

girl from the killer's group. On the Murray River, revenge attacks were carried out by groups of two or three men who entered campsites at night and strangled their victims with such stealth that the camp would not know about the killing until they discovered it in the morning. These war parties were known as 'the ones who take you by the throat'.

The weapons used in Aboriginal traditional warfare varied greatly across Australia. All Aboriginal nations used spears and clubs manufactured in a wide variety of designs. Other weapons such as woomeras and boomerangs were produced only in particular regions. For more information on these regional variations in weapon design and usage, see David Horton (gen. ed.), *The Encyclopaedia of Aboriginal Australia* (2 vols, Aboriginal Studies Press for the Australian Institute of Aboriginal and Torres Strait Islander Studies, Canberra, 1994); and Bill Arthur and Frances Morphy (gen. eds), *Macquarie Atlas of Indigenous Australia* (Macquarie Library, Sydney, 2005).

Spears were designed as either thrusting or throwing weapons. Thrusting spears were shorter, generally between 1 and 1.5 metres, while throwing spears could be up to 4 metres long. Solid wooden spears were heavy—those used by the Tiwi of Melville and Bathurst Islands weighed up to 1.8 kilograms—and were therefore hard to throw. Composite designs using a hollow reed or grass tree stalk for the spear body and a short spear head of solid wood, such as those made by the Eora around Sydney, were lighter and could be thrown further. Serrated or barbed spear-points, made using sharpened shell, stone or bone, were used because they inflicted a lacerating wound more deadly than that produced by a straight point.

A spear's velocity and accurate range could be increased by using a spear-thrower. The Eora word for a spear-thrower is 'woomera', and it is by this name that these items are generally known in Australian English. Woomeras were not used in Tasmania, south and central Queensland or by the Tiwi. In the rest of the country, woomeras came in three main designs: broad and heavy types, which could also be used as clubs or shields, were made in central and western Australia; a narrower lath type was used in northern and south-western Australia; and a narrow stick-like design was used in northern and south-eastern Australia.

Clubs generally were between 60 and 90 centimetres in length. The club head was normally stone or wood, though the Eora made one club which had oyster shells attached to the head. The club handle could be pointed to allow it to be used as a stabbing weapon. In eastern Australia, the handle was sometimes curved to enable the club to be thrown.

Throwing sticks were similar to throwing clubs but were used only outside eastern Australia. Tasmanian throwing sticks were pointed at both ends; in the Kimberleys they were pointed at one end and rounded at the other; while the Tiwi made sticks that were blunt at both ends. Throwing sticks were usually between 60 and 70 centimetres in length. Most were straight. Some were curved like boomerangs, though they were circular rather than flat in cross-section.

Although they are the best known Aboriginal artefact, boomerangs were not made in many large areas of Australia

including Cape York, parts of Arnhem Land, the Kimberley coast, Tasmania and the region of South Australia west of Lake Eyre and Lake Torrens. The word 'boomerang' comes from the Darawal language from south of Sydney and those used in warfare were generally of the non-returning type. In central Australia, hooked boomerangs were used which were designed to catch on a shield and spin around to hit the warrior behind it.

Women engaging in warfare often used their digging sticks as weapons. In some areas men also used fighting sticks, such as the Tharrgari, inland from Carnarvon in Western Australia, who made a two-metre-long fighting stick called a 'wana'.

Knives were used in close combat. Generally these had a stone blade, though on the west coast of Cape York, knives were made by attaching shark teeth to a wooden handle. In central Australia, fighting picks, consisting of a stone point attached at right angles to a long wooden handle, were manufactured. In Tasmania, stones were the main projectile weapon, and could be effective especially if thrown from high ground onto an enemy below.

Shields were used mostly in formal battles. Large, light shields were used in most parts of Australia, except Tasmania, to deflect spears. In the rainforest areas of north Queensland, broad shields were carved out of a fig tree root and given ceremonial decorations intended to protect the owner. In south-eastern Australia, smaller shields were used in hand-to-hand fighting. These were generally small, circular and up to 15 centimetres thick so as to absorb the shock of blows from a club. These small shields were generally not decorated as any designs would soon be defaced in combat.

Torres Strait Islanders had their own forms of traditional warfare and weapons. They used bows and arrows, and raiding parties travelled by canoe to other islands to carry out revenge attacks that included headhunting.

JOHN CONNOR

ABORIGINES AND TORRES STRAIT ISLANDERS IN THE ARMED FORCES

Aborigines and Torres Strait Islanders have participated in each war Australia has fought since the end of the nineteenth century. Aboriginal trackers were employed by the Australian contingent in the Boer War, and approximately 400 to 500 Aborigines served as enlisted soldiers in the First World War. About one-third of those who served became casualties; at least one, **Douglas Grant**, became a POW and several, including Albert Knight and William Rawlings, won medals for their outstanding courage during battle. On their return to Australia, however, Aboriginal soldiers found that their performance of the duties of citizenship did not win them citizens' rights. Throughout Australia, but particularly in the 'frontier States' of Queensland, the Northern Territory, Western Australia and South Australia, Aborigines and Torres Strait Islanders remained marginalised, without the vote in State or federal elections, and under the control of the so-called 'Protection Acts'—highly repressive and paternalistic acts imposing strict White control over almost every aspect of Aboriginal and Islander life.

ABORIGINES AND TORRES STRAIT ISLANDERS IN THE ARMED FORCES

Despite the failure of White Australia to respond to the sacrifice made by Aboriginal and Islander people during the First World War, it was in the Second World War, and particularly during the war in the Pacific, that Aborigines and Torres Strait Islanders made their greatest contribution to national defence in terms of raw numbers and in the range of duties they performed. In 1939 the federal government replaced its 'Protection' policy with a policy of assimilation, which was aimed at assimilating detribalised Aborigines and Islanders into the broad stream of White Australian society. However, by early 1940 each of the services had passed regulations barring persons not 'substantially of European origin or descent' from enlistment. The RAAF alone reserved for itself the right to depart from its regulations in time of war. Many senior officers felt that White Australians would not serve satisfactorily with Black Australians and that the operational performance of the services would suffer as a result. But faced with the heavy manpower demands imposed on it by the **Empire Air Training Scheme**, the RAAF could not afford to reject otherwise suitable recruits on racial grounds and so began to admit non-Europeans, including Aborigines and Islanders, more freely than the other services. Despite the bans imposed on their enlistment, some Aboriginal and Islander recruits managed to join up very early in the war while recruiting officers were confused about enlistment policy. This contingent included men like **Reg Saunders**, who was to become the only Aborigine to serve as a commissioned officer in the Australian forces during the war, and Charles Mene, whose many years of exemplary service included winning the Military Medal in the **Korean War**. The service of these men and others who enlisted at this time proved that the concerns of senior officers were baseless.

Aboriginal political organisations such as the Aborigines' Progressive Association and the Aborigines' Advancement League saw the war as an opportunity to press for an extension of full citizens' rights to Aborigines. Although the powerful National Association for the Advancement of Colored Peoples had to struggle to achieve the desegregation of the military in the United States, in Australia, where the small number of Aborigines and Islanders available for military service all but eliminated the possibility of forming segregated units, Aboriginal political organisations urged just that. This was to ensure that the war effort of Aboriginal and Islander Australians would be highly visible and therefore form a more potent argument for improving the lot of Black Australians. Apart from some isolated attempts, the armed forces had no interest in enlisting Aborigines and Islanders or in forming segregated units until mid-1941 when the Japanese threat emerged. This caused the demand for military manpower to increase enormously; the services abandoned their earlier exclusive attitudes to the enlistment of Aborigines and Islanders (but kept the discriminatory regulations in place) and began to admit them in larger numbers. Most of the Aborigines who enlisted served in integrated units. The cohesive forces that weld small groups together in military organisations resulted in them finding levels of acceptance

they had seldom experienced in their pre-war lives. Military service in integrated units provided opportunities for personal advancement, and many Aborigines and Islanders rose to the rank of NCO where they had command over White Australians in battle—an unheard-of status for Aborigines in pre-war Australia. Others used the war as a means of broadening their personal horizons through travel and the acquisition of skills. One man, Warrant Officer Leonard Waters, fulfilled his boyhood dreams of becoming a fighter pilot, an impossibility for an Aborigine before the war.

As well as abandoning their opposition to the enlistment of non-Europeans, the armed forces also overturned their resistance to the formation of segregated Aboriginal and Islander units. The Torres Strait Light Infantry Battalion, manned mainly by Islanders but also including some Cape York Aborigines, began recruiting in June 1941 and reached its peak strength of 745 Islanders and Aborigines in August 1943. Officers and senior NCOs were White Australians; segregation of the unit was accompanied by discrimination. The Black soldiers of the Light Infantry Battalion were illegally underpaid throughout the war, and the underpayment was not made good by the Commonwealth government until 1986. Elsewhere in northern Australia, small irregular units of Aborigines were formed to provide surveillance of isolated parts of the coast. In east Arnhem Land, an area unmapped and devoid of White population yet a potential site for a Japanese landing, the Northern Territory Special Reconnaissance Unit was formed. Commanded by Squadron Leader Donald Thomson, an anthropologist before the war, it consisted of 50 tribal Aboriginal warriors, six Solomon Islanders, a Torres Strait Islander and several White NCOs. The Aborigines patrolled east Arnhem Land searching for signs of Japanese landings. They were to use their traditional weapons to wage a guerrilla war against the Japanese while reporting the enemy's movements to Darwin. Similar irregular forces were raised at Bathurst and Melville Islands, on the Cox Peninsula across the harbour from Darwin, and at Groote Eylandt. In each case the armed forces sought to make use of the Aborigines' outstanding local knowledge and bushcraft skills for the defence of Australia. Not one of these irregular forces was formally enlisted or paid for their service. The Commonwealth government finally acknowledged the service of these groups in 1992, when they were paid and awarded their war service medals.

As Japanese forces advanced towards Australia, the northern coast was fortified for defence. Some White Australians believed that Aborigines, particularly those who had worked in the pre-war pearling industry which was dominated by the Japanese, would assist the enemy, but this proved false. In fact, Aborigines overwhelmingly gave their support to the defence effort. Across northern Australia they laboured to build airstrips at isolated outposts for the RAAF, they worked to keep the supplies moving north to Darwin for the Army, they rescued downed airmen, salvaged crashed aircraft, located unexploded bombs and performed a host of other tasks. Along the Stuart Highway from Alice Springs to Darwin, labourers and their families were moved into

Army-run labour settlements. These settlements set new standards for the accommodation, food rations and welfare of Aboriginal labour in northern Australia and had a considerable but indirect influence on the future of Aboriginal labour relations in this region.

It is impossible to make an accurate tally of the number of Aborigines and Islanders who served in the Second World War because the armed forces generally did not record the race of their recruits. An estimated 3000 Aborigines and Islanders served as formally enlisted soldiers, sailors or airmen. A further 150 served as irregular soldiers in northern Australia and about 3000 worked for at least part of the war as labourers directly employed by the armed forces. This level of effort was a remarkable achievement. Taken alone, the war effort of Torres Strait Islanders, which is much more accurately documented, is even more impressive. Virtually every able-bodied Islander male of military age—about one in every four or five Islanders—served in one or other of the services. This compares very favourably with the figure for Australians as a whole, which was one in every seven or eight.

At the war's end, when the demand for military manpower had again subsided, the armed forces reintroduced their bans on the service of non-Europeans and, for a time, no Aborigines or Islanders were permitted to join the peacetime armed forces, although those who had joined during the war were allowed to remain in service. Aborigines and Islanders who had served in the Second World War were given the vote in Commonwealth elections, and therefore in State elections, through an amendment to the Commonwealth *Electoral Act*, but the general extension of full citizens' rights to all Aborigines—which Aboriginal servicemen and political organisations had been advocating—was not to eventuate until the 1960s.

Some Aboriginal and Islander servicemen remained in the forces following the end of the Second World War and became members of the **British Commonwealth Occupation Force** in Japan, and later served in the Korean War. Other Aborigines with a high public profile, like Reg Saunders, were able to re-enlist for the Korean War. Reg Saunders served with the rank of Captain during the Korean War and commanded a rifle company in 3RAR at the battle of Kapyong.

As late as 1954, and despite the Commonwealth government's assimilation policy, recruiting advertisements continued to warn that persons must be of primarily European descent before they could be eligible for military service. Aborigines were also excluded from the 1951 to 1959 National Service scheme (see **Conscription**) which conscripted Australians for home defence only. The National Service scheme adopted between 1965 and 1972 conscripted Australians for overseas service but Aborigines were again excluded despite demands from the public for their inclusion. This raised the question of what constituted Aboriginality, and at least one person of 'part-Aboriginal' descent added to the anti-conscription debate by arguing that he should be exempt from conscription on the grounds that he was an Aborigine, although he lived a detribalised

lifestyle. Numerous Aborigines served in the Vietnam War as volunteers.

In the post-Vietnam era the armed forces continue to be troubled by the problem of ensuring the security of remote parts of northern Australia. The Army has created a series of regionally based Army Reserve surveillance units, namely the North West Mobile Force (NORFORCE), 51 Far North Queensland Regiment and the Pilbara Regiment. The first two draw heavily on the local Aboriginal and Islander population for their recruits, and Aborigines and Islanders are heavily overrepresented in their ranks. By 1992 Aborigines and Islanders were represented within the armed forces as a whole in general accordance with their representation within the community. However, they remain underrepresented in the officer corps, not least through inability to meet stringent educational requirements.

ROBERT A. HALL

ACHERON, HMCS see **New South Wales Naval Forces ships**

ACUTE, HMAS see **Attack Class patrol boats**

ADELAIDE (I), HMAS (Modified *Chatham* Class light cruiser). Laid down 1915, launched 1918; displacement 5560 tons; length 463 feet; beam 50 feet; 1922 armament 9 × 6-inch guns, 1 × 3-inch anti-aircraft gun; 1939 armament 8 × 6-inch guns, 3 × 4-inch guns, 4 × 3-pounder guns; 1942 armament 7 × 6-inch guns, 2 × 4-inch guns; speed 25 knots.

A three-funnel light cruiser built at **Cockatoo Island** in Sydney, HMAS *Adelaide* was not launched until a few months before the end of the First World War, and peace delayed the ship's completion until 1922. In 1927 HMAS *Adelaide* went to the Solomon Islands to help put down indigenous opposition to British colonial rule. She was laid up from 1928 to 1938, when the ship was modernised and converted from coal to oil-fired engines. During the Second World War she served off New Caledonia in September 1940 and was then used for convoy duties off the coast of Western Australia. Her only action of the war occurred in these waters when she sank the German blockade runner *Ramses* on 28 November 1942. HMAS *Adelaide* was decommissioned after the war and broken up for scrap in 1949.

ADELAIDE (II), HMAS see **Oliver Hazard Perry Class guided missile frigates**

ADMINISTRATIVE AND INSTRUCTIONAL STAFF (A & I Staff) was the cadre of permanent soldiers created just after Federation to train and administer the predominantly part-time citizen soldiers of the Commonwealth Military Forces (see **Citizen Military Forces** and **Army, Titles of**). Created by Major-General Sir **Edward Hutton** under section 32 (2) of the *Defence Act 1903*, it consisted of permanent officers, warrant officers and NCOs, but no rank and file. Its structure and roles were divided into two branches, with the higher-level administration and training

ADMINISTRATIVE HEADQUARTERS, AIF

carried out by officers at headquarters level, and the lower level (unit) instruction and administration being delivered by warrant officers and NCOs.

