

Event: Aviation Cultures Mk VI Conference 2022

Session: Aviation Archaeology

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Title: Brisbane at War: The Brisbane WWII aviation landscape and what remains.

Abstract: Queensland was on the frontline in support of Allied offensives against the Japanese invasion of the South West Pacific and New Guinea. In response to the expansion of Japanese forces, Brisbane's aviation landscape was transformed to support preparations for the war in the South West Pacific. Sites and facilities built or upgraded included airfields, maintenance facilities, supply, and personnel depots, transmitting, receiving and HF direction finding stations, air observation control posts, headquarters, training schools and flying boat bases. The expansion of this aviation landscape transformed Brisbane in the post WWII era. Some of the facilities were converted to civilian use and others were retained for military use. Some of the sites and structures are still in use today, 76 years after WWII. However, today there is no or limited understanding or visual indication of what remains or has been lost to time of this significant WWII cultural heritage. This paper presents the initial research that aims to document and understand the WWII cultural landscape of Brisbane during WWII, what was there, what happened to it, what has been lost, and what is left and needs protecting.

## **THE EVOLUTION OF BRISBANE AT WAR: THE RAPID CHANGE OF BRISBANE and SURROUNDS AVIATION LANDSCAPE DURING WWII AND WHAT REMAINS.**

### **Introduction**

The Japanese invasion of the South West Pacific and New Guinea resulted in Queensland being on the frontline in support of Allied offensives to counter that threat. In response to the expansion of Japanese forces, Brisbane and the surrounding area's aviation landscape was transformed to support the war in the South West Pacific. The expansion of this aviation landscape had a lasting effect on Brisbane and the surrounding area in the post-World War Two (WWII) era. Some of the facilities have been transformed for civilian use and others retained for military use. Some of the sites and facilities are still in use today, 77 years after WWII. However, a lot has been lost to time there is limited visual indication of much of the significant heritage.

The popular focus of aviation archaeology is generally on aircraft and the story of the pilots. But an aircraft does not operate without the support of an airfield, maintenance facilities, stores, fuel, and allied services and industry. This whole network forms the aviation cultural landscape. By studying the whole cultural landscape and the temporal changes that are associated with the landscape we can better understand and be informed about the past.

This paper represents one part of a bigger study looking at the whole cultural landscape established in Brisbane during WWII and what remains of it now. It investigates the location and nature of the defence facilities and sites that were constructed or used and examines common characteristics between the sites, including their construction, design, and aesthetic. It then asks whether there were relationships between the sites as a means of understanding the system of defence. Finally, it considers what remains of this WWII landscape and some of the implications for future interpretation and management.

This paper is based upon the initial collection of landscape and site data, drawing on the initial research and analysis of raw archival data and limited reconnaissance and aerial photography and surveys. The information and conclusion are therefore only preliminary.

The region under study is Brisbane and its' surrounding area, being within 75 km of the Brisbane GPO. What is considered part of the aviation cultural landscape of WWII is anything that has a direct relation to aircraft and WWII, be that support and maintenance to allow military aircraft to fly, anything related to the RAAF or another air force, or anything related to the defence of the areas from air attack or communication or detection of aircraft.

The research methodology being used involves the examination of National Archives records, heritage registers, Queensland Government websites, histories, and other documentary evidence to identify as many naval, military and air sites and facilities in and around Brisbane related to WWII. The collected data is then recorded in a custom-designed geographical information system (GIS) database. GIS allows the material culture to be visualised spatially and temporally, which aids in analysis, data communication and understanding.

### **The defence aviation landscape prior to WWII**

Prior to WWII, Brisbane had a small aviation landscape that had existed for many years but no defence related sites. The RAAF was in the process of establishing a Citizen Force Squadron in Queensland. On the 15<sup>th</sup> of July 1938, the Minister for Defence approved the purchase of land at Boondall (Brisbane), but the site was deemed unsuitable due to the risk of flooding and after other sites were considered, the Amberley area was recommended (ABCA 1938). The construction of a

hangar was planned in January 1939 and approved by the Minister on the 25<sup>th</sup> of February 1939 (ABCA 1939a). When Australia entered WWII on the 3<sup>rd</sup> of September 1939 Amberley Airfield was still being constructed. As a result, the Minister for Defence approved for No. 23 Squadron to move to Archerfield on the 28<sup>th</sup> of June 1939 whilst awaiting the completion of Amberley (ABCA 1939b). It has been reported that they arrived on the 30<sup>th</sup> of August 1939, just prior to the outbreak of war (BCC 2008). At the start of WWII, the defence aviation landscape for the Greater Brisbane area was very sparse (Figure 1).

