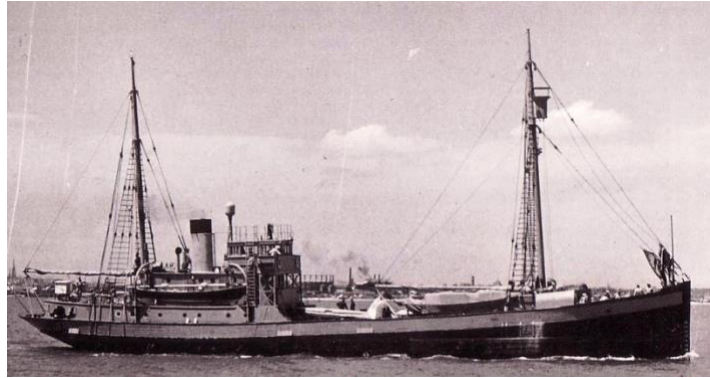


VESSEL DESCRIPTION & HISTORY - "AAD" SHIPPING POSTER

1947-48	HMAS WYATT EARP
1947-51	HMALST 3501 - HMAS LABUAN
1951	SS RIVER FITZROY
1952-53	MV TOTTAN
1953-57	MV KISTA DAN
1957-82	MV THALA DAN
1959-61	MV MAGGA DAN
1962-87	MV NELLA DAN
1974-84	MV NANOOK "S"
1983-84 & 1987-89	MV LADY FRANKLIN
1985	HMAS STALWART
1984-94	MV ICEBIRD
1989-90	MV POLAR QUEEN
1995 & 1998-99	MV L'ASTROLOBE
1995	BLUEFIN
1996 -2003	MV POLAR BIRD
1999-2000	RV TANGAROA
2003	KAPITAN KHLEBNIKOV
2003-04	SOUTHERN SUPPORTER
2003-04 & 2005-06	MV VASILY GOLOVNIN

HMAS WYATT EARP 1947-48



EARLY YEARS

The ship was constructed as a single-deck motor vessel named FV *Fanejord*, built from pine and oak for the Norwegian herring fishing trade. While being a motorised vessel, her masts and booms normally used for cargo handling were capable of being rigged for sailing in an emergency. She was purchased by the American explorer and aviator, Lincoln Ellsworth, for his 1933 Antarctic expedition, refitted and sheathed with oak and armour plate, and renamed *Wyatt Earp* after the marshal of Dodge City and Tombstone, Arizona. *Wyatt Earp* was used on four of Ellsworth's Antarctic expeditions between 1933 and 1939, primarily as a base ship for his aircraft.

RAN SERVICE

In February 1939, *Wyatt Earp* she was purchased from Ellsworth by the Government of Australia and handed over to the RAN, which intended to use the ship as a Fleet Auxiliary (Ammunition and Store Carrier). In September 1939, it was decided to rename her *Boomerang*, but the name was already in use by another Australian vessel. Instead, the ship was commissioned on 25 October 1939 as *Wongala*, an Australian Aborigine word meaning boomerang.

Wongala made one trip as a Royal Australian Fleet Auxiliary, leaving Sydney on 14 November 1939 bound for Darwin with a cargo of stores. On return to Sydney in January 1940, she was laid up pending future employment, but was reactivated and moved to Port Adelaide in South Australia, where she served with the Examination Service until late 1943. From November 1943 to March 1944, *Wongala* served as Guard Ship at Whyalla, South Australia, whilst also patrolling off Port Pirie and Wallaroo. In late March 1944, *Wongala* arrived at Port Adelaide to await disposal, and was paid off on 19 July 1944.

SEACADET SERVICE

Before her disposal, the Minister for the Navy received a request in March 1945 from the South Australian Branch of the Boy Scouts Association, that the ship be made available for Sea Cadet training.

ANTARCTIC SERVICE

In February 1947, the Scouts Association was notified by the Department of the Navy that the Federal Government was considering renewing Antarctic exploration. The Association was requested to return the vessel, which was inspected to determine her suitability for conversion to an Antarctic exploration vessel. The conversion

was approved, and in June 1947, prior to her impending voyage to the Antarctic, it was decided to recommission the ship under the name she had used during her previous visits to the Antarctic with explorer Lincoln Ellsworth.

WYATT EARP .Continued

The ship was recommissioned on 17 November 1947 at Port Adelaide as HMAS *Wyatt Earp*. Following a visit by Antarctic explorer Sir Douglas Mawson, *Wyatt Earp* sailed for Williamstown, Victoria in early December for preparation and loading.

After loading, including an *OS2U Kingfisher* amphibian of the Royal Australian Air Force, *Wyatt Earp* left from Nelson Pier, Williamstown on 19 December 1947 and proceeded to Hobart. Gales caused some problems en route. After several days in Hobart, the ship left for the Antarctic on 26 December 1947, but storm damage caused her to return to Melbourne for repairs, leaving again on 8 February 1948. The weather was intense, particularly beyond 65 degrees South, and a landing at Adelie Land was impossible. She turned towards Macquarie Island and there met HMAS *Labuan* discharging a team of scientists. *Wyatt Earp*

LATER YEARS

Wyatt Earp was sold to a commercial operator in late 1951 and was renamed *Wongala*. A later change of ownership had her called *Natone*, and under this name she plied the east Australian coast until wrecked in a storm near Double Island Point, Queensland, on the night of 23–24 January 1959.

HMAS LST 3501 - HMAS LABUAN 1947-51



EARLY YEARS

LST 3501 operated with the Royal Navy during World War II.(LST refers to a Landing Ship Tanks).

ANTARCTIC YEARS

In 1946, *LST 3501* was loaned to the RAN. It was commissioned into RAN service on 1 July 1946. In 1947, *LST3501* was selected to assist in the establishment of, then provide logistic support to, the Australian National Antarctic Research Expedition (ANARE) research facilities on Heard Island and Macquarie Island. The vessel was repainted yellow to assist with visual identification in Antarctic waters, and modified slightly to carry a Supermarine Walrus seaplane, which was launched by derrick. On 28 November 1947, *LST 3501* departed from Fremantle with fourteen ANARE personnel and twelve months of supplies, arriving at Heard Island on 12 December and offloading the supplies and scientists.¹ On 5 January, the Walrus was lost during foul weather, and was not replaced.

