Australian Government
Civil Aviation Safety Authority

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Launceston Airspace Review

January 2019

Document control:

Version	Issue/Nature of Revision	Date
0.1	Initial draft	July 2018
0.2	Internal review	July 2018
0.3	Editorial amendments	July 2018
0.4	First external review	July 2018
0.5	Comments incorporated	August 2018
0.6	Document rewrite	September 2018
0.7	Document rewrite	December 2018
1.0	External review; Final report	January 2019

Document Reference: D18/563172
File Reference: FO18/480

1 Executive Summary

1.1 General

The Civil Aviation Safety Authority's (CASA) Office of Airspace Regulation (OAR) has conducted an airspace review within a 35 nautical mile (NM) radius of Launceston Airport. The review examined the airspace architecture, classifications, procedures and infrastructure from the surface to Flight Level 180. The previous airspace review was conducted in 2009[1].

The airspace review applies CASA's regulatory philosophy which considers the primacy of air safety, whilst taking into account relevant considerations including cost.

The review found that there is no risk-based requirement to change the airspace classification at Launceston. The OAR has determined that the current airspace classification is fit for purpose[2] and recommends no change to the classification. The airspace provides a safe and equitable level of access for users within the airspace. This is based upon the analysis of safety and incident data, consultation with stakeholders and the breakdown of annual aircraft and passenger movement statistics within the review area.

Launceston airport has had positive growth in regard to aircraft and passenger movements. Aircraft movements have not increased in the same ratio as passenger numbers. This indicates that larger aircraft with more seating capacity are being used at this location.

Anecdotal information recorded by stakeholders indicated that the design of the airspace could be enhanced through changes to enable assurance of aircraft containment whilst conducted continuous descent operations (CDO). The most appropriate initiative beyond this review into this matter should be through further investigation by the OAR in the context of normal business operations.

Stakeholders at George Town and Cranbourn aerodromes which are located within 10NM of each location, identified issues associated with flights operating in the area that are subjected to a different common traffic advisory frequency (CTAF). This matter is not an airspace matter and the appropriate action is through a submission of a Request for Change (RFC). It is recommended that an RFC be submitted by either aerodrome operator to operate on the same CTAF.

At the time this review was being undertaken, Airservices Australia had proposed a trial of Class E airspace over Class D airspace volumes at Launceston and Hobart. There had been significant feedback from stakeholders to the OAR on this trial. This trial has been removed and replaced with the Airspace Modernisation project[3]. Under this project, there is no change to the airspace classification at Launceston.

[1] Airspace Review of Launceston Aerodrome 2009; Argus Consulting Group Pty Ltd, Office of Airspace Regulation, Canberra
[2] 'fit for purpose' means that the product or service is satisfactory for the purpose it was designed for.
[3] Projects Airspace Modernisation retrieved 15 November 2018 from http://www.airservicesaustralia.com/projects

1.2 Review Recommendations

Recommendation 1 The OAR recommends no change to the airspace classification at Launceston.

Recommendation 2 The OAR recommends the aerodrome operators at George Town and Cranbourn submit a Request for Change (RFC) to the CASA Southern Region office to operate on the same CTAF.

Recommendation 3 The OAR recommends that the Soaring Club of Tasmania advise Airservices Australia when winch launching operations cease at Woodbury aircraft landing area (ALA).

Recommendation 4 The OAR recommends CASA Aviation Safety Advisors continue to give safety seminars on aviation matters, to aviation stakeholders in the Launceston area.

1.3 Review Observations

1. That the OAR investigates further the information received in relation to aircraft containment within controlled airspace whilst conducting continuous descent operations with regard to the airspace design.

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2 Introduction

2.1 General

The Office of Airspace Regulation (OAR) has conducted an airspace review within 35 nautical miles (NM) radius of Launceston Airport (hereafter referred to as Launceston). The review examined the airspace architecture, classifications, procedures and infrastructure from the surface (SFC) to flight level 180 (FL180).

Under Section 11 and 12 of the *Airspace Act 2007 (*Act), the Civil Aviation Safety Authority (CASA) has responsibility for the administration and regulation of Australian-administered airspace. In carrying out these responsibilities CASA must give primacy to aviation safety and must:

- foster efficient use of Australian-administered airspace;
- foster equitable access to that airspace for all users of that airspace;
- take into account national security; and
- take into account protection of the environment.

The OAR commissioned the previous airspace review around Launceston Airport in 2009 which was conducted by Argus Consulting Group Pty Ltd. The final report published in 2010[4] found:

- The airspace classification and the volume of airspace was appropriate although there are opportunities for improvement;
- The efficacy of the airspace, the level of air traffic services (ATS) and the facilities provided can be considered appropriate;
- Efficiencies and improvements had been identified for the airspace design and associated procedures; and
- The existing airspace provided a safe and efficient use of the airspace available and an equitable level of access is available to all users.

Launceston airport passenger movements exceed the Airspace Review Criteria Thresholds nominated in the Australian Airspace Policy Statement 2018[5]. Continued and steady increases in passenger movements and 11 reported airspace infringements during the 12-month period from December 2016 to December 2017, culminated in the OAR undertaking a new airspace review.

2.2 Purpose and objectives

The purpose of this airspace review (the review) is to ensure that the airspace architecture and classification remains appropriate for the operations within the area.

The review will assess:

- the nature of aviation activity around Launceston;
- feedback from airport operators and airspace users;
- risks to and the need to improve safety for passenger transport (PT) operations;
- equitable access to the airspace for all airspace users;
- appropriateness of the airspace architecture (includes classification);
- appropriateness of the services and facilities provided by the air navigation service provider (ANSP);
- surveillance capabilities and communication coverage in the review area; and
- issues recorded in the 2010 Airspace Review of Launceston.

[4] Airspace Review of Launceston Aerodrome December 2009: Civil Aviation Safety Authority, Canberra 2010.
[5] Australian Airspace Policy Statement 2018: https://infrastructure.gov.au/aviation/australian-airspace-policy/aaps/index.aspx

2.3 Scope

The scope of the review includes:

- assessment of risks to airspace users in the airspace within 35 NM of Launceston aerodrome from surface to FL180;
- consultation with stakeholders to obtain information related to airspace issues around Launceston aerodrome;
- an assessment of air routes and procedures to ensure they are efficient and fit for purpose; and
- analysis of any risks that may impact the safety of airspace users to determine the need for any changes to existing airspace architecture, services or procedures.

Aircraft operations above FL180, aerodrome facilities or developments, and surrounding infrastructure issues are excluded unless a significant issue on the safety of airspace operations in the review area is found.

3 Background

3.1 General

Launceston is a certified aerodrome located approximately 13 kilometres (km) south from the Launceston central business district (CBD) and 7 km south of residential developments. Launceston is Tasmania's main northern aerodrome that has daily scheduled Regular Public Transport (RPT) operations.

Launceston is the major airport within the review area. There are no other registered or certified aerodromes in the review area. Launceston aerodrome is not subject to curfew conditions.