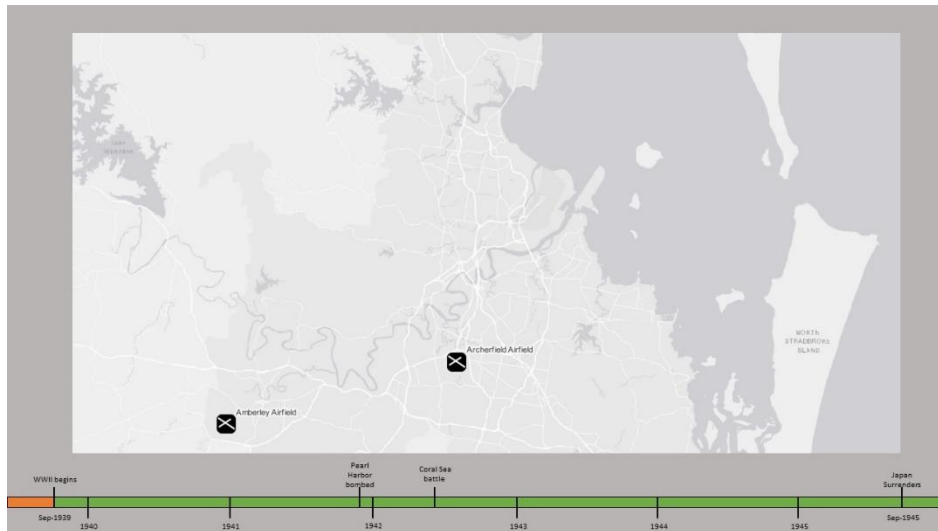


Figure 1: Existing defence aviation landscape in Greater Brisbane prior to WWII.

### Growth of aviation defence sites.

The current research of WWII defence sites in Greater Brisbane has identified 221 sites, of which 53 are aviation related. Other than the two sites discussed above that were in use by the RAAF obtained before the outbreak of war, 51 sites were established once the war commenced with the majority, 35 (66%) obtained in 1942 (Figure 2).

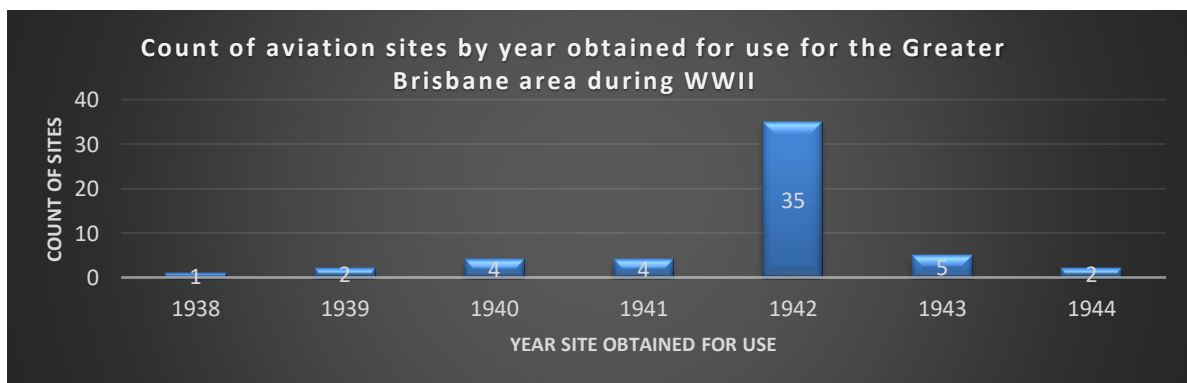


Figure 2: Count of aviation sites by year obtained for use for the Greater Brisbane area during WWII.

