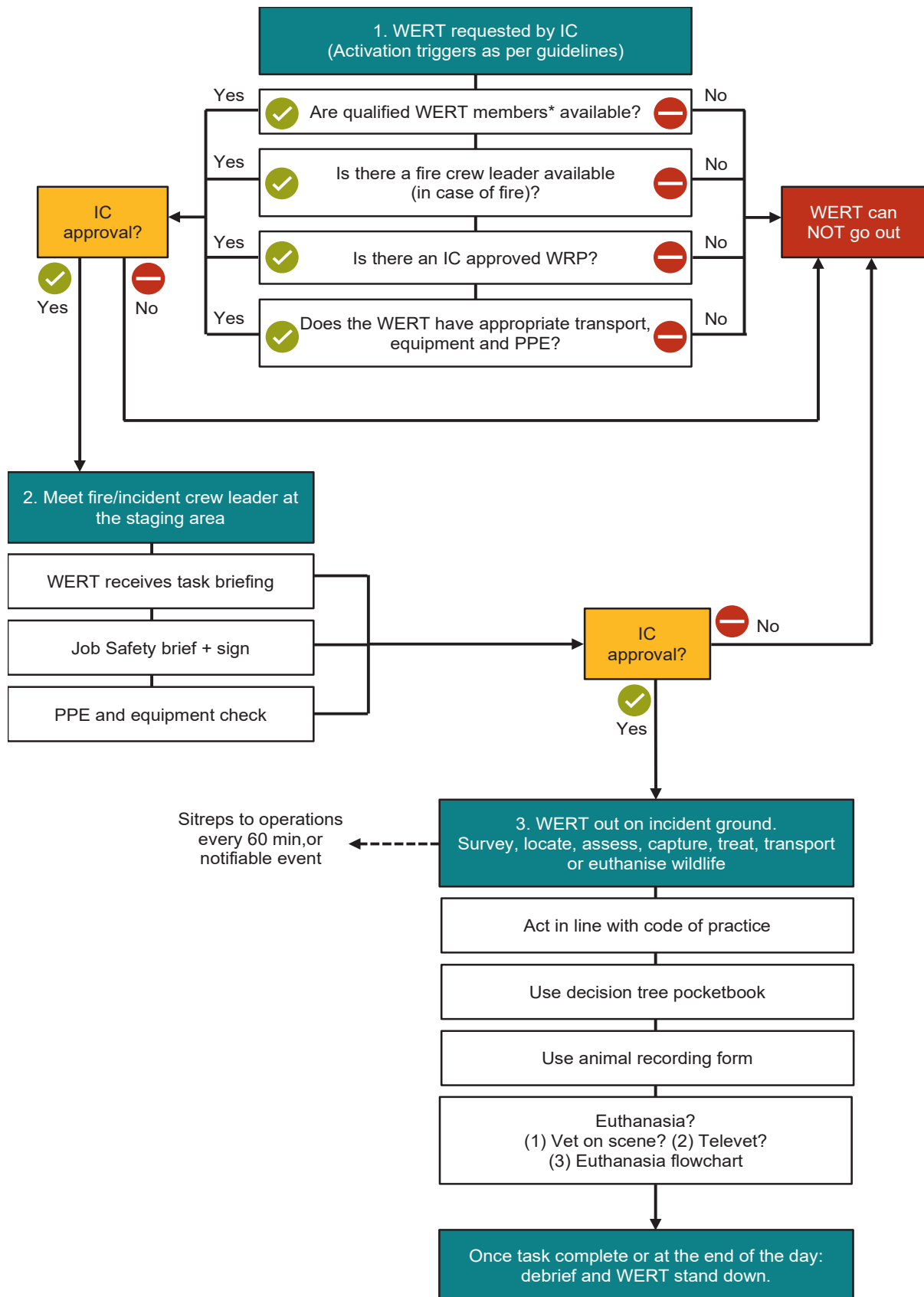


Figure 7 Flowchart of the activation, response and demobilisation of WERTs

*WERT members need to come from a registered organisation that covers them for insurance; this includes registered vets and vet nurses. In the case of a fire, WERT members must have completed BWA or BFA training.

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Fire Crew Leader (Appendix E)

A Fire Crew Leader is responsible for the safety of WERTs on the fireground. They must have a good understanding of fire behaviour and safety on the fireground, including the risk on the fireground after the front has passed (e.g. ash beds and hazardous trees). While their main priority is to adhere to WHS protocols and maintain crew safety at all times, they also have the capacity to evaluate options for assisting animals within the relevant regulations.

The Fire Crew Leaders that are appointed to a WERT are firefighting personnel (e.g. NPWS, RFS, Forestry Corporation or Fire and Rescue NSW) with an affinity for wildlife wellbeing and safety on the fireground. They must be qualified and current Fire Crew Leaders before they can take a WERT out on the fireground.

Wildlife Coordinator (Appendix F)

When a medium or large-scale wildlife response is required, the role of Wildlife Coordinator may be activated to ensure an effective span of control and leadership. A Wildlife Coordinator is responsible for the on-ground coordination of response activities to injured wildlife, including treatment and rescue operations, logistics, triage coordination and/or disposal, depending on the wildlife requirements and workloads.

A Wildlife Coordinator reports through the Operations function of the IMT and works closely together with (multiple) WERTs, the divisional commander(s) on the ground and the TAW.

A role summary for the role of Wildlife Coordinator can be found in Appendix F.

Wildlife Operations Manager (Appendix G)

At an incident where a large-scale wildlife response is required, the WOM is responsible for the overall coordination of wildlife response operations. A WOM works in the IMT and ensures the implementation of the wildlife response section of the IAP. They report directly to the Operations Officer or IC and work closely together with the TAW and Wildlife Coordinators.

A WOM oversees large-scale wildlife rescue operations, the setting up of wildlife triage facilities, or large-scale euthanasia and disposal operations. Responsibilities include:

- liaison with the Operations Officer on where wildlife response activities can be undertaken safely
- liaison with the TAW to develop strategies for the wildlife response
- liaison with the Wildlife Coordinators (on-ground) to determine tactics to achieve the objectives in the WRP
- liaison with the divisional commanders on operational activities including wildlife
- provision of updates to the IMT on wildlife response activities
- keeping an overview and log of wildlife response activities undertaken
- ensuring the wildlife response is in line with relevant legislation, WHS requirements, protocols, and guidelines.

A summary of the role of WOM can be found in Appendix G.

5.3.4 WERT operations

The tasks of WERTs can be very diverse, ranging from monitoring animals in situ, to capture and transport of animals to further care, or euthanasia and disposal (Figure 8). WERTS should always act in line with the code of practice, consult with the vet in their team, or ask for expert advice through phone calls or by means of Televet (if activated). If euthanasia is deemed the best outcome, IC approval needs to be sought before any actions are undertaken. The following sections discuss the WERT actions in more detail.

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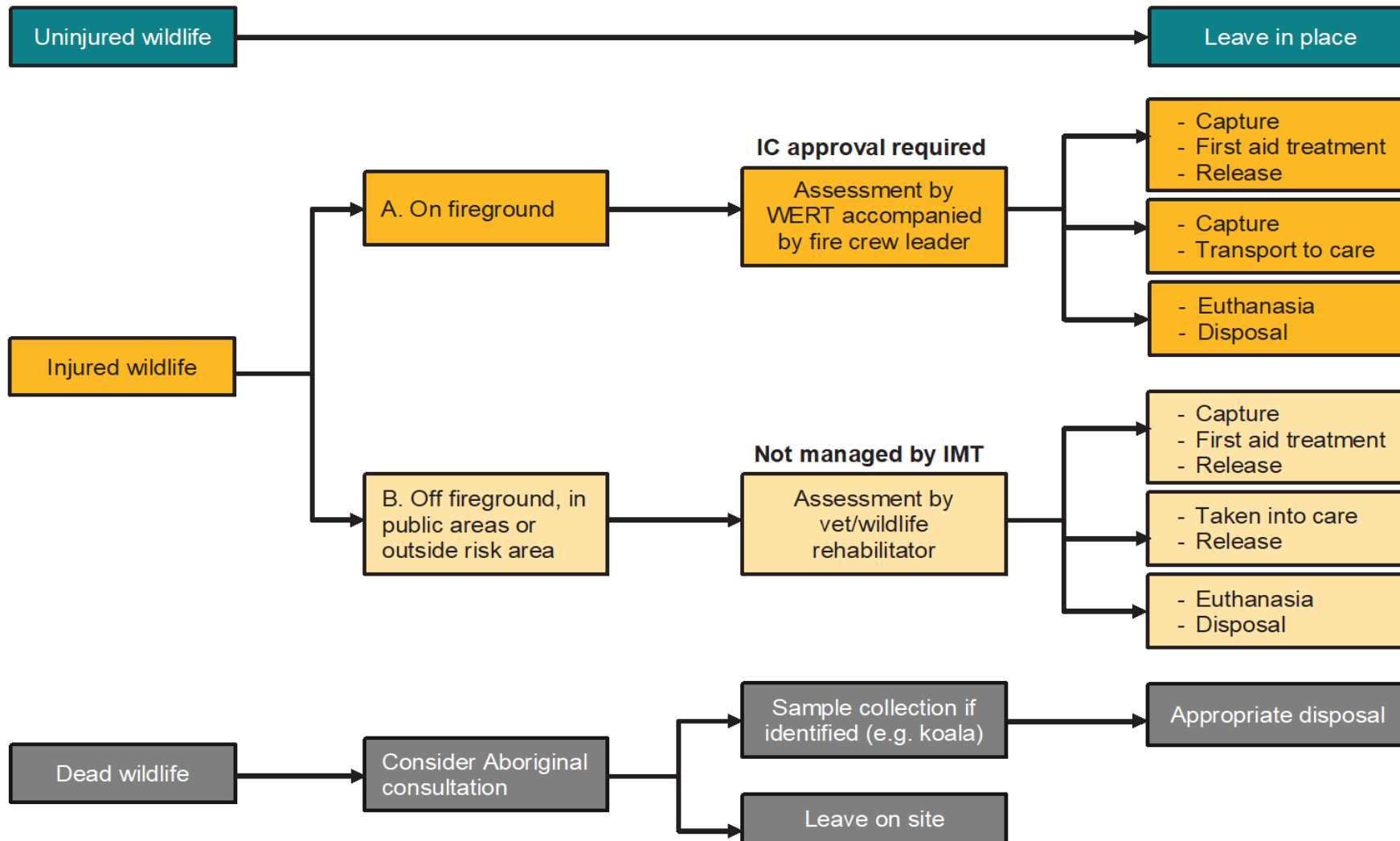


Figure 8 Example of WERT actions

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Checks at staging area

Before heading out on the incident ground, the WERT will be briefed, and pre-deployment checks will be done at the staging area. Many of these pre-deployment checks should already have been covered by the TAW when writing the WRP, and when selecting the right people, before the WERT meets at the staging area.

The pre-deployment checks will include (Figure 6):

- Are the WERT members adequately trained?
- Is there a qualified crew leader available?
- Does the WERT have appropriate wildlife equipment, PPE and transport available?
- Is there a Wildlife Response Plan?
- task briefing
- Job Safety Assessment + Job Safety Brief to be signed
- PPE and equipment check, including communication devices.

Once all the checks are done, the Job Safety Briefs have been signed, and there is IC approval, the WERTs can go onto the fireground with the Fire Crew Leader after they have contacted the divisional commander, sector commander or responsible officer on the incident ground of the area they are planning to work in.

Survey (search) and rescue

The search and rescue of animals will only occur when it is safe to do so for everyone involved. The objectives of the on-ground assessment are to look for and evaluate the condition of wildlife that may have been injured during the incident or to respond to injured animals as identified by, for example, firefighters on the ground.

The first assessment of wildlife impacted by the incident occurs at a distance, using binoculars to determine whether an animal is compromised. Knowledge of normal behaviour of different species in the wild is required to assess animals in the field setting. WERTs should include experienced wildlife rehabilitators, vets, wildlife researchers or naturalists to assist in this assessment. Based on this first assessment, intervention options will be considered based on safety considerations, animal welfare and operational factors. WERTs should also attempt to identify the species and number of animals that have been impacted by the incident.

Animals that appear injured and/or are displaying abnormal behaviour can be further assessed in situ, if practical. In some cases, this could be a monitoring program to determine the mobility and condition of the animal over several days. In these cases, the tree or the adjoining area can be marked. The GPS coordinates for these points are recorded and communicated back through Operations, for inclusion in the subsequent WRP as part of the IAP.

If safe to do so, WERTs can undertake capture of injured animals for further assessment and triage or undertake on-site euthanasia. The decision for euthanasia should be made by a vet, as per 'Euthanasia' below. If an animal needs to be euthanised, it is more compassionate to perform the euthanasia at the point of discovery rather than catching and transporting it. The capturing and handling of wildlife should be done by personnel with appropriate training and experience (e.g. vets, vet nurses, wildlife rehabilitators) to minimise stress to the animal and maximise the safety of all personnel involved.

The search for wildlife can be conducted either by ground or aerial teams. Resources such as drones or search dogs can be used to assist in locating animals.

