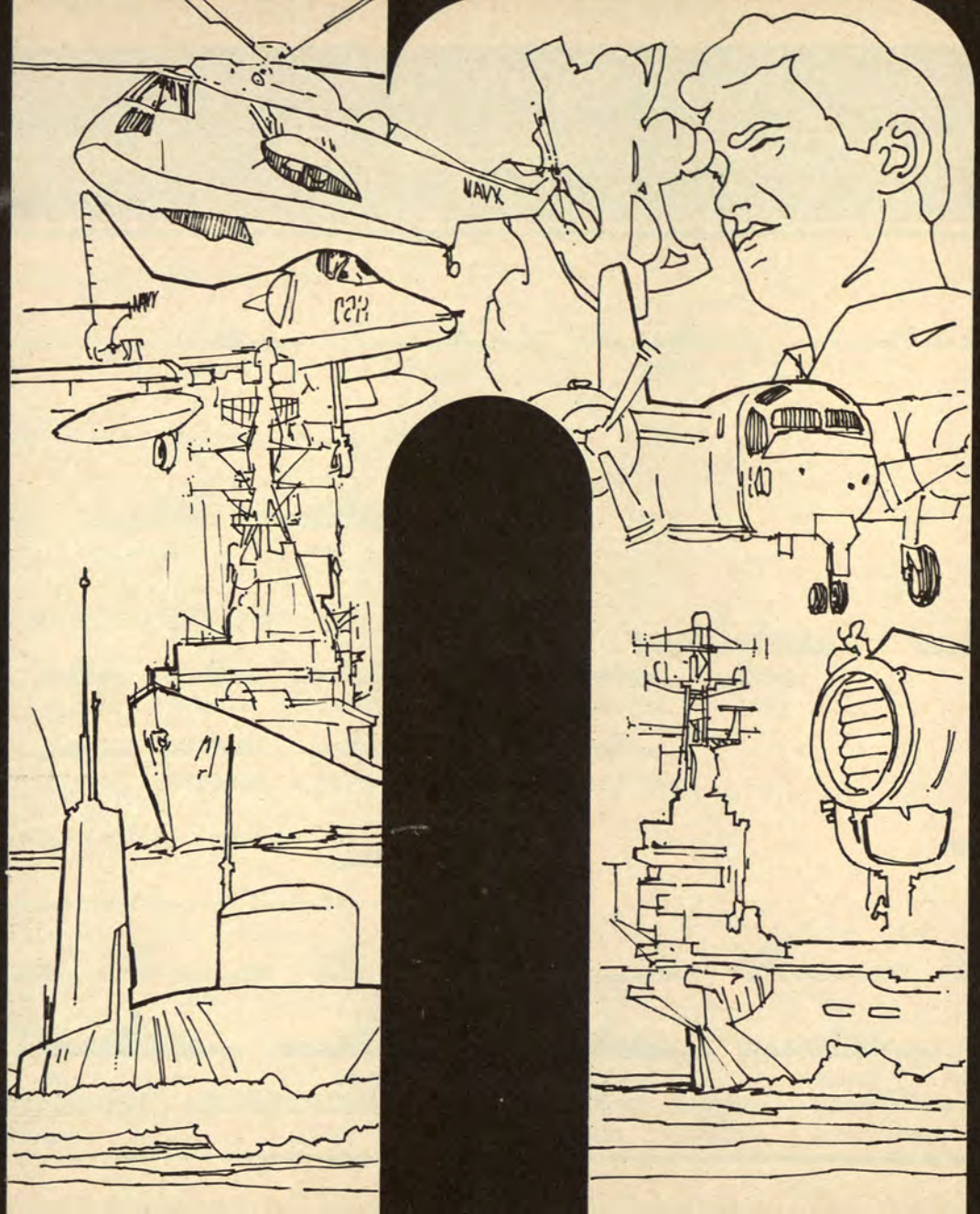


NAVY TODAY

SHIPS OF THE ROYAL AUSTRALIAN NAVY

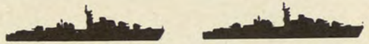
Flagship

MELBOURNE

First Australian Destroyer Squadron

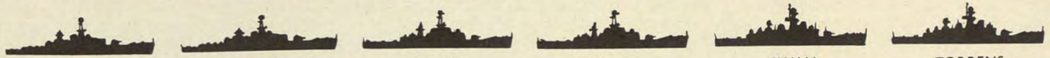
PERTH HOBART BRISBANE

Second Australian Destroyer Squadron



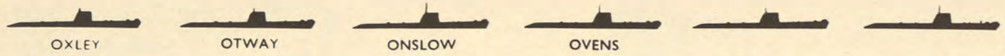
VENDETTA VAMPIRE

Third Australian Destroyer Squadron



YARRA PARRAMATTA STUART DERWENT SWAN TORRENS

First Australian Submarine Squadron



OXLEY OTWAY ONSLOW OVENS

First Australian Mine Countermeasures Squadron

SNIPE CURLEW IBIS

Australian Patrol Boat Squadrons

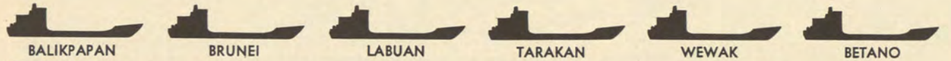
ACUTE ADROIT ARDENT ATTACK AWARE BARRICADE BAYONET

ADVANCE ARROW BOMBARD ASSAIL BARBETTE BUCCANEER

First Australian Training Squadron

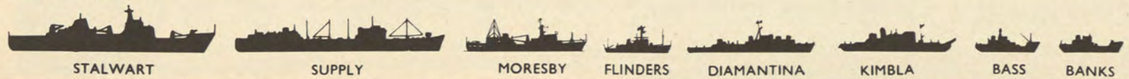
DUCHESS

First Australian Landing Craft Squadron

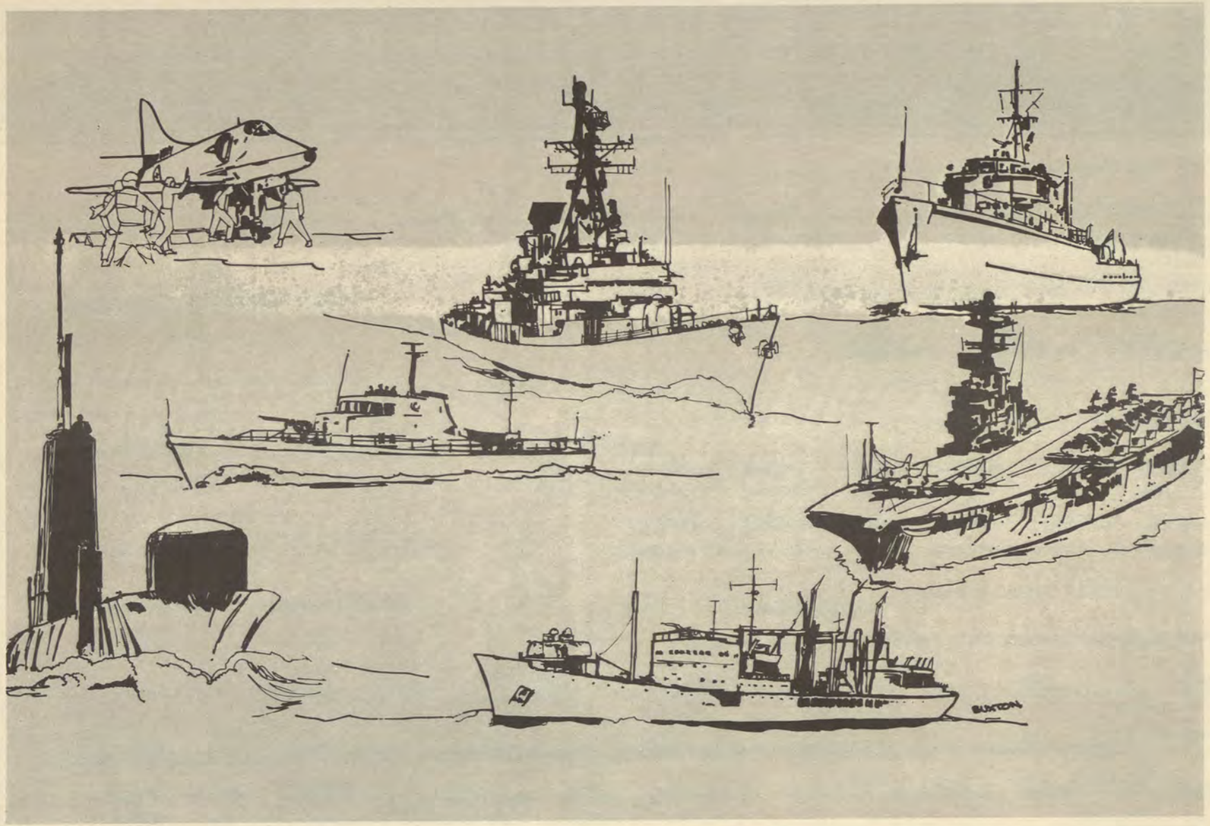


BALIKPAPAN BRUNEI LABUAN TARAKAN WEWAK BETANO

Support ships



STALWART SUPPLY MORESBY FLINDERS DIAMANTINA KIMBLA BASS BANKS



A modern navy

Although not large, 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 all possible future operational situations. The present Fleet has capabilities in all facets of naval operations including interdiction, surface and anti-submarine warfare, naval air operations, surveillance and patrol, mine counter-measures, hydrographic and oceanographic surveying, and support for the other Services such as naval gunfire support and sea transport.

Briefly, the Navy's role is as follows:

- To organise, train and equip naval forces, including naval aircraft, for combat operations at sea;
