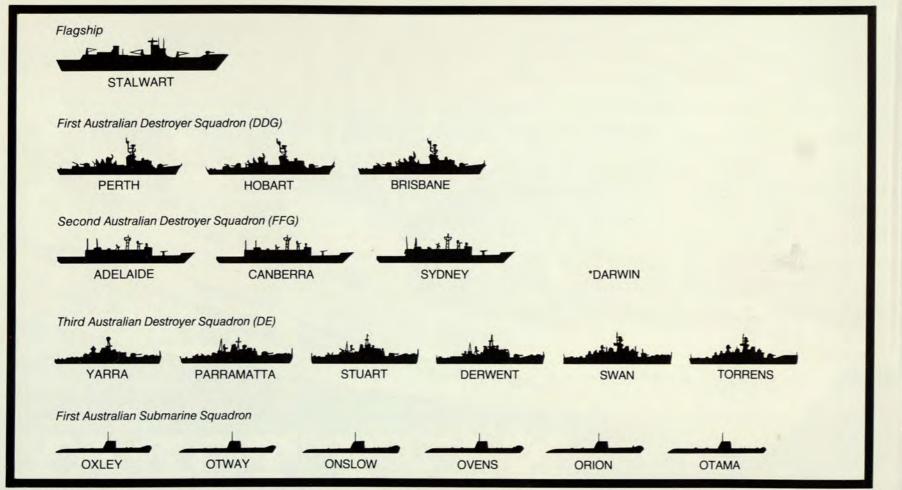
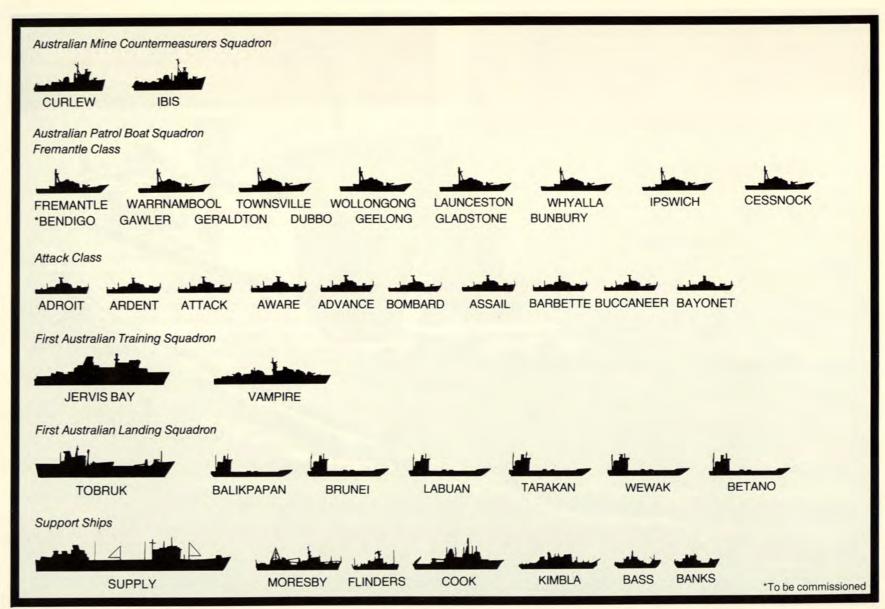


## SHIPS OF THE ROYAL AUSTRALIAN NAVY







# Role of the Royal Australian Navy

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.



Name	No.	Builder	Laid Down	Launched	First Com- missioned	
PERTH	38	Defoe Shipbuilding Co. Bay City Mich.	21.9.62	26.9.63	17.7.65	
HOBART	39	Defoe Shipbuilding Co. Bay City Mich.	26.10.62	9.1.64	18.12.65	
BRISBANE	41	Defoe Shipbuilding Co. Bay City Mich.	15.2.65	5.5.66	16.12.67	
1		Displacement	4580 tonne	s		
		Length	133.2 metre	es		
		Beam	14.3 metres			
		Armament	Two 5 inch automatic rapid fire guns Standard Guided Missile System Two Ikara anti-submarine missil systems. Two sets triple-mounte anti-submarine homing torpedoes			
		Machinery	Two GE ge	ared steam tu	irbines driv-	
		Speed	More than 3	30 knots		
		Ship's Company	333			

# **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 longrange, 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.