To undertake their duties the officers of the instructional staff were attached to brigade headquarters with the task of teaching drill, tactics, discipline and administration. These officers reported to and were placed under the command of the part-time brigade commanders. Similarly, the tasks of instructional staff warrant officers and NCOs involved supervision and instruction of militia and volunteer warrant officers and NCOs in their respective duties. The instructional members of the A & I Staff were placed under the command of, and reported to, the commanding officer of the unit they were attached to. Administrative officers were classified as staff officers and were not normally considered for command appointments, these positions being reserved for general list officers.

The duties of all A & I Staff personnel expanded in 1906 when the Commonwealth Military Forces took command of the six cadet forces previously under state organisation. Officers originating in these state organisations were taken into the broader system and became the A & I Staff (Officers) of the Commonwealth Cadet Corps. This in turn led to the administration officers having two distinct classifications, with officers of cadets being maintained on a separate list.

In 1911 a major expansion of the A & I Staff occurred with the introduction of the Universal Training Scheme (see **Conscription**), under which there would be a massive expansion through the compulsory enlistment of cadets and militiamen. To cope with the expected increase of approximately 92,000 militia and cadet trainees the Army proposed an establishment of 49 officers and 425 warrant officers and NCOs. Accordingly the officers of cadets were consolidated into the A & I Staff to give the staff a total of 99 officers. There was a marked deficiency further down the ranks, however, and to provide the necessary numbers, four additional schools of instruction, in 1910, 1911, 1912 and 1913, were held. A total of 318 soldiers qualified to be promoted to Staff Sergeant-Major and were appointed to the instructional staff.

The last expansion of A & I Staff took place through individual appointments carried out to meet demand during the First World War when Australia had two armies. These were the volunteer expeditionary force, the Australian Imperial Force (AIF), fighting overseas and the citizen forces garrisoning Australia. As had been planned from the first days of Federation the A & I Staff were used to stiffen the expeditionary force and each of the units in the 1st Division, AIF included a number of A & I Staff NCOs in key positions. Officers of the A & I Staff similarly took up unit appointments such as adjutant, or key appointments on brigade staffs. Command appointments were scarcer, however, and the only permanent officer to be given a brigade in 1914 was Colonel **Harry Chauvel**.

Many A & I Staff were commissioned into the Commonwealth Military Forces at home in an effort to keep the militia viable, but by the end of 1915 militia units and formations

were feeling the deleterious effects of so many A & I Staff being with the AIF. Among those who served overseas was Captain James Edward Newland, the only permanent force soldier in two world wars to be awarded the Victoria Cross. More frustrating for permanent officers on active service, however, was a government decision to attempt to restrict them to the rank of major or below in order not to create a top-heavy instructional cadre at the war's end. Talented officers were thus effectively denied unit command and the decision contributed to the tensions that have existed between regular and militia officers in the Australian Army since, but which were most evident during the Second World War.

At the close of the Great War the strength of the Instructional Staff was 718. The wartime experiences of the five AIF divisions convinced the government a larger army would be required after the war. Based on the AIF model a new divisionally based citizen army was raised in 1921. The larger organisational demands of this force required different administration and as a consequence the A & I Staff was disbanded. In its place was created two new corps. The A & I Staff officers became the Australian Staff Corps in 1920, and the warrant officers and NCOs transferred to the **Australian Instructional Corps** in 1921.

ROLAND MILLBANK

ADMINISTRATIVE HEADQUARTERS, AIF In January 1915 Major-General **William Throsby Bridges** set up an Australian Intermediate Base under Colonel V. C. M. Sellheim to handle the administration of the AIF in Egypt and Gallipoli. At first this was set up as an Australian section of the British base under General Sir John Maxwell, but in early 1916 Maxwell separated out the Australian and New Zealand administrative bodies. Sellheim became commander of AIF Headquarters and was responsible to General Sir **William Birdwood**, who in April 1916 decided to move the AIF Base from Egypt to the United Kingdom. In May Sellheim and his staff arrived in Britain, where they took over offices in Horseferry Road, central London, which had been occupied since October 1915 by a records office established to deal with AIF convalescents.

Sellheim's organisation was now known as Administrative Headquarters, AIF. As commandant Sellheim was not only responsible for administration but also for liaison with the War Office and command of AIF troops in Britain. Doubts about his ability to handle such great responsibilities led to his being relieved of these posts in August 1916. He was replaced as commandant of Administrative Headquarters by former businessman Colonel Robert Anderson, and as commander of all AIF depots in the United Kingdom by Brigadier-General Newton Moore. When Birdwood became GOC, Australian Imperial Force, in September 1916 he had to divide his attention between his responsibilities as controller of AIF Headquarters and as commander in France. As a result he had to rely on Anderson, who had overall responsibility for the AIF training depots in England, to keep administration running smoothly. Unfortunately, while Anderson was an able administrator, he was tactless and distrusted the permanent soldiers,

who returned his antipathy. Furthermore, though Anderson had an initial success in his important role as the Australian government's representative at the War Office when he arranged a complete readjustment of accounting procedures with that office, he soon antagonised the War Office as well. In April 1917 Anderson was replaced by the most successful commandant of the Administrative Headquarters, Colonel Thomas Griffiths, who remained in that position until May 1919. Under the direction of Birdwood and his Chief of Staff, Major-General **Brudenell White**, Griffiths immediately drafted orders for the AIF's administration. His term as commandant earned him high praise from White, who said Griffiths was primarily responsible for the successful administration of the AIF, and from **C. E. W. Bean**, who called him 'one of the great figures in the Australian Army'.

The day-to-day work of the Administrative Headquarters involved keeping records of AIF personnel, servicing divisions in the field, liaising with the Department of Defence in Australia, and administrative duties relating to AIF personnel in Britain. Its Horseferry Road offices, which within a year of the Headquarters' establishment had become too small and were being criticised for being located in what some saw as a dingy area, soon became well known to Australian soldiers. Soldiers newly arrived on leave in London would visit the offices to collect pay, tourist information and usually a new uniform. They might then cross the road to the War Chest Club, a club and hostel funded by the **Australian Comforts Fund**, or get a meal at the nearby Anzac Buffet before heading out to see the city. W. H. Downing's *Digger Dialects* (1919) defines Horseferry Road as 'anathema to the fighting men', and the attitude of many front-line soldiers to those who worked in administration was expressed in the many versions of this popular Australian song of the First World War:

He went up to London and straight away strode
To Army headquarters on Horseferry Road,
To see all the bludgers who dodge all the strafe
By getting soft jobs on the headquarters staff.

ADROIT, HMAS see *Attack Class patrol boats*

ADVANCE, HMAS see *Attack Class patrol boats*

ADVANCED LAND HEADQUARTERS (LANDOPS) opened in Brisbane in the grounds of the University of Queensland on 1 August 1942 in response to the decision by General **Douglas MacArthur** to move his General Headquarters north from Melbourne. LANDOPS became General **Thomas Blamey's** operational headquarters and was responsible for the conduct of fighting during the Papuan campaign. Blamey's administrative headquarters, **Allied Land Headquarters**, remained in Melbourne, and as a consequence Blamey spent a great deal of time moving between the two. While this dual structure, and Blamey's twin roles as C-in-C of the Australian Military Forces and Commander of Allied Land Forces, violated various command principles, it was made necessary by the politics

of the alliance with the United States, the lack of military experience on the part of the Prime Minister, **John Curtin**, and Blamey's belief, probably well founded at this stage of the war, that no other Australian general was equipped to deal with the variety of urgent operational, administrative and political tasks that confronted him.

ADVISORY WAR COUNCIL (AWC), established on 28 October 1940, was designed to enhance the national war effort by drawing all major political parties in federal parliament into the decision-making process. Prime Minister Menzies initially argued for a government of national unity, but with the balance of power almost evenly divided between the conservative parties and the Labor Party, the Labor Party under John Curtin was not prepared to join an all-party government. Conversely the war situation was so critical that dissolution of parliament had to be considered a last resort. Rather than join an executive body by whose decisions it would be bound, thereby denying it the right to criticise the government in parliament, the Labor Party agreed to join an advisory body. The AWC consisted initially of four cabinet ministers from the War Cabinet and three members of the Opposition, with the Secretary of the War Cabinet (and of the Department of Defence Coordination), **F. G. Shedden**, acting as secretary. It met for the first time on 29 October 1940. The Labor government that came into office in October 1941 maintained the AWC, and adopted the principle that a recommendation made by it, with a majority of ministers supporting the recommendation, would normally be accepted by the War Cabinet. Following the landslide Labor win in the election of August 1943, there was not the political necessity to seek an accommodation with the Opposition. The changed political scene, as well as the markedly improved military situation, led to the decline of the AWC, although it was maintained as a courtesy to the Opposition. It ceased to exist on 30 August 1945 when the Opposition members suggested that it had achieved the purposes for which it had been formed.

AE1, AE2 see 'E' Class submarines

AFGHANISTAN, AUSTRALIAN DEPLOYMENT TO Within days of the Al Qaeda attack of 11 September 2001 at the World Trade Center in New York and the Pentagon in Washington DC the Australian Prime Minister, John Howard, invoked the mutual-defence clause of the **ANZUS** treaty. By doing so Howard committed Australia to participate in an American-led international coalition against terrorism.

Al Qaeda's base of operations was Afghanistan, where its Saudi-born leader, Osama bin Laden, enjoyed the protection of the country's Taliban government. The Taliban were an Islamic fundamentalist sect who came to power in the fighting that followed the collapse of the communist government in 1992. By 1996 they had occupied Kabul, the capital, and had extended their hold over much of the countryside. In the regions under their control the Taliban imposed strict religious rule on the population. After their refusal to close

AFGHANISTAN, AUSTRALIAN DEPLOYMENT TO

terrorist training camps and to hand over Osama bin Laden and his supporters, the American President, George W. Bush, decided to remove the Taliban government by force, and destroy the Al Qaeda organisation through military action.

The United States assigned the mission the name Operation ENDURING FREEDOM. Australia called its contribution to the war on terrorism Operation SLIPPER. On 7 October 2001 the United States opened the campaign with a bombardment from land- and sea-based planes and Cruise missiles. Within two months an alliance of opposition Afghanistan forces, supported by United States Marines and Special Operation Teams, had routed the Taliban from most of the country. On 22 December an interim government was established in Kabul. In 2004 the people of Afghanistan participated in a democratically run presidential election, and the following year they chose a National Assembly.

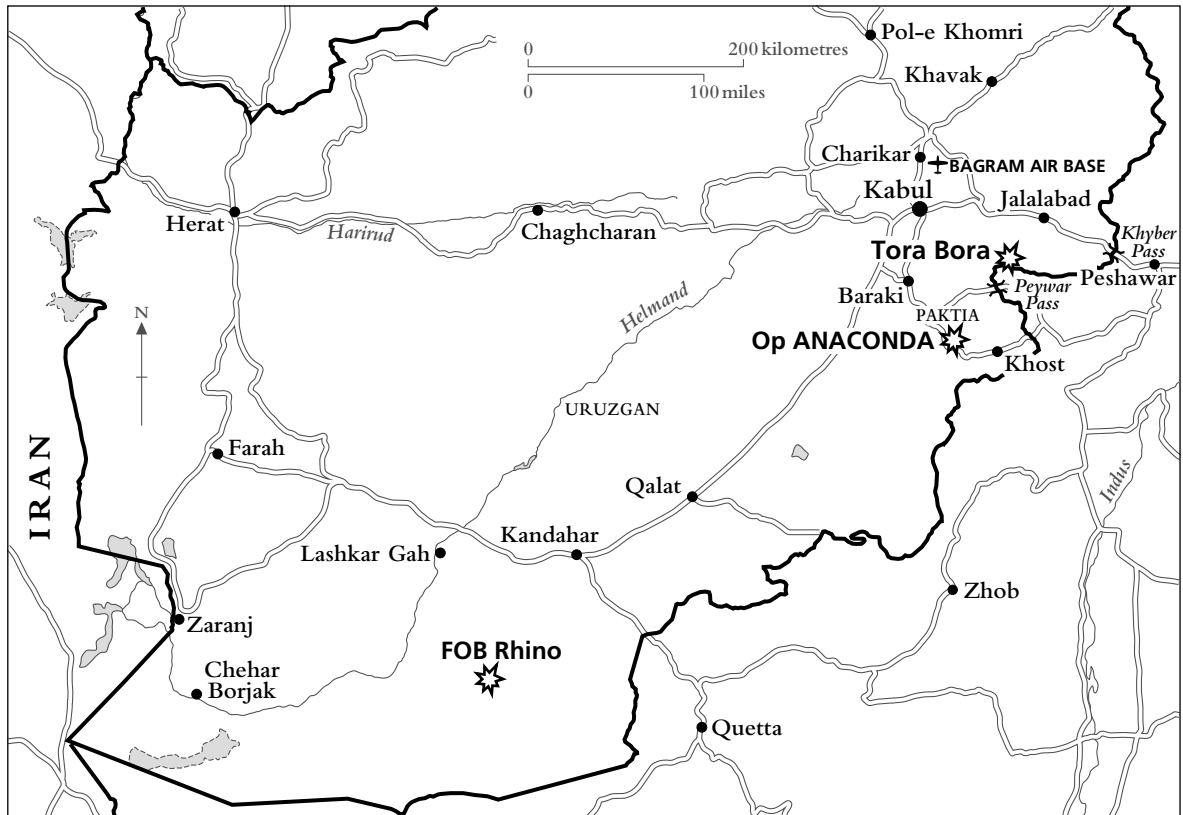
On 2 December 2001 Australia's Special Forces Task Group, based upon a squadron group from the Special Air Service Regiment (SAS) and including a troop from the New Zealand SAS, arrived in Afghanistan. The war had now entered a new phase: the effort to locate and destroy Taliban and Al Qaeda sanctuaries in the remote mountainous areas of Afghanistan. The Australians undertook numerous reconnaissance, surveillance, interdiction and long-range patrol missions, tasks for which they were ideally suited.

In March 2002 the Australian SAS joined with other coalition forces in a major offensive to clear the Taliban from the Paktia region of Afghanistan along the border with Pakistan. In Operation ANACONDA the Australians formed the southern screen of the battle zone. In a battle that raged for eight days approximately 500 of the enemy were killed. It was during ANACONDA that a SASR patrol came to the aid of an American helicopter that had been shot down during the insertion of a United States Special Forces Team. The quick reaction force helicopter had also been brought down nearby. As Al Qaeda and Taliban forces massed to overrun the American soldiers the Australians directed multiple air strikes that routed the enemy.

In addition to its ground troops the Australian government also deployed RAN and RAAF assets as a part of Operation SLIPPER. These included major fleet units operating in the Persian Gulf in support of the blockade against Iraq; four **F/A-18 Hornets** and support personnel sent to the Indian Ocean island and base of Diego Garcia; two Boeing 707 air-to-air refuelling aircraft sent to Manas in Kyrgyzstan to refuel coalition aircraft; and **Hercules** transport aircraft, which were used to support the entire operation.

After a year-long deployment the SAS returned home in December 2002. Australia then reduced its ground presence in Afghanistan to liaison and mine-clearance personnel.

Map 2a: Afghanistan.



Operation SLIPPER remained an active ADF operation, however, and the RAN and RAAF maintained ships and aircraft in the Persian Gulf.

