MARITIME CAPABILITIES – AN OVERVIEW

The Royal Australian Navy’s (RAN) role is to promote and protect Australia’s interest at sea using a combination of ships, submarines and aircraft. The RAN, in conjunction with the other Services, achieves this by operating the following capabilities.

**Surface Combatant Force**
- Six Guided Missile Frigates
- Four Anzac frigates (with a further four to be delivered by 2006).

**Submarine Force**
- Six Collins class submarines.

**Amphibious and Afloat Support Force**
- Two replenishment ships
- Two Amphibious Landing Ships
- One Heavy Landing Ship
- Six Heavy Landing Craft.

**Aviation Force**
- Sixteen S-70B-2 Seahawks
- Seven SK-50 A/B Sea King
- Twelve AS350B Squirrel
- Eleven Super Seasprite to be delivered in the next few years
- Fifteen Kalkara unmanned aerial target systems.

**Mine Countermeasures Force**
- Six Huon Class minehunters
- Two Mine Clearance Diving Teams
- Three Auxiliary Minesweeping Vessels
- A minimal shallow water mining capability using existing air delivered bombs converted to mines.

**Patrol Boat Force**
- Fifteen Fremantle class patrol boats.

**Hydrographic Force**
- Two Hydrographic Ships
- Four Survey Motor Launches
- One Laser Airborne Depth Sounding aircraft.
SURFACE COMBATANT FORCE – GUIDED MISSILE FRIGATES (FFGs)

Role

- Patrol and surveillance of open ocean and coastal waters; escort and protection of ships and convoys; protection of coastal shore facilities; and engagement of enemy aircraft, missiles, surface ships and submarines.

Force Size

- The ADF has six FFGs. Each ship can be equipped with one or two Seahawk helicopters, which are used to detect and prosecute submarines and provide a surface search capability.

Platform History

- The first four FFGs, built in the USA, entered service between 1980 – 84. The last two, built in Australia, entered service in 1992 – 93.
- In December 1997, an air warfare upgrade of the FFGs was approved to improve their survivability in combat and to lessen the cost to maintain the ships.
- The FFG upgrade will occur from 2003 – 06 and will extend the lives of the ships to approximately 35 years.

Capability

- FFGs are fitted with Harpoon missiles, which can strike surface targets at long ranges.
- FFG air defence systems can counter current generation aircraft and missiles.
- Upgraded FFGs will have improved defences to defeat anti-ship missiles combined with systems to assist in the detection and avoidance of enemy torpedoes and prosecution of submarines.
- The Seahawk helicopters embarked in FFGs considerably enhance their anti-submarine and surveillance capability.

**FFGs**

<table>
<thead>
<tr>
<th>No</th>
<th>Name</th>
<th>Commissioned</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>ADELAIDE</td>
<td>15 Nov 80</td>
</tr>
<tr>
<td>02</td>
<td>CANBERRA</td>
<td>21 Mar 81</td>
</tr>
<tr>
<td>03</td>
<td>SYDNEY</td>
<td>29 Jan 83</td>
</tr>
<tr>
<td>04</td>
<td>DARWIN</td>
<td>21 Jul 84</td>
</tr>
<tr>
<td>05</td>
<td>MELBOURNE</td>
<td>15 Feb 92</td>
</tr>
<tr>
<td>06</td>
<td>NEWCASTLE</td>
<td>11 Dec 93</td>
</tr>
</tbody>
</table>

- Displacement: 4,100 tonnes
- Length: 138 metres
- Armament: Harpoon anti-ship missiles, Standard SM-1MR anti-air missiles, One 76mm gun, One 20mm Phalanx close-in weapon system (anti-missile), 4 x 12.7mm machine guns, Two sets of triple mounted anti-submarine torpedo tubes
- Speed: Approx 30 knots
- Aircraft: Two Seahawk or Seasprite helicopters
- Crew: 184 (excluding air crew)
SURFACE COMBATANT FORCE – ANZAC FRIGATES (FFH)

Role

- Patrol and surveillance of open ocean and coastal waters; escort and protection of ships and convoys; protection of coastal shore facilities; and engagement of enemy aircraft, missiles, surface ships and submarines.

Force Size

- A total of 10 Anzac ships will be constructed in Australia. Four have been delivered to the RAN and two to New Zealand; with the remaining four to be delivered to the RAN by 2006.
- The ships will carry one Super Seasprite helicopter for surface attack and surveillance.

Platform History

- In 1996, approval was given to upgrade the ships’ anti-air defences by fitting the Evolved Sea Sparrow Missile system.
- In 1997 approval was given to fit the Harpoon anti-ship missile and some anti-submarine warfare improvements in the Anzac ships.
- The Australian Defence Force (ADF) has plans to improve the air defences of the Anzacs.
- Anzac ships are expected to remain in service for approximately 30 years.

- The Frigates are based on the German Meko 200 design.
- The ships are composed of sections made in three separate locations – Williamstown in VIC, Newcastle in NSW and Whangerei in NZ. The final assembly is at Williamstown, VIC.
**SURFACE COMBATANT FORCE – ANZAC FRIGATES (FFH)**

**Capability**

- Each frigate is fitted with air surveillance radars, hull mounted sonar and electronic support systems, with a state-of-the-art combat data system.
- When upgraded, Anzacs will be able to defend themselves against current regional aircraft and anti-ship missile threats.
- With these improvements (incorporated over the next few years), Anzacs will remain an efficient, regionally capable surface combatant.
- Anzacs fitted with Harpoon missiles will be able to strike ships at long ranges.
- With the Penguin missile equipped the Super Seasprite helicopter will further extend the Anzacs’ strike and surveillance ranges.
- Anzacs’ small crew, economical propulsion and good seakeeping make them very cost effective surveillance platforms.

---

**Anzacs**

<table>
<thead>
<tr>
<th>No</th>
<th>Name</th>
<th>Commissioned</th>
</tr>
</thead>
<tbody>
<tr>
<td>150</td>
<td>ANZAC</td>
<td>13 May 96</td>
</tr>
<tr>
<td>151</td>
<td>ARUNTA</td>
<td>12 Dec 98</td>
</tr>
<tr>
<td>152</td>
<td>WARRAMUNGA</td>
<td>31 Mar 01</td>
</tr>
<tr>
<td>153</td>
<td>STUART</td>
<td>19 Aug 02</td>
</tr>
<tr>
<td>154</td>
<td>PARRAMATTA</td>
<td>June 2003*</td>
</tr>
<tr>
<td>155</td>
<td>BALLARAT</td>
<td>July 2004*</td>
</tr>
<tr>
<td>156</td>
<td>TOOWOOMBA</td>
<td>July 2005*</td>
</tr>
<tr>
<td>157</td>
<td>PERTH</td>
<td>Mar 2006*</td>
</tr>
</tbody>
</table>

*Expected date of commissioning.

<table>
<thead>
<tr>
<th>Displacement</th>
<th>3,600 tonnes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>118m</td>
</tr>
<tr>
<td>Armament</td>
<td>One 127mm gun Sea Sparrow anti-air missiles Two triple mounted anti-submarine torpedo tubes 4 x 12.7mm machine guns</td>
</tr>
<tr>
<td>Speed</td>
<td>More than 27 knots</td>
</tr>
<tr>
<td>Aircraft</td>
<td>Will carry one Super Seasprite helicopter equipped with Penguin anti-ship missiles</td>
</tr>
<tr>
<td>Crew</td>
<td>164</td>
</tr>
</tbody>
</table>
**SUBMARINE FORCE - COLLINS CLASS**

**Role**

- To sink surface ships and submarines
- Submarines are powerful deterrents and can neutralise an adversary’s capacity to conduct or sustain naval operations against Australia
- Submarines can also covertly deploy Special Forces and undertake surveillance/intelligence gathering and mining of ports and sea-lanes.

**Force Size**

- The ADF currently has six Collins class submarines in service.

**Platform History**

- In June 1987 a contract was signed with the Australian Submarine Corporation for the construction of six Collins class submarines.
- Problems identified with the combat system, hull and propeller noise and platform system reliability have been addressed via a joint project with the Defence Science and Technology Organisation (DSTO) and the United States Navy.
- The Collins class submarine has effectively proven its capability in both joint and single navy exercises.
- Each submarine of the Australian Submarine Squadron is named after a distinguished member of the RAN.

