SHIPS OF THE ROYAL AUSTRALIAN NAVY

Flagship
STALWART

First Australian Destroyer Squadron (DDG)

PERTH
HOBART
BRISBANE

Second Australian Destroyer Squadron (FFG)

ADELAIDE
CANBERRA
SYDNEY
*DARWIN

Third Australian Destroyer Squadron (DE)

YARRA
PARRAMATTA
STUART
DERWENT
SWAN
TORRENS

First Australian Submarine Squadron

OXLEY
OTWAY
OXSLOW
OVENS
ORION
OTAMA

Australian Mine Countermeasures Squadron

CURLEW
IBIS

Australian Patrol Boat Squadron

Fremantle Class

FREMANTLE
WARRINAMBOOL
TOWNSVILLE
WOLLONGONG
LAUNCESTON
GLADSTONE
WHYALLA
BUNBURY
IPSWICH
CESSNOCK

Attack Class

ADROIT
ARIDENT
ATTACK
AWARE
ADVANCE
BOMBARD
ASSAIL
BARBETTE
BUCCANEER
BAYONET

First Australian Training Squadron

JERVIS BAY
VAMPIRE

First Australian Landing Squadron

TOBRUK
BALIKPAPAN
BRUNEI
LARUAN
TARAKAN
WEWAK
BETANO

Support Ships

SUPPLY
MORESBY
FLANDERS
COOK
KIMBLA
BASS
SAIKO

*To be commissioned
The Royal Australian Navy compares well with navies of other middle powers. It is well armed and trained, technically advanced and possesses a wide range of capabilities.

The main objective is to maintain a balanced general purpose capability to meet likely future operational situations. The present Fleet has capabilities in most facets of naval operations including interdiction, surface anti-air and anti-submarine warfare, naval air operations, surveillance and patrol, mine countermeasures, hydrography and oceanography and support for the other Services such as naval gunfire support and sea transport.

Briefly, the Navy’s roles are as follows:

- to organise, train and equip naval forces for sustained combat operations at sea;
- to provide naval support for land operations; and
- to provide military sea-transport support for the Australian Services.

In peacetime, the Navy maintains operational effectiveness in the capabilities required for the above roles, including the maintenance of an effective standard for joint operations with the Army and the RAAF. In addition, the Navy contributes to national development and assists the civil community.

The ships and aircraft required to perform these tasks are described on the following pages.
### Guided missile destroyers

The three guided missile destroyers — HMA Ships Perth, Hobart and Brisbane — make up the RAN's First Destroyer Squadron.

The U.S.-built ships are particularly versatile and generally regarded as the best balanced ships built in modern times.

Their main task is air defence of the Fleet, but they also have formidable anti-submarine and surface gunnery capabilities.

Their air defence capability is vested in their Standard missile system with the launcher located near the stern, and associated high definition radars.

The DDGs are also fitted with two Ikara missile systems. This long-range, anti-submarine system is Australian-designed and developed. The missile is automatically guided to the vicinity of a hostile submarine where a torpedo is released by parachute to home on the target.

The ships are fitted with modern combat data, sonar, radar, communications and electronic systems to provide the command with comprehensive information.

All three ships saw action in Vietnamese waters in the 1960s and 1970s where they served with distinction.

All three ships underwent weapons systems updates in the late 1970s which included the fitment of modern data links and computerised data systems.

Perth, Hobart and Brisbane are the names of former RAN cruisers.

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<tr>
<th>Name</th>
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- **Displacement**: 4580 tonnes
- **Length**: 133.2 metres
- **Beam**: 14.3 metres
- **Armament**: Two 5 inch automatic rapid fire guns. Standard Guided Missile System. Two Ikara anti-submarine missile systems. Two sets triple-mounted anti-submarine homing torpedoes.
- **Machinery**: Two GE geared steam turbines driving two shafts
- **Speed**: More than 30 knots
- **Ship's Company**: 333
Guided missile frigates

The RAN's Second Destroyer Squadron is formed by the three guided missile frigates, HMA Ships Adelaide, Canberra and Sydney, with the fourth, HMAS Darwin, expected to join the fleet during 1984. The FFGs are long-range escort ships with primary capabilities in the roles of interdiction, surveillance, reconnaissance, area air defence and anti-submarine warfare.

