

#### **Guided Missile Frigates Guided Missile Destroyers Destroyer Escorts** 38 PERTH 01 ADELAIDE 03 SYDNEY 46 PARRAMATTA 39 HOBART 02 CANBERRA 04 DARWIN 48 STUART 41 BRISBANE 49 DERWENT **Patrol Boats** Landing Ship Heavy 203 FREMANTLE 208 WHYALLA 213 GERALDTON L50 TOBRUK 204 WARRNAMBOOL 209 IPSWICH 214 DUBBO 205 TOWNSVILLE 210 CESSNOCK 215 GEELONG 206 WOLLONGONG 211 BENDIGO 216 GLADSTONE 207 LAUNCESTON 212 GAWLER 217 BUNBURY Training Ship Survey and Oceanographic Ships GT203 JERVIS BAY 73 MORESBY 312 FLINDERS 291 COOK Support Craft **Diving Tenders** Torpedo Recovery Vessels Lighters Tugs

01 WATTLE

02 BORONIA

03 TELOPIA

801 TUNA

803 TAILOR

802 TREVALLY

2601 TAMMAR

1001 SEAL

1002 PORPOISE

8001 WARRIGAL

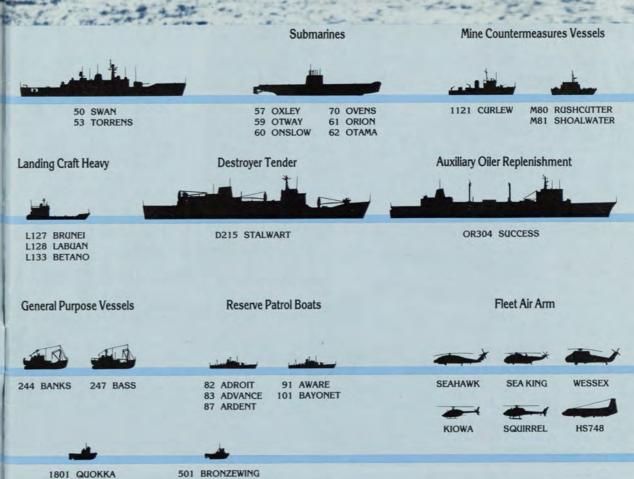
8002 WALLABY

8003 WOMBAT

8004 WYGUNA

### THE FLEET

The Royal Australian Navy is centred around a modern ocean going force of more than fifty combat and support ships, together with a strong Fleet Air Arm component comprising helicopters and some fixed wing aircraft. It is well armed and trained, technically advanced and possesses a comprehensive range of capabilities.



502 CURRAWONG

504 MOLLYMAWK

Passing out parade at HMAS CRESWELL with His Excellency the Governor-General, Sir Ninian Stephen.

### THE ROYAL AUSTRALIAN NAVY

Since its formation in 1911, the Royal Australian Navy has consistently proven itself as a professional service able to meet all challenges in both peace and conflict. The Fleet has emerged from both world wars and many other confrontations with a high reputation.

The national defence interests of Australia were summarised in the 1987 Defence White Paper. The Navy has many responsibilities in relation to almost all these interests. Those of particular relevance are:

— the defence of Australian territory and society from threat of military attack.

 the protection of Australian interests in the surrounding maritime areas, our island territories, and our proximate ocean areas and focal points.

— the furtherance of a favourable strategic situation in South East Asia and the South West Pacific.

Support of these interests demands a high level of patrol, surveillance and presence activity on the part of the RAN's ships in Australian waters and throughout our region generally.

Operational effectiveness is maintained by training and exercises not only with the Australian Army and the Royal Australian Air Force but with other countries which share nutual security interests with Australia. In particular, the Navy's work with the ships of the navies of the United States and New Zealand contributes to the maintenance of strong defence links with those countries.

Assistance to the civil community, to national development and in disaster relief throughout the region constitute important ancillary activities.

The present Fleet has capabilities in most facets of naval operations, including antisurface, anti-air and anti-submarine warfare, mine warfare, naval air operations, surveillance and fisheries protection, hydrography, oceanography and assistance for the other Services in areas such as naval gunfire support and sea transport.

A variety of projects are in train to maintain and extend the RAN's ability to meet its tasking.

These include the new submarine and the new surface combatant, both of which classes should be built in Australia. These construction programmes represent major opportunities over the next decade for the Australian shipbuilding and defence industries.

#### ORGANIZATION OF THE NAVY

The Chief of Naval Staff (CNS) is in command of the Royal Australian Navy and had under his charge in February 1987 more than 15,700 personnel, including some 1,300 women, in the Permanent Naval Forces with approximately 3,700 more men and women in the Naval Reserves.

Six senior officers who are Heads of Divisions in the Department of Defence (Navy) in Canberra are responsible to CNS for a variety of activities. These include the day-to-day management of the Navy, plans and operational requirements, personnel policy and management, engineering, supply, material and project management and procurement. Some senior officers are also formally "dual hatted" with additional responsibilities to the Secretary of the Department of Defence but all directorates work closely with the other Services and Defence Central in the formulation of policy.

CNS is represented in Sydney, the Navy's principal base, by two flag officers, the Fleet and Support Commanders. CNS delegates to the Fleet Commander command of assigned ships, naval aircraft, support craft and Sydney establishments acting as bases for submarines, patrol boats and minesweeping counter measures vessels in direct support of the Fleet.

The intention is to move and base up to half the Fleet in Western Australia and, in addition to the vessels based in Sydney, there are now two destroyer escorts at HMAS Stirling with a submarine due to join them there later in 1987.