**Capability**

- The Collins class submarines are capable of conducting operations at a range in excess of 9,000 nautical miles and are able to proceed at speeds in the order of 10 knots on the surface and 20 knots submerged.
- The submarines employ the Mk48 Mod 4 dual purpose, wire guided, active/passive homing torpedo and the Sub Harpoon anti-ship missile.

---

### Collins Class

<table>
<thead>
<tr>
<th>No</th>
<th>Name</th>
<th>Commissioned</th>
</tr>
</thead>
<tbody>
<tr>
<td>73</td>
<td>COLLINS</td>
<td>27 Jul 96</td>
</tr>
<tr>
<td>74</td>
<td>FARNCOMB</td>
<td>31 Jan 98</td>
</tr>
<tr>
<td>75</td>
<td>WALLER</td>
<td>10 Jul 99</td>
</tr>
<tr>
<td>76</td>
<td>DECHAINEUX</td>
<td>23 Feb 01</td>
</tr>
<tr>
<td>77</td>
<td>SHEEAN</td>
<td>23 Feb 01</td>
</tr>
<tr>
<td>78</td>
<td>RANKIN</td>
<td>29 Mar 03</td>
</tr>
</tbody>
</table>

- **Displacement**: 3,350 tonnes
- **Length**: 77m
- **Armament**: Six torpedo tubes capable of launching Mk48 torpedoes, mines and Harpoon missiles.
- **Speed** (Submerged): more than 20 knots
- **Diving Depth**: In excess of 180 metres

HMA SHIPS DECHAINEUX and SHEEAN
AMPHIBIOUS AND AFLOAT SUPPORT FORCE - AMPHIBIOUS PLATFORMS

Role
• Command, Control, Communication and Intelligence (C3I) and electronic warfare roles of a deployable Joint Force Headquarters.
• Amphibious transport, helicopter support and sea training.

Force Size
• Two Landing Platform Amphibious (LPA) are operated out of Sydney.
• One Heavy Landing Ship (LSH) is operated out of Sydney.
• Six Landing Craft Heavy (LCH). Three each are operated out of Cairns and Darwin respectively.

Platform History
• HMA Ships KANIMBLA and MANOORA (LPA), previously owned by the United States Navy, were commissioned in 1994 before a lengthy refit and modernisation program.
• HMAS TOBRUK, built at Carrington shipyard near Newcastle in NSW, is the second ship to bear the name of the famous WWII battle.
• HMAS TOBRUK has played a key part in almost all of the major United Nations peacekeeping/peace monitoring operations that Australia has been involved in throughout the last decade.

Capability
• HMA Ships KANIMBLA and MANOORA prime capability is operation as a deployable joint force headquarters.
• HMA Ships KANIMBLA and MANOORA are capable of transporting 450 troops and their associated vehicles and landing craft and up to four Army Black Hawk helicopters.
• HMAS TOBRUK is capable of transporting 18 Leopard Main Battle Tanks on the tank deck, 40 Armoured Personnel Carriers on the vehicle deck and 315 soldiers and their equipment.
• HMAS TOBRUK is capable of delivering her cargo directly on to the shore by beaching and opening the ships bow door to provide rapid delivery of equipment.
• The LCHs are capable of transporting three Main Battle tanks or 23 1/4 tonne trucks or 13 Armoured Personnel Carriers.

Kanimbla Class

<table>
<thead>
<tr>
<th>No</th>
<th>Name</th>
<th>Commissioned</th>
</tr>
</thead>
<tbody>
<tr>
<td>L51</td>
<td>KANIMBLA</td>
<td>29 Aug 94</td>
</tr>
<tr>
<td>L52</td>
<td>MANOORA</td>
<td>25 Nov 94</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Displacement</th>
<th>8,450 tonnes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>160m</td>
</tr>
<tr>
<td>Armament</td>
<td>1 x 20mm Phalanx, 4 x 12.7mm machine guns</td>
</tr>
<tr>
<td>Speed</td>
<td>20 knots</td>
</tr>
<tr>
<td>Crew</td>
<td>180</td>
</tr>
</tbody>
</table>

![Kanimbla Class](image_url)
### Landing Craft Heavy (LCH)

<table>
<thead>
<tr>
<th>No</th>
<th>Name</th>
<th>Commissioned</th>
</tr>
</thead>
<tbody>
<tr>
<td>L126</td>
<td>BALIKPAPAN</td>
<td>8 Dec 71</td>
</tr>
<tr>
<td>L127</td>
<td>BRUNEI</td>
<td>5 Jan 73</td>
</tr>
<tr>
<td>L128</td>
<td>LABUAN</td>
<td>9 Mar 73</td>
</tr>
<tr>
<td>L129</td>
<td>TARAKAN</td>
<td>15 Jan 73</td>
</tr>
<tr>
<td>L130</td>
<td>WEWAK</td>
<td>10 Aug 73</td>
</tr>
<tr>
<td>L133</td>
<td>BETANO</td>
<td>8 Feb 74</td>
</tr>
</tbody>
</table>

- **Displacement**: 310 tonnes (light)
  503 tonnes (full)
- **Length**: 44m
- **Armament**: 2 x 12.7mm machine guns
- **Speed**: 10 knots

### Landing Ship Heavy (LSH)

<table>
<thead>
<tr>
<th>No</th>
<th>Name</th>
<th>Commissioned</th>
</tr>
</thead>
<tbody>
<tr>
<td>L50</td>
<td>TOBRUK</td>
<td>23 Apr 81</td>
</tr>
</tbody>
</table>

- **Displacement**: 3300 tonnes (standard)
  5700 tonnes (full)
- **Length**: 127m
- **Armament**: 2 x 40/60 Bofors
  2 x 12.7mm machine guns
- **Speed**: 18 knots
AMPHIBIOUS AND AFLOAT SUPPORT FORCE - AFLOAT SUPPORT PLATFORMS

Role

- To extend the range and capability of surface combatants and their helicopters by replenishing them with fuel, stores and ammunition while at sea.

Force Size

- HMAS SUCCESS (AOR304) provides fuel, ammunition, food and general stores. It has a crew of 215 and is based in Sydney.
- SUCCESS is an Auxiliary Oiler Replenishment, capable of replenishing two ships whilst underway (by day or night). It can also resupply vessels with the assistance of its helicopter.
- HMAS WESTRALIA (AO195) is an Underway Replenishment Ship, which performs the role of replenishing warships and helicopters. It has the ability to replenish two ships whilst underway (by day or night).
- WESTRALIA provides fuel, water, food and general stores. Westralia has a crew of 60 and is based in Perth.

Platform History

- SUCCESS entered service in 1986.
- WESTRALIA (ex-UK vessel) was leased in 1989 and purchased in 1994.
- WESTRALIA received an engineering rebuild in 1999 following a major engine room fire.
- SUCCESS provided logistic support for Timor peacekeeping operations in 1999.
- Both WESTRALIA and SUCCESS operated in the Persian Gulf during the 1990 - 91 Gulf War.

Capability

- Afloat Support ships extend the range and deployment time of surface combatants.
- SUCCESS also has a comprehensive medical and dental facility onboard to support the fleet.
- Both vessels can be fitted with the Phalanx 20mm close in weapon systems for self-defence.

HMAS SUCCESS (AOR 304)

<table>
<thead>
<tr>
<th>Displacement</th>
<th>17,900 tonnes (full load)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>157m</td>
</tr>
<tr>
<td>Speed</td>
<td>19 knots</td>
</tr>
<tr>
<td>Crew</td>
<td>205</td>
</tr>
<tr>
<td>Armament</td>
<td>3 x 40/60mm Bofors</td>
</tr>
<tr>
<td></td>
<td>4 x 12.7mm machine guns</td>
</tr>
</tbody>
</table>

HMAS WESTRALIA (AO195)

<table>
<thead>
<tr>
<th>Displacement</th>
<th>40,800 tonnes (full load)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>171m</td>
</tr>
<tr>
<td>Speed</td>
<td>16 knots</td>
</tr>
<tr>
<td>Crew</td>
<td>60</td>
</tr>
</tbody>
</table>

HMA SHIPS ANZAC and WESTRALIA

HMAS SUCCESS
NAVAL AVIATION OPERATIONS

Roles

- Anti-submarine warfare; anti-surface warfare (strike); surveillance; utility support (including replenishing ships’ stores); search and rescue; medical evacuation; electronic warfare and aircrew training.

