



**Australian Government**

**Australian Transport Safety Bureau**

# Birdstrike and collision with terrain involving Air Tractor AT-502B, VH-KDR

32 km east-north-east of Chinchilla Airport, Queensland, on 19 September 2022

**ATSB Transport Safety Report**  
Aviation Occurrence Investigation  
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#### Addendum

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# Preliminary report

This preliminary report details factual information established in the investigation’s early evidence collection phase, and has been prepared to provide timely information to the industry and public. Preliminary reports contain no analysis or findings, which will be detailed in the investigation’s final report. The information contained in this preliminary report is released in accordance with section 25 of the *Transport Safety Investigation Act 2003*.

## The occurrence

On 19 September 2022, the pilot of an Air Tractor AT-502B aircraft, registered VH-KDR and operated by Smart Air Services, was conducting spraying operations on a property near Chinchilla, Queensland.

At about 0704 Eastern Standard Time,<sup>1</sup> the aircraft departed from a private airstrip 24 NM (44 km) south-east of Chinchilla, with the first load of fungicide. Recorded GPS data from the aircraft’s Satloc system showed that, by 0900, the pilot had sprayed 2 loads on that property. The aircraft was then refuelled and the chemical hopper reloaded at the airstrip.

The pilot then sprayed 2 loads of pesticide (the third and fourth loads of the day) on a different paddock, before returning to the airstrip. The aircraft’s hopper was then reloaded before departing with the fifth load to continue spraying the same paddock (Figure 1).

**Figure 1: Location of the airstrip and spray paddock**



Source: Google Earth, annotated by the ATSB

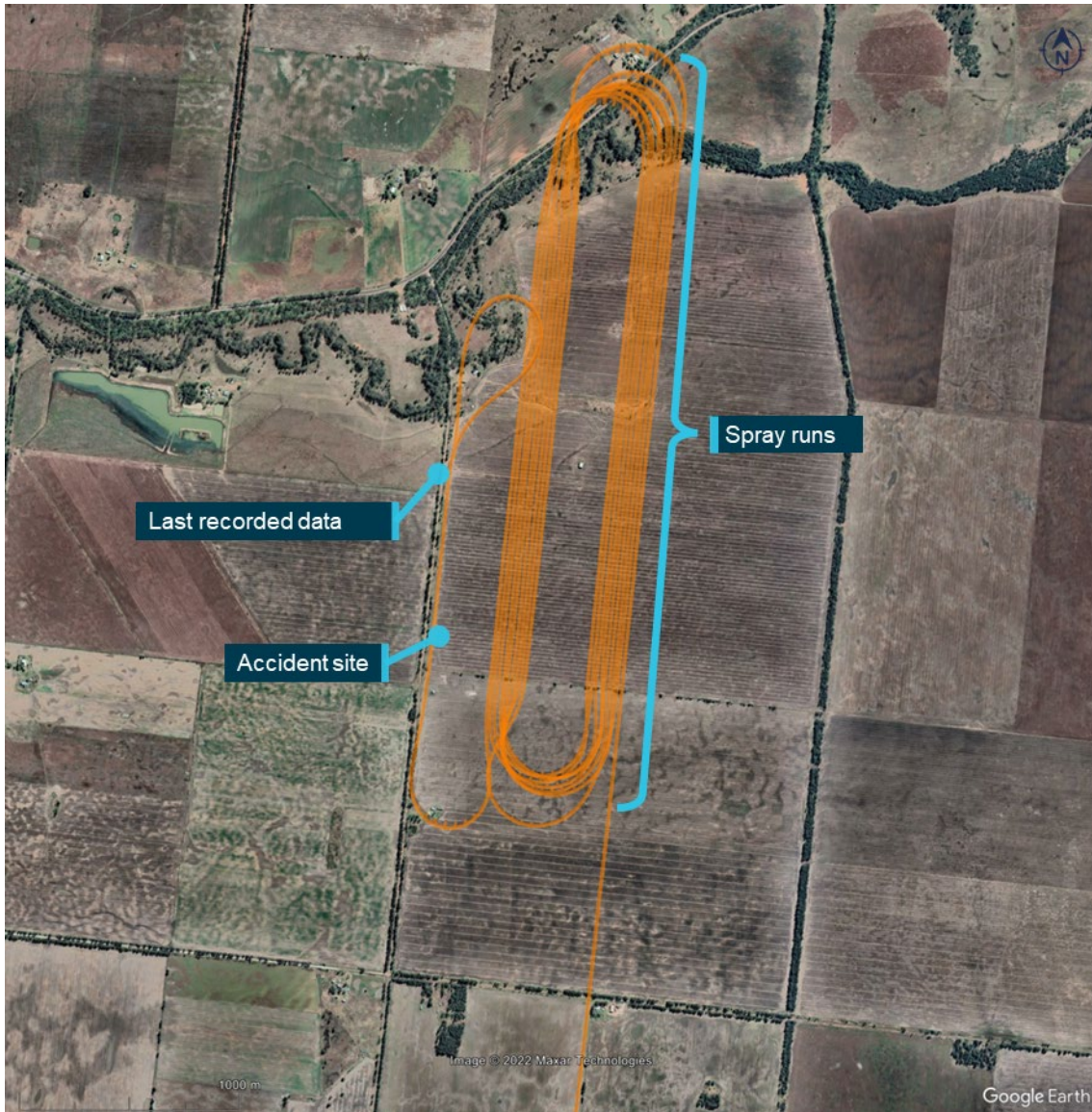
After completing 17 spray runs on the paddock in a racetrack pattern, at about 1125, the aircraft was turned to track north along the western boundary (Figure 2). The aircraft was then turned at

