Australia's Navy Today

NAVY

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INTRODUCTION

AUSTRALIA'S MARITIME POWER

Established:
1901 as the Commonwealth Naval Forces. The title **Royal Australian Navy** was granted by King George V in 1911.

Vision:
A Navy with a worldwide reputation for excellence as a sea power; a well equipped, professional team of highly motivated, quality people, serving Australia with honour, supported by a nation proud of its Navy.

Mission:
To fight and win in the maritime environment as an element of a joint or combined force, to assist in maintaining Australia's sovereignty and to contribute to the security of our region.

Personnel:
12 500 plus

The Fleet:
Major Fleet Units (21)
Submarines (6)
Aircraft (45)
Minor Fleet Units (30)
Establishments (11)

The Royal Australian Navy (along with the Australian Army and the Royal Australian Air Force) is charged with the Defence of Australia and other missions that the government requires. The primary objective of the Australia's Defence policy is to prevent or defeat attacks on Australia.

Maritime strategy is a cornerstone of Australia's Defence. Australia's 200 nautical mile Exclusive Economic Zone contains valuable fishing stocks and immense mineral and energy reserves. With island territories extending from the tropics to the hazardous Antarctic waters of the Southern Ocean, the Royal Australian Navy patrols a total area of almost 10 per cent of the world's surface.

The Navy's greatest single strength is the calibre of its officers and sailors. Maritime operations are complex and demanding. This complexity, combined with the growing sophistication of platforms and weapons systems requires Navy personnel who are high skilled professionals across a variety of disciplines.

The Royal Australian Navy has a proud history and tradition of service to Australia, having served with distinction in every theatre of war during World Wars I and II, Korea (1950 – 53), the Malayan Emergency (1948 – 60), Vietnam (1962 – 72) Gulf War, (1990 – 91) and currently the war in Iraq.

The Royal Australian Navy has been involved in several key peacekeeping operations in East Timor (now Timor-Leste), Bougainville, Fiji and the Solomon Islands. The Navy has also provided humanitarian assistance overseas in Somalia, Papua New Guinea, Fiji and more recently in Indonesia after the 2004 Tsunami. The Royal Australian Navy undertakes search and rescue operations and also provides relief in Australia when cyclones, floods and bushfires occur.

NAVY

FFH 151 HMAS ARUNTA

ANZAC CLASS FRIGATES (FFH)

Displacement:
3600 tonnes

Length:
118 metres

Beam:
14.8 metres

Main Machinery:
1 x General Electric LM2500 gas turbine engine, 2 x MTU 12V 1163 diesels driving two controllable pitch propellers

Speed:
More than 27 knots

Armament:
1 x 5 inch Mk45 Mod 2 automatic rapid fire gun,

Sea Sparrow anti-air missile system

2 x Mk32 Mod 5 triple mounted torpedo tubes, 2 x .50 calibre (12.7mm) Browning machine guns

Nulka anti-ship missile defence system

Aircraft:
One SH-2G(A) Super Seasprite, armed with 'Penguin' missiles

Crew:
174 (including flight crew)

ANZAC CLASS FRIGATES (FFH)

The ANZAC Class is based on the German Meko 200 frigate design, with the ships built by Tenix Defence Systems at Williamstown in Victoria.

ANZACs are long-range escorts that undertake roles including air defence, anti-submarine warfare, surveillance, reconnaissance and interdiction. The ships are capable of countering simultaneous threats from the air, surface and sub-surface.

ANZAC ships are powered by a combined diesel or gas (CODOG) propulsion plant that allows speeds in excess of 27 knots with an operational range of more than 6000 nautical miles at 18 knots.

They are fitted with an advanced package of air surveillance radars, omni-directional hull mounted sonar and electronic support measures which interface with a state of the art combat data systems.

Main armament comprises one five inch (127mm) gun capable of firing 20 rounds per minute, ship launched torpedoes and a Mk 41 Vertical Launch System for the Sea Sparrow point defence anti-air missile.

The SH-2G(A) Super Seasprite helicopter can be embarked to enhance anti-submarine and anti-surface warfare capabilities. The Seasprite is capable of delivering air launched torpedoes and the Penguin anti-ship missile. The S-70B-2 Seahawk helicopter can also be embarked as an alternative to the Seasprite.

Name	No.	Builders	Laid down	Launched	Commissioned
ANZAC	150	Transfield, Williamstown, Williamstown, Aust.	5 Nov 1993	16 Sep 1994	13 May 1996
ARUNTA	151	Transfield, Williamstown, Williamstown, Aust.	22 Jul 1995	28 Jun 1996	12 Dec 1998
WARRAMUNGA	152	Tenix Defence Systems, Williamstown, Aust.	26 Jul 1997	23 May 1998	31 Mar 2001
STUART	153	Tenix Defence Systems, Williamstown, Aust.	25 Jul 1998	17 Apr 1999	17 Aug 2002
PARRAMATTA	154	Tenix Defence Systems, Williamstown, Aust.	5 Jun 1999	17 Jun 2000	4 Oct 2003
BALLARAT	155	Tenix Defence Systems, Williamstown, Aust.	4 Aug 2000	25 May 2002	26 Jun 2004
TOOWOOMBA	156	Tenix Defence Systems, Williamstown, Aust.	26 Jul 2002	16 May 2003	8 Oct 2005
PERTH	157	Tenix Defence Systems, Williamstown, Aust.	24 Jul 2003	20 Mar 2004	Jul 2006

FFG 04 HMAS DARWIN

ADELAIDE CLASS GUIDED MISSILE FRIGATES (FFG)

Displacement:
4,100 tonnes

Length:
138 metres

Beam:
13.7 metres

Main Machinery:
2 GE LM2500 gas turbines driving a single controllable pitch propeller

Speed:
More than 30 knots

Armament:

1 x Mk13 Launcher (Harpoon anti-ship missiles and Standard surface to air missiles)

1 x 76mm rapid fire gun

1 x 20mm Vulcan Phalanx Mk15 close in weapons system

2 x Mk32 mod 5 triple mounted anti-submarine torpedo tubes

Nulka anti-ship missile defence system

Aircraft:
Able to carry 2 x S-70B-2 Seahawk helicopters

Crew:
210

ADELAIDE CLASS GUIDED MISSILE FRIGATES (FFG)

Currently the Navy operates six ADELAIDE Class guided missile frigates (FFG) divided between Navy's two main bases; Fleet Base East in Sydney and Fleet Base West in Perth.

The ADELAIDE Class frigates are based on the US Navy's OLIVER HAZARD PERRY design. The first four ships of the class were built in the USA with subsequent modifications undertaken in Australia. The last two were constructed in Australia with all modifications incorporated.

Each FFG is a long-range escort ship that undertakes roles including air defence, anti-submarine warfare, surveillance, interdiction and reconnaissance. The ship is capable of countering simultaneous threats from the air, surface and sub-surface.

They were the first RAN ships to be powered by gas turbine for the main propulsion and can be underway from cold in less than 30 minutes. Two forward mounted, retractable auxiliary propulsion units provide a secondary means of propulsion plus an excellent manoeuvrability in confined waters. They have a range of 4,500 nautical miles at 20 knots.

The FFG's principal weapons are the Standard medium range anti-aircraft missile and the Harpoon anti-ship missile, both of which are launched from the Mk 13 launcher on the forecastle. A 76mm gun to counter both anti-aircraft and anti-surface threats is fitted forward of the funnel and one 20mm Phalanx close-in-weapon system for anti-missile defence is located above the helicopter hanger.

For long range anti-submarine tasks, the FFG is equipped with flight deck and hangers for two S-70B-2 Seahawk helicopters. For close in anti-submarine defence, the ships are fitted with two Mk 32 triple Mod 5 torpedo tubes.

