SIGNALS

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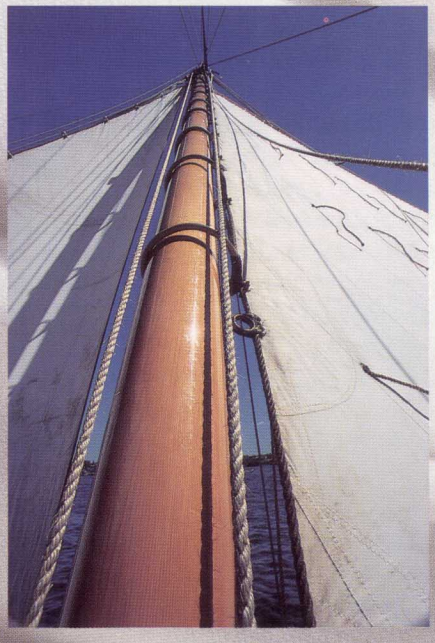

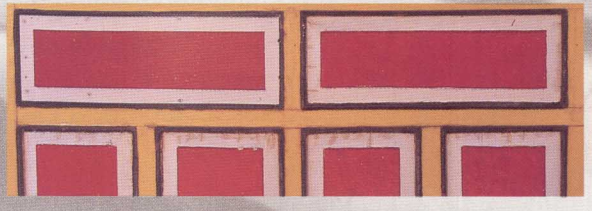

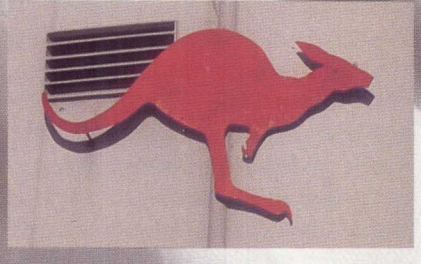

Meet the fleet

The Australian National Maritime Museum's unique collection of vessels brings to life the influence of the sea on Australia's history and people.

AUSTRALIAN NATIONAL MARITIME MUSEUM

SIGNALS
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ABOUT THE MUSEUM
The Australian National Maritime Museum is a Statutory Authority of the Commonwealth Government.
The Museum will open at the end of 1991.
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FROM THE DIRECTOR

Jenni Carter

ANMM Councillor Dr Jean Battersby AO and Chairman Peter Doyle AM, Sir Eric Neal AC, ANMM Director Dr Kevin Fewster, US Consul-General Philip T Lincoln Jr, former Australian Ambassador to the USA the Hon Sir Robert Cotton KCMG, the Hon L W Lane Jr, and Federal Minister the Hon David Simmons MP.

Chairman Peter Doyle and I had great pleasure welcoming former United States Ambassador to Australia Mr Bill Lane and his wife Jean for a harbour cruise on the Museum's ex-RAN patrol boat *Advance* during their short return visit to Australia in April.

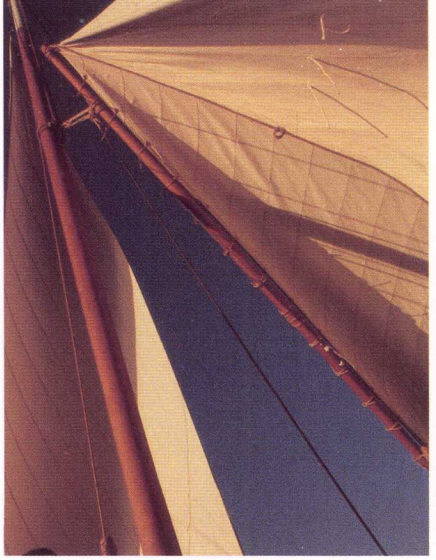
They were joined by the Minister for the Arts, Tourism and Territories, the Hon David Simmons, MP, councillors of the Museum and friends from the business and diplomatic community. Mr Lane, Ambassador during 1986-89, is remembered for his unrelenting efforts lobbying on 'the Hill' (the Washington, DC, site of US Government) to obtain the major US contribution to Australia's Bicentenary in 1988. This was the gift of US$5 million to establish a gallery in the Australian National Maritime Museum devoted to US-Australian maritime relations. Since the gift was announced in 1987, Bill and Jean Lane have followed its development with interest. The USA Gallery is a permanent memorial to Australian-US friendship in the tradition of national gifts such as New York's Statue of Liberty, France's gift to the USA on its 1876 centenary of independence. The USA Gallery is being designed and built by Australians with support and assistance from the US Information Agency, the US Navy and US museums. US consultants have been engaged for audiovisual and interactive displays, historical research and ship model construction. Mr and Mrs Lane were in Sydney en route to Fremantle, to hand over a whaleboat as a gift to the Western Australian Maritime Museum.

A highlight of the Lanes' visit was an inspection of fitout work proceeding in the USA Gallery. With work progressing rapidly on the Museum fitout there could be a temptation to focus one's entire attention on this most exhilarating process. But, of course, there are many other projects which also require attention. Council and staff of the Museum are very conscious that we are a museum for all Australians no matter where they live or what their background. The Museum would be neglecting its obligations (and overlooking a vast audience) if it were not developing a range of activities to take to people and places beyond metropolitan Sydney. Thus, arrangements are well in hand for our first travelling exhibition, scheduled to open in Western Australia late this year at about the same time as the official opening of the Museum. Planning of our outreach education program for 1992 is also progressing. As well, I have recently canvassed maritime museums across Australia to explore the possibilities of staging joint exhibitions at the widest possible range of venues. Mounting such programs will absorb considerable resources, but we look forward to both the challenge and the very many rewards that they will bring.

Kevin Fewster

Thistle

1903 Victorian couta fishing boat



Michael Staples

Length	8.61 m on deck
Breadth	3.07 m
Draught	2.44 m centreplate down
Sail	Lug-rig sloop, area 55.43 m^2
Construction	Carvel planking New Zealand kauri; Western Australian jarrah stem, keel and sternpost, blackwood ribs; oregon spars.

Victorian fishermen began searching offshore for barracouta in the 1860s and 1870s, with Queenscliff, Port Fairy, and Portland among their home ports. Barracouta, not to be confused with the ferocious tropical barracuda, was the mainstay of the fish and chips trade. Couta boats developed along with the fishery, and were designed for the difficult conditions often encountered in Bass Strait. As the fishery declined so did the use of couta boats.

Fishing for couta was very intensive, and a steady boat was required. Crews, usually two, worked constantly using either poles or trolling lines to fill the boat. The fish were headed and cleaned on the way back to ensure freshness and quality for the market. The Museum's couta boat, thought to have been built in 1903, fished out of Port Fairy for most of the time and has survived the years remarkably well. *Thistle* represents an important Victorian fishery, but is also an example of a distinctive Australian vessel type which has evolved to suit local conditions.

Tim Phillips, a Sorrento boat-builder and authority on the history and construction of couta boats, recognised *Thistle* as possibly the last couta boat in substantially original condition. Most of the original planking was still intact, despite having been converted to a houseboat by the previous owner. He and Museum researchers have since pieced together much of the boat's history.