The Support Commander, who also has his headquarters in Sydney, is responsible for shore establishments throughout New South Wales and the Australian Capital Territory. He also has major responsibilities in the provision of logistic support for the Fleet.

Senior officers are appointed as Naval Officers Commanding Victoria, Queensland, Northern Australia, South Australia and Tasmania and have responsibilities for the bases and seagoing units in their commands.

CNS and his senior officers can control the widespread activities of the Navy through a complex and sophisticated communications system which is able to maintain contact with Fleet units and bases anywhere in the world.

Today's Navy employs some of the most advanced equipment in the nation and, in consequence, places great emphasis on the training of personnel throughout their careers. Basic training for most sailors is provided at HMAS Cerberus at Western Port in Victoria.

Meanwhile at HMAS Nirimba, at Quaker's Hill outside Sydney, a stream of trades specialists is produced for the Navy from this training establishment. An innovation at Nirimba is the training of General Duties sailors. These men sign on for two years and spend much of their time, after brief initial training, at sea before returning to civilian life. A GD sailor may after a time decide he would like to specialize; should a vacancy exist in a particular branch, he can be transferred to the relevant training scheme and with it, to a normal engagement.

Apart from Nirimba and Cerberus, a number of specialist training establishments have been developed, each with modern equipment and instructors.

HMAS Watson at South Head in Sydney has one of the most advanced operational training centres to be found anywhere in the world.

The centre embraces three closely related units, the RAN Surface Warfare School (RANSWARS), the Submarine Warfare Systems Centre (SWSC) and the RAN Tactical School (RANTACS).

Instruction at each of these schools follows two distinct patterns, those of career courses and continuation or pre-job training.

The function of RANSWARS is to conduct warfare procedural, supervisor and operator training in Electronic Warfare, Anti-Submarine Warfare, Action Information and Navigation, as well as to direct and oversee Surface Warfare



Officer training in the Gunnery and Communications specializations. Limited maintainer training is also conducted by the ASW and EW faculties.

SWSC, which has a full submarine weapons and command simulation facility, gives operational and technical support to the submarine force as well as training all ranks of the submarine arm in the techniques of modern undersea warfare.

RANTACS is responsible to the Fleet Commander for developing the RAN's maritime tactics and teaching such concepts to naval personnel and to officers of other Services and Department of Defence civilian employees.

On the other side of Sydney Harbour from HMAS Watson lies HMAS Penguin at Balmoral. Naval clearance and ships' divers training and diving research are carried out here. The base has, in addition, a modern recompression



facility and is the site of the RAN's largest hospital and the Staff College. Other training facilities at Penguin include the Damage Control School, the Seamanship School and the Hydrographic School.

Other important establishments in the Sydney area include the submarine base, HMAS Platypus and the minor war vessel base, HMAS Waterhen. Major Sydney based surface ships operate from Garden Island, which encompasses the Fleet Base and the Naval Dockyard.

South of Sydney at Nowra is the Royal Australian Naval Air Station, HMAS Albatross. This is the shore home of the Navy's Fleet Air Arm.

HMAS STIRLING, situated in Cockburn Sound south of Fremantle, is a modern and well equipped base. New facilities at Stirling include the Submarine Escape Training Tank and, in accordance with the Government's plans for the future, Stirling is likely to expand as more ships and submarines are based in Western Australia.

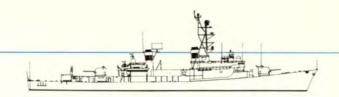
Patrol boat bases with modern repair facilities are situated at both Darwin and Cairns and bases principally concerned with Reserve training are located in Adelaide, Brisbane and Hobart.

No round-up of naval establishments is complete without mention of Williamstown Naval Dockyard in Victoria which is presently building two units of the FFG-7 class of guided missile frigates. These are intended for completion in the early 1990's.

ABOVE: Bridge simulator at HMAS Watson.

OPPOSITE: Inside the diver recompression chamber at HMAS Penguin.

# GUIDED MISSILE DESTROYERS





The three guided missile destroyers — HMA Ships PERTH, HOBART and BRISBANE — are particularly versatile (I.S. built ships, generally regarded as the best balanced vessels built in modern times. Their main task is air defence of the Fleet, but they also have formidable anti-submarine and surface gunnery capabilities.

The DDGs' air defence capability is vested in their Standard missile system with the launcher located near the stern, with its associated high definition radars.

Each DDG is also fitted with two lkara 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.

The ships underwent weapons systems updates in the late 1970s which included the fitting of modern data links and computerised data systems.

Each DDG has again been earmarked for a further update which will see the RAN maintain these frontline units until the late 1990s.

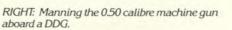
PERTH, HOBART and BRISBANE are the names of former RAN cruisers.

No.	Name	Down Down	Launched	Commissioned
38	PERTH	21.9.62	26.9.63	17.7.65
39	HOBART	26.10.62	9.1.64	18.12.65
41	BRISBANE	15.2.65	5.5.66	16.12.67
	Builders	Defoe Shipbuilding Co., USA		
	Displacement Length Beam	4,720 tonnes 133.2 metres 14.3 metres		
	Armament	Two 5 inch automatic rapid fire guns, Standard anti-air missile system, two lkara anti-submarine missile systems, two sets triple- mounted anti-submarine homing torpedoes		
	Machinery	Two GE geared steam turbines driving two shafts		

More than 30 knots

Speed

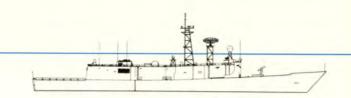
Ships Company 333



OPPOSITE: HMAS BRISBANE.