The principal weapons of the FFG are the Standard medium range anti-aircraft missile, and the Harpoon sea-skimming anti-surface missile, the latter having over the horizon capability. Both of these missiles are fired from the GMLS 13 launcher carried on the forecastle.

The 76 mm gun, located just forward of the funnel, has a very high rate of fire and is completely automatic.

For close-in anti-submarine work, two Mk 32 triple torpedo tubes are carried, one each side amidships. For their main anti-submarine role, the FFGs are equipped with a flight deck and hangars and are capable of embarking two armed helicopters. The FFGs are equipped with a very modern sonar system for detection of submarines.

All ships will be fitted with the Phalanx 20 mm Close in Weapons System as a protection against anti-ship missiles such as the Exocet.

The FFGs are the first RAN ships to use gas turbines for main propulsion, and this, combined with a modern repair-by-replacement policy, permits a greatly reduced complement while allowing a very high availability for sea.

In a recent exercise, Canberra was under way from cold in less than 45 minutes, not possible with conventional steam-powered ships.

Adelaide, Canberra and Sydney are the names of former RAN cruisers, but Darwin is the first of its name in the RAN.
The Royal Australian Navy has six Australian-built destroyer escorts forming the Third Australian Destroyer Squadron. The newest, HMAS Ships Swan and Torrens, incorporate many improvements over the earlier River class HMAS Ships Yarra, Parramatta, Stuart and Derwent.

All the ships are armed with twin 4.5 inch guns which are used with digital fire control radars and computers. The guns can be used for shore bombardment or can provide fire power against air or surface targets.

Close range air and surface defence is provided by the Seacat missile system which is controlled by a separate radar and computer. The Seacat missile system was developed in Britain and has been adopted by a number of navies.

A submarine threat can be met by using either the Australian-designed and built Ikara anti-submarine missile system, or the triple torpedo tubes carried on all the escorts.

Ikara is a rocket-propelled guided missile which carries a homing torpedo toward its submarine target. The torpedo is dropped into the sea by parachute and is then acoustically homed on the submarine target.

All ships in the squadron except Derwent carry the names of former RAN destroyers and sloops. Five of the ships in the squadron are being extensively modernised. HMAS Yarra underwent a half-life refit in 1977.
Submarines

The First Australian Submarine Squadron consists of six submarines of the Oberon class. The newest, HMAS Otama, was commissioned in the U.K. in 1978.

The squadron is based at HMAS Platypus, North Sydney — a shore establishment specifically designed to support submarines.

These large diesel-electric submarines are capable of remaining submerged for many weeks using the snork system which enables diesel generators to recharge the main batteries while submerged.

All the submarines are being modernised progressively with new fire control systems and modern sonars which will enable them to detect and track targets at long range. In addition, very capable long-range torpedoes, the U.S. Mk 48, are being purchased, and these will be complemented later by the installation of Harpoon anti-ship missiles. These new measures will make the RAN Oberons one of the most capable conventional submarines in the world.

HMAS Oxley and Otway are named for earlier Australian submarines, Ovens and Onslow are named for early Australian pioneers while the name Otama was selected to preserve long-established links with the Royal Navy. Otama is an Aboriginal word meaning 'dolphin' — the symbol of the Submarine Arm.
The Australian Mine Countermeasures Squadron is made up of two Ton Class mine countermeasure ships. Of British design and construction, the ships were modified in the U.K. before joining the Australian Fleet in 1962. HMAS Curlew was subsequently converted as a minehunter, while HMAS Ibis remained fitted for minesweeping. Ibis carries devices to explode acoustic and magnetic as well as contact mines.