Thistle is believed to have been built at Williamstown or Footscray by a local yacht and boat builder named J R Jones. The first known owner was Port Fairy fisherman George Darley who used the boat for crayfish and barracouta fishing, and later on for sharks. There may have been up to three owners before 1936 when the boat was sold by a Bert Perry to his friend and fellow fisherman Reuben Kelly. Ten years later Kelly sold *Thistle* to Donald 'Scotty' McDonald, who had lost his boat *Escort* (*Thistle*'s sistership) in the Port Fairy floods of 1946. By the late 1960s *Thistle* had finished fishing and was used to drag the Ports and Harbours dredge up and down the Moyne River at Port Fairy. In 1970 Bob Johansson bought the boat, fitted a cabin and lived on board.

The restoration centred on presenting the vessel as a sturdy workboat of the early 1900s, retaining as many original timbers as possible. In the first outing after restoration, just before entering the National Maritime Collection, the centreboard sloop won the Sydney Amateur Sailing Club's Gaffers Regatta.

Ace Marine

Jenni Carter

Carpentaria Commonwealth Lightship 4

Lightships are floating lighthouses placed where a permanent light is impossible to build, to warn ships of hazards and to act as navigational aids. Shoals and shifting sandbanks which often lie out to sea and may be submerged at high tide present a very real danger to shipping. Outcropping rocks that defy the construction of a lighthouse on them can only be marked by floating lightships or buoys.

A lightship usually has no propulsion of its own. It is taken under tow to its position at sea or to return to port for maintenance or repairs. The machinery space is instead used for equipment to run the powerful light for months at a time. Lightships of the 19th century had cramped accommodation for the crew who operated this gear, but automation in the early 20th century led to unmanned vessels. Lightships are given distinctive features to make them easily recognisable to navigators by day, for example the name of the ship painted in huge letters on its side. By night each lightship has its own code of flashes.

As part of the Commonwealth's responsibility for the safety of navigation at sea, four lightships were built at Cockatoo Island Dockyard, Sydney, in 1916-17. Named Commonwealth Lightships (CLS) 1 to 4, they were built to the design of D & C Stevenson, naval architects of Scotland. One was securely moored at the Merkara Shoals in the Gulf of Carpentaria and another anchored on Breaksea Spit north of Sandy Cape, Queensland. The others were kept in reserve.

The light on *CLS4* was powered by a six-month supply of acetylene gas held in tanks. The flow of gas, which was ignited by a pilot flame, was controlled by an automatic mechanism to produce the characteristic code of flashes. A warning bell tolled with the rolling of the ship.

The lightships felt the fury of the sea and were frequently rotated between Carpentaria, Breaksea and the maintenance depot. *CLS4* spent much time in the Gulf, hence the name *Carpentaria* emblazoned along the side, but was last stationed in the Bass Strait oilfields serving as a traffic separator. The lightship retired from service in 1985 after several close encounters with container shipping, one of which almost sent the sturdy, steel-hulled vessel to the bottom! A more modern design of lightship has replaced *CLS4* and sisterships.

Length	21.94 m
Breadth	8.5 m
Draught	2.74 m
Displacement	164 tonnes
Construction	Rivetted steel

Jenni Carter

John Louis

Broome pearling lugger B3

John Louis is one of the last of the post-World War II luggers, built in Broome in 1957 by the local pearling company Male & Co for Louis Placanica. This was one of the last working sail craft built in Australia.

The Australian pearling industry began in the 1860s and by early this century Australia was supplying 75% of the world's pearl shell, from North Western Australia, the Northern Territory and Torres Strait. Pearl shell was used for buttons and ornaments, but pearls occasionally found growing inside the large pearl oyster provided a bonus. One feature of the industry was its use of Aborigines, Southeast Asians and Japanese as divers.

The vessels used for pearling developed into a distinctive Australian type, modified by changes in the industry including diving technology. Originally shallow shell-beds were worked by skin divers from small open boats. The spread of hard-hat diving equipment from the 1880s called for larger craft, and a longer counter stern became common to provide more deck space for the equipment and crew. Divers worked from platforms, called outriggers or verandahs, rigged out over the water.

Some of the earlier boats were lug-rigged, but the name 'lugger' remained after gaff rigs became standard. The low, flush-decked hulls and rig were developed to provide a steady working platform. Luggers towed their divers over the pearl beds by drifting, often with just the sail on the after-mast set. This important sail was known as the mainsail, whether or not it was the largest.

The pearling industry slumped in the middle of this century when plastic replaced many pearl shell products. It recovered after World War II, particularly with successful developments in culturing pearls (inducing pearls to grow in pearl shell). *John Louis* was used to collect young pearl shell for the cultured pearl industry. A tank with circulating sea water kept the shell alive on the voyage home.

While *John Louis* was built with an engine, the rig was still used for manoeuvring on the pearling grounds. Divers used hookah gear, lighter and less cumbersome than hard-hat suits, and European divers were now employed. This was one reason why post-War luggers like *John Louis* were built with raised foredecks, which provided more comfortable accommodation in the foc'sle. The open wheelhouse, which shelters radar and depth sounder screens, was added some time after the lugger was built.

Length	15.64 m overall
Breadth	4.39 m
Draught	1.73 m
Tonnage	34.45 gross tons
	22.79 nett tons
Sail	Auxiliary ketch, area 58.3m²
Constuction	Carvel, jarrah planks on karri frames, oregon spars

Jeffrey Mellefont

Sally Samins

Akarana New Zealand's Bicentennial gift to Australia

The oldest vessel in the collection was built by Robert Logan in New Zealand in 1888 to represent that country in the centennial International Regatta held on Hobson's Bay, Victoria, that year. One hundred years after racing to some celebrated victories in these events, the time-worn remnant of the yacht was located in Sydney and restored in New Zealand to become the New Zealand Bicentennial gift to Australia.

As well as being a fine example of a specialised type of racing cutter of the period, *Akarana* exemplifies the long, friendly but often fierce sailing rivalry between Australia and New Zealand, countries which have both produced their share of world-class yachtsmen and women.

When launched, *Akarana* was patriotically given the Maori name for Auckland, presented with the burgee of the Auckland Yacht Club and packed off to Melbourne on the steamer *Nemesis*, accompanied by Logan, his skipper Jack Bell and crew. Other New Zealand yachts had previously fared well in competition on Hobson's Bay, and *Akarana*'s arrival created great interest in yachting circles. In races that were composed of only five or six entrants, *Akarana* was competing 'for the honour of New Zealand' against yachts and crews from Melbourne, Sydney and Tasmania. The fine-lined, extremely narrow yacht raised expectations by beating the centreboard yachts of the St Kilda Yacht Club in a challenge race before the Regatta.

