

# We find the missing *Mermaid*

In January a team led by this museum, and sponsored by the Silentworld Foundation, solved a 180-year-old mystery by locating the wreck site of HMCS *Mermaid*, lost on a coral reef off the Queensland coast in 1829. Team leader, curator and maritime archaeologist, **Kieran Hosty**, describes this significant find and its place in our nation's history.



ON NEW YEAR'S DAY 2009, a team of maritime archaeologists, divers, scientists, technicians – plus two high-school students and their teacher – set out from Cairns on board two charter dive boats, *Spoilsport* and *Nimrod Silentworld*, and sailed into the maze of the Great Barrier Reef in search of a mermaid.

The one we were seeking was the little ship *Mermaid* commanded by Lieutenant Phillip Parker King RN during a series of important surveys of uncharted stretches of the Australian coast that took him right around the continent in the years 1817–22. King's outstanding hydrographical achievements included charting a passage inside the Great Barrier Reef, a route that has proved vital to the safety and efficiency of Australian shipping ever since.

By an intriguing irony at the end of the same decade, the little ex-survey vessel *Mermaid* – refitted and under a new command – was shipwrecked on an uncharted reef south of Cairns in June 1829, when her master ignored instructions to take the safer inshore passage through the Great Barrier Reef that King had discovered on board *Mermaid*.

## King undertook a series of remarkable voyages around Australia in *Mermaid* and charted vast areas of the coast

A number of sightings of the wreck were reported in the 19th century, leading to more recent attempts to locate the remains of this significant early colonial survey vessel. They were unsuccessful, but their findings helped us to define our own search locations when our expedition set out in January.

ABOVE: Maritime Archaeological Association of Queensland diver Warren Delaney with the kedge anchor from HMCS *Mermaid*. Expedition photography by Xanthe Rivett

LEFT: *Mermaid* (far left) in northern Australia, commanded by Phillip Parker King, encounters the annual Makassan fishing fleet from the Dutch East Indies. View of Copeland Island in Mount [N]orris Bay, Interview with Malay Fleet, 1818, watercolour attributed to Phillip Parker King. State Library of New South Wales

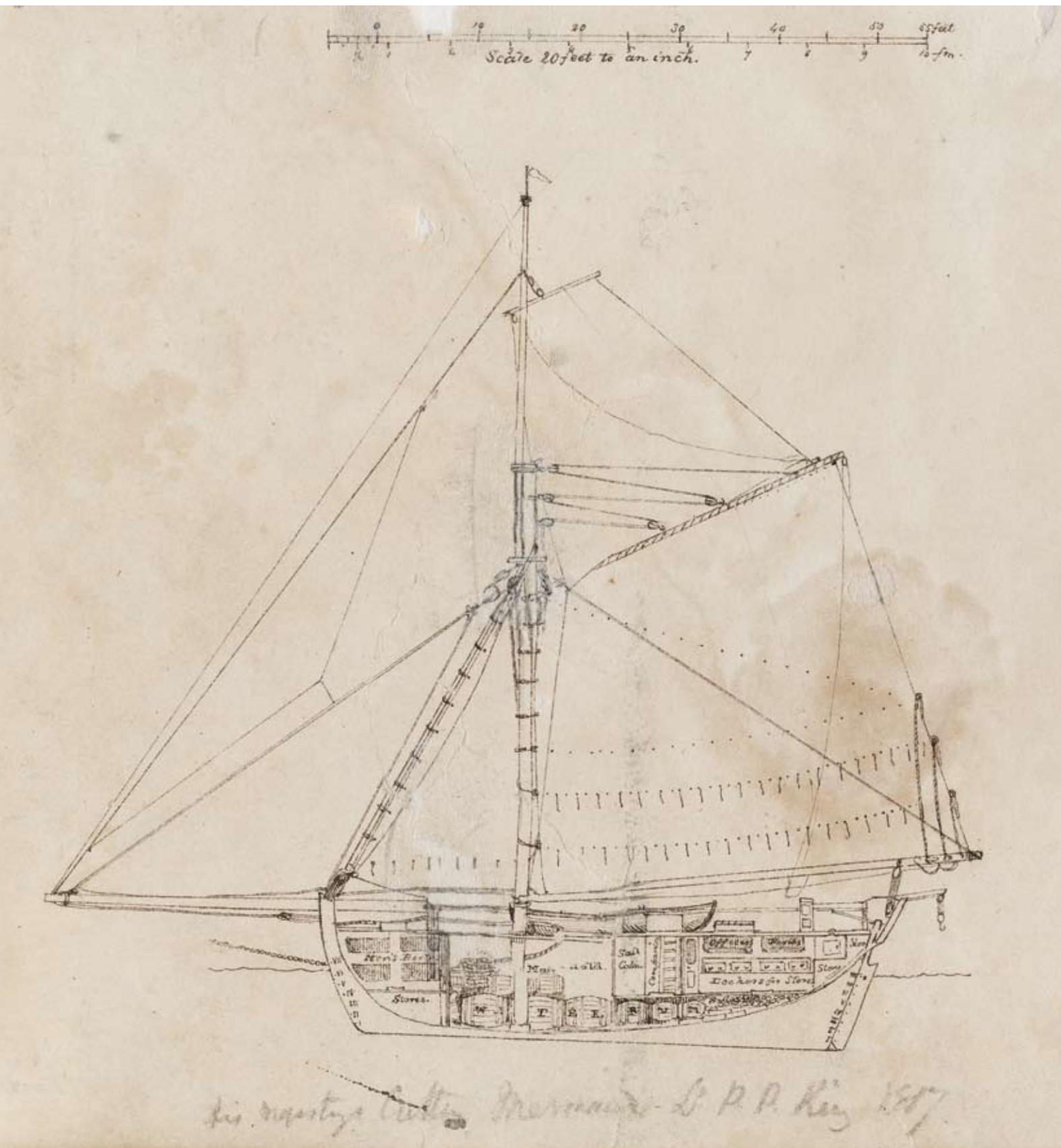
Benefiting from further research work in archives in Australia and overseas, with a well-equipped, well-staffed expedition thanks to our generous project sponsor the Silentworld Foundation – and with a little bit of good fortune thrown in – the Australian National Maritime Museum's HMCS *Mermaid* 1829 Project located the wreck site that we were seeking in just four days!