Name	No.	Builder	Laid Down	Launched	First Com- missioned
ADELAIDE	01	Todd Pacific Shipyards (Seattle)	29.7.77	21.6.78	15.11.80
CANBERRA	02	Todd Pacific Shipyards (Seattle)	1.3.78	1.12.78	21.3.81
SYDNEY	03	Todd Pacific Shipyards (Seattle)	16.1.80	26.9.80	29.1.83
DARWIN	04	Todd Pacific Shipyards (Seattle)	1.7.81	26.3.82	May 84*
		Displacement	3680 tonn	es	
		Length	135.6 m		
		Beam	13.7 m		
		Armament	Mk 92 Fire Mk 75 76 i Mk 15 Pha	and Standard e Control Syst mm gun alanx CIWS triple torpedo	tem
		Machinery	(30 000 kv	M 2500 gas to v) geared to o pitch propelle	ne
		Speed	More than	30 knots	
		Ship's Company	186		
*Planned					

# 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.



Name	No.	Builder	Laid Down	Launched	First Com- missioned
YARRA	45	Williamstown Dockyard	9.4.57	30.9.58	27.7.61
PARRAMATTA	46	Cockatoo Island Dockyard	3.1.57	31.1.59	4.7.61
STUART	48	Cockatoo Island Dockyard	20.3.59	8.4.61	28.6.63
DERWENT	49	Williamstown Dockyard	16.6.58	17.4.61	30.4.64
SWAN	50	Williamstown Dockyard	18.8.65	16.12.67	20.1.70
TORRENS	53	Cockatoo Island Dockyard	18.8.65	28.9.68	19.1.71
		Displacement	2750 tonn	es	
		Length	112.8 met	res	
		Beam	12.5 metre	es	
		Armament	trolled by	ch guns in twir digital fire co outer. Seacat stem. Ikara anti stem.*	ontrol radar anti-aircraft
		Machinery	Geared steam turbines developing 22 370 kw		
		Speed	More than	30 knots	
		Ship's Company	250		

# **Destroyer escorts**

The Royal Australian Navy has six Australian-built destroyer escorts forming the Third Australian Destroyer Squadron.

The newest, HMA Ships Swan and Torrens, incorporate many improvements over the earlier River class HMA 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.



			Laid		First Com-		
Name	No.	Builder	Down	Launched	missioned		
OXLEY	57	Scotts' Shipbuilding Greenock	2.7.64	24.9.65	27.3.67		
OTWAY	59	Scotts' Shipbuilding Greenock	29.6.65	29.11.66	22.4.68		
ONSLOW	60	Scotts' Shipbuilding Greenock	26.5.67	3.12.68	22.12.69		
OVENS	70	Scotts' Shipbuilding Greenock	17.6.66	4.12.67	18.4.69		
ORION	61	Scotts' Shipbuilding Greenock	6.10.72	16.9.74	15.6.77		
ОТАМА	62	Scotts' Shipbuilding Greenock	28.5.73	3.12.75	27.4.78		
		Displacement	2070 tonne	es			
		Length	89.9 metre	es			
		Beam	8.1 metres				
		Armament	Six bow and two stern anti-surf ships and anti-submarine torp tubes				
		Machinery	Two English Electric main propulsic motors, with two Admiralty standar range diesel generators				
		Speed	Submerge knots	d speed mor	re than 15		
		Ship's Company	63				

### **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 snort 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 Orion was selected to preserve long-established links with the Royal Navy. Otama is an Aboriginal word meaning 'dolphin' — the symbol of the Submarine Arm.