The wooden-hulled mine countermeasure ships are themselves non-magnetic and are sufficiently silent not to actuate acoustic mines. Mine-hunting is complementary to minesweeping and is carried out in a different way. Using a high definition sonar set, the minehunter locates mines ahead of the ship.

When a mine is located, clearance divers go into the water to identify it and decide whether to render it safe and remove it, or to blow it up with an explosive charge which is remotely activated.

The RAN is examining a new concept in mine countermeasure vessels — glass reinforced plastic catamaran craft fitted with mine hunting and mine disposal equipment. It is planned that these craft will enter service in the mid-1980s.
In September 1977 construction began on a new class of patrol craft to supplement and in due course replace the capability offered by the existing Attack class boats. The new craft are built to a British design, designated PCF 420, tendered by Brooke Marine Ltd of Lowestoft, U.K. A total of 15 craft will be built.

The first was constructed by Brooke Marine in England and the remainder are being built in Australia by North Queensland Engineers and Agents Ltd of Cairns, Queensland.

The first of the class was accepted in 1979 and the last Fremantle class is expected to be phased in by 1985.

The new generation patrol craft are employed on similar duties to the Attack class. However, they are larger and offer substantial improvements in speed, range, sea keeping and living conditions for the ship’s company.

The ships are equipped with high definition navigation radar, high and ultra high frequency communications equipment, gyro compasses and echo sounder.

In addition, they are equipped with a satellite navigation system which enables the ship’s position to be determined with great accuracy.

### Patrol boats

**Fremantle class**

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**Displacement:** 220 tonnes  
**Length:** 42 metres  
**Beam:** 7.15 metres  
**Armament:** Close range general purpose gun, 81mm mortar, 2 x 0.5-cal. Browning machine guns.  
**Machinery:** Two MTU 538 series 16 cylinder main propulsion engines. One DoKman 12 cylinder auxiliary propulsive engine.  
**Speed:** 30 knots  
**Planned Ship’s Company:** 22
Twenty Attack class patrol boats were built in Queensland shipyards for patrol and survey work in waters around Australia and Papua New Guinea. Five of these, Aitape, Ladava, Lae, Madang and Samarai, now form a Papua New Guinea Defence Force patrol boat squadron. Four others, Barricade, Acute, Archer and Bandolier have been presented to Indonesia, and HMAS Arrow was lost during Cyclone Tracy in Darwin in 1974. In addition, five vessels, Adroit, Advance, Ardent, Aware and Bayonet have been transferred to the RAN Reserve.

The remaining five ships make up the Navy’s patrol boat squadrons with the Fremantle class craft. The Attack class patrol boats are ocean-going ships with a variety of tasks including the patrol of fishing grounds close to the coastline while assisting RAN survey ships in sounding and survey work. The speed and versatility of the patrol boats have made them useful for helping disabled craft, for use as sea-air rescue boats and for transporting patients from remote shallow ports, often inaccessible by other means. Major excursions have been made deep into Papua New Guinea river systems. Included in the ship’s equipment is high definition navigation radar, high and ultra-high frequency radio transmitters and receivers, gyro and magnetic compasses and echo sounders.

All the Attack class boats are fully air conditioned. The last five vessels will be progressively phased out of service by 1985 with the introduction of the Fremantle class patrol boats.

<table>
<thead>
<tr>
<th>Name</th>
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<td>101</td>
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Displacement: 149 tonnes
Length: 32.6 metres
Beam: 6.1 metres
Armament: 40mm (x2) Bofors gun, 91mm mortar, and a variety of light arms
Machinery: Two 16 cylinder diesels, producing more than 2240 kw
Speed: More than 20 knots
Ship’s Company: 19
Amphibious Squadron — LSH

The 6000 tonne Amphibious Heavy Lift Ship (LSH) HMAS Tobruk was commissioned into the RAN on 23 April 1981. Tobruk, the first purpose-built major amphibious ship in the RAN, was built at Carrington Slipways Pty Ltd at Tomago, near Newcastle, N.S.W.