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Drone technology is increasing and is likely to play a (bigger) role in searching for injured wildlife in the future. Thermal imaging drones can be used in the cooler parts of the day to detect the body heat of arboreal mammals, with a focus on unburnt ground and fire edges (in the case of bushfires). Drones may not be as effective where the fire ground still has hot spots and where dense canopy restricts vision and discovery.

Any drones used on a fireground must be approved through the IMT as they can pose a direct threat to aircraft, in particular helicopters.

Detection dogs are an effective method of search and rescue. It is estimated that one dog is equivalent to 10–20 humans conducting search work to locate koalas. The dogs can work for several hours per day and can detect koalas via the scent of scats and urine. They signal detection by sitting at the base of a tree with a koala in it. Use of detection dogs needs to be authorised in case of any land restrictions or threats to the animals (e.g. walking on ash beds, or recent baiting).

Triage and treatment

The professional assessment and treatment of injured animals is led by the veterinarian(s) within the WERT, if available. The field-based vet's primary responsibility is to evaluate and prioritise treatment (on-site triage), including the options of leaving the animal(s) in situ, treatment, monitoring, transfer to a treatment/care facility, or euthanasia. If there is no vet on site, rescuers will arrange for the animal to be assessed by a vet or experienced fauna rehabilitator within 24 hours of rescue, to ensure accurate diagnosis and prompt treatment or euthanasia. If this is not possible due to the remoteness of the location, expert advice should be sought via telephone or email.

Veterinary practices, together with licensed wildlife rehabilitation groups, are responsible for the treatment and ongoing care of the animals. Both may be involved in the initial assessment of the animal, as well as ongoing monitoring. Using local vets and wildlife rehabilitators is preferred for the continuity of care. Ideally, the vets have been trained in native wildlife, given the significant differences between pets/ livestock and native Australian animals.

After initial first aid treatment and stabilisation, animals are referred to a triage centre (if established) or to a licensed animal rehabilitator willing to take on the ongoing treatment and care of the animal.

Televet services

The use of a Televet service and other apps, for example Phone A Vet (PAV) or Worldwide Veterinary Service, for wildlife injured during bushfires and other incidents is being investigated. It aims to provide rapid veterinary advice to wildlife rehabilitators that are temporarily unable to access face-to-face vet services.

Vets with suitable experience in wildlife assessment and treatment are encouraged to deliver this service and provide effective and timely advice for the assessment and appropriate treatment of injured wildlife. Any treatment suggested during the Televet service must be compliant with legislation, licence conditions and codes of practice.

Triage facilities

When there is a high volume of injured animals, triage facilities may be established to support timely and effective animal welfare. The purpose of the triage centre is to provide a secure facility to undertake the veterinary assessment of captured animals to determine treatment priority (including the requirement for euthanasia). Triage centres must be approved through the IMT and identified in the IAP.

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It is preferable that the triage centre is not located at a staging area, as those areas tend to be busy and noisy. Furthermore, there is a risk of the staging area being decommissioned as incident management priorities change. The triage centre may need to remain open as the incident moves from the response phase into recovery. The triage centre location should be close to the incident ground to minimise transportation times but separated from other operational activities. The triage centre can be in a re-purposed building, such as a community hall, or it can be a mobile clinic.

Considerations for the location of a triage facility include:

- being outside the hazard impact area
- availability of the facility for the required period
- safety and security
- accessibility to services (water, electricity), transport routes and accommodation (if required)
- communication options, for example, phone reception and internet connection.

Capacity considerations include:

- suitable for animal types and numbers
- potential for expansion
- treatment areas
- areas for storage (including waste and bodies), office, toilets and meals
- drug storage facilities (e.g. lockable fridges and cabinets).

Following triage, animals may be released back to the wild, or moved to a wildlife rehabilitator for further care and rehabilitation prior to release. Wildlife being prepared for release must be observed every few days to determine if it is physically and behaviourally ready.

Euthanasia

Euthanasia of wildlife should be undertaken when the health and wellbeing of the animal is significantly compromised, when invasive or long-term medical intervention is required, if survival with treatment is unlikely, or if the animal will be unable to survive if released back into the wild. Animals that are compromised through pre-existing health issues should also be euthanised in preference to treatment and rehabilitation if survival in the wild is not considered possible.

The assessment of wildlife should be made by a vet. If euthanasia is recommended by the vet as the best outcome for the animal, approval by the IC is required before any euthanasia actions are undertaken on the incident ground. If no vet is available, help can be sought from Televet (if activated) or via liaison with vets as facilitated by the TAW in the IMT. As a last resort, the euthanasia decision framework in Appendix J can be used to help with decision-making in the field. For feral animals, such as goats, pigs, rabbits, deer and foxes, euthanasia is recommended if practical and safe to do so.

Euthanasia should be performed by a licensed vet and/or an accredited shooter. The euthanasia method used should produce a rapid loss of consciousness immediately followed by death. Death must be confirmed prior to disposal of the carcass. The accepted methods for euthanasia are shooting with a rifle, or an overdose of intravenous barbiturate. No suffocating, burning, drowning, poisoning or blunt trauma should be used.

Refer to the relevant code of practice for the specific animal species. NPWS staff can access the job safety analysis for euthanasia of injured animals information on ParkSite.

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Disposal of carcasses

Carcasses and organic waste suspected to be contaminated by disease or chemicals (e.g. barbiturates) must either be incinerated (under licence), taken to a waste facility, or if on private land, buried at a depth that will prevent scavengers from reaching them. Protected animals that have died from disease or chemical means (e.g. barbiturate overdose) cannot be fed to other animals. Aboriginal community/elders should be consulted when native animals have been euthanised on their land.

Local councils have laws regulating the disposal of carcasses and other biological waste. The disposal of carcasses is covered by the AASFA Supporting Plan that is aimed at removing potential public health issues or to minimise distress of animals' owners/managers and the community. The AASFA Supporting Plan will establish the need for disposal, determine possible disposal options, and coordinate resources to complete timely disposal.

Options will be assessed by the AASFA Local Control Centre, if activated, and usually include:

- leaving carcasses in situ
- owners/managers disposing of carcasses themselves
- disposal on-site by burial or composting
- transport to another location, usually commercial waste facilities.

When AASFA has not been activated, the TAW will liaise with local councils, the EPA and NPWS area managers to determine the most appropriate disposal options. Factors that may impact on the disposal options should be considered as part of disposal planning and may include:

- state of decomposition of the carcasses
- location (i.e. vicinity to public view)
- accessibility (e.g. in steep areas or bushland)
- environmental factors (e.g. depth to water table)
- arrangements with the local Aboriginal community.

The disposal task may be combined with other tasks such as wildlife search and rescue, wildlife assessment and euthanasia. This may impact on the planning, resourcing and conduct of this task.

It may be impractical to remove all carcasses from the field, and animals killed by the incident or euthanised can be left in situ. In some circumstances removal may need to occur. This could include:

- a large number of carcasses in one location
- close proximity to communities and roads
- carcasses in or near waterways, including potable water supplies
- potential for disease spread
- a method of euthanasia (e.g. overdose of barbiturate) that might lead to adverse effects if the carcass is left in situ.

Animals that have been euthanised by an overdose of an anaesthetic agent pose a toxicity risk to natural predators and should be taken to a licensed waste facility or buried deeply in a plastic bag to reduce the likelihood of the animal being dug up and consumed.

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Transport

In case of a bushfire emergency, wildlife transport vehicles need to meet the standards as outlined in Table 12. Wildlife responders are not to take their vehicles into the incident area unless they meet the criteria and have been specifically instructed to do so by the IC/Operations Officer.

Rescuers should take steps to protect wildlife from additional stressors during transport, such as loud noises, fumes, other animals, and temperature extremes. This applies to transporting wildlife from the point-of-rescue to a triage area, a veterinary surgery or to licensed wildlife rehabilitators. The time between capture and transport should be minimised whenever possible and the trip from the fireground to the vet, wildlife rehabilitator or triage centre should be as short as possible.

Animal type and condition will need to be considered when containing and transporting. Animals should be kept in a warm quiet place when awaiting transport and minimise stress by avoiding talking to or making eye contact with the animal. The animals should not be left unattended while waiting for transport. Larger animals that cannot be handled safely should not be captured or transported. If compromised, these animals should be euthanised.

Animals should be placed in well-ventilated secured containers that consider the safety of the animal and the handler. Containers used for transport will be suitable for animal type and size in line with the code of practice. For example, the container should be large enough for the animal to turn in, but not large enough to spread its wings (in the case of birds). Containers should have sufficient ventilation, and practical lifting points. Airline shipping kennels, lined wire cages, cardboard boxes with ventilation holes, plastic pet carriers or plastic pet boxes lined with non-slip matting may be suitable. Each transport container should be labelled with details of the specific animal location of rescue and treatment to date.

Vehicles used for transport should be disinfected prior to carrying wildlife if they have been used to transport domestic animals. Closed vehicles are preferred and should have adequate ventilation for animals and humans, ideally with temperature regulation. Noise should be limited to reduce stress. Time in noisy vehicles (e.g. helicopters) should be minimised. The containers must be securely attached to the vehicle and provisions should be made to minimise windchill. Water can be offered, allowing the animal to consume of their own accord whilst awaiting transport, however this should be removed before moving the animal.

Table 12 Vehicle equipment schedule for wildlife transport on firegrounds

Adapted from the NPWS *Fire management manual* (DPE 2022a), after consultation with NPWS – Fire and Incident Operations Branch.

Essential vehicle equipment/specifications	Examples or comments
Vehicles to be diesel powered	–
Suitable radio/device for communication with IMT and Fire Crew Leader/Wildlife Coordinator	PMR, VHF
Vehicle ID number with call sign to support identification from the air. This is a safety feature for crews caught in an emergency burn-over. Specifications as per the NPWS <i>Fire management manual</i>	<p>Call sign – to be determined per incident</p> <p>This number should be displayed:</p> <ul style="list-style-type: none"> • on the roof or bonnet • on the rear • on the side (1 set on each side) • a sticker above the vehicle glove compartment

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Essential vehicle equipment/specifications	Examples or comments
First aid kit	Appropriate for the number of personnel the vehicle can carry
Have access to a defibrillator	This can be in the Fire Crew Leader's or Wildlife Coordinator's vehicle
Small sized fire extinguisher	–
Wildland firefighter blankets for each person the vehicle is permitted to carry	The fire blanket must comply with NPWS guidelines for the care and maintenance of personal protective clothing (PPC) and PPE
Vehicle recovery equipment (i.e. chassis mount winch, snatch strap, tree guards, block and shackles) appropriate to its gross vehicle mass	For single and dual cab light 4WD vehicles a winch is optional. If deployed on a fireground without a winch, a risk assessment must be performed to assess suitability

5.4 Recovery

5.4.1 Rehabilitation

The *Code of practice for injured, sick and orphaned protected fauna*, and the NSW codes of practice for specific animals or groups of wildlife must be adhered to for the care, release or euthanasia of wildlife in New South Wales. Animals that have been identified for rehabilitation will have been provided with first aid treatment, stabilised and readied for transport to the rehabilitation facilities arranged. The Planning function or TAW in the IMT should assess and advise field teams of the location of suitable vets or wildlife rehabilitators and provide their contact details. Field teams should advise rehabilitation centres of incoming animals and their expected arrival times.

Long-term care

Once animals are in a rehabilitator's care, a current register needs to be maintained of all protected animals reported, encountered or rescued.

The register must contain the following information for each animal:

- encounter details (date, location, encounter circumstances, the animal's condition and unique ID number)
- species data (species name, sex, age, initial weight, and pouch condition if a marsupial)
- rehabilitation providers (name and address of the initial assessor, name and address of the wildlife rehabilitator)
- fate details (date, final disposition, location, and any special requirements).

More information about log-keeping can be found in Chapter 7 of these guidelines.

5.4.2 Installation of drinking stations or temporary shelters

During an emergency response, such as prolonged or widespread fires, some native animals may need short-term help. Although not injured, they may be distressed and in need of water or sustenance until their natural environment recovers. WERTs may be tasked to set up and monitor drinking stations as part of the WRP (refer to the *Wildlife drinking stations*

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fact sheet for more information). Setting up remote cameras to capture visitors to the drinking station can assist with survey and in assessing the presence/absence of species.

Studies are being done about the provision of food, but this is not a supported procedure at the moment. Trials are also underway for providing temporary shelter. Once there is more evidence about the effectiveness of food and shelter provision, this could be included in the wildlife recovery plans.

5.4.3 Release of animals

The key objective when assisting wildlife is the successful reintegration of that animal into the wild population. All decisions are to be aligned with this goal.

Prior to the release back to the wild, wildlife should be assessed to ensure the animal is physically fit and possesses the appropriate survival skills. An animal's readiness for release will be confirmed by either a vet or experienced wildlife rehabilitator (refer to the code of practice).

The area where the animal is planned to be released should be assessed for its suitability. Ideally, the original habitat is the site of release. Even in a burnt area, there are refuges along creek lines where animals can be returned. However, the following should be considered:

- The affected area should be declared as no longer having a fire present. This may be many months after the initial fire due to hot spots at or below the surface.
- Ground rehabilitation work such as bulldozers repairing fire breaks, salvage logging, etc., must have finished in the area.
- The habitat must be capable of sustaining the proposed number of animals to be released without damage to the habitat, for example, from over-browsing due to the release of a large number of koalas.
- The presence of corridors to permit the movement of animals out of the release area is recommended.