The ship returned to Melbourne, where more stores and a second group of 13 ANARE personnel were loaded before *LST 3501* sailed to Macquarie Island on 28 February 1948, arriving seven days later. After unloading for the second time, the landing ship waited for the arrival of the research vessel HMAS *Wyatt Earp* in late March before returning to Australia.

LST 3501 was renamed HMAS *Labuan* on 16 December 1948, after the amphibious landings at Labuan. The 1948 ANARE expedition named Cape Labuan on Heard Island after the ship, and used names of officers and senior enlisted personnel for Lavett Bluff, Mount Dixon, Cape Lockyer, and Hayter Peak.

She returned to the islands on five occasions to deliver supplies and transfer personnel: Heard Island during January to March 1949, 1950, and 1951, and Macquarie Island in April 1949 and 1950.

LATER YEARS

The landing ship was heavily damaged during the 1951 visit to Heard Island. *Labuan*, the ship attempted to sail home, but broke down completely en route. The vessel had to be towed back to Fremantle, arriving on 1 March 1951.

Labuan paid off to reserve on 28 September 1951 and was sold for disposal on 9 November 1955

KAPITAN KHLEBNIKOV 2003



HISTORY

The *Kapitan Khlebnikov* was completed in Finland in 1981 as one of four Kapitan Sorokin class icebreakers. She was refitted in 1990 as a tour ship, and was the first ship to circumnavigate Antarctica with passengers in 1996-97. In February 2006 the *Kapitan Khlebnikov* reached the Bay of Whales in the Antarctic, reaching 78° 40.871' south and equalling the record set by Roald Amundsen in the *Fram* in 1911. In November 2009, the ship was briefly stuck in a bay near to Snow Hill Island whilst carrying tourists.

CONSTRUCTION AND LAYOUT

A polar-class icebreaker, combining power and technology with creature comforts, *Kapitan Khlebnikov* was originally designed for the rigors of the Arctic Ocean. The vessel has twin decks with superstructure and engine room in the middle, an icebreaker bow and transom stern. The stern region is cushioned to allow for the close towing of other vessels when helping them through the ice.

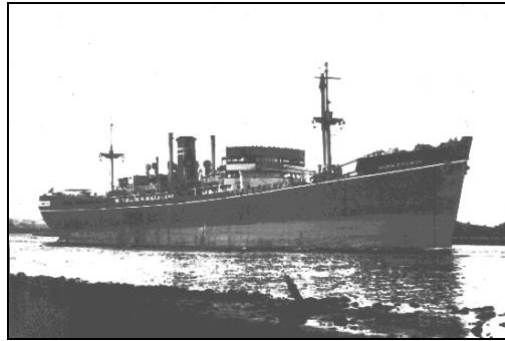
Passenger accommodation is in 54 cabins and suites, with 2 dining rooms, a lounge and bar. Facilities
The Kapitan Khlebnikov was trapped in Antarctic ice in mid November 2009. *The Guardian* reports that 101 passengers, mainly United Kingdom citizens, were among the 184 trapped ship's complement. The excursion was called the "*Emperor Penguin Safari*", and was arranged by an adventure travel firm called "Exodus". Three of the UK passengers were a *BBC* film crew, working on a documentary. The documentary, entitled "*Frozen Planet*", was broadcast in 2011.

The double hull has water ballast between, with pumps that can move ballast water at up to 74 tonnes a minute to aid ice breaking. The hull thickness is 45 mm at the ice skirt and 25–35 mm elsewhere. Friction between the ship and the ice is reduced by a polymer-paint coating at the level of the ice skirt. An air bubbling system helps ice breaking. Air can be forced under pressure from 2 m above the keel from the bow to halfway down the ship.

SERVICE In addition to charters for scientific missions, and for supplying mines and other resource exploitation industries, the vessel is chartered for adventure cruises.

The Kapitan Khlebnikov was trapped in Antarctic ice in mid November 2009. *The Guardian* reports that 101 passengers, mainly United Kingdom citizens, were among the 184 trapped ship's complement. The excursion was called the "*Emperor Penguin Safari*", and was arranged by an adventure travel firm called "Exodus". Three of the UK passengers were a *BBC* film crew, working on a documentary. The documentary, entitled "*Frozen Planet*", was broadcast in 2011.

SS RIVER FITZROY -1951



Due to severe damage to the HMAS *Labuan* on the 1951 Heard Island voyage, ANARE had to find another ship quickly to resupply Macquarie Island station later in the season. With a shortage of suitable ships, after several weeks of hurried negotiations, ANARE chartered the SS *River Fitzroy* from the Australian Shipping Board.

The *River Fitzroy*, named after the river in central Queensland, was built in 1941 to carry freight up and down the Australian coast. Travelling from South Australia to Port Kembla with a cargo of iron ore, the ship was diverted to Melbourne and Hobart to collect ANARE expeditioners and cargo.

SPECIFICATIONS

- Single-screw steamship (SS)
- River-class merchant freighter, shelter deck steamer with 5 cargo holds
- triple expansion steam engine with an exhaust turbine fitted
- capacity: 5001 gross tons; 2780 net tons
- approximate length: 157 metres
- approximate breadth: 17 metres
- capacity: 70 persons
- average speed: 12 knots
- 10 × 5-ton derricks, 1 × 20-ton heavy derrick crane
- 11 steam winches including warping winch

Key Antarctic voyages

Fortunately, the 1951 expedition experienced good weather except for the last day when strong winds and high seas made conditions uncomfortable for expeditioners. Antarctic Division Director, Phillip Law, noted that, “a cargo of iron ore is not conducive to a good ride.”

There were some difficulties when the crew, unused to Antarctic conditions, would not work around the clock to take advantage of the good weather conditions and unload the cargo quickly.

Departing Macquarie Island, the *River Fitzroy* sailed directly to Port Kembla to deliver its original cargo of iron ore, thereby ending its short Antarctic career.

Later life

In 1957, the Australian Shipping Board transferred ownership to the Australian National Line. In 1963, the *River Fitzroy* was sold to Amakasu Sangyo Kisen KK for scrap.