# **GUIDED MISSILE FRIGATES**





Four guided missile frigates (FFGs), HMA Ships, ADELAIDE, CANBERRA, SYDNEY and DARWIN, joined the RAN between 1980 and 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 MK13 launcher carried on the forecastle.

The 76mm 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 helicopters. The FFGs are equipped with a modern sonar system for the detection of submarines.

All ships are fitted with the Phalanx 20mm 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 recent exercises, these ships were underway from cold in less than 45 minutes, which is not possible with conventional steampowered ships.

Two additional FFGs are being built in Williamstown, Victoria and are expected to enter service in the early 1990's.

ADELAIDE, CANBERRA and SYDNEY are the names of former RAN cruisers and an aircraft carrier (SYDNEY). DARWIN is the first of its name in the RAN.

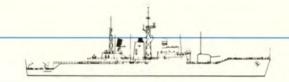
	No.	Name	Laid Down	Launched	First Commissioned
	01	ADELAIDE	29.7.77	21.6.78	15.11.80
	02	CANBERRA	1.3.78	1.12.78	21.3.81
	03	SYDNEY	16.1.80	26.9.80	29.1.83
	04	DARWIN	3.7.81	26.3.82	21.7.84
		Builders	Todd Pa	cific Shipya	rds, USA
		Displacement Length Beam	3,680 tor 138 met 13.7 met	res	
		Armament	Harpoon anti-ship and Standard anti-air missiles, Mk 92 fire control system, one 76 mm gun, one Mk 15 Phalanx CIWS, twin Mk 32 a/s triple torpedo tubes, two helicopters		
		Machinery	Two GE LM 2,500 gas turbines, geared to one controlled pitch pro- peller		
		Speed	More than 30 knots		
		Ships Company	186		



ABOVE: The Harpoon anti-ship missile arms the FFG. OPPOSITE: Guided missile frigates during exercises off the eastern coast.

## **DESTROYER ESCORTS**





The Royal Australian Navy has five operational Australian-built destroyer escorts.

The newest, HMA Ships SWAN and TORRENS, have recently received major refits while the earlier River class ships, HMA Ships PARRAMATTA, STUART and DERWENT, have been extensively modernised to provide a further ten years of effective operational service.

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 many of the world's navies.

A submarine threat can be met by using either the Australian-designed and built lkara anti-submarine missile system, or the triple torpedo tubes carried on all the escorts. All ships are now fitted with the Australian designed and built Mulloka sonar equipment.

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 onto the submarine target.

All ships in the squadron except DERWENT carry the names of former RAN destroyers and sloops.

The sixth ship of the class, HMAS YARRA, was decommissioned in November, 1985.

A new class of eight surface combatants (patrol frigates) are expected to enter RAN service in the 1990s to replace the River class destroyer escorts.

RIGHT: For self-defence the River class are armed with the Seacat anti-aircraft missile system.

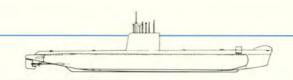
OPPOSITE: HMAS TORRENS leads two guided missile destroyers during a Fleet display in Port Phillip Bay.



Name	Laid Down	Launched	First Commissioned	
PARRAMATTA STUART Builders	20.3.59	8.4.61	28.6.63	
DERWENT SWAN Builders	18.8.65	16.12.67	20.1.70	
TORRENS Builder				
Displacement Length Beam Armament	2,750 tonnes 112.8 metres 12.5 metres Two 4.5 inch guns in twin turret controlled by digital fire control radar and computer. Seacat anti- aircraft missile system. Ikara anti- submarine missile system. Twin triple torpedo tubes.			
Machinery	Geared steam turbines developing 22,370 kw			
Speed	More than 30 knots			
	PARRAMATTA STUART Builders DERWENT SWAN Builders TORRENS Builder Displacement Length Beam Armament	PARRAMATTA 3.1.57 STUART 20.3.59 Builders Cockato DERWENT 16.6.58 SWAN 18.8.65 Builders Williams TORRENS 18.8.65 Builder Cockato Displacement Length 112.8 me Armament 12.5 met Armament Two 4.5: controlle radar and aircraft m submarit triple torp Machinery Geared s 22,370 k	PARRAMATTA STUART 20.3.59 8.4.61 Builders Cockatoo Island Do DERWENT 16.6.58 17.4.61 SWAN 18.8.65 16.12.67 Builders Williamstown Naval TORRENS 18.8.65 28.9.68 Builder Cockatoo Island Do Displacement Length 8eam 112.8 metres Two 4.5 inch guns in controlled by digital radar and computer. aircraft missile syste submarine missile system triple torpedo tubes.  Machinery Geared steam turbin 22,370 kw	



### SUBMARINES





With the last Oberon class submarine entering service in 1978, and all six boats now modernised as part of the Submarine Weapon Update Programme from 1977 to 1985, the Royal Australian Navy Submarine Squadron provides the Fleet with modern offensive and reconnaissance capabilities.

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

The boats are very quiet (an essential submarine attribute) and boast long endurance which is an important factor in Australia's area of interest. Each crew consists of 63 men who undergo specialist training to develop the skills

needed for this demanding service. The training is primarily self-sufficient with maintenance and support of combat system software all being conducted in Australia. The primary weapons carried by the boats are the U.S. Mk48 long range torpedoes and Harpoon anti-ship missiles. These weapons make the RAN Oberon one of the most capable conventional submarines in the world.