5.5 Summary of wildlife response actions

The following is a summary of wildlife response actions in line with the PPRR incident management phases.

Prevention

1. BFMC Bushfire Risk Management Planning includes ecological risks and wildlife considerations.

Preparedness

2. Maintain current records of important areas and wildlife populations (up-to-date spatial layers).
3. Accumulate pre-incident information:
 - contact details of vets, wildlife rehabilitators and other specialists
 - recommended contractors or suppliers relevant to wildlife care.
4. Training and accreditation of individuals intending to fulfil the wildlife response roles. Regular revisiting of course material to maintain currency.
5. Access to PPE for on-ground wildlife response teams (WERTs).

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6. Equipment such as rescue gear, wildlife assessment gear and communication devices to be assembled and checked before an incident occurs.

Response

7. Based on potential, suspected or known impacts on wildlife, the IC can request that wildlife response roles are activated.
8. Activation triggers (Table 11) will assist with determining the scope and scale of the wildlife response required.
9. A TAW might be appointed to assess wildlife needs and may prepare an environmental values report. The TAW will sit in the Planning function of the IMT.
10. A WRP will be developed by the TAW, to go into the IAP, or as a subplan to the IAP (needs IC approval).
11. With IC approval, WERTs may be deployed to undertake on-ground assessment of wildlife, euthanasia or capture and transportation of wildlife to a care or triage facility.
12. If activated, WERTs will act in accordance with the IAP and the WRP. They must ensure that their training and skills are current.
13. WERTS' actions will be consistent with the guidelines and the codes of practice for the initial treatment of wildlife.
14. WERTs are only to access the fireground with IC approval and if they are accompanied by a Fire Crew Leader.
15. Field assessment will consider the appropriate treatment options for individual animals based on safety considerations, animal welfare and operational factors:
 - searches can be conducted by ground or aerial teams. Resources such as drones or search dogs may be used to assist in locating animals
 - the professional assessment and treatment of injured animal is led by the vet(s) within the WERT, if available
 - following assessment, animals will be released or moved to a wildlife care facility for further rehabilitation prior to release
 - animal type and condition will be considered when containing and transporting
 - during transport, steps to protect fauna from additional stressors should be taken, such as limited exposure to onlookers, loud noises, strong smells, other animals and temperature extremes
 - if euthanasia is deemed the best welfare outcome for the animal, this should be performed by a vet and/or an accredited shooter in line with the code of practice. IC approval is required
 - carcasses need to be appropriately disposed of.
16. When a medium or large-scale wildlife response is required a Wildlife Coordinator(s) may be activated to ensure an effective span of control and leadership:
 - a Wildlife Coordinator is responsible for the on-ground coordination of response activities to injured wildlife, including treatment and rescue operations, logistics, triage coordination and/or disposal, depending on wildlife requirements and workloads
 - a Wildlife Coordinator reports through the Operations function of the IMT, and works closely together with (multiple) WERTs, the divisional commander(s) on the ground and the TAW in the IMT.
17. When a large-scale wildlife response is required, the WOM is responsible for the overall coordination of wildlife response operations. The WOM works in the IMT and liaises with all the relevant officers.

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Recovery

18. Long-term care by wildlife rehabilitators might be required.
19. Installation of drinking stations or temporary shelter can be considered.
20. An animal's readiness for release will be confirmed by either a vet or experienced wildlife rehabilitator to ensure the animal is physically fit and possesses the appropriate survival skills prior to its release.
21. A suitable environment for release will be an appropriate habitat that has adequate food resources, contains members of the same species and does not place the animal at a high risk of injury.
22. Wildlife rehabilitators will arrange for animals to be tagged, banded and micro-chipped or marked as appropriate for individual identification prior to release.

6. Risk management

6.1 Safety and welfare

6.1.1 Safety on the incident ground

The IC is responsible for the welfare and safety of all personnel on the incident ground. All wildlife response personnel must comply with the IC's directives. Failure to follow instructions can result in the IC restricting current and future access to the incident ground for wildlife responders that do not comply.

Extra caution is needed when operating at an incident ground. For fires in particular, the incident ground can be hazardous for weeks after the main fire front has passed. It is crucial that wildlife response teams are aware of the risks and potential dangers on a fireground. Some of the hazards are:

- compromised trees – heavy limbs and entire trees can fall down
- unstable ground – this includes the potential for rockfall, slippery ground and sinkholes
- fire activity – limbs and trunks of trees can still be burning/smouldering
- the ground surface and sub-surface may contain hotspots or smouldering peat layers. Ash beds are a big risk for people accessing the incident ground. Also, hotspots may ignite unburnt country
- driving on compromised roads (4WD).

Specific rules for wildlife response on a fireground

In relation to fire incidents, the following rules must be followed:

1. WERTs are not permitted into areas where fire suppression or prescribed burning operations are being undertaken.
2. All authorised wildlife responders entering the fireground **must be approved by the IC.**
3. Wildlife responders must:
 - be trained in Basic Wildfire Awareness (BWA) or Bush Fire Awareness (BFA) as a minimum, and preferably AIIMS
 - wear approved PPE (see section 5.2.3 of this manual)
 - receive a full tasking and safety briefing prior to entering the fireground, and sign the Job Safety Brief
 - be accompanied by a competent crew leader or more senior officer, appointed by the IC
 - always follow the directions of firefighters.

6.1.2 Work Health and Safety

As per the NSW *Work Health and Safety Act 2011*, a person is a 'worker' if the person carries out work, in any capacity, for a business or undertaking. This includes employees, contractors, trainees and volunteers. In relation to wildlife response, anyone engaged with the planning and response to injured wildlife is considered a worker and we should all work together to keep the work environment as safe as possible. As per the NSW Work Health and Safety Regulation 2017, everyone involved with the work to be undertaken should: (a) eliminate risks to health and safety so far as is reasonably practicable, and (b) if it is not reasonably practicable to eliminate risks to health and safety – minimise those risks so far as is reasonably practicable. In relation to wildlife response during emergencies:

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- wildlife response personnel should take care of their own health and safety at all times
- wildlife response personnel should take reasonable care for the health and safety of others
- wildlife responders should comply with any reasonable instructions, policies and procedures given by their leader, organisation, officer or IC.

Please also refer to section 7.5 of these guidelines, 'Incident reports'.

6.2 Fitness and fatigue

There are several tools and techniques that can assist response teams to assess their individual fitness and readiness to participate in emergency response activities. The l'MSAFE checklist is commonly used to perform a personal risk assessment. The l'MSAFE checklist asks individuals to self-reflect on these topics and how they may affect their health and readiness:

- **I**llness/injury
- **M**edication
- **S**tress
- **A**lcohol/drug use
- **F**atigue levels
- **E**xpertise.

Before starting an activity, periodically throughout their shift, and on resuming duties after a break of any length, wildlife responders should go through the l'MSAFE checklist. If an individual has concerns about any of the l'MSAFE topics, they should not attend the incident. If they feel fatigued during their shift, or are feeling otherwise unwell, they should advise their supervising officer or a colleague.

In addition to these, individual strategies for managing the impacts of fatigue related to shift work include:

- monitoring sleep periods and keeping a sleep/activity log as a way of monitoring how much sleep has been achieved
- encouraging members to write down tasks or messages received because fatigue is likely to affect an individual's short-term memory and ability to recollect the timing of events
- adopting a 'brief back procedure' whereby the receiver of a message repeats the message back to the sender to confirm they have received and correctly understood it
- cross-checking calculations and decisions with team members
- using checklists when levels of fatigue are likely to degrade memory and performance.

Twelve hours is the recommended maximum shift duration for wildlife emergency response, plus additional time for changeovers and briefings. Building regular breaks into the shift, and providing a break of at least 10 hours between completion of a shift and commencement of the next shift, can mitigate fatigue. The number of consecutive shifts before a break is required should be considered by the TAW, crew leader and the wildlife rehabilitator organisations. The advice is to have 3 days on – 1 day off, similar to the conditions of a NSW firefighter. This also gives the opportunity to share the work around, so more people can gain experience.

6.3 Mental health

First responders to wildlife emergencies, such as the WERTs, are often working in challenging and confronting circumstances. This work can be physically and mentally draining, particularly when personnel are witnessing animal suffering and death.

6.3.1 Critical incident stress and post-traumatic stress disorder

Critical incident stress refers to the range of physical and psychological symptoms that might be experienced by anyone involved in a critical incident.

Critical incidents may involve:

- serious injury or death
- extraordinary and prolonged expenditures of physical and emotional energy
- serious physical or psychological threat or sudden loss
- unusually distressing and emotional situations.

Critical incident stress is a normal reaction of the body to an abnormal event. The symptoms might differ from person to person, but can include:

- **physical** – fatigue, headaches, chills, unusual thirst, chest pain, dizziness, elevated heart rate, nausea, fainting, twitching, profuse sweating, difficulty breathing
- **cognitive/psychological** – confusion, fear, grief, panic, poor attention, poor concentration, poor decision-making ability, increased or decreased awareness of surroundings, agitation, depression, feeling overwhelmed, loss of emotional control.

The reaction of emergency responders to the critical incident can have the potential to impair their ability to function either at the time of the incident or afterwards. Especially in emergencies involving injured wildlife, there might be a strong emotional imperative to intervene. However, the desire or impulse to do so immediately may have the potential to impair rational judgement, place team members at risk and compromise the success of rescue operations.

Awareness of critical incident stress is an important part of emergency response training. Staff and volunteers participating in wildlife rescue operations should be aware of the potential stress and how to deal with it. All response personnel should be watchful for the signs of critical incident stress and should advise the relevant supervisor or the IC if they believe anyone is affected. The IC will arrange for appropriate action.

Most instances of critical incident stress last between 2 days and 4 weeks. However, if the event is still triggering emotional, mental or physical responses more than 4 weeks after the occurrence of the critical incident, this is referred to as a post-traumatic stress disorder or PTSD.

6.3.2 Mental health check-ins and management

Everyone involved in wildlife response activities is encouraged to check in on their own and their team members' mental health. As with any emergency work, workplace hazards and mental health challenges (such as depression, anxiety and PTSD) can be the downside of wildlife rescue work. Some indicators of mental stress are:

- changes in behaviour
- being anxious, nervous or afraid
- feeling overwhelmed
- restlessness, the feeling that you can't switch off your thoughts

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- feeling agitated, irritable, angry or impatient
- unable to enjoy yourself, uninterested in life or feeling depressed
- problems with sleeping
- changes in food/alcohol intake
- sudden weight gain or weight loss
- developing rashes or itchy skin.

Help is available through several organisations.

NPWS has a range of support services for its staff, including:

- TELUS Health on 1300 361 008
- TELUS Health for Aboriginal and Torres Strait Islander Support Line on 1800 816 152
- Health and Wellbeing (sharepoint.com)
- Culture Priorities (sharepoint.com)
- Work, Health and Safety Management System (sharepoint.com).

Other organisations that can help and are available to anyone in Australia, are:

- Wildlife Heroes – Caring for Australian Wildlife Carers
- Beyond Blue
- Black Dog Institute
- Caring for Carers.

See Chapter 10, 'Online resources' for links to these services.

Talking through your concerns might help with processing traumatic events and mental health should be emphasised during the briefing and debriefing of any activities related to wildlife response during emergencies.

6.4 Communication

Communication is a key mitigating measure for risks. The Communications section in the IAP or the WRP will define communication channels, such as the mobile phone numbers of WERT leaders, as well as two-way radio channels for the WERTs (as allocated by the IMT). All teams must remain on the channels allocated for their use. When distributing radios, WERT leaders will ensure that all team members are briefed in the use of the two-way radio and safety aspects of using this equipment. No team should be on the incident ground without appropriate communication equipment.

6.5 Navigation

It is recommended that a personal locator beacon (PLB) be carried by each WERT entering onto the fire/incident ground.

While WERTs will almost always be accompanied by an incident crew leader, it is recommended that at least one member of the WERT has navigation skills and experience, preferably supplemented with a navigation qualification (e.g. PUAOPE014 Navigate to an incident). It is recommended that this team member carries:

- maps of the area that the WERT will be operating in, including maps to allow navigation to and from the WERT assembly area and work sites
- a functioning GPS unit, either a GPS-enabled smart device or a handheld GPS unit with power supply for the duration of the shift
- handheld compass.

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Useful navigation apps for smart devices include:

- Google maps
- Avenza maps – operational maps for fires are often produced as georeferenced pdfs for use in Avenza maps
- FireMapper
- emergency management mapping apps that can be found via the EMSINA website.

6.6 Zoonotic diseases

Zoonotic diseases are those that can be transmitted from animals to humans. They can be acquired from animals that have no outward signs of infection. Handling and treating wildlife may expose wildlife responders to biofluids such as urine, blood and pus, that can cause disease. Exposure to these agents can be limited by applying basic protocols including:

- using PPE, for example, overalls, gloves, boots, goggles, masks and aprons
- practising good personal hygiene
- providing prompt and effective first aid treatment to cuts and scratches
- cleaning and disinfecting workspaces and equipment.