HMAS TOTTAN 1952 -53



The MV *Tottan* was a steel-hulled Norwegian sealer which had been used by the French Antarctic program to resupply their base. Lacking a suitable ship, ANARE chartered the vessel. The *Tottan* was named after its owner, Partrederiet Tottan.

SPECIFICATIONS

- Motor Vessel (MV)
- 4-stroke diesel engine, Krupp type
- capacity: 540 ton gross, 610 deadweight
- overall length: 74 metres
- breadth: 9 metres
- speed: 11 knots
- cargo capacity: 2 holds, 2 hatches, 2 booms and winches
- cooling and freezer

ANTARCTIC VOYAGES

Although the *Tottan* was a small vessel, it was more stable in rough seas than the *Wyatt Earp*. Nevertheless, on the 1952 voyage to Heard Island, the little ship battled gale-force winds and large seas causing many ANARE expeditioners to be seasick most of the time. A dozen sheep being sent to Heard Island were in a pen on the deck of the ship. With their pen destroyed by crashing waves, the sheep enjoyed the rest of the voyage in the exclusive quarters of the Captain's bridge!

The *Tottan* was too small to carry the Army amphibious vehicles (called DUKWs), that were used on the *Labuan* to transport cargo from the ship to station. Inflatable pontoons with timber decking, used by the United States in World War II, were selected as the best option on the *Tottan*. They were so successful that ANARE continued their use for the *Tottan's* four voyages between 1951 and 1953.

LATER LIFE

Following the ANARE, the *Tottan* worked primarily in the Arctic region. In 1956, the *Tottan* returned to the Antarctic to the Weddell Sea as part of an International Geophysical Year (IGY) expedition for the British Royal Society.

In the 1960s, the ship operated as a sealing and fishing vessel in Canada. In 1976, it was sold and converted for diving and salvage. MV *Kista Dan* 1953-1957

MV KISTA DAN 1953-57



The MV *Kista Dan* played a vital role in the establishment of two ANARE stations: Davis and Mawson. Built in Denmark in 1952 by the J. Lauritzen Lines, the *Kista Dan's* diesel-powered engine and hull form were capable of navigating in difficult ice conditions. 'Kista' is a Scandinavian name; 'Dan' means from Denmark (Danish).

SPECIFICATIONS

- Motor Vessel (MV)
- Lloyds + 100 A1 “Strengthened for navigation in Ice” and Finnish Ice Class 1A.
- main engine: Burmeister & Wain diesel, type 635-VF-62, bore 350 mm, stroke 620 mm.
- length: 64.89 metres
- breadth: 11.2 metres
- capacity: 1250 tons gross
- range of action: 14 500 nautical miles
- speed: 12 knots
- passenger capacity: 24 with 2, 3 and 6 berth cabins

SPECIAL FEATURES

The *Kista Dan* was the first of the *Lauritzen* ships to have the vivid red that has since become emblematic of polar ships. The ship was originally painted white. The ship impressed all on board with its speed and ability to break through the pack ice. With significant cargo capacity, the larger cargo hold could transport an Auster aircraft used by ANARE for early mapping and surveying work.

ANTARCTIC VOYAGES

During her first ANARE voyage in December 1953, the *Kista Dan* visited sub-Antarctic Macquarie Island and Heard Island to resupply the stations, and Kerguelen Island. Heading further south to Antarctica in early 1954, the voyage's key aim was to find a suitable location for Australia's first continental station. Using the materials transported on the *Kista Dan*, expeditioners built huts and buildings to establish Mawson station.

In 1955, on return to Australia, the *Kista Dan* was lighter having unloaded cargo to the stations. Encountering rough seas caused by a hurricane off the Antarctic coastline near the Vestfold Hills, the *Kista Dan* lay on a 30 degree angle tilt due to the force of the winds. The ship's engineer was unable to pump sea water into the forward tanks to improve stability because of frozen pipes. Captain Hans Christian Petersen was unable to gain full control of the ship.

KISTA DAN ...Continued

Antarctic Division Director Phillip Law recalled: No combination of rudder and engine revolutions could counteract the force of the winds on the bows, and the Kista Dan broached to. Lying over on the port side, she drifted helplessly, pounded by every breaking wave and held in a permanent list by the hurricane.

The Auster aircraft strapped to the deck was blown over the side. Fearful passengers endured the terrible conditions. Large waves smashed frozen ice floes against the ship's side causing horrible, menacing sounds. Eventually, the ship's crew managed to free the frozen pipes and Captain Petersen was able to steer the ship to safety.

The *Kista Dan* was chartered by ANARE until 1957 when it was replaced by the *Thala Dan* and the *Magga Dan*.

LATER LIFE

In 1967, the *Kista Dan* was sold to the Karlsen Shipping Co. Ltd for the Canadian sealing industry, and renamed *Martin Karlsen*.

The ship was sold in 1979 to the Bowring Steamship Company, renamed *Benjamin Bowring*, and chartered to the Transglobe Expedition, the first ever longitudinal circumnavigation of the world (including the both poles) across land, sea and ice.

Sold to Halba Shipping Ltd London, who intended to charter the ship for research work, in 1983 it was renamed the *Arctic Gael*. Bought the following year by Freighters & Tankers Ltd, and renamed *Olympiakos*, the ship was converted to a yacht.

In 1997, the ship was sold to Polar Ventures Ltd. However, due to the cost needed to repair serious structural damage to the hull caused by collision with the harbour wall during a storm, Polar Ventures Ltd was forced to sell the vessel for scrap.

MV THALA DAN 1957-82



Built in 1957 in Denmark, the MV *Thala Dan* was a substantial ship for the time. Following the success of the *Kista Dan*, the J. Lauritzen Lines built another two ships of the same type, but larger and more powerful: the *Thala Dan* and the *Magga Dan*. Each ship was ice-strengthened for navigation in polar waters. 'Thala' is a Scandinavian name; 'Dan' means from Denmark (Danish).

