Standard Operating Procedure

SC23-11 EUTHANASIA OF SMALL STRANDED CETACEANS

Animal welfare is the responsibility of all personnel involved in the care and use of animals for scientific purposes.

Personnel involved in an Animal Ethics Committee approved project should read and understand their obligations under the *Australian code for the care and use of animals for scientific purposes*.

Version 1.2

November 2023

GOVERNMENT OF WESTERN AUSTRALIA

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1.2	08/11/2023	Revision of content* & clarification of procedures	H. Raudino, L. Povh, K. Waples, R. Carter, A Raycraft	M. Dziminski	November 2023

*Previously titled *Euthanasia of Small Stranded Cetaceans using Firearms*

Approvals: Version 1.2

Approved by the DBCA Animal Ethics Committee:

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Dr Martin Dziminski

Chair, Animal Ethics Committee

Department of Biodiversity, Conservation and Attractions

Contents

1 Acknowledgements

This standard operating procedure was originally developed by Jordan Hampton (Ecotone Wildlife), Peter Mawson (Perth Zoo) and Doug Coughran (Department of Parks and Wildlife), with contributions from Charles Caraguel (University of Adelaide) and Lauren Boren (NZ Department of Conservation). The standard operating procedure was revised by Holly Raudino, Kelly Waples (Marine Science Program), John Edwards (Parks and Wildlife Service) and Riley Carter (Wildlife Protection Branch). Pia Courtis (Bunbury Wildlife Officer, DBCA) shared her experience at strandings and subsequent euthanasia and this was incorporated into the revision of the standard operating procedure. Veterinarians Simone Vitali (formerly DBCA) and Chiquita Minshull (Broome Veterinary Hospital) generously contributed knowledge that was incorporated into the review of this standard operating procedure and improved ethical considerations for decision making and application of chemical euthanasia, respectively.

2 Purpose

Finding stranded and injured live cetaceans is relatively common along the West Australian coastline. While some stranded animals can be successfully returned to the ocean, many stranded and injured cetaceans require euthanasia. While operating procedures are in place to use explosive charges to humanely euthanase large (>6m) cetaceans (Coughran et al., 2012), the use of firearms has been demonstrated to be the most humane method to euthanase small (<6m) cetaceans (Blackmore et al., 1995). However, in some situations, the euthanasia of smaller (<3m) cetaceans by chemical injectable (i.e. sodium pentobarbitone) may be preferred (Refer to the *SOP Euthanasia of Animal Under Field Conditions)*. This may be for young cetaceans, i.e. dependent dolphin calves, and particularly in highly populated areas or of high-profile populations e.g. Indo-Pacific bottlenose dolphins (*Tursiops aduncus*) in Monkey Mia, Swan-Canning Estuary, Peel-Mandurah Estuary, Bunbury.

This Standard Operating Procedure (SOP) provides instruction on how to euthanase stranded cetaceans with appropriate firearms or by chemical euthanasia, when that is the preferred alternative. Personnel should be appropriately licenced, trained and, where necessary, supervised when using any method.

3 Scope

This SOP has been written specifically for scientific and management purposes and endorsed by the Department's Animal Ethics Committee (AEC). This SOP applies to activities involving the use of firearms and chemicals for euthanasia of stranded cetaceans undertaken across Western Australia by DBCA (hereafter department) personnel.

Projects involving wildlife may require a licence/authorisation under the *Biodiversity Conservation Act 2016*. Personnel should consult the department's Wildlife Licensing Section and Animal Ethics Committee Executive Officer for further guidance. In Western Australia any person using animals for scientific purposes must also be covered by a licence issued under the *Animal Welfare Act 2002*, which is administered by the Department of Primary Industries and Regional Development. This SOP complements the *Australian code of practice for the care and use of animals for scientific purposes* (The Code). The Code contains an introduction to the ethical use of animals in wildlife studies and should be referred to for all AEC approved projects. A copy of the code may be viewed by visiting the National Health and Medical Research Council website (http://www.nhmrc.gov.au).

4 Animal Welfare Considerations

To use firearms or lethal injection with the optimal animal welfare outcome, personnel must consider, address and plan for the range of welfare impacts that may be encountered. Strategies to reduce impacts should be identified prior to use to ensure that they can be readily implemented if required. Animal welfare and personal safety must be the highest priorities.

Potential animal welfare impacts include:

- Distress to cetaceans due to undue delay in the decision-making process leading to

euthanasia.

- Being physically manipulated prior to euthanasia or being unable to be easily or safely removed from the water.
- Pain from ineffective shots (where technique is administered incorrectly or ineffectively).
- Further physical injury to the cetacean (in trying to restrain an animal or an animal causes itself further harm as a result of distress).
- Prolonged pain or distress if an inaccurate dosage is used for sedation or the drugs are not administered properly during chemical euthanasia.

The operator must ensure the following steps are undertaken to minimise welfare impacts:

- Equipment must be inspected and tested for serviceability before use.
- Cetaceans must be approached with consideration to minimising stress.
- Shooting or chemical injection must be accurately and effectively performed by trained and authorised personnel.
- The cetacean must be checked immediately for signs of life after euthanasia, and death must be confirmed as described in this SOP.
- If death is not instantaneous, a secondary method of euthanasia (either by increasing chemical dosage, using an alternative chemical or using a firearm, whichever is deemed the fastest and most effective) is applied as described in this SOP.
- Always follow safety procedures.