- To provide naval support for land operations;
- To provide military sea transport support for the Australian Services; and
- To provide seaward defence of ports and anchorages.

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

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

Name	No.	Builder	Laid Down	Launched	First Commissioned
MELBOURNE	21	Vickers-Armstrong Barrow-in-Furness	15/4/43	28/2/45	28/10/55

Displacement	20,320 tonnes
Length	213.8 metres
Beam	24.5 metres
Armament	12 (4 twin, 4 single) 40/60 mm Bofors
Machinery	Parsons single reduction geared turbines, 4 Admiralty 3-drum type boilers
Speed	More than 20 knots
Ship's Company	1,335 (includes 347 Carrier Air Group personnel)
Aircraft	Douglas Skyhawk A4G jet fighter-bombers
	Grumman Tracker S2E ASW aircraft
	Westland Wessex ASW helicopters
	Westland Wessex SAR helicopters

Aircraft carrier

The light aircraft carrier HMAS *Melbourne* is the Royal Australian Navy's flagship.

With her Skyhawk, Tracker and Wessex aircraft, *Melbourne* combines aerial defence of the Fleet with her anti-submarine role.

She also has a formidable strike capacity which was strengthened with the recent purchase of additional Skyhawk aircraft.

When carrying extra Skyhawks the carrier will control a significant strike force which can be directed against either maritime or shore targets and can give ground support to the Army.

Melbourne embarked her present generation of aircraft in 1969 after an extended refit which included modifications to aid flying and aircraft handling.