Tobruk’s design is an update of the proven British Sir Bedivere class Logistic Landing Ship (LSL). She provides the Australian Defence Force with a heavy lift capability not available in any other Australian-owned ship. The ship is designed to carry troops, stores and vehicles and to put them ashore without the aid of port facilities. To achieve this, the ship is equipped with a 70 tonne capacity derrick; carries two small landing craft as ship’s boats; has two landing spots for the operation of helicopters and can discharge cargoes over bow and stern ramps. Tobruk can also carry up to two Army landing craft as deck cargo, or side-carry up to two self-propelled pontoons.

In an established port, Tobruk can discharge cargo by its own heavy-lift derrick and cranes as well as over the bow and stern ramps onto a roll-on-roll-off terminal. If no port facilities are available the ship can discharge by beaching herself, by marrying the bow ramp to beach causeway or by discharge onto pontoons, landing craft or amphibians.

Tobruk has the command and communications facilities to control all types of amphibious operations. She is equipped with a small hospital and accommodation for more than 500 troops. Her crew of 130 includes a small Army detachment.

Tobruk is based at HMAS Moreton in Brisbane and is part of the Australian Amphibious Squadron.
Destroyer Tender

The destroyer tender HMAS Stalwart is the largest naval vessel wholly designed and built in Australia. She is the Flagship of the Fleet. Her role is to provide destroyers with repair and maintenance facilities on a mobile basis so the ships can spend the maximum time on duty in their operational areas. For this job the ship is equipped with extensive engineering, electrical, electronic, weapons, shipwright and other workshops, staffed by experts in a wide variety of trades and professions. Several destroyers at a time can be maintained by Stalwart, and three-quarters of Stalwart's ship's company of nearly 400 are available for repair and maintenance duties.

Fleet oiler

HMAS Supply, the largest ship in the RAN, has the important task of refuelling Fleet units to give ships greater range and mobility. She re-supplies furnace fuel, aviation gasoline, diesel oil and water to other ships while they are underway. In a typical operation a destroyer will steam alongside Supply at about 15 knots. With only about 30 metres between ships, lines are shot across, hoses are run across and connected, and pumping begins. A destroyer can be refuelled in this way in less than half an hour. It is planned that Supply be replaced by a modern underway replenishment ship to be named Success under construction at Vickers Cockatoo Dockyard in Sydney.
### Surveying and Oceanographic

Surveying of Australian and Papua New Guinea waters which, combined, involve 30,000 km of coastline and cover about one-eighth of the earth’s surface is the mammoth task entrusted to the RAN Hydrographic Service.

The stepped-up exploitation of Australia’s vast mineral resources in recent years based on bulk-handling methods has led to the development of new ports such as Gove, Weipa, Spring Bay, Dampier and Port Hedland. The largest bulk carriers in the world now call at Australian ports and there is a continuing need for new and more accurate surveys of shipping routes and harbour approaches.

HMA Ships Moresby and Flinders are engaged full time on this work and HMAS Cook carries out oceanographic research. HMAS Kimbla is engaged in trials and research.

Moresby, based in Fremantle, W.A., is a large modern survey ship. She operates her own helicopter and carries advanced electronic surveying equipment.

The 765 tonne Flinders, which carries out surveys mainly in the Barrier Reef area, is based at Cairns, Qld.

Cook, fitted with the most advanced oceanographic and survey equipment, together with Kimbla are mainly engaged on military and civilian oceanographic research including work for the CSIRO, universities and museums.
### General purpose vessels

The Royal Australian Navy has two general purpose ships, HMAS Bass and HMAS Banks, of the Explorer class, built at Walkers Ltd shipyards, Maryborough, Queensland.

In June 1967, Bass was assigned as a Naval Reserve training ship in Tasmanian waters and a month later Banks was assigned to similar duties in South Australian waters. Normally, they have complements of two officers and 12 sailors, but during training cruises they may carry more.