In 1982 the RAN established a project team to select and progress the entry into service of a new class of submarines to replace the Oberons in the 1990s. These new conventional submarines will incorporate the latest developments in submarine technology and

provide Australia with a very effective force well into the next century.

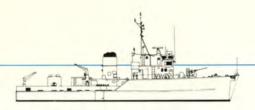
In 1985 the Minister for Defence announced the intention to homeport submarines at HMAS Stirling, near Fremantle. Development of the facilities to support the submarines in the West are progressing.

HMA Ships 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.

Launched Commissioned Name Down 57 OXLEY 2.7.64 24.9.65 27.3.67 59 OTWAY 29.6.65 29.11.66 22.4.68 26.5.67 3.12.68 22.12.69 60 ONSLOW 70 **OVENS** 17.6.66 4.12.67 18.4.69 61 ORION 6.10.72 16.9.74 15.6.77 62 OTAMA 28.5.73 3.12.75 27.4.78 Scotts' Shipbuilding Greenock, UK Builders 2.070 tonnes Displacement 89.9 metres Length Beam 81 metres Six bow weapon tubes capable of launching torpedoes or missiles Armament Machinery Two English Electric main propulsion motors, with two Admiralty standard range diesel generators Submerged speed more than 15 Speed



ABOVE: Inside an Oberon class submarine, the periscope is on the far right. LEFT: Returning home to base, HMAS Platypus, after an ocean patrol.



# MINE COUNTERMEASURES VESSELS

Commissioned Launched (in RAN) Name Down 1121 CURLEW Apr. 53 6.10.53 21.8.62

Builder Montrose Shipyard, UK

489 tonnes Displacement Length 46.6 metres Beam 8.5 metres

One 40/60 mm Bofors gun Armament

Machinery Napier diesel engines Speed More than 15 knots

Ships Company 38

Launched Commissioned M80 RUSHCUTTER May 84 3.5.86 1.11.86 M81 SHOALWATER Sept. 85 1987 1987

> Builders Carrington Slipways, NSW

Displacement 170 tonnes 31 metres Length Beam 9 metres

Two 0.5 inch machine guns, two PAP 104 remote operated mine Armament disposal vehicles

> Two Poyaud diesel engines driving two independent Schottel propul-

sion steering units

Speed 10 knots Ships Company 13

Machinery

Mine countermeasures in the RAN are conducted by the new Bay Class Inshore Minehunters now entering service and the last Ton Class minehunter, HMAS CURLEW. Two prototype Bay Class Inshore Minehunters (MHI's), HMA Ships RUSHCUTTER and SHOALWATER, have been commissioned and are now being evaluated in Australia.

The ships are glass reinforced plastic catamarans. Each is non-magnetic and sufficiently silent not to activate acoustic mines. Both ships are fitted with a high definition sonar for minehunting and mine disposal equipment.

When a mine is located a remotely operated mine disposal vehicle is deployed to identify the mine and if required places an explosive charge to destroy the mine.

Of British design and construction, HMAS CURLEW was modified in the UK before joining the Australian Fleet in 1962. She is a woodenhulled minehunter, non-magnetic and sufficiently silent not to activate acoustic mines. Minehunting is carried out using a high definition sonar set to locate mines ahead of the ship.

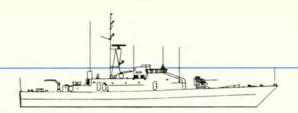
When a mine is located, clearance divers go into the water to identify it and decide whether to render it safe and remove it, or to blow it up with an explosive charge which is remotely activated.





RIGHT: The PAP 104 system, carried by HMAS RUSHCUTTER to detect and destroy mines. OPPOSITE: HMAS RUSHCUTTER.

## PATROL BOATS





In September 1977 construction began on a new class of patrol craft to supplement and in due course replace the capabilities offered by the existing Attack class boats. The new craft were built to a British design with the first constructed by Brooke Marine in England. The remaining 14 were constructed in Australia by North Queensland Engineers and Agents Ltd of Cairns, Queensland.

The first of the Fremantle class was accepted in 1979 with the last of the class entering service in early 1985.

The patrol boats are deployed to bases around Australia's coastline at Sydney, Cairns, Darwin and HMAS Stirling in Western Australia. The boats fulfil a wide variety of tasks from the tropic north to the inclement Bass Strait, patrolling for unlicensed fishing craft, oil rig surveillance and providing a response to national civil coastal surveillance and enforcement as required. In the event of war they would be tasked to control the waters close to the Australian mainland. Due to their small size the performance of the boats is limited in rough weather. The vessels are well prepared for their patrol duties as well as for any other operational requirements. Each is 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.

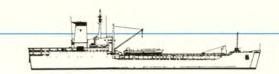
The Fremantle class patrol boats carry the names of the Bathurst class Australian Minesweepers which served during and after the Second World War.

