

# Standard Operating Procedures for UAV or Drone based Monitoring of Wildlife.

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## **Abstract:**

With the increasing popularity of utilising UAVs for wildlife monitoring, there is an urgent need to have standard procedures and practices in place to ensure that not only the target species, but also the unintended target species, are not adversely impacted by operating the UAV (or drone). Having the necessary procedures in place is a delicate balance between the ethical considerations, health and safety of people, animals and property, and the objectives of the mission. This paper summarises a Standard Operating Procedure and recommended practices for the use of UAVs or Drones for wildlife monitoring. These include some of the technological changes required to minimise impact, as well as operational considerations when deploying, surveying and recovering the UAV. Moreover, ethical concerns including reporting methods must be considered, analysed and addressed. It is also important to minimise the visual stimulus and the noise produced by the UAV as this may affect the target and non-target species, subject to practical constraints. It is also important to select the right sensor and an optimal focal length so that it enables the accomplishment of the mission objectives while flying as far as possible from the target and not-target species. Other standard procedures include selecting the site for launching and recovering the UAV as far as practical, as agreed in consultation with wildlife experts, whilst retaining visual line of sight if this is a restriction on the UAV Operators Certificate. Some techniques, such as video relay, if available shall be used to ensure that prompt action is taken and the UAV is either immediately landed, if safe to do so, or returned to the launch or recovery site, should any unusual animal responses indicative of distress, be observed during UAV operations. The presence of a veterinarian or suitably qualified wildlife carer may also be required, depending on the species inhabiting the target area, or any known challenges such as pregnant females, or young and vulnerable individuals. In many cases it is sufficient that a veterinarian is aware of the UAV mission and has agreed to be contactable and able to assist in any emergency. The paper summarises key points on the use of the Standard Operating Procedures using a case study for the monitoring of vulnerable koala populations at four different locations in South East Queensland.

We encourage researches to use and expand on this baseline SOP through their experiences and case studies and learnings for the purpose of improving the use of UAV or Drones for wildlife monitoring whilst minimising the impact to the species we seek monitor and or protect.

## **References**

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