Both ships provided training for officers and sailors in the seamen, electrical engineering and communications branches of the Naval Reserve. When the Naval Reserve Port Divisions were allocated their own Attack class Patrol Boats, HMAS Banks and HMAS Bass were returned to general service for employment as training vessels.

HMAS Bass was assigned to the Sydney base, HMAS Waterhen, in July 1982 for use as a navigation training vessel by the staff of the Navigation School, HMAS Watson. The vessel is employed in practical navigation instruction within Sydney Harbour and adjacent coastal areas. The vessel provides facilities for up to 15 students during training cruises.

HMAS Banks was assigned to the Target Services Group at Jervis Bay in December 1982 for Fleet support and training of midshipmen from the Royal Australian Naval College. At the end of their first year at the college, midshipmen are introduced to the life at sea by undertaking cruises along the east coast.

In December 1982 both vessels were decommissioned and are now designated General Purpose Vessels (GPV).

With their deep draught they are good sea-keeping vessels providing relatively stable platforms. It is perhaps fitting that GPV’s Banks and Bass have assumed navigation and training roles, tasks of which their illustrious namesakes would no doubt have approved.

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</table>

- **Displacement**: 180 tonnes (Bass), 148 tonnes (Banks)
- **Length**: 28.3 metres
- **Beam**: 7 metres
- **Machinery**: Twin-screw engine
- **Speed**: 10 knots
New constructions

Auxiliary Oiler Replenishment (AOR)

The French-designed Success is based on the Durance class. As a replenishment ship it carries diesel and aviation fuels, distilled/fresh water, ammunition and victuals. It is capable of replenishing two ships at sea simultaneously.

All solid and liquid transfers are monitored from a centrally-located cargo control room on the winch deck.

The ship contains a laboratory to enable analysis and quality control of fuels. The ship also contains a load computer to allow balancing of load conditions to avoid over stressing the ship.

Success will also carry a helicopter equipped with a sling for the transfer/replenishment of heavy loads.

Minehunter Inshore (MH)

The Royal Australian Navy is replacing its ageing Ton class minehunters with a locally designed and built class of minehunter catamaran. A $23 million contract was awarded to Carrington Slipways Pty Ltd, Tomago, Newcastle, N.S.W. in January 1983 for the construction of two prototype inshore minehunters. The vessels, built of glass reinforced plastic, and with a catamaran hull are a Royal Australian Navy in-house design and are the first of their type in the world.

Delivery and commissioning of the prototype vessels are planned for late 1985 and mid 1986 respectively. A decision to proceed with follow-on production vessels will be dependent on favourable results from a comprehensive trials and evaluation program.

Contracts worth some $30 million have already been awarded to Australian and overseas firms for the provision of long lead time equipment required for the prototype vessels.
Naval aviation

Following the Government’s decision not to replace the aircraft carrier HMAS Melbourne, the Government announced on 3 May 1983, that naval fixed wing aircraft would be phased out of service. Fixed wing aircraft in service on 3 May 1983 were:

- Nineteen S2-G Grumman Tracker anti-submarine warfare aircraft. To be withdrawn by 30 June 1984, subject to Government consideration of their use for civil coastal surveillance.
- Two HS748 electronic warfare training aircraft. To be transferred to the RAAF by 30 June 1984.
- Eight Macchi jet trainers. Transferred to the RAAF by 30 June 1983.

The RAN operates the following helicopters:

- Eight Westland Sea King for anti-submarine work and search and rescue.
- Nineteen Westland Wessex 31B for utility flying and search and rescue.
- Four Bell Iroquois for utility flying and search and rescue.
- Four Bell Kiowa for communications. One is aboard HMAS Moresby.
- Six Aerospatiale Squirrel to be delivered to the Navy in 1983-84 for light utility work and training at sea on survey support duties, training for anti-submarine aircraft controllers, search and rescue winch riders/divers, photographers, aircrewmen and medical personnel.