No.	Name	Laid Down	Launched	First Commissioned
203	FREMANTLE Builder	11.11.77 Brooke M	16.2.79 Narine Ltd,	17.3.80 UK
204 205 206 207 208 209 210 211 212 213 214 215 216 217	WARRNAMBOOL TOWNSVILLE WOLLONGONG LAUNCESTON WHYALLA IPSWICH CESSNOCK BENDIGO GAWLER GERALDTON DUBBO GEELONG GLADSTONE BUNBURY		25.10.80 16.5.81 17.10.81 23.1.82 22.5.82 23.9.82 15.1.83 9.4.83 9.7.83 22.10.83 21.1.84 14.4.84 28.7.84 3.11.84	14.3.81 18.7.81 28.11.81 6.3.82 3.7.82 13.11.82 5.3.83 28.5.83 27.8.83 10.12.83 10.3.84 2.6.84 8.9.84 15.12.84
	Builders  Displacement Length Beam		S	
	Armament	Bofors gu	in, one 81 r ich cal. Bro	se 40/60 mm mm mortar, owning
	Machinery	main proj	pulsion eng 12 cylinder	
	Speed	About 30	knots	





### LANDING SHIP HEAVY





No. Name
Laid First Commissioned
L50 TOBRUK

Builder

Laid First Commissioned
Commissioned
Commissioned
Carrington Slipways, NSW

Displacement 5,800 tonnes Length 126 metres Beam 18 metres

Armament Two 40/60 mm Bofors guns

Machinery Two diesels
Speed 17 knots
Ships Company 130

Helicopters

Troops

Landing Craft Two LCVP on davits, two LCM 8 can

be carried as deck cargo In support of amphibious oper-

itions

350-550

The Amphibious Heavy Lift Ship HMAS TOBRUK was the first purpose-built major amphibious ship in the RAN. She 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 two 60 tonne Army landing craft as deck cargo, or side-carry 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.

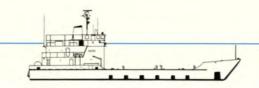
TOBRUK has the command and communications facilities to control all types of amphibious operations. She is equipped with a small hospital and accommodation for more than 500 troops. Her crew of 130 includes a small Army detachment.



ABOVE: An Army LCM 8 landing craft is lifted from HMAS TOBRUK by the ship's own heavy lift derrick.

LEFT: HMAS TOBRUK, at anchor in Jervis Bay. A RAAF Chinook lifts a Navy Wessex helicopter for transportation to the Naval Air Station.

# LANDING CRAFT HEAVY





Six LCHs form part of the RAN today.

The first ship, HMAS BRUNEI, joined the Fleet in January 1973. By the end of August 1973, four LCHs had been commissioned into the RAN — HMA Ships BRUNEI, LABUAN, TARAKAN and WEWAK. Four others — HMA Ships SALAMAUA, BUNA, BETANO and BALIKPAPAN were commissioned in the period up to mid 1974.

BALIKPAPAN the prototype LCH, was

manned by the Army until September 1974. Previously she had undergone extensive joint Navy-Army evaluation trials from 1972. BUNA and SALAMAUA were handed over to the Papua New Guinea Defence Force in November 1974.

These sea-going ships, all built at Walkers Ltd Shipyards, Maryborough, Queensland, are each manned by two officers and 11 sailors. Two LCHs, HMA Ships BETANO and BRUNEI are allocated as interim survey ships, while HMAS LABUAN is assigned for naval reserve

training, to the Brisbane Port Division of the RANR. Three other vessels are held in maintained Reserve in Cairns.

As the names suggest, the ships are all named in honour of Second World War amphibious operations in which RAN ships and craft placed Australian Army units ashore or performed surveys prior to the landings.

The versatile LCHs can carry the heaviest equipment in the Army's order of battle (up to three Leopard tanks, for example).

No.	Name	Laid Down	Launched	First Commissioned	
L127	BRUNEI	July 71	15.10.71	5.1.73	
L128	LABUAN	Oct. 71	29.12.71	9.3.73	
L133	BETANO	Sept. 72	5.12.72	8.2.74	
(Laid C	lp)				
L126	BALIKPAPAN	May 71	15.8.71	27.9.74	
L129	TARAKAN	Dec. 71	16.3.72	15.6.73	
L130	WEWAK	Mar. 72	18.5.72	10.8.73	
	Builders	Walkers Ltd, QLD			
	Displacement Length Beam	316 tonnes 44.5 metres 10.1 metres			
	Armament	Two 0.5 inch machine guns			
	Machinery	Two GE diesels			
	Speed	More than 9 knots			
	Ships Company	2 officers, 11 sailors (or 2 officers, 13 sailors as survey ships)			



ABOVE: An Army fire support vehicle drives off an LCH's bow ramp onto a beachhead.

LEFT: HMAS BETANO, one of the RAN's six heavy landing craft.

### DESTROYER TENDER





The destroyer tender HMAS STALWART is the largest naval vessel wholly designed and built in Australia.

Her primary 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. Her secondary role is flagship of the Royal Australian Navy.

STALWART's ability to provide mobile maintenance and repair facilities enables the destroyer force to spend the maximum time on duty in between their scheduled major dockyard refits. 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.

Of the ship's complement of 417 officers and men, more than a quarter are employed by the Fleet Intermediate Maintenance Activity (FIMA), for the maintenance and repair of Fleet units. They are available for transfer to other ships to conduct repairs whenever and wherever those repairs are needed.

When ships of the destroyer force (Guided Missile Destroyers, Guided Missile Frigates or Destroyer Escorts) come alongside HMAS STALWART, they can completely 'shut down' all of their major systems. STALWART's large fresh water and fuel tanks, salt water evaporators, main boilers, diesel generators and electrical switchboard provide these facilities. Up to four destroyers and, if necessary, other ships of the Royal Australian Navy, can be maintained by HMAS STALWART at one time.

The flight deck, at the ships stern is large enough to receive every type of helicopter in the Royal Australian Navy. Helicopters are invaluable for transporting personnel and equipment to and from other ships. The 'Wessex' helicopter normally carried aboard the ship can carry ten passengers or up to 1 ton underslung load and is fitted with a winch for rescue operations.