SPECIFICATIONS

- Motor Vessel (MV)
- Lloyds + 100 A1 Ice Class 1 “Strengthened for navigation in Ice” and Finnish Ice Class 1A
- main engine: Burmeister & Wain 2020 IHP (Indicated Horse Power)
- capacity: 1400 tons dead weight
- length: 75.14 metres
- breadth: 13.7 metres
- 50 passengers in 2, 3, 4 and 5 berth cabins
- service speed: 12 knots
- 3 cargo holds with overall capacity of 1800 cubic metres
- 9 heavy lift derrick cranes with lifting capacity ranging from 2 to 30 tons

ANTARCTIC VOYAGES

In 1959, the *Thala Dan*, approaching newly established Davis station, ran onto an uncharted rock pinnacle. Station Leader John Béchervaise recalled the incident: Suddenly we struck a rock. This was really a tremendous shock, in every sense of the term. I can remember the masts quivering and making a strange noise, as if they were vibrating, and a few men were almost thrown off their feet.

Captain Hans Christian Petersen followed the same course of action as Captain Cook when his ship, the *Endeavour*, suffered a similar fate on the Great Barrier Reef in 1770. A sail was passed under the hull which prevented the inflow of water, the water was pumped out of the tank, and the captain prepared a number of wooden wedges to be driven into the gash from the oil tank just inside the hull, which had taken the strain. – Interview with John Béchervaise & Tim Bowden, ANARE Jubilee history project. It took over two weeks to free the ship, and almost another fortnight to continue the short distance to Davis station, where temporary repairs enabled the ship to return to Australia.

LATER YEARS Over the course of its Antarctic service, the *Thala Dan* was used during the Arctic northern summer to transport cargo and passengers to Greenland.

In 1982, the ship was purchased by the Brazilian Navy for Antarctic service, and renamed the *Baroa de Teff*. The ship ceased service in 2002, and was scrapped in 2007.

MV MAGGA DAN 1959-61



Like the other Dan ships, the *MV Magga Dan* made a significant contribution to resupplying Australian Antarctic stations, and facilitating mapping, surveying and exploration. The *Magga Dan* was constructed in Denmark by the J. Lauritzen Lines, and was equipped with very similar features to the *Thala Dan*.

'Magga' is a Scandinavian name; 'Dan' means from Denmark (Danish).

SPECIFICATIONS

- Motor Vessel (MV)
- Lloyds+ 100 A1 "Strengthened for Navigation in Ice", and Finnish Ice Class 1 A
- main engine: Burmeister & Wain type 735-VBF-62. The engine was a direct reversible single-acting two-stroke, 7-cylinder diesel motor with turbo charge
- length: 75.14 metres
- breadth moulded: 131.72 metres
- bunker capacity: 450 tons
- range of action: 16 000 miles
- speed: 12 knots
- passenger capacity: 35

The *Magga Dan* was ice-strengthened to an unusual extent with stem and shell plating beyond requirement. Like the *Thala Dan*, the ship was fitted with an ice knife to protect the rudder when going astern. In addition, three ice fins were arranged on each side of the hull to protect the propeller from ice damage.

ANTARCTIC VOYAGES

On the *Magga Dan's* 1959–1960 voyage, ANARE surveyors and scientists explored the entire coastline of the Australian Antarctic Territory using land-based expeditions via dog-sledge, and mapping and surveying via aircraft operations. It was the first time that helicopters were used by ANARE in Antarctica. They became an established tool of operations from 1960.

NELLA DAN 1962-87



MV Nella Dan was one of the famous 'Dan' ships of the Danish J. Lauritzen A/S Lines that were almost synonymous with ANARE (Australian National Antarctic Research Expeditions) shipping through the early years of Australia's official Antarctic program. Others in the fleet included *Kista Dan*, *Magga Dan* and *Thala Dan*.

ANTARCTIC SERVICE

Commissioned by Lauritzen with considerable input from the Australian Antarctic Division, *Nella Dan* was named in honour of Nel Law, wife of the AAD Director of the time, Phillip Law.

Built by the Aarlborg Shipyard Pty Ltd in 1961, she incorporated all the features of her older sisters, *Thala Dan*, *Kista Dan* and *Magga Dan*. An ice breaker stern, ice fins and ice knife were becoming regular features, but a novel addition was the double hull in the engine room and part of the holds. The ascent to the crow's nest was through the interior of the mast, and the ship supplied its own fresh water with an Atlas generator. At the time of her construction, *Nella Dan* was regarded as setting the standard for polar vessels.

Nella Dan sailed to the Antarctic every year she was chartered by ANARE, from 1962 to 1987. Her service record remains unchallenged as the longest continuously serving of any Antarctic ship.

Besetment (locked in the ice) in 1985

Nella Dan enjoyed the dubious distinction of plunging her passengers into an unexpected seven week stationary sojourn in the ice in 1985, the longest besetment (being surrounded by ice without helm control) ever experienced by any ANARE ship. She was eventually released from besetment by digging the ice away from the hull. At that time, the Japanese icebreaker *Shirase* rushed to assist the trapped vessel. *Nella Dan* finally followed a trail of *Shirase* and got away from the iced-over ocean.

Final Voyage

On her last fateful voyage on the evening of 3 December 1987, during resupply operations at Macquarie Island, bad weather blew up. *Nella Dan* dragged her anchor and was driven aground just metres off the island, while transferring fuel from the ship to the sub-Antarctic station. Other cargo unloading had ceased because of strong winds and high seas. A definitive cause of the accident was never determined, it was reported that *Nella Dan* dragged her anchor in very heavy seas while at the normal anchorage point in Buckles Bay.

NELLA DAN Continued

The vessel was rapidly washed onto rocks close to the research station it was supplying. Damage to the vessel was immediate and serious, the ship's hull was holed in two places and water flooded the engine room. Most of the expedition staff were ashore at the time of the accident, but 17 expedition staff were aboard together with the crew. There were no casualties or injuries to the crew or expedition personnel.

Several members of the 35 Water Transport Squadron attached to ANARE sailed three LARC (Light Amphibious Resupply Craft) to evacuate the Antarctic expeditioners and ship's crew still on board. For these actions the soldiers Philip Wharton CLARK, Kenneth Stanley BARRINGTON, Dudley Raymond CROWE, Timothy GAY, Gregory Dale KENNY and Alistair Andrew SCOTT were subsequently awarded a Group Bravery Citation by the Australian Governor-General Quentin Bryce on 17 August 2009.