In July 2005, in response to an upsurge in Taliban activity, the Australian government decided to recommit ground troops to Afghanistan. Australia deployed a Special Forces Task Group of approximately 190 personnel drawn from the SAS, Commandos and the Incident Response Regiment, along with a logistic support element. These troops were farewelled in September 2005 and were soon joined by a deployment of two **Chinook** helicopters. In May 2006 it was decided to commit further troops to support a new NATO-led force. A 240-person Reconstruction Task Force, geared to reconstruction tasks and made up largely of engineers, was deployed in replacement of the special forces to operate as part of a Dutch-led force in the southern province of Uruzgan. This element was gradually augmented, particularly with extra troops for protection in the form of a company group, so

that by late 2006 it numbered approximately 400 personnel. In April 2007, however, in recognition of the continued strength of the Taliban, the government announced that another special forces group of approximately 300 personnel would deploy to Uruzgan for up to two years. Also announced was the deployment of a RAAF air surveillance radar group to Kandahar, which together with a further Chinook deployment will see up to 1000 ADF personnel in Afghanistan in 2008.

ALBERT PALAZZO

AGENT ORANGE is the term used to describe a mixture of the herbicide chemicals 2,4D and 2,4,5T, used as a defoliant during the Vietnam War. More colloquially, it has come to stand for a range of issues arising from that war, and in particular to symbolise the grievances of a disaffected group of Vietnam veterans who claim that chemical agents (for Agent Orange was only one of a number used) are responsible for birth defects in their children and for post-traumatic stress disorders and various other health problems to which they themselves are subject. This became a serious social and political issue in the early 1980s, dissatisfaction with its handling having led to the formation of the **Vietnam Veterans' Association** in 1979–80. This body lobbied hard and sometimes effectively for government action, resulting in a number of studies and culminating in a Royal Commission under Mr Justice Phillip Evatt. The Royal Commission's report largely exonerated chemical agents from responsibility for health defects in Australian veterans and their children; this angered the VVA, who proceeded to attack both the report and the commission. The political fallout led the government to refer the report to a political adviser, Bob Hogg, whose findings, presented in October 1987, concluded that the report's findings were unassailable and should be accepted. His further suggestion, that the government sponsor additional studies into Vietnam veterans' health, was ignored. In May 1988 the government announced that it accepted Hogg's findings. After continued lobbying by veterans, however, the government was forced to set up an independent medical committee, whose report *Veterans and Agent Orange: Health Effects of Herbicides Used in Vietnam* (September 1994) overturned the Evatt Royal Commission findings and accepted links between Agent Orange and diseases such as leukaemia, Hodgkin's disease and lung cancer. This finally enabled ex-servicemen to claim compensation.

Map 2b: Afghanistan.



AID TO THE CIVIL POWER, see **Aid to the civilian authorities**

AID TO THE CIVILIAN AUTHORITIES (ACA, formerly known as Aid to the civil power) refers to the use of the ADF to uphold law and order in Australia when police and other civilian agencies are unable to do so and when there is a prospect that military personnel will be required to use force. This is clearly an extreme measure which neither government nor the ADF contemplates with enthusiasm. The circumstances in which force can be used and the associated procedures are therefore of great importance.

The constitutional basis for ACA is found in section 51 which granted the federal parliament power to make laws concerning ‘control of military forces to execute and maintain the laws of the Commonwealth’. Section 61 gave the Commonwealth government ‘executive power’ to execute and maintain the laws and the Constitution, a provision widely understood to mean that the government can act to protect its interests however and wherever they are threatened.

Also important was section 119 which provided that the states—which transferred their military forces to the national government at Federation—could apply to the federal government for protection against ‘domestic violence’ (a term borrowed from the United States). Only a few years earlier Victoria had mobilised 600 soldiers in response to the maritime strike of 1890 while Queensland had deployed over 1400 soldiers to control striking shearers in 1891.

Between 1912 and 1929 states applied on six occasions to the federal government to provide military forces to assist them in controlling potential violence, mostly in relation to strikes, including the police strike in Victoria in 1923. All requests were refused by the Commonwealth on the grounds that state governments had the capacity to deal with the problem. In 1923, however, the Acting Prime Minister did arrange for armed troops to guard Commonwealth premises in Melbourne during the strike.

The federal government used military personnel during the First World War to carry out censorship and monitor aliens and during the Second World War to arrest members of the Australia First movement. This internal security role, however, was terminated with the creation of the Australian Security and Intelligence Organisation (ASIO) in 1949.

The formal process of putting the ADF on standby to deal with internal disorder is known as ‘call out’. This first occurred in Papua New Guinea in 1970–71, when Army personnel were called out in anticipation of civil unrest on the Gazelle peninsula but were never employed for this purpose. The only instance on Australian soil took place in February 1978 when nearly 2000 personnel were called out and deployed to protect participants in a Commonwealth Heads of Government Regional Meeting who were travelling to Bowral in NSW after a bomb had exploded outside the Hilton Hotel in Sydney. No further violence occurred.

Though the government at the time referred to the demands of national security, it was clearly entitled to exercise its executive power and to provide security for internationally protected persons. Uncertainty surrounding procedures led to an inquiry by Mr Justice Hope, whose *Protective Security Review* recommended in 1979 that the relevant legislation be overhauled and clarified. Hope also pointed to the difficult legal position in which military personnel found themselves in situations of this kind—armed and under orders but with rights no clearer than those of the ordinary citizen. Revision of the law proceeded slowly.

By 2000 the need had become pressing, not least because of concern about terrorist attacks during the Olympic Games in Sydney. Legislation was introduced to clarify

procedures for call out and to regularise the position of the soldier. Hitherto call out by the Commonwealth to protect its interests had by convention rested simply on advice by the Prime Minister to the Governor-General; now it was to require advice from the Prime Minister, the Minister for Defence and the Attorney-General save in urgent situations. States and Territories were to be consulted if practicable. The order by the Governor-General was to specify the purposes of the call out and to set a time limit. Similar provisions were made for call out in response to an application from a State.

The new legislation also set out the circumstances in which service personnel could exercise powers such as stopping and searching vehicles, detaining people, recapturing premises and cordoning areas. Use of reasonable and necessary force was expressly permitted, including lethal force where essential to protect life or prevent serious injury. Personal responsibility for such judgments remained with the individual soldier even though he or she might be acting under orders. Extensive debate about the legislation occurred both in parliament and the community.

In the event some 4000 ADF reserve and regular personnel were employed in Operation GOLD to supplement security at the Olympics as well as perform ceremonial and other duties. No formal call out occurred since use of force was not considered likely and the episode can be seen as Defence Assistance to the Civil Community.

The terrorist attacks of 11 September 2001, however, raised expectations that the ADF will be called on in future to deal with violence in Australia. Its capacity for such activity was subsequently expanded, including that for responding to chemical, biological and radiological attacks. In 2002, for the first time other than in war the RAAF was authorised to shoot down civilian aircraft, including hijacked airliners likely to be used to attack participants in the Commonwealth Heads of Government Meeting in Brisbane in that year. Similar authority was granted for the visits of President Bush in 2003 and 2007.

Despite changing circumstances clear principles have evolved since Federation on the use of the ADF in ACA. It is intended as a last resort when civilian agencies are unable to handle violent or potentially violent situations. Cooperation with those agencies is to be maintained to the maximum extent possible. Minimum necessary force is to be used and the ADF is to be used for as short a time as possible. Most importantly, the decision to initiate, regulate and terminate use of the ADF remains with the federal government.

HUGH SMITH

AIF see **Australian Imperial Force**

AIF NEWS see **Service newspapers**

AIR, DEPARTMENT OF, created on 13 November 1939, took the control of Air Force administration and finance away from the Department of Defence. At the time of its abolition on 30 November 1973 it was responsible for air

defence as well as for organisation and control of the RAAF. These functions were taken over by the Air Office within the Department of Defence.

AIR BOARD OF ADMINISTRATION was established on 9 November 1920 to control and administer the Air Force according to policy determined by the Air Council. The Air Council, formed at the same time as the Air Board, consisted of the Minister for Defence, the CNS, the CGS, two members of the Air Board, and the Controller of Civil Aviation. The purpose of making the Air Council superior to the Air Board was partly to provide guidance for the RAAF's relatively young and inexperienced senior officers, but it also enabled the Army and Navy to maintain a strong influence over the Air Force. The Air Council did not meet after 1925, and was abolished when the Defence Council (see **Council of Defence**) was created on 8 March 1929. From then on the RAAF was on an equal footing with the other services, and the Air Board reported directly to the minister. The Air Board originally consisted of a Director of Intelligence and Organisation, a Director of Personnel and Training, a Director of Equipment and a Finance Member. In 1922 the membership was changed to comprise the First Air Member (Chief of Air Staff), the Second Air Member (Chief of Administrative Staff) and the Finance Member. In 1929 an Air Member for Supply was added and the Chief of Administrative Staff became the Air Member for Personnel. In 1940 the Air Member for Supply became the Director-General of Supply and Production, and an Air Member for Organisation and Equipment was added. A Business Manager joined the board between 1940 and 1948, and the titles of some other members were changed over the years. In 1954 the Secretary, Department of Air, replaced the Finance Member and became Secretary to the Air Board. By 1975 the Air Board was composed of the CAS, the Air Member for Personnel, the Air Member for Technical Services, the Air Member for Supply and Equipment, and the Special Deputy of the Permanent Head, Department of Defence. The Air Board was abolished on 9 February 1976 along with the **Military Board of Administration** and the **Naval Board of Administration**.

AIR FORCE LIST Compiled from Air Force personnel records, this provides a gradational list of seniority by branch (General List, General Duties, Engineering, Supply, Medical, Special Duties, Chaplains), and an alphabetical listing of all active duty officers in the RAAF. It is published annually as a Defence Instruction (Air Force).

AIR POWER DEVELOPMENT CENTRE Formed in August 1989 at RAAF Base Fairbairn, Australian Capital Territory, the Air Power Studies Centre (as it was originally called) came into being at the direction of the Chief of the Air Staff, Air Marshal R. G. Funnell. A year later, the Centre produced the *AAP 1000-Air Power Manual*—the first doctrine specifically for the RAAF. Revised editions of this work appeared under different titles in 1994, 1998 and 2002.

The Centre also undertook the research of various policy issues related to air power, promoted understanding of the subject through educational presentations at Australian Defence Force bases around Australia, incorporated training into various courses, and conducted annual conferences on air power and history. From 1990 the Centre hosted Air Force members researching specific projects on one-year fellowships. In subsequent years staff made regular visits and lecture tours to South-East Asian countries, and maintained links with doctrine staff in the USA, Britain, Canada and New Zealand.

The name Aerospace Centre, adopted in May 2000, was changed in January 2004 to the present title, to re-emphasise that interest remains focused on traditional forms of air power rather than space power. With the closure of Fairbairn, the Centre relocated in May 2004 to Tuggeranong, ACT, where the RAAF Historical Section joined it in October; the Section, formally part of the organisation since 1997, was absorbed as the Office of Air Force History. Currently, sections are maintained within the Centre to handle activities in the areas of engagement, publications, space, doctrine, education, history, futures and experimentation.

CHRIS CLARK

AIR SUPPORT This term covers the range of tactical air operations that are used in support of a land battle. It includes the attainment and maintenance of air superiority, tactical air reconnaissance, battlefield interdiction (isolating the battlefield from enemy resupply, reinforcement, operational movement and so on), close air support, aerial resupply, and the provision of battlefield mobility through the use of tactical air transport. The provision of air support has often been a source of bitter contention between ground and Air Forces in the armed services of most countries, including Australia. Since 1990 the provision of air support using helicopters such as the Sikorsky **Blackhawk** has been the responsibility of the **Australian Army Aviation Corps**. An early example of air support was the air drop of extra ammunition to forward troops during the battle of Hamel on the Western Front on 4 July 1918. During the Vietnam War air support to the 1st Australian Task Force was often provided by the **Iroquois** helicopters of No. 9 Squadron RAAF.

AIR TRAINING CORPS (ATC) The Air Training Corps was a wartime creation designed to help prepare boys under 18 years of age for future aircrew training. Formed in 1941, by October 1943 it consisted of 97 squadrons with an establishment for 122, and during the course of the war 11,989 members of the ATC joined the RAAF, 6704 as aircrew, the remainder in ground musterings. At the end of the war the corps was reorganised, with squadrons redesignated flights and wings becoming squadrons, one to each State. Each squadron was headed by a commandant, usually a reserve officer with a distinguished wartime record. The headquarters staff consisted of three permanent RAAF officers as commanding officer, adjutant and chief instructor. Other staff were drawn from permanent NCOs and reserve officers.

AIRCRAFT, ROYAL AUSTRALIAN AIR FORCE

Flights were divided into school flights (those based on a school) and town flights (which catered for those no longer at school, or whose school lacked an ATC link). Those between 14 and 18 years of age were eligible to join, and until May 1982 girls were excluded. In 1975 the Whitlam government decided to disband all cadet forces, but the following year the Fraser government established the Australian Services Cadet Scheme, into which the three existing service cadet organisations were subsumed.

AIRCRAFT, ROYAL AUSTRALIAN AIR FORCE When the RAAF was formed in 1921 a numbering system was introduced whereby each aircraft type was assigned an 'A' prefix followed by a number. The first series of aircraft were all biplanes, and were numbered A1 to A12. A new sequence

of aircraft, numbered A1 to A100, began in 1935 with the Hawker Demon. A third series was introduced in 1961 with the Bell Sioux helicopter. Many of the aircraft used for transport and communication during the Second World War were civilian aircraft impressed (taken into military use) by the RAAF. Table 1 includes all aircraft flown by the RAAF with their 'A' serial number if one was allocated. Aircraft operated by RAAF squadrons during the Second World War in the Mediterranean and Europe were not assigned 'A' serials. The table includes aircraft flown by the RAAF for the RAN before the formation of the **Fleet Air Arm**. Also included in the 'A' series, but not included in this table, are aircraft operated by the Army (see **Australian Army Aviation Corps**) and some aircraft types assigned 'A' prefixes but never actually used by the RAAF.