### The start of WWII

With the commencement of WWII, the RAAF established a recruitment centre in Brisbane City on the 29<sup>th</sup> of September 1939 (DES 2014c). The build-up of the aviation landscape for the Brisbane area was slow with only four sites established in 1940, a RAAF Command HQ at Kelvin Grove, a bombing range at Wyaralong that was operational on the 31<sup>st</sup> of August 1940 (DACA 1940-1942b) and in December an airfield at Rosewood (DACA 1943a) was obtained as a relief land ground (RLG)

(Figure 3); and the RAAF No.3 Personnel Depot at Sandgate (now Brighton). The Sandgate Depot was an initial training school and staff arrived at the site in December 1940 to find no buildings and had to transfer to Amberley until March 1941 (DACA 1940-1944).



Figure 3: Aerial photograph of RAAF relief landing ground at Rosewood, Queensland (DACA 1943a).

The following year saw the addition of a further four sites RAAF No. 3 Stores Depot (SD) and No. 5 Transport Movement Office at Spring Hill in June 1941 (DACA 1941-1945). On the 22<sup>nd</sup> of September 1941, the Minister of Defence approved the acquisition of Lowood Airfield for the establishment of No. 12 Elementary Flying School, along with Wivenhoe and Coominya Airfields to be used as an RLG. The total cost of the project was estimated at \$11.3M adjusted for inflation (ABCA 1941). After initially being used as a flying school, Lowood was later used by the US Army Air Force (USAAF) 8<sup>th</sup> Fighter Group before being used by 23 SQN RAAF (ABCA 1943a; Dunn 2020a). By the end of 1941, the RAAF had established a small but substantial footprint in Brisbane and the surrounding area (Figure 4).

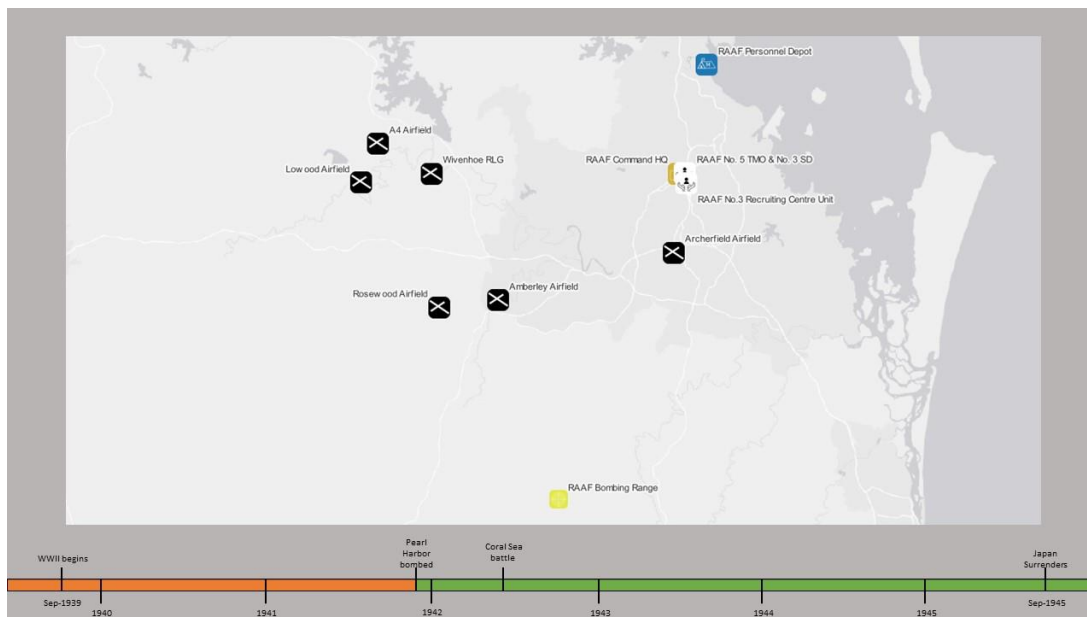


Figure 4: Brisbane aviation defence landscape during WWII and prior to 1942.