Where personnel are not equipped to carry out euthanasia by firearm, or do not feel comfortable in carrying out the action, it is best not to proceed to avoid the risk of increased stress and suffering to the cetacean. If the shooter has adequate experience and training in the use of firearms and the knowledge of the effects of ballistic injury, the duration of suffering associated with this technique is very short. The same would apply for the use of chemical euthanasia which also requires training and approval, or a veterinarian to administer.

ANIMAL WELFARE: If it is necessary to euthanase more than one individual at the same location, every effort should be made to euthanase all individuals requiring euthanasia as quickly as possible to minimize the distress to all the cetaceans present. Where practicable a screen should be implemented to visually isolate individuals being euthanased from others that are alive in the pod.

ANIMAL WELFARE: It is important to position mother-calf pairs together, even if one of them is dead. Visual and physical contact aids in reassuring mother and calf and minimises stress. If a calf requires euthanasia, the mother should not be released prior to the calf being euthanased as physical separation and distress calls from the calf may result in the mother re-stranding. The mother should be allowed physical contact with the dead calf prior to her release as this may reduce the risk of her re-stranding.

4.1 Documentation and authorisation to conduct euthanasia

Department monitoring and research projects involving cetaceans must have a documented Euthanasia Action Plan, which is identified in the AEC application and endorsed by the AEC. This action plan should identify and address all potential situations where euthanasia may be required as part of the tasks and duties to be undertaken by personnel and the protocol assigned to manage individual situations. Personnel with adequate training and experience in the proposed euthanasia technique/s, as documented in the plan, must be present or accessible when carrying out field-based duties. If external support and assistance is planned (e.g., veterinary assistance), this should be pre-arranged and documented. All personnel must be aware of the agreed action plan prior to undertaking field work. Where unforeseen situations occur that are not designated under an action plan, general guidance for decision making should be taken from this SOP and the Department's SOP for *Euthanasia of Animals Under Field Conditions*.

For projects approved by the department's AEC, all adverse events, including unplanned euthanasia, must be reported in writing to the AEC Executive Officer immediately following the incident, or at the soonest opportunity (as per 2.2.28 of The Code) as outlined in the AEC *Adverse Events Guidance*.

All cetacean deaths (including euthanasia) and injuries should be recorded and communicated to the Chief Investigator of the project. Chief Investigators must provide statistics of all cetacean deaths (including euthanasia) and injuries in annual reports submitted at the end of the year and at the completion of a project. Where infectious disease is suspected, refer to the department SOP for *Managing Disease Risk and Biosecurity in Wildlife Management* for further guidance.

For euthanasia that is required during incident management such as strandings a record should be kept of the incident as detailed in the Standard Operating Procedures for Intervention in Marine Fauna Incidents (available internally only on the DBCA Wildlife Health Hub intranet). This will include details on the euthanasia including personnel involved, justification for decision making, method used and adverse reactions. Where possible the SOP for Intervention in Marine Fauna Incidents should be used as a guide in decision making.

5 Approved Methods

5.1 Deciding when euthanasia is necessary

The decision to euthanase a cetacean must be based on the perceived degree of current and (likely) future suffering and the chances of recovery against the prospective suffering caused by the euthanasia process. Considerations for determining this are outlined in the *Euthanasia of Animals Under Field Conditions* standard operating procedure.

Your safety and the safety of co-workers and volunteers working around stranded cetaceans must take first priority. The procedure should only be performed by competent persons and should not cause undue stress to staff involved or human bystanders. It should be conducted away from members of the public. This may require closing the beach or erecting visual barriers. However, any delays arising from doing so should not add additional distress to the cetacean. Euthanasia using a firearm should not be attempted for cetaceans in the surf zone

or in deep water; however, it may be possible to administer a sedative or anaesthetic dose that would enable the animal to be safely relocated for euthanasia. Care should also be exercised to avoid shooting over substrates that carry a high risk of projectile ricochets (water, stones and rock platforms).

Euthanasia should be carried out giving due consideration to the following factors in order of priority:

- Human safety
- Animal welfare
- Human welfare (including staff and bystanders)
- Feasibility

When considering the welfare of the cetacean(s) and the feasibility of intervention there are multiple considerations including nutrition, health, behavioural interactions, and the physical environment. For example, returning a stranded pelagic, deep-sea species to shallow water outside of its natural habitat is unethical. For highly social and gregarious species returning them to sea alone may also be unethical.

Cetaceans become rapidly compromised by stranding; the larger the animal, and the longer it lies on the beach, the less likely it is to survive due to the physical and physiological impacts of stranding. Regardless of their health status, dependent calves have a hopeless prognosis if they cannot be reunited with their mother, and this must be accepted from the start of any intervention. If it is unclear whether a calf is dependant, refer to approximate *weaning lengths of selected Australian cetaceans* (Figure 1).

Refloating individuals that have repeatedly stranded or have injuries or show signs of disease is unlikely to have an acceptable welfare outcome and euthanasia should be prioritised.