Name	No.	Builders	Laid down	Launched	Commissioned
ADELAIDE	1	Todd Pacific Shipyard Corporation, Seattle, USA	29 Jul 1977	21 June 1978	15 Nov 1980 * Decommissioning 2006
CANBERRA	2	Todd Pacific Shipyard Corporation, Seattle, USA	1 Mar 1978	1 Dec 1978	21 Mar 1981 * Decommissioning 2005
SYDNEY	3	Todd Pacific Shipyard Corporation, Seattle, USA	16 Jan 1980	26 Sep 1980	29 Jan 1983
DARWIN	4	Todd Pacific Shipyard Corporation, Seattle, USA	3 Jul 1981	26 Mar 1982	21 July 1984
MELBOURNE	5	Australian Marine Eng (Consolidated), Williamstown, Aust.	12 Jul 1985	5 May 1989	15 Feb 1992
NEWCASTLE	6	Australian Marine Eng (Consolidated), Williamstown, Aust.	21 Jul 1989	21 Feb 1992	11 Dec 1993

The FFG's sensor package includes long range radars for air and surface surveillance, electronic warfare surveillance sensors and the Australian designed and built Mulloka medium range sonar for the detection of submarines. A computer based command and control system processes information as well as target data received by data link from other ships and aircraft.

LPA 51 HMAS KANIMBLA

LANDING PLATFORM AMPHIBIOUS (LPA)

Displacement:
8534 tonnes (full)

Length:
168 metres

Beam:
21.2 metres

Main Machinery:
6 x 16v ALCO 251C diesel engines, 1000 RPM driving two shafts.

Speed:
20 Knots

Armament:
1 x 20mm Vulcan Phalanx close in weapons system

2 x .50 calibre Browning machine guns

Crew:
220 Crew,

20 ships Army detachment plus up to 400 embarked forces

Cargo Capability:
2 x LCM8 landing craft

4 x Army Black Hawk or
3 x Sea King helicopters

1 x Army Chinook Helicopter

LANDING PLATFORM AMPHIBIOUS (LPA)

HMAS *Manoora* and HMAS *Kanimbla* were built for the United States Navy as the USS *Fairfax County* and USS *Saginaw* respectively. Two of the 20 strong NEWPORT class of tank landing ships, *Fairfax County* and her sister ship *Saginaw* were acquired by the Royal Australian Navy (RAN) in 1994.

In 1994 after commissioning into RAN, *Manoora* and *Kanimbla* underwent extensive modifications by the 'Forgacs' Dockyard in Newcastle, New South Wales, Australia, for their new roles as helicopter capable amphibious transport.

Their primary roles are to transport, lodge ashore and support an Army contingent of 450 troops, their vehicles and equipment. *Kanimbla* and *Manoora* are fitted with helicopter hangars capable of supporting up to four Army Black Hawk helicopters or three of the larger Navy Sea King helicopters. Two helicopters can operate simultaneously from the aft flight deck, while a third can operate from the flight deck located forward of the bridge.

Two Army LCM8 landing craft can also be carried on the forward flight deck to provide ship to shore transport. They are lifted on and off by a 70 tonne crane.

Accessed through a stern door, 810 square metres of storage space is available on the vehicle deck for Army vehicles and other large items of equipment.

For Navy and Army exercises the ships have additional operations and planning rooms that provide for both an Amphibious Group Commander and a Landing Force Commander.

LPA's are fitted with the largest and most comprehensive medical facilities in the Fleet.

Name	No.	Builders	Laid down	Launched	Commissioned	Recommissioned
KANIMBLA (ex-*Saginaw*)	L 51 (ex-1188)	National Steel & Shipbuilding, USA	24 May 1969	7 Feb 1970	23 Jan 1971	29 Aug 1994
MANOORA (ex-*Fairfax County*)	L 52 (ex-1193)	National Steel & Shipbuilding, USA	28 Mar 1970	19 Dec 1970	16 Oct 1971	25 Nov 1994

AOR 304 HMAS SUCCESS

AUXILARY OILER REPLENISHMENT (AOR)

Displacement:
17 933 tonnes (full)

Length:
157.2 metres

Beam:
21.2 metres

Main Machinery:
Two independent propulsion systems, each consisting of a 16 PC 2-5V Pielstick ono-reversing medium speed diesel engine, developing 7,640 kw at 520 RPM

Speed:
20 knots (full load)

Armament:
2 x 20mm Phalanx Close In Weapon Systems

3 x 40/60mm Bofors guns, two fwd, one aft

4 x .50 calibre Browning machine guns

1 x utility helicopter

Crew:
205

AUXILARY OILER REPLENISHMENT (AOR)

The Royal Australian Navy's (RAN) afloat support capability is provided by the underway replenishment ships HMAS *Success* and HMAS *Westralia*. The Afloat Support Force provides operational support for the rest of the fleet by providing fuel, food, stores and ammunition, thus significantly extending the RAN's operational reach and endurance at sea. It can also provide support to deployed Army and Air force units.

HMAS *Success* is based on the FRENCH DURANCE Class design. She was built by Cockatoo Island Dockyard Pty Ltd in Sydney and was the largest ship constructed at this facility.

The ship is capable of day and night replenishment to ships at sea and concurrently by her embarked helicopter to other ships in company.

Four main Replenishment at Sea (RAS) stations are fitted, two of which have dual functions and can be used to transfer either fuel or solids.

Success saw active service in the Gulf War as part of the Multi-National Naval Force conducting operations in support of Kuwait. She also provided valuable logistic support to INTERFET operations in East Timor.

Success is the second Navy ship to carry the name. *Success (I)* was an 'S' class destroyer in service during the 1920s and '30s.

Success is a truly dynamic vessel designed to support a naval force for extended periods in an operational environment at sea.

Name	No.	Builder	Laid down	Launched	Commissioned
SUCCESS	OR 304	Cockatoo Island Dockyard, NSW, Aust.	9 Aug 1980	3 Mar 1984	19 Feb 1986

AO 195 HMAS WESTRALIA

UNDERWAY REPLENISHMENT SHIP (AO)

Displacement:
40,870 tonnes (full)

Length:
171 metres

Beam:
26 metres

Main Machinery:
Two SEMT-Pielstick 14 PC2-2 V400 diesel engines; one shaft

Speed:
16 Knots

Armament:
4 x .50 calibre Browning machine guns

Crew:
84

Fuel capacity:
20,000 tonnes of diesel and aviation fuel (3000 tonnes)

1500 tonnes water

UNDERWAY REPLENISHMENT SHIP (AO)

The Royal Australian Navy's (RAN) afloat support capability is provided by the underway replenishment ships HMAS *Success* and HMAS *Westralia*. The Afloat Support Force provides operational support for the rest of the fleet by providing fuel, food, stores and ammunition, thus significantly extending the RAN's operational reach and endurance at sea. *Westralia* can also provide support to deployed Army and Air force units.

HMAS *Westralia* was built as a Stat 32 class petroleum tanker and modified for underway replenishment in 1979 with the British Royal Fleet Auxiliary as RFA *Appleleaf*. Originally leased by the RAN in 1989, *Westralia* was purchased outright in 1994 and underwent further modification including the fitting of a flight deck for helicopter operations.

The ship can carry over 20,000 tonnes of diesel including several thousand tonnes of aviation fuel for Navy helicopters. *Westralia* can replenish ships at sea day or night and is capable of replenishing two ships at a time. She has transfer points for fuel, water and stores.

Westralia saw active service in the Gulf War as part of the Multi-National Naval Force conducting operations in support of Kuwait. She also provided valuable logistic support to INTERFET operations in East Timor.

Westralia is the second RAN ship to carry the name. *Westralia (I)* was a passenger liner requisitioned for naval service during WWII.

Westralia's motto is 'Faithful and Bold".

Westralia is due to be replaced by HMAS *Sirius* in mid 2006.