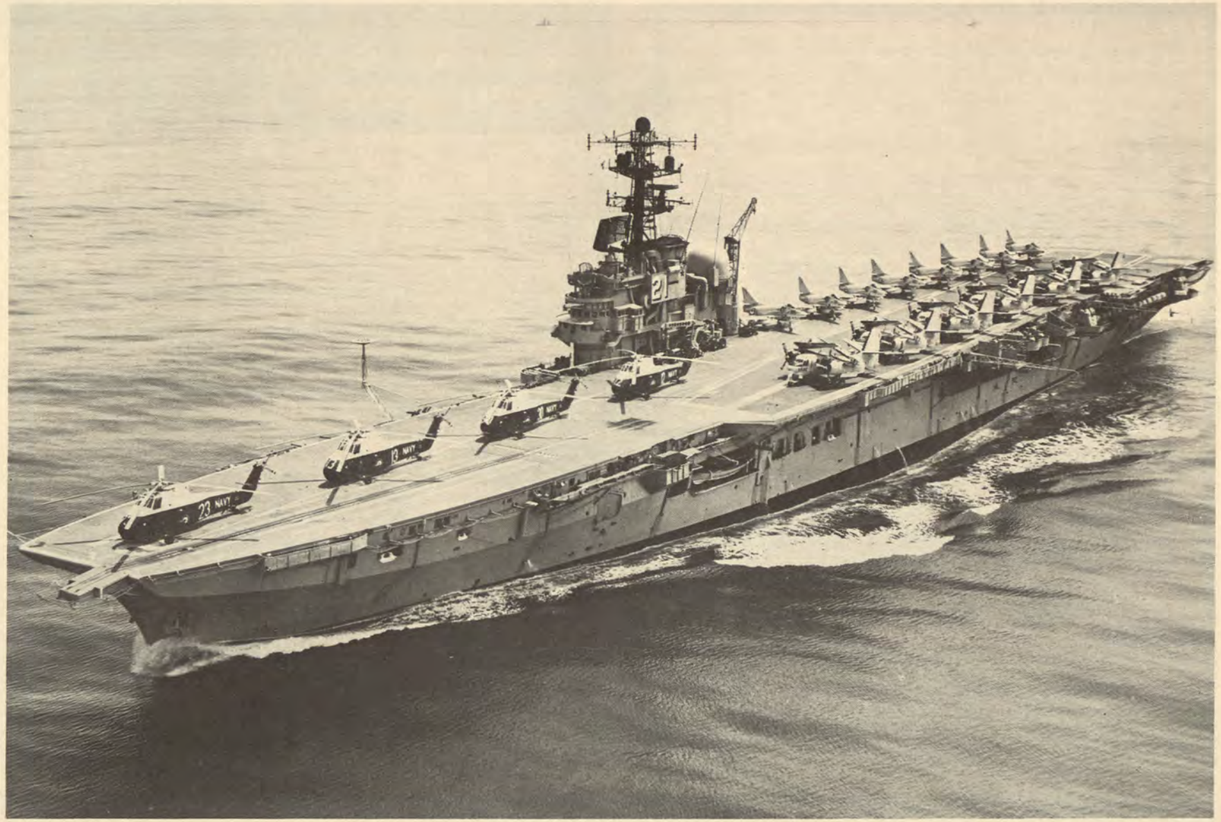
In 1971 the ship received a rebuilt catapult, strengthened flight deck and other changes.

Melbourne was laid down in 1943 as HMS *Majestic,* at the same time as HMS *Terrible* (later HMAS *Sydney*) and was launched in 1945.

With the end of World War II, work on *Majestic* stopped pending a decision on future requirements. Arrangements were then made for the ship to be taken over by the RAN and renamed HMAS *Melbourne.*

Construction resumed in 1949 with modifications including increasing the size of the flight deck lifts to handle larger aircraft and later fitting an angled flight deck, steam catapult and mirror landing system.

Melbourne was commissioned into the RAN on 28 October 1955 and after working up in British waters with her Sea Venom and Gannet aircraft she sailed for Australia, arriving in Sydney on 10 May 1956.



Guided missile destroyers

Name	No.	Builder	Laid Down	Launched	First Commissioned
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

Displacement	4,580 tonnes
Length	133.2 metres
Beam	14.3 metres
Armament	Two 5 inch automatic rapid fire guns. Tartar anti-aircraft 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

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

The US-built ships are similar to the US Navy's DDG-15 class and their design is particularly versatile.

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

The principal aircraft defence weapon is the Tartar guided missile system which is mounted near the stern.

The DDGs are also fitted with two Ikara missile launchers. 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 long-range sonar, radar, communications and electronic equipment to provide the command with comprehensive information.

Living spaces are air conditioned.

All three ships saw action in Vietnam where they served with distinction with ships of the US Navy's 7th Fleet.

The ships are entering a period when their weapon systems are being updated.

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

Destroyers

Name	No.	Builder	Laid Down	Launched	First Commissioned
VENDETTA	08	HMA Naval Dockyard Williamstown	4/7/49	3/5/54	26/11/58
VAMPIRE	11	Cockatoo Island Dockyard Sydney	1/7/52	27/10/56	23/6/59

Displacement	3,670 tonnes
Length	118.9 metres
Beam	13.1 metres
Armament	Six 4.5 inch dual purpose guns in twin turrets, two forward, one aft. Six 40/60 mm Bofors guns. Triple - barrel anti - submarine mortar
Machinery	Parsons double reduction geared turbine, driving two shafts
Speed	More than 30 knots
Ship's Company	321

The Royal Australian Navy's Second Destroyer Squadron is made up of the Daring Class destroyers HMA Ships *Vendetta* and *Vampire*.

These all-purpose warships have main gunnery armament comparable to a light cruiser, giving them formidable surface gunnery as well as anti-aircraft capabilities.

Anti-submarine detection equipment and weapons increase their versatility.

Vampire and *Vendetta* were built in Australia, while the training ship *Duchess*—also a Daring—was built in Britain.