### Phillip Parker King and the cutter *Mermaid*

Phillip Parker King (1791–1856) is considered one of Australia's greatest maritime surveyors, although his achievements have been overshadowed by the fame of earlier navigators such as James Cook and Matthew Flinders. Born

on Norfolk Island in December 1791, he was the son of its commandant Philip Gidley King. The family returned to England in 1796, where young Phillip Parker King continued his education after his father sailed back to the colony of New South Wales to take up the position of Governor from 1800 to 1806.





ABOVE: Sketch by Phillip Parker King of the cutter *Mermaid's* accommodation and distribution of stores dated 1817, early in his command. Mitchell Library, State Library of New South Wales. With the two other views of *Mermaid* reproduced here, *Mermaid* is one of the better-documented ships of Australian exploration.

OPPOSITE: *Mermaid* at anchor, Endeavour River 1819, watercolour by Phillip Parker King. Mitchell Library, State Library of New South Wales. The little survey vessel's tall, large cutter rig would call for prudent seamanship, and her conversion to schooner rig (just before she was lost) may well have been to make her more easily managed.



King the younger entered the Portsmouth Naval Academy as a child in 1802, and later the Royal Navy, rising from midshipman to master's mate and to lieutenant in 1814. By this time his skills as a surveyor had been noted by Captain Thomas Hurd, Hydrographer to the Admiralty, from whom he received training in cartography and surveying.

After the Napoleonic Wars, the British government proclaimed that 'consequent upon the restoration of Peace ... it [is]

copper-sheathed, iron-fastened cutter was a tiny craft for such an undertaking at just 18 metres long, with a beam 5.48 metres wide and measuring 84 gross register tons.

When King returned from his third expedition in 1820, *Mermaid's* strained and worm-riddled timbers were considered too weak to support another surveying voyage and he completed his fourth expedition in the much larger *Bathurst*, of 170 tons. In 1821 *Mermaid*

## The survivors were transferred to the wooden brig *Swiftsure* – and were promptly wrecked again, just 18 hours later!

most important to explore, with as little delay as possible, that part of the coast of New Holland ... not surveyed or examined by the late Captain Flinders'. Lieutenant King was ordered to return to the Australian colonies to complete this task. From 1817 to 1822, King undertook a series of remarkable voyages and charted vast areas of the coast stretching from Arnhem Land to Cape Leeuwin, King George Sound to the Great Barrier Reef, and Van Diemen's Land to the Torres Strait.

To undertake these hydrographical surveys King had two vessels specially modified: HMS *Mermaid* in 1817 and *Bathurst* in 1820. *Mermaid* was to prove the mainstay of the first three expeditions. Built of Indian teak in Calcutta in 1816 and purchased by Governor Lachlan Macquarie in 1817, this single-masted,

was taken over by the colonial government of New South Wales and after a refit was commanded by explorer John Oxley on surveys of Moreton Bay, Brisbane and the Tweed Rivers. The cutter was used to supply penal colonies at Port Macquarie, Norfolk Island and Moreton Bay, and made voyages to Van Diemen's Land, New Zealand, Tahiti and Hawaii. In March or April 1829 *Mermaid* was refitted at the government dockyard in Sydney and converted into an armed, two-masted schooner.

### The wreck of the *Mermaid*

His Majesty's Colonial Schooner *Mermaid* sailed from Sydney on 10 May 1829 under Captain Samuel Nolbrow, carrying despatches and stores that included munitions, wine and tobacco. He was bound first for the isolated

settlement of Fort Wellington at Port Raffles on the Cobourg Peninsula (Northern Territory), and thence for Albany in King George Sound, Western Australia.