Name	No.	Builder	Laid Down	Launched	First Com- missioned in RAN	
CURLEW	1121	Montrose, U.K.	Apr. 53	6.10.53	21.8.62	
IBIS	1183	Montrose, U.K.	Oct. 53	18.11.55	7.9.62	
		Displacement	489 tonne	es		
		Length	46.6 metr			
		Beam	8.5 metres	S		
		Armament		Two 40/60 mm Bofors guns (one on minehunters)		
		Machinery	Napier di 2240 kw.	esel engines	developing	
		Speed	More than	15 knots		
		Ship's Company	34 (minesweeper) 38 (minehunter)			

## Mine Countermeasures Squadron

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 nonmagnetic and are sufficiently silent not to actuate acoustic mines. Minehunting 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.



					-
Name	No.	Builder		Launched	First Com- missioned
FREMANTLE	203	Brooke Mari	ine Ltd U.K.	16.2.79	17.3.80
WARRNAMBOOL	204	North Queer Engineers a	nsland nd Agents Ltd	25.10.80	14.3.81
TOWNSVILLE	205			16.5.81	18.7.81
WOLLONGONG	206			17.10.81	28.11.81
LAUNCESTON	207			23.1.82	6.3.82
WHYALLA	208			22.5.82	3.7.82
IPSWICH	209			23.10.82	3.11.82
CESSNOCK	210			15.1.83	5.2.83
BENDIGO	211			9.4.83	28.5.83*
GAWLER	212			16.7.83	3.9.83*
GERALDTON	213			22.10.83	10.12.83*
DUBBO	214			21.1.84	17.3.84*
GEELONG	215			12.5.84	30.6.84*
GLADSTONE	216			18.8.84	6.10.84*
BUNBURY	217			24.11.84	19.1.85*
	Disp	lacement	220 tonnes		
	Leng	gth	42 metres		
	Bear	m	7.15 metres		
	Armament		Close range general purpose gun, 81 mm mortar, $2 \times 0.5$ cal. Browning machine guns.		
	Macl	hinery	Two MTU s main propuls man 12 cylin engine.	sion engines	. One Dor-
	Spee	ed	About 30 knd	ots	
*Planned	Ship	's Company	22		

## Patrol boats Fremantle class

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.