Presentations necessitating euthanasia include the following:

- Toothed whales of socially dependent species (e.g. pilot whales) which have stranded singly
- Stranded baleen whales of any species
- Whales of any species >6 m long
- Orphaned calves of an age/size assumed to be dependent and unweaned (see approximate weaning length for some cetacean species, Figure 1)
- Cetaceans in very poor body condition i.e., body condition score < 2, indicating emaciation (Section 5.2)
- Cetaceans with severe wounds e.g., penetrating chest or abdomen.
- Cetaceans with severe injuries e.g., fracture of tail, flukes, fins or beak/rostrum
- Cetaceans displaying an inability to swim or abnormal behaviour/neurological signs (incoordination, seizures, circling).

WEANING LENGTHS, SOUTH AUSTRALIAN CETACEAN SPECIES

(South Australian Museum 2001)

Common Name	Scientific Name	Weaning Length (very approx.)	Habitat
BALEEN WHALES			
Southern Right Whale	*Eubalaena australis*	8m	oceanic/coasta
Pygmy Right Whale	*Caperea marginata*	3.5m	oceanic/coasta
Blue Whale	*Balaenoptera musculus*	16m	oceanic
Fin Whale	*Balaenoptera physalus*	12m	oceanic
Sei Whale (sighting only)	*Balaenoptera borealis*	9m	oceanic
Bryde's Whale	*Balaenoptera edeni*	8m	oceanic
Minke Whale	*Balaenoptera acutorostrata*	5m	oceanic
Humpback Whale	*Megaptera novaeangliae*	8m	oceanic/coasta
TOOTHED WHALES			
Common Dolphin	*Delphinus delphis*	1.3m	oceanic/coasta
Bottlenose Dolphin	*Tursiops truncatus*	1.5m	oceanic/coasta
Dusky Dolphin (sighting only)	*Lagenorhynchus obscurus*	1.5m	oceanic
Risso's Dolphin	*Grampus griseus*	2m	oceanic
Southern Right Whale Dolphin	*Lissodelphis peronii*	1.5m	oceanic
Short-finned Pilot Whale	*Globicephala macrorhynchus*	3m	oceanic
Long-finned Pilot Whale	*Globicephala melas*	3m	oceanic
Killer Whale	*Orcinus orca*	4m	oceanic/coasta
False Killer Whale	*Pseudorca crassidens*	3m	oceanic
Spectacled Porpoise	*Phocoena dioptrica*	1.5m	oceanic
Pygmy Sperm Whale	*Kogia breviceps*	2m	oceanic
Dwarf Sperm Whale	*Kogia sima*	2m	oceanic
Sperm Whale	*Physeter macrocephalus*	7m	oceanic
Arnoux's Beaked Whale	*Berardius arnuxii*	5m	oceanic
Southern Bottlenose Whale	*Hyperoodon planifrons*	4m	oceanic
Hector's Beaked Whale	*Mesoplodon hectori*	3m	oceanic
Andrews' Beaked Whale	*Mesoplodon bowdoini*	3m	oceanic
Gray's Beaked (Scamperdown) Whale	*Mesoplodon grayi*	4m	oceanic
Straptooth Whale	*Mesoplodon layardii*	4m	oceanic
Shepherd's Beaked Whale	*Tasmacetus shepherdi*	3m	oceanic
Cuvier's Beaked Whale	*Ziphius cavirostris*	4m	oceanic

Obviously, species ID is critical if in doubt call (insert contact for co-ordinator)

Additional signs of dependency:

hairs on snout: present = dependant, absent = dependant or independent

curling or feathering of end of tongue: (indicates suckling)

Neonatal signs: folded dorsal fin, folded and crenulated flukes, neonatal folds (these persist for a few months in some species) and unhealed or present umbilicus.

NOTE: documentation of the presence of milk in the stomachs of any calves sampled is very important to provide accurate information for the determination of correct weaning ages and lengths.

Figure 1. Approximate weaning lengths of selected Australian cetacean species.

5.2 Body Condition Scoring (BCS): Dolphins

(after Clegg et al 2015 and Joblon et al 2014)

Examine the area behind the skull, the shoulders and the flukes in both lateral (side-on) and dorsal views. The BCS criteria shown here are based on captive dolphins; it is highly unlikely that a dolphin with BCS of 5 will be encountered in the wild.

Table 1. Description of body condition scoring (BCS) of dolphins.

BCS	**DESCRIPTION** (after Clegg et al 2015 and Joblon et al 2014)
1	Emaciated. *Head:* concave depression behind skull. Scapula bones visible. *Flukes:* transverse processes angular and well-defined. *Side view:* Ribs clearly visible; hollow area under dorsal fin above spine. *Dorsal view:* concave indent behind skull ('peanut head'), minimal fat cover
3	Average. *Head:* fat cover around skull. Scapula bones only visible when pectoral fin is manipulated. *Flukes: t*ransverse processes only faintly visible. *Side view:* ribs not visible; notable layer of fat parallel and adjacent to spine. *Dorsal view:* smooth transition from head to neck; rounded fat deposition along spine.
5	Fat. *Head:* convex fat deposition behind skull; fat layer above scapula. *Flukes:* transverse processes not visible. *Side view*: ribs not visible; ample fat under dorsal fin and mid-abdomen; folds of skin caused by excess fat may be visible under chin when head is not bent. *Dorsal view*: no definition from head to neck; body barrel-shaped with excessive fat deposition, particularly behind dorsal fin.

