



**FIELD
MASTER
SYSTEMS**

Drone-based Animal Surveys Case Studies

Assessing large or complex sites
efficiently.



Table of Contents

Welcome Message 4

Case Studies

Native animal surveys for road infrastructure planning 5

Arboreal mammal surveys in proposed fuel reduction burn areas 7

Feral pig population detection 9

Company Overview

About Us 14

Our Philosophy 15

Our Mission 16

Our Team 17

Summary 18



Supporting animal surveys under real-world constraints

From day one, our goal was clear: to solve real-world problems with unmanned aerial systems and push what's possible with innovation

Field Master Systems works with councils, land managers and ecological consultants operating in complex and often hard-to-access environments.

Where safety, access or scale limit traditional fieldwork, aerial survey methods can complement established animal survey approaches by extending coverage and capturing clear, time and location specific observations without disturbing wildlife.

The case studies in this booklet share practical examples of how aerial data has been used alongside traditional methods to support animal surveys in challenging conditions.

We're proud to share them and excited to continue shaping a future where data from the sky drives better decisions on the ground.

Best regards,

Alastair Tame,
CEO



Case Study 1: Native animal surveys for road infrastructure planning



Ahead of proposed road upgrades, Cardinia Shire Council needed to understand whether native wildlife was present within the project footprint and to do so safely, efficiently and in a way that would stand up to scrutiny.

Aerial surveys were used to complement existing assessment processes, helping identify areas where further protection was required and confirming others where no impact was detected.

This information supported confident planning decisions, reduced uncertainty early in the project, and helped manage environmental risk and potential liability before works commenced.

In Partnership With





Problem

Cardinia Shire Council has a growing population, which means that roads sometimes need to be upgraded or widened. As some roads are lined with large amounts of native trees and vegetation, these upgrade projects can have an impact on the habitats of the endangered native species that call these trees home.

Knowing where these species live has always been difficult to measure and prove with traditional animal surveys methods, especially as most of these species are nocturnal.

Solution

FMS has developed robust animal survey methodology which, when combined with the latest drone imaging technology, allows us to conduct highly accurate and cost effective systematic animal surveys.

Using this combination technology and survey methodology, FMS was able to identify hundreds of native animals who use these trees as habitat, as well as some endangered greater gliders. This data has helped Cardinia Shire Council to plan their road projects to avoid destruction of essential habitat trees.



Key Capabilities Used

- **Exact Animal Count:** Precisely identify each nocturnal and hard to find animals with thermal detection
- **Precise Location:** Exact animal location shared with real-time data and location feed
- **Vast Land Coverage:** Kilometres of proposed urban planning road covered in a single night
- **Evidence & Data:** Accurate and precise photo and video records and data captured to inform urban project planning
- **Animal Safety:** Low animal disturbance and minimal safety risk with remote monitoring

"Using FMS technology and methodology, Ecologists have accurately identified endangered species and have made a major contribution to the design of these roads and the establishment of species management programs."

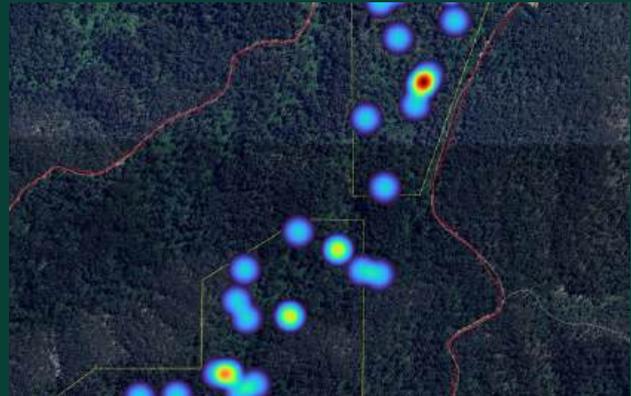
- Peter, Cardinia Shire



Case Study 2: Arboreal mammal surveys in proposed fuel reduction burn areas



Accurate arboreal mammal surveys focussing on Southern Greater Gliders completed over steep and inaccessible terrain. Populations counts, exact locations and photographic evidence linked to each sighting were provided to government agencies in order to inform officers on the makeup of native and endangered wildlife within the proposed burn units.



Positive identification of over 100 Greater Gliders within 94 ha in a single night.

Problem

Fuel reduction burns are performed by government agencies in the cooler months with the aim of reducing the risk posed by out of control fires during summer. These burns usually take place in areas of native forest with vast ecological value to native and endangered species such as Southern Greater Gliders (SGG) and Yellow-Belly Gliders.

Traditionally arboreal mammal surveys have been conducted manually by spotlighting the animals at night. This method is effective for small areas, but cannot cover the entire areas of proposed burn units, leading to incomplete data on the makeup of the local arboreal mammal populations.

Further, these areas post a considerable safety risk to surveyors who must enter them at night.

