



## Aviation Task Profile - Aerial Shooting

This plan outlines the identified hazards associated with Aerial Shooting (animal welfare and feral animal control) operations by helicopter. Failure to utilise the practical controls to those hazards identified in this plan will unnecessarily raise the risk profile of the task.

This plan can be used to develop standards and/or to provide a reference for auditing and assessment by identifying the controls that are in place, assessing the risk and then determining what extra (if any) controls should be utilised.

Compliance with aviation and state WHS regulations, as well as any other applicable regulations, are implied and are to be considered and complied with in addition to the controls identified in this assessment.

<b>Task Profile Name</b>	Aerial Shooting Operations – Helicopter
<b>Objectives of Task</b>	To effectively, efficiently and safely perform animal (including livestock, wildlife and feral animals) aerial shooting activities on animal welfare grounds in support of emergency management operations for NSW DPI and feral animal control for LHPA.
<b>Description of task</b>	The task involves planned and short notice callout to at-risk areas as part of: <ul style="list-style-type: none"> <li>a) emergency management for the purposes of the humane destruction of affected animals, or</li> <li>b) humane control of feral animals as part of an integrated control strategy</li> </ul> Heights flown need to be commensurate with the type of target and environmental conditions. Landings will be required. Any personnel carried in aircraft shall only be those required to achieve the task objectives.
<b>CASA permit/approval</b>	Air Operating Certificate (AOC) endorsed for aerial work (including animal culling) and use of pilots with appropriate experience, agriculture flying qualifications, and low level flying permissions. Operations conducted within the parameters permitted by the Civil Aviation Regulations, associated orders and relevant advisory publications. The Operator's Operations Manual shall include specific guidance and instructions on the conduct of animal shooting.
<b>Aircraft Type</b>	Only turbine powered helicopters may be utilised.
<b>Number of engines</b>	single or multi-engine

<b>Task profile (sequence)</b>	<ul style="list-style-type: none"><li>• Callout</li><li>• Planning include map reconnaissance for hazards</li><li>• Briefing including update of hazards as shown on appropriate map, flight following procedures, weather, task objectives, target/surveillance area, communications, aerial risk assessment. Contact landowner/manager for briefing about the area and associated known hazards.</li><li>• Fuelling when required</li><li>• Conduct Crew Brief</li><li>• Firearms shall be checked and cleared in accordance with published procedures before aircraft embarkation.</li><li>• Start/Taxi/Takeoff</li><li>• Transit to area of operations not below 500 feet (ft) Above Obstacles (AO).</li><li>• Conduct route and area of operations identification, aerial hazard survey and pre-descent brief prior to descent below 500ft AO.</li><li>• Descend to conduct low-level operations commensurate with task objectives, authorisations, and conduct further hazard/target identification if required.</li><li>• Communicate with LCC or Operator (as approved) for flight following and task update (for EM operations). Communicate with the Program Coordinator for LHPA operations.</li><li>• The aim should be to land at HLS (Helicopter Landing Site) approximately every two hours to minimise fatigue.</li><li>• If required, transit to additional operational area at a safe transit height (&gt; 500ft).</li><li>• Conduct further hazard reconnaissance and route identification prior to descent to conduct low level operations as above.</li><li>• Transit to operating base/fuelling area. Conduct pre-landing brief.</li><li>• Land / Shut Down.</li><li>• Debrief and report.</li></ul>
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<p><b>Task conditions or technical aspects</b></p>	<p>Information from aerial spotting and surveillance operations may, where practicable, be augmented by information obtained from ground-based teams.</p> <p>Shooting from a helicopter is a hazardous operation, particularly in areas of rugged topography in combination with low-level flight, close proximity to obstacles, task fixation and the use of firearms. Aerial shooters must be FFAST accredited and conform to the FFAST procedures. Equipment design shall ensure that ejected firearm shells do not interfere with the safety or operation of the helicopter. Firearms may require deflector plates installed to ensure shells are ejected safely away from the helicopter, especially its rotor blades.</p> <p>The firearms are to be unloaded and cleared before entry to the helicopter. Procedures in accordance with FFAST Manual.</p> <p>The skid needs to be fitted with a platform enabling shooter to rest their feet on.</p> <p>The accuracy and precision of rifles should be tested against inanimate targets prior to commencement of a shooting operation. Two different weapons should be carried to account for ammunition or firearm failure.</p> <p>Operations are to be conducted in day visual meteorological conditions only, in wind conditions of less than 20 knots (kts) and nil to low turbulence.</p> <p>The helicopter should be equipped with a GPS and mapping system to assist with the accurate recording of information (e.g. where animals are shot, location of hazards) and to reduce the risk of shooting in off-target areas.</p> <p>If an animal is wounded but not killed, a published 'fly back' procedure should be immediately adhered to and additional shots administered to ensure a quick death of the animal. After a group of animals have been shot, the pilot shall follow the 'fly back' procedure to search for animals that may still be alive.</p> <p>Helicopters shall operate with a minimum 5% power margin based on Out of Ground Effect power requirements (nil wind). Consideration shall also be made of extreme environmental heat and cold on the safety of aircraft operations.</p> <p>Maps may be provided to assist pilots but these should not be relied on for the identification of hazards and therefore the reconnaissance of operating areas before descent is essential. Reconnaissance can include a ground inspection and discussion with landowner/manager prior to operations beginning.</p> <p>Although 500ft has been nominated as the safe level for transit it should be noted that wires may be strung between hills at higher levels and therefore constant vigilance by pilots and crew is required.</p> <p>Descent below 500ft may be conducted as authorised, required for the task and following completion of the pre-descent reconnaissance. The entire area that the aircraft operates below 500ft shall be fully inspected in the pre-descent reconnaissance. The area should be continually assessed during the descent and operations below 500ft.</p> <p>Landings require prior arrangement with, and area description from the landowner/manager. In all cases, a complete pre-landing survey is required to ensure that no obstacles may impinge on the safe operation of the helicopter.</p> <p>Helicopters shall not be operated with any part of the aircraft extending into vegetation (e.g. long grass which may be hiding fences, ant hills or posts).</p>
<p><b>Time of Year</b></p>	<p>Operations are year-round</p>