The Macquarie Island station, normally designed to accommodate 32 expeditioners, had to accommodate over 100 people until their rescue. At the time of the accident *Icebird*, another vessel chartered by the Australian Antarctic Division, was returning to Hobart from Davis Station in Antarctica. *Icebird* was immediately diverted to Macquarie Island to pick up the personnel and crew from *Nella Dan*. She arrived at Buckles Bay on 8 December 1987.

Scuttling

Within four days of the accident, the owners of *Nella Dan*, the Danish Lauritzen company, had chartered an oil rig tender, *Lady Lorraine*, which left Victoria carrying company representatives as well as insurance assessors, a team of divers and salvage experts. To protect the ship from further damage while awaiting possible salvage, the vessel deliberately took on sea water as ballast. This was intended to add sufficient weight to the hull to hold it in position on the rocks and prevent further damage or movement back out to sea. Although having a list of about 11 degrees, the ship was kept in a stable position and was also secured with cables to the shore. When the storm abated all remaining expedition equipment was removed from the ship

Although plans were initially made to salvage the vessel, the decision was eventually made to scuttle her. At 5.42 pm on 24 December 1987, she was sunk in deep water off Macquarie Island. To continue supporting the expedition program the Australian Antarctic Division chartered the Canadian vessel *Lady Franklin*, an ice-strengthened cargo vessel, for the remainder of the summer season.^[2]

MV NANOOK “S “ 1974-84



Built in 1962 in Denmark by the Svenborg Skibsværft shipyards, the MV *Nanok S* played a support role in transporting supplies for the ANARE station rebuilding program. Accommodating only 20 passengers, the *Nanok S* was a modest addition compared to the two other ships in use during this period, the *Nella Dan* and the *Thala Dan*.

SPECIFICATIONS

- Motor Vessel (MV)
- Finnish Ice Class 1A
- engine Mak. type MZV582Ak, single-acting, 10 cylinder, 4-stroke diesel. Auxiliary engines were 2 × 110 kW 164 BHP diesel generator sets, 2 × 70 kW 108 BHP diesel generator sets
- length: 88.5 metres
- breadth moulded: 12.75 metres
- capacity: 3000 tons gross
- bunker capacity: 752.7 cubic metres
- average speed: 13.2 knots
- passenger capacity: 20; crew: 24

ANTARCTIC VOYAGES

On its first trip south with ANARE in the summer of 1979–80, the *Nanok S* carried a contingent of naval personnel, the largest to form part of an Australian Antarctic expedition.

In 1980, the *Nanok S* transported the first woman to winter on an Australian Antarctic station, Medical Officer Dr Louise Holliday, to Davis station.

LATER LIFE

In 1987, the *Nanok S* was sold to a Chinese freighter and renamed the *Yan Dang Shan*.

MV LADY FRANKLIN 1983-84 1987-89



Built in 1970 in Germany, the MV *Lady Franklin* was originally named the *Baltic Valiant*. In 1981, the freighting company C. A. Crosbie Shipping Ltd, operating a cargo service between Canada and Newfoundland, changed its name to *Lady Franklin*. It was named after the Lady Jane Franklin, wife of the former Lieutenant Governor of Van Diemen's Land, Sir John Franklin, whose 1844 expedition to find a Northwest Passage sea route through the Canadian Arctic archipelago was lost.

The *Lady Franklin* was first chartered by ANARE in 1983 to replace the [*Thala Dan*](#).

SPECIFICATIONS

- Motor Vessel (MV)
- Finnish Ice Class 1A
- engines diesel - G9V, auxiliary engines were MWM, 2 × 325 kVA, MWM - 1 x 145 kVA.
- length: 103.42 metres
- breadth moulded: 15.6 metres
- bunker capacity: 344.79 cubic metres
- passenger capacity: 52; crew: 21
- 2 cranes with capacity of 10 tons (could combine to lift 20 tons), 1 crane with 5-ton capacity

The ship was arranged with the forward section of the vessel for cargo, and the superstructure (including bridge, crew, and some passenger accommodation, office and mess) all aft. The *Lady Franklin's* efficient cargo-handling equipment allowed expeditions to unload in record time.

ANTARCTIC VOYAGES

In 1988, on the ship's first voyage of the season, the *Lady Franklin* was forced to abandon its attempt to reach Commonwealth Bay near Mawson station. Heavy pack ice early in the season forced the ship to return to Hobart, delaying the conservation project to restore Mawson's Huts.

LATER LIFE

In 2003, the *Lady Franklin* was sold as a general cargo ship, and renamed the *Mariam VI*.

HMAS STALWART 1985



The HMAS *Stalwart*, constructed in 1968, was the largest Royal Australian Navy vessel completely designed and built in Australia. The HMAS *Stalwart* provided maintenance and repair services to other vessels so that destroyer warships could spend more time on duty. The ship was named for its reliability in servicing the Navy's working fleet.

Specifications

- His or Her Majesty's Australian Ship (HMAS)
- naval escort maintenance ship
- 2 × 6-cylinder Scott-Sulzer diesels of 5200 kilowatts driving twin screws
- overall length: 157.12 metres
- breadth: 20.57 metres
- capacity: 15 500 tons
- ship's company: 25 officers and 392 sailors
- speed: 20 knots

Key Antarctic voyage

In 1985, when the [*Nella Dan*](#) became stranded in the pack ice for six weeks, ANARE chartered the HMAS *Stalwart* for one voyage to resupply sub-Antarctic Macquarie Island station.

Later life

The HMAS *Stalwart* was later used by the Navy as a training vessel. The ship was sold in 1990, and converted to a cruise ship. It was scrapped in 2003.

MV ICE BIRD 1984-94



With the rebuilding program underway at Australia's stations, ANARE needed a ship that had a large cargo capacity to transport supplies. The MV *Icebird* was custom made for ANARE in Germany by Antarktis und Spezialfahrt Schiffartsgesellschaft GmbH (GSS). Described by the company as the world's first purpose-built polar resupply vessel, it was named for its ability to 'fly' through the ice.