Name         No.         Builder         Down         Launched         missik           ADROIT         82         Evans Deakin Ltd         Aug. 67         3.2.68         17.8.           ADVANCE         83         Walkers Ltd         Mar. 67         16.8.67         24.1.           ARDENT         87         Evans Deakin Ltd         Oct. 67         27.4.68         26.10           ASSAIL         89         Evans Deakin Ltd         Aug. 67         18.11.67         12.7.           ATTACK         90         Evans Deakin Ltd         Sep. 66         8.4.67         17.11           AWARE         91         Evans Deakin Ltd         Jul. 67         7.10.67         21.6.           BARBETTE         97         Walkers Ltd         Nov. 67         10.4.68         16.8.           BOMBARD         99         Walkers Ltd         Apr. 68         6.7.68         5.11.           BUCCANEER         100         Evans Deakin Ltd         Jun. 68         14.9.68         11.1.						
ADVANCE 83 Walkers Ltd Mar. 67 16.8.67 24.1.  ARDENT 87 Evans Deakin Ltd Oct. 67 27.4.68 26.10  ASSAIL 89 Evans Deakin Ltd Aug. 67 18.11.67 12.7.  ATTACK 90 Evans Deakin Ltd Sep. 66 8.4.67 17.11  AWARE 91 Evans Deakin Ltd Jul. 67 7.10.67 21.6.  BARBETTE 97 Walkers Ltd Nov. 67 10.4.68 16.8.  BOMBARD 99 Walkers Ltd Apr. 68 6.7.68 5.11.  BUCCANEER 100 Evans Deakin Ltd Jun. 68 14.9.68 11.1.  BAYONET 101 Walkers Ltd Oct. 68 6.11.68 22.2.  Displacement 149 tonnes  Length 32.6 metres  Beam 6.1 metres  Armament 40/60 mm Bofors gun, 81 mortar, and a variety of light arm.  Machinery Two 16 cylinder diesels, product more than 2240 kw  Speed More than 20 knots	Name	No.	Builder		Launched	First Com- missioned
ARDENT 87 Evans Deakin Ltd Oct. 67 27.4.68 26.10  ASSAIL 89 Evans Deakin Ltd Aug. 67 18.11.67 12.7.  ATTACK 90 Evans Deakin Ltd Sep. 66 8.4.67 17.11  AWARE 91 Evans Deakin Ltd Jul. 67 7.10.67 21.6.  BARBETTE 97 Walkers Ltd Nov. 67 10.4.68 16.8.  BOMBARD 99 Walkers Ltd Apr. 68 6.7.68 5.11.  BUCCANEER 100 Evans Deakin Ltd Jun. 68 14.9.68 11.1.  BAYONET 101 Walkers Ltd Oct. 68 6.11.68 22.2.  Displacement 149 tonnes  Length 32.6 metres  Beam 6.1 metres  Armament 40/60 mm Bofors gun, 81 mortar, and a variety of light arm.  Machinery Two 16 cylinder diesels, product more than 2240 kw  Speed More than 20 knots	ADROIT	82	Evans Deakin Ltd	Aug. 67	3.2.68	17.8.68
ASSAIL 89 Evans Deakin Ltd Aug. 67 18.11.67 12.7.  ATTACK 90 Evans Deakin Ltd Sep. 66 8.4.67 17.11  AWARE 91 Evans Deakin Ltd Jul. 67 7.10.67 21.6.  BARBETTE 97 Walkers Ltd Nov. 67 10.4.68 16.8.  BOMBARD 99 Walkers Ltd Apr. 68 6.7.68 5.11.  BUCCANEER 100 Evans Deakin Ltd Jun. 68 14.9.68 11.1.  BAYONET 101 Walkers Ltd Oct. 68 6.11.68 22.2.  Displacement 149 tonnes  Length 32.6 metres  Beam 6.1 metres  Armament 40/60 mm Bofors gun, 81 mortar, and a variety of light arm.  Machinery Two 16 cylinder diesels, product more than 2240 kw  Speed More than 20 knots	ADVANCE	83	Walkers Ltd	Mar. 67	16.8.67	24.1.68
ATTACK 90 Evans Deakin Ltd Sep. 66 8.4.67 17.11  AWARE 91 Evans Deakin Ltd Jul. 67 7.10.67 21.6.  BARBETTE 97 Walkers Ltd Nov. 67 10.4.68 16.8.  BOMBARD 99 Walkers Ltd Apr. 68 6.7.68 5.11.  BUCCANEER 100 Evans Deakin Ltd Jun. 68 14.9.68 11.1.  BAYONET 101 Walkers Ltd Oct. 68 6.11.68 22.2.  Displacement 149 tonnes  Length 32.6 metres  Beam 6.1 metres  Armament 40/60 mm Bofors gun, 81 mortar, and a variety of light arm.  Machinery Two 16 cylinder diesels, production more than 2240 kw  Speed More than 20 knots	ARDENT	87	Evans Deakin Ltd	Oct. 67	27.4.68	26.10.68