Rated at 7 tons with a 5-ton (5.1 tonne) lead keel, *Akarana* then beat *Cooeeana*, *Madge*, *Galatea* and *Pert* to first place in the 5-10 ton class race for keel and centreboard yachts. In rougher weather Bell trailed the fleet when racing against yachts of a similar length, and yachting commentators said that *Akarana* was more suited to smooth water and light winds.

Robert Logan then took his yacht to Sydney to compete in the National Regatta on Anniversary Day, January 1889. Skippered by Dick Hellings, *Akarana* won the principle event of the day, an open race for the first prize of 20 pounds and three cases of Moet and Chandon champagne, beating Sydney yachts *Assegai*, *Sirocco* and *Iolanthe*.

Logan then sold *Akarana* to Sydney chemist John Abraham who sailed with the Royal Sydney Yacht Squadron. The yacht remained in Sydney for the next 100 years, passing through several owners and many changes including the loss of the lovely counter stern. In January 1988 *Akarana* was welcomed back to Australia at a Maori dawn ceremony at the Royal Sydney Yacht Squadron, restored to the Logan lines of 1888.

Length	11.9 m on deck 9.14 m waterline
Breadth	2.03 m
Draught	1.75 m
Displacement	9.35 tonnes
Ballast	4.9 tonnes
Sail	Gaff cutter, area 98.47 m^2
Construction	Triple kauri planking (two layers diagonal), oregon spars, Egyptian cotton sails

Lee Graham

The Sun

Length	13.18 m on deck 11.55 m waterline
Breadth	4.54 m
Draught	2.09 m
Displacement	23.44 tonnes
Ballast	3.75 tonnes
Sail	Gaff ketch, area 101.01 m^2 with topsails
Construction	Huon pine planking over spotted gum frames, Baltic pine spars, Duradon sails

Kathleen Gillett

Norway's Bicentennial gift to Australia

Norway's official Bicentennial gift to Australia celebrates a fascinating link between the two nations. In the mid-19th century Colin Archer, a Norwegian of Scottish descent, was a pioneer farmer in Queensland before returning to his homeland in 1861 to become Norway's best-known naval architect. Colin Archer was renowned for his seaworthy Norwegian fishing, rescue and pilot boats and *Kathleen Gillett* is based on one of his designs.

The famous double-ended ketch was built for Sydney artist and sailor Jack Earl and his wife Kathleen by Charles Larsen, who worked from Colin Archer drawings to develop a world-cruising yacht worthy of the Norwegian designer. While the double-ended hull has been a Scandinavian boat-building tradition since Viking times, Colin Archer applied his own theories of hydrodynamics to this form to produce sailing craft which became known for safety in heavy seas. These qualities were valued by many ocean yacht-cruising enthusiasts.

Built over six years as funds were available, *Kathleen Gillett* was launched in March 1939 and named after Jack Earl's wife. Rigged in 1941, *Kathleen* was home to the couple and their children during the war years, and was also used for NSW coastal patrol.

On 26 December 1945 *Kathleen Gillett* sailed in the first Sydney-Hobart Yacht Race (pictured in the above news photograph) - an event organised by Jack and his friends who formed the Cruising Yacht Club of Australia. In June 1947 Jack Earl (standing to the right in the picture below) and crew set sail to circumnavigate the world in *Kathleen*, the second Australian yacht to complete this feat. Accounts written by mate Mick Morris and illustrated by Jack were published in *Seacraft* magazine as they rounded the Cape of Good Hope to South America, sailed through the Panama Canal and crossed the Pacific to New Zealand. When they returned to Australia in December 1948, *Seacraft* was flooded with requests for Colin Archer lines.

After being sold by Jack in the 1950s, *Kathleen's* adventurous career included island trade in Torres Strait and crocodile-hunting expeditions around Bougainville and the Solomon Islands. In 1967 *Kathleen* again became a cruising yacht, and again sailed in the Sydney-Hobart yacht race.

In 1987 the ketch, much changed from its original specifications, was located in Guam and purchased by the Norwegian Government as a Bicentennial Gift to the people of Australia. *Kathleen* was shipped to Sydney free of charge by Zim Shipping Australasia Pty Ltd, for restoration by Norwegian-descended boatbuilder Carl Halvorsen. The work was based on photographs and conversations with Jack Earl, and plans drawn up by Alan Payne and Partners.

W Sinclair

Jenni Carter

Sekar Aman

Indonesian trading perahu

Length	12.69 m
Beam	4.81 m
Draught	0.8 m unloaded
Tonnage	20 tonnes cargo capacity
Sail	Two-boom lateen, polypropylene cloth, area 89.4 m^2
Construction	Carvel teak with wood and iron fastenings, bamboo and teak spars

Just to the north of Australia, in the Republic of Indonesia with its 13,000 islands, many traditional kinds of wooden boats or perahus are used. They provide a living for fishermen, traders, sailors and boat builders. Perahus once came to northern Australia in their hundreds to collect trepang (sea slug) and turtle shell and trade with the Aborigines. Some elder Aborigines from communities such as the Yolngu of Arnhem Land tell how their ancestors worked on the perahus and even accompanied them back to Indonesia.

Sekar Aman is a type of perahu called a lete-lete, one of a few remaining examples of non-motorised trading and fishing craft. While some construction details of its roomy hull can be traced to early Portuguese or Dutch influences, many of its features date back to earlier Indonesian traditions. These include the rudder which hangs over one side of the stern, and the lateen sail with its spars of giant bamboo. There are also similarities to the perahus that were used for over 300 years in trading between Australian and Indonesia.

Jeffrey Mellefont

Lete-letes are built by the Madurese people of Indonesia and can be found in many ports of Indonesia, carrying cargos such as salt, roofing tiles, timber and sometimes taking passengers and essential supplies to and from remote islands. They trade to Kalimantan and almost as far as Singapore, and a few from the island Raas where *Sekar Aman* was built still sail to the reefs along the Australian coast in search of trepang and other sea produce.

Several things make a lete-lete well-suited to fishing and long distance trading. The hull is beamy and seaworthy and its flat bottom allows it to rest on the ground at low tide for regular maintenance and for loading cargo where there are no port facilities. The efficient lateen sail is closed by raising the lower boom, and crew climb up the high-tilted spars to tightly furl the sailcloth when coming to anchor.

Sekar Aman was built on the beach on Raas by a trader called Haji Maturi, using just a few simple hand-tools. No plans exist for such a vessel. The builders say the plans are 'kept in the heart', inherited from their fathers. The people of Raas are Muslim and their boats are often painted green, the traditional colour of Islam. *Sekar Aman* means a blossom in safe-keeping, not only beautiful use of language for its name but also a prayer for safety from the hazards of the sea.

Jenni Carter

Tu Do Vietnamese refugee boat

Not long after airliners had finally made mass sea travel to Australia a thing of the past, a new wave of sea-borne migrants arrived. They shared the experience of long and sometimes hazardous sea voyages with generations of convicts and settlers who had undertaken the longest voyage of their lives to reach Australia. The arrival of the Indochinese boat people is one of the most current of the Museum's stories, a drama that continues as this is being written.