Key Capabilities Used

- **Precise Location & Live Feed:** Positively identify arboreal mammal species and provide photographic and location evidence
- **Vast Land Coverage:** Thoroughly survey up to 100 ha per night with industry leading accuracy
- **Animal Safety:** Survey native animals with minimal disturbance
- **Evidence & Data:** Provide actionable data quickly to government agencies to make informed decisions

Solution

FMS conducted surveys over the proposed burn units using the latest thermal camera technology combined with zoom visual cameras and LED spotlights mounted to drones. Using drone animal surveying best practises, FMS was able to not only find, but positively identify and document over 100 Southern Greater Gliders within a 94 ha area in a single night.

This data was fed back to the agency responsible for the burns to make better informed decisions on whether to proceed and how to mitigate risks to the local SGG population.

Case Study 3: Feral pig population detection



Elusive feral pigs population accurately located with thermal equipped drones across thousands of acres surveyed in a single week.

The exact location, number of pigs and movements were precisely reported to accurately inform current and future monitoring and control programs. Previous methods only provided estimations and were costly and time consuming.



In Partnership With

Energy,
Environment
and Climate Action



Elusive pig populations accurately located in Gippsland using robust drone survey methodology.

Problem

Feral pigs are a growing problem in regional Australia. They breed quickly, are elusive and cause huge damage to native areas, agriculture and biodiversity.

DEECA is responsible for monitoring and controlling feral pigs within Victoria, with trail cameras being the traditional survey method for estimating feral pig populations in a given area. This data is then used to inform baiting programs.

Key Capabilities Used

- **Vast Land Coverage:** Cover up to 1000 ha across hard to access terrain in a single night
- **Precise Location & Live Feed:** Accurate reporting with precise locations, animal counts and live-feed of movements
- **Evidence & Data:** Data-driven project updates with high resolution photo, video and map reporting to inform future baiting programs

Solution

FMS worked closely with DEECA to develop a robust drone survey methodology for finding pigs using thermal camera equipped drones. Using these drones, FMS could survey thousands of acres per week, negating the need for costly time consuming camera trapping programs.

Pig locations were accurately mapped and reported on, with the results being used to gauge the effectiveness of existing baiting programs and plan for future programs.



We push what's possible for science, innovation and progress with cutting edge drone technology.

#1

Precise animal identification with non-invasive surveying

- Accurately detect and track animals with visual, thermal, and geospatial sensing, day or night.
- Confirm presence, absence, or density of endangered, nocturnal and invasive species with minimal disturbance.
- Support critical decisions with verified photo, video, and location-based data.
- Minimal disturbance to animals with non-invasive surveying

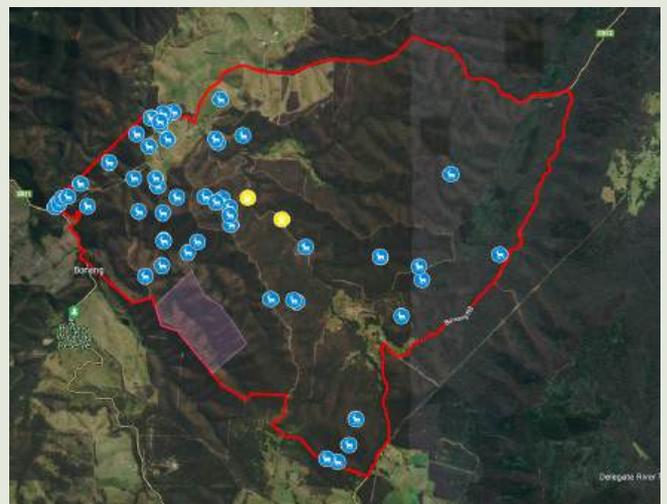


Greater Gliders in Australia.

#2

Making reporting easy with comprehensive flight data

- Timestamped, georeferenced photo and video evidence of all target species.
- Exact flight paths and location data provided for easy reporting and compliance
- Comprehensive JSAs completed pre-mission for full risk transparency..



Full evidence and report provided.



#3

Enhanced team safety with remote live feed data

- Real-time location and intel sharing across all team members.
- Detect security risks and perimeter breaches in dynamic environments.
- Minimise risk with remote surveying — no need to enter the field.



FMS vehicles for remote feed and team safety.

#4

Up to 1000 ha covered in a single session

- Survey much greater areas than traditional methods with 100% coverage.
- Custom methodologies employed based on the target species
- Do multi-species surveys in a single mission with flexible payloads and detection capabilities



A DJI Matrice 400 fitted with an H30T thermal camera and spotlight

Our Full Suite of Services

FMS uses the latest drone technology, research methodologies and support services to offer capabilities across spraying, surveying, land management and more. We partner with government, councils, businesses, conservation groups, education providers, research groups and land owners to provide the right services for any project.

01

Drone Spraying

Enhance land management and maintenance practices with efficiency and precision keeping on track with projects and budget.



03

Aerial Surveillance

Our cutting-edge drone ISR (Intelligence, Surveillance, and Reconnaissance) services redefine security and monitoring.



02

Animal Surveying

From elusive nocturnal creatures to endangered species and the impact of feral animals, we uncover the secrets of Australia's wildlife.



04

Industry Consulting

Transform your business and explore how drone technology can allow you to decrease risk, increase efficiency and capture quality data.





Company Overview

At FMS, we strive to make a difference through cutting-edge solutions and unparalleled service.