AWARE 91 Evans Deakin Ltd Jul. 67 7.10.67 21.6.  BARBETTE 97 Walkers Ltd Nov. 67 10.4.68 16.8.  BOMBARD 99 Walkers Ltd Apr. 68 6.7.68 5.11.  BUCCANEER 100 Evans Deakin Ltd Jun. 68 14.9.68 11.1.  BAYONET 101 Walkers Ltd Oct. 68 6.11.68 22.2.  Displacement 149 tonnes  Length 32.6 metres  Beam 6.1 metres  Armament 40/60 mm Bofors gun, 81 mortar, and a variety of light arm.  Machinery Two 16 cylinder diesels, product more than 2240 kw  Speed More than 20 knots	ASSAIL	89	Evans Deakin Ltd	Aug. 67	18.11.67	12.7.68
BARBETTE         97         Walkers Ltd         Nov. 67         10.4.68         16.8.           BOMBARD         99         Walkers Ltd         Apr. 68         6.7.68         5.11.           BUCCANEER         100         Evans Deakin Ltd         Jun. 68         14.9.68         11.1.           BAYONET         101         Walkers Ltd         Oct. 68         6.11.68         22.2.           Displacement         149 tonnes           Length         32.6 metres           Beam         6.1 metres           Armament         40/60 mm Bofors gun, 81 mortar, and a variety of light arms           Machinery         Two 16 cylinder diesels, productioner than 2240 kw           Speed         More than 20 knots	ATTACK	90	Evans Deakin Ltd	Sep. 66	8.4.67	17.11.67
BOMBARD         99         Walkers Ltd         Apr. 68         6.7.68         5.11.           BUCCANEER         100         Evans Deakin Ltd         Jun. 68         14.9.68         11.1.           BAYONET         101         Walkers Ltd         Oct. 68         6.11.68         22.2.           Displacement         149 tonnes           Length         32.6 metres           Beam         6.1 metres           Armament         40/60 mm Bofors gun, 81 mortar, and a variety of light arm.           Machinery         Two 16 cylinder diesels, productioner than 2240 kw           Speed         More than 20 knots	AWARE	91	Evans Deakin Ltd	Jul. 67	7.10.67	21.6.68
BUCCANEER 100 Evans Deakin Ltd Jun. 68 14.9.68 11.1.  BAYONET 101 Walkers Ltd Oct. 68 6.11.68 22.2.  Displacement 149 tonnes  Length 32.6 metres  Beam 6.1 metres  Armament 40/60 mm Bofors gun, 81 mortar, and a variety of light arm.  Machinery Two 16 cylinder diesels, product more than 2240 kw  Speed More than 20 knots	BARBETTE	97	Walkers Ltd	Nov. 67	10.4.68	16.8.68
BAYONET 101 Walkers Ltd Oct. 68 6.11.68 22.2.3  Displacement 149 tonnes  Length 32.6 metres  Beam 6.1 metres  Armament 40/60 mm Bofors gun, 81 mortar, and a variety of light arm.  Machinery Two 16 cylinder diesels, product more than 2240 kw  Speed More than 20 knots	BOMBARD	99	Walkers Ltd	Apr. 68	6.7.68	5.11.68
Displacement 149 tonnes  Length 32.6 metres  Beam 6.1 metres  Armament 40/60 mm Bofors gun, 81 mortar, and a variety of light arm.  Machinery Two 16 cylinder diesels, product more than 2240 kw  Speed More than 20 knots	BUCCANEER	100	Evans Deakin Ltd	Jun. 68	14.9.68	11.1.69
Length 32.6 metres  Beam 6.1 metres  Armament 40/60 mm Bofors gun, 81 mortar, and a variety of light arm.  Machinery Two 16 cylinder diesels, product more than 2240 kw  Speed More than 20 knots	BAYONET	101	Walkers Ltd	Oct. 68	6.11.68	22.2.69
Beam 6.1 metres  Armament 40/60 mm Bofors gun, 81 mortar, and a variety of light arm.  Machinery Two 16 cylinder diesels, product more than 2240 kw  Speed More than 20 knots			Displacement	149 tonnes		
Armament 40/60 mm Bofors gun, 81 mortar, and a variety of light arm.  Machinery Two 16 cylinder diesels, product more than 2240 kw  Speed More than 20 knots			Length	32.6 metres	S	
Machinery Two 16 cylinder diesels, production more than 2240 kw Speed More than 20 knots			Beam	6.1 metres		
more than 2240 kw Speed More than 20 knots			Armament			
			Machinery			, producing
Ship's Company 19			Speed	More than 2	20 knots	
			Ship's Company	19		