When the Museum acquired the South Vietnamese refugee vessel *Tu Do* in 1990, it came with the original Vietnamese documents which gave the registration number, the owner's and his wife's name and the port of registration. Research into immigration records revealed the date of arrival in Darwin was 21 November 1977 and that *Tu Do* carried 31 people (with just 3 m^2 of space each).

The name, meaning 'Freedom', emphasised the importance of this vessel to its passengers, who were among the waves of people fleeing South Vietnam after the fall of its capital, Saigon, to communist forces in 1975. Many of these refugees reached Australia in unsuitable coastal fishing boats, after 6500 km voyages through frequently hostile regions in which they were attacked or forbidden to land. The earlier boat people had supported the South Vietnamese government and the United States in their unsuccessful war against the communist forces, in which Australians also took part. Some people facing persecution and the loss of economic opportunities paid large amounts to be included in a perilous voyage of escape from Vietnam.

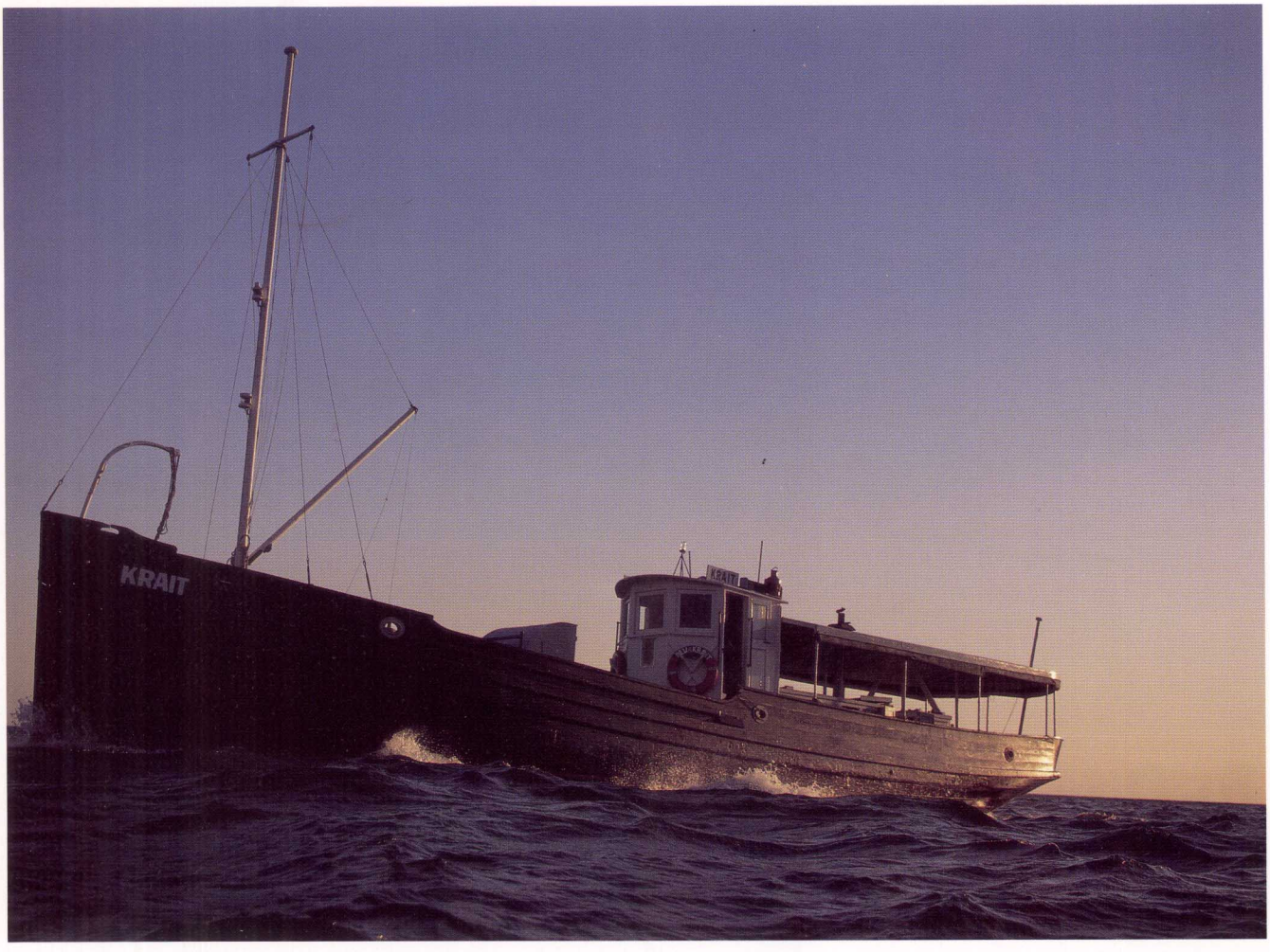
The voyage of *Tu Do* and its paying passengers was interrupted when those on board were interned for a month in the refugee camp on the island Pulau Tengah off the coast of Malaysia. The voyage resumed, with another stop in Indonesia to replenish supplies of fuel and water.

When Museum curators located the captain, he couldn't remember the registration number of the boat, but he remembered feeling lucky when he stepped on board before the escape voyage. The numbers added up to nine - his lucky gambling number. The gamble paid off with freedom. *Tu Do* was indeed a lucky boat.

The manufacturing plate of *Tu Do*'s 33.56 kW Jinil diesel engine states that the USA commissioned the manufacture of such engines in Korea. They had been installed in traditional Vietnamese vessels from the late 1950s as part of a program by the US Overseas Mission to Vietnam to motorise fishing junks. This, along with the introduction of nylon fishing nets, increased the rate of change in the fishing industry as part of the pervasive US influence on the country.

Tu Do was built according to a design traditional to Phu Quoc Island, 35 km west of the Vietnam mainland. An indication of this is the high counter stern along with the brightly coloured paintwork of the cabin and coamings. Other vessels built as recently as *Tu Do* showed more US influence. On *Tu Do*, however, the hull is built as a shell of planks around a series of bulkheads which is a traditional technique in the building of junks, with light ribs and floors added only after the planking is in place.

Length	19.4 m
Breadth	5.2 m
Draught	1.8 m
Speed	9 knots (16.5 km/h)



Victoria Fernandez

Krait

Veteran of Operation Jaywick

Perhaps the best-known historic vessel in any Australian collection today is the one-time fishing vessel which carried Z Special Unit commandos on a successful raid on occupied Singapore during World War II.

Built in the period between the wars, this boat was operating out of Singapore as a Japanese-owned fishing tender or trawler as Japanese forces were advancing on the city in 1941, and was used by the Allied forces defending Singapore to evacuate civilians to Sumatra. Attacked by Japanese fighter aircraft on a final convoy, the overcrowded vessel was forced to flee 1700 nautical miles to Ceylon (Sri Lanka).