Name	No.	Builder	Laid down	Launched	Commissioned
WESTRALIA ex RFA *Appleleaf*	O 195 (ex-A 79)	Cammell Laird, Birkenhead, UK	1974	24 July 1975	9 Oct 89 (RAN) Nov 79 (RN)

SSG 77 HMAS SHEEAN

COLLINS CLASS SUBMARINES (SSG)

Displacement:
3350 tonnes (submerged)

3050 tonnes (surfaced)

Length:
77.8 metres

Beam:
7.8 metres

Main Machinery:
Diesel Electric. One 5.4 MW Jeumont Schneider main motor; three Hedemora VB 210 18 Cylinder diesels; three Jeumont Schneider generators; single shaft

Speed:
In excess of 20 knots (submerged)

In excess of 10 knots (surfaced or snorting)

Armament:
Six forward tubes for Mk48 wireguided torpedoes and Sub Harpoon missiles

Crew:
42 (6 officers and 36 sailors) plus trainees

COLLINS CLASS SUBMARINES (SSG)

AUSTRALIA'S UNSEEN POWER

The operational characteristics and range of COLLINS Class submarines have been tailored specifically for its defence and two-ocean surveillance role in the Royal Australian Navy (RAN).

Designed to be as quiet as advanced technology can achieve, COLLINS Class submarines have been developed from five generations of submarines designed and built by the Swedish Navy.

One of the first submarines to be totally designed by computers, the COLLINS Class boasts a vast range of features. They include a high performance hull form, highly automated controls, low indiscretion rates, high shock resistance, optimal noise suppression, efficient weapons handling and discharge, and an optional air-independent propulsion system.

This single propeller submarine will move silently on electric power supplied to the propulsion motor by banks of new technology batteries. The batteries are charged by three on board diesel generator sets.

The sophisticated combat system, which gathers its intelligence from its sensors, computes the input and then launches and directs weapons, is an advance on any system currently available.

Based at HMAS *Stirling*, in Western Australia, the Australian Submarine Squadron is a formidable element in Australia's defence capability.

Name	No.	Builders	Laid down	Launched	Commissioned
COLLINS	73	Australian Submarine Corp, Adelaide, Aust.	14 Feb 1990	28 Aug 1993	27 Jul 1996
FARNCOMB	74	Australian Submarine Corp, Adelaide, Aust.	1 Mar 1991	15 Dec 1995	31 Jan 1998
WALLER	75	Australian Submarine Corp, Adelaide, Aust.	19 Mar 1992	14 Mar 1997	10 Jul 1999
DECHAINEUX	76	Australian Submarine Corp, Adelaide, Aust.	4 Mar 1993	12 Mar 1998	24 Feb 2001
SHEEAN	77	Australian Submarine Corp, Adelaide, Aust.	17 Feb 1994	3 May 1999	24 Feb 2001
RANKIN	78	Australian Submarine Corp, Adelaide, Aust.	12 May 1995	7 Nov 2001	26 Mar 2003

FCPB 212 HMAS GAWLER

FREMANTLE CLASS PATROL BOATS (FCPB)

Displacement:
245 tonnes

Length:
42 metres

Beam:
7.15 metres

Main Machinery:
2 MTU 538 series 16 cylinder main propulsion engines

Speed:
30 knots

Armament:
40/60mm Bofors general purpose gun

2 x .50 calibre Browning machine guns

Crew:
24

FREMANTLE CLASS PATROL BOATS (FCPB)

Navy's 15 FREMANTLE Class Patrol Boats (FCPB) provide the capability of Patrol Boat operations. The boats predominantly patrol the northern waters of Australia and are based in Darwin and Cairns. The FREMANTLE Class Patrol Boats carry the names of the BATHURST Class Australian Minesweepers which served during and after World War II.

FCPBs are the Navy's principal contribution to the national task of fisheries protection and immigration, customs and drug law enforcement operations. The vessels work hand in hand with other Government agencies and each year they provide up to 1800 patrol days as part of the Coastwatch managed national surveillance effort. In the event of war they would be tasked to control the waters close to the Australian mainland. The vessels are well prepared for their patrol duties and other operational requirements.

In addition FCPBs are central to Australia's engagement with countries in the South West Pacific region and they deploy throughout Southeast Asia and the Pacific in support of Australia's strategic interests. Patrol Boats also support Special Forces operations and provide a useful transport capability, particularly in disaster relief and humanitarian assistance operations.

FCPBs are equipped with high definition navigational radar, high and ultra high frequency communications equipment, gyro-compasses and echo sounder. They are also fitted with a satellite navigation system, which enables the ship's position to be determined with great accuracy.

FREMANTLE Class Patrol Boats have a range of 2,360 nautical miles at 12 knots and a maximum speed of almost 30 knots.

Name	No.	Builders	Commissioned	Decommmissioning
FREMANTLE	203	Brooke Marine, Lowestoft, UK.	17 Mar 1980	2006
WARRNAMBOOL	204	NQEA Australia, Cairns, Aust.	14 Mar 1981	2005
TOWNSVILLE	205	NQEA Australia, Cairns, Aust.	18 Jul 1981	2006
WOLLONGONG	206	NQEA Australia, Cairns, Aust.	28 Nov 1981	2006
LAUNCESTON	207	NQEA Australia, Cairns, Aust.	1 Mar 1982	2006
WHYALLA	208	NQEA Australia, Cairns, Aust.	3 Jul 1982	2005
IPSWICH	209	NQEA Australia, Cairns, Aust.	13 Nov 1982	2006
CESSNOCK	210	NQEA Australia, Cairns, Aust.	5 Mar 1983	2005
BENDIGO	211	NQEA Australia, Cairns, Aust.	28 May 1983	2006
GAWLER	212	NQEA Australia, Cairns, Aust.	27 Aug 1983	2006
GERALDTON	213	NQEA Australia, Cairns, Aust.	10 Dec 1983	2006
DUBBO	214	NQEA Australia, Cairns, Aust.	10 Mar 1984	2006
GEELONG	215	NQEA Australia, Cairns, Aust.	2 Jun 1984	2006
GLADSTONE	216	NQEA Australia, Cairns, Aust.	8 Sep 1984	2007
BUNBURY	217	NQEA Australia, Cairns, Aust.	15 Dec 1984	2007

ACPB 83 HMAS ARMIDALE

ARMIDALE CLASS PATROL BOATS (ACPB)

Displacement:
300 tonnes

Length:
56.8 metres

Beam:
9.5 metres

Main Machinery:
2 x MTU 16V 4000 M70 Diesels, 2 x Shafts

Power:
2 x 2320 kW (2 x 3,110 hp)

Speed:
25 knots

Armament:
1 x 25mm cannon, 2 x 12.7mm heavy duty machine guns

Crew:
21 (+ extra accommodation for 20)

ARMIDALE CLASS PATROL BOATS (ACPB)

The Royal Australian Navy's new patrol boat force, the 12 ARMIDALE Class Patrol Boats (ACPB) will be brought into service from 2005 - 2007. The ACPB's primary role is to undertake sustained patrol and response operations both in the northern waters of Australia and as far south as 50 degrees, the Southwest Pacific and into South East Asia.

The ARMIDALE Class is designed and constructed to combined commercial and naval standards and is fitted with state of the art systems optimised for its surveillance patrol and response tasking in support of its roles. The superior communications system complements the onboard organic sensors by providing both long and short-range communications.

Crew accommodation consists of modern, satellite TV equipped, ensuite cabins. The ship also has the capacity to embark an additional 20 personnel for specific missions. This significantly increases the flexibility of the platform and adds to the range of tasking variables that can be met by ACPB.

The ARMIDALE Class will be multi-crewed by 18 crews of 21 personnel. The crews will be divided into three divisions with two divisions located in Darwin and one in Cairns. The ARMIDALE Class will also be divided amongst the ports in Darwin which will be home to eight vessels, and Cairns where four boats will be home ported. The ability to multi crew the ARMIDALE patrol boats facilitates the maximum use of the platform in line with the 3000 sea day (plus surge) capability while providing adequate crew rest and recreation.

ACPB's are state of the art in design and technology, underpinning a formidable new patrol, surveillance and response capability for the Royal Australian Navy (RAN). Its design, compared to the FREMANTLE Class Patrol Boat, has superior sea-keeping together with enhanced endurance and surveillance technology, which will enable them to effectively conduct their roles in the required areas of operation. The hull is made from aluminum and the ship has an operating speed of at least 25 knots.

Following the historic naming convention for RAN Ships which epitomises the close cooperation between Navy and the wider Australian community, the ARMIDALE Class will be named after Australian cities and towns with links to Naval heritage.