Launceston is managed by Australia Pacific Airports (Launceston) Pty Ltd (APAL). The ownership of APAL is 90% Australia Pacific Airports Corporations Limited (APAC) and 10% Launceston City Council.

A number of uncertified aerodromes and aircraft landing areas (ALAs) are in the review area include George Town, Bridport, Cranbourn, Longdown, Campbell Town and Tunbridge.

3.2 Airspace and surveillance

The Australian airspace classifications accord with the International Civil Aviation Organization (ICAO), Annex 11 Air Traffic Services. Each class of airspace determines the type of aviation services permitted in that airspace. Australia currently has Class A, C, D, E and G airspace which is used to safely manage aviation activity. Class B and Class F airspace are not currently used in Australia.

Launceston airspace has the following airspace classes: Class C, Class D and Class E (controlled airspace – CTA) and Class G (non-controlled airspace) [6].

The airspace, within the review area, is depicted, in whole or in part, on aeronautical charts and described within the Designated Airspace Handbook (DAH). Figure 1 shows the Launceston airspace and the area included in the review.

The airspace is centred on Launceston airport and designed in a keyhole outline to contain the primary air routes whilst enabling access to other airspace users. A description of the airspace is in Appendix 3.

Air Traffic Control (ATC) services are provided by Airservices Australia (Airservices) via their Melbourne Air Traffic Services Centre (Melbourne Centre) and the Launceston Control Tower. The control tower provides a procedural tower and a procedural approach control service within the Launceston Class C and Class D airspace, 8,500 feet (FT) above mean sea level (AMSL) and below. Outside tower hours, Melbourne Centre operate Launceston

[6] Refer to Annex A Australian Airspace Structure

Class C and Class D airspace above 1,500 FT AMSL. Below 1,500 FT AMSL becomes Class G airspace and CTAF procedures apply.

Surveillance in the review area is provided by the Tasmanian Wide Area Multilateration (TASWAM) System. TASWAM provides two (2) distinct surveillance capabilities: A wide area multilateration (MLAT) (WAM) service provides a secondary surveillance 'radar-like' capability designed to support the Class C airspace, and an Automatic Dependent Surveillance – Broadcast (ADS-B) service. This supports surveillance across Tasmania.

In Tasmania, TASWAM comprises of 14 remote ground units. Four (4) of these units are in the immediate vicinity of Launceston aerodrome including three (3) at the airfield and one (1) in Launceston CBD. This enables ATC surveillance to the ground at Launceston. Aircraft departing from Launceston are identified by ATC in Melbourne Centre upon contact. Figure 2 displays the Tasmanian airspace and TASWAM remote ground unit locations.

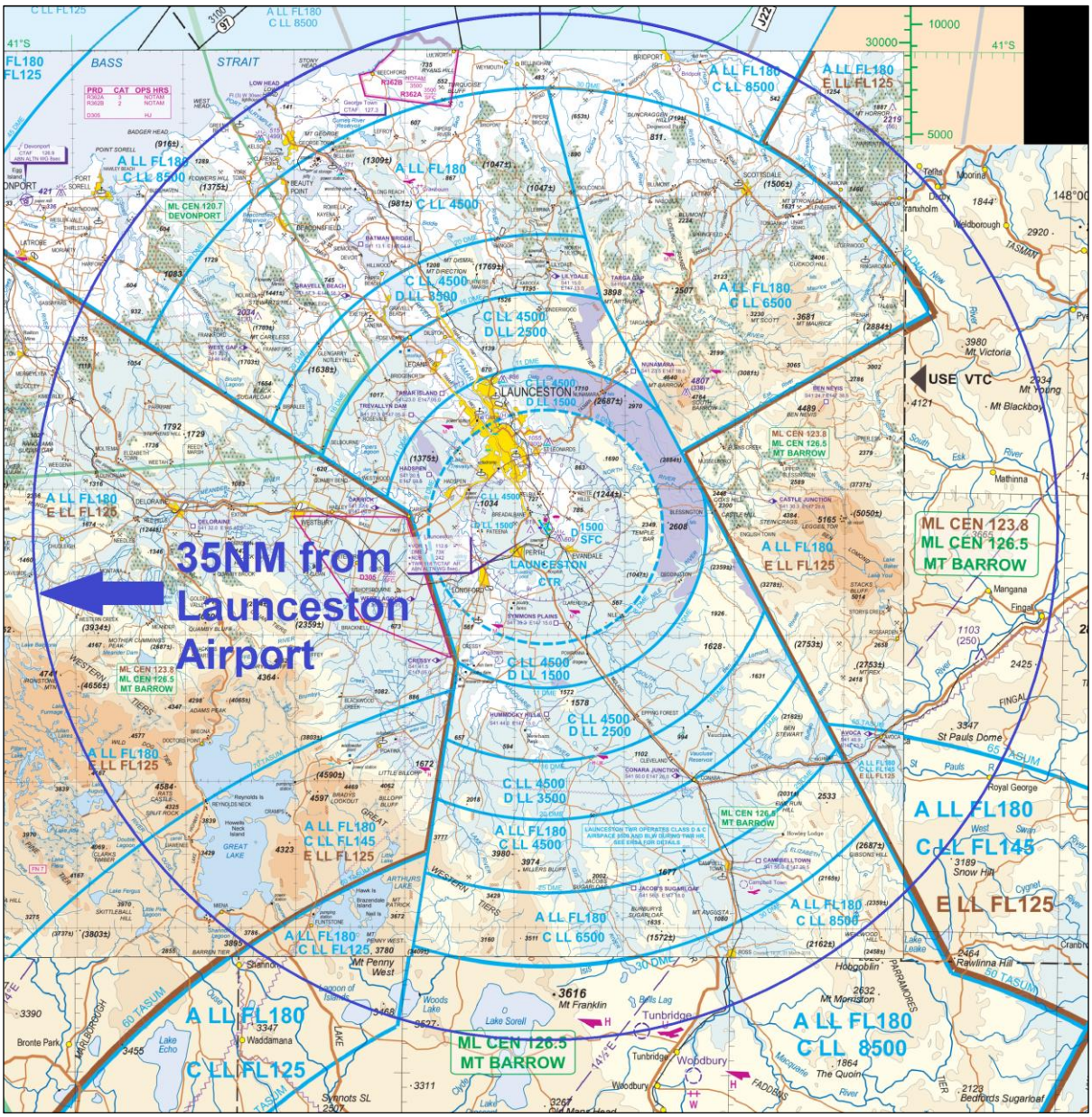

Figure 1: Launceston airspace and airspace review area[7]

[7] Source: Visual Terminal Chart (VTC) Launceston, Visual Navigation Chart (VNC) Hobart, Terminal Area Chart (TAC) Hobart/Launceston, May 2018, Airservices Australia