It is recommended that all tetanus vaccinations are current. Any other vaccination requirements will be identified as part of the planning phase and the requirements will be communicated with WERTs prior to deployment. The WERT leader will request evidence of vaccination(s) from volunteers as required. For example, any person handling flying foxes or microbats must be vaccinated against Australian bat lyssavirus (ABLV) and follow the NSW Department of Health guidelines for vaccinations and boosters.

There is also a risk that humans may contract sarcoptic mange by handling and rescuing wombats, koalas or kangaroos and this should be considered in planning the wildlife response.

A recommendation as to whether animals with known zoonotic disease should be assessed or euthanised, should be made by the TAW in consultation with a vet.

6.7 Firearms, tranquilising injections and lethal injections

6.7.1 Firearms

Using a firearm for euthanasia can only be undertaken by a qualified, authorised, licensed shooter who has an Animal Welfare category on their licence and/or any other accreditation required. The shooter must also have the correct firearm for the job. Euthanasia by shooting is regarded as the most humane method of killing an animal, provided the shooter is licensed, accurate and experienced.

Permission to take a firearm onto an incident/fire ground is by the authority of both the landowner and the IC. Allowing authorised shooters onto private landowners' properties for search, rescue or euthanasia is at the discretion of the landowner.

Where the incident is within a national park or nature reserve, only qualified contractors or NPWS authorised personnel who hold the required firearms accreditation will be permitted to carry and use firearms on the incident/fire ground. The NPWS *Firearms management manual*, which is available to NPWS staff on ParkSite, details the requirements and approval for the transport, use and storage of firearms. NPWS sets standards for shooters and only endorses shooters who have completed the relevant training and accreditation.

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Of note, NSW Police can get involved in euthanasia of wildlife in limited circumstances where there is a nexus with their primary responsibilities. Police can self-govern their actions, but this should take place in consultation with the EnvSFAC and/or IMT.

6.7.2 Tranquilliser and lethal injections

Regarding the use of tranquilliser guns, clause 101 of the *Rehabilitation of protected animals policy* states:

Dart guns may be used to deliver tranquillisers or other medication to facilitate capture, treatment, euthanasia and relocation of wildlife. If a person is proposing to administer the tranquilliser (or other medication) using a dart gun, that person must hold a Tranquilliser Permit issued by the NSW Police Force Firearms Registry'

Where the incident is within a national park or nature reserve, tranquilliser guns are only to be used by NPWS personnel with the relevant training and accreditation, directly supervised by a vet.

Regarding the use of tranquilliser, sedative or anaesthetic agents (including lethal injections), clause 102 of the *Rehabilitation of protected animals policy* states:

The administration of a tranquilliser, sedative or anaesthetic agent is a restricted act of veterinary science but can be performed by an accredited or authorised person under the immediate and direct supervision of a vet (clause 4(1)(c), Veterinary Practice Regulation 2013).

7. Reporting and record-keeping

It is essential that all wildlife response activities are documented by the people involved with the wildlife response. This can contribute to a database of assessed, treated, rehabilitated and/or euthanised wildlife. Records on injured wildlife are a vital source of information for wildlife rehabilitators, NPWS and research institutions such as universities and Taronga Zoo. The records can be used to develop better treatments, educate rehabilitators, identify state-wide trends in fauna incidents and identify threatening processes.

7.1 Keeping a log in the IMT

An Incident Management Logbook is a record of all communications and resulting actions. These logs are maintained by all incident management personnel including the TAW, Wildlife Coordinator and WOM.

- Notes of all conversations with IMT personnel and wildlife rehabilitators will be written down, as well as agreed actions, approvals and key information.
- The logbook is a great document to keep track of important information such as:
 - decisions made (e.g. IC approval for WERT deployment, approval for euthanasia, etc.)
 - names, phone numbers and addresses of local vets and wildlife rehabilitators
 - locations of injured wildlife
 - hours worked (fatigue management).
- The logbook remains with the IMT and is not supposed to leave the incident control centre (i.e. is not to be taken home).
- At the end of a shift, it is good practice to scan the logbook, so that IMT personnel will have a digital copy of their notes.

7.2 Keeping a log in the field

It is recommended that the WERT leaders, Fire Crew Leaders and/or Wildlife Coordinator(s) use an Incident Management Logbook in the field for recording the WERT's actions during their shift. This will assist in documenting the incident and will facilitate consistency with the handover to the next shift.

Accurate record-keeping by field personnel includes:

- incident name, location, time and date
- names of people involved
- consent from IC for matters relating to access, euthanasia (including drug use and shooting), animal capturing, animal transport and disposal of carcasses
- risk assessment
- key activities undertaken
- location of injured wildlife
- photos and video of injured wildlife
- resource log sheets, for example, equipment used
- task requests, by whom, and what actions were taken
- incident notification form (online) for accidents, injuries, and near-misses (see section 7.5).

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Other records that must be kept include:

- wildlife rescue and triage documentation
- veterinary care records
- drug management records
- firearm management records.

7.3 Injured animal recording

7.3.1 Initial record-keeping in the field

All teams and rehabilitators should keep a record of the numbers and species of animals encountered on the incident ground, and the details of treatment provided should be written down. An wildlife observation record form can be found in Appendix K.

If the animal needs to be taken in for further assessment and/or care, it is of utmost importance that each animal is identified with a unique number, applicable until release. A collection tag (Figure 9) should be attached, including:

- ID-number
- collection date and time
- species
- location
- GPS coordinates
- collector name(s)
- threatened/endangered animal (if known)
- urgency of medical attention needed.

<p>Animal Collection Tag</p> <p>ID-number: _____</p> <p>Collection Date: _____ Time: _____</p> <p>Species: _____</p> <p>Location: _____</p> <p>GPS Coords: _____</p> <p>Collector name(s): _____</p> <p><input type="checkbox"/> Threatened/endangered <input type="checkbox"/> Urgent medical attention</p>
--

Figure 9 Example of an animal collection tag

Next to ensuring the correct use of collection tags, the WERT leader should also keep track of the animals that have been sent for further assessment and/or care. Examples of the relevant forms can be found in the appendices:

- Wildlife collection record form – Appendix L
- Animal transport log – Appendix M
- Chain of custody record form – Appendix N.

Ideally these paper forms will be replaced by an app (under development).

7.3.2 Follow-up record-keeping

Once an animal has been transported to a rehabilitator, a vet or a triage centre, the chain of custody record form should be filled in again (Appendix N) and the vet or experienced wildlife rehabilitator should complete an injured animal assessment form (Appendix O), including details on:

- wounds, injuries, diseases and external parasites
- mobility
- abnormal behaviour
- recommended management (e.g. euthanasia or treatment).

Record-keeping during rehabilitation

Once an animal has been transported to a rehabilitator, the custody record form should be filled in again (Appendix N). The following information should also be documented:

- location of the care facility
- time of entry
- treatment (e.g. medication, therapy)
- type and quantity of food/liquid ingested
- instructions from vet and/or species specialist
- changes to general fitness and behaviour
- enclosure cleaning (e.g. quantity and quality of faeces/urine).

Once the animal is fit for release (and this has been confirmed by a specialist), the location, date and time of release should be recorded.

7.4 Situation reports

Reporting on status by field personnel, such as WERT leaders and Wildlife Coordinators, is a crucial action to ensure that everyone is safe and an appropriate level of resourcing is maintained. Reporting includes:

- task progress and location, at a pre-determined reporting frequency (e.g. on the hour). These are called 'situation reports' or 'sitreps'
- changes to priorities/tasking
- issues including accidents/injuries and changes in operating conditions (e.g. weather, accessibility) – see also section 7.5
- WHS concerns.

The WERT leader communicates with their Fire Crew Leader, and they report anything notifiable in regard to the wildlife response activities up the chain, to the Operations Officer, Wildlife Coordinator or WOM. Depending on the communication agreements made, the Fire Crew Leader can report to the TAW (in Planning) via Operations.

At the end of the day, the TAW and/or Wildlife Coordinator will liaise with the WERTs to collate and record a daily summary of wildlife response activities for the incident.

7.5 Incident reports

Any safety and wellbeing incidents or near-misses must be reported immediately to the safety officer or the IC. Details must also be recorded by the WERT leader and passed on to the safety officer or Operations Officer.

8. Operational improvement

Reviews of incidents and emergencies will take place regularly so that all personnel and organisations can be kept up-to-date and future responses to affected wildlife can be continually improved. The primary mechanism to start the improvement cycle is a debrief or after-action review (AAR).

8.1 Debriefs and after-action reviews

The end-of-shift debrief (hot debrief) encourages the participants to review what went well and what needs to be improved. This promotes a shared understanding of incident management practices and often improves the team spirit. The WERT leader is responsible to ensure that a hot debrief is completed before the end of shift and that all team members have had the opportunity to share their thoughts, voice their concerns and suggest improvements.

To help structure the debrief the following questions can be asked:

- What did we set out to do?
- What actually happened?
- What can we do better?

An AAR is a more formal process compared to debriefs and usually occurs once the incident is resolved. It is an opportunity for those involved to reflect on the events in an honest and candid way. Participants can share their thoughts, feelings and observations. Participating in AARs helps teams to build a common understanding and improve their performance. The collective knowledge of individuals helps an organisation to learn from experience, improve decision-making and create solutions.

8.2 Review

These guidelines and the approach to wildlife emergency response will be reviewed every 5 years or after a significant wildlife response event.

9. References and further reading

AFAC (Australasian Fire and Emergency Service Authorities Council) (2017) *The Australasian Inter-Service Incident Management System*, 4th edition, AFAC publication no. 3046, Australasian Fire and Emergency Service Authorities Council Ltd, East Melbourne VIC.

AFAC (2019) *Selection, use, care and maintenance of personal protective equipment (PPE)*, Australasian Fire and Emergency Service Authorities Council Ltd, East Melbourne VIC.

DCCEEW (Department of Climate Change, Energy, the Environment and Water) (2024), Rehabilitation of protected animals policy, NSW Department of Climate Change, Energy, the Environment and Water, Parramatta NSW.

DCCEEW (2021) Marine wildlife management manual 2021: Policies and procedures for marine wildlife management, NSW Department of Climate Change, Energy, the Environment and Water, Parramatta NSW.

DPE (Department of Planning and Environment) (2022a) Fire management manual 2022–2023: Policy and procedures for fire management, NSW Department of Planning and Environment, Parramatta NSW.

DPE (2022b) NSW Koala Strategy: Implementation plan and progress report 2021–22, NSW Department of Planning and Environment, Parramatta NSW.

DPI (Department of Primary Industries) (2017) DPI emergency response roles (PDF 2.5MB), NSW Department of Primary Industries, Sydney NSW.

DPI (2020) *DRAFT Wildlife natural disaster response guide*, Agricultural and Animal Services Functional Area, NSW Department of Primary Industries, Sydney NSW.

DPIE (Department of Planning, Industry and Environment) (2020) NSW volunteer wildlife rehabilitation sector strategy, NSW Department of Planning, Industry and Environment, Parramatta NSW.

Ellis S, Kanowski P and Whelan R (2004) *National Inquiry on Bushfire Mitigation and Management*, COAG, Commonwealth of Australia, Canberra ACT.

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NSW Government (2016) NSW state waters marine oil and chemical spill contingency plan, Transport, Roads and Maritime Services, Camperdown NSW.

NSW Government (2023) Agricultural and animal service functional area supporting plan version 2 (AASFA), NSW Government, Sydney NSW.

NSW Government (2023) NSW state emergency management plan (EMPLAN), NSW Government, Sydney NSW.

NSW Government (2019) Environmental services functional area supporting plan (EnviroPlan), a supporting plan of the NSW Emergency Management Plan, NSW Government, Sydney NSW.

NSW Government (2020) Inquiry into koala populations and habitat in NSW, Legislative Council, Portfolio committee no. 7 – Planning and Environment.

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NSW Government (2022) Coastal waters marine pollution plan: A sub plan of the State emergency management plan and the national plan for maritime environmental emergencies, NSW Government, Sydney NSW.

NSW Government (2023) Wildlife in emergencies sub plan: A sub plan of the State emergency management plan, NSW Government, Sydney NSW.

OEH (Office of Environment and Heritage) (2011) Code of practice for injured, sick and orphaned protected fauna, Office of Environment and Heritage NSW, Sydney NSW.

OEH (2012) Living with fire in NSW national parks: A strategy for managing bushfires in national parks and reserves 2012–2021, Office of Environment and Heritage NSW, Sydney NSW.

Royal Commission into National Natural Disaster Arrangements (2020) Royal Commission into National Natural Disaster Arrangements, Report.

Victorian Government (2021) Victorian response plan for wildlife impacted by fire, Department of Environment, Land, Water and Planning, Melbourne VIC.

Volunteering Australia (2015) National standards for volunteer involvement, Volunteering Australia (PDF 334KB), Canberra ACT.