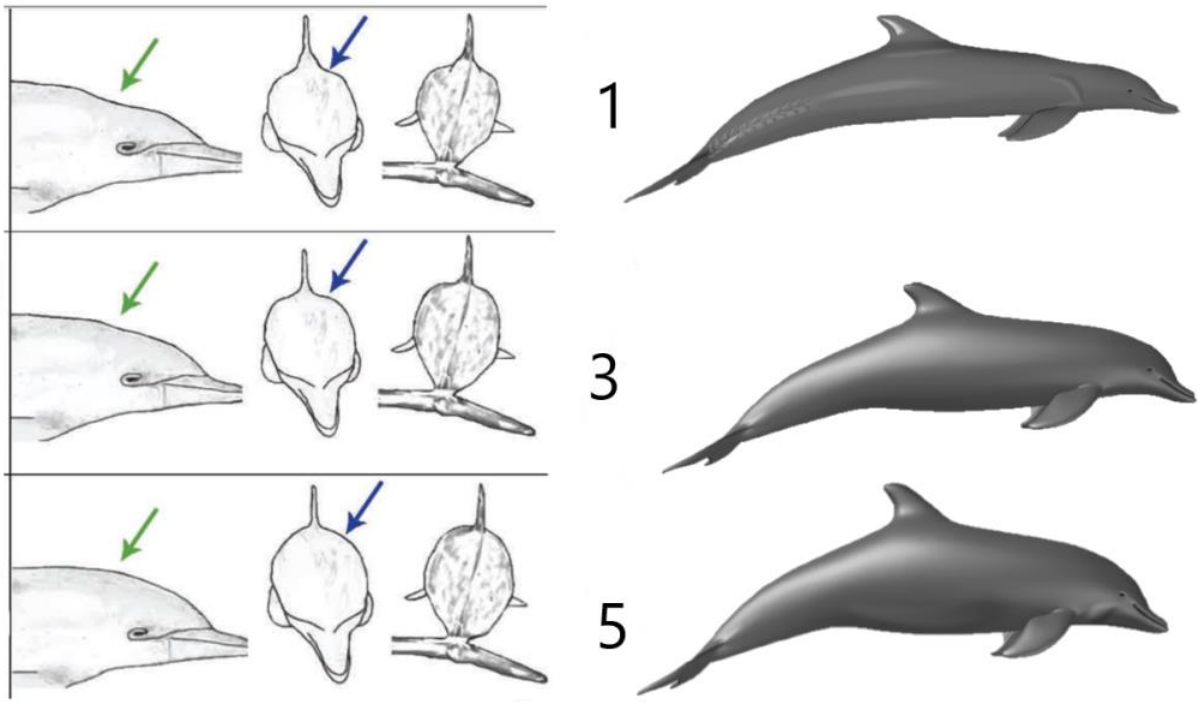

Figure 2. Visual representation of body condition scoring (BCS) of dolphins.

6 Procedure Outline

6.1 Euthanasia by Firearm

Firearm-based euthanasia methods have been demonstrated to be humane, rapid, cost-effective, and safe (Øen and Knudsen, 2007). However, the aesthetics of the technique may be considered poor by some. In addition, perceptions of poor human safety often accompany the use of firearms, even in professional wildlife management settings (see Caudell et al., 2009). Shooting methods should be restricted to only those described below.

Shooting requires specialised equipment and must only be carried out by personnel who have completed training recognised by the department, who have been issued a nominated persons authorisation by Western Australian Police and who are listed on the department's Corporate Firearms Licence for the appropriate Firearm class.

Firearm users must strictly observe all relevant safety guidelines relating to firearm ownership, possession and use as outlined in DBCA Corporate Policy Statement 20 Departmental Use of Firearms, DBCA Corporate Guideline No. 42 Departmental Use of Firearms and associated SOPs. These documents are located on the Corporate Firearms page of the Regional and Fire Management Services (RFMS) Intranet.

Firearms are not appropriate for the euthanasia of cetaceans >6 m long (see department SOP *Euthanasia of animals under field conditions*). The appropriateness of firearms for whales 6-7 m long should be considered on a case-by-case basis with the advice of staff experienced in the euthanasia of whales of this size. Under specific circumstances, experienced staff may consider the use of explosive charge methods to be the most appropriate euthanasia method for whales over 6 m long. This method must only be undertaken by department personnel specifically trained in the technique. See Coughran *et al*. (2012) for a description of this technique.

6.1.1 Equipment

The following equipment is essential when using firearms for the euthanasia of cetaceans:

- '.308 Winchester®', '.375 Winchester®' or '.300 Winchester® Magnum' calibre bolt action rifle.
- AT LEAST THREE .30 calibre 180 grain hydrostatically stabilised projectiles per individual.
- Hearing protection (PPE) rated to Class V.
- Eye protection (safety glasses).
- High visibility clothing.
- Ammunition safe for the storage of projectiles and rifle bolt.
- A lockable case, for the transport of firearms.

6.1.2 Firearm safety

Standard firearm safety practices. A Department Shoot Plan Template (see Appendix I: Department Shoot Plan Template) should be completed prior to any shooting being

undertaken.

6.1.3 Personnel

There are two essential people during the euthanasia process:

- The shooter, responsible for the euthanasia of the cetacean;
- A site controller, to prohibit personnel from entering the vicinity while firearms are used.

Additional incident management staff may be required on a case-by-case basis. Everyone else should remain at a safe distance behind and away from the shooter.