Name	No.	Commissioning Date
ARMIDALE	83	24 Jun 2005
LARRAKIA	84	Nov 2005
BATHURST	85	Nov 2005
ALBANY	86	May 2006
PIRIE	87	May 2006
MAITLAND	88	Jul 2006
ARARAT	89	Jul 2006
BROOME	90	Jan 2007
BUNDABERG	91	Feb 2007
WOLLONGONG	92	2007
CHILDERS	93	2007
LAUNCESTON	94	2007

MHC 83 HAWKESBURY

HOUN CLASS COASTAL MINEHUNTERS (MHC)

Displacement:
720 Tons full load

Length:
52.5 metres

Beam:
9.9 metres

Speed:
14 Kts

Armament:
1 x 30mm DS30B rapid fire cannon,
2 x .50 calibre Browning machine guns

Mine Disposal System:
1. SUTEC Double-Eagle Mk 2 mine disposal Vehicle (MDV), with DAMDIC mine disposal charge

2. ADI double Orepesa mechanical sweep Sonar: GEC - Marconi Type 2093 VDS

Propulsion:
1 x 1460kw Fincantieri GMT Diesel (single shaft)
APU's 3 x 124kw electro hydraulic motors

Crew:
38 (6 officers) plus 11 spare/ training bunks

HOUN CLASS COASTAL MINEHUNTERS (MHC)

In 1998, the RAN accepted delivery of the first of six HUON Class Minehunter Coastals (MHC). The principal task of the MHCs is to keep the nation's focal points for trade, the harbours and ports, free from the threat of mines.

Originally designed in Italy as the GAETA Class for the Italian Navy, the HUON Class has been modified to suit Australian conditions, including improved accommodation and mine hunting capabilities.

The HUON Class, feature a unique hull design, outstanding shock resistance and an inherently low magnetic signature, allowing the ships to operate in hostile mine environments. Each single skin monocoque hull has been designed with no ribs, frames or stiffeners, avoiding local stress points that could cause separation under shock conditions. To protect the power plant and provide an enhanced resistance to shock damage, all machinery is mounted on cradles, suspended from the bulkheads and deckheads.

For their mine countermeasure operations, the HUON Class is fitted with the 2093 Variable Depth Sonar (VDS) capable of detection ranges in excess of 1,000 metres ahead of the ship. When a mine is detected in a water column or on the seabed, the ship will "hover" about 200 metres from the contact. A mine disposal vehicle or clearance divers will then be sent to investigate and neutralise the mine threat.

Each of the HUON Class are fitted with a pair of electrically powered Bofors Underwater Systems Double Eagle mine disposal vehicles (MDVs) equipped with a searchlight, closed-circuit low light television camera and an on-board close range identification sonar. To control the Double Eagle, commands are relayed via a fibre optic link inside the vehicle's tether, which also relays sensor images for display on the ship's multifunction console, located in the operations room.

To counter the hostile mines, each Double Eagle vehicle is fitted with either a disposal charge slung beneath or an explosive or mechanical cutter designed to sever the wire rope or chain holding the moored mines.

Name	No.	Builders	Laid down	Launched	Commissioned
HUON	M82	Australian Defence Industries, Newcastle, Australia	1995*	25 Jul 1997	15 May 1999
HAWKESBURY	M83	Australian Defence Industries, Newcastle, Australia	12 Sep 1995	24 Apr 1998	12 Feb 2000
NORMAN	M84	Australian Defence Industries, Newcastle, Australia	16 Sep 1996	3 May 1999	26 Aug 2000
GASCOYNE	M85	Australian Defence Industries, Newcastle, Australia	13 Sep 1997	11 Mar 2000	2 Jun 2001
DIAMANTINA	M86	Australian Defence Industries, Newcastle, Australia	4 Aug 1998	18 Nov 2000	4 May 2002
YARRA	M87	Australian Defence Industries, Newcastle, Australia	12 Jun 1999	29 Sep 2001	1 Mar 2003

*Huon's hull was manufactured in Italy. The hull arrived in Australia 31 Aug 1995 for outfitting at Newcastle where the remaining five ships were built.

AGS 245 HMAS MELVILLE

HYDROGRAPHIC SURVEY SHIPS (AGS)

Displacement:
2550 tonne

Length:
71.1 metres

Beam:
15.2 metres

Main Machinery:
Four Ruston diesel generators, two electric propulsion motors

Cruising Speed:
in excess of 12 knots

Aircraft:
1 x Squirrel Helicopter as required

Crew:
46 Officers & Sailors

HYDROGRAPHIC SURVEY SHIPS (AGS)

The Royal Australian Navy's Hydrographic Service has the responsibility for charting more than one-eighth of the world's surface and Australia's more than 30,000 kilometres of coastline. These include approaches to ports frequented by some of the world's largest and deepest draft ships, the bulk ore carriers. The nautical charts developed from data gathered by the Hydrographic Service are essential for safe navigation at sea. Accurate charting protects human life, valuable cargo and our precious marine environment, as well as provides our Naval forces with freedom of operation when conducting patrol, surveillance and interdiction duties in the waters that surround us.

Around Australia, less than half of the area has been surveyed to acceptable standards, however the two LEEUWIN Class ships, with multi-beam echo sounders, will greatly reduce this figure, making passage of vessels safer and further protect Australia's ocean environment.

Navy's hydrographic operations are provided by two Hydrographic Survey ships (HS) HMAS *Leeuwin* and HMAS *Melville*. Both ships were built in Cairns, Queensland by North Queensland Engineers and Agents (NQEA) and are home ported in Cairns.

HMA Ships *Leeuwin* and *Melville* operate independently, supported by the three Survey Motor Boats (SMB) carried on each ship. These ships are fitted with the latest multi-beam and single beam echo sounders plus towed and forward-looking sonars. Satellite and terrestrial position fixing equipment plus other navigation and survey sensors are integrated to form a complex hydrographic survey system in each ship.

Their operational range is around 8,000 nautical miles. Each designed to operate for up to 300 days a year at sea, carrying out operation surveying tasks. To maximise the productivity of the vessels, the Navy operates the ships with the three crews, rotating through the two ships.

Name	No.	Builders	Launched	Commissioned
LEEUWIN	A 245	NQEA, Cairns, Aust	19 Jul 1997	27 May 2000
MELVILLE	A 246	NQEA, Cairns, Aust	23 Jun 1998	27 May 2000

SML 01 HMAS PALUMA

PALUMA CLASS SURVEY MOTOR LAUNCH (SML)

Displacement:
320 tonnes (full load)

Length:
36.6m overall

Beam:
13.7 m

Main Machinery:
Twin Detroit V12 diesels

Speed:
12 knots

Crew:
14

PALUMA CLASS SURVEY MOTOR LAUNCH (SML)

The science of Hydrography originated from the need for the production of maps specifically designed for use by the mariner. Nothing has been more important to the foundation and expansion of seaborne trade among the nations than the production of such charts - the end result of the hydrographic surveyor's work.

By any standards the task facing the Australian Hydrographic Service is a daunting one. The Australian area of charting responsibility covers some 11.5 million square nautical miles of oceans and seas, including the waters of Papua New Guinea. Between 1945 and 2001 only 30% of the continental shelf had been surveyed to an adequate standard, with a further 20% to a temporarily adequate standard. The remaining area accounts for much of the Navy's current survey work. The Survey Motor Launches (SML) are examples of the resources devoted to this enormous task by the Royal Australian Navy.

HMA Ships *Paluma*, *Mermaid*, *Shepparton* and *Benalla*, were built by Eglo Engineering of Adelaide, South Australia and were based on the PRINCE Class of roll-on/roll-off passenger ferries.

The SML's generally operate in pairs, and are designed for operations in the shallow waters of northern Australia. Their twin hulls, with bulbous bows and raked transom, provide good stability in heavy conditions, along with good living room and space below the main deck. In addition, the catamaran hull sits well out of the water, the ship drawing only 2.2 metres, a favourable characteristic in shoaling and reef waters where the ships are required to operate.

Each SML carries the latest in survey and computerised hydrographic data processing equipment. The class is also fitted with the latest navigation aids. SMLs have a range of 3,500 nautical miles.