<p><b>Terrain Description</b></p>	<p>The areas of operations will encompass all types of terrain including open to heavily timbered paddocks, undulating to steep hills, and valleys.</p> <p>The high terrain areas can experience low air density, which can adversely affect aircraft performance. Also, the terrain can experience severe downdraughts and turbulence as a result of the strong winds. Cloud can roll in quickly.</p> <p>The lower areas can experience extensive areas of fog, mist or smog, which can limit visibility.</p> <p>The areas can be extensively wooded and/or populated with domestic structures in close proximity to power lines. Fences may be hidden in long vegetation.</p> <p>The area may also be substantially flooded making navigation by physical features difficult.</p>
<p><b>Limitations</b></p>	<p>Aerial shooting is conducted in day visual conditions only in low turbulence at a speed commensurate with safe operations in the environmental conditions being experienced and to ensure the effectiveness and safety of the operation.</p> <p>Animal Shooting operations shall be preceded by an appropriate risk assessment including aerial aviation hazard identification and assessment, assessment of environmental risks within the conditions established by this task profile.</p> <p>Descent below a safe height (clear of all known and potential obstacles - generally 500 ft AO) is not to be conducted until the pilot confirms a low level of risk factoring in the route and area of operations, aircraft performance, aerial hazard and obstacle survey, environmental conditions and has conducted a low level flying pre-descent brief. This must be conducted for each descent below a safe height.</p> <p>Aerial shooters must be accredited by the FAAST Committee.</p> <p>Doors would normally be fitted to the aircraft, but for this task their removal (for the shooter) is identified as essential to conduct the task and considered in the risk assessment process. The rear seat can also be removed where the shooter is positioned. All seat cushions and loose equipment (including any clothing such as jackets not worn) shall be removed from the cabin to preclude any objects leaving the aircraft and potentially damaging the aircraft or controls.</p> <p>Passengers shall be not carried on this task. The shooter and spotter are considered essential crew.</p> <p>Landings should be conducted to low risk (CAAP 92-2) Helicopter Landing Site (HLS), Aircraft Landing Areas (ALAs CAAP 92-1) or aerodromes.</p> <p>The pilot should aim to land at an HLS or ALA approximately every two hours to minimise fatigue. No shooter should do more than 6 hours in any one day to minimise fatigue.</p> <p>Pilots should be aware of the chances of blockages in aircraft intakes due to flying through insect swarms.</p>
<p><b>Height restrictions</b></p>	<p>The aircraft shall transit to an operating area at a safe height clear of all obstacles and hazards at least 500ft AO.</p> <p>Animal shooting operations shall be conducted in accordance with the Operators Operations Manual, FAAST Manual as it relates to shooters and other guidance or regulatory material, but in any case, the shooting aircraft's low level operations shall be the minimum required to achieve the task.</p>