Force Size

- Helicopters -
  - Sixteen S-70B-2 Seahawks (anti-submarine/surveillance)
  - Seven MK50A Sea Kings (utility/transport)
  - Twelve AS350B Squirrels (light utility/training)
- A delivery of eleven Super Seasprite (anti-surface/missile equipped) helicopters begins over the next few years.
- Helicopters are embarked in FFGs, FFHs, Amphibious Ships and Replenishment Ships.

Platform History

- In 1975 SK Mk 50 Sea Kings were purchased for use in the anti-submarine warfare, troop transport and utility roles. The ASW role was removed in 1995
- In 1988 a program for acquiring sixteen S-70B-2 Seahawks commenced.
- In 1995, approval was given to acquire eleven Super Seasprite helicopters. They will be delivered over the next few years and will be embarked principally in the Anzac class for anti-surface strike/surveillance.
- In 1997, approval was given to acquire the Penguin anti-ship missile for the Super Seasprite helicopter.

Capability

- Seahawks and Super Seasprites will be fitted with electronic support measures and forward looking infra-red surveillance sensors.
- They will be among the most capable helicopters in the region and will greatly enhance the capability of FFGs and Anzac ships.
- The capability will include lightweight torpedoes, Penguin anti-ship missiles and machine guns.

Seahawk

- The S-70B-2 Seahawk helicopters are designed for submarine hunting, surface surveillance, search and rescue and troop transport
- Seahawks were delivered in 1988 to equip the FFGs
- Operated by 816 Squadron
- For anti-submarine warfare they carry up to 30 acoustic sonobuoys as well as homing torpedoes
- Armament consists of two Mk46 torpedoes and a 7.62mm machine gun can be door mounted for tactical operations.

An S-70B-2 Seahawk
NAVAL AVIATION OPERATIONS

**Sea King**
- Sea King Mk 50A’s entered service in 1975 as an anti-submarine helicopter
- Their primary role now is to provide a medium lift utility helicopter to the fleet
- From 1995 they have undertaken utility work, surveillance, anti-surface warfare, army support operations and search and rescue
- Operated by 817 Squadron
- Homing torpedoes and a 7.62 mm door-mounted machine gun may be carried.

**Squirrel**
- AS350B Squirrel helicopters are used for initial helicopter training for all Naval aircrew as well as light utility work and training at sea in FFGs and FFHs
- Squirrels entered service in 1984
- They are operated by 723 Squadron
- They can be equipped with a door-mounted machine gun and have updated avionics
- Used for shipping surveillance, top cover for helicopter boardings, light logistics support and visual mine searches.

Sea King Mk 50A

AS350B Squirrel
MINE COUNTERMEASURES FORCE

Role
- To remove mines from ports and their surroundings during conflict and to maintain a capability to lay maritime mines.

Force Size
- Six new Huon class Mine Hunter Coastal (MHC). These vessels use active sonar to detect mines whereupon they deploy a dive team or remote device to render it safe.
- Three Auxiliary Minesweeping vessels, which include two former tugs and a lighthouse tender. Minesweepers carry sweeping equipment to deal with contact, magnetic or acoustic mines.
- Two Clearance Diving Teams (CDT).
- A minesweeping training capability is maintained using the two tugs and the lighthouse tender.

Force History
- In 1994, the construction of the MHC was approved at a cost of $1.2 billion.
- In 1994, Clearance Diving Teams were reorganised with one on the east and west coasts respectively.
- Clearance diving personnel played an active part in the Gulf War and the recent operation in East Timor.

Capability
- The Huon class MHC is one of the most capable mine warfare vessels in the world.
- The MHC can be readily integrated into coalition forces.
- Our clearance divers are among the best in the world and provide a credible clearance diving capability.
- The Mine Warfare Command Support System, located at HMAS WATERHEN in Sydney, maximises the capabilities of our mine warfare force by providing data and expertise to undertake planning analysis and the development of tactics for the clearance of minefields.

Minehunters Coastal (MHC)

<table>
<thead>
<tr>
<th>No</th>
<th>Name</th>
<th>Commissioned</th>
</tr>
</thead>
<tbody>
<tr>
<td>M82</td>
<td>HUON</td>
<td>15 May 99</td>
</tr>
<tr>
<td>M83</td>
<td>HAWKESBURY</td>
<td>22 Dec 99</td>
</tr>
<tr>
<td>M84</td>
<td>NORMAN</td>
<td>26 Aug 00</td>
</tr>
<tr>
<td>M85</td>
<td>GASCOYNE</td>
<td>2 June 01</td>
</tr>
<tr>
<td>M86</td>
<td>DIAMANTINA</td>
<td>4 May 02</td>
</tr>
<tr>
<td>M87</td>
<td>YARRA</td>
<td>4 Dec 02*</td>
</tr>
</tbody>
</table>

*Australian Defence Industries provisional acceptance.

Auxiliary Minesweeping Vessels (MSA)

<table>
<thead>
<tr>
<th>No</th>
<th>Name</th>
<th>Entered Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y298</td>
<td>BANDICOOT</td>
<td>11 Aug 90</td>
</tr>
<tr>
<td>Y299</td>
<td>WALLAROO</td>
<td>11 Aug 90</td>
</tr>
<tr>
<td>1102</td>
<td>BROLOGA</td>
<td>10 Feb 88</td>
</tr>
</tbody>
</table>

HMAS HUON and HAWKESBURY

MSA’s WALLAROO and BANDICOOT
**PATROL BOAT FORCE**

**Role**

- To respond to national tasking such as fisheries patrol; wildlife and environment protection; illegal importation; suspected unlawful non-citizen; and general surveillance under the peacetime civil surveillance program.
- Patrol boats are an important element of the Navy’s training program, especially for young officers.
- Patrol boats also exercise with foreign navies and deploy to the South West Pacific in support of foreign policy objectives.

**Force Size**

- Fifteen Fremantle class patrol boats based in Darwin (10) and Cairns (5).
- The winning tender for the Replacement Patrol Boat (RPB) is expected to be announced in the first part of 2003.

**Platform History**

- The first vessel, HMAS FREMANTLE, was built in the UK and entered service in 1980. The remaining 14 vessels were built in Cairns, over the period 1980 - 84.
- A replacement program will commence in 2004.

**Capability**

- They are used primarily for peacetime law enforcement.
- Each is equipped with high definition radar, a comprehensive range of communications equipment, satellite voice communications and an echo sounder.

---

**Patrol Boats**

<table>
<thead>
<tr>
<th>No</th>
<th>Name</th>
<th>Commissioned</th>
</tr>
</thead>
<tbody>
<tr>
<td>203</td>
<td>FREMANTLE</td>
<td>17 Mar 80</td>
</tr>
<tr>
<td>204</td>
<td>WARRNAMBOOL</td>
<td>14 Mar 81</td>
</tr>
<tr>
<td>205</td>
<td>TOWNSVILLE</td>
<td>18 Jul 81</td>
</tr>
<tr>
<td>206</td>
<td>WOLLONGONG</td>
<td>28 Nov 81</td>
</tr>
<tr>
<td>207</td>
<td>LAUNCESTON</td>
<td>6 Mar 82</td>
</tr>
<tr>
<td>208</td>
<td>WHYALLA</td>
<td>3 Jul 82</td>
</tr>
<tr>
<td>209</td>
<td>IPSWICH</td>
<td>13 Nov 82</td>
</tr>
<tr>
<td>210</td>
<td>CESSNOCK</td>
<td>5 Mar 83</td>
</tr>
<tr>
<td>211</td>
<td>BENDIGO</td>
<td>28 May 83</td>
</tr>
<tr>
<td>212</td>
<td>GAWLER</td>
<td>27 Aug 83</td>
</tr>
<tr>
<td>213</td>
<td>GERALDTON</td>
<td>10 Dec 83</td>
</tr>
<tr>
<td>214</td>
<td>DUBBO</td>
<td>10 Mar 84</td>
</tr>
<tr>
<td>215</td>
<td>GEELONG</td>
<td>2 Jun 84</td>
</tr>
<tr>
<td>216</td>
<td>GLADSTONE</td>
<td>8 Sep 84</td>
</tr>
<tr>
<td>217</td>
<td>BUNBURY</td>
<td>15 Dec 84</td>
</tr>
</tbody>
</table>

**Displacement** 220 tonnes  
**Armament**  
- 40mm Bofors gun  
- Two 12.7mm machine guns  
**Speed** 27 knots  
**Crew** 24
HYDROGRAPHIC FORCE

Role

- Essential military hydrographic information for the fleet.
- Fulfill Australia’s international obligations to provide for safe navigation within Australia’s marine jurisdiction.

