

# Use of aircraft

## Background

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Aircraft are utilised during firefighting efforts in the Tasmanian Wilderness World Heritage Area (TWWHA) in order to detect fires after lightning storms, transport firefighters into remote areas, provide water for the crews on the fire ground, lay retardant lines, or drop water onto the fire (water-bombing).

Water-bombing aircraft have been routinely used to fight fires in Tasmania from around 2006 onwards. Water-bombing is used to reduce fire intensity and allow crews to extinguish the fire edge. There is currently a strong public perception that aircraft are highly effective and are the answer to fighting bushfires. However, the ability of aircraft to contain an active bushfire is limited without ground crews.

During the early stages of a fire, when it is still small and burning at a lower intensity, water-bombing can be effective in slowing the fire's spread, thus keeping the fire small, allowing firefighters time to travel to the area.

Some aircraft have proved more appropriate for use in the TWWHA than others. For example, small water-scooping airplanes were used during the 2018/19 fire season to scoop water from Lake Pedder and water bomb nearby fires. The quick turn-around time, and the number of suitable large water bodies, make these ideal aircraft in certain situations. The TWWHA's rugged landscape limits the use of larger airplanes due to their reduced capacity to manoeuvre. Helicopters with buckets can take water from streams and rivers and either directly water-bomb a fire or deliver it to portable dams, which fire crews then pump out of for firefighting.



## Challenges

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Water-bombing aircraft provide a useful tool to fight fires, however aircraft on their own are not capable of putting out a fire. Instead, water-bombing aircraft are most effectively used to deliver the water to where it is needed by firefighters on the ground, or by keeping a new fire small, giving firefighters a chance to extinguish it.

Getting firefighters to a fire can be very difficult. In open buttongrass plains and alpine areas helicopters can often land to get crews close to the fire edge. In forest, it can be important to get access to a smouldering tree that has been hit by lightning and has the potential to spread to surrounding forest, however landing a helicopter is often impossible. In the past, firefighters capable of being winched from a helicopter have been brought in from the mainland, however, this access to winch-trained crew and winch-equipped helicopters is dependent on their availability, as there are no helicopters or firefighters trained or dedicated to undertake this type of work within Tasmania. The Tasmanian Government recently announced funding for the Parks and Wildlife Service to train firefighters to be able to be winched into areas where landing is impossible. This will build additional capacity within Tasmania to undertake remote-area firefighting, but will take several years to develop and implement.

The use of aircraft to fight fires is extraordinarily expensive and, like all other firefighting efforts, the effectiveness of action needs to be assessed against the cost as it is very easy to use aircraft and achieve very little return in terms of fire suppression results. The use of aircraft may give the impression that the fire is being suppressed, however their effectiveness is particularly limited when the fire is burning underground in organic soils.

Large water-bombing aircraft come from the mainland so the turnaround time between drops is in the order of hours. The availability of these aircraft is limited if other states are also battling bushfires. Another challenge faced is that by the time the aircraft arrives in Tasmania the weather conditions may no longer be appropriate for flying.



Photo: Chris Emms



Given finite resources, decisions need to be made on the best mix of aircraft for Tasmanian conditions. The problem is that the environment within the TWWHA is quite different to much of the eastern half of Tasmania. While large air tankers may have limited benefit in the TWWHA environment they could be quite effective in the more open vegetation typical in other parts of the state. Investment in one type of aircraft may limit resources available to secure other types of aircraft.

The TWWHA contains environments largely free of weeds, pests and disease. However, the potential for aircraft to transport water, personnel and equipment from one catchment to another poses a significant biosecurity risk. Identifying environments that are free from weeds, pests and disease, or where they exist, is critical to planning and ensuring that these biosecurity hazards are not spread through firefighting activities.

The organic soils that occur across much of western Tasmania pose an additional challenge to the effective use of aircraft for firefighting and more can be read about that in the issues paper on peat fires.

## The way forward

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The Parks and Wildlife Service recognise that there are many factors to be considered in the effective and efficient use of aircraft. The unique environment of the TWWHA (organic soils, rugged terrain, availability of water, and environments substantially free of weeds, pests and disease) requires significant planning and control to ensure that the bushfire-fighting tactics do not become a greater threat than the fire itself to the conservation of TWWHA values.

Recognise that aircraft are not the great panacea for firefighting that people want them to be and use aircraft only when they are going to have benefits to the firefighting effort.

Continue to investigate new techniques and equipment related to aerial firefighting and adopt as appropriate to the Tasmanian context.

Utilise the most appropriate aircraft for the TWWHA, such as small, water-scooping airplanes and helicopters.

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### OTHER ISSUES SHEETS THAT MAY BE OF INTEREST

- 08 Fire suppressants and retardants
- 11 Organic (peat soil) fires