## Expansion in 1942

As depicted in Figure 2, 1942 saw the addition of 35 aviation related sites in the Greater Brisbane area, this growth can be better understood by analysing the establishment of sites by the month these sites commenced as shown in Figure 5. The attack on Pearl Harbor occurred on the 7<sup>th</sup> of December 1941, which may have influenced the increase of sites in January and February of 1942. In January 1942, the RAAF expanded their stores depot facilities with No. 3 SD Annex at Eagle Farm and the compulsory acquisition of land at Eagle Farm on the 27<sup>th</sup> of January 1942 under National Security Regulations for use as a RAAF Aerodrome. Eagle Farm was later given to the USAAF on the 22<sup>nd</sup> of June 1942 (DACA 1942-1943). Additionally, an Air Defence HQ was established in the now former Wills Building on Ann Street, Brisbane (DACA 1945-1946). In February 1942, St Laurence's College, a Boys School ay South Brisbane was taken over by the Brisbane Fortress Headquarters (HQ) (Dunn 2020b). The Fortress Brisbane HQ had originally been established in August 1939 at Victoria Barracks, Petrie Terrace but later moved to South Brisbane (DACA 1939-1942).

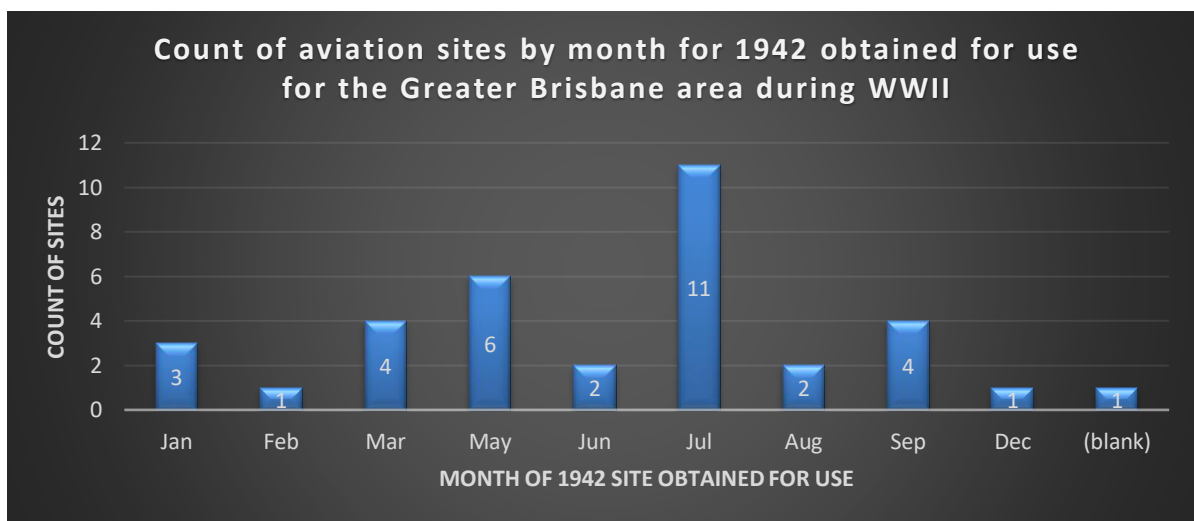


Figure 5: Count of aviation sites by month for 1942 obtained for use for the Greater Brisbane area during WWII.

In March 1942, an observation post was established by the Australian Army on Whites Hill, Brisbane; the RAAF acquired Rocklea Showgrounds as a transit camp (DACA 1943-1949) and Goolman Airfield was approved as an RLG for Amberley (ABCA 1942a). Following the fall of the Philippines in March 1942, a further six airfields were approved for the Brisbane area in May, Petrie A1, Strathpine A2 and A3 (ABCA 1943c), Coominya No. 2 (A6) (ABCA 1943b), Warrill Creek A8 (DACA 1943b) and Gales A9 (DACA 1943-1944). In June, a RAAF Flying Boat base at Hamilton was operating (DESQG 2014e) and a radar station at Lytton was established (DESQG 2014h).