The three ships are all-welded and light alloys have been used extensively in their construction to reduce weight.

In 1969, *Vendetta* became the first Australian-built warship to serve in Vietnam. She had the distinction, as a result, of being the first Daring Class destroyer to engage in the role for which the ships were primarily built—naval gunfire support.

Half-life modernization of *Vampire* and *Vendetta*, which began in 1970, included fitting new gun turrets, fire control systems, new aircraft warning and navigation radar, re-equipping the operations centre, enclosing the bridge and replacing a major part of the superstructure.

Communications equipment was renewed and living conditions on board considerably improved.

The original *Vampire* and *Vendetta* served with distinction in the 10th Destroyer Flotilla, known as the "Scrap Iron Flotilla", in World War II.

Name	No.	Builder	Laid Down	Launched	First Commissioned
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	2,750 tonnes
Length	112.8 metres
Beam	12.5 metres
Armament	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. Triple-barrel anti-submarine mortar
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 ships, HMA Ships *Swan* and *Torrens*, incorporate many improvement over the earlier River Class HMA Ships *Derwent, Stuart, Yarra* and *Parramatta*.

All the ships are armed with twin 4.5 inch guns which are used with digital fire control radar and computer.

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-barrelled mortars carried on all the escorts.

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

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

Name	No.	Builder	Laid Down	Launched	First Commissioned
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	April 1972	16/9/74	
OTAMA	62	Scotts' Shipbuilding Greenock	Dec. 1972		

Displacement	2,070 tonnes
Length	89.9 metres
Beam	8.1 metres
Armament	Six bow and two stern anti-surface ship and anti-submarine torpedo tubes
Machinery	Two English Electric main propulsion motors, with two Admiralty standard range diesel generators
Speed	Submerged speed more than 15 knots
Ship's Company	63

Submarines

The First Australian Submarine Squadron consists of four attack submarines of the Oberon Class, built in the United Kingdom between 1964 and 1970, and the Royal Navy submarine HMS *Odin*. The *Odin* has been attached to the Australian Fleet since 1972 under a Government-to-Government agreement, and is due to return to Britain in 1975. Two more Oberons are currently under construction for the RAN.

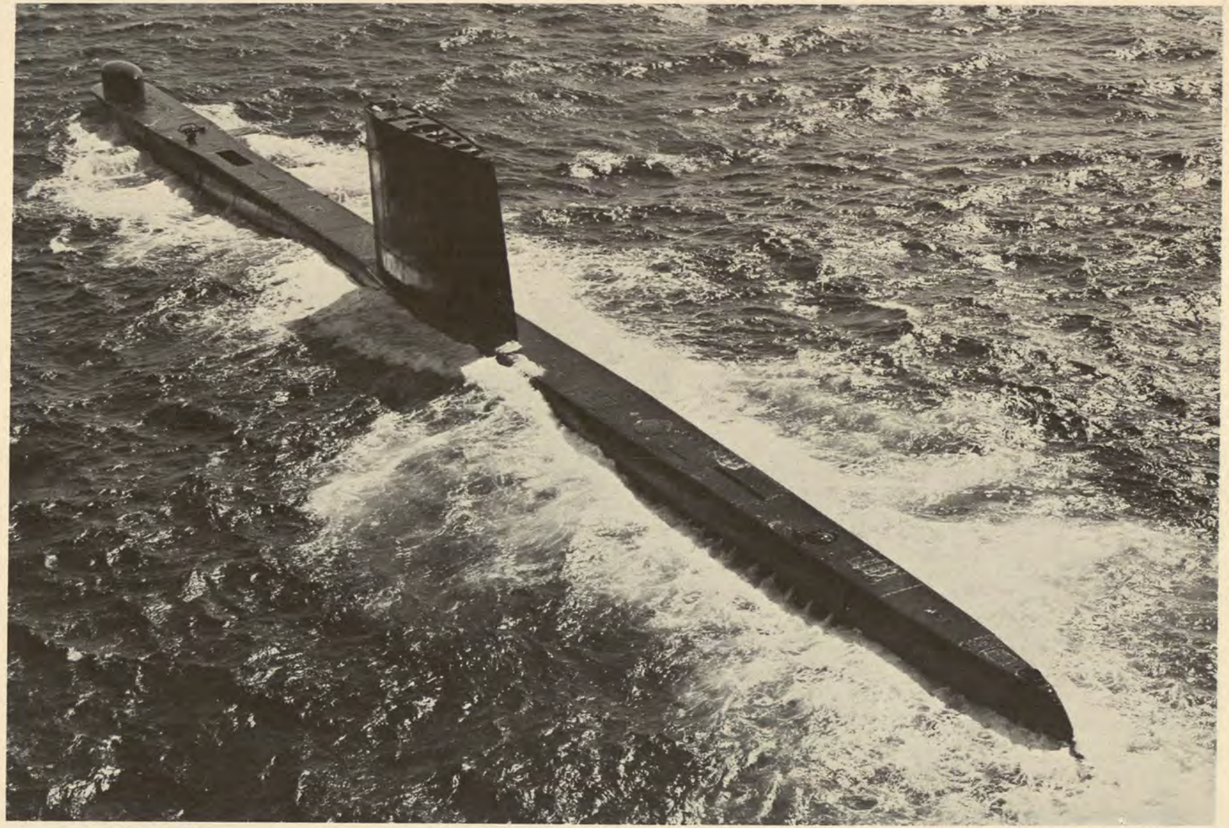
The Squadron is based at HMAS *Platypus*, North Sydney—a shore base specially designed to support submarines.

RAN submarines have diesel-electric propulsion and are capable of remaining submerged for several weeks, using the snort system. This enables the diesel generators to re-charge the batteries while submerged. They can dive to more than 120 metres and have a maximum submerged speed of more than 15 knots.