With a new name taken from a deadly species of Indian snake, *Krait* was shipped from India to Australia where the present Gardner 6L3 diesel was fitted for Operation Jaywick. In 1943 *Krait* sailed from Exmouth Gulf, WA, carrying a Z-Special Unit team of six commandos and eight crew drawn from Australian Navy, Army and Air Force units. Masquerading as a local fishing vessel, *Krait* was sailed boldly from Australia into Japanese-occupied waters, where the operatives working from folding canoes used limpet mines to sink two enemy ships and damage another five in Singapore harbour.

The vessel's WW II service continued as a coast watch and intelligence support vessel in Indonesia, and included the Japanese surrender at Ambon. Paid off in November 1945, *Krait* became a workboat for a British sawmiller in the Borneo timber trade.

In 1962 Australian veterans of Z Special Unit came across the ship by chance while on a business trip. They launched a public appeal in Sydney, supported by the *Sun* newspaper and the Lord Mayor, establishing a Trust to return the vessel to Australia.

Krait sailed into Sydney in 1964, accorded a hero's welcome and dedicated as an operational war memorial. Run by the Z Special Unit Association and the Royal Volunteer Coastal Patrol, *Krait* was active in patrol and search and rescue activities, boating courses and school visits.

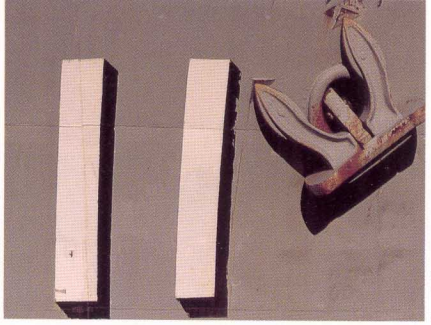
In 1985 the legal responsibility for the ageing vessel was passed to the Australian War Memorial in Canberra by the *Krait* trustees, to ensure the long-term survival of an important memorial to Australian sacrifice during WW II. In 1988 the War Memorial placed *Krait* in the care of the Australian National Maritime Museum.

Length	21.33 m
Breadth	3.35 m
Draught	1.5 m
Tonnage	68 gross tons
Construction	Carvel, teak planks on sawn frames

Jenni Carter

HMAS *Vampire*

Daring class destroyer



Jenni Carter

Vampire is the last Australian example of a gun ship, conventionally armed warships with guns as their primary armaments. Designed to operate as part of a fleet in a blue water naval strategy, they reached their peak in World War II. Their demise began with the arrival of the guided missile destroyers in the 1960s. British-designed *Vampire* came from the era when Australian naval defence was still closely aligned with the United Kingdom.

The RAN built three Daring class destroyers in Australia between 1948 and 1958. *Vampire*, built at Cockatoo Island Dockyard, Sydney and commissioned in 1959, was the last one. A sister ship was *Voyager*, lost in a disastrous collision in 1964 and replaced by the British Daring HMS *Duchess*.

The Darings were the biggest destroyers, and the first large all-welded warships, built in Australia. The light, strong construction allowed maximum armament together with high speed. This reflected the state of technology and strategy of the time. With increased threat from air and submarine attack, the destroyer had increased responsibilities in its role of defending a fleet or convoy.

Vampire's original armaments reflected this all-purpose role. Six 4.5 inch (115 mm) guns were for surface or shore targets. There were five 21-inch (533 mm) torpedo tubes, a three-barrel Limbo anti-submarine mortar and four 40 mm anti-aircraft guns. The torpedo tubes, the Limbo and two twin-mount AA guns have since been removed as the destroyer's strategic role changed.

In a mid-life refit in 1970-71 the original superstructure was extensively rebuilt to accommodate modernised gun-firing control and surveillance systems. Light aluminium alloy was used in the rebuilding, improving stability and accommodation. *Vampire* was among the first warships to use AC power. This had a significant effect on comfort, allowing cleaner, lighter equipment - and the facility for TV.

Although having an almost entirely peacetime career, *Vampire* took part in the Southeast Asia Treaty Organisation exercises held off Singapore during the Indonesian confrontation of Malaysia in the mid-60s, and made two troop escort runs to Vietnam. After a final refit in 1980 *Vampire* became a training ship, with the addition of a classroom aft where the Limbo mortar had been. Decommissioned in 1986, *Vampire* was loaned to the Museum in 1991.

Length	118.87 m overall
Breadth	13.1 m
Draught	4.41 m
Displacement	2856 tonnes standard 3672 tonnes full load
Machinery	Two English Electric geared steam turbines, 40 284 kW, twin screws and rudders
Speed	30.5 knots (55.6 km/h)
Complement	219 + 75 trainees

Jenni Carter

Jeffrey Mellefont

HMAS *Advance* Attack Class patrol boat

By the 1960s Australia was closely involved in events in the Asia-Pacific region, and was no longer depending on a British strategic presence close to the north in Malaya and Singapore. The effect of this on naval strategy was a greater commitment to improving surveillance and control of the enormous coastline, especially the northern approaches.

The twenty Attack class patrol boats built for the RAN between 1967 and 1969 reflected this greater regional concern. HMAS *Advance*, commissioned in 1968, was the third of them. Their work included control of illegal fishing, smuggling and immigration, search and rescue, and occasional inshore survey work.

The Attack class reflects a stage in the development of high-speed patrol boat design, which had moved away from short-range, petrol-driven timber craft to medium-range diesel vessels. The hulls were of steel while the superstructures were of aluminium. They were lightly armed for small-scale encounters, with one 40 mm Bofors gun and two 0.5-inch (12.7 mm) machine guns which could put warning shots across the bows of a suspect vessel.

These patrol boats drew upon designs from Britain and the USA. They used much British equipment, such as the Paxman main engines, but they also foreshadowed the RAN's increasing swing to US equipment with American generators. An Australian modification was the use of readily-available commercial components in some of the fitout. This was because of their need to operate in remote northern waters far from military bases, where their best supply source might be the hardware store of an isolated coastal town.

Five of the boats were built for Papua New Guinea service, and formed the basis of its navy at Independence. Seven were given to the Indonesian navy between 1973 and 1985.

Advance served out of Darwin in patrol boat squadrons until 1980. In that time the patrol boat helped shadow a Russian fishing ship suspected of spying, dispersed large numbers of illegal foreign fishing boats, weathered Cyclone Tracey in 1974 (in which her sister ship, *Arrow*, was destroyed), assisted in hydrographic surveys of the northwest coast, and starred in the popular ABC TV series *Patrol Boat*.

When the Attack class was superseded by the larger Fremantle class patrol boat, *Advance* became a training ship for the Navy reserve. Decommissioned in 1988, *Advance* was transferred to the Museum in operational condition.

Length	32.8 m
Breadth	6.1 m
Draught	2.2 m
Displacement	148.3 tonnes
Engines	Two Paxman V16 turbo-charged diesels, 2611 kW, twin screws
Speed	21 knots (38.3 km/h)
Complement	19

Jeffrey Mellefont

Work boats

These two craft are work boats routinely used by the Museum, and are not part of the National Maritime Collection. They are nonetheless historic craft in their own right, and receive the same careful maintenance and conservation as vessels in the collection.