9.1 Online resources

9.1.1 Publicly available

- Aboriginal cultural heritage consultation requirements for proponents
- Animal and Agricultural Services Functional Area Supporting Plan
- Assessment, triage and treatment of bushfire affected wildlife module
- Assets of Intergenerational Significance
- Avenza Maps
- Beyond Blue
- Black Dog Institute
- Caring for Carers
- Coastal Waters Marine Pollution Sub Plan
- Code of practice for injured, sick and orphaned protected fauna
- DPI emergency response roles
- Emergency Management Mapping Apps
- EnviroPlan
- National Emergency Management Agency
- National Plan for Maritime Environmental Emergencies
- Natural disaster declarations
- NPWS Fire management manual
- NPWS Marine wildlife management manual 2021
- NSW Bushfire Inquiry report
- NSW Emergency Management Plan (EMPLAN)
- NSW Koala Strategy
- NSW State Waters marine oil and chemical spill contingency plan

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- [Our standards of care](#) (codes of practice, training standards, initial treatment and care guidelines)
- [Parliamentary inquiry into koala populations and habitat in New South Wales](#)
- [PUAOPE014 Navigate to an incident](#) [PDF 230 KB]
- [Rehabilitation of protected animals policy](#)
- [Royal Commission into National Natural Disaster Arrangements](#)
- [Selection, use, care and maintenance of personal protective equipment \(PPE\)](#) (AFAC guidelines)
- [Wildlife drinking stations fact sheet](#)
- [Wildlife first response for NSW firefighters handbook](#) (PDF 3.4 MB)
- [Wildlife first response training for NSW firefighters](#)
- [Wildlife Heroes 'Caring for Australian wildlife carers'](#)
- [Wildlife in Emergencies Sub Plan](#)
- [Work Health and Safety Act 2011](#)
- [Work Health and Safety Regulation 2017](#)

9.1.2 NPWS intranet

- [Culture priorities \(sharepoint.com\)](#)
- [Health and wellbeing \(sharepoint.com\)](#)
- [NPWS guidelines for the care and maintenance of PPC and PPE](#)
- [Work, Health and Safety Management System \(sharepoint.com\)](#)

Appendix A Codes of practice and guidelines for initial treatment

The NSW codes of practice are intended for everyone authorised by NPWS to rehabilitate and release protected fauna and have been developed to protect the welfare of wildlife in their care.

The codes of practice establish minimum requirements for the rescue, rehabilitation and release of animals in care. They also specify training and reporting requirements and measures to reduce the risks to the health and safety of volunteers. Compliance with the standards in the codes is a condition of the biodiversity conservation licence issued to wildlife rehabilitation providers.

Most species rescued in New South Wales are covered by one of the codes of practice and these codes must be adhered to by all participating WERTs, vets, triage centres and wildlife care providers:

- *Code of practice for injured, sick and orphaned protected fauna*
- *Code of practice for injured, sick and orphaned koalas*
- *Code of practice for private keeping of reptiles*
- *Code of practice for injured, sick and orphaned macropods*
- *Code of practice for injured, sick and orphaned wombats*
- *Code of practice for injured and sick sea turtles and sea snakes*
- *Code of practice for injured, sick and orphaned possums and gliders*
- *Code of practice for injured, sick and orphaned birds of prey*
- *Code of practice for injured, sick and orphaned flying-foxes*
- *Code of practice for injured, sick and orphaned native birds*
- *Code of practice for injured, sick and orphaned marine mammals.*

In addition to the codes of practice, there are guidelines for the initial treatment of wildlife, designed to assist wildlife emergency responders. These include:

- *Guidelines for the initial treatment and care of rescued koalas*
- *Guidelines for the initial treatment and care of rescued macropods*
- *Guidelines for the initial treatment and care of rescued wombats*
- *Guidelines for the initial treatment and care of rescued birds of prey*
- *Guidelines for the initial treatment and care of rescued sea turtles*
- *Guidelines for the initial treatment and care of rescued reptiles*
- *Guidelines for the initial treatment and care of rescued flying foxes.*

These codes of practice and guidelines, as well as many other useful resources for wildlife rehabilitators and wildlife emergency responders, are available on the *Our standards of care* webpage.

Appendix B Role summary Technical Advisor Wildlife (TAW)

A Technical Advisor Wildlife (TAW) supports the Incident Management Team (IMT) in achieving the best possible outcomes for wildlife impacted by fire or other incidents. A TAW works within the Planning section of the IMT and assists with operational decision-making, liaising with stakeholders and arranging wildlife response.

Responsibilities

- Consult pre-incident plans for the location of vulnerable species/populations, Assets of Intergenerational Significance (AIS) and Areas of Outstanding Biodiversity Value
- Review ArcGIS, ICON and Reserve fire management strategies for locations of threatened species and fire-sensitive communities
- Lead the development of wildlife response plans that detail options, strategies and actions for the safe retrieval, transport, and treatment of injured wildlife
- Assist crews in identifying key wildlife requirements and the implementation of mitigation measures
- Communicate wildlife information to the IMT, incident response crews, Wildlife Emergency Response Teams (WERTs) and the public
- Be the point of liaison for incident-related wildlife matters
- Provide input to the IAP for operational briefing
- Advise Operations regarding the response to sick or injured wildlife
- Advise the Resources Officer on WERT resource requirements
- Maintain a detailed chronological log of activities

Skills and attributes

A TAW has knowledge of the relevant incident type, existing wildlife in the area and/or experience in wildlife management. They understand emergency management operating structures and can identify wildlife populations and values at risk.

To be successful, a TAW requires strong organisational and problem-solving skills. They can quickly establish processes and meet deadlines in a high-pressure environment. They have highly developed communication skills and can convey complex concepts to internal and external stakeholders.

TAWs possess the ability to work cooperatively with the IMT, incident response crews and key wildlife stakeholders to provide expert advice and coordinate wildlife response.

Prerequisites

There are no formal qualifications required to commence training as a Technical Advisor Wildlife. However, knowledge of incident management and wildlife requirements is beneficial.

Training program overview

TAWs can be NPWS personnel, external professionals or volunteers with or without fire/incident specific training. Candidates must meet the training requirements specified below:

- 22459VIC: Principles of Australasian Inter-Service Incident Management System (AIIMS)
- Wildlife First Response Training for NSW Firefighters

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- 22541VIC: Basic Wildfire Awareness (valid for 5 years) or Bush Fire Awareness (valid for 3 years) – for fire related incidents only.

Individuals must also be current in:

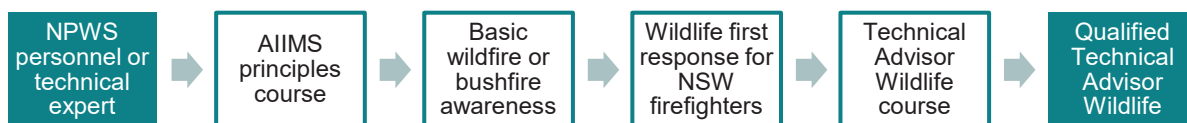
- Provide First Aid HLTAID011 or HLTAID003 – current (3 years)
- Fire medical assessment – current (maximum three years)
- Task Based Assessment – light.

Desirable qualifications:

- Technical Advisor Wildlife course (under development and will become a requirement once available)
- Briefings and debriefings
- GIS (e.g. ArcMap).

Future roles

- Situation officer
- Planning officer



Role summary WERT member

Wildlife Emergency Response Teams are deployed to provide timely and effective wildlife emergency response in NSW. WERTs consist of 2 to 5 appropriately skilled people who survey, locate, assess, capture, treat, transport and/or euthanise wildlife affected by an incident. WERT members work under the direction of a WERT leader or other designated supervisor.

Responsibilities

- Follow the directions of the WERT leader in accordance with the Incident Action Plan/Wildlife Response Plan
- Obtain a briefing from the WERT leader before entering the fire/incident ground
- Operate in accordance with the Code of Practice, risk assessments, job safety analyses and incident briefings
- Maintain situational awareness and communicate changes in weather and fire/incident behaviour that may affect personnel safety
- Communicate with the WERT leader on work progress, threats and hazards
- Use standard personal protective equipment (PPE) when working on the fire/incident ground, handling wildlife and using firearms
- Assist with maintaining a log of activities, decisions, treatment actions, and firearm management records
- Perform one or more of the following functions:
 - Conduct surveys and record injured wildlife in the affected area
 - Assess affected wildlife and provide first aid as required
 - Assist with the capture and transport of wildlife to a wildlife rehabilitator/mobile animal care vehicle or triage centre
 - Assess and euthanise injured wildlife in accordance with protocols and guidelines under supervision of a veterinarian (licensed and accredited firearms users only)
 - Dispose of dead animals

Skills and attributes

WERT members possess knowledge and awareness of native wildlife, wildlife welfare and handling, and understand the legislative requirements regarding wildlife rescue, care and treatment. They require a strong understanding of incident behaviour and the ability to monitor the conditions that influence their own safety.

To be successful, individuals must be able to assess injured animals and make relevant decisions in consultation with the WERT leader. They must have well developed communication skills, be able to work collaboratively and perform calmly under pressure, particularly during potentially distressing and emotional situations.

Prerequisites

WERT members can be NPWS personnel, external professionals, or volunteers. Wildlife rehabilitators must be a member of a licensed wildlife rehabilitation group. Vets and vet nurses must be registered.

Training program overview

To operate as a WERT member, individuals must meet the training requirements specified below:

- 22459VIC: Principles of the Australasian Inter-Service Incident Management System (AIIMS)
- For fire related incidents: 22541VIC - Basic Wildfire Awareness (valid for 5 years) or Bush Fire Awareness (valid for 3 years). This must include Tree Hazard Awareness.
- Wildlife First Response Training for NSW Firefighters.

Individuals must also be current in:

- Provide First Aid HLTAID011 or HLTAID003
- Tetanus (and other relevant) vaccination.

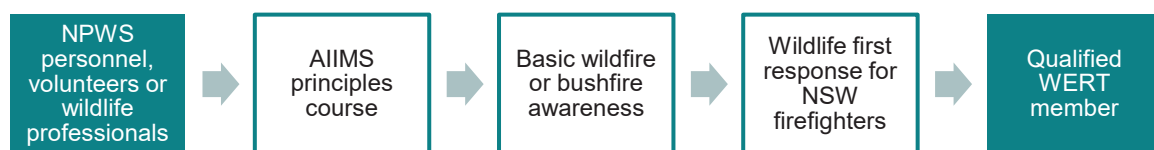
Desirable qualifications:

- TLIC2025: Operate 4-wheel drive vehicles (for drivers)
- Licensed and accredited firearms/tranquiliser firearms user, under NPWS *Firearms management manual* training requirements (for shooters)
- Wildlife handling or any other wildlife management skills (e.g. snake catcher, veterinarian, veterinarian nurse, licensed wildlife rehabilitator)
- Technical skills (e.g. drone operator, detection dog handler).

WERT members need to be fit for the task (i.e. health declaration, training and skills are current).

Future roles

- WERT leader
- Technical Advisor Wildlife



Appendix C Role summary WERT leader

Wildlife Emergency Response Teams are deployed to provide timely and effective wildlife emergency response in NSW. WERTs consist of 2 to 5 appropriately skilled people who survey, locate, assess, capture, treat, transport and/or euthanise wildlife affected by an incident. The WERT leader reports through the Operations function of the IMT and supervises WERT members at fire and non-fire related incidents.

Responsibilities

- Follow the directions of the Incident Controller and act in accordance with the wildlife response section of the Incident Action Plan
- Brief WERT members before entering the fire/incident ground
- Ensure WERT members have the requisite training, accreditation, licences, fitness, and personal protection equipment (PPE)
- Allocate, review, and modify tasks assigned to WERT members
- Maintain communications within the chain-of-command structure. Liaise with other WERTs and/or Wildlife Coordinators
- Prioritise wildlife response tasks on the incident ground
- Record injured wildlife within the assigned area
- Coordinate the provision of first aid to injured wildlife
- Coordinate the capture, sedation, euthanasia and/or disposal of injured wildlife in accordance with legislation, protocols and guidelines
- Follow job safety analyses and risk assessments, and monitor conditions to ensure the safety and welfare of team members
- Use standard personal protective equipment (PPE) when working on the fire/incident ground, handling wildlife, and using firearms
- Coordinate the documentation of wildlife rescues, treatment actions, veterinary care records and drug management accounts
- Maintain firearm management records and a log of activities and decisions, including WERT hours worked, travel time and breaks

Skills and attributes

WERT leaders require working knowledge of the legislative requirements for wildlife rescue, care, and treatment. They have the capacity to evaluate options for assisting animals within relevant regulations. WERT leaders possess a strong understanding of incident behaviour with the ability to adhere to WH&S protocols and maintain staff safety at all times.

To be successful, individuals must have well developed communication, negotiation and conflict resolution skills. They require the ability to lead a team and perform in high pressure environments, particularly during distressing and emotional situations involving injured wildlife.

Prerequisites

WERT leaders can be NPWS personnel, external professionals or volunteers. Wildlife rehabilitators must be a member of a licensed wildlife rehabilitation group. Vets and vet nurses must be registered.

Training program overview

WERT leaders must meet the training requirements specified below:

- 22459VIC: Principles of the Australasian Inter-Service Incident Management System (AIIMS)
- For fire related incidents: 22541VIC – Basic Wildfire Awareness (valid for 5 years) or Bush Fire Awareness training (valid for 3 years). This must include Tree Hazard Awareness.
- Wildlife First Response Training for NSW Firefighters.