Field Master Systems (FMS) is an Australian leader in advanced environmental surveying, delivering high-accuracy data and insights to government agencies, environmental organisations, and industry. Specialising in drone-based and ground-based solutions, FMS provides precise, real-time identification and monitoring of wildlife populations, habitat health, and environmental changes.

Our combination of thermal imaging, visual capture, geospatial mapping, and expert analysis allows clients to make confident, data-driven decisions while reducing time, cost, and environmental disruption.

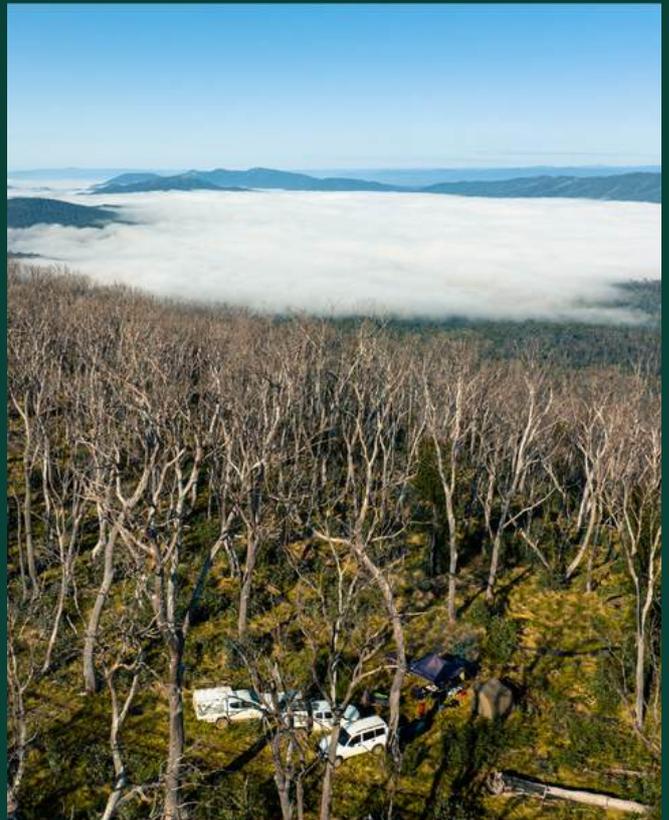
With a strong track record across biodiversity projects, pest control, and land management, FMS offers complete project support — from planning and compliance to execution and reporting. Our mission is to empower decision-makers with evidence-based insights, enabling them to protect native species, manage environmental challenges, and plan sustainable developments. Every mission is underpinned by safety, compliance, and innovation, ensuring our work delivers both scientific integrity and operational efficiency.





Our Philosophy

We believe accurate data is the foundation of effective environmental stewardship. By blending advanced technology with deep ecological expertise, we create solutions that minimise disturbance to nature while maximising actionable insight. Every project is approached with a commitment to scientific rigor, operational safety, and long-term environmental benefit.





Our Mission

Through unmanned vehicles, our mission is to deliver relentless innovation that serves and meaningfully enhances the lives of people.

Our mission is more than just words; it's our driving force. We're here to bridge gaps, solve challenges, and lead industries into a brighter future. Whether it's conserving wildlife, enhancing agricultural efficiency, or ensuring security, we're committed to making a positive impact.

01

Innovation

We thrive on solving challenges and pushing the boundaries of what's possible.

02

Safety

We're committed to absolute safety, and excellence in everything we do.

03

Empowerment

We empower individuals and businesses with insights, knowledge, and cutting-edge solutions.

04

Integrity

Trust and honesty are the foundations of our relationships, and we hold ourselves to the highest ethical standards.



Your Dedicated Partners in Progress

We're more than a team; we're your dedicated partners in pioneering progress. Get to know the passionate individuals driving our mission forward.



John

Chief Pilot, RPAS Pilot

Extensive experience in Aviation (Previously A330 Airline Pilot), agricultural background, RPAS pilot and 'Human Factors/Non-Technical skills' facilitator.



Alastair

CEO, RPAS Pilot

Electrical/electronic engineering background, advisor on the young farmers panel to State Government with extensive RPAS field experience.



Lachlan

Drone Pilot

Lachlan has a strong passion for drone flying. With advanced FPV piloting skills and an upbringing on a large sheep farm, Lachlan has deep connections with agriculture and understands the needs and challenges of rural customers.



Brandon

Drone Pilot

Brandon has a background in advanced fabrication techniques, having spent most of his career in the local manufacturing sector. Brandon is passionate about drones and how they can be used to help businesses achieve their goals.

Licenses and Qualifications

Our commitment to excellence is reflected in our team's extensive qualifications and licenses, ensuring that we adhere to the highest industry standards.

- BVLOS (Beyond Visual Line of Sight)
- EVLOS (Extended Visual Line of Sight)
- Powered Lift - Medium Category
- DJI Agras Service Training
- Fixed Wing <7kg



Let's see how we can help.

-  Sugarloaf Creek, Victoria AU
 -  1300 064 457
 -  info@fieldmastersystems.com
 -  fieldmastersystems.com.au
-