## Patrol boats Attack class

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.



TOBRUK

Slipways Pty Ltd. Newcastle. N.S.W.

Displacement

6000 tonnes

Length

126 metres

Beam

18 metres

Landing Craft

2 LCM8 can be carried as deck cargo

Helicopters

flight of Wessex 31B

Armament

 $2 \times 40 \, \text{mm} \, \text{quns}$ 

2 LCVP at davits

Machinery Speed

2 diesels 17 knots

130

350-550

Complement

Troops

# **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-onroll-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.



Name	No.	Builder	Laid Down	Launched	First Com missioned	
STALWART	215	Cockatoo Island Dockyard	23.6.64	7.10.66	9.2.68	
SUPPLY	195	Harland and Wolff Belfast	5.8.52	1.9.54	15.8.62	
		STALWART	S	SUPPLY		
Displacement		15 500 tonnes	2	26 500 tonnes		
Length		157 metres	1	177.7 metres		
Beam		20.4 metres	2	21.6 metres		
Armament		Two twin 40/60 Bofors guns twin m ings. Provision for So close-range missiles	ount- eacat			
Machinery		Two six-cylinder diesel engines developing 10 740 kw		Double reduction geared turbines developing 11 185 kw		
Speed		More than 20 knots		More than 16 knots		
Ship's Company		396		205		

# **Destroyer Tender**

The destoyer 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 threequarters 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 resupplies furnace fuel, aviation gasoline, diesel oil and water to other ships while they are underway.

In a typical operation a destoyer 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.



Name	No.	Builder	Laid Down	Launched	First Com- missioned	
MORESBY	73	Newcastle State Dockyard	May 62	7.9.63	6.3.64	
FLINDERS	312	Williamstown N.D.	Dec. 70	29.7.72	27.4.73	
DIAMANTINA	266	Walkers Ltd Maryborough	12.4.43	6.4.44	27.4.45	
KIMBLA	314	Walkers Ltd Maryborough	4.11.53	23.3.55	26.3.56	
соок	291	Williamstown N.D.	30.9.74	27.8.77	28.10.80	
		MORESBY		FLINDERS		
Displacement		2340 tonnes		765 tonnes		
Length		95.7 metres	-	49.1 metres		
Beam		12.8 metres 10.		10.1 metres		
Machinery		Diesel electric main en- gines		Two diesel engines		
Speed		More than 18 knots		More than 13 km	nots	
Ship's Company	/	146	38			
		соок	1	KIMBLA		
Displacement		Full load, 2550 tonne	es	765 tonnes		
Length		96.6 metres		54.6 metres		
Beam		13.4 metres		9.8 metres		
Main Engines		Diesel, 2 shafts, 224		Triple expansion steam engine		
Speed		17 knots	1	More than 10 kn	ots	
Oil Fuel		560 tonnes				
Ship's Company		151, including scientaff	entific 4	40		