<sup>1</sup> Eastern Standard Time (EST): Coordinated Universal Time (UTC) + 10 hours.

the northern end to commence the 18th spray run to the south. The last GPS data point was recorded 3 seconds after starting this run.

After 1200, the loader attempted to call the pilot to ask whether they needed more fuel but received no response. The loader was concerned having received no response, and phoned the operations manager, who contacted nearby farmers to assist with locating the aircraft. At about 1215, a local farmer found the aircraft in the paddock where the pilot had been spraying. The pilot was fatally injured and the aircraft was destroyed.

**Figure 2: Accident site and spray runs (orange)**



Source: Satloc data provided by the aircraft operator overlaid on Google Earth, annotated by the ATSB

## Context

### ***Pilot information***

The pilot held a valid Class 1 Aviation Medical Certificate and a Commercial Pilot Licence (Aeroplane). The pilot also held aerial application and low-level ratings, as well as tailwheel and retractable undercarriage, manual propeller pitch control, and turbine engine endorsements.

The pilot had 3,738 hours of aeronautical experience, of which 2,681 hours was in turbine agricultural aircraft.

### ***Meteorological information***

Based on information from a private weather station located in the paddock being sprayed, around the time of the accident, the air temperature was 26.3 °C, and average wind speed was about 9 kt from the west-south-west.

### ***Operational information***

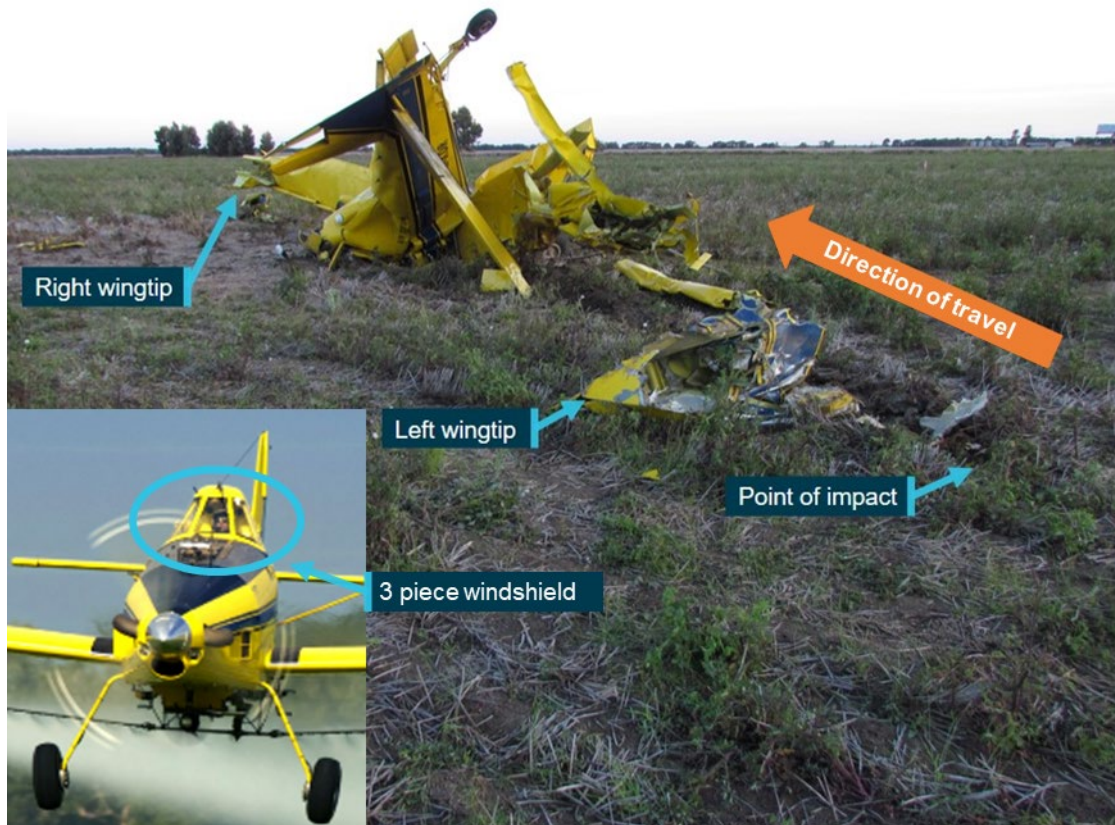
The operator advised that they expected that accident run field would be sprayed at a height of about 2 m (6 ft) above the ground, to be just above the weeds.