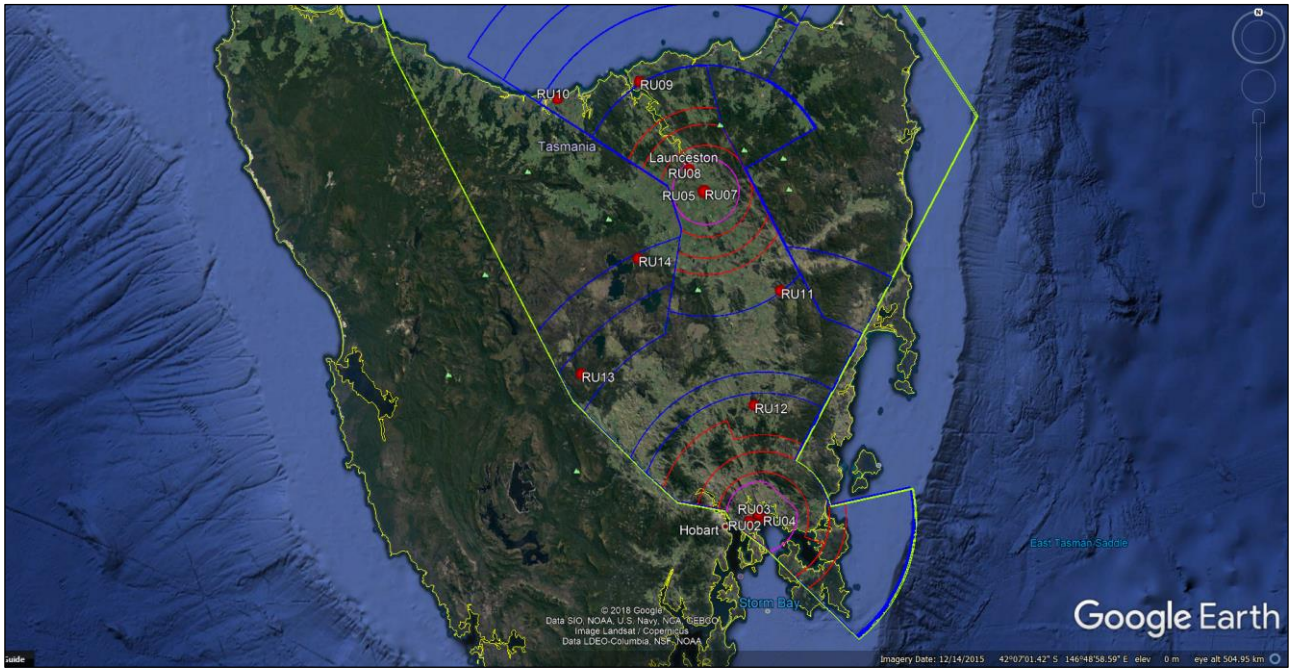

Figure 2: Airspace and TASWAM remote ground unit location Tasmania[8]

3.3 Launceston airport aircraft and passenger movements

Between February 2013 and February 2018, the data[9] for Launceston airport recorded increases in passenger movements that averaged 1,311,883 passengers each year. During the same period, aircraft movements increased to February 2016 but has decreased from this peak number. Yearly aircraft movements at Launceston averaged 23,795.

The decrease in aircraft movements while there are increasing passenger numbers indicates that larger aircraft with increased seating capacity are being used at Launceston.

Passenger and aircraft movement data is examined in Chapter 4.

3.4 Air navigation activities

Aviation activity undertaken in the review area is diverse. Public Transport Operations (PTO) including those from RPT jet operations, twin turbine aircraft, single engine light aircraft, hang gliders, paragliding operations, model aircraft and remotely piloted aircraft systems (RPAS) all operate within the review area. Users include pilots, trainees, enthusiasts and business operators.

Aircraft operating to or from Launceston under instrument flight rules (IFR) aerodrome are able to use a number of available of instrument flight procedures (IFPs) for approaching or departing the aerodrome. There are currently three (3) Standard Instrument Departure (SID) procedures, no Standard Terminal Arrival Route (STAR) procedures and a number of precision or non-precision instrument approach and landing (IAL) procedures[10]. IFR aircraft require a clearance to operate in Class C, Class D or Class E airspace.

Aircraft operating under visual flight rules (VFR) in the review area predominantly operate in Class G airspace, which is below the CTA steps. VFR aircraft require a clearance to enter Class D (and Class C) airspace, but not Class E. Information regarding requirements and air traffic services (ATS) provided by ATC are listed in Annex A.

[8] Google Earth V 7.3.1.4507 (14 December 2015) Tasmania 42° 07' 01.42" S 146° 48' 58.59" E, Eye Alt 504.95km Landsat/Copernicus 2018. http://www.earth.google.com [21 June 2018]
[9] Refer Annex B Launceston Passenger and Aircraft Movements
[10] Aeronautical Information Publication (AIP) Departure and Approach Procedures (DAP); effective 24 May 2018, Airservices Australia

4 Launceston Review – Airspace

4.1 General

The review found that there is no risk-based requirement to change the airspace classification at Launceston. An examination of the Australian Transport Safety Bureau (ATSB) and Airservices' data including recorded incident and occurrence information[11], safety investigations and reports, aircraft and passenger movement statistics and feedback from stakeholders[12] support that no change to the airspace classification is required.

The issue of airspace classification was topical because of a proposed trial by Airservices that included amendments to the airspace classification. This proposed trial of Class E airspace services at Hobart and Launceston airports has been removed and replaced with the Airspace Modernisation project[13]. Under this project, there is no change to the airspace classification at Launceston.

However, during stakeholder consultations suggested changes to the airspace design at Launceston could increase efficiencies for aircraft and ATC operations. These consultations form the basis for the observation for the OAR to investigate further the anecdotal information in relation to the airspace design at Launceston is discussed later in Section 4.4 Launceston SIDs and STARs.

Feedback received from the aerodrome operators at George Town and Cranbourn aerodromes stated that users at these locations are operating at different CTAFs, but the aerodromes are within 10 NM of each location. The aerodrome operators are supportive of a single CTAF for both locations. This in discussed later in Section 4.5 Operations outside controlled airspace.

4.2 Launceston passenger and aircraft movements

Between February 2013 to February 2018, Launceston airport recorded a yearly average of 1,311,883 passenger movements and 23,795 total aircraft movements. There has been a 13.35% and 5.51% increase in passenger numbers and total aircraft movements respectively at Launceston for the review period.

During the March 2017 to February 2018 twelve-month period, Launceston recorded 1,371,749 passenger movements and 22,236 total aircraft movements[14].

Passenger movement data is slightly lower than the estimates contained in the Launceston Master Plan 2015[15] which predicted 1.5 million passengers by 2020. It is a reasonable assertion that more than 1.4 million passengers will be achieved based on the current passenger data trend.

Aircraft movements recorded notable increases from February 2013 to February 2016 but yearly decreases from February 2016 to February 2018.

The decrease in aircraft movements and increase in passenger numbers at Launceston confirms that aircraft with greater seating capacity are being used by airlines to service the passenger transport (PT) demand for Launceston. That is, fewer but larger capacity aircraft are operating at Launceston.