# **Survey 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.

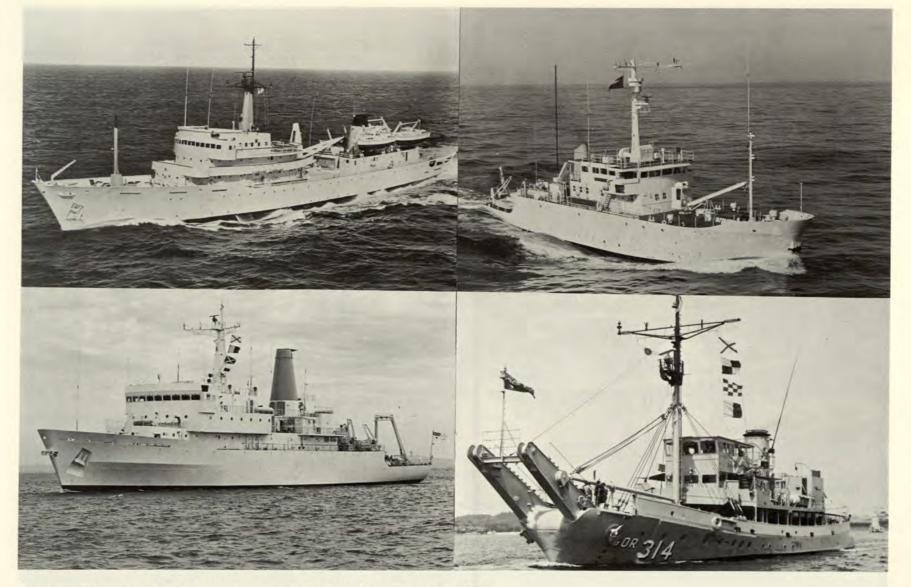
The stepped-up exploitation of Australia's vast mineral resources in recent years based on bulk-handling methods has led to the development of new ports such as Gove, Weipa, Spring Bay, Dampier and Port Hedland. The largest bulk carriers in the world now call at Australian ports and there is a continuing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



Top left: HMAS Moresby Top right: HMAS Flinders Bottom left: HMAS Cook Bottom right: HMAS Kimbla

## First Com-Launched missioned 15.12.59 16.2.60 Walkers Ltd Maryborough BASS 28.3.60 25.5.60 Walkers Ltd Maryborough Displacement 180 tonnes (Bass) 148 tonnes (Banks) Length 28.3 metres 7 metres Beam Machinery Twin-screw engine 10 knots Speed

# 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.

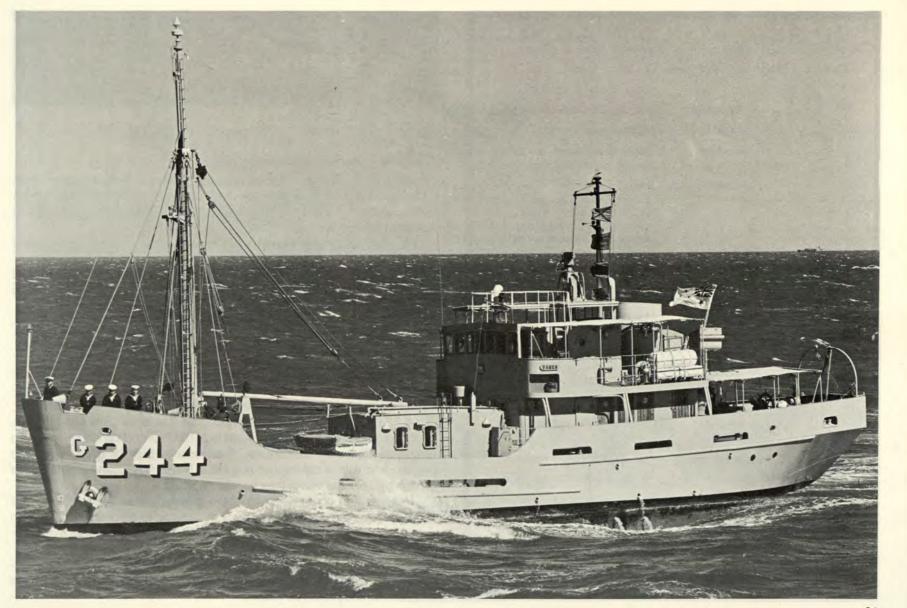
HMAS Bass was assigned to the Sydney base, HMAS Waterhen, in July 1982 for use as a navigation training vessel by the staff of the Navigation School, HMAS Watson. The vessel is employed in practical navigation instruction within Sydney Harbour and adjacent coastal areas. The vessel provides facilities 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 Bass and Banks have assumed navigation and training roles, tasks of which their illustrious namesakes would no doubt have approved.