Jeffrey Mellefont

Bareki

The Museum's working tugboat, built in 1962 by the Maritime Services Board at its Goat Island Shipyard on Sydney Harbour, was the last timber tug in service with the Board. The tug was in survey as a Class VII vessel for restricted sea-going non-passenger service, able to operate along the coast of NSW between Newcastle and Port Kembla and 30 nautical miles to seaward. *Bareki* was employed in general towage duties but particularly for the dredge service, towing 300-ton hoppers to sea to dump spoil. The hull was built to a World War II design created by Australian naval architect Arthur Swinfield for the then Department of Munitions. The MSB designed the deckhouse for its own purposes, with a mess-room, stove refrigerator and toilet. The name *Bareki* was believed to be an Aboriginal word for water.

Propulsion is by a single two-stroke GM 12V/71 series diesel developing 210 kW at 1600 rpm, driving a three-bladed bronze propeller through a 4.15:1 reduction.

Jenni Carter

MB 172 Epic Lass

Now used for transporting Museum personnel and guests on Sydney harbour, this ex-Navy dockyard officers launch was built in 1937 by the Royal Australian Navy at the Naval dockyard, Garden Island. While the official Navy pennant number *MB172* has been retained, the launch has been named *Epic Lass* in honour of Taubmans Industries Ltd (Epiglass Australia) which assisted with the vessel's restoration and supports the Museum through the supply of marine paints and varnishes. Much of *MB172's* service life was spent in Darwin. However, fibreglass and aluminium utility boats eventually displaced elegant timber launches, and she was decommissioned and stripped of all equipment. The boat was later transferred to the Museum by the Navy. Australian Defence Industries undertook the rebuilding at its Ryde, NSW, yard using some apprentice shipwright labour, and fabricated fittings at its Rosebery foundry. Volvo Penta distributor Eastern Engines Pty Ltd supplied a TAMD41 diesel engine at a generous discount, while Epiglass Australia was the major sponsor.

MB 172 Epic Lass

Length	11.88 m overall
Breadth	3.48 m
Draught	1.22 m

Bareki

Length	12.39 m overall
Breadth	4.36 m
Draught	2.13 m

CURRENTS

First exhibit installed in Museum

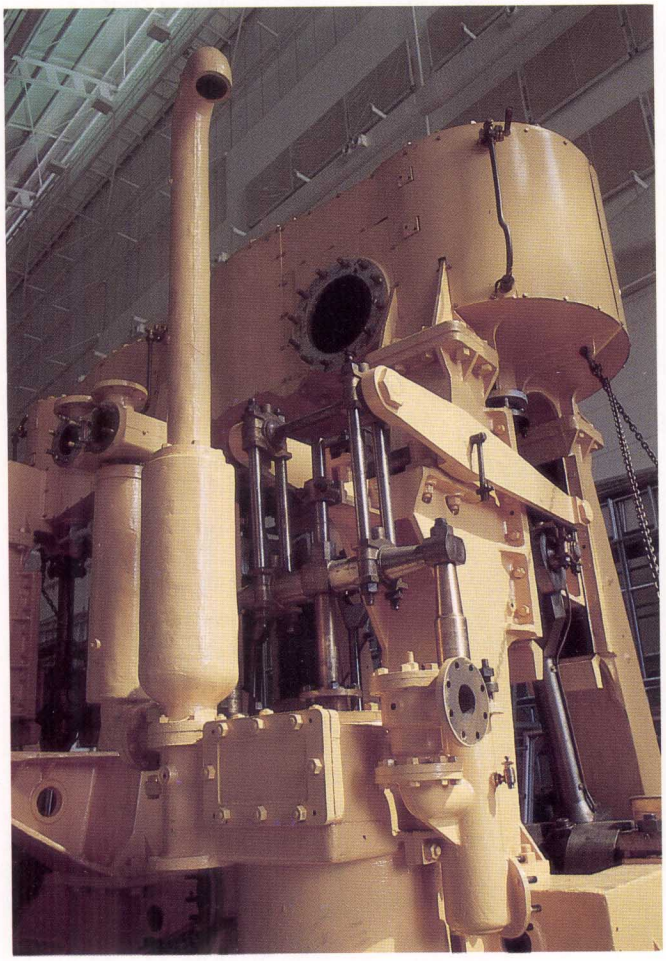
As fit-out work in the Museum's Darling Harbour building remains on schedule for opening to the public late this year, the first exhibition object was installed in early April. The steam engine from the RAN vessel *Kara Kara*, attacked during the February 1942 Japanese bombing raid on Darwin, was moved to Darling Harbour by flat-bed truck where it was bolted to the floor of the ANZ Tall Gallery. The engine arrived from the Public Works Department's electrical and mechanical engineering branch in Leichhardt, Sydney, where it underwent major restoration for the Museum.

The 1295 hp [962 kW] steam engine, a type which will be familiar to many ex-seamen and Navy people, will be displayed in the Navy theme area of the Museum where it will turn over continuously at low speed.

Kara Kara was built in 1926 by the Plenty & Sons, England, as a vehicle ferry for Sydney Harbour. Retrenchment following the opening of the Sydney Harbour Bridge, *Kara Kara* was called up by the Navy in 1941 and refitted as a harbour defence vessel. Two crewmen were killed when she was machine gunned during the first Japanese air raid on Darwin.

After the war *Kara Kara* was laid up in Athol Bight, Sydney, with the RAN's other reserve vessels, before being stripped and sunk in target practice off Jervis Bay in 1973. The steam engine was acquired first by the Goulburn Steam Museum, and later by the Australian National Maritime Museum in 1987.

This type of engine fills an important place in maritime technological history. Its advanced and efficient triple-expansion design was in widespread use for well over half a century. This design could be described as having finally killed off commercial sail, before being superseded itself by diesel engines.



Fleet Management: the challenge

The maintenance and conservation of a diverse fleet of historical vessels poses considerable challenges to the Museum's Fleet Management team, a section of the Museum's Collection Branch. While many different strategies have beem applied to these tasks by various Australian museums and enthusiasts in the past, ANMM believes that it has established an innovative approach to vessel conservation in Australia.

The Museum's approach has taken into consideration the best international principles in the management of cultural material. One of the points of reference has been the Burra Charter, the Australian ICOMOS charter for the conservation of items of cultural significance.

Fleet conservation, and preparing the vessels for display at the Museum, is based on adherence to a conservation plan developed for each vessel. First the cultural significance of each vessel is established — its historical, social or technological significance. The plan then looks at the constraints placed on the vessel. These might include how it is required to be displayed to tell its story, the limitations imposed by its construction or materials, and the need to operate it for educational or promotional purposes, or to keep vital components in running order. The purpose of this is to identify activities that will pose problems. A Vessel Operation Policy helps address the needs of the Museum to use a vessel in various ways, while guaranteeing its long-term survival.