Table 1: Aircraft flown by the RAAF

Aircraft	Total aircraft	In service
Fighter aircraft		
<i>Airacobra, Bell A53</i> Temporarily loaned to the RAAF by the USAAF. Used in Australia by No. 23, 24, 82 and 83 Squadrons.	22	1942–43
Beaufighter, Bristol and DAP A8, A19	581	1942–57
Boomerang, CAC A46	250	1942–46
Buffalo, Brewster A51	63	1941–43
<i>Bulldog, Bristol A12</i> Replaced the SE5A fighter and also used for aerobatic displays. Operated by No. 1 and 2 Squadrons in Australia.	8	1930–40
<i>Defiant, Boulton Paul</i> Used as night fighters in the UK by No. 456 Squadron.	18	1941
<i>Demon, Hawker A1</i> Last biplane fighter-bomber aircraft flown by the RAAF. Two used as trainers with No. 1 Flying Training School until 1945.	64	1935–45
F/A-18 Hornet, McDonnell Douglas A21	75	1985–
<i>Gauntlet, Gloster</i> Used in Egypt by No. 3 Squadron.	6	1940
<i>Gladiator, Gloster</i> Used by No. 3 Squadron during the 1st Libyan campaign.	30	1940–41
<i>Hurricane, Hawker A60</i> Used in North Africa by No. 3, 450 and 451 Squadrons in 1941. An additional Hurricane was presented to the RAAF in 1941 and served to 1946 with the Central Flying School and No. 2 Communications Flight.	1	1941, 1942–46
Kittyhawk, Curtiss A29	848+	1942–47
Meteor, Gloster A77	111	1946–47, 1951–63
Mirage, GAF A3	116	1964–88
Mosquito, De Havilland A52	285+	1942–54
Mustang, North American and CAC A68	499+	1944–60
Sabre, CAC A94	112	1954–71

Table 1: Aircraft flown by the RAAF (Continued)

Aircraft	Total aircraft	In service
<i>SE5A, Royal Aircraft Factory A2</i>	35	1921–28
Imperial Gift aircraft , and the first fighter to be flown by the RAAF. One aircraft repainted in Australian Flying Corps colours is preserved in the collection of the Australian War Memorial.		
Spitfire , <i>Supermarine A58</i>	928+	1941–45
<i>Tomahawk, Curtiss</i>	unknown	1941
An early version of the Kittyhawk used in the Syrian and 2nd Libyan campaigns by No. 3 Squadron.		
Vampire , <i>De Havilland and De Havilland Australia A78, A79</i>	193	1949–70
Bomber aircraft		
Baltimore , <i>Martin</i>	71+	1943–45
Beaufort , <i>Bristol and DAP A9</i>	701	1941–46
<i>Blenheim, Bristol</i>	4+	1942–43
Used in the Mediterranean by No. 454 Squadron as a bomber and briefly by No. 459 Squadron for maritime reconnaissance until replaced by Hudsons .		
Boston , <i>Douglas A28</i>	69	1942–45
Canberra , <i>GAF A84</i>	55	1951–82
<i>DH9 and DH9A, De Havilland A6, A1</i>	58	1921–30
Imperial Gift aircraft , used in Australia by No. 1 and 3 Squadrons and No. 1 Flying Training School. The DH9A differed from the DH9 in having an American Liberty rather than a British Puma engine.		
F-111 , <i>General Dynamics A8</i>	43	1973–
Halifax , <i>Handley Page</i>	300	1942–45
Hampden , <i>Handley Page</i>	70	1941–42
Hudson , <i>Lockheed A16</i>	281+	1940–48
Lancaster , <i>Avro</i>	83+	1942–46
(see ‘ G for George ’)		
Liberator , <i>Consolidated A72</i>	277	1944–48
Lincoln , <i>GAF A73</i>	73	1946–61
Mitchell , <i>North American A47</i>	50	1942–46
Phantom , <i>McDonnell Douglas A69</i>	24	1970–73
Vengeance , <i>Vultee A27</i>	342	1942–46
Ventura , <i>Lockheed A59</i>	92	1942–46
<i>Wapiti, Westland A5</i>	44	1929–43
Replaced the DH9 and DH9A and used as a bomber from 1929 to 1935 with No. 1 and 3 Squadrons. Used as a trainer and tug aircraft until 1943.		
Wellington , <i>Vickers</i>	71	1941–45
Helicopters		
<i>Allouette, Sud A5</i>	3	1964–66
Used at Woomera by the Long Range Weapons Establishment .		
Blackhawk , <i>Sikorsky</i>	8	1987–89
Transferred to the Army in 1989.		
Chinook , <i>Boeing Vertol A15</i>	12	1974–89
Iroquois , <i>Bell A2</i>	66	1962–90
<i>S-51, Sikorsky A80</i>	3	1947–64
First helicopter acquired by the RAAF. Used in Australia.		
Sioux , <i>Bell A1</i>	31	1961–65
Remaining aircraft transferred to Army in 1964.		

(Continued)

AIRCRAFT, ROYAL AUSTRALIAN AIR FORCE

Table 1: Aircraft flown by the RAAF (Continued)

Aircraft	Total aircraft	In service
<i>Squirrel, Aérospatiale A22</i>	18	1984–90
<i>Sycamore, Bristol A91</i>	2	1951–65
Used at Woomera by the Long Range Weapons Establishment .		
Reconnaissance and maritime patrol aircraft		
<i>Auster AOPA11</i>	62	1944–59
Small aircraft used by No. 16 and 17 Air Observation Post Flights during the Second World War in the South-West Pacific Area. Two used by RAAF Antarctic Flight during the 1953–54 and 1955–56 expeditions.		
<i>Catalina, Consolidated A24</i>	168	1936–50
<i>Cessna 180</i>	15	1959–64
Remaining aircraft transferred to Army in 1964.		
<i>Cub, Piper</i>	2?	1943–44
Small aircraft borrowed from the USAAF and used by No. 4 Squadron in New Guinea.		
<i>Empire, Short A18</i>	5	1939–43
Qantas flying boats taken into service on outbreak of war and used as coastal reconnaissance aircraft until replaced by Hudsons . One was destroyed by the Japanese raid on Broome on 3 May 1942. The Sunderland was a military design based on this aircraft.		
<i>Fairey IID A10</i>	6	1921–28
Seaplane used for fleet cooperation with RAN. In 1924 a Fairey IID flown by S. J. Goble and Ivor McIntyre became the first aircraft to fly around Australia.		
<i>Kingfisher, Vought Sikorsky A48</i>	18	1942–48
American seaplanes ordered by the Netherlands East Indies government and diverted to Australia in 1942 after the fall of the Netherlands East Indies. Used by No. 107 Squadron to patrol for Japanese submarines off the Australian coast during the Second World War. A Kingfisher was used in the 1947–48 Antarctic expedition.		
<i>Lancer, Republic A56</i>	8	1942–43
Fighter used by the RAAF for photographic reconnaissance in the South-West Pacific Area. A design precursor of the famous Thunderbolt fighter.		
<i>Learjet, Gates</i>	8	1982–87
Leased for use by Survey Flight of No. 6 Squadron.		
<i>Lightning, Lockheed A55</i>	3	1942–44
Fighter used by the RAAF for photographic reconnaissance in the South-West Pacific Area.		
<i>Lysander, Westland</i>	6	1940
Used in Egypt by No. 3 Squadron.		
<i>Neptune, Lockheed A89</i>	24	1951–77
<i>Orion, Lockheed A9</i>	31	1968–
<i>Seagull III, Supermarine A9</i>	9	1926–36
Seaplane used on seaplane carrier HMAS <i>Albatross</i> and later HMAS <i>Australia</i> (II) and HMAS <i>Canberra</i> until replaced by the Seagull V .		
<i>Seagull V (Walrus), Supermarine A2</i>	61	1935–47
<i>Southampton, Supermarine A11</i>	2	1928–39
Seaplane used in Australia by the Coastal Reconnaissance Flight and No. 1 Flying Training School.		
<i>Sunderland, Short A26</i>	146	1939–46

Table 1: Aircraft flown by the RAAF (Continued)

Aircraft	Total aircraft	In service
<i>Swordfish, Fairey</i> Three aircraft in crates were on a ship diverted to Perth. They were assembled and used in Western Australia by No. 25 Squadron for anti-submarine patrols.	6	1942
Wedgetail, Boeing A30 The first RAAF Airborne Early Warning and Control (AEW&C) aircraft.	6	2007/08*–
Transport aircraft		
<i>707, Boeing A20</i> Former civilian aircraft (four from Qantas) used as passenger transport and as inflight refuelling aircraft for F/A-18 Hornets.	7	1979–
<i>737 BBJ, Boeing</i> Variant of the Boeing 737 commercial airliner used for VIP transport.	2	2002–
<i>BAC-111 A12</i> A British passenger jet used by No. 34 Squadron for VIP transport.	2	1967–90
<i>Beaver, De Havilland Canada A95</i>	5	1955–64
<i>Bombay, Bristol</i> Used in the Mediterranean by No. 1 Air Ambulance Unit.	9	1942–44
Caribou, De Havilland Canada A4	28	1964–
<i>Challenger, Bombardier A37</i> VIP transport that replaced the Falcon from 2002.	3	2002–
Dakota, Douglas A65	124	1939, 1943–1999
<i>DC-2, Douglas A30</i> Forerunner of the DC-3/C-47 Dakota . The RAAF purchased 10 from Eastern Airlines in the USA in 1940. DC-2s were used by No. 34, 35 and 37 Squadrons and in training paratroops. One DC-2 was shot down by Japanese aircraft while flying between Java and Timor during the Netherlands East Indies campaign in 1942.	14	1940–47
<i>Delta, Northrop A61</i> Aircraft sold to the federal government by American Antarctic explorer Lincoln Ellsworth in February 1939. The Delta was flown by the Department of Civil Aviation until it was impressed by the RAAF in 1942, serving in succession with No. 35, 34 and 37 Squadrons until it was broken up after being damaged.	1	1942–44
<i>DH86, De Havilland A31</i> The DH86 was a four-engined passenger aircraft that entered service with Qantas in 1934. They were impressed into service in 1939 by the RAAF and used as transports and air ambulances in the Mediterranean and South-West Pacific Area.	8	1939–45
<i>DHA-G2 glider, De Havilland Australia A57</i> An Australian-designed glider never used in action.	8	1942–50
<i>Do24K, Dornier A49</i> Seaplane operated by the Netherlands East Indies Air Force. During the Netherlands East Indies campaign they were used to fly refugees to Australia and five were destroyed in Broome harbour during the Japanese raid on 3 May 1942. The surviving aircraft was used by No. 41 Squadron as transport between Australia and Papua.	6	1942–44
<i>Dragon Rapide, De Havilland A3, A33</i> British passenger aircraft used in the 1930s by the RAAF for aerial surveying. In 1940 seven aircraft were impressed from airlines and used as transports.	8	1935–38, 1940–44
<i>Dragonfly, De Havilland A43</i> Civilian aircraft impressed by the RAAF in 1942 and used by No. 2 Communications Flight and No. 34 Squadron. Used in New Guinea as an air ambulance.	1	1942

(Continued)

AIRCRAFT, ROYAL AUSTRALIAN AIR FORCE

Table 1: Aircraft flown by the RAAF (Continued)

Aircraft	Total aircraft	In service
<i>Falcon 900, Dassault A26</i> French jets leased for use as VIP transport with No. 34 Squadron. In September 1990 they were used to fly Australian citizens released from Iraq prior to the Gulf War.	5	1989–2002
<i>Fox Moth, De Havilland DH83 A41</i> Two aircraft impressed from civilian owners and two from Qantas. Used as air ambulances and communications aircraft.	4	1941–45
<i>Freighter, Bristol A81</i> Large transport aircraft used at Woomera by the Long Range Weapons Establishment .	4	1949–67
<i>Gannet, Wackett A14</i> Designed by Lawrence Wackett as a photographic survey aircraft but used 1942–45 as an air ambulance with No. 2 Air Ambulance Unit in South-West Pacific Area. In 1938 a Gannet flew to Singapore, becoming the first Australian-built military aircraft to fly overseas.	6	1935–46
<i>Globemaster III, Boeing</i> Used by No. 1 Air Ambulance Unit until it crashed into the Mediterranean.	4	2006–
<i>Goose, Grumman</i> Used by No. 1 Air Ambulance Unit until it crashed into the Mediterranean.	1	1942
Hercules , Lockheed A97	48	1958–
<i>Lodestar, Lockheed A67</i> American passenger aircraft similar in design to Lockheed Hudson and Ventura bombers. Used by No. 37 Squadron in Australia, Papua, New Guinea and the Netherlands East Indies.	10	1943–47
<i>Mariner, Martin A70</i> Flying boat used in Australia and the South-West Pacific Area by No. 40 and 41 Squadrons.	12	1943–46
<i>Metropolitan, Convair A96</i> American passenger aircraft used as VIP transport by No. 34 Squadron.	2	1956–68
<i>Multi-Role Tanker Transport A330, Airbus</i>	5	2008*–
<i>Mystere, Dassault A11</i> French jet used as VIP transport by No. 34 Squadron.	3	1967–89
Nomad , GAF	3	1989–93
<i>Otter, De Havilland Canada A100</i> Small Canadian passenger aircraft used at Long Range Weapons Establishment, Woomera .	2	1961–67
<i>Proctor, Percival A75</i> Small British passenger aircraft used by Governor-General's Flight during its brief existence. The civilian version, the Percival Vega Gull, was also used by the RAAF.	1	1945–47
<i>Trimotor, Ford A45</i> Flown by Guinea Airways and impressed by the RAAF in 1942. Used as air ambulances by No. 24 and 33 Squadrons in New Guinea.	2	1942–43
<i>Viking, Vickers A59</i> British passenger aircraft used at Woomera Long Range Weapons Establishment .	1	1947–51
<i>Viscount, Vickers A6</i> British passenger aircraft used by No. 34 Squadron for VIP transport.	2	1964–69
<i>York, Avro A74</i> A passenger version of the Lancaster bomber. Used by Governor-General's Flight during its brief existence and in the repatriation of Australian POWs from Singapore.	1	1945–47

Table 1: Aircraft flown by the RAAF (Continued)

Aircraft	Total aircraft	In service
Communications aircraft		
<i>Airmaster, Cessna C34 A40</i> Civilian aircraft impressed by the RAAF in 1941 and used by No. 2 Communications Flight.	1	1941–45
<i>Audax, Hawker</i> Similar to the Hawker Demon, unofficially used as a communications aircraft by Australian squadrons in north Africa.	unknown	1940–41
<i>Beechcraft 17 A39</i> Civilian aircraft impressed by the RAAF and used by No. 34 Squadron and No. 2, 3 and 4 Communications Flights.	3	1941–47
<i>DH50A, De Havilland A8, A10</i> In 1926 A8-1 became the first RAAF aircraft to fly beyond Australian territory on a trip to the Solomon Islands. A10-1 was a civilian aircraft impressed in 1942 and used as a communications aircraft.	2	1926–29, 1943–45
<i>Fairchild 24 A36</i> Civilian aircraft impressed by the RAAF and used by No. 36 Squadron and No. 1, 2 and 4 Communications Flights.	4	1940–46
<i>Junkers aircraft A44</i> Junkers G31, W34f and W34d passenger aircraft impressed from Guinea Airways in 1942.	3	1942–43
<i>Miles aircraft A37</i> Miles Hawk, Falcon and Merlin civilian aircraft impressed by the RAAF between 1940 and 1942.	6	1940–45
<i>Norseman, Noorduyn A71</i> Canadian aircraft used by No. 1, 3, 4, 5 and 7 Communications Flights.	14	1943–46
<i>Prince, Percival A90</i> British passenger aircraft used at Long Range Weapons Establishment, Woomera.	3	1952–57
<i>Reliant, Stinson A38</i> Civilian aircraft impressed in 1941 by the RAAF and used by No. 2 Communications Flight.	1	1941–45
<i>Vega, Lockheed A42</i> Civilian aircraft impressed in 1941 by the RAAF and used by No. 24 and 33 Squadrons and No. 3 Communications Flight.	1	1941–44
<i>Vega Gull, Percival A32</i> Civilian aircraft impressed in 1940 by the RAAF and used by No. 1 Communications Flight. A military version called the Proctor also served with the RAAF.	2	1940–46
<i>YQC-6, Waco A5</i> Civilian airliner impressed in 1942 by the RAAF and used by No. 3 Communications Flight.	1	1942–44
Training aircraft		
<i>Airtrainer, New Zealand Aerospace Industries A19</i>	51	1975–92
Anson, Avro A4	1020	1937–55
<i>Avro 504 A4</i> The RAAF operated 20 former Australian Flying Corps aircraft, 35 Imperial Gift aircraft and six manufactured at Mascot, NSW, which were the first locally built aircraft flown by the RAAF.	61	1922–28
<i>Battle, Fairey A22</i> Obsolete bomber used as a trainer for the Empire Air Training Scheme.	366	1940–49