Force Size

- Two Hydrographic Ships each operating three Survey Motor Boats.
- Four Survey Motor Launches.
- One Fokker F27 aircraft operating the Laser Airborne Depth Sounder (LADS).
- All units are based out of Cairns.
- Hydrographic Office operates in Wollongong, NSW.

Capability

- Survey area covering 16 million km².
- 30,000km coastline inclusive of mainland Australia and its offshore territories.

Survey Motor Launch (SML)

<table>
<thead>
<tr>
<th>No</th>
<th>Name</th>
<th>Commissioned</th>
</tr>
</thead>
<tbody>
<tr>
<td>A02</td>
<td>MERMAID</td>
<td>27 Feb 89</td>
</tr>
<tr>
<td>A01</td>
<td>PALUMA</td>
<td>4 Dec 89</td>
</tr>
<tr>
<td>A04</td>
<td>BENALLA</td>
<td>24 Jan 90</td>
</tr>
<tr>
<td>A03</td>
<td>SHEPPARTON</td>
<td>20 Mar 90</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Displacement</th>
<th>Length</th>
<th>Speed</th>
<th>Crew</th>
</tr>
</thead>
<tbody>
<tr>
<td>305 tonnes</td>
<td>35m</td>
<td>12 knots</td>
<td>12</td>
</tr>
</tbody>
</table>

Leeuwin Class

<table>
<thead>
<tr>
<th>No</th>
<th>Name</th>
<th>Commissioned</th>
</tr>
</thead>
<tbody>
<tr>
<td>A245</td>
<td>LEEUWIN</td>
<td>27 May 00</td>
</tr>
<tr>
<td>A246</td>
<td>MELVILLE</td>
<td>27 May 00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Displacement</th>
<th>Length</th>
<th>Speed</th>
<th>Crew</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,550 tonnes</td>
<td>71m</td>
<td>14 knots</td>
<td>46</td>
</tr>
</tbody>
</table>

Survey motor launch

HMA SHIPS LEEUWIN and MELVILLE
PRINCIPAL NAVAL BASES

Darwin Naval Base, Darwin Northern Territory

• Darwin Naval Base is the home for the Fremantle Class patrol boats in the north.

HMAS STIRLING, Garden Island Western Australia

• HMAS STIRLING is the major West Coast fleet base for the Navy and is home to the Collins class submarine.

Garden Island, Sydney New South Wales

• Garden Island Sydney is the major dockyard support for the fleet base in the east.

HMAS ALBATROSS, Nowra New South Wales

• HMAS ALBATROSS supports naval helicopter operations and is the only operational Naval Air Station.

HMAS CAIRNS, Cairns Queensland

• HMAS CAIRNS is a Fremantle Class patrol boat base and a Marine Science Operational Support facility.

HMAS CERBERUS, Westernport Bay Victoria

• HMAS CERBERUS is the Navy Recruit training establishment.
• CERBERUS also conducts the majority of Navy technical trade, supply and seaman training.

HMAS WATERHEN, Balls Head Sydney NSW

• HMAS WATERHEN is the home of the Mine Warfare and Clearance Diver community.

HMAS CRESWELL, Jervis Bay, NSW

• HMAS CRESWELL is the home of Single Service Officer Training.
LAND CAPABILITIES - AN OVERVIEW

The Utility of Land Forces

- Land forces have the capacity to capture, occupy and hold ground, and maintain a continual presence.
- Working with the other Services, they also help to prevent conflict, stabilise unsettled societies and provide enduring influence in the following peace.
- Army’s Mission is to Win the Land Battle.

The Land Operations Capability

- **Special Forces capability** - highly trained soldiers that can undertake a range of conventional and non-conventional warfare roles.
- **Land Force Operations capability**, including:
  - Mechanised Operations capability, provided by the 1st Brigade who operate a range of armoured fighting vehicles;
  - Light Infantry Operations capability, provided by the 3rd Brigade which includes the Parachute Battalion Group;
  - Motorised Infantry Operations capability, provided by the vehicle-mounted infantry of the 7th Brigade; and
  - Army Aviation Operations capability, provided by the Army’s 1st Aviation and 5th Aviation Regiments within the 16th Brigade (Aviation).
- **Ground Based Air Defence capability** - a low-level air defence capability provided by the Army’s Rapier and RBS 70 surface to air missile systems.
- Combat and Logistic Support for Land Operations - includes the specialist and logistic support units which enhance the combat power of front line fighting units and sustain them on deployment.

- The Army Reserve - The Reserve component is used to supplement and complement the Regular force through the provision of reinforcement, round-out, rotation forces and selected niche capabilities, as well as providing a mobilisation and expansion base for the Defence of Australia.

Readiness

- The Regular Army maintains tiers of readiness to meet operational roles based on the strategic environment and warning times. The 1st and 3rd Brigades are the predominant ready forces. Within each of these brigades there are selected capabilities tailored for faster response to contingencies.
1 BRIGADE - ARMY’S MECHANISED FORCE

Role
- The 1st Brigade, based in Darwin, is equipped with armoured fighting vehicles including Leopard Tanks, Australian Light Armoured Vehicles (ASLAVs) and M113 Armoured Personnel Carriers (APC). These provide a highly mobile reconnaissance and surveillance capability, as well as mobile fire support for the land force.

Capability
- The 1st Brigade is well suited to operating in lower intensity contingencies such as peacekeeping or peace enforcement operations.
- The 1st Brigade could operate in higher intensity conflicts, but its armoured fighting vehicles would be vulnerable to most anti-armour weapons, and it would require additional capabilities provided by a coalition force.

Task Organisation
The 1st Brigade’s capabilities are best employed in combined arms teams where the relative strengths of each independent capability can be employed to offset the weaknesses of others. The basic building block of a mechanised capability is the Battle Group which is based on a Unit HQ from any of the 1st Brigade manoeuvre units, and about four sub-units drawn from armour, mechanised infantry and/or cavalry dependant on the expected role and task. The Battle Group is supported by artillery, engineers and combat service support.

1st Brigade Units
- 1st Armoured Regiment - Leopard Tanks provide mobile fire support for the land force.
- 2nd Cavalry Regiment - Australian Light Armoured Vehicles (ASLAVs) provide an armoured reconnaissance capability.
- 5/7th Battalion Royal Australian Regiment (5/7 RAR) - a Regular (full-time) mechanised infantry battalion equipped with the M113 Armoured Personnel Carriers (APC).
- 8th/12th Medium Regiment - is equipped with 155mm howitzers with a maximum range of 30km, which are the largest calibre guns fielded by the Army.
- 1st Combat Engineer Regiment - enhances mobility of friendly forces while denying mobility to adversaries. Some limited construction capability is also provided.
- Support units including 1st Command Support Regiment and 1st Combat Service Support Battalion - provide logistic and specialist support including intelligence and electronic warfare, necessary to sustain the 1st Brigade when deployed.

ASLAV
- It is designed to conduct reconnaissance and surveillance operations over large distances with limited support.
- Most of these vehicles are with 2nd Cavalry Regiment in Darwin.
- Additional ASLAVs are being procured to equip the 2nd/14th Light Horse Regiment in the 7th Brigade (Brisbane).
1 BRIGADE -
ARMY’S MECHANISED FORCE

LEOPARD AS1

- The Leopard AS1 Main Battle Tank came into service in 1977 and is in service with the 1st Armoured Regiment based in Darwin.
- Its main armament is a 105mm gun. A number of upgrades have been approved, including thermal sights and provisions to extend its service life to 2020.

M113

- The M113 Armoured Personnel Carrier came into service in 1963 and is the mainstay of the Army’s mechanised and mounted capability.
- Each vehicle can provide protection, mobility and firepower to an infantry section (nine soldiers).
- An upgrade program has commenced for the fleet so that they can remain in service until around 2020.
3 BRIGADE - ARMY’S LIGHT INFANTRY

Role

- Army’s Light Infantry consists of the 3rd Brigade based in Townsville, and the Parachute Battalion Group based in Sydney. These formations are airportable, which means that they can be readily transported and deployed by Army helicopters and RAAF transport aircraft.