Their main detection system is "passive sonar"—which picks up the machinery noise radiated by other ships and submarines. A new passive sonar is currently being installed which measures the range as well as the bearing of targets. Weapons carried include guided, homing anti-submarine torpedoes as well as conventional anti-ship torpedoes.

The four submarines in service are HMAS *Oxley, Otway, Ovens* and *Onslow;* the two being built are *Orion* and *Otama*. *Oxley* and *Otway* are named after earlier Australian submarines and the name *Orion* has been chosen to preserve long-established links with the Royal Navy. *Otama* is a Queensland aboriginal word meaning dolphin—the symbol of the Submarine Arm.

HMAS *Orion* was launched at Scotts' Shipyard, Greenock, Scotland, on 16 September 1974 and is due to be completed in October 1975. HMAS *Otama* will follow nine months later.



Mine warfare ships

Name	No.	Builder	Laid Down	Launched	First Commissioned in RAN
SNIPE	1102	Thornycroft, UK	Jul. 51	5/1/53	11/9/62
CURLEW	1121	Montrose, UK	April 53	6/10/53	21/8/62
IBIS	1183	Montrose, UK	Oct. 53	18/11/55	7/9/62

Displacement	489 tonnes
Length	46.6 metres
Beam	8.5 metres
Armament	Two 40/60 mm Bofors guns (one on minehunters)
Machinery	Napier diesel engines developing 2240 kw.
Speed	More than 15 knots
Ship's Company	34 (minesweeper) 38 (minehunter)

The First Australian Mine Countermeasures Squadron is made up of three Ton Class mine countermeasure ships.

Of British design and construction, the ships were modified in the UK before joining the Australian Fleet in 1962.

Originally the squadron consisted of six ships fitted as minesweepers. The squadron has since been reduced to three ships, and HMAS *Curlew* and HMAS *Snipe* have been converted to minehunters.

HMAS *Ibis* is still fitted for minesweeping. It carries devices to explode acoustic and magnetic as well as contact mines. It can also detect and destroy other underwater obstructions which would be hazardous to shipping.

The wooden-hulled mine countermeasure ships are themselves non-magnetic and are sufficiently silent not to actuate acoustic mines.

Mine hunting is the latest advance in mine countermeasures and the re-equipped *Curlew* and *Snipe* are significant additions to the Australian Fleet.

Mine hunting is complementary to mine sweeping 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.

Patrol boats

Name	No.	Builder	Laid Down	Launched	First Commissioned
ACUTE	81	Evans Deakin Ltd	Apr. 67	26/8/67	26/4/68
ADROIT	82	Evans Deakin Ltd	Aug. 67	3/2/68	17/8/68
ADVANCE	83	Walkers Ltd	Mar. 67	16/8/67	24/1/68
AITAPE	84	Walkers Ltd	Nov. 66	6/7/67	13/11/67
SAMARAI	85	Evans Deakin Ltd	Dec. 66	14/7/67	1/3/68
ARDENT	87	Evans Deakin Ltd	Oct. 67	27/4/68	26/10/68
ARROW	88	Walkers Ltd	Sep. 67	17/2/68	3/7/68
ASSAIL	89	Evans Deakin Ltd	Aug. 67	18/11/67	12/7/68
ATTACK	90	Evans Deakin Ltd	Sep. 66	8/4/67	17/11/67
AWARE	91	Evans Deakin Ltd	Jul. 67	7/10/67	21/6/68
LADAVA	92	Walkers Ltd	Feb. 68	11/5/68	21/10/68
LAE	93	Walkers Ltd	May 67	5/10/67	3/4/68
MADANG	94	Evans Deakin Ltd	Mar. 68	10/8/68	29/11/68
BARBETTE	97	Walkers Ltd	Nov. 67	10/4/68	16/8/68
BARRICADE	98	Evans Deakin Ltd	Dec. 67	29/6/68	26/10/68
BOMBARD	99	Walkers Ltd	Apr. 68	6/7/68	5/11/68
BUCCANEER	100	Evans Deakin Ltd	Jun. 68	14/9/68	11/1/69
BAYONET	101	Walkers Ltd	Oct. 68	6/11/68	22/2/69

Displacement	149 tonnes
Length	32.6 metres
Beam	6.1 metres
Armament	40/60 mm Bofors gun, machine gun 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

Twenty patrol boats were built in Australian shipyards for patrol and survey work in waters around Australia and Papua New Guinea. Two of these, *Archer* and *Bandolier*, are being presented to Indonesia.

The remaining eighteen ships form units of the Navy's patrol boat squadrons.

These all-weather, ocean-going ships have a variety of tasks, including the patrol of fishing grounds close to the coastline.

They also assist RAN survey ships in sounding and survey work.

The 32.6 metre patrol boats are used for Reserve training and for training Papua New Guinea officers and sailors who will eventually assume full responsibility for operating a Papua New Guinea patrol boat squadron, consisting of the present HMA Ships *Aitape, Ladava, Lae, Madang* and *Samarai.*

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.

Major excursions have been made deep into Papua New Guinea river systems.

Included in the ships' equipment is high definition navigation radar, high and ultra-high frequency radio transmitters and receivers, gyro and magnetic compasses and echo sounders.

All the patrol boats are fully air conditioned, and all were built in Queensland shipyards.