Amongst the decisions to be made are whether a vessel is to be *preserved* in the condition that it was acquired, *restored* to a previous condition using existing components, or *reconstructed* to a certain condition using some new materials. Related to this is the question of the period of its life in which a vessel is represented. There is often a temptation to restore or reconstruct a vessel to a shiny, as-lauched condition (or even to improve on that), but here there is a risk of removing evidence of the history of the boat which may be told in its many coats of paint, damage that has occurred and additions or modifications to it after launching.

The purpose of this is the control of physical intervention on the vessel, so that it can be displayed in a way that satisfies Museum requirements without compromising its cultural significance, or diminishing its future research value. So, for example, the ex-RAN patrol boat *Advance* is preserved in the state it was at decommissioning in 1988. The 1903 couta boat *Thistle*, on the other hand, had been converted to a houseboat in recent years and was restored and reconstructed to illustrate its earlier significance as a fishing boat.

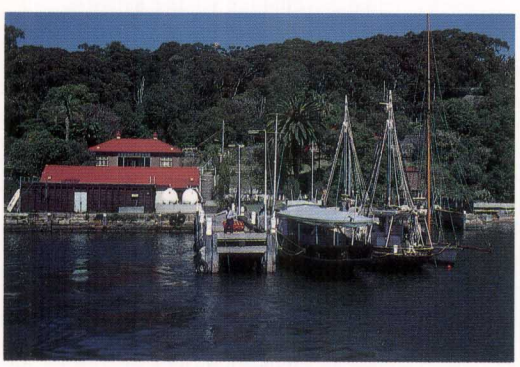
Where the decision is taken to restore a vessel to a previous configuration, an enormous amount of painstaking research is undertaken by Museum staff to determine just how the vessel appeared at the chosen point in time. For example, the World War II commando vessel *Krait,* is being returned as nearly as possible to the configuration it was in at the time of Operation Jaywick, the famous

raid on Singapore in 1942. This is being done in consultation with staff of the Australian War Memorial, which has entrusted *Krait* to this Museum, and has taken years of research.

The Fleet Management staff is pictured opposite (left to right: Neil Brough, Lee Graham, Bob Parish, Manager Steven Segerstrom, Henry Tompsitt and Peter Wood). They bring a wide spectrum of maritime skills to the demanding task of operating and maintaining the Museum fleet, and preparing it for exhibition. These include sailmaking, rigging, shipwright and boatbuilding skills, marine engineering, drafting, ship's husbandry and project management. Staff also closely supervise contract work, if for example a vessel must be slipped commercially. Volunteer assistance is essential to keep the fleet to demanding Museum standards of preservation, and the staff have been helped by a number of voluntary workers.

Fleet's home away from home - Berrys Bay

Maintenance of the Museum's historic fleet is managed from a Museum facility that is itself a significant historic site, proposed for listing by the National Trust. This is the Fleet Management base at Berrys Bay, North Sydney, a Commonwealth Government site previously known as the Quarantine Depot.



Before being occupied by the Museum in 1988, the depot was used by the Department of Primary Industry as a 'non-dairy quarantine depot'. Prior to that it was used by the Department of Health as a ship fumigation centre. Originally it provided launches and crew to ferry doctors out to ships for health and Customs inspections and rat control. Ships are now sent a questionnaire by radio regarding crew health, and inspections take place when a ship has berthed.

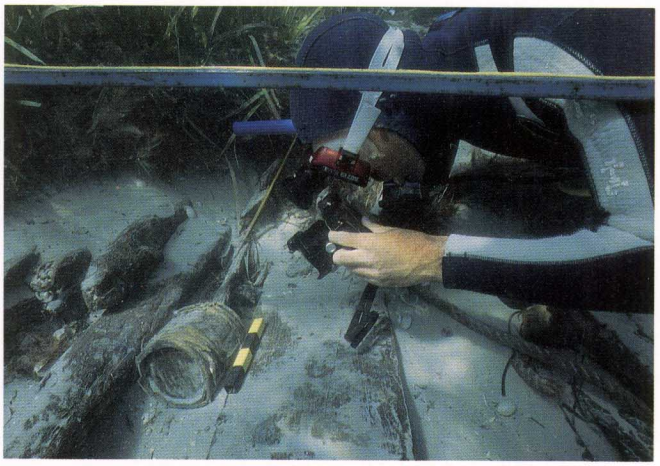
Berrys Bay is named after a Scottish surgeon, Alexander Berry, who built jetties there for his ships bringing produce from Shoalhaven. Now a relatively quiet backwater of Sydney Harbour and a mooring place for visiting overseas yachts, it was once a thriving commercial area and the site of numerous boatbuilding yards.

The Quarantine Depot was established in 1916, and the ANMM Fleet Management section's offices are located in one of two brick cottages built in 1917-19 for the coxswain and staff who lived on-site. The brick cottages are now known as *Pasteur* and *Jenner*, the names used for a succession of quarantine launches that operated from the depot. One of the cottages is used by the Museum to host small seminars and conferences, including a recent Sydney Maritime Museum meeting and a conference of the Museums Association of Australia, while the site's attractive setting has made it useful for holding a variety of outdoors functions.

The buildings are in a landscaped setting including spectacular native cabbage tree and Bangalow palms, a Kentia palm from Lord Howe Island and a Canary Islands date, all planted in the 1920s. The site has been described in its heritage-listing submission as 'reminiscent of an outpost of the Empire in the Colonies'. It illustrates an aspect of the Sydney Harbour foreshore that is rapidly disappearing.

Amongst the workshops at the water's edge is the remnant of the oldest remaining coal bunker on the harbour (the brown timber building at the left of the accompanying photograph), with light-gauge railway track used to run trolleys of coal out along the wharf to the Quarantine Service's steam launches. In more recent years, the Service's steam launches were replaced by diesel launches. The bunker was also used as a cyanide store for rat fumigation, a reminder of the threat once posed to Sydney by bubonic plague.

A slipway on the site is capable of hauling vessels of up to 25 tonnes, enabling the five staff of the Fleet Management team to carry out essential below-waterline maintenance on several of the Museum fleet.



Maritime archaeology at ANMM

In February ANMM curator Mark Staniforth participated in a two week excavation on the wrecksite of the *Sydney Cove*, located in the Furneaux group in Bass Strait. Wrecked in 1797, *Sydney Cove* is the earliest merchant vessel shipwreck site in Australia. The work was organised by maritime archaeologist Mike Nash of the Tasmanian Department of Parks Wildlife and Heritage. This was Mark's second expedition to the site. Other participants came from the Queen Victoria Museum in Launceston, the Victoria Archaeological Survey, graduates from the maritime archaeology course of Curtin University, Western Australia, plus a number of volunteers. The expedition excavated an area of 8 x 4 metres across the site just forward of the main mast step. In addition to probably the largest collection of eighteenth century glass bottles in Australia, the excavation revealed important new information about the hull construction of the *Sydney Cove*. The use of timber wedges between between the frames and keelson suggest either poor construction techniques when the vessel was building, or later repairs to overcome problems caused by hogging.