The Satloc GPS data indicated the aircraft had a ground speed of 116 kt for the accident spray run.

### ***Site and wreckage information***

The ATSB's site examination found that the aircraft had impacted terrain with the fuselage in a near vertical attitude. The propeller and engine were buried in the soft earth, with the wreckage contained to a small area. Ground scars and damage to the left wing indicated that the wing struck the ground at about 30° to the horizontal (Figure 3).

**Figure 3: Aircraft wreckage and exemplar aircraft (inset)**



Source: ATSB and Air Tractor (inset), annotated by the ATSB

Examination of the propeller and engine indicated that the engine was delivering power at the time of the impact. Fuel and chemical product residues were also found at the accident site, but there was no post-impact fire.

A large bird carcass was found in the cockpit and the bird's wings were located about 300 m north of the wreckage, in-line with the aircraft's track. Biological residue from the bird was found outside the right cockpit window.

### **Bird identification**

Recovered biological specimens of the bird, including the feathers from the wing and residue from the carcass, were analysed by the Australian Centre for Wildlife Genomics at the Australian Museum. The specimens were identified as a *Ardeotis australis*, commonly known as an Australian bustard or Plains turkey.

The Australian bustard is a large bird, 80 to 120 cm in height, with an average weight for an adult of 4.5 kg, with males weighing up to 8 kg. They are capable of flying but are mostly ground dwelling.

### **Further investigation**

The investigation is continuing and will include further review and examination of:

- electronic components recovered from the accident site
- operational documentation
- maintenance records
- research and similar occurrences.

Should a critical safety issue be identified during the course of the investigation, the ATSB will immediately notify relevant parties so appropriate and timely safety action can be taken.

A final report will be released at the conclusion of the investigation.

### **Acknowledgements**

The ATSB acknowledges the support of the local farmers and Queensland Police Service for their assistance during the on-site investigation.

### **References**

Australian Museum (2020). *Australian Bustard*.

<https://australian.museum/learn/animals/birds/australian-bustard/>

Bird Fact (2022). *Australian Bustard - Ardeotis australis*. <https://birdfact.com/birds/australian-bustard>

# General details

## Occurrence details

|                        |   |                          |
|------------------------|---|--------------------------|
| Date and time:         | 19 September 2022 – 1125 EST                              |                          |
| Occurrence class:      | Accident  |                          |
| Occurrence categories: | Birdstrike, Collision with terrain                        |                          |
| Location:              | 32.3 km east-north-east of Chinchilla Airport, Queensland |                          |
|                        | Latitude: 26° 40.95' S                                    | Longitude: 150° 55.61' E |

## Aircraft details

|                         |   |                |
|-------------------------|---|----------------|
| Manufacturer and model: | Air Tractor Inc AT-502B   |                |
| Registration:           | VH-KDR  |                |
| Operator:               | Smart Air Services Pty Ltd  |                |
| Serial number:          | 502B-0361   |                |
| Type of operation:      | Part 137 Aerial applications - spraying                                   |                |
| Activity:               | General aviation/Recreational-Aerial work-Agricultural spreading/spraying |                |
| Departure:              | Walugra airstrip, Queensland  |                |
| Destination:            | Walugra airstrip Queensland   |                |
| Persons on board:       | Crew – 1  | Passengers – 0 |
| Injuries:               | Crew – 1 (fatal)  | Passengers – 0 |
| Aircraft damage:        | Destroyed   |                |