Amphibious craft

Name	No.	Builder	Laid Down	Launched	First Commissioned
BALIKPAPAN	L126	Walkers Ltd	May 71	15/8/71	8/12/71
BRUNEI	L127	Walkers Ltd	Jul. 71	15/10/71	5/1/73
LABUAN	L128	Walkers Ltd	Oct. 71	29/12/71	9/3/73
TARAKAN	L129	Walkers Ltd	Dec. 71	16/3/72	15/6/73
WEWAK	L130	Walkers Ltd	Mar. 72	18/5/72	10/8/73
SALAMAUA	L131	Walkers Ltd	May 72	27/7/72	19/10/73
BUNA	L132	Walkers Ltd	Jul. 72	26/9/72	7/12/73
BETANO	L133	Walkers Ltd	Sep. 72	5/12/72	8/2/74

Displacement	316 tonnes
Length	44.5 metres
Beam	10.1 metres
Armament	Two 0.5 inch machine guns
Speed	More than nine knots
Ship's Company	Two officers, 11 sailors

For the first time since World War II, the RAN has a landing craft squadron. Called Landing Craft Heavy (LCH), the first ship, HMAS *Brunei,* joined the Fleet on January 5, 1973.

The squadron is based at HMAS *Moreton,* the RAN shore establishment at Brisbane, where the commanding officer is also the LCH Squadron Commander.

At 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.

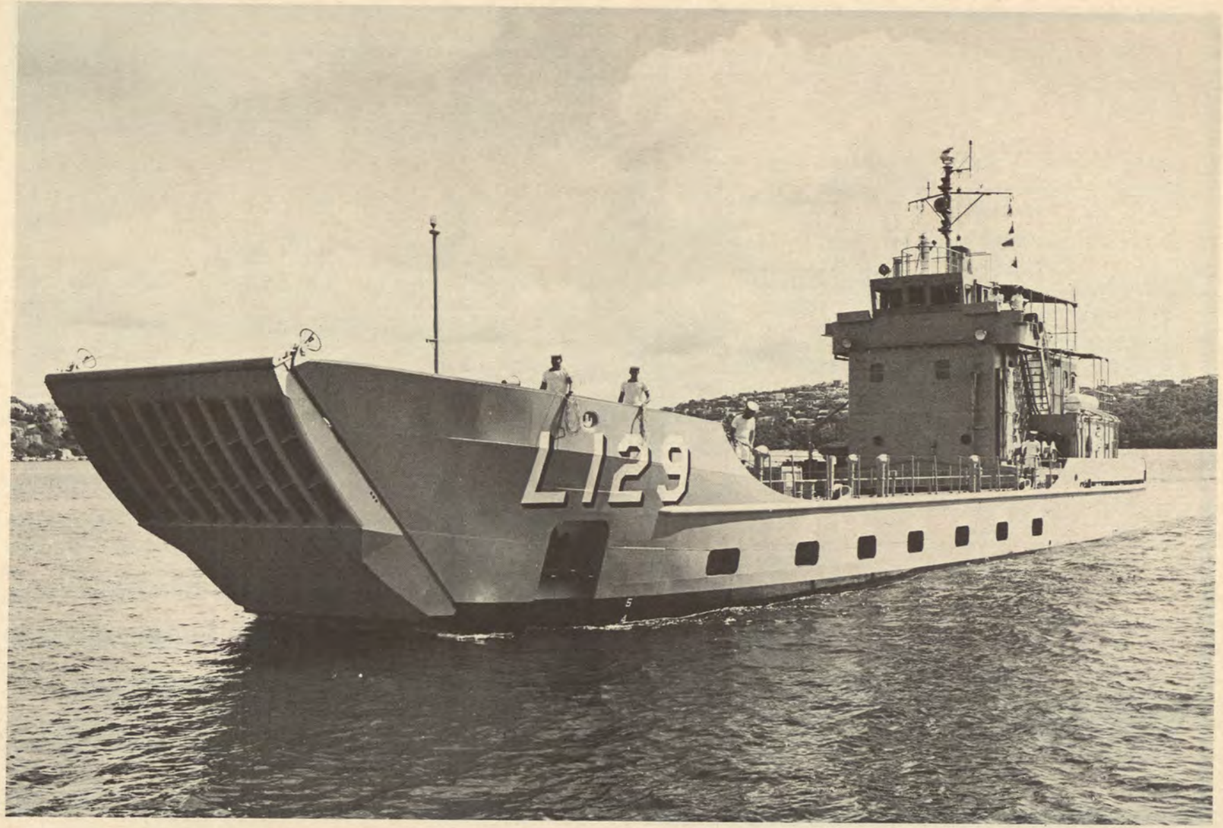
Balikpapan, the prototype LCH, was manned by the Army until July, 1974. She went through extensive joint Navy/Army evaluation trials in 1972.

The eight sea-going ships, all built at Walkers Ltd. shipyards, Maryborough, Queensland, are each manned by two officers and 11 sailors. They will be employed primarily in providing support for the Army, although one will normally be allocated to the Navy for hydrographic survey work.

Two LCHs, *Buna* and *Salamaua*, were to be handed over to the Papua New Guinea Defence Force at the end of 1974.

As the names suggest, the ships are all named after World War II amphibious operations in which RAN ships and craft put Australian Army units ashore or did surveys preparatory to the landings.