Aircraft types currently operating at Launceston include Airbus A320 (A320), Boeing 737 (B737) jets, medium size turbo-prop aircraft including Bombardier's de Havilland Canada Dash 8 (DHC8), Swearingen Metroliner (SW4) and Beechcraft King Air 200.

Most PT movements are undertaken by three passenger transport providers, Jetstar, QantasLink (QLink) and Virgin Australia (Virgin) with the Qantas Group responsible for 68%

[11] Refer Annex C - ATSB and Airservices Australia Incident Data Tables
[12] Refer Annex D – Stakeholder consultation list
[13] Projects Airspace Modernisation retrieved 15 November 2018 from http://www.airservicesaustralia.com/projects
[14] Source: Airservices Australia movement data for YMLT.
[15] Launceston Airport Master Plan 2015, Australian Pacific Airports (Launceston) Pty Ltd

of Launceston movements[16]. Other operators include Sharp Aviation and Par Avion conduct regular PTO to King Island, Flinders Island and other Tasmanian locations.

The major PT operators are satisfied with the safety of their operations within the current airspace but identified examples where efficiencies could be improved through airspace design. The majority of operators do not support the proposed Airservices trial of Class E airspace over Class D airspace in Tasmania detailed later in the review.

It was noted that stakeholders were very positive regarding the service provided from Launceston tower and satisfied with ATC operations overall.

4.3 ATSB and Airservices incident data

An examination of the recorded incident and occurrences from Airservices and the ATSB identified 29 airspace incidents occurring between February 2013 and February 2018. Most of these incidents are airspace infringements where aircraft entered CTA without a clearance. The incidents resulted in a loss of separation assurance on 3 occasions and 1 loss of separation due to ATC instruction.

Causal factors include pilots not aware of the infringement, meteorological conditions such as wind resulting in aircraft being 'pushed up' into the airspace and ineffective (or no) radio communications.

There are no safety issues, actions or findings attributed to the airspace within the review area contained in ATSB safety investigations and reports[17].

There were no reported incidents or occurrences involving RPAS at Launceston. There are known RPAS operations within the area however sufficient information is provided to ATC and the aerodrome operator by RPAS users that ensures continued effective and efficient use of the airspace.

CASA Aviation Safety Advisors deliver safety seminars across Australia. Topics at these seminars can be targeted as a result of recorded incidents or trends and are delivered to pilots with a view of reducing risks when flying. It is recommended CASA Aviation Safety Advisors continue to deliver safety seminars to aviation stakeholders in the Launceston area.

4.4 Launceston SIDs and STARs

SID and STAR procedures can provide for continuous climb operations (CCO) and CDO to enhance aircraft efficiency and effective use of the airspace. Airservices is likely to published new SIDs STARs for Launceston within the next five-year period (2018-2023). SIDs and STARs can commence or terminate beyond the terminal airspace area therefore the airspace some distance from the aerodrome must be considered.

Stakeholders identified some issues about the current keyhole shape and CTA steps at Launceston. The current airspace is sufficient for operations, but some amendments to the airspace design could provide more efficient CDO and CCO for aircraft, offer flexibility to use visual procedures and take advantage of modern aircraft capability such as Required Navigation Performance – Authorisation Required (RNP-AR) procedures.

Aircraft on descent from higher levels into Launceston can experience tail winds. The tail wind speeds affect the aircraft descent profile and airspeed requirements, impacting CDO. Pilots are manually intervening with the aircraft to ensure the aircraft can continue descent, whilst decreasing speed and remaining in CTA. This increases cockpit workload and decreases the benefits of CDO.

Stakeholders also suggested that the airspace for Flinders Island to Launceston route could be reviewed to keep aircraft on CTA. Currently, on approach profile, aircraft on this route leave and re-enter CTA for landings at Launceston. This increases cockpit workload due to

[16] Provided by the Launceston aerodrome operator.
[17] Source: Australian Transport Safety Bureau http://www.atsb.gov.au/publications/safety-investigation-reports/?mode=Aviation 16 May 2018

monitoring altitude, speed and radio communications. It increases ATC workload to provide a clearance for the aircraft to leave and re-enter CTA and other traffic.

Currently aircraft on descent into Launceston remain in CTA or are given a clearance to leave and re-enter CTA. Data regarding aircraft profiles have not been reviewed. Changes to the airspace design may mitigate some cockpit or ATC workload issues and increase the efficient use of aircraft within the airspace. Based on the anecdotal information recorded from stakeholders, the proposed airspace trial from Airservices and the future introduction of SIDs and STARs at Launceston. It is recommended that the OAR undertakes an aeronautical study regarding the design of Launceston airspace.

There were no recorded incidents or occurrences due to the design of the airspace. No data was requested from airline operators regarding aircraft profiles into Launceston, however, the topic of airspace design was identified by multiple stakeholders. Further investigation in relation to this information should be undertaken by the OAR in the context of normal business operations.

Any proposed change to the design of the airspace at Launceston is the responsibility of Airservices.

4.5 Operations outside controlled airspace

Outside controlled airspace (Class G airspace), there are notable movements being conducted from various aviation activities. Sporting aviation activities including hang glider and paragliding are conducted in surrounding ranges of the review area. Recreational aviation activity is undertaken at aerodromes like George Town and Cranbourn located north of Launceston and other ALAs such as Tunbridge and Campbell Town to the south of Launceston.

Gliding operations conducted by the Soaring Club of Tasmania are currently conducted at Woodbury ALA which is outside the review area. The operation at Woodbury is due to be relocated to Tunbridge ALA in December 2018. This will not significantly impact where gliding operations are taking place, however, winch launching at Woodbury will no longer be available and that information will need to be updated during the normal amendment cycle for aeronautical publications.

The review identified that aircraft operating at George Town and Cranbourn aerodromes use a different CTAF for each location. George Town CTAF is 127.3 MHz and Cranbourn operate using 126.7 MHz.

The aerodrome operations are within 10 NM of each location. The aerodrome operators advised that there would be a safety and efficiency benefit particularly for VFR operations around the Bell Bay area of the Tamar River Estuary (refer Figure 3), if both aerodromes operated on the same CTAF.

Anecdotal information recorded from the aerodrome operators stated that airspace users are operating in the area between George Town and Cranbourn, on each respective CTAF and not knowing the presence of the other aircraft until in visual range. If operations were on the same CTAF there would be increased awareness of aviation operations in the area.

There was no recorded incidents or occurrences identified due to aircraft operating on different CTAFs between Cranbourn and George Town.

The aerodrome operators at each location are supportive of operating on one CTAF.

This matter is not an airspace issue and an Airspace Change Proposal (ACP) is not needed. The frequency matter is subject to a Request for Change (RFC) and would be referred to the CASA Regional Office applicable to the area.

It is recommended that either aerodrome operator at George Town or Cranbourn contact the CASA Southern Region office and undertake the RFC process to operate on the same CTAF.