With the arrival of General Douglas MacArthur in Brisbane in July 1942, who had been appointed the Supreme Commander for the South West Pacific Area, he established his General HQ in the then AMP Building on Queen Street. The building is now known as the MacArthur Chambers (DESQG 2014b). A further three airfields were established and five heavy anti-aircraft batteries around Brisbane, along with searchlight facilities. The remainder of 1942 saw the addition of three airfields at Kingston (DACA 1940-1942a; DESQG 2014g), a USN Airbase at Colmslie (DESQG 2014d), a remote receiving station at Zillmere (ABCA 1942b; DESQG 2014j) and an addition heavy anti-aircraft site at Hendra (DESQG 2014f). By the end of 1943, a further five sites had commenced, which included two further radar stations at Pinkenba (ABCA 1942c; DESQG 2014i) and Toorbul (ABCA 1942d). By the end of 1944, a total of 53 had been established and Brisbane had gone from an area with virtually no aviation defence facilities to having an extensive aviation footprint (Figure 6).

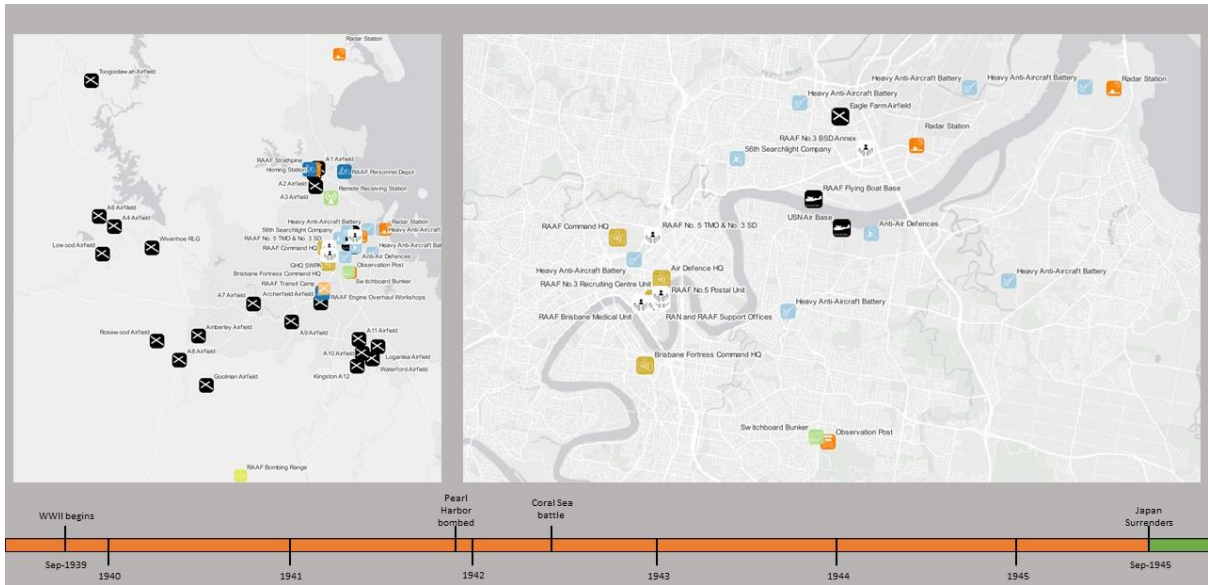


Figure 6: Brisbane aviation defence landscape at the end of WWII.

### Summary of aviation sites

By the end of the war in 1945, there were at least 53 aviation defence sites in Brisbane. Airfields not surprisingly were the most numerous types of sites with 21 (40%) (Figure 8). The next largest type of sites were heavy anti-aircraft batteries and support facilities, of which there were 6 (11%) each (Figure 7).