Individuals must also be current in:

- Provide First Aid HLTAID011 or HLTAID003
- Tetanus (and other relevant) vaccination
- Experience in at least 3 wildlife response incidents which may include wildlife handling/transport/triage/euthanasia.

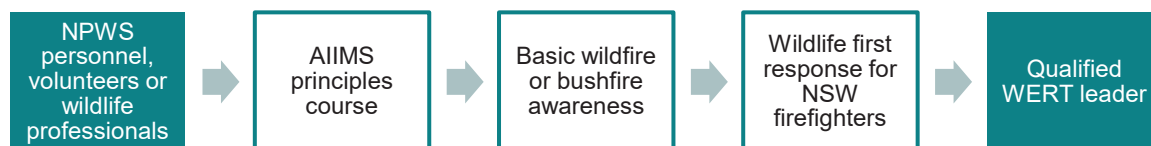
Desirable qualifications:

- TLIC2025: Operate 4-wheel drive vehicles (for drivers)
- Licensed and accredited firearms/tranquilliser firearms user, under NPWS *Firearms management manual* training requirements (for shooters)
- Wildlife handling or any other technical skills (e.g. snake catcher, veterinarian, veterinarian nurse, licensed wildlife rehabilitator)
- Technical skills (e.g. drone operator, detection dog handler).

WERT leaders need to be fit for the task (i.e. health declaration, training and skills are current).

Future roles

- Technical Advisor Wildlife



Appendix D Fire Crew Leader (NPWS example)



Crew Leader



A Crew Leader is responsible for implementing tactics allocated to their crew in accordance with the Incident Action Plan (IAP). They work on the fireground under the direction of a Divisional Commander or other designated supervisor during wildfire and prescribed burning operations.

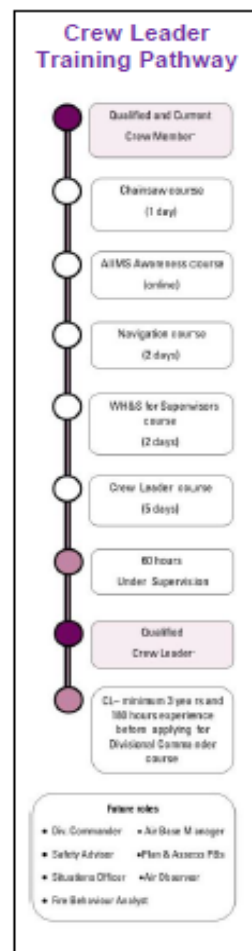
A Crew Leader must lead and supervise small teams on the fireground. Their responsibilities include;

- fulfilling the Incident Controller function at level 1 fires during the initial response
- making initial decisions and developing strategies for a first attack response to a fire
- allocating, reviewing, and modifying tasks assigned to their crew
- monitoring and act to ensure the safety, health, and welfare of their allocated crew/s
- maintaining ongoing situational awareness including changes in weather and fire behaviour
- protecting park values including biodiversity, Aboriginal cultural and historic heritage features
- coordinating with other teams including other organisations
- maintaining a log of activities and decisions.

A Crew Leader must have a good understanding of fire behaviour, the factors that influence it and the ability to choose appropriate suppression techniques.

Successful people in this role have the capability to make decisions based on assessment of the incident, at times away from direct supervision. They can negotiate, resolve conflict, and perform calmly under pressure particularly during rapidly changing situations.

A Crew Leader maintains ongoing two-way communication with their crew and fireground supervisor, exchanging information including work progress, threats, and hazards, reporting of emerging risks and resource status and requirements.



NPWS wildlife response during emergencies guidelines

Training Program Overview:

Crew Leader training is a nationally accredited, internal program for NPWS personnel. The program meets the organisational need for an individual to lead a team effectively and safely during a first response to wildfires, suppressing wildfires and taking part in hazard reductions.

Note; this qualification is a prerequisite for many fireground, incident management and aviation roles.

The program consists of five separate courses and post course experience:

- Navigation Course
- WH&S for Supervisors (Field) Course
- Chainsaw (crosscut) Course
- AIIMS Awareness Course
- Crew Leader Course
- 60 hours supervised fireground experience after completing the Crew Leader course.

Individuals must meet the following NPWS requirements before applying to train as a Crew Leader.

- Work Safely Around Aircraft PUAFIR017– current (3 years)
- Provide First Aid HLTAID011 or HLTAID003 – current (3 years)
- Fire Preparedness Day (annual)
- Fire medical assessment – current (maximum three years)
- TBA Moderate (annual)

Course Delivery Details:

Course details, offerings and enrolment is available through the *MyCareer* portal.

Crew Leader Units of Competency:

Upon successful completion of all requirements, participants will be issued with a Statement of Attainment.

Code	Title
PUAFIR303	Suppress wildfire
PUATEA002	Work autonomously
PUAOPE012	Control a level 1 incident
PUAOPE014	Navigate to incident
PUAOPE015	Conduct briefings and debriefings
PUAOPE020	Lead a crew
FWPCOT2237	Maintain chainsaws
FWPCOT2239	Trim and cut felled trees

Recognised Prior Learning (RPL)

Individuals may already have the knowledge and skills gained through formal training or experience to demonstrate the role requirements. To seek RPL for Crew Leader training, email the Registered Training Organisation at rt.o.training@environment.nsw.gov.au for an initial assessment of previous experience and training.

Appendix E Role summary Wildlife Coordinator

A Wildlife Coordinator is responsible for the on-ground coordination of response activities to injured wildlife, including treatment and rescue operations, logistics, triage coordination and/or disposal. A Wildlife Coordinator reports through the Operations section of the IMT and works closely together with (multiple) Wildlife Emergency Response Teams (WERTs), the Divisional Commander(s) on the ground and the Technical Advisor Wildlife (TAW).

Responsibilities

- Follow the directions of the Incident Controller, Operations Officer or Wildlife Operations Manager, and act in accordance with the wildlife response section of the Incident Action Plan
- Task and brief WERTs before entering the fire/incident ground
- Keep an overview of wildlife response activities on the fire/incident ground and identify wildlife needs
- Liaise with Divisional Commanders and WERT Leaders, and maintain communications within the chain-of-command structure
- Ensure that all WHS requirements are communicated and complied with
- Maintain a log of incident activities and decisions relevant to wildlife
- Provide sitreps to Operations and TAW/Planning
- Coordinate the capture, transport, euthanasia and/or disposal of injured wildlife in accordance with legislation, protocols and guidelines
- Ensure WERTs act in line with the *Code of practice for injured, sick and orphaned protected fauna*
- Ensure euthanasia protocols are followed
- Ensure efficient and ethical disposal of carcasses
- Debrief the WERTs at the completion of a shift/task
- Coordinate setting up a triage centre

Skills and attributes

Wildlife Coordinators require comprehensive knowledge and experience in fire and/or incident management arrangements. They can act independently and need to be able to negotiate, resolve conflicts and perform calmly during rapidly changing situations.

Wildlife Coordinators require highly developed communication skills, to exchange information about the wildlife response, including work progress, threats and hazards, emerging risks and resource status and requirements.

They have knowledge about wildlife needs and understand the legislative requirements regarding wildlife rescue, care and treatment.

Prerequisites

Wildlife Coordinators are experienced fire/incident Crew Leaders with an affinity for wildlife wellbeing and safety on the fireground. Ideally, they have experience with working in Incident Management Teams.

Training program overview

Wildlife Coordinators are experienced incident Crew Leaders with an affinity for wildlife wellbeing and safety on the fireground. Candidates must meet the training requirements specified below:

- Current Fire Crew Leader, Sector or Division Commander (NPWS)
- 22459VIC: Principles of the Australasian Inter-Service Incident Management System (AIIMS)
- Wildlife First Response Training for NSW Firefighters
- Wildlife course material (under development)
- Attendance at wildlife response workshop.

Individuals must also be current in:

- Provide First Aid HLTAID011 or HLTAID003
- Tetanus (and other relevant) vaccinations
- TLIC2025: Operate 4-wheel drive vehicles
- Tree Hazard Awareness (annually)
- PUAOPE014 Navigate to an incident
- Fire medical assessment
- Task based assessment (moderate).

Desirable qualifications:

- Licensed and accredited firearms/tranquiliser firearms user, under NPWS *Firearms management manual* training requirements (for shooters)
- Wildlife handling or any other technical skills (e.g. snake catcher, veterinarian, veterinarian nurse, licensed wildlife rehabilitator)
- Technical skills (e.g. drone operator, detection dog handler).

Future roles

- Wildlife Operations Manager



Appendix F Role summary Wildlife Operations Manager

The Wildlife Operations Manager is responsible for the overall coordination of large-scale wildlife response operations. They work in the Incident Management Team (IMT) and ensure the implementation of the Wildlife Response section of the Incident Action Plan (IAP). They report directly to the Operations Officer or IC and work closely together with the Technical Advisor Wildlife (TAW) and Wildlife Coordinators.

Responsibilities

- Follow the directions of the Operations Officer or IC
- Ensures the implementation of the Wildlife Response section of the Incident Action Plan
- Oversees large scale wildlife rescue or release operations, the setting up of wildlife triage facilities, or euthanasia and disposal operations
- Liaises with the Operational officer on where wildlife response activities can be undertaken safely
- Liaises with the TAW to develop strategies for wildlife response
- Liaises with the Wildlife Coordinators to determine tactics to achieve the objectives in the Wildlife Response Plan
- Liaises with Divisional Commanders on operational activities including wildlife
- Provides updates to the IMT on wildlife response activities
- Keeps an overview of wildlife response activities on the fire/incident ground and maintains a log of wildlife response activities undertaken
- Ensures that the wildlife response is in line with relevant legislation, WHS requirements, protocols and guidelines

Skills and attributes

A Wildlife Operations Manager requires comprehensive knowledge and experience in fire and incident management arrangements. They have a demonstrated ability to work effectively in a team, independently and as a leader and have excellent communication skills.

A Wildlife Operations Manager is organised, and is proficient in data analysis, planning and developing strategies to support operational incident management, in line with organisational doctrine and WHS.

They have substantial experience relevant to the role, including experience in managing wildlife field activities or similar, and understand the legislative requirements regarding wildlife rescue and care.

Prerequisites

Wildlife operation managers are experienced Operations Officers with an affinity for wildlife wellbeing and safety on the fireground. They have experience with working in Incident Management Teams.

Training program overview

Wildlife Operations Managers are experienced Operations Officers with an affinity for wildlife wellbeing and safety on the fireground. Candidates must meet the training requirements specified below:

NPWS wildlife response during emergencies guidelines

- Current Operations Officer
- 22459VIC: Principles of the Australasian Inter-Service Incident Management System (AIIMS)
- 22541VIC: Basic Wildfire Awareness (if not superseded by agency CM and CL fire training)
- Wildlife First Response Training for NSW Firefighters
- Wildlife course material (under development)
- Attendance at wildlife response workshop.

Individuals must also be current in:

- Provide First Aid HLTAID011 or HLTAID003
- TLIC2025: Operate 4-wheel drive vehicles
- Tree Hazard Awareness (e-learning package, if not covered in Basic Wildfire Awareness or fire prep day)
- Fire medical assessment
- Task based assessment (light).

Desirable qualifications:

- ArcGIS/Mapdesk
- ICON operator.