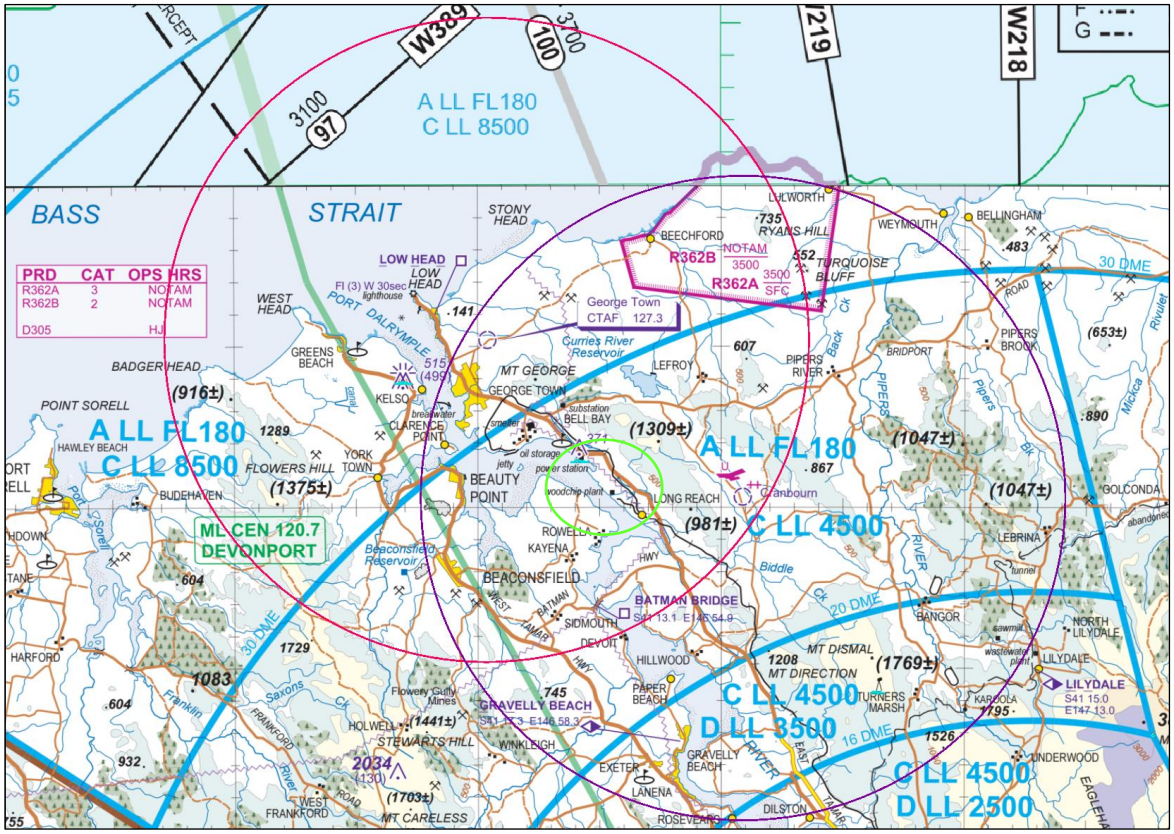

Figure 3: 10 NM areas around George Town and Cranbourn aerodromes (Bell Bay marked)[18]

4.6 Restricted/Danger Areas

Danger Area D305 is contained in the western segment of the Class G airspace and found next to the Launceston control zone (CTR). D305 is promulgated as a flying training area from the SFC to 4,500 FT AMSL. This area is fit for purpose and aids in aircraft noise management at Launceston.

Restricted Areas (RAs) R362A and R362B are controlled by the Army Directorate of Operations and Training Area Management (DOTAM) VIC/TAS. The RAs are activated by a Notice to Air Men (NOTAM). The vertical limitation for R362A from the SFC to 3,500 FT AMSL and R362B from 3,500 FT AMSL to the NOTAM level. The RAs are located north of Launceston, between 30 DME and 35 DME and in between George Town and Bridport townships. During the review period, there were no airspace incidents or occurrences recorded at these RAs.

[18] Source: VTC Launceston and TAC Hobart/Launceston, May 2018, Airservices Australia

5 Key issues, recommendations, opportunity for improvement

5.1 General

A few common themes emerged through the analysis of incident data and information obtain during stakeholder consultations which have been categorised in the following issues, findings, recommendations or opportunities for improvement.

To assist with task assignment and the expectation of responsibility, where appropriate, recommendations have been made.

5.2 Airspace classification

Issue: The classification of the airspace was been considered for change.

Finding: The review examined ATSB and Airservices Australia data, safety investigations, reports, aircraft movement and passenger statistics. Consultation was undertaken with numerous stakeholders including airspace users, aerodrome operators and service providers.

The majority of stakeholders agreed that there should be no change to the airspace classification. All stakeholders were willing to participate in a process that enhanced airspace operations and efficiencies.

Recommendation: The OAR recommends no change to the current airspace classification at Launceston.

5.3 Airspace design

Issue: The airspace should be amended to enhance CDO and reduce cockpit and ATC workload.

Finding: The existing airspace is fit for purpose, safe and provides equitable access for airspace users.

Stakeholders provided anecdotal information that the current design of the airspace at Launceston does not necessarily support CDO for aircraft experiencing tailwinds, on approach to Launceston.

Information recorded during this review indicated the current airspace design can create additional workload within the cockpit and for ATC due to additional radio transmissions for clearance to leave and re-enter CTA, pilots monitoring altitude and speed to remain in CTA and on profile whilst on approach. The time required for this type of detailed review is more appropriate for an aeronautical study which would exam the current airspace design, identify issues caused by this design, examine profile data (if available) and recommend solutions that would increase airspace efficiencies through airspace design.

Airservices Australia has the responsibility for the design of the airspace at Launceston. Airservices Australia is likely to published new SIDs STARs for Launceston within the next five-year period (2018-2023).

Observation: That the OAR investigates further the information received in relation to aircraft containment within controlled airspace whilst conducting continuous descent operations with regard to the airspace design.

5.4 Communication

Issue: Airspace users from George Town and Cranbourn aerodromes operate on different CTAFs.

Finding: The George Town and Cranbourn aerodromes are located within 10 NM of each location and operate on separate CTAFs. There are common air routes being flown between the two locations which can result in aircraft operating on different frequencies whilst flying in the same area. By operating on the same CTAF, pilot's informed situational awareness would be increased regarding other users in their proximity. The aerodrome

operators at George Town and Cranbourn are supportive of operating within the same CTAF.

There have been no recorded incidents as a result of aircraft from these aerodromes due to the differing CTAF. There is sufficient information from the operators that there have been occasions where aircraft have operated in the same area but are on different frequencies.

The CTAF issue is not an airspace matter and an ACP is not needed. The frequency issue is subject to an RFC and would be referred to the CASA Southern Region office which is applicable for this location.

Recommendation: The OAR recommends the aerodrome operators at George Town and Cranbourn submit an RFC to the CASA Southern Region office to operate on the same CTAF.