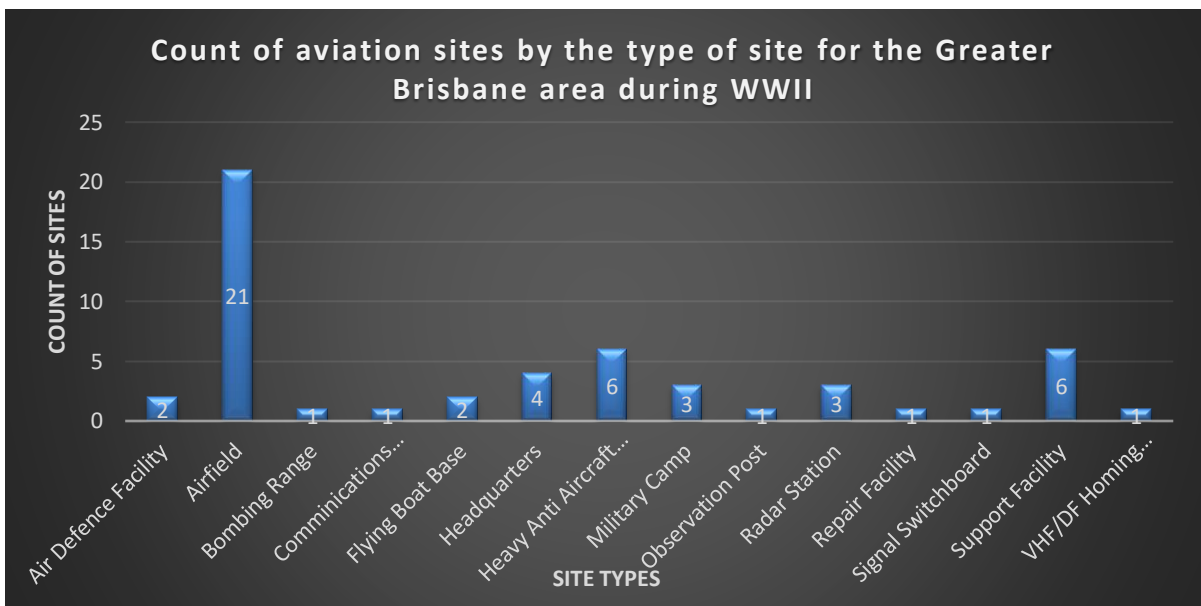


Figure 7: Count of aviation sites by the type of site for the Greater Brisbane area during WWII.





Figure 8: Greater Brisbane defence airfields at the end of WWII.

Figure 9 shows the layout of anti-aircraft defence and aircraft detection sites in the Greater Brisbane area. The anti-aircraft sites are concentrated along the Brisbane River, where major infrastructure was located. Ten (19%) of the sites were used by both forces, with Australian forces inhabited 49 (92%) of the sites, of which 39 (74%) were solely used by Australian forces. The US forces used 14 (26%) of the sites, with 4 (8%) solely used by them. (Figure 10).

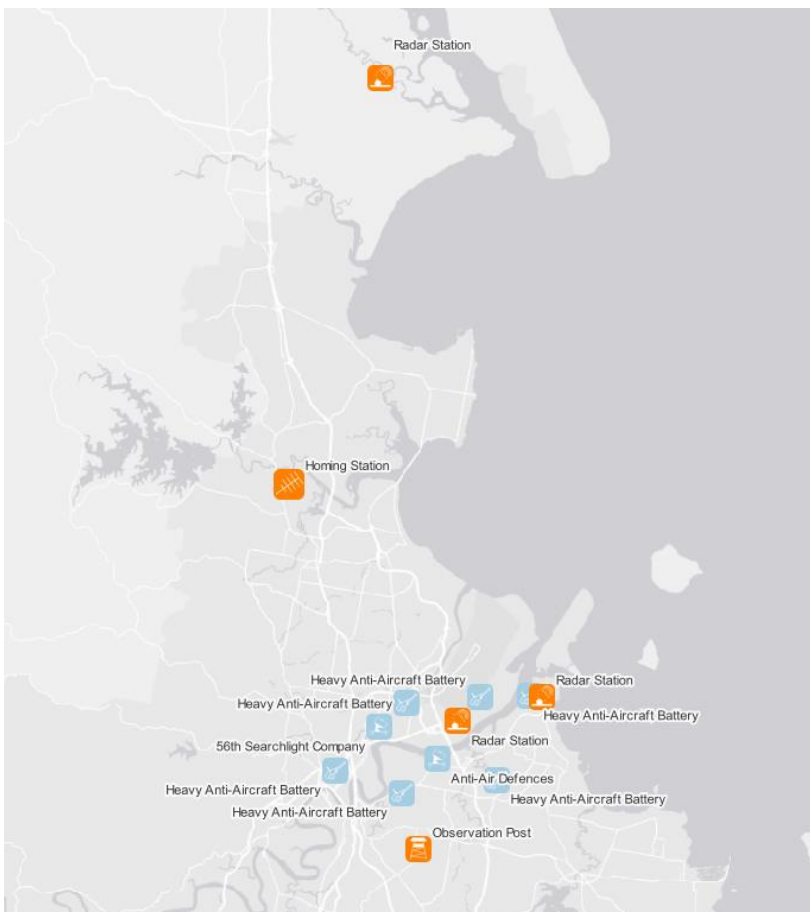


Figure 9: Anti-aircraft defensive and aircraft detection sites in Greater Brisbane at the end of WWII.