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



Name	*No.*	*Builder*	*Laid Down*	*Launched*	*First Commissioned*
DUCHESS	154	Thornycroft, Southampton	2/7/48	9/4/51	23/10/52

Displacement	3,665 tonnes
Length	118.9 metres
Beam	13.1 metres
Armament	Four 4.5 inch dual purpose guns in twin turrets forward. Two 40/60 mm Bofors guns.
Machinery	Parsons double reduction geared turbine, driving two shafts
Speed	More than 30 knots
Ship's Company	260

Training ship

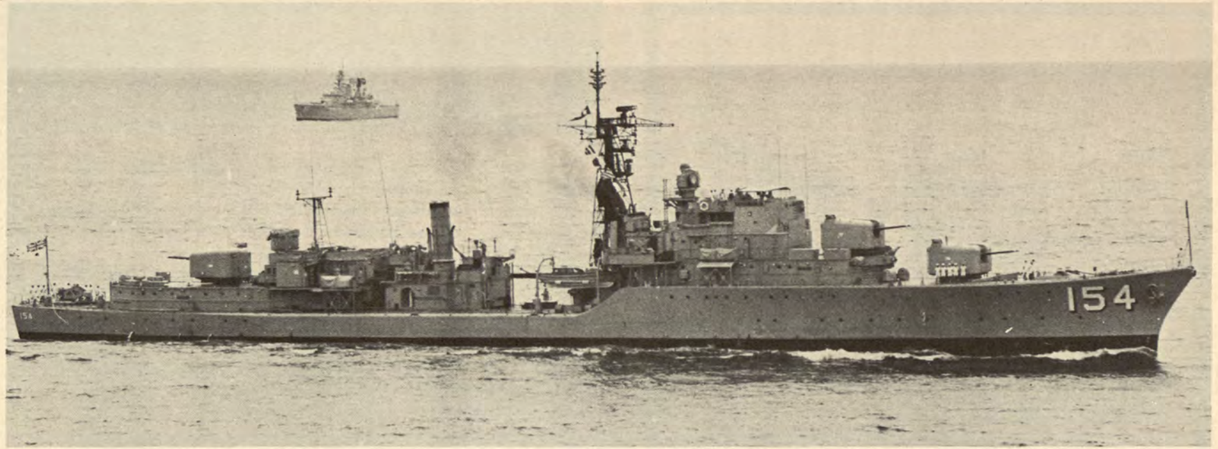
The Daring Class destroyer HMAS *Duchess* is the RAN's training ship.

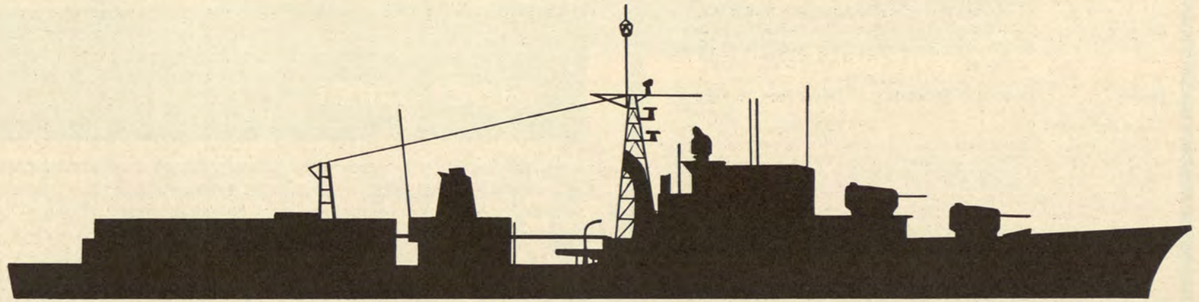
Duchess, formerly a Royal Navy ship, was built in Britain and commissioned in 1952. She served at Suez during the 1956 crisis and escorted aircraft carriers in the Aden area in 1963. She was lent to the RAN in 1964 and was bought by the Australian Government in 1972.

Duchess has served in recent years as a member of the Second Australian Destroyer Squadron.

Changes have been made to *Duchess* to convert her to her training role.

Trainees in the ship include young sailors, cadet midshipmen from the RAN College, midshipmen from the Papua New Guinea Division of the RAN and officer cadets from other countries. Normally they spend several months at sea learning navigation, seamanship, engineering, communications and other aspects of naval life.





HMAS DUCHESS NEW PROFILE FOLLOWING REFIT

Name	No.	Builder	Laid Down	Launched	First Commissioned
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	*SUPPLY*
Displacement	10,700 tonnes	26,500 tonnes
Length	157 metres	177.7 metres
Beam	20.4 metres	21.6 metres
Armament	Two 40/60 mm Bofors guns twin mountings. Provision for Seacat close-range missiles	Two twin, two single mountings, 40/60 mm Bofors guns
Machinery	Two six-cylinder diesel engines developing 10,740 kw.	Double reduction geared turbines developing 11,185 kw. (shaft)
Speed	More than 20 knots	More than 16 knots
Ship's Company	396	205

Destroyer tender

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

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.

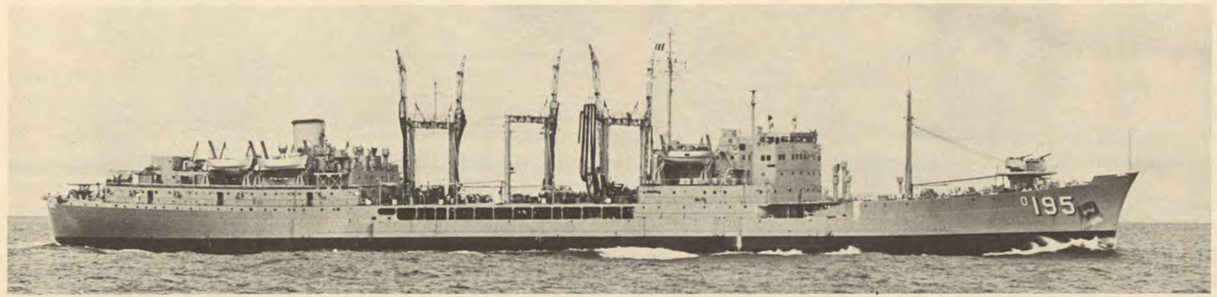
Several destroyers can be maintained by *Stalwart* at a time and three-quarters of *Stalwart's* ship's company of nearly 400 are available for repair and maintenance duties.

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 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.