The SMLs are based in Cairns, Queensland and have been deployed to East Timor and Bougainville in support of Australian Defence Force and UN operations. They have demonstrated an ongoing capability to contribute to both peacetime and operational activities.

Name	No.	Builders	Commissioned
PALUMA	A 01	Eglo, Adelaide, Aust	27 Feb 1989
MERMAID	A 02	Eglo, Adelaide, Aust	4 Dec 1989
SHEPPARTON	A 03	Eglo, Adelaide, Aust	24 Jan 1990
BENALLA	A 04	Eglo, Adelaide, Aust	20 Mar 1990

LCH 126 HMAS BALIKPAPAN

LANDING CRAFT HEAVY (LCH)

Displacement:
316 tonnes

Length:
44.5 metres

Beam:
10.1 metres

Main Machinery:
2 x GM diesel engines

Speed:
In excess of 9 knots

Armament:
2 x .50 calibre Browning machine guns

Crew:
13

LANDING CRAFT HEAVY (LCH)

The Royal Australian Navy Heavy Landing Craft (LCH) is an extremely important vessel, capable of moving large amounts of cargo, personnel and equipment from larger ships such as a LSH (HMAS *Tobruk*) or a LPA (HMA Ships *Kanimbla* and *Manoora*), or from civilian ships to shore. A very shallow draft allows LCHs to deliver troops and equipment to areas otherwise unreachable.

Six LCH form part of the Royal Australian Navy today. HMAS *Brunei* commissioned into the Fleet in January 1973 while HMAS *Balikpapan*, the prototype LCH, was originally operated by Army Water Transport. She transferred to the RAN in September 1974.

The LCH is an all-welded twin-screw vessel, able to transport cargo and supplies from ships lying offshore to water terminals or across the beach. Maximum cargo load varies between 140 and 180 tonnes. A typical load of 175 tonnes gives the LCH a range of 1300 nautical miles, increasing to 2280 nautical miles for a load of 150 tonnes.

A typical Army equipment lift can comprise three battle tanks, twenty-three quarter-tonne trucks or thirteen armoured personnel carriers.

All six LCHs are currently active, with four based in Cairns and two in Darwin.

Name	No.	Builders	Laid down	Launched	Commissioned
BALIKPAPAN	L126	Walker Ltd, Maryborough, Queensland, Australia	May 1971	15 Aug 1971	8 Dec 1971
BRUNEI	L127	Walker Ltd, Maryborough, Queensland, Australia	Jul 1971	15 Oct 1971	5 Jan 1973
LABUAN	L128	Walker Ltd, Maryborough, Queensland, Australia	Oct 1971	29 Dec 1971	9 Mar 1973
TARAKAN	L129	Walker Ltd, Maryborough, Queensland, Australia	Dec 1971	16 Mar 1972	15 Jun 1973
WEWAK	L130	Walker Ltd, Maryborough, Queensland, Australia	Mar 1972	18 May 1972	10 Aug 1973
BETANO	L133	Walker Ltd, Maryborough, Queensland, Australia	Sep 1972	5 Dec 1972	8 Feb 1974

SH-2G(A) SUPER SEASPRITE

SH-2G(A) SUPER SEASPRITE

In service:
11

Length:
16 metres (rotors spread)

Height:
4.6 metres

Width:
13.5 metres (rotors spread)

Weight:
6440 kg

Engines:
Two 1723 shp GE T-700 Turboshaft

Speed:
130 kts

Range:
540 nm

Armament:
Anti-ship Missile 2 x Kongsberg AGM119 Mk2 Mod 7 'Penguin'

Torpedo 4 x Raytheon Mk46

Depth Charge 4 x ADI Mk11

Machine Gun 1 x MAG58 7.62mm GSMG

Crew:
2 (pilot and tactical officer), 5 passengers

805 SQUADRON SH-2G(A) SUPER SEASPRITE

805 Squadron is the primary operating unit for the Navy's fleet of 11 SH-2G(A) Super Seasprite maritime attack helicopters designed and manufactured for the Royal Australian Navy by Kaman Aerospace of Connecticut, USA.

The SH-2G(A) provides the primary anti-surface weapon system for the ANZAC Class frigates with up to six aircraft deployed to sea at any one time. They are equipped with a sophisticated imaging radar, an infra-red camera and a state of the art electronic surveillance suite all driven through an advanced sensor fusion software system that presents the key tactical information in clear and unambiguous formats on four large colour cockpit displays. Armed with up to two AGM-119 Penguin anti-ship missiles, the SH-2G(A) is a formidable warfare system that packs a knockout punch.

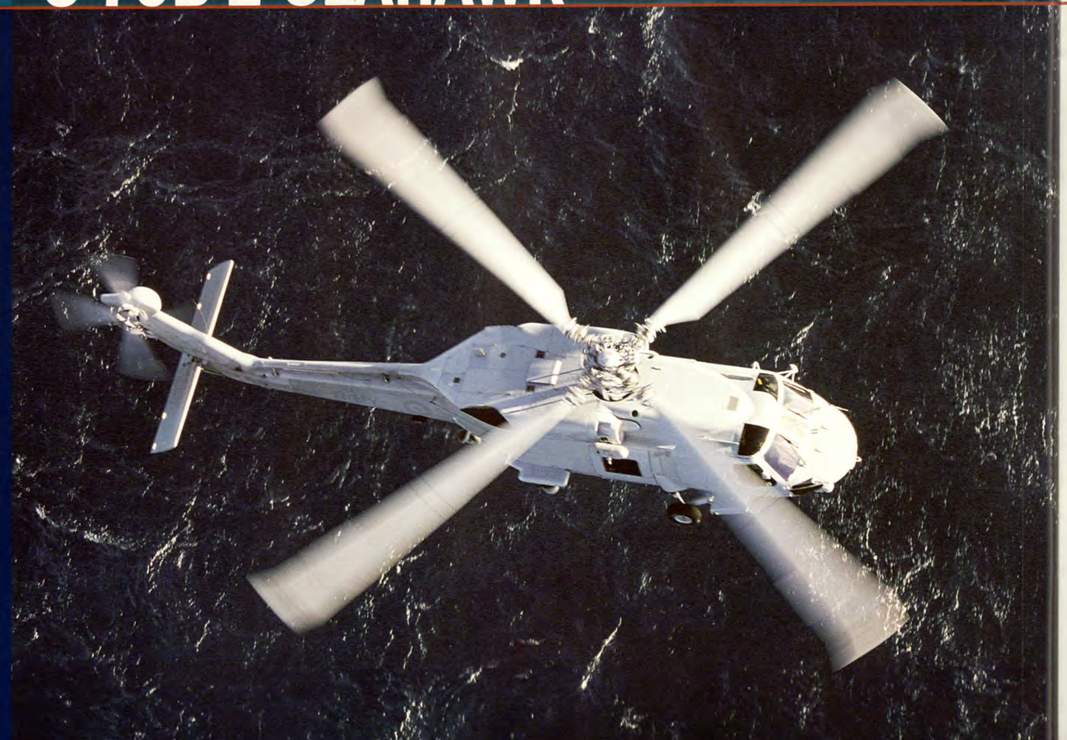
Operating the SH-2G(A) continues 805 Squadron's rich tradition of fielding attack aircraft at sea.

Originally formed as one of the first two RAN Air Squadrons in 1948, 805 Squadron flew Sea Fury fighter/bombers from the aircraft carrier HMAS *Sydney* until 1958. The Squadron then operated the Sea Venom all-weather attack fighter between 1958 and 1963 and the A-4G Skyhawk fighter/bomber between 1968 and 1982 from the aircraft carrier HMAS *Melbourne*. 805 Squadron was commissioned for the fourth time in February 2001 to operate the SH-2G(A).