Name	No.	Builder	Laid Down	Proposed Launch	Commission-	
SUCCESS	OR304	Vickers Cockatoo	9.8.80	May 84	Mid 86	
		5: 1				
		Displacement		17 933 tonne		
		Length	157.2 m;	beam 21.2 m		
		Armament			two forward, machine guns	
	*	Machinery	systems, PC2-5V medium	pielstick speed diesel	propulsion sting of a 16 non-reversing engine, dev- s at 520 RPM	
		Speed	19 knots	(full load, clea	an bottom)	
		Complement	17 officer	rs, 170 men		
		Aircraft	1 utility h	elicopter		
MINEHUNTE	R INSHO	RE Type of Ship	Minehunt hull form	er Inshore.	Catamaran	
		Builder	Carringto	n Slipways P	ty Ltd	
		Displacement	170 tonne	es approx.		
		Length (W.L.)	28 m; (O. hull) 3 m	A.) 31 m; bea	am 9 m; (each	
		Speed	10 knots	approx.		
		Accommodation	2 officers	and 12 sailor	rs	
		Weapon System	Hull borne sonar integrated in Krupp Atlas Elektronik MWS Minehunting system			
		Propulsion System	Diesel/hy Poyaud Schottel	/draulic, [ Propuls Nederland	Diesels — sors —	

#### **New constructions**

#### Auxiliary Oiler Replenishment (AOR)

The French-designed *Success* is based on the Durance class. As a replenishment ship it carries dieselene 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.

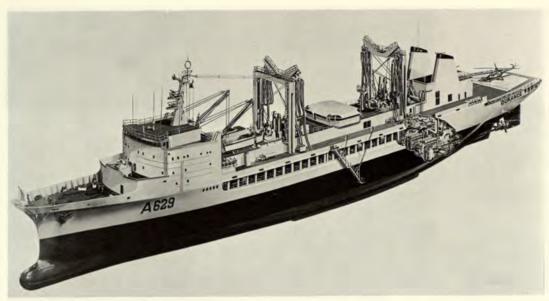
#### Minehunter Inshore (MHI)

The Royal Australian Navy is replacing its ageing Ton class minehunters with a locally designed and built class of minehunter catamaran.

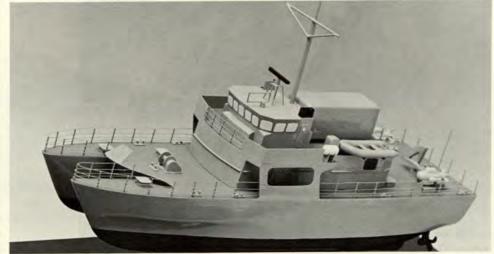
A \$23 million contract was awarded to Carrington Slipways Pty Ltd, Tomago, Newcastle, N.S.W. in January 1983 for the construction of two prototype inshore minehunters. The vessels, built of glass reinforced plastic, and with a catamaran hull are a Royal Australian Navy in-house design and are the first 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.



Artist's impression of AOR



Model of MHI





Above: A4-G Skyhawk below: S2-G Tracker

### **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:

- Ten A4-G Douglas Skyhawk fighter-bombers. Six withdrawn by 30 June 1983; four retained for target towing until 30 June 1984.
- 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.



Top left: Hawker Siddeley 748 Top right: Sea King Bottom left: Macchi jet trainer Bottom right: Aerospatiale Squirrel



Published for the Directorate of Public Relations, Department of Defence, by the Australian Government Publishing Service, Canberra 1983.

R82/833 Cat. No. 82 2233 1

Compiled by Warrant Officer G.W. Eaton, RANR.

Printed by Canberra Publishing & Printing Co. 22 Pirie Street, Fyshwick, A.C.T.