5.5 Aeronautical Information

Issue: Winch launching operations at Woodbury ALA are expected to cease in December 2018. This operation is currently marked on published aeronautical charts.

Findings: The Soaring Club of Tasmania undertakes winch launching operations at Woodbury ALA. This activity is marked on aeronautical charts Hobart Visual Navigation Chart (VNC) and Hobart Launceston Terminal Area Chart (VTC).

Stakeholder information provides that in December 2018, these operations are expected to move to Tunbridge ALA. However, the information will still be displayed on these aeronautical charts.

Amendments for changes to these charts to become effective in May 2019, closed on 2 November 2018. If operations move from Woodbury to Turnbridge it is likely that the amendments will not be published until November 2019.

Recommendation: The OAR recommends that the Soaring Club of Tasmania advise Airservices Australia in writing when winch launching operations cease at Woodbury ALA in order to update the required aeronautical information.

5.6 Shared knowledge and understanding

Issue: Enhancing aviation safety issues through consultation and discussion with airspace users.

Findings: The overall incident and occurrence data at Launceston shows a low incident rate. However, airspace incidents have occurred that resulted in airspace infringements. The causal factors of these incidents included a lack of awareness by pilots, wind conditions and ineffective radio communications.

CASA Aviation Safety Advisors undertake safety seminars throughout Australia, including Launceston. The OAR does review available incident data and gather intelligence for information purposes. Incident summaries are provided to Aviation Safety Advisors identifying trends and upcoming events which can be considered for inclusion in their safety seminars and delivered to airspace user groups.

Feedback from stakeholders is positive about the delivery and information included in these seminars.

Recommendation: The OAR recommends CASA Aviation Safety Advisors continue to give safety seminars on aviation matters, to aviation stakeholders in the Launceston area.

6 Conclusion

6.1 General

The OAR has conducted an airspace review of the airspace procedures and classifications within a radius of 35 NM of Launceston from the surface to FL180.

The review is based on the assessment of:

- the nature of aviation activity around Launceston;
- feedback from airport operators and airspace users;
- risks to and the need to improve safety for passenger transport (PT) operations;
- equitable access to the airspace for all airspace users;
- appropriateness of the airspace architecture (including classification);
- appropriateness of the services and facilities provided by the ANSP;
- surveillance capabilities and communication coverage in the review area; and
- issues recorded in the 2010 Airspace Review of Launceston.

The review found that the existing airspace is fit for purpose and the complies with the requirements of the Act for safe operations and enables equitable access to that airspace for all users of the airspace. The review identified that further examination of the current airspace design undertaken that may provide benefits for aircraft operations in controlled airspace.

The review made four recommendations including no change to the current airspace classification. An observation was made for the OAR to investigate the information received in relation to aircraft containment within controlled airspace whilst conducting continuous descent operations with regard to the airspace design at Launceston.

Appendix 1 Acronyms and Abbreviations

Acronym/abbreviation	Explanation
AAPS	Australian Airspace Policy Statement 2018
ACP	Airspace Change Proposal
Act	Airspace Act 2007
ADS-B	Automatic Dependent Surveillance - Broadcast
Airservices	Airservices Australia
ALA	Aircraft landing area
ALARP	As Low As Reasonably Practicable
AMSL	Above Mean Sea Level
ANSP	Air Navigation Service Provider
ASA	Aviation Safety Advisor
ASIR	Aviation Safety Incident Report
ATC	Air Traffic Control
ATS	Air Traffic Services
ATSB	Australian Transport Safety Bureau
CASA	Civil Aviation Safety Authority
CCO	Continuous Climb Operations
CDO	Continuous Descent Operations
CTA	Control Area
CTAF	Common Traffic Advisory Frequency
CTR	Control Zone
DA	Danger Area
Defence	Department of Defence
DME	Distance Measuring Equipment
ERC	En Route Chart
ERSA	En Route Supplement Australia
FT	Feet
FL	Flight Level
GA	General Aviation
IAL	Instrument Approach and Landing
ICAO	International Civil Aviation Organization
IFP	Instrument Flight Procedure
IFR	Instrument Flight Rules
IMC	Instrument Meteorological Conditions
km	Kilometre
kt	Knot
LL	Lower Level
MLAT	Multilateration
NOTAM	Notice to air men
NM	Nautical Miles
OAR	Office of Airspace Regulation
PT	Passenger transport
PTO	Public Transport Operations
RA	Restricted Area
RAPAC	Regional Airspace and Procedures Advisory Committee
RFC	Request for Change
RNAV	Area Navigation
RPAS	Remotely Piloted Aircraft Systems
SFC	Surface

Acronym/abbreviation	Explanation
SID	Standard Instrument Departure
STAR	Standard Arrival Route
TAC	Terminal Area Chart
TASWAM	Tasmanian Wide Area Multilateration
VFR	Visual Flight Rules
VMC	Visual Meteorological Conditions
VNC	Visual Navigation Chart
VTC	Visual Terminal Chart
WAM	Wide Area Multilateration

Appendix 2 References

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Appendix 3 Launceston Airspace Review Description

The airspace within 35 NM of Launceston as shown on Figure 1.

- The Launceston Control Zone (CTR) is promulgated to eight (8) Distance Measuring Equipment (DME), centred on the Launceston DME (LT DME). The vertical limit is from the SFC to 1,500 FT AMSL.
- Class D airspace steps to the north-west (NW) and south-east (SE), aligned with the 14R/32L runway centreline at intervals of 11, 16 and 20 DME with lower limits (LL) of 1,500 FT AMSL, 2,500 FT AMSL and 3,500 FT AMSL respectively.
- Class C overlays Class D with a LL of 4,500 FT AMSL to 30 DME to the NW and 25 DME to the SE.
- An added step to the SE was introduced effective 24 May 2018. The step from 25 LT DME to 30 LT DME has a LL of 6,500 FT AMSL.
- Class C airspace with a LL of 8,500 FT AMSL is from 30 DME to 45 DME.
- Class C airspace with a LL of 6,500 FT AMSL is located to the north-east (NE) of Launceston and commences approximately 11 DME to 30 DME.
- Class G airspace exists below the CTA steps and from the SFC to FL125 to the west (W) and east (E) of a truncated 11 DME CTA step.
- Class E airspace exists above the Class G airspace to the W and E of the CTA steps with a LL of FL125.
- South west (SW) between 50 TASUM[19] and 60 TASUM Class C with a LL FL125 and between 60 TASUM and 70 TASUM Class C with a LL FL145.
- SE between 50 TASUM and 65 TASUM Class C airspace with a LL FL145.
- Class A airspace with a LL of FL180 overlays Classes C, D and E airspace.
- Between 30 DME and 35 DME to the north and flanked by George Town and Bridport are Restricted Areas (RA) R362A and R362B. Respectively each area is from the SFC to 3,500 FT AMSL and from 3,500 FT AMSL to the NOTAM level. R362A/B are controlled by Army Directorate of Operations and Training Area Management (DOTAM) for Victoria and Tasmania. NOTAM activates the RAs.
- Danger area D305 is promulgated as a training area. The vertical limitation is from the SFC to 4,500 FT AMSL. D305 is contained in the western segment of the Class G airspace. The contact authority is CASA Safety Assurance Branch, Southern Region and the hours of activity are during daylight hours.