6.1.4 Assessing the animal

Once it is established that euthanasia is required, minimal further assessment is needed. If necessary, the cetacean should be manipulated into a safe position for shooting. This entails a position away from rocks or reef, and out of the surf zone. Ideally, cetaceans should be shot on a sandy substrate. Euthanasia should not be attempted on a cetacean that is moving or thrashing. Consider veterinary assistance to provide sedation or anaesthesia prior to euthanasia ("two step" process – see SOP *Euthanasia of animals under field conditions*).

6.1.5 Discharging or shooting

The only rifle calibres that should be used are '.308 Winchester®', '.375 Winchester®' or '.300 Winchester® Magnum'. Either calibre should only be used to fire 180 grain hydrostatically stabilised projectiles. For occupational health and safety reasons, only factory produced ammunition should be used and reloaded cartridges should not be used, unless there is a compelling reason to do so. Under NO circumstances should sporting type round nose or soft nose projectiles be used, as these types of projectiles have inadequate penetration for this purpose. Shooting should always be directed to the dorsal surface of the animal, with the aim point 40–100mm posterior to the blowhole, at a 45° angle towards the middle of an imaginary line connecting the anterior edges of two flippers (Blackmore et al. 1995; Figure 3, Figure 4, and Figure 5) along the midline of the cetacean. This aim point corresponds to the vital centres of the cetaceans' hindbrain, which lie midway between the eye and pectoral fin when the animal is viewed laterally (Figure 4). The shooter should be standing 0.5-1 m in front of the cetaceans' head such that the muzzle of the rifle barrel is also 0.5-1 m from the animals' blowhole at the time of shooting (Figure 5).

Figure 3. Dorsal view, indicating the recommended aim points for three successive shots, relative to the blow hole. Photos: J. Hampton (Perth Zoo).

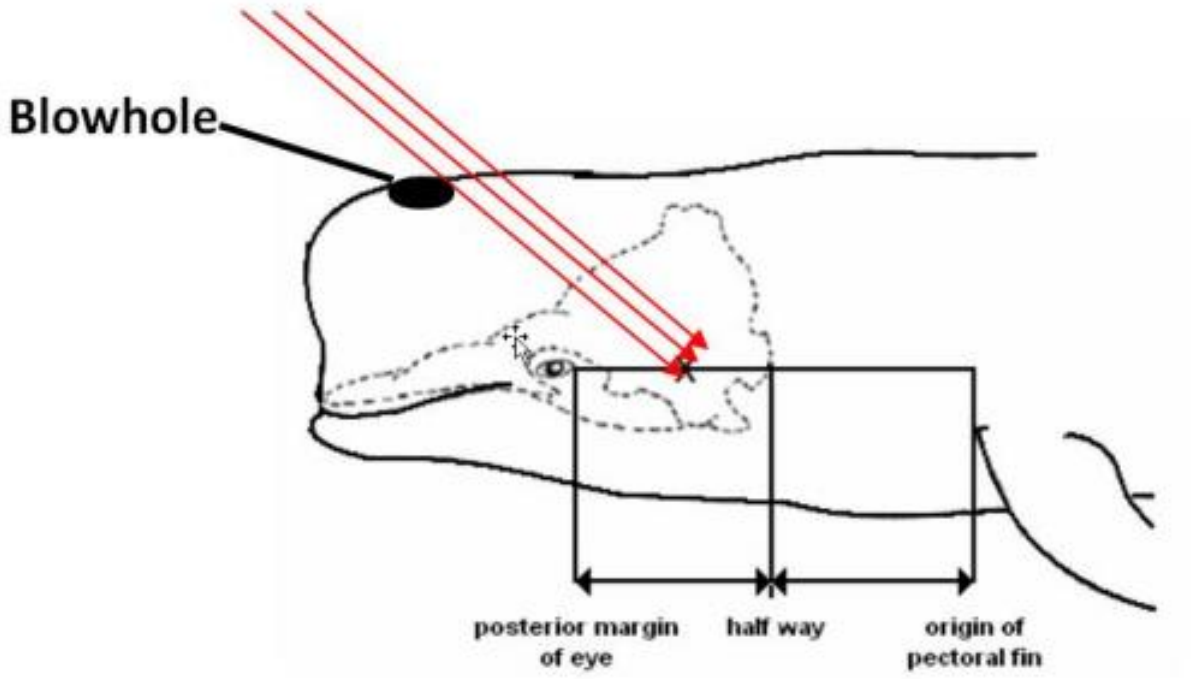

Figure 4. Lateral view, indicating the recommended aim points of three successive shots, relative to the blow hole (modified from IWC, 2006).

Figure 5. Lateral view, demonstrating the recommended shot distance. Photo: J. Hampton (Perth Zoo)

6.1.6 Repeat shooting

If there are people present, then it is vital that you explain BEFOREHAND that multiple shots are standard practice to ensure a humane death. This will prevent distress for people who may otherwise perceive an error has been made or that the shooter is not competent. The protocol is to fire multiple carefully placed shots in a line through the target area. The multiple shots should be fired close together along the cetaceans' long axis (see Figure 3). This will also be dependent on stocks of appropriate ammunition.

Where possible, the targets should be marked out (permanent marker or similar) prior to shooting to reduce the likelihood of misfire due to external pressures.