Capability

- The 3rd Brigade is well equipped to operate against a relatively lightly armed and equipped adversary. It is well suited to conducting peacekeeping or peace enforcement operations.

Task Organisation

- Light forces are able to be organised to meet a wide variety of roles and tasks. Light forces are flexible and adaptable and can operate effectively with the heavier forces of the 1st Brigade. The basic building block of light capability is the Battalion Group which would be based around a light infantry battalion supported by APCs, artillery, engineers and combat services support.

3rd Brigade units

- 1st Battalion Royal Australian Regiment (1 RAR) - a Regular infantry battalion with approximately 700 soldiers.
- 2nd Battalion Royal Australian Regiment (2 RAR) - a Regular infantry battalion with approximately 700 soldiers.
- 3rd Battalion Royal Australian Regiment (3 RAR) - a Regular parachute infantry battalion with approximately 500 soldiers. (Based in Holsworthy NSW)
- B Squadron 3/4 Cavalry Regiment - Armoured Personnel Carriers to provide protected mobility for the infantry.
- 4th Field Regiment (Artillery) - equipped with 105mm Hamel Guns. Includes A Field Battery. A Field Battery is parachute trained and supports 3 RAR.
- 3rd Combat Engineer Regiment - enhances the mobility of friendly forces while denying mobility to an adversary. Some limited construction capability is also provided.
- Support units including 3rd Command Support Regiment and 3rd Combat Service Support Battalion - provide logistic and specialist support including intelligence and electronic warfare, necessary to sustain the 3rd Brigade when deployed.

Hamel Gun

- The Hamel Gun came into service in 1988 and is planned to remain in service until 2010.
- It has a range of 11.5km and can fire a variety of ammunition including high explosive, smoke and illumination.
7 BRIGADE -
ARMY’S MOTORISED INFANTRY

Role

• The 7th Brigade, based in Brisbane, is an integrated infantry formation with both full-time and part-time (Reserve) personnel.
• It is motorised, which means that its infantry can be transported and deployed in their own vehicles.
• When fully mobilised, it can provide a rotation and reinforcement force for the Army’s other infantry formations.

Capability

• 6th Battalion Royal Australian Regiment (6 RAR) is able to operate in lower-intensity contingencies such as peacekeeping or peace enforcement operations. This was seen during the recent mobilisation of 6 RAR for operational service in East Timor.
• Although it is the best equipped of Army’s Reserve formations, the Reserve component of the 7th Brigade would need a mobilisation period of intensive training and preparation before it could be deployed on active service.

7th Brigade units

• 6th Battalion Royal Australian Regiment (6 RAR) - a Regular infantry battalion which will be equipped with Bushranger Infantry Mobility Vehicles.
• 9th Battalion Royal Queensland Regiment (9 RQR) - a Reserve (part-time) infantry battalion.
• 25th/49th Battalion Royal Queensland Regiment (25/49 RQR) - a Reserve infantry battalion which will be equipped with Bushranger Infantry Mobility Vehicles.
• 2nd/14th Light Horse Regiment - equipped with M113 Armoured Personnel Carriers which provide protected transport for the 7th Brigade’s infantry, and an armoured reconnaissance capability. The unit will be equipped with the Australian Light Armoured Vehicles (ASLAV) from 2003 and will assume a predominantly reconnaissance role.
• 1st Field Regiment (Artillery) - equipped with 105mm Hamel Guns.
• 2nd Combat Engineer Regiment - enhances the mobility of friendly forces while denying mobility to an adversary.
• Support units, including 7th Command Support Regiment and 7th Combat Service Support Battalion - provide logistic and specialist support including intelligence, to maintain the 7th Brigade when deployed.

Bushranger

• The Bushranger Infantry Mobility Vehicle (IMV) will provide infantry with increased mobility and protection.
• The first deliveries of the Bushranger IMV are expected in 2004. A total of 299 vehicles will be used within the Army, with 12 vehicles to be used by Air Force airfield defence personnel. The Bushranger IMVs will remain in service until 2016.
• It is intended that two battalion groups based in the 7th Brigade in Brisbane will receive these vehicles. Each vehicle will be able to transport a section of infantry (around nine soldiers).
SPECIAL FORCES

Roles

• Counter-Terrorism.
• Long Range Reconnaissance and Patrolling - for surveillance and gaining battlefield intelligence.
• Strategic Reconnaissance - covert reconnaissance deep in enemy or foreign territory to gather intelligence.
• Strategic Strike - destruction of assets and installations when aircraft bombing is unsuitable.
• Raiding - covert, rapid strikes at enemy assets and installations.
• Recovery - rescuing small groups of individuals (such as an embassy’s staff) or vital equipment.

Bases

• The Special Air Service Regiment (SASR) is based in Perth.
• 4th Battalion Royal Australian Regiment (RAR) (Commando) is based at Holsworthy in western Sydney.
• 1st Commando Regiment (Reserve) is based in Sydney and Melbourne.

Combat Units

• Special Air Service Regiment (SASR) undertakes Counter-Terrorism, Long Range Reconnaissance and Patrolling, Strategic Reconnaissance, Strategic Strike and Special Recovery activities.
• 4th Battalion Royal Australian Regiment (4 RAR) (Commando) is trained and equipped for a commando role. 4 RAR also provides a Counter-Terrorism capability.
• 1 Commando Regiment (Reserve) comprises part-time soldiers who are trained to round-out or reinforce the regular special force capabilities.

LRPV

• The Long Range Patrol Vehicle is an example of the specialist equipment that the Special Forces use. It was introduced into service in 1991.
• SASR uses this vehicle to carry out long range reconnaissance.
• The Long Range Patrol Vehicle is easily loaded and transported in the C130 Hercules aircraft, providing the ADF with a highly mobile strategic reconnaissance and long-range patrol capability.

An SAS LRPV in Afghanistan
COUNTER TERRORISM

Role

• Army provides specific capabilities to support federal, state and territory law enforcement agencies to deal with terrorist threats and the consequences of terrorism.

Capabilities

• The Special Air Service Regiment and 4th Battalion Royal Australian Regiment (Commando) both provide a Tactical Assault Group capability.
• The Incident Response Regiment has specific capabilities to deal with chemical biological and radiological threats and with the consequences of any terrorist act.
• When coupled with strategic and tactical mobility, provided by Air Force and Army Aviation, the Tactical Assault Groups and the Incident Response Regiment can respond to a wide variety of terrorist threats to Australia interests.

Legal Issues

• The TAG and IRR employment in support of states and territories is dealt with in existing emergency management legislation and procedures. The coordination of any call for Defence support would be through Emergency Management Australia, a division of the Attorney-General’s Department.

Counter Terrorism capabilities

• Tactical Assault Group (East), formed from 4th Battalion Royal Australian Regiment, located in Holsworthy NSW.
• Tactical Assault Group (West), formed from the Special Air Service Regiment, located in Perth, WA.
• The Incident Response Regiment with chemical, biological, radiological and nuclear consequence management capabilities.

4 RAR Commando Tactical Assault Group Element
THE ARMY RESERVE

Role

• The strategic role for the Reserves has changed from mobilisation to meet remote threats to that of supporting and sustaining the types of contemporary military operations in which the ADF may be increasingly engaged.
• The Reserve component is used to supplement and complement the Regular force through the provision of reinforcement, round-out, rotation forces and selected niche capabilities, as well as providing a mobilisation and expansion base for the Defence of Australia.
• To achieve these functions new categories of Reserve service are being introduced. These include the High Readiness Reserve, Active Reserve, and Standby Reserve.
• High Readiness Reserve will be used to provide a source of reinforcement and round-out.
• The Active Reserve will provide rotation forces following a period of mobilisation.
• The Standby Reserve will provide a pool of competent ex-Regular and Reserve members who can be called-out to meet mobilisation requirements in times of emergency.
• The Army Reserve provides some capabilities that are difficult to maintain in the Regular Army such as specialist surgical capability and regional force surveillance units.

Capability

• There are approximately 16000 Army Reserve Personnel. They are organised into six infantry brigades and three Regional Force Surveillance Units (RFSUs):
• There is scope to increase the active strength of the Army Reserve to provide a greater depth to Army.
• Major equipment throughout the Army Reserve brigades consists of field and medium artillery, armoured personnel carriers, engineer plant and a variety of infantry support weapons.