STALWART is a valuable ship for resupply and disaster relief missions. In recent years she has sailed on resupply voyages to Darwin, into the Pacific and South to Macquarie island.

The first STALWART, a destroyer, served with the RAN from 1921 to 1937.

 No.
 Name
 Laid Down
 First Commissioned

 D215
 STALWART
 23.6.64
 7.10.66
 9.2.68

Builder Cockatoo Island Dockyard, NSW Displacement 15,500 tonnes

Length 15,500 tonnes Length 157 metres Beam 20.6 metres

Armament Two twin 40/60 mm Bofors guns, one utility helicopter

Machinery Two six-cylinder diesel engines developing 10,740 kw

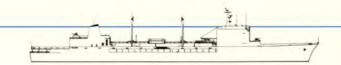
Speed More than 20 knots



ABOVE: Aboard HMAS STALWART, a young sailor works with one of the ship's electric drills.

OPPOSITE: HMAS STALWART, destroyer tender and flagship of the RAN.

### AUXILIARY OILER REPLENISHMENT





A Fleet Underway Replenishment Ship based on the French 'Durance' Class, HMAS SUCCESS was built in Australia by Cockatoo Island Dockyard Pty Ltd at Sydney. She is the largest ship ever built in Australia for the RAN, and the largest ship ever built in the Port of Sydney.

SUCCESS was launched from Cockatoo Island slipway on 3 March 1984 by Her Excellency, Lady Stephen, wife of the Governor General. She was commissioned into the RAN on 23 April 1986.

Contemporary maritime operations demand that naval combat units be supplied with fuel, ammunition, food and stores at sea whilst underway. SUCCESS is designed for this task. She is capable of day and night replenishment to ships alongside and concurrently by her embarked Wessex helicopter to other ships in company. Four main RAS stations are fitted, two of which have dual functions and can be used to transfer either fuel or solids. RAS operations are controlled from a Cargo Control Room amidships.

During solid cargo transfer the load is supported by a traveller riding on a tensioned highline between SUCCESS and a fixed point in the receiving ship. During fuel transfers, the highline is used to support a hose which hangs from several travelling saddles and which has a quick connecting probe to mate with the fuel receiving point in the ship being fuelled. The solids transfer stations are designed to handle sizable loads of up to nearly 2 tonnes. All winches use hydraulic transmission with electrohydraulic controls. The RAS system is designed to cope with the extreme demands caused by ship motion in rough weather, and works extremely well. SUCCESS thus enables RAN Fleet units to operate with a greater degree of flexibility and independence from shore support than has previously been possible from RAN sources.

The ship's company of 205 is required to operate and maintain the propulsion, replenishment and auxiliary machinery and support systems in SUCCESS. Providing underway replenishment support to the fleet is a challenging and continuing task requiring technical proficiency and high seamanship standards.

As would be expected in a modern warship, accommodation and recreation areas are spacious and well designed. Meals are provided from one centralized galley including a bakery. The medical centre, includes an operating theatre, infirmary and dental surgery. The ship and its cargo is protected by a variety of modern fire detection and damage control equipments.

The previous HMAS SUCCESS was an 'S' Class destroyer commissioned into the RAN in 1920. She operated in Australian waters and paid off in 1930; subsequently being broken up in 1937.

No. Name Laid Down Launched Commissioned
OR304 SUCCESS 9.8.80 3.3.84 23.4.86

Builder Cockatoo Island Dockyard, NSW

Displacement Length 17,933 (full load) 157.2 metres Beam 21.2 metres

Armament Three 40/60 mm Bofors guns, two forward, one aft, four 0.5 inch

machine guns, one utility helicopter

Machinery
Two independent propulsion systems, each consisting of a 16 PC 2-5V Pielstick non-reversing

PC 2-5V Pielstick non-reversing medium speed diesel engine, developing 7,640 kw at 520 RPM

Speed 19 knots (full load)

Ships Company 205



ABOVE: Replenishment at sea between HMAS SUCCESS and an FFG.

OPPOSITE: HMAS SUCCESS.

### TRAINING SHIP





HMAS JERVIS BAY is the RAN's training ship. Formerly the MV Australian Trader, she was built in Australia in 1969 as a roll-on-roll-off, passenger-vehicle vessel for the Australian National Line. In 1977 she was sold to the RAN and modified to undertake the training role.

The vehicle and cargo-carrying capabilities of JERVIS BAY have been retained to provide the RAN with a useful additional logistic support capability when needed.

In her 10 year history JERVIS BAY has achieved two milestones in the RAN, being the first ship to take females to sea, initially as trainees, in October 1980 and finally in January 1985 the first female was posted to sea. Today a number of billets have been opened up to females in a wide variety of jobs ranging from Deputy Supply Officer to Electrical Sailor.

JERVIS BAY's primary role is to train male and female junior officers in basic navigation and seamanship and the ship is fitted out accordingly. Modern training facilities installed include a second bridge to accommodate navigation training and a navigation classroom, equipped with two radar displays and chart tables for up to 40 trainees.

Additionally the standard of accommodation onboard is quite a departure from that normally associated with a modern warship. Single and dual cabins, some with their own facilities provide a standard of comfort the trainees soon learn to appreciate, when they have the time to enjoy them.

Training onboard JERVIS BAY is not restricted to RAN trainees. Most training cruises usually include a number of foreign officer trainees from South East Asia and Pacific Navies.

The ship's name perpetuates her close links with the RAN College at Jervis Bay, and also commemorates the epic battle between HMS JERVIS BAY and the German pocket battleship ADMIRAL SCHEER during World War II in which the first JERVIS BAY was sunk while protecting the convoy she was escorting.