6.1.7 Confirming death

All animals should be monitored over at least five minutes to ensure death has occurred. If there is any doubt about confirmation of death, a secondary euthanasia method must be used to ensure the animal is dead (Section 4).

At least three of the criteria below must be used to establish that death has occurred:

- absence of a visible, palpable and/or audible (if stethoscope used) heartbeat on two separate checks by a competent examiner at least five minutes apart;
- absence of respiratory and blowhole movement when monitored continuously for a minimum of one minute;
- no blink response or eye-protection reflex (corneal reflex) elicited when the corner of the eye is touched gently;
- pupils fixed and dilated and do not constrict when a light is shone on them;

- loss of response to noxious stimulus (e.g., no response to manipulation of the tongue);
- change of mucous membrane colour (white or grey/blue rather than rosy pink) in non-pigmented areas;
- rigor mortis (onset after several hours).

6.1.8 Maintenance of equipment

Clean and check the firearm after use, paying particular attention to the cleaning of the rifle barrel, and secure it. When using firearms in a coastal environment, particular care must be made to removing sand and salt from the firearm's barrel and action.

6.1.9 Records

When euthanasing a cetacean, the operator must carry copies of all relevant licences with them (e.g. a Department Regulation Licence and a Department Corporate Firearms Authority for the appropriate firearm).

Record sheets (see Appendix II Record Sheet for Cetacean Euthanasia Events) detailing the following should be kept:

- Name of the shooter.
- Date.
- The species of cetacean and number of animals.
- The presentation of the cetacean and reason for euthanasia.
- The number of shots fired.
- The time taken from the first shot being fired to the cetaceans' death.

6.2 Chemical Euthanasia

Consideration should be given to the use of chemical euthanasia (pentobarbitone administration as a two step process – see SOP *Euthanasia of Animals under Field Conditions*), particularly for small and/or young cetaceans. For example, chemical euthanasia may be considered more humane and publicly acceptable for dependent dolphin calves, and or dolphins in highly populated areas or from well-known high-profile populations e.g. Indo-Pacific bottlenose dolphins (*Tursiops aduncus*) in Monkey Mia, Swan-Canning Estuary, Peel-Mandurah Estuary, Bunbury.

Chemical euthanasia should be a two-stage process with sedation followed by administration of Lethabarb® (i.e. sodium pentobarbitone). For further advice on the use of chemical euthanasia refer to the department's SOP *Euthanasia of Animals Under Field Conditions*. A veterinarian, or prior training and approval, is required to administer chemical euthanasia.

The estimated weight of the cetacean will be required to enable calculation of sedative and euthanasia doses. There are whale weight estimator applications that may be used as a guide i.e. WhaleScale. Generally, a sedative will be administered by intramuscular injection,

followed by intravenous or intracardiac administration of pentobarbitone after the sedative has taken effect. Death should be confirmed as described in 6.1.7 above and the appropriate record sheets completed regarding the incident (see Appendix II Record Sheet for Cetacean Euthanasia Events). These should include information on the drug combination used for sedation and chemical euthanasia along with the amounts and the time to death.

6.3 Zoonoses

There are few diseases carried by cetaceans that can be transmitted to humans (i.e. zoonoses). All personnel must take precautions to minimise the risk of disease transmission to protect themselves, their families and wildlife populations. At a minimum a physical barrier should be used between the cetaceans and people i.e. gloves and eye protection should be worn. Further advice on minimising disease risk contained in the Department SOP for *Managing Disease Risk and Biosecurity in Wildlife Management*.

6.4 Carcass disposal

If euthanasia has been via chemicals, then disposal must prevent secondary poisoning of other animals that may access and scavenge on the carcass. In the absence of potent euthanasia chemicals, euthanased carcasses can be disposed of safely in several different ways, depending on the circumstances of the stranding site. Refer to DBCA SOP *Marine Animal Carcass Management* and to the department SOP for *Vouchering Vertebrate Fauna Specimens* and *Tissue Sample Collection and Storage for Mammals* for information on the regulatory and technical requirements for preserving, storing and transporting biological specimens. If bodies or samples are not required for diagnostic or scientific purposes, euthanased cetaceans should be offered to the Western Australian Museum in the first instance.

7 Competencies

A person who is competent has the knowledge, skills, and experiences that allow them to use euthanasia as a welfare tool, and appropriately manage adverse events as required. Department personnel, and other external parties covered by the department's AEC, undertaking field activities for scientific purposes that might require euthanasia require approval from the committee and should satisfy the competency requirements detailed in Table 2.

Table 2 Competency requirements for Animal Handlers of projects requiring euthanasia of small stranded cetaceans.

Competency category	Competency requirement	Competency assessment
Knowledge	Broad understanding of cetaceans in Western Australia	Training (e.g. Large whale Disentanglement training, Marine Fauna Incident Response training AIIMS).
	Understanding environmental conditions and public perception	Personnel should be aware of the environmental and seasonal conditions that may be expected on the project, and understand location-specific cetacean welfare considerations. For example, euthanasia in highly populated and trafficked areas may cause distress to members of the public and human welfare will also need to be considered. In applications, provide details of time spent undertaking similar work in similar locations.
Formal experience, qualifications and course certificates for use of firearms	Suitable training, authorisation and documentation	Written verification of completion of nationally recognised training, copy of a nominated person's authorisation from WA Police, and listed on Department's Corporate Firearms Licence with appropriate firearm class.
Fauna survey and capture skills/experience required	Experience with euthanasia	Personnel should be familiar with the animal welfare principles of euthanasia.
Animal handling and processing skills/experience required	Experience handling stranded cetaceans	Personnel should be experienced at handling small live cetaceans either in captive, rehabilitation or stranding settings. This experience is best obtained under supervision of more experienced personnel. In applications, provide details on experience relating to the expected species or species groups.
	Experience managing disease risk in wildlife management	Personnel should be familiar with hygiene procedures. Refer to SOP *Managing Disease Risk and Biosecurity in Wildlife Management.*

8 Approvals

A licence or authorisation may be required under the *Biodiversity Conservation Act 2016* (examples below). Contact the department's Wildlife Licensing Section for more information. It is your responsibility to ensure you comply with the requirements of all applicable legislation.