Reserve Environmental Values:

<p>Context</p>	<p>Lake Innes Nature Reserve is located on the mid-north coast of New South Wales, approximately 400 km north of Sydney. It covers an area of approximately 3,510 hectares on the outskirts of the township of Port Macquarie.</p> <p>The reserve is bounded by the industrial estate of Port Macquarie to the north and the village of Lake Cathie to the south. The Lake Cathie road bounds the reserve to the east and the western edge of Lake Innes generally forms the western boundary.</p>
<p>Flora</p>	<p>The reserve comprises coastal plains and wetlands. The vegetation consists of wet and dry heath, saltmarshes, open forests of Melaleuca/Casuarina, Blackbutt/Tallowwood and Flooded Gum/Brushbox.</p> <p>The pockets of rainforest provide seasonal food supply for both migratory and resident fruit-eating birds.</p> <p>Much of the nature reserve is a further protected under the Coastal Management SEPP as wetland that is <u>important for many species of wading birds which are covered by international conservation agreements</u> (JMABA & CAMBA).</p> <p>The Christmas Bell Plains contain a mosaic of coastal heath, and heath/swamp associations. <u>An on-going, long-term research study has been established to find the optimum fire regime for Christmas Bells.</u></p>
<p>Fauna</p>	<p>The terrestrial habitats support a wide range of species from all terrestrial fauna groups. 47 mammals, 231 birds, 15 reptiles and 10 frogs have been recorded in the reserve.</p> <p>The Threatened Fauna recorded for this reserve includes:</p> <p style="padding-left: 40px;">Brush-tailed Phascogale/Common Planigale/Eastern Chestnut Mouse/Glossy Black-Cockatoo/Grey-headed Flying-fox/Koala/Little Bentwing-bat/Masked Owl/Osprey/Pied Oystercatcher/Powerful Owl/Spotted-tailed Quoll/Squirrel Glider/Yellow-bellied Glider</p> <p><u>The reserve supports a healthy population of approximately 600 Koalas.</u> Almost 50% of the land area of the reserve contains Koala food trees and is most likely to be used by Koalas. The reserve forms an important Koala corridor linking the Port Macquarie area to the large area of State Forest to the west and ultimately to the Great Dividing Range.</p> <p><u>Fauna surveys, with emphasis on small mammals and micro-bats, are currently being undertaken within the reserve.</u></p>

Reserve Fire Management Strategy: (see RFMS for details)

<p>Overview</p>	<p>Historically, wildfires have exhibited high rates of spread (1–2 km/hr) and flame heights (>5 m) when drought, fuel and weather conditions combine to produce extreme fire behaviour. The Eucalypt woodland, forests and heath that will burn intensely in an average season.</p> <p>Many small mammals and most birds breed in spring and summer and are vulnerable to fire during this crucial period.</p> <p><u>Koalas using the reserve are prone to high intensity widespread fires.</u></p> <p><u>The fire in 2004/05 that spread across the Innes Peninsula & Innes Swamp resulted in 45 koalas being taken into long-term care.</u></p> <p>Managing where possible low fire intensities on the Innes peninsula and Christmas Bell Plains where stands of wet and dry sclerophyll forests exist to reduce impacts on arboreal mammals.</p>
<p>Weather Patterns</p>	<p>Extreme fire danger days occur when strong to gusty hot NW winds precede cold fronts after prolonged spells of dry weather in November and December.</p> <p>Under NW & NE winds fires spread quickly to the south along the peninsula and through Innes Swamp towards Lake Cathie. Under a SW wind pattern, fires can burn north across the Xmas Bell plains towards Port Macquarie and along western side of the lake.</p>
<p>Cultural Heritage</p>	<p>AH1: protect site from fire, do not cut down trees/AH2: avoid all ground disturbance/AH3: avoid all ground disturbance & water bombing.</p> <p>HH1: protect site from fire, avoid the use of earthmoving machinery/HH2: avoid all ground disturbance including machinery & driving over</p>
<p>Threatened Fauna</p>	<p>Clear 1 m radius around stags, habitat and feed trees, as well as on-ground hollows adjacent to control lines, before commencement of HR or Backburn.</p> <p>Avoid high intensity fire, where possible do not allow flame height to exceed one third of tree height. Post-fire fox baiting program is suggested.</p> <p><u>Wildlife rescue program to be implemented when IC declares it safe to undertake on-ground rescue operations. It is predicted that many arboreal mammals will be affected by fire.</u></p>
<p>Suppression Chemicals</p>	<p>Exclude the use of surfactants and retardants within 50 m of rainforest, watercourses, dams and swamps.</p> <p>Areas where fire suppression chemicals are used must be mapped and the used products name recorded</p>

Crestwood Drive Fire Update (15 November 2019)

<p>Incident Background</p>	<p><u>There is no live fire in the northern sections and east of Ocean Drive, patrols are continuing.</u></p> <p>On 29/10 fire spotted over Cathie & Cowarra Creeks and Perch Hole Trail. Fire spread rapidly before slowing in broken fuels. Backburns off Houston Mitchell Dr held overnight 30/10. Strong NE winds 31/10 resulted in spot overs on Houston Mitchell Dr. Ground crews and aviation suppressed and contained. Mop up is ongoing.</p> <p><u>There is no live fire in the NE sections of the fire, patrols are continuing.</u></p> <p>Further fire spread under severe conditions on 7/11 and 8/11.</p> <p>Spotting from Lindfield Park fire resulted in a merged fireground. Minor breakouts and spots 9/11 to 14/11 suppressed rapidly by local crews. Mop up is ongoing.</p> <p><u>Fire ground has been secure over the past few days and wildlife/koala rescue has been in operation with escort from a ground crew.</u></p> <p>Make good/make safe operations commence Thursday 21 Nov.</p>
<p>Objectives and Intent</p>	<p>Strengthen and consolidate containment lines in order to maintain containment north of Lake Cathie and within Lake Innes Nature Reserve, and south of Crestwood and Emerald Estates.</p> <p>Ensure emergency response personnel safety; Provide timely and appropriate public information and warnings; Protect vulnerable people- Isolated communities, Tourists in area. <u>Undertake wildlife rescue & rehabilitation where safe to do so.</u></p>
<p>Seasonal Conditions</p> <p>Current Weather</p>	<p>Underlying drought conditions exist. Soil moisture and fuel moisture content extremely low. Drought conditions are expected to prevail, the swamp and water holes have dried out.</p> <p>Monday: Maximum temperature 26 C, Minimum relative humidity 58%/Wind NNW 5–10 kph swinging SE 5–10 kph by 1400hrs, then SE 25–30 kph by 1700hrs/Mostly cloudy. Very high (80%) chance of showers, easing during the evening/The chance of a thunderstorm.</p>
<p>Suppression Actions</p>	<p>Backburn along Perch Hole trail/Continue patrol & mop up as appropriate along Ocean Drive/Continue patrol & mop up as appropriate on soft edges where accessible and direct attack fire if required/Crews to walk black edge, identify heat & direct aircraft to bucket.</p>

Wildlife Emergency Response Actions & Priorities (14 Nov 2019)

WERT Preparation

Priority 1. Kooloonbung Creek (between Marks trail and Creek Trail).

Wildlife rescue suspended for Saturday 13 Nov due to >25 kph forecast winds.

When conditions allow priorities are:

- Priority 2. Xmas Bell Plains (both west & east of Ocean Dr).
- Priority 3. Innes Peninsular.

Team must be supervised by CL minimum, have reliable comm's with Wauchope FCC, wear fire ground PPE, be self-sufficient, and have clearly identifiable vehicles. If there is dangerous tree risk, or fire activity the CL/Div Comm can suspend rescue activities.

In winds above 25 kph, or high fire activity, suspension should be considered.

WERTs Priority 1 Update

Kooloonbung Creek (between Marks trail and Creek Trail) search complete.

WERTs found the following list of injured fauna:

Marks Trail:

- Eastern Grey Kangaroo deceased with joey still alive – taken into care
- Koala in tree could not reach, signs of burns – requires rescue, tree marked with flagging tape
- 2 Koalas in tree, no visible signs of injury, taken into care, make have smoke inhalation
- Koala deceased on ground badly burnt, buried onsite
- Koala with burns to feet, with joey (no injury) – both taken into care
- 5 Eastern Grey Kangaroo near Kooloonbung Creek. One did appear to be struggling a little but got away before assessment.

Creek Trail:

- Koala in tree, signs of injury – requires rescue, tree flagged
- Koala in tree, no visible signs of injury, taken into care
- Unidentified animal deceased on ground burnt, left onsite
- Koala with burns to feet – rescued and taken into care
- Eastern Grey Kangaroo deceased left onsite
- Dead animal presumed fox left onsite
- Kangaroo Joey sighted, looked young but no obvious parent

Boundary Trail:

- Eastern Grey Kangaroo, 2 Red-Neck Wallaby's on LHS of trail, all mobile, no visible injuries
- Osprey nest in large stag intact however tree burnt and unstable
- 3 Koala in tree, signs of injury – could not reach, requires tree climber or cherry-picker, flagged trees
- Koala in tree, no visible signs of injury, taken into care
- Male Eastern Grey, burns on all feet euthanised by firearm

Water stations required along the peninsula for koala and other wildlife as there is need environmental water.

2 runs of Elliot traps located and checked, no animals, 8 traps collected, remained burnt

Wildlife Emergency Response Actions & Priorities (14 Nov 2019)

<p>WERTs</p> <p>Priority 2</p> <p>Update</p>	<p><u>Xmas Bell Plains & Innes Peninsula searches not complete.</u></p> <p>As at 1800 12 Nov, WERTs found the following list of injured fauna:</p> <p>Bells Trail:</p> <ul style="list-style-type: none"> • Eastern Grey Kangaroo deceased with joey still alive – taken into care • Koala in tree could not reach, signs of burns – requires rescue, tree marked with flagging tape • 4 Koalas in tree, no visible signs of injury, taken into care, make have smoke inhalation • 5 Koala deceased on ground burnt, buried onsite • 2 Koala with visible burns to feet – both taken into care <p>Perch Hole Trail:</p> <ul style="list-style-type: none"> • Koala in tree, signs of injury – requires rescue, tree flagged • 3 Koalas in tree, no visible signs of injury • Unidentified animal deceased on ground, burnt left onsite • Koala with burns to feet - taken into care <p>Innes Ruins Trail:</p> <ul style="list-style-type: none"> • 3 Koalas in tree, no visible signs of injury, taken into care, make have smoke inhalation • 3 Eastern Grey Kangaroo near the ruins, mobile no visible injuries • 2 Red- Necked on RHS of trail, mobile no injury • 2 Koala in tree near the Ruins, signs of injury – could not reach, requires tree climber or cherry-picker, flagged trees • 4 Koala in trees near the lake, no visible signs of injury, need to check
<p>Televet Service</p>	<p>Due to the protracted nature of this event some local vets are unavailable to accompany WERTs. Televet services have been activated to provide WERTs with diagnostic information and treatment advice.</p>
<p>Mobile Clinics & Triage Centres</p>	<p>Triage Centre No: 1 is being set up on the Oval at Crestwood</p> <p>Injured Koalas are being transported directly to the Koala Hospital. Temporary enclosures are being erected to accommodate the large numbers of animals forecast to come into care.</p> <p>The local Wildlife Care Group (FAWNA) are assisting with WERT search & rescue and coordinating care of other injured native wildlife.</p> <p>Triage Centre No:2 is planned for Lake Cathie Oval to treat injured wildlife from the southern area of the fire and to avoid long transit times to Port Macquarie.</p>
<p>Long-term Wildlife Care & Rerelease</p>	<p>Many animals will require long-term rehabilitation and intensive care. Rerelease sites are being planned for near-by reserves that are unaffected by fire and have sufficient food and habitat resources.</p> <p>Viable Koala release sites exist at Dooragan NP (North Brother Mountain) and Queens Lake NR (Bonny Hills).</p> <p>NPWS will work with FAWNA to coordinate release sites for other native animals</p>

Appendix H Example of a Wildlife Response Plan (Burning Plains fire)

Wildlife Response Plan					
Incident Name: Burning Plains fire S44		Operational Period (DTG)		From:	11 Nov 2023 08:00
ICON Incident No: 0123456789				To:	11 Nov 2023 17:00
SITUATION (SMEACS)					
IC Overall Intent for Wildlife response	<ol style="list-style-type: none"> Maximize native animal welfare outcomes, without compromising the safety of fireground personnel or the control of the fire, by engaging a Wildlife Emergency Response Team (WERT). Ensure safety of Wildlife Emergency Response Team (WERT) 				
Incident background	<p>The Burning Plains fire started on 2 November 2023 and under extreme fire weather conditions spread very rapidly to be over 5000ha by that night. By 8 November 2023 the fire was 7000ha, with 1725 ha of private property burnt and the balance being NPWS Estate (Gum tree National Park, Banksia flat Nature Reserve and Acacia Flora Reserves). The fire currently has a perimeter of 71 km.</p> <p>Gum tree National Park is jointly managed by the Aboriginal owners and NPWS, with a Board of Management. Part of the burnt area was also affected by the fires of 2019-20.</p> <p>Intense fire behaviour increases the risk to wildlife. The activation of Wildlife Emergency Response Teams (WERT) has been implemented as a result of Recommendation 53 of the NSW Bushfire Inquiry into the 2019-20 fires.</p>				
Last Burnt	2019-20 Black Summer Bushfires & 2018 Banksia flat fires				
Area	7300 ha at 10/10/23, 12:00.	Perimeter	72 km		
Biodiversity & wildlife values					
Flora	N/A				
Fauna	<p>The fire impacted the only koala population known to exist in the coastal forests between the Illawarra and the Victorian border.</p> <p>The koala is an endangered species under both State and Federal legislation, it is culturally significant and has a high public profile.</p> <p>Conservation lands impacted by the fire are in National Park and Flora Reserve tenure. Flora Reserves are dedicated under the Forestry Act 2012 with NPWS appointed as the land manager. The primary purpose of the Flora Reserves between Weeping Willow and Banksia Flat is to conserve the south coast's last known koala population and extend the protection of a natural and cultural landscape incorporating Gum tree National Park.</p> <p>Whilst this plan targets Koalas it does not exclude other native wildlife from the response.</p>				
Wildlife rescues to date (10 Oct 2023)					
	Koalas	Other arboreals	Macropods	Reptiles	Birds
Fauna rescues update		1			
Fauna currently in care					
Fauna in the field being monitored / follow up					
Fauna sighted – no follow up required	1				
Fauna euthanasia & disposals			20		
Wildlife rescues predicted					
Fauna rescues predicted for next 5 days					
MISSION (SMEACS)					
Deploy Wildlife Emergency Response Team (WERT) to Burning Plains fire S44 to search for injured wildlife in the northern sections of the fire, i.e., within the Banksia and Callistemon Division.					
EXECUTION (SMEACS)					
<ul style="list-style-type: none"> Before deployment, the TAW will provide a SMEACS briefing to WERT at the staging area. This includes a presentation of the Burning Plains S44 IAP (11/11/2023), this Wildlife Emergency Response Plan and a WERT specific JSA. All WERT members need to sign the JSB. While on the Fireground, WERT is under direct supervision of the Crew Leader. They must have reliable communication with Brolga Fire Control Centre (radio channels as per comms plan), wear fire-rated PPE, carry first aid (at least one kit per team) and meet the specific WERT training requirements. 					