(Continued)

AIRCRAFT, ROYAL AUSTRALIAN AIR FORCE

Table 1: Aircraft flown by the RAAF (Continued)

Aircraft	Total aircraft	In service
<i>Cadet, Avro A6</i> British intermediate trainer used in conjunction with the Gipsy Moth basic trainer.	34	1935–45
<i>Cirrus Moth, De Havilland A7</i> Basic trainer that replaced the Avro 504. The Gipsy Moth was a development of the Cirrus Moth with a better engine.	34	1926–35
<i>Dolphin, Douglas A35</i> Amphibious civilian aircraft impressed in 1940 by the RAAF and used by the Seaplane Training Flight, No. 3 Operational Training Unit, No. 9 Squadron and No. 4 Communications Flight.	4	1940–44
<i>Dragon, De Havilland A34</i> Aircraft built by De Havilland at Bankstown in Sydney, and 11 civilian aircraft impressed in 1940 and 1941 and used by the RAAF for training and communications.	98	1940–45
<i>Gipsy Moth, De Havilland A7</i> A British basic trainer used until replaced by the Tiger Moth . Forty-eight were civilian aircraft impressed in 1939–40. Several were converted to floatplanes including one used in 1936 to search for the missing American Antarctic explorer Lincoln Ellsworth, whose Northrop Delta was later flown by the RAAF.	98	1930–46
<i>Hawk 127, British Aerospace A27</i>	33	2000–
<i>HS 748 A10</i> British passenger aircraft. The RAAF uses eight as navigational trainers at the School of Air Navigation and two for VIP transport with No. 34 Squadron.	10	1966–
Macchi, CAC A7	87	1968–
<i>Moth Minor, De Havilland A21</i> Three impressed civilian aircraft and aircraft built by De Havilland Australia that were used as basic trainers with the Empire Air Training Scheme until they were replaced by Tiger Moths . They were then used as communications aircraft.	42	1940–45
<i>Oxford, Airspeed A25</i> Two-engined trainer used in the Empire Air Training Scheme .	391	1940–53
PC-9, Pilatus A23 A small number of this aircraft are also used for Forward Air Controller (FAC) duties.	67	1987–
<i>Pup, Sopwith A4</i> Used as fighter trainers by No. 1 Flying Training School at Point Cook.	11	1922–25
<i>ST-M, Ryan A50</i> Trainer aircraft flown by the Royal Netherlands East Indies Air Force and used in Australia after the Netherlands East Indies campaign.	34	1942–45
Tiger Moth, De Havilland A17	885	1940–57
Wackett, CAC A3	202	1940–46
Winjeel, CAC A85	64	1951–94
Wirraway, CAC A20	755	1939–58
Prototypes and trial aircraft		
<i>Avro 707A</i> British experimental delta-wing aircraft used by the Aircraft Research and Development Unit for aerodynamic research. Preserved at RAAF Museum, Point Cook.	1	1956
CA-15, CAC A62	1	1946–50
<i>Jet Provost, Percival A99</i> British trainer trialled by the RAAF.	1	1959

Table 1: Aircraft flown by the RAAF (Continued)

Aircraft	Total aircraft	In service
<i>Magister, Miles A15</i> British trainer acquired for trials. Magisters were also used unofficially by Australian squadrons in North Africa.	1	1938–40
<i>P1081, Hawker A86</i> British swept-wing fighter. The RAAF ordered 75 in 1950 but cancelled the order in 1951 and instead purchased the Sabre .	1	1950–51
<i>Pika, GAF A93</i> Piloted prototype of the Jindivik . The first jet-powered plane designed and built in Australia.	2	1950–54
<i>Sea Hornet, De Havilland A83</i> Royal Navy twin-engined single-seat fighter trialled by the RAAF.	1	1948–50
<i>Shrike, Curtiss A69</i> USAAF name for the US Navy Helldiver dive-bomber. The RAAF ordered 150 in 1943 but then decided dive bombers were not needed, withdrawing the Vultee Vengeance dive bomber from service and cancelling the Shrike order. Ten aircraft from the order which had already arrived were returned to the USAAF.	–	–
<i>Valiant, Vickers</i> RAF jet bombers used at Woomera by the Long Range Weapons Establishment . One dropped an atomic bomb at Maralinga (see Atomic tests in Australia).	2	1956–57
<i>Warrigal, Wackett A12</i> Designed by Lawrence Wackett at the RAAF experimental station as fighter and trainer prototypes (Marks I and II). Also known as Avro 598 and 599.	2	1927–33
<i>Washington, Boeing A76</i> British name for Boeing B-29 bomber. Used in weapons trials at Woomera by the Long Range Weapons Establishment .	2	1952–56
<i>Widgeon, Wackett A12</i> General purpose amphibian prototype designed by Lawrence Wackett at the RAAF experimental station for use on the seaplane carrier HMAS <i>Albatross</i> .	2	1927–33
<i>Woomera, CAC A23</i> Australian-designed bomber prototype not put into production.	2	1942–46
Captured aircraft		
Captured German, Italian and Japanese aircraft flown by the RAAF during the Second World War:		
<i>Breda 25</i>		
<i>Cant 100</i>		
<i>Caproni Ca-309 Ghibli</i>		
<i>Fiat CR-42</i>		
<i>Focke Wulf Fw-190</i>		
<i>Macchi MC-205</i>		
<i>Messerschmitt Bf-109</i>		
<i>Mitsubishi A6M5 'Zero'</i>		
<i>Mitsubishi Ki-21</i>		
<i>Mitsubishi Ki-51</i>		
<i>Tachikawa Ki-54</i>		

*Denotes projected date of introduction of aircraft already ordered

AIR-TO-AIR REFUELLING

AIR-TO-AIR REFUELLING see **Inflight refuelling**

AITAPE, HMAS see **Attack Class patrol boats**

ALAMEIN, BATTLE OF EL In 1942 the pivotal battles of the Desert War were fought around the El Alamein area in Egypt. The German Commander Field Marshal Erwin Rommel had pushed the British Eighth Army back to this natural defensive position in June but had failed to smash his way through it. In July the British C-in-C, General Sir Claude Auchinleck, made three attempts to push the German and Italian forces back. The 9th Australian Division, which had reinforced Auchinleck on 4 July 1942, took part in all these actions, on 10, 21–22 and 26–27 July. The Australians were operating on the northern coastal strip of the battlefield against some of the most formidable Axis defences. The 9th Division broke into Rommel's defensive line at the first attempt but a forceful German response with armour and artillery meant that the early gains could not be exploited. Events further south were also inconclusive leading to a temporary stalemate.

Rommel's next attempt to break the British line was made on 30 August. By this time the British Command had been reorganised with General Sir Bernard Montgomery in charge of the Eighth Army and General Sir Harold Alexander in overall command. Rommel's aim was to outflank the Alamein position from the south but this attempt was easily beaten off. Meanwhile on 1 September in the north the 9th Division launched a small diversionary attack which was beaten back after heavy fighting.

The next few months saw a steady build-up of British forces. By the third week in October Montgomery was ready. His plan was to send the infantry forward, protected by a mass of artillery, and clear paths through the minefields protecting the Axis forces. He anticipated that the enemy infantry divisions that tried to interfere with this process would be 'crumbled' away by throwing themselves against his forces which would be dug in on ground of their own choosing and protected by the artillery. At the appropriate moment he hoped to push his armour through the corridors to protect the infantry from anticipated counter-attacks from Rommel's armour. In this way too the enemy's mobile forces would be destroyed in a similar 'crumbling' manner to their infantry. The 9th Division was to participate by clearing a corridor in the north and then threatening the German forces between the coastal road and the sea.

Very few of these objectives went according to plan. The battle opened on the night of 23 October with a bombardment from Montgomery's 900 guns. The Australian infantry attacked at 10.00 p.m. They fought their way into Rommel's defences but did not manage to clear all the minefields before dawn. The armoured sortie in this area was therefore cancelled, which was unfortunate because the German command was in chaos. The temporary commander, General Stumme, had died of a heart attack and Rommel was still back in Germany. By the time the corridor was cleared on the 24th the enemy had established a new front; on the 25th the Australians were

counter-attacked by the German 15th Armoured Division which they drove off after heavy fighting.

Montgomery now changed his plan. He withdrew all his armour for regrouping and continued with his infantry/artillery policy to 'crumble' the German armour. The part given to the 9th Division was to attack between the northern flank and the sea. The operation opened on the 26th. During the next five days the division was involved in severe fighting around a high dune called Trig 29. This attack brought almost the entire Afrika Korps against the Australians and resulted in some of the most severe fighting they had encountered. With Rommel's key forces already engaged Montgomery pushed the Allied armour against enemy positions to the south. Again all did not go according to plan and the armour was tardy in following through with its attacks. Nevertheless by this time attrition had taken its toll. Rommel had no option but to withdraw or be annihilated. He withdrew to the Tunisian border. Axis total casualties for this battle were 90,000, Allied 13,000. Of the latter the 9th Division suffered 2700. The losses of the 9th Division over the whole period of the El Alamein battles totalled 5800.

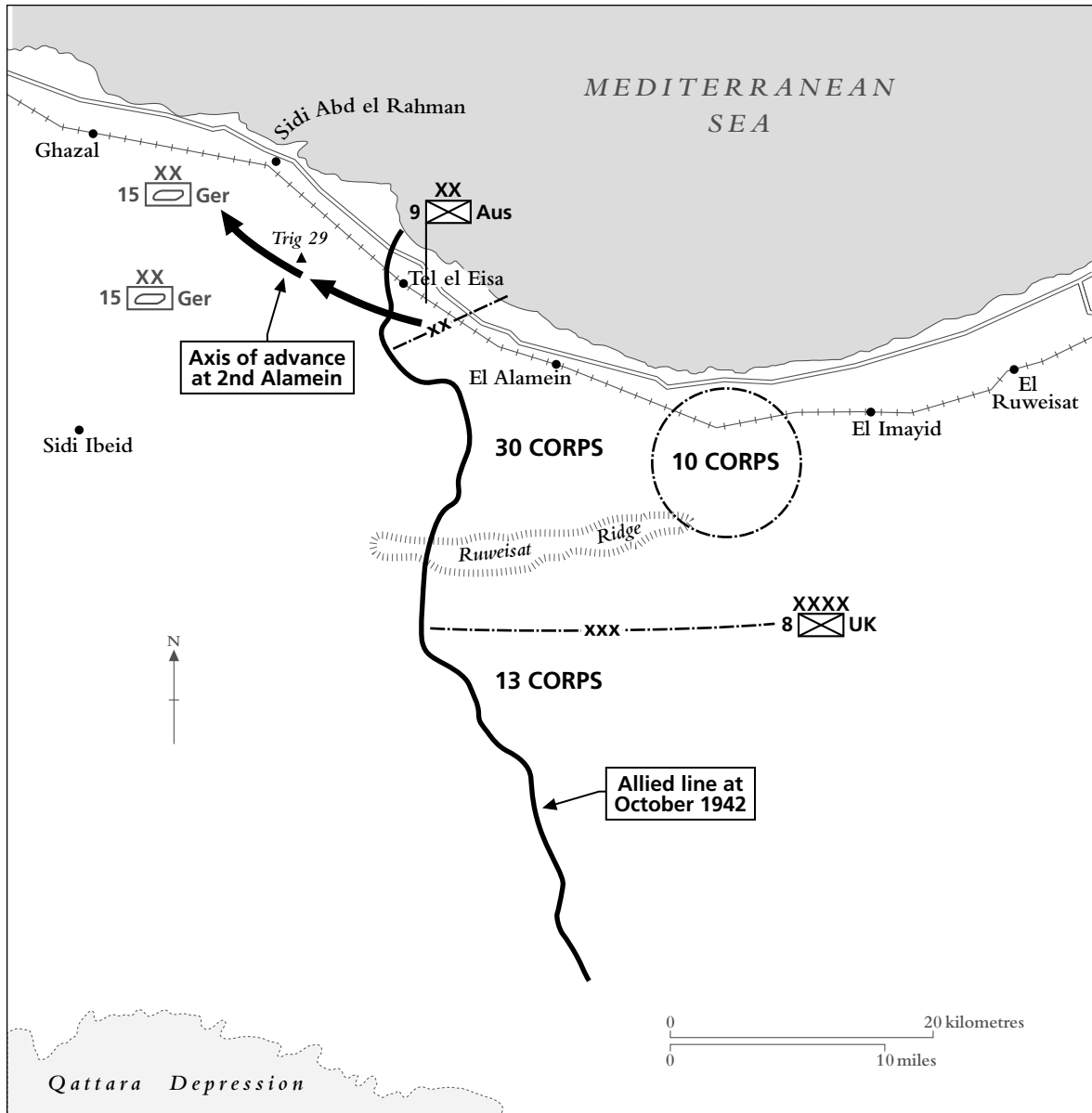
ALBATROSS, HMAS see **Fleet Air Arm**

ALBERT, HMVS see **Victorian Navy ships**

ALCOCK, A. U. see **Science and technology**

ALIENS, WARTIME TREATMENT OF Under the *War Precautions Act 1914* a total of 6890 'enemy aliens', almost all male and mostly classified as 'Germans' or 'Austro-Hungarians', were interned in Australia during the First World War. Only about 4500 had been living in Australia before August 1914; the rest were sailors of enemy nationality taken off ships while in Australian ports or were enemy residents of Britain's Asian and Pacific colonies transported to Australia at the British government's request. At first only subjects of nations at war with Britain were considered 'enemy aliens', but the concept was gradually widened until it included native-born Australians of 'enemy descent' and other 'persons of hostile origin or association'. Not all enemy aliens were interned, but all had to be registered with the police and were subject to surveillance and restrictions. Although this policy was principally motivated by British race patriotism and wartime paranoia directed against non-Britons in general, it also had more specific targets. Unsuccessful migrants dependent on government assistance, political radicals, leaders of the German-Australian community, and those who were seen as competing too successfully with British Australians in business or employment were singled out for internment and deportation. Internment was administered by the Defence Department and by local military authorities who established detention camps in all military districts, the largest being at **Holsworthy**. Prisoners were not usually forced to work, and although they resented their imprisonment most internees did not protest. After the war 6150 'enemy aliens' were deported from Australia.

Map 3: El Alamein, 1942, showing the Eighth Army area of operations.



During the Second World War all aliens were required under the *National Security Act 1939* to register at police stations and were subject to various restrictions including limitations on movement. The Minister for the Army administered these regulations until August 1942 when the Attorney-General took over this responsibility, though the Army remained responsible for the custody of internees. A total of 16,798 aliens were interned under these regulations, of whom 8921 were local internees and the rest, received from overseas, were held on behalf of other Allied governments. Most were Italians (4754 local, 425 from overseas),

Germans (2013 local, 3753 from overseas) and Japanese (1141 local, 3160 from overseas). Only adult male aliens who directly threatened security or public safety were supposed to be interned, and from November 1940 internees could appeal to the Aliens Tribunal, which could recommend their release if it believed they were not a threat. Nevertheless some notable injustices occurred, including the internment of 2542 predominantly Jewish refugees from Nazi Germany sent from Britain on HMT *Dunera* in 1940, several hundred Indonesian political prisoners sent from Dutch New Guinea, and many Australian residents who had no fascist associations.