- Fauna taking (scientific or other purposes) licence (Reg 25)
- Fauna taking (biological assessment) licence (Reg 27)
- Fauna taking (relocation) licence (Reg 28)
- Section 40 Ministerial Authorisation to take or disturb threatened species.

9 Occupational Health and Safety

The following departmental SOPs for wildlife survey and monitoring activities and internal documents are relevant to occupational health and safety:

- SOP *Managing Disease Risk and Biosecurity in Wildlife Management*
- *Corporate Guideline No. 42 Departmental Use of Firearms 2020*
- *Health and Safety - Peer Support Program Manual*

Departmental personnel, contractors and volunteers have duties and responsibilities under the *Occupational Safety and Health Act 1984* and *Occupational Safety and Health Regulations 1996* to ensure the health and safety of all involved. Fieldwork is to be undertaken in line with the department's corporate guidelines, policies and standard operating procedures, including but not limited to, risk management and job safety analyses. Further information can be found at
https://dpaw.sharepoint.com/Divisions/corporate/people-services/HS/SitePages/SOPs.aspx
If department personnel or volunteers are injured, please refer to the departmental Health, Safety and Wellbeing Section's 'Reporting Hazards, Near-misses and Incidents' intranet page, which can be found at

https://dpaw.sharepoint.com/Divisions/corporate/people-services/HS/SitePages/Reporting-Hazards,-Near-Misses-and-Incidents.aspx

9.1 Firearms

All personnel using firearms must have completed training recognised by the Department, must have been issued a nominated persons authorisation by WA Police and must be registered on the department's Corporate Firearms Licence and for the appropriate Firearm Class.

Firearm users must strictly observe all relevant safety guidelines relating to firearm ownership, possession and use as outlined in DBCA Corporate Policy Statement 20 Departmental Use of Firearms, DBCA Corporate Guideline No. 42 (Departmental Use of Firearms 2020 Corporate Guideline) and associated SOPs.

9.2 Mental health and welfare

Wildlife biologists, wildlife managers, and wildlife health professionals may experience distress and anxiety in undertaking euthanasia, particularly if their actions are subject to

external scrutiny, or pressure to save the cetaceans involved rather than euthanase them. Operators and staff are strongly encouraged to consider and discuss their personal and professional opinions about euthanasia and euthanasia methods as part of the planning for a euthanasia event. Operators and staff who are undertaking euthanasia and experience distress or anxiety after the event are encouraged to document their concerns as part of the feedback for the event, to discuss this with their supervisor and/or to contact Peer Support Health and Safety - Peer Support Program Manual (March 2021).

10 Further Reading

The following SOPs have been mentioned in this advice and it is recommended that they are consulted when undertaking fauna-related activities involving euthanasia:

- Department SOP *First Aid for Animals*
- Department SOP *Tissue Sample Collection and Storage for Mammals*
- Department SOP *Managing Disease Risk and Biosecurity in Wildlife Management*
- Department SOP *Euthanasia of Animals Under Field Conditions*
- Department SOP Use of firearms for the humane destruction of animals

For further advice refer also to:

National Health and Medical Research Council (2013) *Australian code for the care and use of animals for scientific purposes*, 8th edition. Canberra: National Health and Medical Research Council.

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12 Glossary of Terms

Cetacean: Marine mammals commonly known as whales, dolphins, and porpoises.

Corneal reflex: An involuntary blinking of the eyelids, stimulated by touching the cornea, commonly used to assess death.

Euthanasia: the humane killing of an animal, in the interests of its own welfare, to alleviate pain and distress.

Grain: A term used to measure the weight of bullets or other projectiles.

Humane killing: the act of inducing death using a method appropriate to the species that results in a rapid loss of consciousness without recovery and minimum pain and/or distress to the animal.

Moribund: An animal that is near death or in the process of dying.

13 Appendix I: Department Shoot Plan Template

Please check the DBCA Intranet for the latest version of the template.