Outside Launceston Tower hours, the Launceston Class D is reclassified Class G.

[19] TASUM is a waypoint referenced to Hobart Airport. Therefore 50 TASUM, 60 TASUM, 65 TASUM etc. equals the nautical miles from Hobart.

Annex A Australian Airspace Structure

Class	Description	Summary of Services/Procedures/Rules
A	All airspace above Flight Level (FL) 180 (east coast) or FL245 elsewhere	Instrument Flight Rules (IFR) only. All aircraft require a clearance from Air Traffic Control (ATC) and are separated by ATC. Continuous two-way radio and transponder required. No speed limitation.
B	IFR and Visual Flight Rules (VFR) flights are permitted. All flights are provided with ATS and are separated from each other. Not currently used in Australia.	
C	In control zones (CTRs) of defined dimensions and control area steps generally associated with controlled aerodromes	• All aircraft require a clearance from ATC to enter airspace. All aircraft require continuous two-way radio and transponder. • IFR separated from IFR, VFR and Special VFR (SVFR) by ATC with no speed limitation for IFR operations. • VFR receives traffic information on other VFR but are not separated from each other by ATC. SVFR are separated from SVFR when visibility (VIS) is less than Visual Meteorological Conditions (VMC). • VFR and SVFR speed limited to 250 knots (kt) Indicated Air Speed (IAS) below 10,000 feet (FT) Above Mean Sea Level (AMSL)*.
D	Towered locations such as Bankstown, Jandakot, Archerfield, Parafield and Alice Springs.	• All aircraft require a clearance from ATC to enter airspace. For VFR flights this may be in an abbreviated form. • As in Class C airspace all aircraft are separated on take-off and landing. All aircraft require continuous two-way radio and are speed limited to 200 kt IAS at or below 2,500 FT AMSL within 4 NM of the primary Class D aerodrome and 250 kt IAS in the remaining Class D airspace**. • IFR are separated from IFR, SVFR, and provided with traffic information on all VFR. • VFR receives traffic on all other aircraft but is not separated by ATC. • SVFR are separated from SVFR when VIS is less than VMC.
E	Controlled airspace not covered in classifications above	• All aircraft require continuous two-way radio and transponder. All aircraft are speed limited to 250 kt IAS below 10,000 FT AMSL*, • IFR require a clearance from ATC to enter airspace and are separated from IFR by ATC and provided with traffic information as far as practicable on VFR. • VFR do not require a clearance from ATC to enter airspace and are provided with a Flight Information Service (FIS). On request and ATC workload permitting, a Surveillance Information Service (SIS) is available • within surveillance coverage.
F	IFR and VFR flights are permitted. All IFR flights receive an air traffic advisory service and all flights receive a flight information service if requested. Not currently used in Australia.	
G	Non-controlled	• Clearance from ATC to enter airspace not required. All aircraft are speed limited to 250 kt IAS below 10,000 FT AMSL*. • IFR require continuous two-way radio and receive a FIS, including traffic information on other IFR. • VFR receive a FIS. On request and ATC workload permitting, a SIS is available within surveillance coverage. VHF radio required above 5,000 FT AMSL and at aerodromes where carriage and use of radio is required.

* Not applicable to military aircraft

** If traffic conditions permit, ATC may approve a pilot's request to exceed the 200 kt speed limit to a maximum limit of 250 kt unless the pilot informs ATC a higher minimum speed is required.

Annex B Launceston Passenger and Aircraft Movements[20]

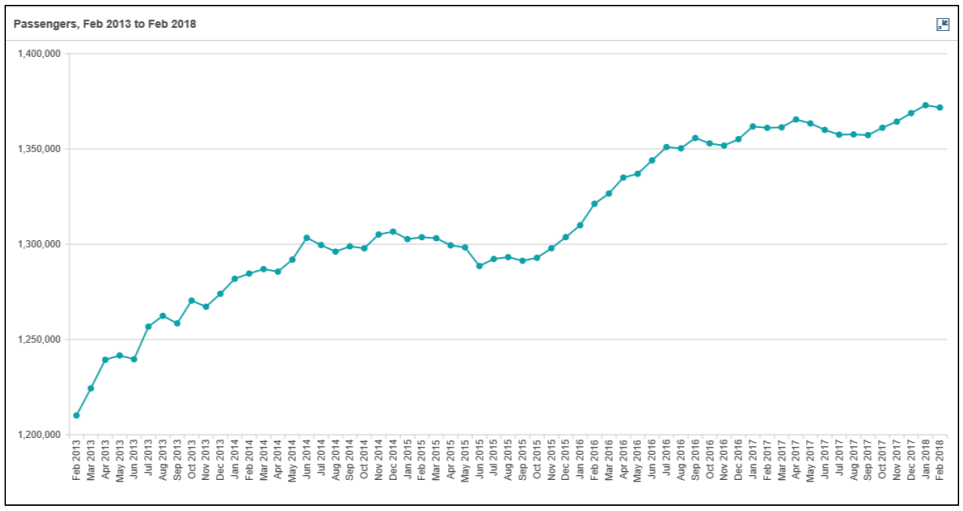

Figure 4: Launceston rolling 12 month passenger numbers 2013-2018

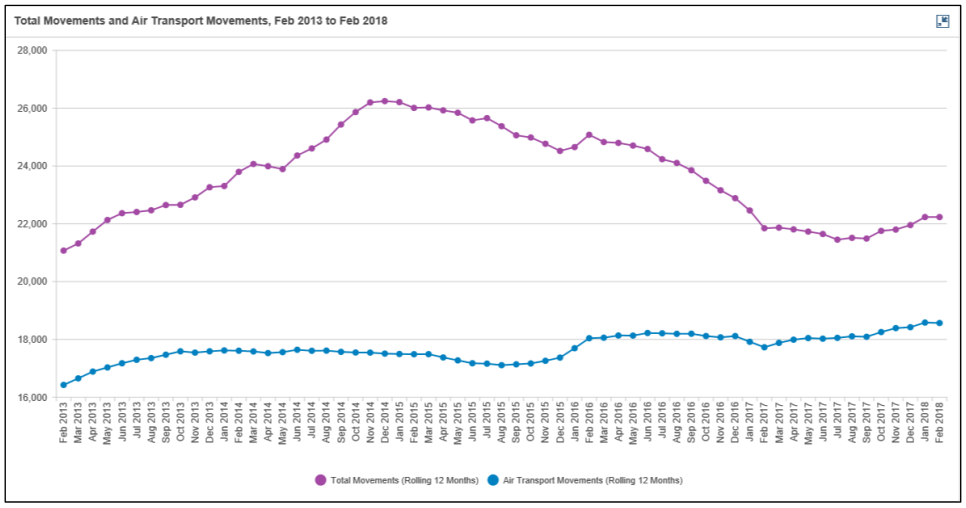

Figure 5: Launceston rolling 12 month total movements & air transport movements 2013-2018