ALLEN, MAJOR-GENERAL ARTHUR SAMUEL 'TUBBY'

After Japan entered the war all Japanese, excepting consular officials but including Australian-born or naturalised British subjects of Japanese origin, were interned. In the opinion of the War Cabinet their 'fanaticism and devotion to their country' made all Japanese potential saboteurs. In February 1942 all aliens over 18 other than POWs and internees were required to register for the Citizen Forces or for non-military service, and in May 1943 the Civil Aliens Corps was formed to help relieve the manpower shortage. However, of about 16,000 aliens registered between 1942 and 1945 only 1671 joined the Civil Aliens Corps, and no more than 4000 were employed under the Aliens Service Regulations at any time. Most of the rest were exempted on medical grounds or because they were already employed in essential industries. In May 1945 the Civil Aliens Corps merged with the **Civil Constructional Corps**. After the war most internees were given the choice of returning to their country of origin or remaining in Australia, but almost all Japanese were deported. Of the latter, only Australian-born people of Japanese descent, Japanese married to British subjects, and those who were unfit to travel were excluded from forced deportation.

The only incident involving foreign-born residents taking up arms against Australia during wartime occurred on 1 January 1915 when two Afghan-born men (often described as Turks because they flew a Turkish flag), fired upon a picnic train near Broken Hill killing four people and wounding another seven. Local police and militia were called in and during the following firefight one of the attackers was killed and the other mortally wounded. In retribution local residents burnt down the German Club that evening.

ALLEN, MAJOR-GENERAL ARTHUR SAMUEL 'TUBBY' (10 March 1894–25 January 1959). Allen served in two world wars and had the distinction of commanding in action at every level from platoon to division, a distinction of which he was justly proud. During the First World War he served as a lieutenant with the 13th Battalion, and a captain and major with the 45th Battalion, and he commanded successively the 45th, 48th and 13th Battalions. In the interwar period he served in the militia as a battalion and brigade commander. His command of the 16th Brigade in the first Australian actions of the Second World War at Bardia and Tobruk was highly creditable, while his personal courage and spontaneous manner greatly appealed to his troops. After serving in the campaign in Greece in 1941, he commanded the 7th Division in Syria and Papua. Allen was relieved of command on 29 October 1942 by General **Thomas Blamey** for alleged lack of progress against the Japanese. His removal, however, reflected an ignorance of local conditions on the part of General **Douglas MacArthur** and Blamey in Australia rather than any shortcomings on Allen's part, or that of his division, which the day before his removal had broken through the Japanese positions at Eora Creek after earlier halting their advance at Ioribaiwa. He then held inactive commands in New Guinea and the Northern Territory for the rest of the war. 'Honest, impetuous, brave', in **Gavin Long's** view, Allen was an excellent

example of the best kind of militia officer at the unit and brigade levels, although he was less well prepared for the command of a division.

ALLIED GEOGRAPHICAL SECTION (AGS) was established by General **Douglas MacArthur's** Intelligence Chief, Colonel (later Major-General) Charles Willoughby, to address the paucity of even the most basic geographic, hydrographic and anthropological information on the South West Pacific Area (SWPA) (excluding continental Australia). It was an inter-Allied unit comprising Australian, American and Dutch military and civilian personnel.

Although not formally established until 19 July 1942, the unit commenced work on 28 March 1942 when its first member, the esteemed anthropologist Lieutenant Francis Williams, was tasked with compiling information on New Guinea and Timor. The section's first product on Portuguese Timor was published on 28 May 1942 and GHQ, SWPA issued three foundation directives on 17 June, 19 July and 6 October 1942. Initially established in Melbourne, Headquarters AGS followed GHQ to Brisbane on 3 September 1942. In Melbourne, related elements of the Netherlands East Indies (NEI) Forces Intelligence Service were harnessed to create an AGS (NEI) Detachment during March 1943 and an AGS Sydney Detachment was established. In June 1945 AGS Forward Echelon was established with GHQ in Manila and Rear Echelon relocated to Melbourne leaving only a small presence in Brisbane. Additionally, an AGS Detachment was established at the RAN Hydrographic Office and liaison and distribution posts were maintained in Port Moresby, Hollandia, Biak, Tacloban, Tolosa (Leyte) and Washington, DC with less formal relations established with intelligence agencies across the globe.

Following the directive of 19 June 1942, temporary command was given to Lieutenant-Colonel (later Colonel) Evan Mander-Jones, who was replaced on 1 August 1942 by the section's wartime director, Major (later Colonel) William Jardine-Blake (1894–1971). Jardine-Blake had seen service in Gallipoli and France during the First World War, was a trained solicitor, and had worked for the British Colonial Service in the Solomon Islands. He typified the sort of officer best suited to geographical intelligence work and became one of a handful of Australians awarded the prestigious Legion of Merit.

At its peak the AGS comprised about 300 personnel, many of whom possessed unparalleled professional qualifications. Among them were ex-administrators of occupied territories, patrol officers, geologists, anthropologists, palaeontologists, mariners, members of the oil industry, authors and renowned illustrators. The **Women's Australian Auxiliary Air Force** and **Australian Women's Army Service** were the mainstay of the section's administrative workforce, while intelligence officers were central to the unit's output. The AGS evolved into a complex organisation that eventually comprised a headquarters, nine sections and ten sub-sections with roles ranging from unit administration to technical advice, editing, reproduction and distribution.

The section produced almost 300 terrain studies, special reports and handbooks for operational staffs and combat troops with hundreds of thousands of copies distributed on diverse areas of SWPA including the Solomon Islands, New Guinea, the Philippines, Netherlands and British East Indies, Korea, China and Japan. Specialist reports were produced on other subjects including selection of landing beaches, airfield sites and paratroop drop zones, overland routes, water supply, vegetation and railway studies, in addition to jungle survival and correct treatment of natives. Ad hoc reports were prepared for neighbouring commands, and sailing directions (appearing as Australian Hydrographic Publications) were published on seas surrounding Australia, New Guinea, the Netherlands and British East Indies, Solomon Islands and Timor. Due to the nature of the publications, commercial printers were engaged and distribution occurred via Qantas and military couriers under close AGS supervision. Notwithstanding the pace of work no deadline was ever missed.

The section assisted other intelligence agencies and in 1943, following interviews with Sparrow Force (see **Timor**), produced the most detailed map of Portuguese Timor of its time. Perhaps its best-known publication was the spectacular four-volume *Annotated Bibliography of the Southwest Pacific and Adjacent Areas* (reprinted as recently as 1990) prepared with the assistance of civilian volunteers and over 70 Australian libraries and tertiary institutions. The section also performed tasks that included production of maps and the standardisation of geographical place names.

During the Second World War other agencies like the Inter Service Topographical Department, Joint Army Navy Intelligence Studies and Office of the Chief Engineer also dealt with geographical intelligence although, given the unique circumstances characterising SWPA, the AGS unarguably outperformed them all. The section was predated by the French Service Géographique, which produced the first operational terrain maps following the disastrous Flanders campaign of 1915, and the Institut für Geopolitik, founded by the German general and political geographer Karl Haushofer after the First World War.

The AGS did not dissolve as a wartime agency until 30 November 1945, by which time it had established itself, along with the **Allied Translator and Interpreter Section**, as the most important and productive intelligence agency in SWPA. Its task was thankless and feedback on its work, in the form of praise or condemnation, was seldom received. Nevertheless, nowhere in the official histories of SWPA is a failure to provide adequate geographical information cited as a legitimate cause of a setback or defeat. Conversely, the Japanese had no equivalent and in hindsight blame insufficient geographical intelligence as a major cause of defeats accompanied by terrible personnel losses to tropical disease, the environment and terrain. An undeniably potent testament to the AGS' value is borne by the thousands of soldiers who, because of the tireless work of this 'back room' outfit, survived the war.

In postwar Australia the AGS became a Melbourne-based AIF unit responsible for receiving intelligence material

and records from disbanding commands, and on 5 June 1946 Jardine-Blake was replaced as director by Lieutenant-Colonel Adam Smith. Smith remained with the AGS until 2 December 1948 and oversaw its incorporation into the Australian Joint Intelligence Bureau (predecessor of the Defence Intelligence Organisation) that was established in 1947. The AGS had an American legacy as following its dissolution in November 1945 no formal geographical intelligence agency existed within MacArthur's newly formed Japanese command. Its functions were so sorely missed that Willoughby created a successor on 2 June 1946 to revise existing publications and produce new ones on the Soviet Union, Korea, China and Manchuria. The AGS also had an academic legacy with its publications becoming authoritative references for study undertaken at the Australian National University's Research School of Pacific Studies. Likewise, the Australian School of Pacific Administration that trained patrol officers, administrators and teachers for service in Australian territories also relied on the AGS' work.

REUBEN BOWD

ALLIED INTELLIGENCE BUREAU (AIB) was established on 6 July 1942 to control and coordinate the activities of various intelligence organisations that had been set up after the outbreak of war with Japan. **Special Operations Australia** was also known by the cover name of the Inter-Allied Services Department (ISD, founded in April 1942), which was headed by Colonel G. E. Mott of the British Special Operations Executive (SOE); it became Section A of the AIB, responsible for obtaining information about the enemy and carrying out acts of sabotage. AIF personnel serving in SOA were attached to **Z Special Unit**. Section B consisted of Secret Intelligence Australia (SIA); it was in effect a branch of the British Secret Intelligence Service (SIS). The Combined Field Intelligence Service, Section C, was based on the **coastwatchers'** organisation, and was divided into sub-units covering the North-East Area, the Philippines, and the Netherlands East Indies. Section D consisted of a propaganda organisation, the Far East Liaison Office (FELO), which had been set up on the orders of the Allied Land Commander, General Sir **Thomas Blamey**, on 19 June 1942. Problems of control, partly arising out of regular forces' suspicions of irregular or special units, were deepened by the overlapping responsibilities of the various sections, and together with diverging allied interests in different areas, as military action changed the strategic picture, led to a reorganisation of the structure. Section C was divided into three regional divisions (Philippines, NEI and North-East); SIA was focused on the NEI; and SOA was given the new cover name of the Services Reconnaissance Department (SRD), and made answerable to Blamey. As Z Special Unit moved with SOA out of AIB, M Special Unit was formed as an administrative unit for AIF personnel who remained with AIB. Under the command of Lieutenant-Colonel P. J. F. Chapman Walker, SRD mounted the **Jaywick** and RIMAU raids against Singapore Harbour in 1943 and 1944. Despite the tangled lines of authority and the continued duplication of function, the AIB was a significant

ALLIED LAND HEADQUARTERS

step forward in that it constituted a break from Australia's previous reliance on British sources for military and political intelligence, enabling it to establish a foundation for more independent assessments on which to base future policy.

ALLIED LAND HEADQUARTERS was established by General **Thomas Blamey** on 9 April 1942 in anticipation of his assuming the command of Allied Land Forces in the **South-West Pacific Area**. The Australian Army was reorganised into a field army and lines-of-communications areas, the **Military Board of Administration** was suspended and its members became Blamey's principal staff officers, while Blamey himself became C-in-C of the Australian Military Forces. Allied Land Headquarters was based in Melbourne and was subordinated to General **Douglas MacArthur's** General Headquarters, which was in Brisbane, as was Blamey's **Advanced Land Headquarters**. Blamey was the only Australian to hold a senior command position within the SWPA structure, but the arrangements were never really honoured by MacArthur, who had no intention of allowing Blamey to command American forces and systematically cut him out of command of any but Australian formations.

ALLIED TRANSLATOR AND INTERPRETER SECTION (ATIS) was established by General Headquarters, South-West Pacific Area (GHQ SWPA), on 19 September 1942 to translate seized Japanese documents and to provide interpreters for the interrogation of POWs. Under the command of US Army Colonel Sidney F. Mashbir, ATIS was Allied and inter-service in character and in operation. From an original staff of 25 officers and 10 enlisted men, its personnel expanded steadily until it reached a peak of 250 officers and 1700 enlisted men and women in 1945. As the Allies took the offensive against the Japanese from 1943, ATIS Advanced Echelons were formed to follow the combat forces, seizing and rapidly translating documents as they went. When GHQ SWPA moved from Melbourne to Hollandia in New Guinea, then to Leyte and finally Manila in the Philippines, Base ATIS moved with it. In the course of the war ATIS screened some 350,000 captured documents, fully translating 18,000 of them, and published over 2800 interrogation reports. It also produced interpretive reports and summaries of Japanese activities. After the war Base ATIS moved to Tokyo, where it assisted Occupation authorities until it was dissolved on 30 April 1946 and replaced by a new Translator and Interpreter Service.

AMBERLEY, RAAF BASE, near Ipswich, Queensland, is presently Australia's second largest operational Air Force base. The first operational aircraft landed there on 4 July 1940 and it is currently home to No. 1 and 6 Squadrons, the RAAF's bomber squadrons, which are equipped with **F-111** strike/reconnaissance aircraft, No. 38 Squadron, which are equipped with the **Caribou** transport aircraft and, since late 2006, No. 36 Squadron, which fly the C-17 Globemaster III heavy transporter. The KC-30B Multi Role Tanker Transport (see **Inflight refuelling**) aircraft are also to be based

there when they are introduced into service. This, along with the expanding service and support elements at the base will make it Australia's largest operational Air Force base.

AMBON A small island at the eastern extreme of the Indonesian archipelago, Ambon was strategically important for over four centuries because of its deep-water harbour which penetrates between the two peninsulas of the island. By 1941 Ambon had the additional asset of an airfield at Laha on the harbour side of the northern (Hitu) peninsula. Under an agreement made in early 1941 between the Australian and Netherlands East Indies governments, **Gull Force** was sent immediately after the Japanese attack on Pearl Harbor to assist the 2600-strong Dutch forces (commanded by Lieutenant-Colonel J. L. R. Kapitz) defending the island.

Like the comparable forces **Sparrow** and **Lark**, which were deployed on Timor and New Britain respectively, Gull Force faced a hopeless task. The defending forces were under-equipped; such limited air support as they had, including **Hudsons** of No. 13 Squadron RAAF, was withdrawn before the Japanese attack on the night of 30–31 January 1942. The efforts of the charismatic commander of Gull Force, Lieutenant-Colonel L. N. Roach, to convince Army Headquarters in Melbourne of the need to evacuate his force led to his replacement, mid January 1942, by Lieutenant-Colonel **W. J. R. (Jack) Scott**.

The vastly superior Japanese forces, consisting of the three battalions of the 228th Regiment and approximately a battalion of naval troops, landed on the northern and southern coasts of the island to avoid the major fortification, the fixed battery at Benteng overlooking Ambon harbour. Within 24 hours the Dutch forces, many of whom were indigenous, surrendered; the Japanese crossed the southern Laitimor Peninsula to capture the town of Ambon and isolate the Australian defensive position to its south. At Kudamati (where the Australian, Driver Bill Doolan, ensured his immortality with the local Ambonese for his bravery) and on the commanding Mount Nona, the Australians of 5 Platoon managed to repulse Japanese attacks. However, believing the Australian position to be untenable, Scott evacuated the Amahusu line stretching up the side of Nona on the night of 1–2 February. Retreating to Eri at the tip of the peninsula, Scott surrendered on 3 February. On the other side of the bay at Laha, Australians under the command of Major H. Newbury resisted strongly but were overwhelmed by 2 February. With the exception of a few Australians who managed to escape by island-hopping to Australia, all personnel at Laha were captured and murdered.