Figure 10: Count of the aviation site by country using them for the Greater Brisbane area during WWII.

**What remains**

Now 77 years after WWII this aviation landscape has changed, with limited evidence remaining of the sites. Of the sites that still exist there is limited visual indication of their heritage significance. Of the 53 aviation sites identified nine (17%) have known remains. The only site that continues to be used for defence purposes is Amberley Airfield. Only two other airfields remain, Archerfield which was returned for civilian use and Toogoolawah, which has become Watts Bridge Memorial Airfield. Of the nine remaining sites, four sites were existing sites that were taken over for military use during WWII. Of the remaining six sites, four were concrete structures, such as heavy anti-aircraft batteries and radar stations. Recently the former RAAF No. 3 Stores Depot was demolished for the Cross-River Rail Project.

Of the 53 recorded aviation sites 37 (70%) are recorded on the Queensland WWII Historic Places website (DESQG 2014a) and so the remaining 16 sites are not currently listed. The sites detailed in the paper are most likely an incomplete list and further sites are likely to be identified. Additional civil defence sites such as air raid shelters are currently out of scope for this project but could be included in the aviation landscape of Brisbane for WWII (Figure 11).

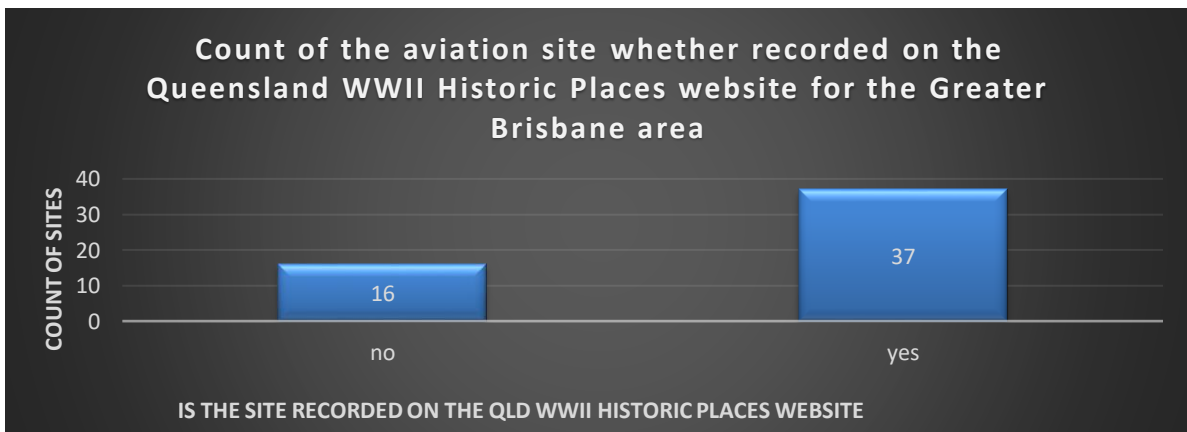


Figure 11: Count of the aviation site whether recorded on the Queensland WWII Historic Places website for the Greater Brisbane area.

**Discussion and conclusions**

From the limited analysis of the data at this early stage of the project, there is evidence that the Australian Government and Military were preparing for a conflict prior to the outbreak of WWII. The RAAF had looked for a suitable site to establish a base in the Brisbane region and had selected



Amberley. Additionally, a Fortress Brisbane HQ had been established in August 1939, which had members of all the Services to make plans for the defence of Brisbane. These plans were most likely in anticipation of aggression from Japan and not in reaction to their entry into the war. This provides some insight into the maturity of the Australian Government and defence thinking in the early part of WWII. Further, this planning and the establishment of airfields around Brisbane before the loss of the Philippines by the US Forces to Japan allowed for the provision of airfields to the USAAF on their arrival after March 1942.

This paper presents the initial research into the aviation cultural heritage and landscape resulting from WWII and further research is to be conducted and so any conclusions or trends are only indications at this stage.

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