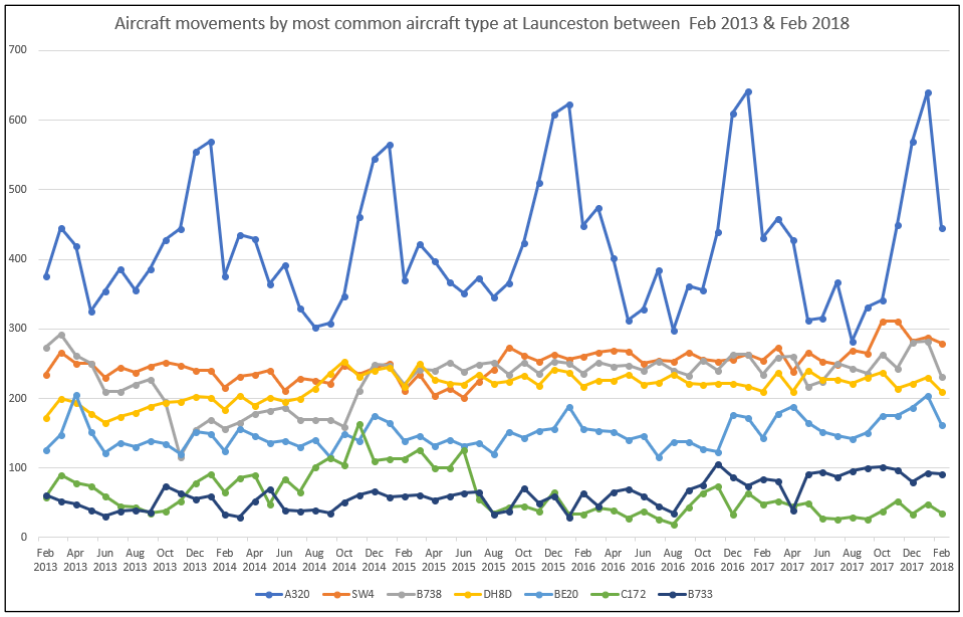

Figure 6: Aircraft movements by most common aircraft type at Launceston 2013-2018

[20] Source: Airservices Australia Passenger and Aircraft movement data Launceston Aerodrome 2013-2018

Annex C ATSB and Airservices Australia Incident Data Tables

Type of Primary Occurrence	Number of Occurrences					
	2013	2014	2015	2016	2017	2018*
Airspace	1	1	0	2	3	0
Consequential Events	0	0	0	0	0	0
Environment	0	3	4	2	3	0
Infrastructure	3	1	0	0	0	0
Operational	2	7	0	4	4	1
Technical	1	0	0	0	2	0
Total number of Occurrences	**7**	**12**	**4**	**10**	**12**	**1***

* to February 2018

Table 1: ATSB recorded incident data Launceston review area

Airspace – includes airspace infringements, loss of separation (LoS), loss of separation assurance, breakdown of coordination/information error, error by ANSP instruction or pilot actions;

Consequential Events – includes aircraft conducting missed approaches, fuel dumping, diverting or returning to aerodrome;

Environment – most common description for a bird strike, evidence of bird strike after landing or locating animals during runway inspections but also includes lightning strikes and turbulence issues;

Infrastructure – such as TASWAM failure;

Operational – takes into account pilot actions and runway incursions (resulting in events including LoS), ground proximity warnings, terrain collisions, crew and cabin safety, smoke or fumes events, avionics and equipment issues; and

Technical – includes airframe, systems such as landing gear indications and power plant matters e.g. engine running rough, engine failure.

Type of Primary Occurrence	Number of Occurrences					
	2013	2014	2015	2016	2017	2018*
ACAS Resolution Advisory	0	0	0	0	1	0
Aircraft accident / near collision	2	0	0	0	0	0
Airspace infringement	5	5	1	6	5	0
Loss of Separation/ Loss of Sep Assurance	0	0	0	0	0	0
Operational deviation	3	2	0	0	3	
Laser	0	2	0	1	1	0
UAV/RPAS incident	0		0	0	0	0
Other	3	9	6	8	10	0
Total number of Occurrences	**13**	**18**	**7**	**15**	**20**	**0***

* to February 2018

Table 2: Airservices recorded incident data for Launceston review area

Annex D Stakeholder consultation list

The following stakeholders were contacted to contribute to this review/study.

Organisation
Airservices Australia
AusALPA
Cranbourn Airport
George Town Airport
Launceston Aero Club
Launceston Airport
Par Avion
Qantas Group
Royal Flying Doctor Service
Sharp Aviation
Tasmanian Hang Gliding and Paragliding Association
Tasmanian RAPAC
Virgin Australia

Annex E Consolidated Summary of Responses

The following sections are the consolidation summary of comments or responses received, the OAR's response and disposition to actions to the Launceston Airspace Review.

No.	Stakeholder / Commentator	Report Reference	Comment	CASA response and action
1	AusALPA	Paragraph 4.4.6	Will this further investigation be for general CDOs or specifically for this review?	Section 4.4 Launceston SIDs and STARs identified the introduction of this procedures within the next 5-year period. Further investigations being conducted will be initially for the area included in this review. The OAR has begun enquires in relation to aircraft approach profiles for Launceston and other locations in Australia.
2	AusALPA	Annex D	Clarification provided that AusALPA is made up in part by the AFAP and the Australian and International Pilots Association (AIPA).	Annex D amended to show AusALPA.
3	AusALPA	Paragraphs 1.1.7 & 4.1.2	In relation to the Airspace Modernisation project undertaken by Airservices, some considerations by AusALPA and their submission on the project were provided to Airservices and submitted for this review.	AusALPA submission is noted added to review file within Stakeholder Submissions.
4	Qantas Group	Review Observation	The Group is currently satisfied with the current Airspace arrangements, however we would also support a review of the airspace steps to the North in an effort to facilitate continuous descent operations (CDO), as outlined in the Review Observation	Noted.
5	Qantas Group	Recommendation 1	The Group would not be supportive of reducing the classification or reduction in the volume of the Airspace, and as such agree with Review Recommendation 1.	Noted.
6	Qantas Group	Paragraph 3.2.5	The Review highlighted the controlled airspace as procedural airspace but made no mention of potential future enhancements to provide surveillance services. We would be supportive of such an initiative.	ATC at Launceston Tower provides a procedural tower and approach service. Airservices' Airspace Modernisation project should provide some changes surveillance services. The comment is noted.
7	Qantas Group	General	The Airspace needs to support PBN operations and facilitate the use of PBN procedures and other efficiencies.	The Qantas Group submission is noted and has been added to the review file within Stakeholder Submissions.