Gull Force's barracks at Tan Tui became the POW camp for the majority of Gull Force for the remainder of the war. The island was subjected to Allied air attacks from May 1942, two of which, in February 1943 and August 1944, devastated the prison camp, killing a number of the more able Australian officers. Allied airmen who fell into Japanese hands were executed. Bypassed and blockaded by MacArthur's advance to the Philippines, the island was not liberated until after the Japanese armistice in August 1945.

After an attempt to enter Ambon Harbour on 16 August was aborted for fear of Japanese retaliation, Australian naval forces rescued 302 prisoners on 10 September 1945. Four Japanese servicemen were executed for **war crimes** committed on Ambon. In recognition of the help given to Australian prisoners by the Ambonese population, the Gull Force Association and the Australian government have maintained a program of medical aid since 1967. Annual pilgrimages commemorate Anzac Day at the war graves cemetery on the site of the prison camp.

JOAN BEAUMONT

AMF see **Australian Regular Army**

AMPHIBIOUS OPERATIONS Australia's first independent military operation was an amphibious one, when the Australian Naval and Military Expeditionary Force (ANMEF), comprising elements of the RAN and the Commonwealth Military Forces, seized the German colonial possessions in New Guinea. Conducted between mid-August and early December 1914, this brief campaign secured Australia's trade routes in the Pacific by denying the Germans the ability to use the excellent harbour at Rabaul and its wireless station to direct their East Asian Squadron against Allied shipping (see **German New Guinea**). The naval force of 14 ships, including the French cruiser *Montcalm*, was commanded by Rear Admiral Sir George Patey. The land forces, comprising 500 men of the Royal Australian Naval Brigade (RANB), a battalion of infantry, two machine gun sections, signals troops and elements of the Australian Army Medical Corps, were commanded by Colonel William Holmes. The operation was thus both joint (even including one of the Commonwealth's three aircraft) and coalition. After some sharp fighting on 11 and 12 September 1914, the wireless station was captured and Rabaul surrendered on 15 September. Although it was both brief and small scale, the ANMEF demonstrated the usefulness of joint forces in the defence of Australian interests, particularly in the regions to the nation's north. The operation also showed the value of possessing troops that could go anywhere, and a fleet capable of taking them there.

The ANMEF's successful operations were, however, quickly overshadowed in the Australian national memory by the amphibious landings at **Gallipoli**. This campaign, however, did not contribute to any greater understanding of the potential role that joint operations might play in Australia's naval and military thinking. From the broad perspective of the history of warfare in the 20th century, however, the Gallipoli campaign was to have considerable influence, particularly on the development of United States Marine Corps (USMC) amphibious tactics in the Second World War. The masterful evacuation of the Allied forces from the Gallipoli Peninsula demonstrated how quickly armed services are able to learn during wartime. Had there been as much concern with planning, security and surprise in early 1915, the initial landings might have met with the same success as the evacuation.

During the interwar period, the small size of the Australian armed forces, a general lack of funds for development and fierce inter-Service rivalries meant joint operations received the lowest priority. In the 1920s and 1930s, Australian governments of all political persuasions willingly subscribed to **Imperial Defence**. While it was relatively cost-effective—Australia's contribution was largely to provide escort ships for the Royal Navy's battle fleet—Imperial Defence was nonetheless detrimental to Australia's development of a clear understanding of its own strategic circumstances as an island nation. The only recorded Australian involvement in training for amphibious operations during this period was a weekend exercise held just 10 days before the twentieth anniversary of Anzac Day. This activity, conducted at Blackman's Bay south of Hobart, involved a militia battalion and two cruisers of the **Australian Squadron**. The rudimentary landing techniques employed during the exercise harked back to First World War, and the contemporary reports seem totally unconcerned by the fact that, almost 20 years after Gallipoli, the best Australian forces could do was to stage what was little more than a very small-scale replay of the fateful landings.

Serious interest in developing an Australian amphibious capability did not arise until the first six months of the Second World War in the Pacific, when the Japanese conquered a vast area to the north of Australia in a series of well-planned and executed amphibious operations. Defence planners had long feared a development such as this, but had done little to prepare for its eventuality. Australia's political and military leaders soon realised, however, that recapturing these conquered territories would require the closest cooperation between all three services to master the techniques of amphibious warfare. In a memorandum of March 1942, the Deputy Chief of the General Staff, Major-General **S. F. Rowell**, noted that there were at least two steps that Australia would need to take to re-establish a ring of island bases to the north of the continent. The first step was planning for the provision of special equipment, including landing craft and air landing equipment, the second was the establishment of a School of Combined Operations.

At this time grave shortages of equipment for amphibious operations and no training facilities existed in Australia. Only a few Australian officers, from the 6th and 7th Divisions, had attended courses at the British Combined Training Centre Kabrit, in Egypt, but steps were soon taken to establish local training schools.

A detailed reconnaissance of Australia's east coast located three sites that could be used as training areas: Port Stephens, north of Newcastle in NSW; the Toorbul Point–Bribie Island area, north of Brisbane; and the San Remo–Trinity Beach area, just to the north of Cairns. In each of these locations major amphibious training establishments were developed during the war. At Port Stephens, the sheltered waters of Salamander Bay offered the rare combination of calm water close to surf beaches. This arrangement was ideal for the conduct of basic and advanced landing exercises. Due to these unique features, the Port Stephens area soon became the site of two major amphibious training establishments,

AMPHIBIOUS OPERATIONS

HMAS *Assault* and the Joint Overseas Operational Training School (JOOTS). Well before the arrival of the US Navy's Rear Admiral Daniel Barbey to take command of amphibious forces in the South-West Pacific Area (SWPA) in early 1943, these training establishments had started to grapple with the complex problems of amphibious warfare.

At the elementary level, problems existed because the basic terminology used by the Americans and Australians was different. The Australians used the British term, 'combined operations' instead of the word 'amphibious', for example. When it came to fundamentals, however, the US and British doctrines were remarkably similar with only slight variations in operational methods. Even small differences in terminology and style were nevertheless enough to create friction between the coalition partners. Criticisms of American methods came from British, New Zealand and Australian officers with some experience in amphibious operations in Europe and the Middle East. At the core of these criticisms was the belief that the Americans were too rigidly theoretical. In the SWPA, the US Army and Navy, not the USMC, were responsible for amphibious operations, each of which had developed their own doctrine. For this and a variety of other reasons, amphibious operations in the SWPA differed in character from the assault landings undertaken by the Americans in the Central Pacific Campaigns.

Two factors combined to make the SWPA ideal for the conduct of amphibious operations. The first set consisted of the physical characteristics of the region, which had numerous islands, most of which were mountainous and almost all of which were covered by dense tropical rainforests. The second comprised the difficulties faced by armed forces operating in this harsh physical environment. The 1942 Kokoda-Buna Campaign had shown the Allies the wide range of problems—tactical, logistic and medical—involved in land operations conducted in the tropics (see **New Guinea campaign**). In addition, for much of the war, the SWPA was denied the shipping and manpower resources devoted to the European and Central Pacific theatres. In an effort to overcome these problems, General **Douglas MacArthur** and his staff developed a strategy that made maximum use of their limited air and sea power to avoid protracted land combat.

When MacArthur's forces conducted landing operations, economy of force was a key element in planning. Amphibious operations in the SWPA were often used to bypass Japanese strong points and put troops ashore in areas that were only lightly held by the enemy. Captured areas were then rapidly developed as air bases and logistic bases. After a few weeks they would provide the necessary air cover and materiel support for the next amphibious leap along the northern coast of New Guinea, or later from island to island within the archipelago of the **Netherlands East Indies** (Indonesia). Thus the air and logistical build-up, not the destruction of the enemy, was the key purpose of these landings. This is not to say that the fighting was any less bitter or less difficult than in other Pacific theatres, but there were no Tarawa or Iwo Jima in the SWPA, mainly because MacArthur did not have the resources for assault landings on a lavish scale.

Despite these initial problems, under Barbey's able leadership the US and Australian forces soon overcame their differences and conducted 56 successful assault landings between late 1943 and the end of hostilities in 1945. In these operations, HMAS *Manoora* and the other RAN Landing Ships Infantry (LSI) formed part of the success story of inter-Allied cooperation. The spirit of improvisation that prevailed during the early days of training is captured in *Spearheads of Invasion*, the wartime memoir of Lieutenant Commander W. N. Swann, RAN. Swann served in HMAS *Westralia* from early 1942, when it was converted from an Armed Merchant Cruiser to one of the RAN's three LSIs: HMA Ships *Manoora*, *Kanimbla* and *Westralia* (see **Armed merchant cruisers**). These three ships were each capable of carrying a battalion of soldiers. Together they could transport an Australian Brigade Group or an American Regimental Combat Team, both formations consisting of approximately 5000 troops, making them important assets in the Allied war effort. The RAN's LSIs took part in seven of the key landing operations launched by American and Australian Forces in New Guinea, the Netherlands East Indies and the Philippines.

The extent and prevalence of inter-service cooperation in the SWPA was a necessary response to the unique problems imposed by the geography and climate of the theatre. Units of all the armed forces undertook long periods of training before participating in amphibious assaults. With greater experience came the realisation that the complexity of amphibious operations required the development of specialised units in all three services. From late 1944 onwards, the SWPA—particularly USN units and American ground forces—also enjoyed an increase in resources. This enabled MacArthur to intensify his campaign, and while the Americans pushed on towards the Philippines and Japan the Australians were left to fight their own campaign in New Guinea and the Netherlands East Indies.

Towards the end of the war, the Australian I Corps, with significant air and naval support from the US Forces, undertook three large-scale amphibious operations on the Japanese-held island of Borneo (see **Borneo campaign**). Codenamed **OBOE**, the first of these operations involved the seizure of Tarakan Island, beginning on 1 May 1945. The second was the attack at Brunei Bay from 10 to 17 June 1945, while the final OBOE operation took place on 1 July 1945, with the landing of the 7th Division at Balikpapan. The Tarakan landing was carried out in order to seize a base from which fighter aircraft could support the other OBOE operations. Unfortunately, although the attack was successful, the landing fields proved to be waterlogged and required a great deal of preparation. However, the scale of resources now available in the SWPA were such that ample air support could be conducted by carrier-based aircraft, and the Brunei Bay and Balikpapan operations went ahead on schedule.

The Cold War period, from mid-1950s to the late 1980s, saw a slow decline in cooperation between the services. The daily routines of peacetime and the low-intensity conflicts of the period (the **Malayan Emergency** and the **Vietnam War**)

allowed few opportunities and little motivation for regular training in joint operations. For a time after 1945, limited joint training was continued in the Port Stephens area. In general, however, the postwar period was one of retrenchment. Among the first to go were the many specialist units required for amphibious warfare. The RAN's 10th Flotilla, of Landing Ships—Tank (LST), for example, was disbanded in 1951. Even when units survived, their existence was often vestigial and they were often allocated to the reserve components of the three services.

During the Vietnam War, the old aircraft carrier HMAS *Sydney* was employed as a fast troop transport, which underlined the value of the strategic transport capabilities of the Navy, but in the period following the Vietnam War single-service issues or inter-service rivalries dominated thinking. Without a clearly defined threat, strategic guidance once again drifted towards the belief that Australia's armed forces should only be concerned with continental defence. In the 1980s, only the Kangaroo exercise series gave the ADF any practice in the use of joint forces. In the mid-1990s the ADF possessed only rudimentary joint doctrine, little suitable equipment and no clear concept for the conduct of amphibious operations.

From the mid-1990s, however, a series of economic and political crises in the Asia–Pacific region gave fresh impetus to inter-service cooperation, largely by illustrating the need for Australia to adopt a maritime strategy as the only effective method to safeguard her regional national interests. A corollary of this new strategic direction was the need for the RAN and the Army in particular to give fresh thought to the problems of amphibious operations. As part of this the Navy purchased two US Navy *Newport* Class landing ships, which were later commissioned as the amphibious transports, HMA Ships *Manoora* and *Kanimbla* (see **Kanimbla Class LPAs**). These ships afforded the ADF the capability to transport large numbers of troops and equipment, as well as providing significant deployable command and control and medical facilities. The Army also decided to return to service a limited number of amphibious cargo lighters, and together these developments meant the ADF's small amphibious capability received a significant boost.

Between 1999 and 2001, both the Navy and the Army gave serious attention to the development of operational concepts for this rejuvenated capability. In March 2000 the RAN created the Amphibious and Afloat Support Group (AASG). Based at **Garden Island** in Sydney, elements of the AASG have been constantly deployed since it began operations. The AASG's amphibious force comprises nine vessels: the two LPAs *Manoora* and *Kanimbla*, a heavy landing ship HMAS *Töbrük* and six landing craft heavy, based in Cairns and Darwin. These vessels have provided support for ADF operations in Bougainville, **East Timor**, the Arabian Gulf, Iraq, the Solomon Islands and humanitarian relief operations in the aftermath of the 2004 Asian tsunamis. During the same period, the Army has developed a doctrine for the employment of land forces in a maritime strategy and developed the capability to fly **Blackhawk** helicopter operations

from the RAN's amphibious vessels. In addition, the Army's LCM8 landing craft have operated with the RAN in East Timor, the Arabian Gulf, Iraq, the Solomon Islands, and in Aceh, following the 2004 tsunami (see **Peacekeeping; Gulf War, Second**).

ADF deployments since 1999 have again demonstrated the value and flexibility of amphibious forces for conducting a range of missions. From border protection and humanitarian relief to peacekeeping, stability and combat operations, the ADF has made extensive use of this small, but important capability. Although these recent missions have not been the classic, large-scale beach landings that the term 'amphibious operation' retains in the popular imagination, they have nevertheless been important military undertakings in support of Australia's national interests. In August 2005, recognising the value of possessing a viable amphibious capability, the government approved the first stage of a project to replace the LPAs with larger amphibious ships in the 20,000+ tonne class, capable of carrying up to 1000 troops each. With the first of the new class of vessels intended to enter service with the RAN by 2012, these larger ships will, if the project goes ahead, provide the ADF with increased capability for all aspects of the amphibious force.

RUSSELL PARKIN

ANDERSON, LIEUTENANT-COLONEL CHARLES GROVES

WRIGHT (12 February 1897–11 November 1988). Born in Cape Town, Anderson saw regimental service with the King's African Rifles in East Africa in the First World War, during which he was awarded the MC. Migrating to Australia in 1934, he was commissioned into the CMF in 1939 and in July 1940 was appointed as second-in-command of the 2/19th Battalion, AIF; he succeeded to command in August. During operations against the Japanese in the Malayan campaign in January 1942, he was engaged at close quarters with the enemy in four days of desperate fighting against heavy odds in the Muar area. He successfully extricated his unit and surrounding troops, which sustained heavy casualties in the withdrawal to Singapore. For his leadership and personal gallantry he was awarded the VC, the only Australian unit commander in the Second World War so honoured. Taken prisoner at the campaign's end, he returned to Australia in August 1945 and served as a Liberal MP in federal parliament between 1949–51 and 1955–61. His actions at Muar provide one of the few positive examples of Australian command in Malaya, while the action itself was judged a minor epic in an otherwise disastrous campaign.