Embarked aircraft undertake the following roles at sea:

- Surface Surveillance
- Surface Attack
- Anti-Submarine Weapons Carrier
- Visit, Board, Search and Seize Operations
- Naval Gunfire Support Missions
- Search and Rescue Operations
- Utility (winching and load lifting) Operations

S-70B-2 SEAHAWK



S-70B-2 SEAHAWK

In service:
16

Length:
19.8 metres (rotors spread)

Height:
5.2 metres

Width:
16.4 metres (rotors spread)

Weight:
9,947kg

Engines:
2 T700-GE-401C front drive turboshaft delivering up to 1940 SHP

Speed:
135 knots (cruise)

180 knots (maximum) (330km per hour)

Range:
600 nautical miles

Armament:
2 MK 46 torpedoes and one 7.62mm MAG 58 machine gun

Crew:
3 (Pilot, Tactical Coordinator and Sensor Operator)

816 SQUADRON S-70B-2 SEAHAWK

816 Squadron operates 16 Sikorsky S-70B-2 Seahawk helicopters. The primary role of the Seahawk is to embark in the Navy's FFG and FFH frigates and provide anti-submarine warfare and anti-surface surveillance. With its unique sensor suite and integrated weapons systems, the Seahawk extends the combat radius of the ship by finding, localising and attacking where appropriate, surface or submarine targets either independently or in conjunction with other forces. A typical Seahawk mission involves up to four hours of low-level operations over the sea, by day or night in all weather, often recovering to a ship's deck that pitches and rolls dramatically in heavy seas and is often wet with spray.

The Seahawk carries a highly capable navigation, communication and sensor suite making it a formidable helicopter in anti-submarine and anti-surface warfare.

The sensors include: the Super Searcher radar, magnetic anomaly detector, sonics processing for both active and passive sonobuoys, forward-looking infra-red (FLIR) and electronic support measures. The Seahawk's main weapon is the MK 46 torpedo and it can also be fitted with a 7.62 mm door mounted general purpose machine gun.

In addition to the Seahawk's primary roles, its comprehensive sensors and excellent performance make it an ideal helicopter for performing a number of secondary roles including: search & rescue, troop lift and tactical insertion, utility operations (winching and external load lift) and fire bombing.

WESTLAND SEA KING

WESTLAND SEA KING

In service:
6

Length:
28.63 metres (rotors spread)

Height:
5.13 metres

Width:
24.42 metres (rotors spread)

Weight:
9525kg

Engines:
2 Rolls Royce Gnome H1400-1 gas turbines

Speed:
185 Km/h max (100 knots)

255 km/h cruise (138 knots)

Range:
630 nautical miles

Armament:
2 Mk 46 torpedoes or two Mk 11 depth charges

1 door mounted general service machine gun

Crew:
4 (2 Pilots, 1 Tactical Coordinator/Navigator and 1 Air-crewman), 23 troops

817 SQUADRON WESTLAND SEA KING

817 Squadron, part of the Royal Australian Navy's (RAN) Aviation Force Element Group, is based at the RAN Air Station, Nowra, NSW. The squadron has been serving the Australian public since it commissioned on 25 April 1950. From the Squadron's earliest days it has been sent overseas to protect Australia's interests by supporting Australian Defence Force (ADF) operations. The Squadron's first experience was being sent to Korea in 1950 shortly after the Squadron commissioned. 817 Squadron has continued that proud tradition and has battle honours from Korea and Vietnam.

817 Squadron's job is to: move people and provisions between ships and from ships to the shore, conduct search and rescue day and night in all weather conditions, detect and report hostile shipping, deliver torpedos and depth charges and support the Army when it moves from ships to the shore. The Sea King helicopter is an excellent aircraft to do these jobs. The Sea King is a Sikorsky designed helicopter, produced under licence by the British aircraft manufacturer KGN Westland Helicopters. The aircraft entered service with 817 Squadron on 2 February 1976 and to the end of the year 2004 had flown approximately 50,000 flying hours.

The Sea King can operate from the supply ship HMAS *Success*, the landing ship HMAS *Tobruk* and the amphibious transport ships HMAS *Manoora* and *Kanimbla*. The introduction of the amphibious ships saw 817 Squadron and the Sea King's tasks grow in supporting ADF operations from ships to the shore. The aircraft was heavily involved in East Timor.

In more recent times, 817 Squadron has deployed Sea King helicopters on board RAN ships as part of Defence's contribution to United Nations missions to Somalia in 1993, Bougainville in 1995 and 1997, East Timor in 1999, the Solomon Islands 2000 - 2003 and the Persian Gulf for the war in Iraq in 2003. Recently 817 Squadron has provided substantial support to the people of Aceh, Indonesia after the devastating Boxing Day 2004 tsunami. The Squadron is also regularly called upon to directly support the Australian community. Recent examples of disaster relief and search and rescue (SAR) support are the Sydney's bush fires in 1993-94 and 2001-02 and the Sydney to Hobart Yacht Race rescues in 1998.

The aircraft is a large and very versatile helicopter. With it's ability to pick up loads heavier than a Land Rover, the aircraft is the workhorse of the RAN's fleet. Powered by two Rolls Royce Gnome H1400-1 jet engines each producing a maximum of 1650 shaft horsepower, the Sea King is crewed by two pilots, one observer (tactical coordinator/ navigator) and one aircrewman.

AS 350BA SQUIRREL

AS 350BA SQUIRREL

In service:
12

Length:
12.99 metres

Height:
3.5 metres

Width:
10.69 metres (rotors spread)

Weight:
2,100kg

Engines:
Aerospatiale Trubomeca Arriel 1B

Speed:
125 knots

Range:
390 nautical miles

Crew:
2 to 4

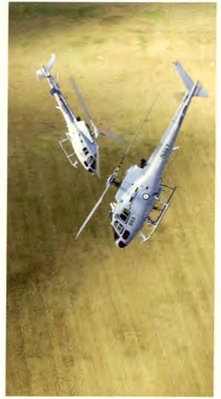
723 SQUADRON AS 350BA SQUIRREL

723 Squadron currently operates twelve AS 350BA Squirrel helicopters, purchased in 1982 to provide an interim aviation capability for the Royal Australian Navy's (RAN) Guided Missile Frigates. 723 Squadron Squirrels served with all helicopter capable RAN ships during the 1991 Gulf War. The aircraft, fitted with updated avionics and a door mounted machine gun, were used for shipping surveillance, top cover for merchant ship boardings, mine searches and light logistics support.

The Squirrels were upgraded to AS 350BA models in 1995 providing capability and performance improvements. Replaced by the more capable S-70B-2 Seahawk aboard the frigates in 1997, the Squirrel ceased dedicated embarked operations in 1997. However, their services were retained in 723 Squadron at the Naval Air Station (NAS) Nowra to conduct the new role of lead in helicopter training, where pilots are prepared for the rigors of operational flying training. During September 1999 an AS 350BA was again embarked at sea, this time in HMAS *Anzac* as part of the Navy's contingent for the East Timor crisis.

Today, the Squadron's primary focus is on training. This includes the conversion of all RAN pilots to rotary wing flying, preparation of pilots for operational flying training and flying observers and aircrewmen for their basic utility training. The aircraft also provides training support for ship's flight deck teams. Squirrel helicopters can be embarked in hydrographic ships as operations dictate.

The squadron has also recently developed a helicopter aerobatic pairs display team which participates in all major airshows and local public events.



CLEARANCE DIVING TEAMS

CLEARANCE DIVING TEAMS

The Royal Australian Navy (RAN) established its Clearance Diving Branch in 1951 and adopted the motto: UNITED and UNDAUNTED. The introduction of the Clearance Diving Breathing Apparatus (CDBA) in 1955 marked the true beginning of the clearance diver and the start of an era for the new branch.

Since then the RAN Clearance Diving Branch has kept up with world diving technology. The equipment used is state of the art and their techniques are regarded as world leading.

The RAN has two operational Australian Clearance Diving Teams (AUSCDTs) which incorporate local Australian Naval Reserve (ANR) divers. AUSCDT ONE is based at HMAS *Waterhen* in Sydney and AUSCDT FOUR is based at HMAS *Stirling* in Western Australia.

The AUSCDT's are under the operational command of the Maritime Commander Australia. Administrative control is delegated to Commander Australian Naval Mine Clearance Diving Group (COMAUSNAVMCDGRP).