SPECIFICATIONS

- Motor Vessel (MV)
- Ice class: Arc 1 / E4 (forepart Arc 2) icebreaker
- Installed power: MAK 5.4000 horse power, 4000 kilowatts
- capacity with module: 4378 tons
- capacity without module: 6436 tons
- length: 106.6 metres
- breadth: 19.9 metres
- speed: 14.7 knots
- 98 passengers in module accommodation; 22 crew

The *Icebird's* bow was constructed to the latest ice-breaking design. Its owners designed the ship to break one year old ice with continuous speed, and avoid the constant threat to Antarctic shipping: besetment. Special features that enabled ANARE to unload cargo in remote areas included a strengthened helideck, 'tween-deck hatch covers that doubled as pontoons, and an ice-strengthened pusher barge.

ANTARCTIC VOYAGES

The *Icebird* was fitted with a detachable accommodation module to carry passengers. It was clamped to the ship in front of the bridge, and secured with bolts.

In late 1984, on the ship's first voyage, the accommodation module started shifting from side to side in heavy seas. Passengers became increasingly worried, and the securing bolts were tightened by the crew. Heinrich Brand, the manager of the shipyard company, visited Australia to reassure ANARE staff. He was on board the voyage departing Hobart in January 1985. On the first night, the *Icebird* rolled heavily causing the module to move five centimetres with a loud clunk, terrifying the passengers. Captain Ewald Brune, not convinced of the safety of the construction, recalled:

Within about 60 seconds I had 90 expeditioners on the bridge, saying that the module had moved – you could really feel it shaking! I saw on the bridge a very pale Mr Brand. I said, 'Mr Brand, no matter what your construction company is telling me, the module is no longer a part of this ship – it is deck cargo. And deck cargo must be lashed!' – Interview with Ewald Brune & Tim Bowden, ANARE Jubilee Project, 13 July 1995.

MV ICE BIRD Continued

Captain Brune ordered his crew to secure the module with 200 chains. Before the next voyage, the module was welded into place. This memorable event was recorded in ANARE history with the song, '*Click go the bolts!*'

LATER LIFE

During the 1995–1996 season, ANARE's primary charter, the RSV *Aurora Australis*, was out of service for a month with mechanical problems. A replacement ship was needed – the *Icebird*! The ship was renamed the MV *Polar Bird* in 1996 by its new Norwegian owners, the ship was occasionally chartered by ANARE to support operations alongside the *Aurora Australis* until 2003.

In 2003, the *Polar Bird* was sold for general cargo service, and renamed the *Almog*.

MV POLAR QUEEN 1989-90



Built in Norway in 1983, the MV *Polar Queen* was chartered by ANARE for only one season making voyages to each of Australia's three Antarctic stations, and two trips to sub-Antarctic Macquarie Island station. The *Polar Queen* had previously completed voyages to the Antarctic with German and Italian expeditions, as well as numerous Arctic voyages. The ship was named for its ability to conquer difficult polar conditions.

Specifications

- Ice-strengthened with double hull
- length: 65 metres
- power: 4500 horsepower engine
- two large cargo holds with total capacity of 1530 cubic metres
- 53 passengers
- 2 Hiab Sea cranes with capacity of 2.5 ton
- Mecca MK 21 and GPS receiver for determining position
- average speed: 13 knots

Special features

The ship featured fire protection monitoring, internal communication and public-announcement systems as well as camera monitoring of the aft-deck. Ice-strengthened with a double hull, the *Polar Queen* was equipped with a fuel oil storage arrangement that minimised the risk of accidental oil spill.

Facilities to support research work included handling crane, capstans, laboratory with separate climate control and stabilised power supply, scientific stores, and high-pressure hydraulic system for scientific winches. The ship also used satellite navigation and communication equipment, and computers.

Key Antarctic voyage

The *Polar Queen* was used to undertake short marine science cruises aimed mainly at collecting live krill for study at the new specially-designed cold room laboratories at ANARE headquarters in Kingston. ANARE scientists pioneered techniques to study large numbers of live krill in the laboratory, providing valuable data on the key role krill plays in the Southern Ocean ecosystem.

Later life

In 1995, the ship was replaced by its builders Rieber Shipping in 1995 with a second *Polar Queen*.

L'ASTROLOBE 1995 1998-99



Built in 1986, the MV *L'Astrolabe* is the main resupply vessel used by l'Institute Polaire to support research for the French Antarctic program and resupply the Dumont d'Urville base. Based in Hobart, the ship is occasionally chartered by the Australian Antarctic Division.

L'Astrolabe is named after the astrolabe, an instrument once used by navigators to measure the position of stars in the sky to determine local latitude.

Specifications

- Motor Vessel (MV)
- Ice class A-super
- 2 main engines each 2270 kilowatts, 2 shafts, 2 variable pitch propellers
- length: 65 metres
- beam: 12.8 metres
- capacity: 949 tonnes dead weight
- crane lifting capacity: 32 tonnes
- rear A-frame lifting capacity: 20 tonnes
- 50 passengers in 13 cabins; 12 crew

Key Antarctic voyages

In the spirit of international cooperation in the Antarctic, over the years *L'Astrolabe* and the *Aurora Australis* have assisted each other in difficult ice conditions.

In addition to *L'Astrolabe's* extensive Antarctic career, during the 1991 French, Japanese and Russian collaborative expedition it became the first European ship since 1922 to complete the Northwest Passage through the Arctic to Japan.

Current life

In addition to its service to the French Antarctic program, the ship also regularly resupplies the joint French and Italian station Concordia at Dome C.

TV BLUE FIN 1995



TV Bluefin is a 34.5m purpose-built fisheries training vessel.

Bluefin has been chartered by a diverse range of maritime companies and has been used extensively by the offshore industry for underwater pipeline work and hydrographic surveying. She has also been used by charterers for such diverse work as:

- Rescuing stranded Antarctic scientists from Macquarie Island
- Minesweeping trials for the Royal Australian Navy
- Survey work for undersea cables in Bass Strait
- Marine environment survey work for science organisations in Australia

MV POLAR BIRD 1996-2003



Originally launched in 1984 as the MV *Icebird*, the world's first purpose-built Antarctic resupply ship was renamed the MV *Polar Bird* in 1996 by its new Norwegian owners. The *Polar Bird* was named for its ability to 'fly' through the ice.