No. Name

Laid First Commissioned

GT203 JERVIS BAY

Builder

Newcastle State Dockyard, NSW

Displacement Length
Beam

Machinery

Laid First Commissioned

Ships Company 111 plus 40 trainees

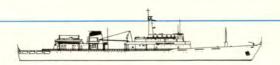
Speed

17 knots sustained



ABOVE: Aboard HMAS JERVIS BAY, a female radio operator performs routine but necessary ship maintenance. OPPOSITE: HMAS JERVIS BAY.

# 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

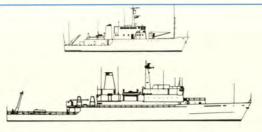
for new and more accurate surveys of shipping routes and harbour approaches.

HMA Ships MORESBY, FLINDERS, BETANO and BRUNEI are engaged full time on this work while HMAS COOK carries out oceanographic research.

MORESBY, based in Western Australia, 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.

The two LCH's HMA Ships BETANO and BRUNEI were modified during 1985 to interim survey ships. These two vessels carry out inshore surveys in the north of Australia and are also based at Cairns, Qld.

COOK, fitted with the most advanced oceanographic and survey equipment is engaged on military and civilian oceanographic research including work for the CSIRO, universities and museums.



No. Name Laid First
Down Launched Commissioned

73 MORESBY May 62 7.9.63 6.3.64

Builder Newcastle State Dockyard, NSW

Displacement Length 95.7 metres 12.8 metres

Machinery Three diesel engines
Speed 19 knots

Ships Company 146

No. Name Laid First Down Launched Commissioned

312 FLINDERS Dec 70 29.7.72 27.4.73

Builder Williamstown Naval Dockyard, VIC

Displacement 765 tonnes Length 49.1 metres Beam 10.1 metres

Machinery Two diesel engines

Speed 13 knots Ships Company 38

 No.
 Name
 Laid Down
 First Commissioned

 291
 COOK
 30.9.74
 27.8.77
 28.10.80

 291 COOK
 30.9.74 27.8.77 28.10.80

 Builder
 Williamstown Naval Dockyard, VIC

Displacement Full load, 2,550 tonnes 96.6 metres

Beam 13.4 metres

Machinery Diesels, two shafts

Speed 17 knots

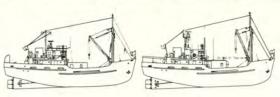
Ships Company 150 plus scientific staff

TOP: HMAS MORESBY. LEFT: HMAS FLINDERS. OPPOSITE: HMAS COOK.

### GENERAL PURPOSE VESSELS

# RESERVE PATROL BOATS





Launched Commissioned 15.12.59 16.2.60

G244 BANKS G247 BASS

28.3.60 25.5.60 Walkers Ltd QLD

Builder Displacement

148 tonnes (BANKS) 180 tonnes (BASS)

Length Beam

30.8 metres 6.7 metres

Machineru

Twin diesels

Speed

9 knots

Ships Company 10

ABOVE: HMAS BASS. OPPOSITE: HMAS AWARE.

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

BASS was assigned to the Sydney base HMAS Waterhen in July 1982 for use as a navigation training vessel, while BANKS was assigned to Target Services Group in Jervis Bay in December 1982 for Fleet support and midshipman training.

BASS transferred to the Darwin Naval Base in October 1985, for use as a Naval Reserve Training ship for the newly formed Reserve unit.

In November 1985 BANKS transferred to Sydney to undertake the navigation duties previously performed by BASS. This involves undertaking practical navigation training on Sydney Harbour and adjacent coastal waters. With their deep draught they are good seakeeping 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.



Five of these, AITAPE, LADAVA, LAE, MADANG and SAMARAI were transferred to the Papua New Guinea Defence Force patrol boat squadron. Eight others, BARRICADE, ACUTE, ARCHER, ASSAIL, ATTACK, BARBETTE, BOMBARD and BANDOLIER have been presented to Indonesia, and HMAS ARROW was lost during Cyclone Tracy in Darwin 1974.

The five remaining vessels, HMA Ships ADROIT, ADVANCE, ARDENT, AWARE and BAYONET were transferred to the RAN Reserve and now operate on regular training cruises.

One boat is attached to the reserve port division in Sydney, Fremantle, Adelaide, Hobart and Melbourne. During their service with the RAN the boats were used in a variety of tasks including fishery patrol and surveying duties.

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.



First Launched Commissioned Down ADROIT Aug. 67 3.2.68 17.8.68 Evans Deakin Ltd, QLD Builder **ADVANCE** Mar. 67 16.8.67 24.1.68 Builder Walkers Ltd, QLD ARDENT Oct. 67 27.4.68 26.10.68 AWARE Jul. 67 7.10.67 21.6.68 Builders Evans Deakin Ltd, QLD 101 BAYONET Oct. 68 6.11.68 22.2.69 Walkers Ltd. QLD Builder

Displacement 149 tonnes Length 32.6 metres Beam 6.1 metres

Armament One 40/60 mm Bofors gun, one 81 mm mortar, a variety of light arms

Machinery Two diesels Speed 24 knots Ships Company 19

# SUPPORT CRAFT





No.

01 02

03

#### **DIVING TENDERS**

The diving tenders SEAL and PORPOISE are operated from the Mine Warfare and Patrol Boat Base, HMAS Waterhen, Waverton.

Both ships were originally built for the Royal Navy as inshore minesweepers of the Ham class.