AUSCDT's ONE and FOUR have an identical structure that is organised into four Task Elements capable of deploying separately or in combination with the other elements.

AUSCDT HEADQUARTERS (AUSCDT HQ) ELEMENT

The AUSCDT HQ comprises of Command, Communications, Support, Logistics and Maintenance personnel. Depending upon the nature of the deployment or operation, AUSCDT HQ will consist of approximately ten personnel and can be staged ashore or from a suitable surface platform.

MINE COUNTER MEASURES (MCM) ELEMENT

MCM Operations include:

- Location & disposal of sea mines in shallow waters;
- Rendering safe & recovering enemy mines;
- The search for & disposal of ordnance below the high water mark; and
- Clearance of surface ordnance in port or on naval facilities.

MARITIME TACTICAL OPERATIONS (MTO)

The (MTO) element undertake very shallow water mine countermeasures missions including:

- Clandestine Hydrographic Survey of beaches intended for amphibious landings;
- Covert clearance or demolition of sea/land mines or obstacles; and
- Stealth placement of charges, demolitions for the purpose of diversion or demonstration.

UNDERWATER BATTLE DAMAGE REPAIR (UBDR)

UBDR Element's wartime role is to effect temporary underwater repairs to Fleet units utilising patching, plugging, and a limited underwater cutting and welding capability. UBDR Elements train for their wartime role by performing Fleet support tasks that include underwater fitting, stabiliser and propeller maintenance/replacement and a limited salvage capability.

EXPLOSIVE ORDNANCE DISPOSAL (EOD)

The EOD element renders safe and disposes of all explosive ordnance including Improvised Explosive Devices, a core skill across all AUSCDT Elements.

STS YOUNG ENDEAVOUR

STS *YOUNG ENDEAVOUR*

Displacement:
239 tonnes

Length:
44 metres (overall)

Length on deck 35 metres

Beam:
7.8 metres

Rig:
Brigantine

Total sail area:
740.6 square metres

Machinery:
2 x 215 h.p turbo-charged diesel engines, twin fixed pitch 0.8m diameter propellers

2 x 40 KVA diesel generators

Speed:
Under sail 14 knots maximum

Under power 10 knots maximum

Crew:
9 RAN members and 24 trainees

SAIL TRAINING SHIP YOUNG ENDEAVOUR

STS Young Endeavour is an impressive 44m-long tall ship purpose-built for sail training, with modern technology and world-standard safety and navigation equipment.

Young Endeavour is fully capable of sailing any ocean on earth and staffed by an expert Navy crew.

The *Young Endeavour* Youth Scheme, funded by the Commonwealth Government, manages the program with the operational support of the Royal Australian Navy.

The brigantine *Young Endeavour* was the United Kingdom's Bicentennial gift to Australia, being accepted by the Prime Minister of Australia on 25 January 1988. Operated by the Royal Australian Navy on behalf of the *Young Endeavour* Youth Scheme, the ship has a Navy crew of nine who conduct the training program and who are responsible for the safety and efficiency of operations.

Voyages on *Young Endeavour* are open to young men and women between the ages of 16 and 23. Many young Australians have already experienced this unique and rewarding challenge. This brigantine conducts an average of 20 days sailing training voyages annually.

Designed specifically for sail training by British naval architect and yacht designer Colin Mudie, *Young Endeavour* has a fully welded steel hull with plywood decks covered in teak. With a cut-away external ballast keel and a separate skeg mounted rudder, the ship has a yacht-like form underwater. Her aluminium masts are more than 30 metres high and can carry a total sail area of 707.1 square metres or 7,547 square feet, giving a maximum speed under sail of 14 knots.

Name	Builder	Launched	Commissioned
YOUNG ENDEAVOUR	Brooke Yachts, Lowestoft, UK	2 Jun 1987	25 Jan 1988

www.youngendeavour.gov.au

ESTABLISHMENTS

SHORE ESTABLISHMENTS

HMAS *Albatross*

HMAS *Albatross* is the largest operational Naval establishment and the Royal Australian Navy's only Air Station, which commissioned on 31 August 1948. There are over 1600 personnel at the base, who are a mixture of Service, Defence civilian, and Defence industry personnel. *Albatross* has a long and distinguished record of service, and is well positioned and appropriately structured to continue supporting Naval aviation into the future.

The primary role of HMAS *Albatross* is to provide an operational airfield (Naval Air Station, Nowra) to the Australian Defence Force. *Albatross* is home to the Navy's four Air Squadrons which provide aircraft and air support to the fleet. The Squadrons and the aircraft they operate are:

- 723 Squadron (AS 350BA Squirrel helicopters);
- 816 Squadron (S-70B-2 Seahawk helicopters);
- 817 Squadron (SK50 Westland Sea King helicopters); and
- 805 Squadron (SH2G(A) Super Seasprite helicopters).

The secondary role is to provide administrative, logistic and operational support to Squadrons and other lodger units.

HMAS *Cairns*

With a responsibility extending from Rockhampton to Thursday Island, HMAS *Cairns* is currently composed of 800 naval and civilian personnel. It provides support to:

- five FREMANTLE Class Patrol Boats;
- four Survey Motor Launches;
- four Landing Craft Heavy;
- two Hydrographic Survey Ships; and
- four ARMIDALE Class Patrol Boats when commissioned.

HMAS *Cairns* also provides refit support for minor Royal Australian Navy vessels and PACIFIC Class Patrol Boats from neighbouring Pacific nations.

HMAS *Cerberus*

HMAS *Cerberus* is the Royal Australian Navy's foremost and largest training establishment.

The primary role of HMAS *Cerberus* since inception has been the training of Navy personnel. With the establishment of four tri-service schools over the last 13 years, this role has been extended to the delivery of training to personnel from Navy, Army and Air Force.

HMAS *Coonawarra*

Darwin is a vitally important Navy port – a gateway to our northern neighbours and the centre from which we conduct border integrity operations. Twelve fleet units are home-ported at Darwin Naval Base, located within *Coonawarra*, and eight of the new ARMIDALE Class Patrol Boats will also call Darwin home. Darwin plays host to major RAN and multi-national exercises and operations involving around 100 visiting Australian and foreign major warships each year.

HMAS *Creswell*

HMAS *Creswell* is located on the south-western shores of Jervis Bay in the Jervis Bay Territory, 180 kilometres south of Sydney.

The Royal Australian Naval College forms the major part of HMAS *Creswell* where all Naval Officers undertake initial training.

HMAS *Harman*

Harman's primary function is to support the Navy Command and several Tri-Service, Joint and single Service lodger units located in the Base. The Navy Command provides administration and support to personnel in overseas positions as well as all personnel in the Canberra area. This includes leave and movements, disciplinary investigations, weapons and fitness training, complaint management and support to Navy divisional staff.

Harman is also home to a Navy Communications facility which coordinates Naval Communications within Australia and around the world.

HMAS *Kuttabul*

Since 1858 Garden Island, Sydney has served the needs of naval ships. HMAS *Kuttabul* was commissioned on 1 January 1943 and named after the accommodation vessel HMAS *Kuttabul* which was hit and sunk by a Japanese midget submarine on 31 May 1942.

HMAS *Kuttabul* the establishment, was commissioned 6 months later, and today still provides accommodation and administration support for sailors working in the many outstations in the Sydney region.

HMAS *Penguin*

Situated in the suburb of Balmoral on Middle Head in Sydney Harbour, HMAS *Penguin* is surrounded by beaches and parkland and is within 30 minutes of the city centre.

HMAS *Penguin* is part of Navy's Systems Command. Its primary role is to provide training and it is the home of the RAN Diving School, the RAN Hydrographic School and the Medical Training School.

Today, *Penguin* remains the Navy's main medical facility - and is assuming a broader Defence role.

HMAS *Stirling*

HMAS *Stirling* was formally commissioned on 28 July, 1978 and since that time, HMAS *Stirling* has truly lived up to its motto of "Go Forward" with massive and carefully controlled expansion and the home porting of ships and submarines.