Infantry Brigades

11th Brigade based in North and Central Queensland.
4th Brigade based in Victoria.
5th Brigade based in New South Wales.
8th Brigade based in New South Wales.
9th Brigade based in South Australia and Tasmania.
13th Brigade based in Western Australia.

Regional Force Surveillance Units

Northwest Mobile Force (NORFORCE), based in the Northern Territory and the Kimberley region of Western Australia.
Pilbara Regiment, based in the Pilbara region of Western Australia.
51st Battalion Far North Queensland Regiment (51 FNQR), based in the Cape York and Torres Strait region of Queensland.

Pilbara Regiment patrol
ARMY AVIATION

Role

- Transporting troops, equipment and supplies.
- Conducting reconnaissance and surveillance.

Organisation and Equipment

- Army Aviation within Land Command is commanded by HQ 16 Brigade (Aviation) and is grouped into two Aviation Regiments:
  - 1st Aviation Regiment which is currently located in Oakey with sub-elements in Townsville and Darwin; and
  - 5th Aviation Regiment based in Townsville.
- The Black Hawk S-70A came into service in 1987.
- It is currently operational with 5th Aviation Regiment based in Townsville.
- Roles for Black Hawk include support to special operations (such as counter-terrorism), transporting troops, equipment and supplies, search and rescue, and medical evacuation.
- An upgrade for the Black Hawks is proposed for 2010, which will extend their service life through to 2020.

- Army aircraft include:
  - 36 S-70A Black Hawk helicopters;
  - 25 UH-1H Iroquois helicopters (including some aircraft modified as gunships);
  - Six CH-47D Chinook helicopters;
  - 41 Kiowa Light Observation Helicopters; and
  - Three King Air and two Twin Otter fixed wing aircraft (leased).

Chinook

- Chinook Helicopters came into service with 5th Aviation Regiment in 1995.
- Six are currently in service.
- Roles of the Chinook include transporting troops, heavy lift of equipment and supplies, and medical evacuation.
- Modification to extend aircraft life out to 2020 is planned for 2010.
GROUND BASED AIR DEFENCE

Role

• Army’s surface-to-air missile systems provide the Australian Defence Force’s only ground based air defence capability. This capability is an integral component of the wider ADF air defence system.

Organisation and Equipment

• Army has Rapier fire units and radar trackers that are deployed with 16th Air Defence Regiment.
• 16th Air Defence Regiment is also equipped with RBS 70 surface-to-air missile launchers.

Capability

• Rapier is a short-range air defence system with a range of approximately 7km and height coverage of 3km.
• It is primarily used for close-in defence of large, static, strategic targets such as airfields. Coupled with one of four available radar trackers, Rapier has a 24 hour, all weather capability.
• Rapier has recently undergone a life of type extension program to extend the life of the system to 2005.
• The Rapier capability will be replaced by additional RBS 70 systems in 2005.
• RBS 70 has a range of approximately 7km and height coverage of 4km.
• It is a more lightweight, portable system than Rapier and is better suited to the protection of smaller, more mobile assets.
• RBS 70 has proved its adaptability during recent deployments on operations with HMAS MANOORA and KANIMBLA.
COMBAT AND LOGISTIC SUPPORT

Role

• Combat support is specialist support provided to front line fighting units to enhance their combat power and enable them to fight more effectively. It includes construction engineering, topographical services, electronic warfare and intelligence support.

• Army’s Logistic Support Force supplies transport, repair, health and other functions needed to sustain operations.

Organisation

• Each Army brigade is allocated its own combat and logistic support elements. The combat forces, together with their combat and logistic support elements, combine to form a Brigade Group. A Brigade Group is the basis of a deployable force.

• Force level logistic support is provided by the Logistic Support Force. This organisation can be tailored to support Army, Joint and /or Coalition deployed forces.

Task Organisation

• The capability within these specialist units is organised into capability ‘bricks’. The bricks can be grouped with other bricks of like or different capability to provide a range of tailored combat and logistic support for a deployed force.

• There is sufficient Combat and Logistic Support capabilities to support a deployed Brigade group, an independent Battalion group, and prepare forces for rotation.

• Army maintains a deployable medical and dental capability for both peace and war.

• Army’s health workers accompany front line troops, provide staff for hospitals, medical centres and dental centres, first aid posts and ambulance services. They provide advanced first aid, evacuation of casualties and hospital treatment.

• A host of specialist units provide the Army’s combat and logistic support capability. Some of these include:

  • construction engineers who are responsible for assisting our own forces to move and denying mobility to the enemy. Army engineering tasks include bridge-building, laying and clearing minefields, demolitions, provision of potable water and sanitation services, preparing field defences as well as road and airfield construction and repair,

  • field hospitals which provide a deployable medical capability for the Army,

  • specialist transportation and distribution capabilities,

  • capabilities for terminal operations to manage all the stores and equipment that would need to enter an area of operations

  • topographical survey specialists,

  • electronic warfare specialists,

  • military police,

  • an intelligence battalion, and

  • an artillery locating battery, which locates enemy artillery with Weapon Locating Radars and provides specialist surveillance and meteorological capabilities.
PRINCIPAL ARMY BASES

Robertson Barracks, Darwin Northern Territory
- Robertson Barracks is a major operational base in the north and is home to 1st Brigade and elements of 1st Aviation Regiment.

Townsville, Queensland (Lavarack Barracks, Jezzine Barracks and RAAF Base Townsville)
- Townsville is the major operational base in North Queensland and is home to 3rd Brigade and 11th Brigade. 5th Aviation Regiment operate out of RAAF Base Townsville.

Gallipoli Barracks, Enoggera, Queensland
- Gallipoli Barracks hosts 7th Brigade and the Deployable Joint Force Headquarters (Land).

Holsworthy Barracks, Sydney, New South Wales
- Holsworthy Barracks is home for 5th Brigade, 3rd Battalion Royal Australian Regiment (Parachute), 4th Battalion Royal Australian Regiment (Commando) and the Incident Response Regiment.

Puckapunyal Military Area, Victoria
- Puckpuyal is the major training area in south east Australia and hosts the Combat Arms Training Centre and the Land Warfare Development Centre.

Additional Bases:
- Perth. Perth is home to the Special Air Service Regiment and 13th Brigade
- Adelaide. Adelaide is home to 16th Air Defence Regiment and 9th Brigade.
- Tasmania. 9th Brigade units such as an Infantry Battalion and an Artillery Regiment are located in Tasmania.
- Melbourne. Melbourne is home to 4th Brigade.
- Albury-Wodonga. The Army Logistic Training Centre is located in this area.
- Singleton. The School of Infantry and the Special Forces Training Centre are located in Singleton.
AN OVERVIEW OF AIR FORCE CAPABILITY

The mission of the Royal Australian Air Force (RAAF) is to prepare for, conduct and sustain air operations to promote Australia’s security and interests. The RAAF achieves this by providing core capabilities that contribute to the following six Defence sub-outputs.

**Strike and Reconnaissance**
- Air Force roles that contribute to strike and reconnaissance include Offensive Counter Air activities, Offensive Air Support of surface forces, Land Strike, Maritime Strike, Surveillance and Reconnaissance.
- The effects achieved from these roles are provided through the operations of 21 F-111 combat aircraft.

**Air Combat**
- The air combat output is delivered by Air Force’s offensive combat capability and provides the capacity to achieve control of the air.
- Air Force roles that contribute to air combat capability include Defensive and Offensive Counter Air activities, Offensive Air Support of surface forces, and Land Strike.
- The effect of control of the air is delivered by 71 F/A-18 Hornet fighter aircraft.

**Strategic Surveillance**
- The strategic surveillance output is provided by the Air Force’s Battlespace Management and Information Operations capability.
- Aerospace battle management roles include Aerospace Management, Aerospace Battle Management and Wide Area Surveillance.
- The effects are currently provided through the operations of ADF Air Traffic Control units, Air Defence Ground Environment Control and Reporting Units, and Jindalee over-the-horizon radar network.
- Australia is currently acquiring a fleet of Boeing 737-700 AEW&C aircraft.