Specifications

- Motor Vessel (MV)
- Ice class: Arc 1 / E4 (forepart Arc 2) icebreaker
- Installed power: MAK 5.4000 horse power, 4000 kilowatts
- capacity with module: 4378 tons
- capacity without module: 6436 tons
- length: 106.6 metres
- breadth: 19.9 metres
- speed: 14.7 knots
- 98 passengers in module accommodation; 22 crew

Key Antarctic voyages

The ice-strengthened ship was chartered by ANARE from 1984–85 to 1994–95 under its former name (the *Icebird*), and from 2000–2003 as the *Polar Bird*.

In 2001, while attempting to transport supplies to the ANARE field camp on the Amery Ice Shelf west of Davis station, the *Polar Bird* became trapped by heavy pack ice in Prydz Bay. The more powerful icebreaker, the RSV *Aurora Australis*, departed from Casey station to help rescue the ship. Although the *Aurora Australis* was now nearby, further bad weather made its captain retreat for fear that ship might also become stranded. Once weather improved, the *Aurora Australis* moved closer to the *Polar Bird*, slowly making its way through the thick pack i

TANGAROA 1999-2000



The RV *Tangaroa*, the research vessel of the New Zealand National Institute of Water and Atmospheric Research (NIWA), was built in 1991 in Norway.

An ice-strengthened, deep-water research vessel, the ship's facilities are designed support marine science in the Southern Ocean environment.

In Maori mythology, Tangaroa is the god of the sea.

Specifications

- Research Vessel (RV)
- DNV – 1A1 (stern trawler/research vessel) + Ice 1C (light ice: ice floes up to 0.4 metres thick)
- main engines: Wartsila Vasa 8R 32D 2 999 kilowatts
- length: 70 metres
- breadth: 13.8 metres
- capacity: 2291 tons (gross)
- 26 passengers, 18 crew

Key Antarctic voyages

The *Tangaroa* was chartered by the Australian Antarctic Division for one voyage during the 1999–2000 season. The purpose of this voyage was to conduct a range of geoscientific research programs with scientists from the Italian Observatorio Geofisico Sperimentale.

In 2015, the *Tangaroa* travelled through the Southern Ocean to the Ross Sea on the Australia-New Zealand Antarctic Ecosystems Voyage, a collaboration between Antarctica New Zealand, the New Zealand National Institute of Water and Atmospheric Research (NIWA), and the Australian Antarctic Division. Research focused on the feeding areas of blue whales and humpback whales, to better understand factors affecting their numbers and distribution.

Current life

As NIWA's flagship, the *Tangaroa* continues to provide support for New Zealand environmental survey and ocean science throughout the Southern Ocean and Antarctica.

SOUTHERN SUPPORTER 2003-04



The P&O operated vessel "Southern Supporter" is usually under charter to the Australian Customs Department and operates as a fisheries Patrol vessel in the seas around Heard and McDonald Islands watching out for Patagonian toothfish pirate fishing vessels. She has in recent seasons undertaken two widely reported long chases of such vessels both of which were eventually arrested and escorted to Australia.

In December 2003 the "Southern Supporter" was chartered by the Australian Antarctic Division to transport expeditioners to and from Heard Island from Fremantle in Western Australia.

The ship was built at Vigo, Spain in 1993. The hull which was originally designed for deep sea trawling has an Ice Class 1A rating. Fitted with three cargo holds, the ship can reach a maximum speed of 12 knots in full loaded condition. She is fitted out with state of the art safety and navigational equipment, high standard passenger/crew accommodation and related scientific & technical facilities, workshops and spaces. She also has a helideck.

THE CHASE of the Australian Customs and Fisheries Patrol Vessel

On 7 August 2003, Australian Customs and Fisheries patrol vessel *Southern Supporter* spotted *Viarsa I* in Australian territorial waters near Heard Island. Suspecting the vessel of illegal fishing for toothfish, the Australians ordered the crew to stop. They fled, and this began a chase that would last for three weeks. The pair of vessels faced huge seas and numerous icebergs, and the rivalry was briefly suspended when the fishermen became lost in Antarctic sea ice and were directed to safety by the Australian sailors.

As the chase progressed across thousands of nautical miles of ocean, *Southern Supporter* was joined by a South African salvage tug *John Ross* and polar icebreaker *SAS Agulas* and Falkland Islands-based British Fisheries patrol boat *Dorado*. On 28 August, after 3,900 nautical miles (7,200km), the contingent, led by Australian Customs Officer Steve Duffy, surrounded *Viarsa* 12,000 nautical miles south west of Cape Town, South Africa.

It was the longest chase of an ocean poacher in history until the Sea Shepherd vessels *Bob Barker* and *Sam Simon* intercepted the Nigerian-flagged trawler *Thunder*, also a toothfish poacher and pursued her from December 2014 to April 2015 as part of Sea Shepherd's "operation Icefish" campaign.

VASILIIY GOLOVNIN 2003-04 2005-06



The *Vasiliiy Golovnin* has been chartered to replace the *MV Polar Bird*, which was sold following the completion of its final voyage last season. Owned and operated by the Far Eastern Shipping Company of Vladivostok, the *Vasiliiy Golovnin* has initially been chartered for one season, with options to extend this charter to a maximum of five years.

At 159.8m long, the *Vasiliiy Golovnin* provides the AAD with a cargo capacity greater than any ship it has previously used. The increased capacity will allow the AAD to undertake the resupply of multiple continental stations on the one voyage. This has been a goal for some time, although it has not previously been possible due to the smaller capacities of ships used in the past.

Operations on the *Vasiliiy Golovnin* will commence on 26 December when it comes on charter in Hobart. The vessel will then be loaded with cargo for Casey, Mawson and Davis stations, departing for Casey on the 30 December. The voyage will take approximately 48 days, with the vessel expected to arrive back in Hobart on 16 February.

The 13,514 tonne ship, registered in Vladivostok, is one of a series of Vitus Bering class icebreaking transport vessels purpose-built for service in Arctic and Antarctic waters. Sister ships are also used to support other nations' Antarctic programs.