Date		**Calibre**		**Location**	
Time		**Species**			

Only shoot when: (1) safe to do so; (2) target is within range; (3) gun/cartridge combination is appropriate for the type/size of animal; and (4) confident of ethical kill

Pre Shoot (See Over Page for Explanation)	Yea/No or N/A	Comments
Objective		
Justification		
Category	1 2 3	
Risk Assessment/SWP		
Security		
Map/Danger Zone		
Pre Brief		
Notification and Cultural Awareness		Who/How: *See note over page re: marine animal ethics*
Public Relations		
Access Closure		
Signage		
Legislation		
Ethics (Animal)		
Zoonoses		
First Aid		
PPE		
Communications		
Emergency Procedure		

Note: Any exclusions must be justifiable

Post Shoot	Yea/No or N/A	Comments
Carcass Disposal		
Firearms Logbook		
Debrief		

File a copy of shoot plan. For Category 2 and 3 Shoot Plans, forward an electronic copy to the Corporate Firearms officer

ALWAYS MAINTAIN SITUATIONAL AND GEOGRAPHICAL AWARENESS	**Department Corporate Licence Holder compiling plan**	
All Departmental or private firearm use on behalf of the Department must be pre-planned and requires a shoot plan. It is essential that all appropriate controls are in place before a shoot.	Name	
	Signature	

Support Notes	
Term	**Definition/Explanation**
Objective	What is the desired outcome?
Justification	Is there a safer alternative? Do we need to use firearms
Category	1: Single euthanasia, single shot; approved and signed off by the Corporate Licence Holder
	2: Project or study; approved and signed off by the DM, Section Manager and Project Manager
	3: Major feral program/aerial shoot; long-term; approved and signed off by Regional Manager
Risk Assessment	Of proposed shoot location; paying particular attention to surrounds within the danger zone
Safe Work Practices (SWP)	Job Description and identification of hazards
Security	Firearm and ammunition, including for extended field trips
Map/Danger Zone	GEOGRAPHICAL AWARENESS, particularly for Category 1 A map of the shoot area outlining 'Danger Zones' should be compiles for Categories 2 and 3 and include 'No Shoot Zones'. Species and caliber details provide information to help establish 'Danger Zone' perimeters
Pre Brief	Relevant parties and includes Shoot Plan
Notification	Relevant authorities (especially Police), adjoining landowners, other land managers/authorities and public land users (e.g. 4WD club, bushwalkers, fishermen). Consider using radio, notices, letter box drop etc. Internal notification to District Works Coordinator. ***Note: for euthanasia of whale, dugong, dolphin, seal and sea lion, notify Nature Protection Branch prior to shooting.***
Cultural Awareness	Consider Native Title, Traditional Landowners and possible ramifications (particularly for remote area shoots)
Public Relations	Consider any potential ramifications
Access Closure	Should be considered if public access is in or adjacent to shoot location. Consider 'Danger Zones'
Signage	At shoot location prior to and on the day of shooting
Legislation	Compliance with relevant section i.e. shooters are Corporate Licence Holders
Ethics (Animal)	Compliance as per the Animal Ethics Guide (i.e. correct caliber, projectile, point of aim, Zeroed etc.)
Zoonoses	Maintain personal hygiene when handling carcass or body parts
First Aid	Provision of First Aid kit and trained First Aid person on site
PPE	To be complaint and worn (Class 5 hearing and medium impact eye)
Communications	Between site and HQ, as well as between shooters etc.
Emergency Procedures	Ensure procedures established in case of mishap (e.g. location of nearest medical help)
Carcass Disposal	Ensure disposal is in accordance with Department policy
Personal Firearms Log	To be completed
Debrief	Particularly for Categories 2 and 3, including success of shoot, whether aim was achieved, possible repeat shoots, how to improve etc. Also applied to Category 1 on a smaller scale.
REMEMBER TO FILE A COPY OF THE PLAN, AND FOR CATEGORY 2 AND 3 PLANS, FORWARD AN ELECTRONIC COPY TO THE CORPORATE FIREARMS OFFICER	

14 Appendix II Record Sheet for Cetacean Euthanasia Events

Shooter Name	Date	Cetacean Species	Number of Animals	Reason for Euthanasia	Number of Shots Fired	Time to Death (Seconds)

Cetacean Strandings - Euthanasia

Date: *Location:* *Species:*

Incident Controller: *Length:* *Est weight:*

Condition: Good / Poor	**Lice**: Y /N % Cover:	**State of alertness:**
Breathing Rate: Time:	1 breath every _____ min	□ Aware and responsive to enviro stimuli
Time:	1 breath every _____ min	□ Weakly responsive only after stimulation
Time:	1 breath every _____ min	□ Non-responsive to noise or touch

VET INFORMATION		
Name:	Onsite / On phone	Sedation administered: Y / N Type: Amount:
Advice:		

COURSE OF ACTION: Release / Euthanase / Palliative Care
Reasons:

EUTHANASIA METHOD	
FIREARM	**CHEMICAL**
Shooter:	**Administering person:**
Calibre:	Type:
Ballistics:	Amount:

# Shots:	Route:
Shot placement: Dorsal / Side /	Instrumentation used:
Administered by:	Administered by:
Time of first shot:	Time of administration:
Time of death:	Time of death:
TIME TO DEATH =	

Reactivity to Treatment (scale 1 - 5): 1= major complications & 5 = nil complications.
Circle: **1 2 3 4 5**

**explain why in Notes below (eg.' highly reactive to intracardiac needle/lethabarb admin' or 'animal showed no response' etc*)

METHODS USED TO DETERMINE DECEASED (circle):
Lack of jaw tone / Absence of eye reflexes / Fixed dilated pupils / Lack of response to stimuli around blowhole / No capillary refill time / Ocular/skin temperature differential / ECG
Other observations: No respiration / Onset of unprovoked agonal convulsions

NOTES: (*any additional information informing condition/course of action, behaviour, mother present, issues, refloat attempts)*

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