**Maritime Patrol**
- Air Force roles that contribute to maritime patrol include Surveillance, Reconnaissance, Search and Survivor Assistance, Maritime Strike and Offensive Air Support of maritime forces.
- The effects achieved from these roles are provided through the operations of 19 P-3 maritime patrol aircraft.

**Air Lift**
- The Air Lift output is delivered by Air Force’s Rapid Mobility capability and encompasses the roles of Airborne Operations, Special Operations, Air Lift Support, VIP operations and Air-to-air Refuelling.
- Rapid mobility roles are provided by four B707 transport and tanker aircraft, 24 C-130 Hercules transport aircraft, 14 DHC4 Caribou light transport aircraft, two B737 BBJ and three CL-604 Challenger special purpose aircraft.
- The effects achieved from rapid mobility provide Defence with the capability to rapidly move personnel and equipment safely and efficiently within Australia and the region.

**Flexible Combat Support**
- Combat Support is the personnel and infrastructure that supports RAAF operations in peace and during conflict. Combat support is achieved through sustainment of main operating bases, forward operating bases and operations support.
STRIKE AND RECONNAISSANCE - AIR COMBAT GROUP

The RAAF’s Air Combat Group, Strike Reconnaissance Wing operates the long range F-111C fighter-bomber and RF-111C reconnaissance variant. The F-111 is designed for all weather, supersonic operations at either low altitudes or high altitudes.

The F-111 and personnel from No 82 Wing provide Australia’s primary Offensive Counter Air and Strike deterrent and can be employed with great versatility, reach, speed, penetration and lethality to destroy or neutralise almost any surface target.

A well executed air strike can be decisive as demonstrated in the Gulf war in 1991 and in Yugoslavia later in the decade.

The RAAF’s air strike capability provides the Government with a range of options for both peace and war.

Force Size

Australia currently operates 17 F-111C strategic strike aircraft, 4 RF-111 reconnaissance aircraft and an additional 7 F-111G training aircraft in two squadrons. An additional 7 F-111G are in long-term storage or have been used for spare parts.

History

Australia initially purchased 24 F-111C aircraft in the late 1960’s and after initial teething troubles they were delivered in 1973. Four of those aircraft were subsequently modified in the late 1970s for the reconnaissance role (designated RF-111C).

Following the loss of aircraft in accidents, four additional F-111A aircraft were acquired in the 1980s to supplement the fleet.

In 1993, 15 surplus USAF F-111G aircraft were acquired and 7 were placed in long-term storage.

Weapons

- No 82 Wing can employ unguided free fall bombs and laser guided weapons, Harpoon anti-shipping missiles and Sidewinder air-to-air missiles. In addition, the AGM142 long-range stand-off missile is being integrated onto the F-111.

A sample of the F-111’s bomb load

F-111
AIR COMBAT - AIR COMBAT GROUP

- The RAAF’s Air Combat Group, Tactical Fighter Wing operates the multi-role F/A-18 Hornet fighter.
- The F/A-18 and personnel from No 81 Wing provide Australia’s primary means of Air Defence and, when supported by air-to-air refuelling and Airborne Early Warning and Control, can be employed with great versatility, reach, speed and lethality to provide control of the air in any particular area of operations.
- Control of the air is essential to the success of any modern military action as proven in recent conflicts in the Gulf in 1991, in Yugoslavia later in the decade and the recent action in the ‘War against Terror’ in Afghanistan.

**Force Size**

- Australia currently operates 71 F/A-18 aircraft, consisting 54 single seat ‘A’ models and 17 two seat ‘B’ models.

**History**

- Australia acquired a fleet of 75 aircraft between 1985 and 1990. Four of these aircraft were subsequently lost in accidents.
- The F/A-18 Hornet fleet is being upgraded to extend its service life.

**Weapons**

- No 81 Wing can employ Sparrow missiles (being replaced by the Advanced Medium Range Air-to-Air Missile - AMRAAM), Sidewinder missiles (being replaced by the Advanced Short Range Air-to-Air Missile - ASRAAM) and a nose mounted cannon. F/A-18 air-to-surface weaponry includes unguided free fall bombs, laser guided weapons and rockets.
The RAAF’s Air Combat Group, Tactical Fighter Wing operates the Hawk 127 Lead-In Fighter (LIF) training aircraft.

- The Hawk 127 and personnel from No78 Wing provide introductory fast jet training for Air Force fighter and strike crews. The aircraft is also used to provide fast jet Navy fleet support training.

- Lead-In-Fighter training provides fighter and strike crews a transition to high performance flying and an introduction to weapons training prior to undergoing operational conversion. Fighter pilots complete operational training at No2 Operational Conversion Unit on the F/A-18 and Strike pilots and navigators complete operational training at No6 Squadron on the F-111G.

**Force Size**

- Australia currently operates 33 Hawk 127 aircraft.

**History**

The Hawk 127 replaced the Macchi MB-326H that was retired as a LIF trainer at the end of 2000. British Aerospace (now BAE SYSTEMS) was selected and contracted to supply 33 LIF Hawk 127 aircraft, life-of-type repairable items, training devices, all special purpose support equipment and a range of common support equipment. The contract also included the provision, by BAE SYSTEMS, of total logistics support and deeper maintenance for an initial period of 75 months following acceptance of the first Hawk 127 on 13th October 2000.

**Weapons**

- The Hawk 127 can employ a range of practice, simulated and live weapons in the training role including unguided free fall bombs, Sidewinder Air-to-Air missiles and cannon.
STRATEGIC SURVEILLANCE - SURVEILLANCE AND CONTROL GROUP

- Surveillance and Control Group provides Battlespace Management.
- Battlespace Management involves positive control of the air environment and is achieved through the Aerospace Battle Management, Aerospace Management and Early Warning and Control roles.

Aerospace Battle Management
- The RAAF provides management of operating airspace through coordination of offensive air and defensive air and ground assets. This role is achieved through the networking of surveillance information sources including fixed and mobile Control and Reporting Units, over-the-horizon radar and tactical and domestic air traffic control radars.
- The Control and Reporting Units provide focal area surveillance that supports effective application of defence systems such as ground based anti-aircraft weapons and counter-aircraft.
- Airborne Early Warning and Control aircraft will form part of this capability in future.

Aerospace Management
- RAAF Air Traffic Control detachments provide aerospace management of tactical and non-tactical airspace for safety and efficiency reasons. RAAF Air Traffic Control works closely with civil Air Traffic Control and other Aerospace Battlespace Management agencies to deconflict airspace users. RAAF Air Traffic Controllers provide air traffic services for all ADF military and joint user aerodromes.

Airborne Early Warning And Control
- Airborne Early Warning and Control provides extended range for detection of hostile strike forces and control of allied counter air aircraft. The platform will supplement other battlespace management information sources.
- RAAF is planning delivery of four Airborne Early Warning and Control aircraft around 2006-07.
- The aircraft will be capable of detecting fighter aircraft at a range of at least 300 km.
- The aircraft will be capable of being aerial refuelled, will have an advanced surveillance radar, identification friend or foe (IFF) system, an expanded passive surveillance system, and a highly effective self-defence capability.
MARITIME PATROL - MARITIME PATROL GROUP

- The RAAF’s Maritime Patrol Group, through No 92 Wing, operates the P-3 Orion Maritime Patrol Aircraft.
- The P-3 is a long-range endurance aircraft equipped with advanced radar, electronic warfare and acoustic systems.
- The P-3 fleet and personnel from No 92 Wing provide a key airborne maritime surface and sub-surface, offensive and surveillance capability as part of the Government’s Maritime strategy.
- The P-3 can be employed with great versatility, reach and lethality to detect, identify, track and if required attack any major surface ships, or to impose substantial constraints on hostile submarine operations in our extended maritime approaches.
- The influence of aircraft in the maritime environment has been one of the major features of previous conflicts, notably World War II. Land based Maritime Patrol aircraft are critical in keeping vital sea lines of communication open from surface and sub-surface threats.
- The RAAF’s maritime patrol capability also provides the Government with the ability to assist regional nations patrol and police their sovereign waters.

Force Size

- Australia currently operates 22 P-3 aircraft, 19 P-3C/AP-3C and three former USN P-3B’s, which have been modified and redesignated Training Australian P-3 (TAP-3).