MV Vasiliiy Golovnin was built to carry general and bulk cargo, cargo fuel oil, heavy vehicles and containers. It is fitted with hydraulic electric deck cranes, stern quarter door and landing ramp, helicopter hangar and helipad. Powered by two 5,730 kW diesel electric engines, the vessel has a Russian crew of 39 and can accommodate approximately 27 expeditioners.

- IMO: **8723426**
- Name: **VASILIIY GOLOVNIN**
- MMSI: **273149510**
- Vessel Type: **GENERAL CARGO**
- Gross Tonnage: **13514**
- Summer DWT: **10700 t**
- Build: **1988**
- Flag: **RUSSIA**
- Home port: **VLADIVOSTOK**

AURORA AUSTRALIS 1990 – PRESENT DAY



Aurora Australis is an Australian icebreaker. Built by Carrington Slipways and launched in 1989, the vessel is owned by P&O Maritime Services, but is regularly chartered by the Australian Antarctic Division (AAD) for research cruises in Antarctic waters and to support Australian bases in Antarctica.

DESIGN AND CONSTRUCTION

Designed as a multi-purpose research and resupply ship, *Aurora Australis* was built by Carrington Slipways in Tomago, New South Wales.^[1] The vessel was launched in September 1989.

Aurora Australis is 94.91 metres (311.4 ft) long, and has a beam of 20.3 metres (67 ft), draught of 7.862 metres (25.79 ft) and moulded depth of 10.43 metres (34.2 ft). Her displacement is 8,158 tons, gross tonnage 6,574 and deadweight tonnage 3,911 tons. Her propulsion machinery consists of two Wärtsilä medium-speed diesel engines in father-son arrangement, one 16-cylinder 16V32D producing 5,500 kW and one 12-cylinder 12V32D producing 4,500 kW. Both engines are coupled to a single shaft through a reduction gear, driving a single, left-hand-turning controllable-pitch propeller. Slow speed manoeuvring is achieved with three manoeuvring thrusters, one forward and two aft. *Aurora Australis* has a maximum speed of 16.8 knots (31.1 km/h; 19.3 mph),^l and a cruising speed of 13 knots (24 km/h; 15 mph). The vessel can break level ice up to 1.23 metres (4 ft 0 in) thick at 2.5 knots (4.6 km/h; 2.9 mph).

Aurora Australis is served by a crew of 24 and carry up to 116 passengers accommodated in three or four-bunk cabins with attached bathrooms. The ship has a cargo capacity of 1,700 cubic metres (60,000 cu ft) for break bulk or 29 twenty-foot equivalent containers, and a supply tank that can hold 1,000 cubic metres (35,000 cu ft) of fuel. The ship is fitted with laboratories for biological, meteorological, and oceanographic research, and was designed with a trawl deck for the deployment and recovery of research instruments while at sea. The ship's hangar and helideck allow for the operation of up to three helicopters usually Eurocopter Squirrels or Sikorsky S-76s.

OPERATIONS

Aurora Australis is chartered by the AAD over the southern summer for research purposes, and to support the Antarctic bases operated by the AAD. The vessel spends most winters in port in Hobart, Tasmania, as the AAD headquarters is in the nearby town of Kingston. P&O sometimes charter the ship for other work during winter.

In 1998, *Aurora Australis* became stranded in ice and was attempted to be towed into clear water by the Japanese icebreaker *Shirase*. The onboard engineers afforded temporary repairs and the vessel was able to make its way to clear water under its own power.

MV AURORA AUSTRALISContinued

On 8 May 2011, *Aurora Australis* was chartered by the Department of Defence for a two-month deployment (ending 30 June) as an amphibious transport ship supporting the Royal Australian Navy. The charter, costing A\$3.375 million, was to assist in the Australian government response to humanitarian crises and natural disasters that occurred while the naval heavy lift ship HMAS *Tobruk* underwent maintenance. Chinese research vessel *Xuě Lóng* and French icebreaker *L'Astrolabe* attempted to rescue *Akademik Shokalskiy*, which had become stranded in thick Antarctic ice in Watt Bay. None of the three ships were able to reach the Russian icebreaker, with *Aurora Australis* aborting efforts on the morning of 30 December, due to the risk of the ship also becoming stuck. On 2 February, the 52 passengers from *Akademik Shokalskiy* were transported by helicopter to *Aurora Australis* by *Xuě Lóng's* helicopter (the Chinese icebreaker having become trapped as well) After the rescue, *Aurora Australis* continued on her original mission to resupply Casey Station, before returning to Hobart on 22 January.

GROUNDING

On 24 February 2016, the vessel was damaged when it ran aground in Horseshoe Harbour, near Mawson Station, Antarctica, during a blizzard, after a shackle on a forward mooring line came undone, causing the other three lines to break. It was refloated on 27 February 2016 and returned to Western Australia for repairs.

REPLACEMENT VESSEL;

The predicted end of service life for *Aurora Australis*, after the most recent round of refits, is May 2017. In late October 2015, the Australian government announced a plan to acquire a new icebreaker to replace *Aurora Australis* by 2019. The *Nyuina* will be custom-built for the Australian government at a cost of up to A\$1 billion (with DMS Maritime as the preferred tenderer and maintainer, naval architects Knud E. Hansen as the designer, and Damen Group as the shipbuilder. P&O were originally in competition for the tender, but withdrew in January 2015, citing costing inefficiencies in the proposed contract. As of October 2015, there has been no decision made on how to cover the capability gap between the two vessels.

NEW VESSEL

Nyuina will have a displacement of 23,800 tonnes and be 156 metres (512 ft) long, with a top speed of 16 knots (30 km/h; 18 mph) and a cruising speed of 12 knots (22 km/h; 14 mph). The ship will carry up to 160 crew and passengers, and a cargo capacity of 3,000 square metres (32,000 sq ft), including 96 shipping containers.¹ The vessel will be able to break ice up to 1.65 metres (5 ft 5 in) at 3 knots (5.6 km/h; 3.5 mph) The icebreaker is expected to be operational in 2020, and will be home-ported in Hobart for the ship's 30-year opera