



Aviation Task Profile – Aerial Spotting in Support of Locust Spraying

This task profile outlines the identified hazards associated with Aerial Spotting for spray operations by helicopter and fixed wing aircraft. Failure to utilise the practical controls to those hazards identified in this plan will unnecessarily raise the risk profile of the task.

This task profile 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 profile.

Task Profile Name	Aerial Spotting in support of Spraying Operations – Helicopter/Fixed Wing
Objectives of Task	<p>To provide information to assist with the correct application of spray and guidance onto identified targets in support of emergency management operations for Department of Primary Industries (NSW DPI).</p> <p>To monitor spray aircraft in order to initiate emergency procedures and monitor emergency responses if required in the case of an accident.</p> <p>To act as a flight following/communications link where required for spray aircraft.</p>
Description of task	<p>The task involves planned and short notice callout to at risk areas as part of emergency management. Task requires the identification and confirmation of location of targets and the direction of spray aircraft onto those targets. Heights flown need to be commensurate with the type of target and conditions although most operations are expected to occur above 200ft Above Obstacles (AO). Landings may be required. Some tasks may require the carriage of non-Government/Contractor personnel. Personnel carried shall only be those required to achieve the task objectives.</p> <p>Those who act as spotters will be classified as aerial work task specialists.</p>
CASA permit/approval	A CASA Part 138 aerial work operating certificate with appropriate endorsements. Utilisation of pilots with appropriate experience and low-level flying permissions. Operations conducted within the parameters permitted by the Civil Aviation Safety Regulations, associated orders and relevant advisory publications.
Aircraft Type	<p>Both fixed wing and helicopters may be utilised. Fixed wing aircraft may have either piston or turbine engine(s). Helicopters must be turbine powered. The fixed wing aircraft must be capable of operating normally straight and level with limited manoeuvring at speeds down to 50 knots (kts).</p> <p>The preference for fixed wing aircraft is that they be 'high wing' to permit easier observation of the ground without manoeuvring (especially at low level).</p>
Number of engines	Single or multi-engine.

Task Profile Name	Aerial Spotting in support of Spraying Operations – Helicopter/Fixed Wing
Task profile (sequence)	<ul style="list-style-type: none"> • Callout • Planning includes map reconnaissance for hazards • Briefing including update of hazards as shown on appropriate map, flight following procedures, weather, task objectives, target/surveillance area, communications, aerial risk assessment. Proper manifesting and power calculations to be made. Identification of aerial work passengers and task specialists to be recorded by the pilot. • Conduct Crew Brief which may include briefing of the spray aircraft pilot if the opportunity is available • Start/Taxi/Take off • Transit to area of operations not below 500 feet (ft) Above Obstacles (AO). • Conduct route and area of operations identification, aerial hazard survey and pre-descent brief prior to descent below 500ft AO. • Communicate with LCC or Contractor (as approved) for flight following and task update. • Land (after a pre-landing brief) at an appropriate area approximately every two hours to minimise fatigue. • If required, transit to additional operational area at a safe transit height (> 500ft AO). • Conduct further hazard reconnaissance and route identification prior to descent to conduct low level operations as above. • Transit to operating base/fuelling area. Conduct pre-landing brief. • Land / Shut Down. • Debrief and report.

Task Profile Name	Aerial Spotting in support of Spraying Operations – Helicopter/Fixed Wing
Task conditions or technical aspects	<p>Information from aerial spotting operations may, where practicable, be augmented by information obtained from ground-based teams.</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 pilot should ensure the helicopter 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 and aircraft performance.</p> <p>The task is normally conducted when a locust outbreak occurs and it is determined that an aerial perspective to assist spray aircraft to acquire targets, and/or monitor spray drift and effectiveness, and assess treatment effectiveness.</p> <p>Maps may be provided to assist spotting crews, but these should not be relied on for the identification of hazards and therefore the reconnaissance of operating areas before descent is essential.</p> <p>Spotter aircraft may coordinate up to three spray aircraft within an operating area. Spotter aircraft should also act as flight following/communications for spraying aircraft.</p> <p>Although 500ft has been nominated as the safe level of operations, 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>Landings by fixed wing aircraft should be made to pre-inspected Aircraft Landing Areas. Such 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 fixed wing aircraft or helicopter.</p> <p>Pilots are required to have pre-arranged vertical separation between aircraft on the same task including 'swap' procedures in place (swap height blocks with other aircraft if required).</p> <p>Good visibility (in excess of 5nm) to be in place before tasking of multiple aircraft onto the same task/area.</p> <p>Aircraft including helicopters are not to 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>Pilots should be aware of the chances of blockages in aircraft intakes due to flying through insect swarms.</p>
Time of Year	Generally, between September and March.
Terrain Description	<p>The areas of operations will encompass all types of terrain including paddocks, hills, and valleys.</p> <p>The high terrain areas can experience high density-altitudes 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>