<b>Minimum height above obstacles</b>	500ft is generally accepted as the minimum operating height unless otherwise authorised and conducting shooting operations. Animal shooting operations shall be conducted at a height where the aircraft remains clear of obstacles and in an area that poses no risk to people, other animals or structures. The operating height may need to be adjusted commensurate with the terrain, environmental conditions and potential obstacles such as power lines, long grass and poles.
<b>Operating times</b>	Nominally 2 hours per session with a maximum of four sessions in any one day and consistent with the Operators' fatigue management plan or CASA industry exemptions (whichever represents the greater restriction). Restricted to daylight hours and due consideration regards visibility.
<b>Operating Company Requirements</b>	<p>Company must have:</p> <ul style="list-style-type: none"> <li>- an AOC and CASA authorisations suitable to the task</li> <li>- a demonstrably functioning Safety Management System</li> <li>- fatigue management, or CASA approved flight and duty time, system</li> <li>- been audited and assessed as being suitable and capable of conducting NSW DPI Emergency Management shooting operations</li> <li>- a proper and demonstrably functioning oversight of low level and shooting operations</li> <li>- detailed and documented training system for the conduct of low level and shooting operations</li> <li>- a minimum 5-year history of low level and shooting operations with no accidents indicating a trend in poor oversight or safety management</li> <li>- proper and detailed maintenance records of the helicopter to be used in the shooting operations</li> </ul>
<b>Crew composition</b>	2-3 person crew; Pilot, Shooter and Spotter
<b>Qualification / Training of each crew member</b>	<p><b>Pilot</b> – CASA licenced, medically current, appropriate approvals and experience.</p> <p><b>Shooter</b> – specifically FFAST trained and competent to shoot from helicopters, medically suitable, Work Safety Around Aircraft and Crew Resource Management (or equivalent), Fly the Wire (optional), HUET (optional)</p> <p><b>Spotter</b> - Crew Resource Management, medically suitable, Work Safety Around Aircraft, Fly the Wire (optional), HUET (optional), aerial animal welfare assessment expertise, and map reading and navigation skills.</p>
<b>Role of each crew member</b>	<p><b>Pilot</b> – Identify hazards and maintain hazard clearance, operate aircraft, navigation, communication, responsible for safety of the aircraft and all crew members, pre-flight and in-flight briefings.</p> <p><b>Shooter</b> – operate the firearm safely and in accordance with published procedures, provide obstacle lookout and clearance information.</p> <p><b>Spotter</b> (EM operations) – assist in hazard identification, assess animals for shooting, record location, type and condition of animals culled and not culled.</p> <p><b>Spotter/Navigator</b> (feral animal control) – assist with navigation and identification of property boundaries, assist in hazard identification, monitor feral animal movements, record location, type and number of animals culled and not culled.</p>
<b>Landing zone details</b>	Landings should be conducted to low risk (CAAP 92-2) Helicopter Landing Site (HLS), Aircraft Landing Areas (ALAs) (CAAP 92-1) or aerodromes.

<p><b>Communication requirements</b></p>	<p>The communications requirements for flight following purposes shall be detailed during the pre-flight briefing. It should be noted that the communications management may reside with the Operator but the LCC shall be responsible for ensuring that the flight following is being conducted.</p> <p>Communications need to be maintained at all times between the pilot, the shooter and the spotter in relation to targets (confirming kill), status of weapon (loaded/unloaded/any operating issued such as jamming etc).</p> <p>Communications should also be established and maintained between the aircraft and the ground crew element if applicable in order to facilitate the communication of operational and hazard related information.</p> <p>Communications are to be established and maintained with other low flying aircraft in the immediate vicinity.</p>
<p><b>SAR requirements</b></p>	<p>Flight-following shall be conducted by either the LCC or Operator (for EM operations) or the Program Coordinator (for LHPA operations) as agreed using 30-minute reporting schedules (which may be extended to 60 minutes once the designated operating has been reached) or through the use of satellite-based tracking systems showing real time information with at a minimum location and height reports not exceeding 5 minutes.</p> <p>Planned flight departure and arrival times and any changes shall be communicated to the LCC (which may be communicated via the Operator).</p>
<p><b>PPE</b></p>	<ul style="list-style-type: none"> <li>• Appropriate flying helmet (equipped with a visor)</li> <li>• Flammable resistant clothing worn by each crewmember</li> <li>• Enclosed leather footwear (hardened toe and supported heel preferred)</li> <li>• Cotton or wool underclothing, socks</li> <li>• Aviation standard gloves (recommended)</li> <li>• Aviation standard harness for the aerial shooter</li> <li>• Ability to safely store weapons and ammunition</li> </ul>