History

- Australia initially purchased 10 P-3B aircraft in 1969 with a further 10 updated P-3C aircraft entering service in 1978.
- The P-3B aircraft were replaced with new P-3C aircraft between 1984-1986.
- One P-3C was lost in an accident in 1991 and the three TAP-3 aircraft entered service between 1997-1999 for cockpit flight training.
- The P-3C fleet is undergoing extensive system and avionics modification to the Australian (AP-3C) standard, scheduled for completion in 2004.

Weapons

- No 92 Wing can employ the Harpoon anti-ship missile, and the MK 46 torpedo.

A newly modernised AP-3C Orion

P-3C Orion armed with four Harpoon
AIR LIFT - AIR LIFT GROUP

• Air Lift Group operates a variety of fixed wing tactical, medium and strategic transport, special purpose and air-to-air refuelling aircraft supporting all branches of the ADF.
• Air lift provides the ADF with a rapid mobility capability enabling the deployment of personnel and equipment over vast distances and to a variety of destination airfields.
• Air Lift Group’s roles include airborne operations, air logistics support, special purpose transport, special operations support, aeromedical evacuation and air-to-air refuelling.

DHC- 4 CARIBOU

Roles
• Light tactical airlift airborne operations (dropping paratroopers) and air logistic support (typically in support of Army units).
• Short take off and landing enables the Caribou to operate from remote areas and improvised dirt landing strips.

Force Size
• Fourteen aircraft.

Platform History
• Twenty nine Caribou were acquired between 1964 and 1968.
• Eight aircraft have been lost in accidents and seven aircraft were retired between 1992 and 1994.

DHC-4 Caribou

<table>
<thead>
<tr>
<th>Payload</th>
<th>30 troops</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum load</td>
<td>3,180 kg</td>
</tr>
<tr>
<td>Ceiling</td>
<td>10,000 ft (with passengers)</td>
</tr>
<tr>
<td>Cruise Speed</td>
<td>280 km/h</td>
</tr>
<tr>
<td>Ferry range</td>
<td>2,100 km</td>
</tr>
</tbody>
</table>
AIR LIFT - AIR LIFT GROUP

C130 HERCULES

Role

• The C130 is a multi-role transport aircraft that provides tactical, intra and inter-theatre airlift of personnel and equipment.

• Short take off and landing characteristics enable the C130 to operate from a wide range of remote areas and improvised dirt landing strips.

• The aircraft regularly provides support to the civil community during natural disasters, search and rescue, aeromedical evacuations and other emergencies.

Force Size

• The RAAF has 24 C130 aircraft - 12 C130H and 12 C130J-30 model aircraft.

Platform History

• Twelve C130A aircraft were acquired in 1958 and replaced by C130H’s in 1977-78.

• Twelve C130E aircraft were acquired in 1966-67 and replaced by C130J-30 aircraft 2000-01.

• The C130J-30 variant is a stretched version of the C130J Hercules.

---

C130 H

| Maximum load | 19,000 kg |
| Ceiling      | 33,000 ft (with maximum payload) |
| Cruise Speed | 600 km/h |
| Ferry range  | 3,700 km (with full payload) |

C130J-30

| Maximum load | 17,000 kg |
| Ceiling      | 30,500 ft (with maximum payload) |
| Cruise Speed | 630 km/h |
| Ferry range  | 4,860 km (with 16,000 kg payload) |
AIR LIFT - AIR LIFT GROUP

**Boeing 707**

**Role**

- The B707 is a multi-role aircraft capable of strategic air logistics, aeromedical evacuation and air-to-air refuelling roles.
- The primary role of the B707 fleet is aerial refuelling of RAAF’s F/A-18 fighter aircraft.
- B707s used in the air-to-air refuelling role significantly improve the capability of F/A-18 aircraft by increasing the range and duration of their combat air patrols.
- The B707s also contribute significantly to the ADF’s long-range airlift capability.

**Force Size**

- There are four B707 aircraft in the RAAF’s inventory, three of which are fitted for air-to-air refuelling. The remaining aircraft is used solely for airlift.

**Platform History**

- A total of seven second hand B707s were acquired in 1979, 1983 and 1988 for air logistics and special purpose transport roles.
- In 1990 four aircraft were modified for the air-to-air refuelling role.
- One aircraft was lost in an accident and two aircraft have been retired from service.

---

**Boeing 707**

- **Payload**: up to 158 passengers or 70,000kg of cargo
- **Ceiling**: 36,000 ft
- **Cruise Speed**: 990 km/h
- **Ferry range**: approximately 9,000 km

---

*Images:

- B707 refueller with two F/A-18 Hornets
- B707 air-air refueller aircraft*
**AIR LIFT - AIR LIFT GROUP**

**Boeing 737 Business Jet (BBJ)**

**Role**
- The B737 BBJ aircraft is a special purpose aircraft providing domestic and international VIP transport for Australian Government entitled persons.

**Force Size**
- The RAAF operates two leased B737 BBJ aircraft.

**Platform History**
- The B737s BBJ is a derivative of the B737-700 airliner.
- The aircraft commenced operation in mid 2002.

<table>
<thead>
<tr>
<th>Boeing 737 BBJ</th>
<th>Challenger CL-604</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payload</td>
<td>9 passengers</td>
</tr>
<tr>
<td>Cruise Altitude</td>
<td>41,000 ft</td>
</tr>
<tr>
<td>Cruise Speed</td>
<td>1000 km/h</td>
</tr>
<tr>
<td>Ferry range</td>
<td>approximately 7,500 km</td>
</tr>
</tbody>
</table>

**Payload**
- up to 36 passengers

**Cruise Altitude**
- 35,000 ft

**Cruise Speed**
- 930 km/h

**Ferry range**
- approximately 8,700 km

**Bombardier Challenger CL-604**

**Role**
- The Challenger CL-604 aircraft is a special purpose aircraft providing domestic and regional VIP transport for Australian Government entitled persons.

**Force Size**
- The RAAF operates three leased Challenger CL-604 aircraft.

**Platform History**
- The aircraft commenced operation of the first Challenger in mid 2002 progressively replacing the Falcon F900 aircraft throughout the remainder of 2002.
FLEXIBLE COMBAT SUPPORT - COMBAT SUPPORT GROUP

• Combat support is a fundamental enabler for the maintenance and projection of air power.
• Combat Support Group provides the RAAF’s flexible combat support capability through the provision of infrastructure and services at main operating bases, and forward operating bases.
• Functions that support this role include Base Command, Security, Engineering and Environmental services, Facilities and Health Services.

RAAF BASES

• The RAAF operates a number of principal and bare flying bases around Australia.
• In addition to the flying bases Command Headquarters are located in Canberra ACT, Glenbrook NSW, and Melbourne Vic.
• Ground and flying training establishments for officers and airmen are located at RAAF Williams Vic, RAAF Wagga Wagga NSW, RAAF East Sale Vic, RAAF Pearce in WA, and the Australian Defence Force Academy in the ACT.
• Defence Material Organisation Systems Program Offices (SPO) provide essential maintenance support activities to flying squadrons of the RAAF. The relevant SPO is located at the main operating base for each aircraft type.

RAAF Base Darwin, NT

• Darwin is a forward operating base for contingencies and major exercises and is integral to Australia’s air defence.
• It is the preferred base for foreign military aircraft exercising with the ADF.

RAAF Base Tindal, NT

• Tindal is the main operational base in the north and hosts an F/A-18 fighter squadron.
• It is a strategic base for the logistics support of deployed forces.

RAAF Base Tindal
RAAF Base Townsville, Qld
- Townsville hosts operational Army aviation units, plus a light tactical aircraft squadron detachment (Caribous).

RAAF Base Amberley, Qld
- Amberley hosts the Air Combat Group, 82 Wing (F-111s) and a light tactical aircraft squadron (Caribous).

RAAF Base Williamstown, NSW
- Williamstown is the major base for fighter aircraft and hosts the Air Combat Group 81 Wing (F/A-18) and No 78 Wing (Hawk Lead-In-Fighters).

RAAF Base Richmond, NSW
- Richmond is home to the Air Lift Group and its B707 and C130 Hercules aircraft.

RAAF Base Edinburgh, SA
- Edinburgh hosts the fleet of P-3 maritime patrol aircraft and the Aircraft Research and Development Unit.

Bare Bases
- Learmonth, Curtin and Scherger are RAAF ‘bare bases’ - they have the infrastructure necessary to support operations and are used regularly for deployments and exercises.