NPWS wildlife response during emergencies guidelines

<ul style="list-style-type: none"> The WERT Crew Leader will report to Div comm within each division when entering and leaving divisions (Div comm details as per Burning Plains S44 IAP 11/11/2023). The WERT Crew Leader will report to the relevant Div Comm hourly or for each notifiable event, e.g., injured animal found. Div comm will then pass on information through to Operations in IMT. Banksia/Callistemon Division – WERT Team will move through fireground and assess any wildlife observed. The WERT team may also respond to information provided by firefighters or the public about potentially injured wildlife on the fireground. (See IAP maps 11/11/2023) WERT teams will assess animals on-site and make decision about required action, this may include calling a vet for advice, capturing and transporting to a vet or no intervention. Brolga Vets have been notified and are ready to provide assistance or take animals in for assessment, if required. This plan only applies to WERT teams engaged via the TAW 11/11/2023, it does not apply to wildlife carers/rescue groups in general. 		
ADMINISTRATION (SMEACS)		
Staging Area/s:	Brolga Fire Control Centre, 8 Mountain Ave, Brolga – briefing at 08:00	
Triage Area/s:		
Disposal Area/s:		
Vets:	Brolga vets, 37 Ridge Street, Brolga	
Meals:	Lunches will be picked up from Weeping Willow RFS Station (Stuart Avenue) prior to starting shift.	
Fuel:		
Accommodation:	East Town Motor Inn, 345 Smith Street, Brolga (2 NIGHTS 10/11/2023 – CHECK OUT 12/11/2023)	
COMMAND AND COMMUNICATIONS (SMEACS)		
WERT 1 - CL	[Name, organisation]	Phone: xxxxxxxxxxxx
WERT 2 - CL	[Name, organisation]	Phone: xxxxxxxxxxxx
Tech Adv. Wildlife	[Name, organisation]	Phone: xxxxxxxxxxxx
Wildlife Coordinator	[Name, organisation]	Phone: xxxxxxxxxxxx
Wildlife Ops Manager	[Name, organisation]	Phone: xxxxxxxxxxxx
Vet	[Name, organisation]	Phone: xxxxxxxxxxxx
COMMUNICATIONS (as per IAP)		
IC	[Name, organisation]	
DIC	[Name, organisation]	
Operations officer	[Name, organisation]	
Planning officer	[Name, organisation]	
Logistics officer	[Name, organisation]	
	See Burning Plains IAP 11/11/2023 for full contact details and phone numbers	
Command channel: ESO9	Banksia Division: FG radio NPWS FG57	Tactical channel: FG97, as per Burning Plains IAP 11/11/2023
SAFETY (SMEACS)		
Hazardous trees:	TAW and Crew Leader will brief Wildlife Emergency Response Team (WERT) prior to shift with the incident IAP and JSA. JSB will be signed.	
Vehicle safety:		
Wildlife:		
Fatigue:		
First aid:		
Refuge areas:		
Escape routes:		
MEDIVAC: current Medical Evacuation Response Protocol with IMT – For serious injury call 000 and notify Fire control/EOC		
Steps to follow if a person is injured:		
<ol style="list-style-type: none"> 1. Call 000 and apply first aid. 2. Obtain and relay medical details using PAINTER to 000 & ASNW 3. Advise IC and IMT of nature of emergency, patient assessment & location 4. Non-life threatening & walking: return to base - seek treatment 5. Non-life threatening not walking: call 000 contact IC seek advice / follow extraction plan from ASNW 6. Life threatening: call 000 contact IC seek advice / request immediate evac. 		
Ambulance meeting point: Callistemon Staging Area -Corner of Dunk's road with Willy's firetrail. Lat lon: 149.99; -34.56. Nearest hospital: Regina Regional Hospital, 25 Johns Creek Rd, Brolga NSW 2345. Phone: (02) 4545 9999		P: patient age and sex A: area they're in – lat-long if available I: injuries N: needs – of the crew and the patient: first aid, hydration, medical T: timing / urgency: life threatening / non-life threatening E: egress / extraction plan R: risks: e.e. trees. slopes. cliffs

Appendix I Decision framework for euthanasia of wildlife

Criteria for euthanasia

The list below is adapted from the Victorian Government's *Victorian response plan for wildlife impacted by fire* (Victorian Government 2018). Please also refer to the free online course provided by the Taronga Conservation Society entitled *Assessment, triage and treatment of bushfire affected wildlife module* (see Chapter 10 for a link).

Euthanasia must be seen as a positive welfare outcome for wildlife, to minimise pain, discomfort and distress. Euthanasia is recommended in the following situations:

- severe burn injury – where burns cover a significant percentage of the total body surface area
- severe respiratory compromise due to smoke inhalation
- full-thickness burns involving eyelids, lips and feet (particularly if bone or tendons are involved)
- deep burns to the scrotum and penis
- loss of digits and nails that is likely to impair normal function
- severe ocular damage resulting in blindness
- severe burns to the feet or tail that would necessitate amputation
- any burn injury or comorbidity that results in permanent disability or is likely to impair the animal's capacity to survive and thrive in the wild
- presence of untreatable comorbidities (disease, severe injury, emaciation)
- the animal is a species where attempts at treatment are likely to result in poor welfare outcomes, for example, an adult macropod
- immature joeys (eyes closed, furless), pouch-bound joeys
- the animal cannot be safely or humanly captured or transported
- resources are not available to adequately treat and care for the animal
- the animal is an introduced pest species.

If there is no vet or Televet assistance available, the following decision framework could help the WERT when assessing an animal. Please note that decisions regarding euthanasia need to be made/approved by the Incident Controller.

Euthanasia decisions must have IC approval before any action is taken

Euthanasia decision framework

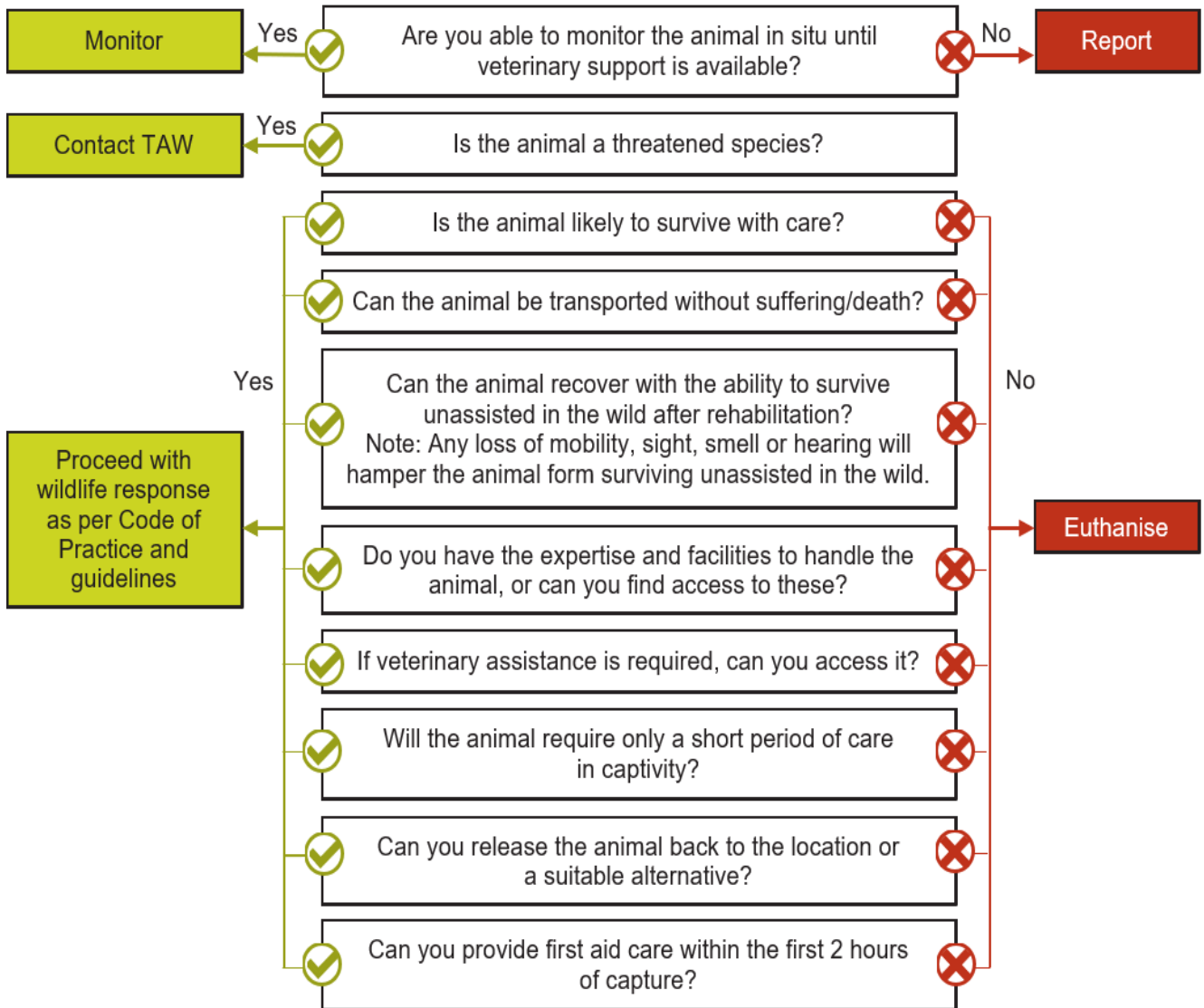


Figure 10 Euthanasia decision framework

Appendix J Wildlife observation record form

WILDLIFE OBSERVATION RECORD

Incident name:	Date:
Division:	Time start:
Location name:	Time end:
GPS start:	Observer/s:
GPS end:	Survey method: <input type="checkbox"/> foot <input type="checkbox"/> land vehicle <input type="checkbox"/> drone <input type="checkbox"/> aircraft

OBSERVATIONS Complete one line per individual animal or per group of the same species in the same location.

Species name	No. of animals			No. injured	Behaviour	GPS coord. Lat/Long	Fine-scale location (e.g. tree, creek, road)	Animal status (e.g. sex, age, size) and other comments
	Live	Dead	Total					

Appendix L Animal transport log

ANIMAL TRANSPORT LOG

Vehicle registration: _____

Date	Time	Origin	Destination	Odometer start	Odometer end	Distance (km)
IDs of animal(s) being transported (list):						
<input type="checkbox"/> Chain of custody transferred						
Signature:						

Appendix N Injured animal assessment form

Injured animal assessment form		Part 1 Initial treatment		ID no:
Incident name:		Date & time		
Sector		Road/trail		
GPS coordinates:				
Recorded by				
Species name:				
Sex		Age		Weight
Microchip scan:		Ear tag		
Physical assessment:				
Head	Ears			
	Eyes			
	Nostrils			
	Mouth			
Body	Fur/skin			
	Body condition			
	Pouch			
	Genitals			
Limbs:	Left forelimb			
	Right forelimb			
	Left hindlimb			
	Right hindlimb			
Parameters:				
Heart rate		Temperature		
Respiration	Normal / Laboured / Open mouthed			
Hydration	Normal / 5% dehydrated / 10% dehydrated / 20% dehydrated			
Mucous	Membrane colour:			
Comments				
Medication:				
	Medication		Dosage rate and volume	
Sedation				
Antibiotics				
Fluids				
Pain relief				
Outcome:				
Euthanised:	Yes <input type="checkbox"/> Complete Part 1		No <input type="checkbox"/> Go to Part 2 (overleaf)	
Reason				
Disposal method:			Location:	

NPWS wildlife response during emergencies guidelines

Injured animal assessment form		Part 2 Ongoing treatment				ID no:		
Transport:								
Triage centre/Mobile clinic/Wildlife care group/Vet								
Location								
Date & time								
Contact name								
Transporter name								
Method of transport								
Time in transit								
Comments								
Triage and treatment:								
Medication	Sedation							
	Antibiotics							
	Fluids							
	Pain relief							
Condition:								
Injuries:								
Release criteria:								
Ability to reproduce	Yes <input type="checkbox"/>	No <input type="checkbox"/>						
Ability to locomote	Yes <input type="checkbox"/>	No <input type="checkbox"/>						
Ability to catch food	Yes <input type="checkbox"/>	No <input type="checkbox"/>						
Ability to reproduce	Yes <input type="checkbox"/>	No <input type="checkbox"/>						
Ability to sense its environment	Yes <input type="checkbox"/>	No <input type="checkbox"/>						
Release site:								
Location and tenure					GPS coordinates			
Adequate food resources								
Same species present								
Increased competition?								
Outcomes:								
Tagged:	Yes <input type="checkbox"/>	No <input type="checkbox"/>				Number:		
Micro-chipped:	Yes <input type="checkbox"/>	No <input type="checkbox"/>				Number:		
Banded:	Yes <input type="checkbox"/>	No <input type="checkbox"/>				Number:		
Comments								