Limitations	<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. The aircraft shall be flown at a speed commensurate with safe operations in the environmental conditions being experienced.</p> <p>Spotting operations shall be preceded by an appropriate risk assessment including aerial aviation hazard identification and assessment, assessment of environmental risks and an assessment of the operational impact of conducting the task within the conditions established by this task profile. Reference should also be made to the Aerial Spraying 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>Doors would normally be fitted to the aircraft unless a specific reason is identified for their removal and the removal is identified as essential to conduct the task and considered in the risk assessment process.</p> <p>Helicopters landing to liaise with landowners/managers should be conducted to low risk (CAAP 92-2) Helicopter Landing Site (HLS), Aircraft Landing Areas (ALAs) or aerodromes. Fixed wing aircraft may only land at ALAs previously determined by the pilot as being safe to use.</p> <p>Landings at appropriate areas should be planned approximately every two hours to minimise fatigue.</p> <p>Sterile Cockpit Procedures shall be implemented when the aircraft is operating below 500ft AO.</p>
Height restrictions	Flights shall be conducted at the highest altitudes commensurate with the task objectives and prevailing environmental conditions. Spotting tasks in support of spray operations will be conducted above 500ft AO.
Minimum height above obstacles	500ft is generally accepted as the minimum operating height unless otherwise authorised. This operating height may need to be raised commensurate with the terrain and potential obstacles such as power lines.
Aviation Contractor Requirements	<p>Contractor must be tasked through the RFS SAD and meet all requirements of the Standing Offer such as having:</p> <ul style="list-style-type: none"> - a CASR Part 138 Aerial Work Operating Certificate and CASA authorisations suitable to the task - a demonstrably functioning Safety Management System - fatigue management, or CASA approved flight and duty time, system - been audited and assessed as being suitable and capable of conducting NSW DPI Emergency Management spotting operations - detailed and documented training system for low level operations - a minimum 5-year history of operations with no accidents indicating a trend in poor oversight or safety management - proper and detailed maintenance records of the aircraft to be used
Operating times	Consistent with the Aviation Contractors policy - nominally 2 hours per session with a maximum of four sessions in any one day and consistent with the Contractors' fatigue management plan or CASA industry exemptions (whichever represents the greater restriction). Restricted to daylight hours and due consideration regards visibility.
Crew composition	1 to 3 - person crew; Pilot, aviation aware spotter(s). If appropriately experienced, pilot may conduct spotting operations without assistance.
Qualification / Training of each crew member	<p>Pilot – CASA licenced, medically current, appropriate approvals and experience (see Standing Offer)</p> <p>Spotter – Crew Resource Management, GPS and map reading skills, medically suitable, Work Safety Around Aircraft, Fly the Wire (optional), HUET (optional)</p>

Role of each crew member	<p>Pilot – Identify hazards and maintain hazard clearance, operate aircraft, navigation, communication, responsible for safety of the aircraft and crew, pre-flight and in-flight briefings. May conduct role of spotter.</p> <p>Spotter – Assist the pilot in hazard identification and avoidance and communication. The spotter is classified a task specialist due to the safety role performed within the aircraft.</p> <p>Responsible for, validating and confirming next target or new ones found while in the operating area, directing spray aircraft onto target and adjusting spray aircraft positioning. The spotter may also be required to relay communications between the spray aircraft and other stations.</p>
Landing zone details	<p>Landings should be conducted to low risk (CAAP 92-2) Helicopter Landing Site (HLS), Aircraft Landing Areas (ALAs) (CAAP 92-1) or aerodromes. It should be noted that CAR 92(1) puts the responsibility on the pilot to ensure that the place is suitable for use as an aerodrome; and having regard to all conditions of the proposed landing or takeoff (including prevailing weather conditions), that the aircraft can land at, or takeoff from, the place safely. Where ALA information is provided by a person other than the pilot, it is still the pilot's responsibility to ensure that the facility is suitable for the intended aircraft operations.</p>
Communication requirements	<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 Contractor 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 and the spotter in relation to hazard and target identification.</p> <p>Communications should also be established and maintained between the spotter aircraft and the ground crew element and with the spray aircraft as appropriate 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>
SAR requirements	<p>Flight-following should be conducted by the aviation contractor using satellite-based tracking systems showing real time information with at a minimum location and height reports not exceeding 5 minutes. The Local Air Operations Manager should have access to the satellite tracking system where possible to monitor task progress and aircraft location. In circumstances where it is not possible or practical, the Local Air Operations Manager may decide to use an air base manager to coordinate flight following.</p>
PPE	<ul style="list-style-type: none"> • Appropriate flying helmet (equipped with visor) worn by each helicopter crewmember • Flammable resistant clothing worn by each crewmember and passenger. • Enclosed leather footwear (hardened toe and supported heel preferred) • Cotton or wool underclothing, socks • Aviation standard gloves (recommended)