Today known as Fleet Base - West, HMAS *Stirling* has expanded enormously within its existing boundaries since its commissioning. By 2001 HMAS *Stirling* was home port to a large number of naval vessels including guided missile frigates (FFGs), ANZAC Class frigates (FFHs), submarines, underway replenishment ship and a trials and safety vessel. It is also the Headquarters to the Australian Submarine Squadron and is home to all of Australia's Collins Class submarines.

HMAS *Waterhen*

HMAS *Waterhen* is home to the Mine Warfare and Clearance Diving Group (COMAUSNAVMCDGRP) elements in order that they can fight and win at sea and contribute to military support operations. After the formation of COMAUSNAVMCDGRP in 2000, the Navy's Mine Warfare and Clearance Diving capabilities were upgraded to include the Mine Warfare Systems Centre and six HUON Class Minehunters, HMA Ships *Diamantina*, *Huon*, *Hawkesbury*, *Norman*, *Gascoyne* and *Yarra*.

In addition to this support, *Waterhen* is also the home to a busy flotilla of support craft including Diving Tender (DTV) *Seal*, Torpedo recovery vessel (TRV) *Trevally*, and Mine Sweeper Auxiliaries (MSA) *Bandicoot* and *Wallaroo*.

HMAS *Watson*

HMAS *Watson*, located in Watsons Bay, Sydney is a training establishment and home to the Training Authority - Maritime Warfare (TA-MW). The role of Training Authority - Maritime Warfare is to help prepare officers and sailors of the Royal Australian Navy to go to sea and to be part of the team that contributes to Fleet requirements and outcomes.

TA-MW provides training for Principal Warfare and junior Seaman Officers, all levels of navigation personnel and submarine personnel. Tactical training and tactical development complement the combat systems and command team training that is also conducted. The Commanding and Executive Officers posted to major and minor fleet units gain immense value from the practical training facilities provided at TA-MW before returning to the sea.

Training is conducted through a number of specialist faculties which include: the Navigation and Maritime Trade Faculty, the Mine Warfare Faculty, the Junior Warfare Application Course (JWAC) Faculty, the Commanding Officer/Executive Officer (CO/XO) Designate Faculty, the Principal Warfare Officer (PWO) Faculty, the Combat Systems Faculty and the Maritime Warfare Training Centre.

Navy Headquarters - South Australia

The major function of Navy Headquarters is to provide administrative support to Navy personnel working in South Australia and to represent Navy in the local community. Navy personnel work at various sites in the Adelaide metropolitan area including the CBD, Keswick Barracks, RAAF Edinburgh, DSTO Salisbury and the Australian Submarine Corporation site at Osborne. Navy Headquarters also supports various Royal Australian Navy Reserve elements including a Reserve Band, the South Australian Detachment of the Royal Australian Navy Band.

Navy Headquarters - South Queensland

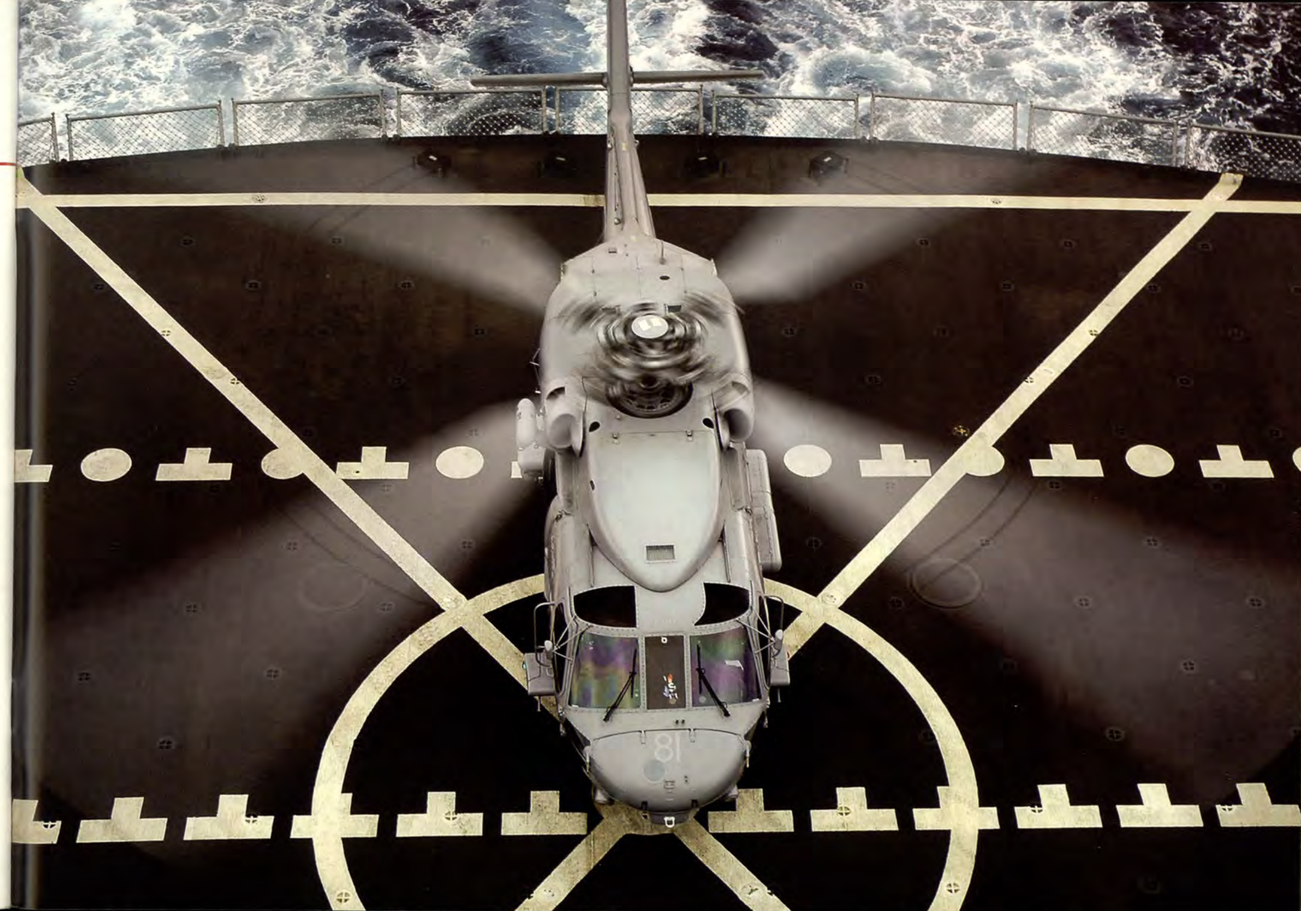
The Royal Australian Navy (RAN) maintains a significant presence in South Queensland through its Navy Headquarters situated at Bulimba on the Brisbane River.

Navy Headquarters - South Queensland (NHQ-SQ) is formally responsible for the coordination and administration of all RAN activity in Queensland south of the Tropic of Capricorn (near Rockhampton) including the organisation of ship visits by Royal Australian Navy and foreign naval vessels to Brisbane, Gladstone and Southport. NHQ-SQ also hosts visiting Minor War Vessels at the Navy's wharf at Bulimba including FREMANTLE Class Patrol Boats, Landing Craft Heavy (LCH's), as well as Coastal and Inshore Minehunters.

NHQ-SQ includes the highly respected Queensland detachment of the Royal Australian Navy Band, Australian Naval Reserve Dive Team Eight, and Australian Naval Cadet Headquarters as lodgers and administers a large number of Navy Reserve personnel who work throughout the Fleet during operational taskings. NHQ-SQ also provides authority and support to the nineteen Naval Cadet Units throughout Queensland.

Navy Headquarters - Tasmania

The functions of Navy Headquarters - Tasmania (NHQ-TAS) are to provide operational, administrative and logistic support for naval activities in Tasmania. These include, support for NHQ lodger units, support for Royal Australian Navy (RAN) and allied warships, naval aircraft and other naval elements visiting Tasmania and provision of personnel services for all permanent and reserve Navy personnel and their families. NHQ-TAS also acts as the Local Naval Authority, provides administrative support for Naval Reserve Cadets and represents the Chief of Navy and the RAN in Tasmania.



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