Survey ships

Name	No.	Builder	Laid Down	Launched	First Commissioned
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

	MORESBY	*FLINDERS*
Displacement	2,340 tonnes	765 tonnes
Length	95.7 metres	49.1 metres
Beam	12.8 metres	10.1 metres
Machinery	Diesel electric main engines	Two diesel engines
Speed	More than 18 knots	More than 13 knots
Ship's Company	146	38

	DIAMANTINA	*KIMBLA*
Displacement	2,040 tonnes	765 tonnes
Length	91.8 metres	54.6 metres
Beam	11.2 metres	9.8 metres
Armament	One 40/60 mm Bofors gun	
Machinery	Triple expansion; two Admiralty 3-drum boilers	Triple expansion steam engine
Speed	More than 19 knots	More than 10 knots
Ship's Company	121	40

Surveying of Australian and Papua New Guinea waters, which combined involve 25,000 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.

Four RAN ships are engaged full time in this work and on oceanographic research. They are HMA Ships *Moresby, Flinders, Diamantina* and *Kimbla,* helped at times by other Fleet units.

Moresby is a large modern survey ship. She operates her own helicopter and carries advanced electronic surveying equipment.

A new hydrographic ship, the 765 tonne *Flinders,* has replaced the 342 tonne *Paluma,* which was commissioned in 1957.

The two other ships, *Diamantina*, a converted frigate, and *Kimbla* are mainly engaged on military and civilian oceanographic research including work for the CSIRO, universities and museums.

Diamantina will soon be replaced by another new hydrographic ship, HMAS *Cook,* similar to *Moresby* but slightly larger, and fitted with the most up-to-date oceanographic and survey equipment.

• *Top left—HMAS Moresby* • *Top right—HMAS Flinders* • *Bottom left—HMAS Diamantina* • *Bottom right—HMAS Kimbla*

Name	No.	Builder	Launched	First Commissioned
BANKS	244	Walkers Ltd. Maryborough	15/12/59	16/2/60
BASS	247	Walkers Ltd. Maryborough	28/3/60	15/11/60

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

COOK

Displacement	Standard, 1,945 tonnes Full load, 2,550 tonnes
Length	96.6 metres
Beam	13.4 metres
Main Engines	Diesel, 2 shafts, 2,240 kw.
Speed	17 knots
Oil Fuel	560 tonnes
Ship's Company	151, including scientific staff

Support ships

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. *Banks* was fitted for fishery surveillance and *Bass* for surveying, but both were used for other duties.

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 provide training of officers and sailors in the seamen, electrical, engineering and communications branches of the Naval Reserve.

Future ships

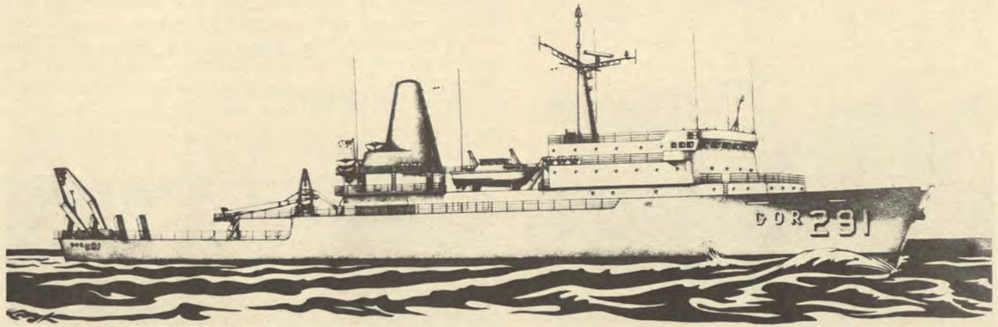
As well as HMAS *Flinders*, which was commissioned in 1973, the RAN's oceanographic and hydrographic service is to have another new ship. She is HMAS *Cook*, which will replace HMAS *Diamantina*.

Cook will be of similar size to the survey ship HMAS *Moresby* but with distinct features of her own. Equipped with the latest survey techniques including satellite navigation, *Cook* will have accommodation and laboratory research facilities for a number of scientific staff in addition to the ship's company.

Plans have been made to buy two Patrol Frigates from the United States. Delivery is planned for the early 1980s.

• *HMAS Bass*

• *HMAS Banks*



• *Artist's impression of HMAS Cook*

Aircraft

The Skyhawk jet fighter-bomber (top left) is the air defence and strike aircraft of the Fleet Air Arm.

These transonic aircraft are ideal for high pay load/wide radius operations in tactical air support and they have increased the versatility of the aircraft carrier HMAS *Melbourne.*

The Douglas A4-G Skyhawk is a relatively small aircraft (weight empty—4450 kg) but it is capable of carrying an extensive and varied war load (maximum all-up weight—11,126 kg) over a considerable distance.

Its armaments include combinations of air-to-air missiles, a variety of 250, 500 and 1000 lb bombs, 20 mm cannon and rockets.

Embarked on *Melbourne* with the Skyhawks are anti-submarine Tracker aircraft and Wessex helicopters.

The Grumman S2E Tracker (below left) is an all-weather, twin-engine aircraft. It can remain on patrol for up to 10 hours and each carries a crew of two pilots, an observer and an aircrewman.

The Tracker is fitted with electronic devices for submarine detection and can be armed with homing torpedoes or depth charges.

The Westland Wessex 31B helicopter, which doubles in a search and rescue role, is equipped with sonar for its anti-submarine duties and can also be armed with homing torpedoes or depth charges.

The Wessex carries a crew of two pilots, an observer and an aircrewman.

Training and support aircraft of the Royal Australian Navy include Iroquois utility and search and rescue helicopters, Bell Kiowa helicopters, Macchi jet trainers and Hawker Siddeley 748 training aircraft.

• *Above left—Hawker Siddeley 748* • *Above right—Westland Wessex 31B Helicopter* • *Bottom left—Macchi Jets* • *Bottom right—Iroquois*

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