No.	Name	In Service	
1001	SEAL	Dec. 68	
1002	PORPOISE	Jun. 73	
	Builders	J. Samuel White, UK	
	Displacement Length Beam	122 tonnes 32.5 metres 6.5 metres	
	Machinery	Two diesels	
	Speed	14 knots	
	Ships Company	7 plus divers	

#### LIGHTERS

Two water fuel lighters (WFLs) and three crane stores lighters (CSLs) are operated from the Garden Island Naval Dockyard in Sydney. One WFL, No. 8004 is homeported to HMAS Stirling in Western Australia and WFL 8001 is based in Jervis Bay at HMAS Creswell.

The three CSLs are used as stores lighters and the forest bar are propolled Nava and the stores in the store of the store of

and tugs for other non-propelled Navy craft.

#### WATER FUEL LIGHTERS

No.	Name	In Service
8001 8002 8003 8004	WARRIGAL WALLABY WOMBAT WYGUNA	Oct. 84 Feb. 83 Feb. 83 Oct. 84
	Builders	Williamstown Naval Dockyard, VIC
	Displacement Length Beam	1,210 tonnes 38 metres 10.2 metres
	Machinery	Two Harbour Master units
	Speed	8 knots
	Ships Company	5

#### CRANE STORES LIGHTERS

In Service

WATTLE BORONIA TELOPIA	Aug. 72 Sept. 72 Oct. 72
Builders	Cockatoo Island Dockyard, NSW
Displacement Length Beam	147 tonnes 23.7 metres 9.75 metres
Machinery	Two diesels
Speed	8 knots
Ships Company	4



#### TORPEDO RECOVERY VESSELS

TRV 801 operates from Jervis Bay and TRVs 802 and 803 from HMAS Waterhen in Sydney. All three vessels have been used as diving tenders and for training by the RANR.

Yo.	Name	In Service
801	TUNA	Jan. 70
802	TREVALLY	Sept. 70
803	TAILOR	Apr. 71
	Builders	Williamstown Naval Dockyard, VIC
	Displacement	93 tonnes
	Length	27 metres
	Beam	6.4 metres
	Machinery	Three diesels
	Speed	13 knots
	Ships Company	9



#### TUGS

TAMMAR and QUOKKA are homeported to HMAS Stirling in Western Australia.

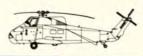
The smaller BRONZEWING class operate on Sydney Harbour from Garden Island.

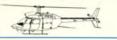
No.	Name	In Service		
2601	TAMMAR	Mar. 84		
	Builder	Australia WA	n Shipbuild	ling Industries,
1801	QUOKKA	Dec. 83		
	Builder	Shoreline	e Engineeri	ing, VIC
501 502	BRONZEWING CURRAWONG Builders	Dec. 68 1969 Stannard	Bros. NSV	V
504	MOLLYMAWK	1972		
	Builder	Perrin Engineering, QLD		
	Displacement Length Beam	TAMMAR 265 25.7 8.2	QUОККА 110 18.1 5.9	BRONZEWING CURRAWONG MOLLYMAWK 47 tonnes 15.2 metres 4.6 metres
	Machinery	Diesels		
	Speed	11	9	9 knots
	Ship's Company	6	6	3

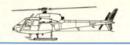
ABOVE LEFT: Water fuel lighter WALLABY. ABOVE RIGHT: TAMMAR. LEFT: Torpedo recovery vessel TREVALLY. OPPOSITE: Diving tender SEAL.



















TOP: Sea King Mk 50A. ABOVE: HS 748.

OPPOSITE: Squirrel AS 350-B. LEFT: Wessex Mk 31B. RIGHT: Bell 206-B. Since 1983 the Fleet Air Arm has changed from supporting carrier based aviation to a force that integrates more closely with destroyers at sea. With the advent of the FFG class ships and HMAS SUCCESS there has been a large increase in the number of helicopter capable ships in the Fleet.

The RAN has met the challenge of this transition and to complete the FFG weapon system has ordered 16 Sikorsky S70B2
Seahawk helicopters. These very sophisticated helicopters are being acquired to carry out the roles of anti-submarine warfare and anti-surface ship surveillance and targeting. Initial delivery of the Seahawk is planned for mid 1988 with entry to operational service planned for 1989. The Seahawks will effectively extend the range of ship sensors and permit long range Harpoon missile firings to be conducted over the horizon from the Navy's FFGs and DDGs.

In the interim the Fleet Air Arm is maintaining essential expertise in a wide range of aircraft in several different roles. These aircraft and roles are:

Westland Sea King MK 50 As are employed in anti-submarine warfare, operations in support of Army and search and rescue.

Westland Wessex MK 31Bs are used in operations in support of Army, Fleet utility tasks from HMAS SUCCESS, STALWART and TOBRUK and search and rescue.

Bell Kiowa 206Bs are employed in communications and survey support operations from HMAS MORESBY.

Aerospatiale Squirrel AS 350Bs for light utility and training at sea in the FFG 7 class ships.

Hawker Siddeley HS748 aircraft, are employed in electronic warfare training in support of all three services and are also employed as personnel and stores transport support aircraft.

Jindivik pilotless target aircraft operate from Jervis Bay airfield to provide a realistic target aircraft for Navy, Air Force and Army missile practices.





**NAVY TODAY** 

Text: FPRO, Leut. Ross Gillett
Photography: Naval Photographic Unit
Front Cover: A BPH Walton
Design: Sam Monaghan
Film Separations: Colour Scanners Pty. Limited.
Printed by: Blake & Hargreaves Pty. Ltd.