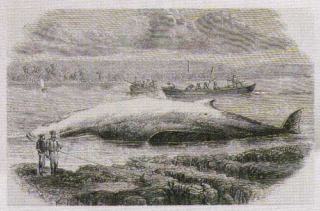
The photograph above, taken by Mark Staniforth, shows a dry-coopered cask which may have held gunpowder. The cask is being conserved for display by the Queen Victoria Museum.

A wreck located during excavations for backfill for the Sydney Harbour tunnel attracted an enormous amount of public interest with speculation that it might be the collier barque *Fame* wrecked in 1857 on the Sow and Pigs reef. ANMM assistant curator Sue Effenberger has assisted the New South Wales Department of Planning's State maritime archaeologist, David Nutley, with fieldwork on the wrecksite. The work included drawing and photographing the visible hull structure. The Maritime Archaeology Association of NSW has also provided assistance with this work.

In February, Australia had its first *Women in Archaeology* conference, at Charles Sturt University, Albury, attended by Sue Effenberger. Sue joined a working party set up to establish a professional institute to link maritime, historical and prehistoric archaeologies. In March Mark Staniforth attended the first meeting of MS 53, the new committee set up by Standards Australia to produce a national standard for scientific diving.

Delegates to the Commonwealth Historic Shipwrecks Act annual meeting held in Sydney in March were taken for a tour of Sydney and Middle Harbours on board the Museum's operational tug *Bareki*. The tour included a visit to the hulks in Salt Pan Creek and a commentary on the maritime heritage of the area by ANMM consultant, maritime historian Vaughan Evans.

In April, ANMM Conservator Antonia Syme joined a field trip of the Victorian Archaeological Survey in Queenscliff, Victoria. A number of historic wreck sites were inspected in Port Phillip Bay, including the *William Salthouse*, wrecked in 1841, and the *Clarence* (1850). Antonia and a Victorian Arachaeological Survey conservator, Maggie Baron, trialled new methods of transporting fragile objects from the seabed to the conservation laboratory. Other work included determining the deterioration rates for various wrecksites, and the maintenance of underwater plaques.



East of Eden - a whale of a time

In March the Education and Visitor Services section ran its first field trip, one of a variety of adult education programs which it organises. Named *East of Eden*, the field trip took 41 people, many of them members of the Royal Australian Historical Society, on a four-day tour to Eden to study the history of whaling in Australian waters. The tour was led by Education Officer Mary Smith, and Curator Lindsey Shaw.

Because the wool industry came to dominate the Australian economy, it is easy to forget that whaling was Australia's first primary industry. It was not until 1833 that wool overtook whale products as Australia's main export earner. As the first shore-based whaling stations were established at Twofold Bay, Eden and its surrounding area is a rich source of historical information about the industry.

The field trip included an inspection of the Eden Killer Whale Museum, a cruise on Twofold Bay with a commentary about the historic sites, as well as an illustrated lecture and some videos about whaling. The group also met Rene Davidson and some of his family, descendants of the Davidsons who established the longest-operating shore-based whaling station in Australia. Three generations of this family were whalers at Twofold Bay, from the 1860s to the 1920s. Their station at Kiah Inlet on the southern side of Twofold Bay was gazetted by the National Parks and Wildlife Service as an historic site in 1987.

The group is pictured below in front of Boyd's Tower at Twofold Bay (photograph courtesy of Pat Parker, RAHS). The Education and Visitor Services section expects to organise similar field trips several times each year.

Rare books facsimile editions

The Museum has entered an important new publishing agreement with Sydney publisher Hordern House, under the sponsorship of Sevist Pty Ltd. A series of rare maritime books from the Sevist collection will be published under the Museum name. The first of these will be *A Voyage Around the World* [1795] by Mary Ann Parker, the first published account of Australia by a woman. The book tells of her voyage to Port Jackson and Norfolk Island, accompanying her husband who was master of HMS *Gorgon*, sent out to relieve the near-starving colonists. The high-quality facsimile book, which is expected to be published in time for the Museum's opening, will contain illustrations and an introduction written by Museum Deputy Director Gavin Fry.

Taubmans helps keep the fleet ship-shape

The ANMM fleet featured in this special issue of SIGNALS is maintained and kept in top condition with the generous assistance of Taubmans Industries Limited (Epiglass Australia). The company is the official supplier of marine paint and coatings to the Museum, which uses both the Epiglass and International Paint brands on all vessels. The 10-year sponsorship includes $10,000 each year to help support the fleet, as well as free product used in their maintenance. The Museum's work boat *MB172* (see page 13) was named *Epic Lass* in honour of Taubmans' support.

SPONSOR.NEWS

New Sponsors

Remy Australia Limited

Remy Australia Limited has joined the Sponsor category of Museum supporters, assisting with supplies for official Museum functions, including the openings of the Museum and USA Gallery at the end of the year. Remy Australia is no stranger to ANMM, having used the Museum building in Darling Harbour as a venue for the glittering Cointreau Ball last year. Well-known for the Remy Martin range of Cognacs, the company will also use the sponsorship to promote Mount Gay Barbados rum, which it imports.

OTC Limited

OTC Limited, Australia's world-wide communications company, has become a Founding Patron of the Museum. OTC has a close relationship with the commercial and recreational maritime community. The OTC Maritime division provides a wide range of communications between vessels at sea and the rest of the world. Its stations around the coastline provide vital information on weather conditions and navigational hazards as well as monitoring international distress frequencies.

Zim Shipping

Zim Shipping Australasia Pty Ltd has been made a Founding Patron by the Museum's Council in recognition of the company's past help in freighting the Norwegian Bicentennial Gift, *Kathleen Gillett*, from Guam to Sydney. The vessel was transported to Hong Kong on board *Zim Kadhsiung*, arriving in Sydney on board *Zim Melbourne* in June 1988. Zim Shipping Australasia P/L is a well known shipping and freight company. It also trades through its affiliate, Globe Star Shipping Pty Ltd.

Mercantile Mutual Holdings Ltd

Welcome to Mercantile Mutual Holdings Limited, the first Museum supporter to enlist as a Patron under the ANMM Patrons Program. This program awards Patron and Founding Patron status, with a list of supporter benefits, to donors of $10,000 and $20,000 respectively. Mercantile Mutual is a general and life insurance company which has diversified into property and financial areas.

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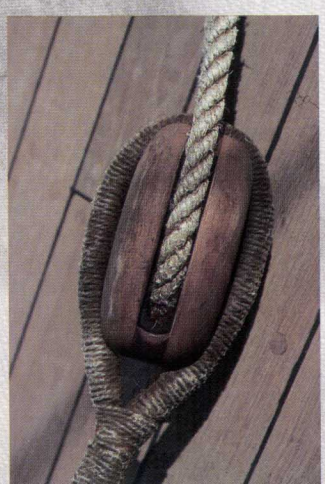
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