ANGLO-AUSTRALIAN NAVAL AGREEMENTS, 1887,

1903 defined the naval relationship between Britain and the Australian colonies and ultimately provided the spur for the development of an Australian Navy. The 1887 agreement sought to regularise the growth of colonial naval forces and to define carefully the relationship between those forces and the RN. The *Colonial Naval Defence Act 1865* had authorised the colonies to develop their own naval forces, but required that such forces, whether deployed in home waters or beyond,

ANIMALS

remain under the control of the Admiralty, a provision to which the colony of Victoria in particular objected. The 1878 report by Major-General **William Jervois** had recognised that while the imperial government remained responsible for the external defence of the colonies, the colonies themselves had need of naval forces to protect their ports. That need was reinforced by the Russian war scare of 1885 (see **Colonial war scares**), which resulted in every station being placed on alert for several months. Underlying the defence question was the issue of cost, which combined with the matter of control to present the authorities, both imperial and colonial, with a difficult problem: the colonies argued that since they would bear the cost of developing naval forces, they should have authority over the deployment of those forces; the imperial government insisted that all naval vessels, whether deployed in colonial waters or on the high seas, should be under the control of the Admiralty. The 1887 agreement required the Admiralty to enlarge the Australian Squadron by the creation of the **Auxiliary Squadron, Australia Station**, comprising five fast cruisers and two torpedo gunboats, and to bear the costs of construction, although the Australian colonies and New Zealand undertook to contribute towards the interest charges on the capital cost and the annual maintenance bill. This was a significant concession by the Australian colonies, which had hitherto insisted that the cost of imperial defence should be borne by Britain; but in making that concession the colonies extracted from the Admiralty an undertaking that the ships could not be moved beyond Australian waters without the specific consent of the colonial governments.

That restriction, reluctantly given in 1887, had by the turn of the century become increasingly unacceptable to the Admiralty in the new strategic environment. The development of the German Navy and the rise of Japan as a major naval power in the Pacific made the notion of an auxiliary squadron that was effectively dedicated to local Australian defence completely at odds with the Admiralty's 'blue-water' strategy, which focused on the offensive power of the RN to seek out and destroy the enemy fleet, wherever it might be, and thereby defend the territorial and trade interests of the whole empire.

The 1887 agreement was due to run for 10 years from the time of arrival of the new ships on station, which was 1891. A new agreement was therefore negotiated in 1903, this time between the British Government and the new Commonwealth Government. It provided for a larger Australian squadron in return for increased financial contributions from Australia and New Zealand. The earlier restrictions on deployment were lifted to the extent that it was agreed that the ships could operate in the waters of the China, East Indies and Australian stations. In return for this concession to the notion of centralised control and a blue-water focus, the Admiralty agreed that three of the nine ships of the squadron would be drill ships (which had been provided for in the 1887 agreement but never honoured), manned as far as possible by Australian and New Zealand sailors. Although each party had won concessions to its position, neither was satisfied with the result. Increasingly the

Australian government looked to the establishment of a local Navy to defend local interests, while the Admiralty pressed for a global perspective in which there was no room for purely local naval forces.

ANIMALS have played important roles, both psychological and practical, throughout the history of the Australian armed forces, though more recently their practical utility has declined as a result of technological advances. A special affinity with animals, particularly horses, has often been attributed to Australian servicemen because of their supposed experience of bush life. This idea served useful propaganda and morale-boosting purposes, allowing Australians to compare themselves favourably not only with inexperienced European city-dwellers, but also with enemies and 'natives', whose allegedly cruel treatment of animals was taken as further evidence of contempt for 'civilised' values. Whether or not Australians work better with animals than other people, it is clear that many Australian servicemen developed genuine affection for the animals they worked with. Caring for animals provided some relief from the stresses of service life, allowing servicemen to express their gentle, affectionate and sentimental sides.

This aspect of the role of animals within the armed forces is shown clearly in the tradition of animal mascots. Mascots are meant to bring luck, to boost morale and to provide fun. Originally they had no official status within the Australian Army, but were usually soldiers' pets which were unofficially adopted by a unit. During the First World War animals of all kinds became mascots, including Australian native species such as kangaroos, possums and koalas. The continuing popularity of mascots during the Second World War was revealed in a 1945 article in the Army magazine *Salt*, which reported attempts by Australian servicemen to bring home 'at least 10 goats, 220 dogs, 170 cats, 150 birds, and 50 assorted monkeys, squirrels, etc.' from the start of the Pacific War. Mascots have been more common in the Army than in the other services, and only in the Army have selected mascots been given official recognition. A small number of Army mascots have been assigned regimental numbers, have official records and are eligible for promotion. The mascot of the 1st Field Hospital, 'Simmo' the donkey, stood in for Simpson's donkey when it was awarded the Purple Cross in 1997. The Navy and Air Force have also had unofficial mascots, though in the Navy mascots are prohibited at sea.

Single-humped Arabian camels were used by Australian troops during the First World War because their ability to store water and to walk on sand made them superior to horses for some purposes during the Palestine campaign. The Imperial Camel Corps, formed in 1916, consisted of 18 companies, 10 of them Australian. Unlike the **mounted rifles** of the **light horse**, troops mounted on camels were pure infantry, as they had to dismount at a distance from the enemy and could not keep their camels close at hand for a quick escape. The corps had some victories, but the Australian official historian **H. S. Gullett** considered that it contributed little to the desert campaign and that once

the desert terrain was passed its members would have been of greater value mounted on horses. Military authorities reached this conclusion in mid-1918 and the Camel Corps was disbanded, its Australian members forming the 5th Australian Light Horse Brigade. Camel trains were used to transport supplies in the desert, but their slowness and the resources required to feed the camels and their drivers meant that, where possible, horse-drawn and motor transport was used in preference. Likewise, the wounded were transported on *cacolets* (chairs on stretchers slung on either side of a camel) only when this was unavoidable, as the jolting ride was torture for the patient.

Dogs are perhaps the most versatile animals used by the military, but the Australian Army has never used them on such a large scale as other armies and was comparatively late in making use of the full range of their abilities. During the First World War, and at some times subsequently, dogs were used to carry messages. These dogs were taught to run from a forward position to their handler at a rear station, or to run between two handlers. Their advantages over pigeons as message-carriers were that they could run at night and could make several runs during a tour of duty in the line, but they were also easier targets for enemy fire and their efficiency was often impaired by the development of bonds of affection with their handlers. Both the Army and the RAAF used German Shepherds as guard dogs during and after the Second World War. Guard dogs are trained to protect important establishments by detecting the presence of intruders, alerting their handlers and, if necessary, attacking on command. German Shepherds have also been used as infantry patrol dogs, trained to avoid ambushes. The patrol dog uses its senses of smell and hearing to detect hidden people and silently indicates their presence to its handler by 'pointing'. In contrast to patrol dogs which work on air scent, tracker dogs work on ground scent. Trained to follow human scent only, tracker dogs work with a harness and a long leash. They can track a scent for an average of about 5 to 6.5 kilometres when it is up to eight hours old. Mine-detection dogs are taught to recognise the scent and appearance of explosives. Generally working without a leash, they move back and forth within a limited area until they find an explosive, whereupon they sit down close by to indicate its presence to accompanying sappers. Mine-detectors can discover explosives in metallic containers, but mine-detection dogs are useful for finding non-metallic devices and explosives hidden in areas where other metal is present, such as railway lines. Australian Army training of dogs and dog-handlers began after the successful use of patrol dogs by Australians trained by British specialists during the Korean War. A dog-training depot was established at the School of Military Engineering, Casula, in 1954, and soon afterwards tracker dogs played an important part in Australian operations in the Malayan Emergency. This training was discontinued for a time, but in 1965 a Tracking Wing was established at the Infantry Centre, Ingleburn, and tracker dogs began to be used during the Vietnam War. This conflict also produced a resurgence of interest in mine-detection dogs. A Mine Dog Section, established at the School of Military

Engineering in 1971, became the Military Dog Wing in 1974 and amalgamated with the Explosive Ordnance Section in 1986. The RAAF Police Dog Training Centre has been operating since 1954.

Donkeys and mules were used as beasts of burden in both world wars. Donkeys generally did lighter work such as carting water or meals and carrying wounded soldiers. Although they were less useful than mules their good tempers made them more popular with the troops. However, mules, despite their cantankerous nature, slowly earned grudging respect for their extraordinary strength and endurance. They made excellent pack animals, were agile even in mountainous terrain, were quiet, needed little attention and could eat almost anything. Horses were also sometimes used as pack animals in addition to being used to pull wheeled transport. The advent of motorised transport did not immediately make horses and mules obsolete, despite their comparative slowness and low carrying capacity. They remained useful for their flexibility and their ability to perform over rough or slushy ground which was difficult for motor transport to negotiate, particularly before the invention of the multi-axle drive.

Of all the animals used by Australian troops, it was probably riding-horses that were regarded with the greatest affection. The close bonds that developed between men and horses were revealed in the reaction of Australian light horsemen to the news that, because of cost and the danger of introducing diseases to Australia, their horses would not return with them. 'Trooper Bluegum' (**Oliver Hogue**) expressed the heartbreak of many in his poem 'The Horses Stay Behind':

I don't think I could stand the thought of my old fancy hack
Just crawling round old Cairo with a 'Gyppo' on his back.

'Trooper Bluegum' went on to claim that rather than let his horse meet such a fate he would shoot it, but contrary to the myth it seems that very few men, if any, actually did this. The horses were classified by age and health and only those deemed unsuitable were destroyed under the supervision of the veterinary and remount services. The remainder (the majority) were passed on to the imperial authorities with most continuing their service in the Indian Army (see **Walers**). The only horse returned to Australia after the First World War was Sandy, the favourite horse of the 1st Division's commander Major-General **W. T. Bridges**. The head and one hoof of this horse have been preserved and stored at the Australian War Memorial.

The performance of Australian horses in the Middle East during the First World War defied expectation when they proved capable of withstanding heavier loads, longer distances and harsher conditions than had previously been thought possible. Their endurance was often attributed to the hardiness of the Waler stock, but horses in British formations often did as well and it seems that the performance of the Waler had much to do with the careful selection of stock in Australia, a generally efficient logistical service, effective veterinary services and the unit-level maintenance of the cavalry art of horsemastership. It is worth recalling that when

these factors were absent, such as in South Africa during the **Boer War**, Walers died as quickly and as numerous as horses from other countries.

Also important during the First World War was the work of the Remount Service. The Remount Branch had been formed in 1911–12 to train and care for military horses, and in 1915 two remount units were sent to Egypt where they were incorporated into the Imperial Remount Service. They originally consisted of a mixture of middle-aged men unfit for active service and younger ‘rough-riders’ needed for horse-breaking. As the units were consolidated and reduced in size in 1916, most of the older men were released and the proportion of rough-riders rose. In addition to the important work of taming and acclimatising new horses there were plenty of routine duties to keep the Remount Service busy: feeding, watering, grooming and exercising the horses and disposing of manure. Horses continued to be used by the Australian Army after the First World War, but horse transport was phased out from 1944 and the Remount Service was disbanded in 1946. As late as 1952 the Army’s last horse could be found at Duntroon.

Pigeons have been useful to the military because of their homing instinct, which makes them return immediately to their home loft after being removed from there and then released. Troops could carry pigeons with them to a forward area, release them with messages in small cylindrical containers attached to the birds’ legs, and be sure that each bird, unless it had a mishap in flight, would take the message to its home loft back at base. Pigeons were useful in isolated areas where other means of communication were not available and in situations in which the use of a wireless was considered inadvisable. With an average speed of 50 kilometres per hour, pigeons have a normal flying range of 60–100 kilometres if being used from a mobile loft or 200 kilometres from a stationary loft. They will not fly at night or in bad weather. Although there was some use of pigeons by the Australian Army in the early twentieth century it was not until the First World War that they were widely used. In France, pigeons were obtained by the AIF from the British Army and each infantry brigade’s signallers set up a pigeon station. During the Second World War the vulnerability of communication by line and wireless meant that an alternative means of communication between coastal defences was needed in case of invasion. This need prompted the formation in 1942 of the Corps of Signals Pigeon Service, which was made up largely of men who had been pigeon-fanciers as civilians. Pigeon-fanciers also donated thousands of birds to the Army. In addition to forming an alternative communications network across the Australian continent, the Pigeon Service operated in New Guinea. These birds were of particular use to raiding and reconnaissance parties, and to small boats which used them for ship-to-shore communication. So effective was the Australian Pigeon Service that from 1943 its personnel and pigeons were used by US forces in the **South-West Pacific Area**. On many occasions pigeons carried information that was crucial to the success of particular operations or which saved the crews of small boats that were in trouble.

The Australian Corps of Signals officially ended the use of pigeons in 1946.

Animals were also used to determine the poisonous effects of absorbing mustard gas through the skin in the initial stages of chemical warfare research in Australia (see **Gas, Second World War**).

ANSON, AVRO (3 crew twin-engine maritime patrol bomber or trainer [Mark I]). Wingspan 56 feet 6 inches; length 42 feet 3 inches; armament 2 × 0.303-inch machine guns, 360 pounds bombs or 500 pounds depth-charges; maximum speed 188 m.p.h.; range 790 miles; power 2 × Armstrong Siddeley Cheetah 350 h.p. engines.

The Anson entered service with the RAAF as a reconnaissance bomber and maritime patrol aircraft in 1936. It was replaced as a bomber in 1940 by the **Hudson** but was used between 1942 and 1945 by No. 66, 67, 71 and 73 Squadrons for anti-submarine patrols on the east coast of Australia. During the Second World War, over 1000 Ansons were used by the RAAF as twin-engine training aircraft, mainly for the **Empire Air Training Scheme**. After the Second World War, several ex-RAAF Ansons were operated as civilian airliners.

ANTARCTICA, RAAF OPERATIONS IN During Sir Douglas Mawson’s 1929–30 research expedition, a RAAF DH60 Moth floatplane and two pilots undertook exploration, reconnaissance, photographic and survey flights. An identical contingent also accompanied Mawson in 1930–31. In 1935 a six-man RAAF party with two floatplanes joined a mission to the Bay of Whales to retrieve American explorer Lincoln Ellsworth.

After the Second World War, the RAAF formed an Antarctic Flight at its base at Rathmines, New South Wales, and provided a Vought Kingfisher and Walrus amphibian for the 1947–48 Australian National Antarctic Research Expedition. From 1955, Auster ski-planes, Beaver floatplanes and even a **Dakota** transport supported ANARE operations. These machines and their crews ‘wintered over’ on the continent until the practice was discontinued after cyclonic winds destroyed a Dakota and two Beavers at the Mawson permanent base in December 1960.

The RAAF presence was further curtailed under the 1961 Antarctic Treaty which defined the area below 60 degrees south latitude as a demilitarised zone; Antarctic Flight was officially disbanded in April 1963. Thereafter, C-130 **Hercules** transports made only short-term visits to resupply the US base at McMurdo Sound in 1978 and 1980, and the Australian station on Macquarie Island until the mid-1980s.

CHRIS CLARK

ANTHROPOMETRY A term originating in the mid-nineteenth century, it describes the measurement of the human body with a view to determining its development at different stages and among different races and social classes. In the early twentieth century anthropometrical measurements were taken of schoolchildren, and for a time analysis of the data acquired appeared in the Commonwealth Year Book.