Disregarding his strict instructions to follow the safer, but longer, inshore passage to the Torres Strait that had been discovered by Phillip Parker King during one of the earlier *Mermaid* voyages, Captain Nolbrow decided to risk the Great Barrier Reef which was – and still is – incompletely surveyed.

During the evening of 12 June 1829, when *Mermaid* was at least eight nautical miles offshore from Double Point, south-east of present-day Innisfail, chief officer John Hastings suggested to the captain that, given their proximity to the reef, they should heave to (helm and sails trimmed to make no headway) until daylight. Nolbrow disagreed and instructed the watch to keep the fore topsail full so that the vessel made between two and three knots. At about 0545 hours the vessel struck a low-lying coral reef. The crew attempted to drive her over into deeper water, but after going forward only a short distance the *Mermaid* held fast and began to strike the ground heavily.

Daylight found *Mermaid* on the weather side of a reef extending for miles, with shoal water on most sides but some six fathoms (12 metres) astern. Despite attempts to kedge the vessel off using one of the anchors, *Mermaid* held fast and the crew began jettisoning cargo to lighten the schooner. At this stage Captain Nolbrow – possibly under the influence of alcohol – drew a pistol on chief officer Hastings and some of the crew and threatened to shoot them if anything else was discharged.

That afternoon at 1730, during another attempt to drive the vessel over the reef, *Mermaid* rolled over onto her beam ends and within a few minutes the hull was breached. At 2000 hours the crew abandoned ship and took to the boats.

On 24 June 1829, after 11 days in the open boats, the crew were rescued by the small schooner *Admiral Gifford*. On account of overcrowding, the survivors were transferred to the much larger wooden brig *Swiftsure* on 3 July – and on board this vessel they were promptly wrecked again off Cape Sidmouth, just 18 hours later! According to *The Sydney Gazette* of 26 November 1829, the crew of the *Mermaid* was to endure two further shipwrecks (on *Governor Ready* and



*Comet*) before being landed at Port Raffles. Here they embarked on the government brig *Amity* which sailed westwards for King George Sound, before finally returning some of the crew to Sydney five months later.

Captain Noltrow never appeared before a board of inquiry to answer for his actions. Instead, the only known eyewitness account of the disaster – and the position of the wreck – is the statement of chief officer John Hastings in *The Report of the Board ... to enquire into the loss of the ... Schooner Mermaid on the 13th June 1829 near Torres Strait* (New South Wales State Records). Hastings declared that ‘... at 10.30 the greater part of the reef to the northwards of us was dry, from the after part of the main chains we had at low six feet and under the bows not three feet ...

## High seas and swells build up on all but the most sheltered reefs, making diving conditions extremely difficult

from an altitude taken at noon the latitude of the vessel was 17.7 degrees South, distant of the mainland at least six or seven leagues [18–21 nautical miles], and Cape Grafton to the northward and westward of us distance about 25 or 30 miles ...’.

This information was used in the government auction notice for the remains of the *Mermaid* that appeared in the *Sydney Gazette* and *New South Wales*

*Advertiser* on 20 February 1830, which stated that the wreck lay on a reef at latitude 17 degrees 7 minutes south and longitude 146 degrees 10 minutes east. This same information was used in the 20th century to protect the as-yet-unlocated wreck under the Australian Government’s *Historic Shipwrecks Act 1976*, which gave its tentative location as Scott Reef, approximately 20 nautical miles south of Cairns and slightly east of Cape Grafton.

### Looking for Mermaid

As one of the most significant early colonial surveying vessels lost in Australian waters, there have been a number of attempts to locate the wreck of the *Mermaid* based on this estimated position.

In 2004, Oceania Maritime, a Townsville-based diving company, mounted an archaeological expedition to locate the vessel in conjunction with the Museum of Tropical Queensland. Although unsuccessful, it ruled out Scott Reef as the wreck site. The expedition also reported that Flora Reef, some 10 nautical miles from Scott, contained several magnetic anomalies on the south-eastern reef edge that could represent buried iron work associated with the initial

grounding-place of the *Mermaid*. An archaeologist from that expedition, Stirling Smith, wrote in a report to this museum:

*A diver with a handheld metal detector was sent in to investigate. Two pieces of iron were found concreted into the coral ... There appeared to be further iron pieces underneath but excavation would have been required to fully reveal them ... It is hypothesised that these areas may be the striking area of a ship where cargo has been jettisoned in an effort to float it off the reef, as the crew of the Mermaid were reported to have done.*

In early 2008, the Australian National Maritime Museum entered discussions with the Silentworld Foundation, part of Silentworld Ltd, an Australian-based shipping company, regarding possible collaborative maritime archaeological projects in Australia. The decision was taken to carry out additional archival research into the loss of *Mermaid*, and if feasible, to conduct a search for the vessel’s remains.

A search of both Australian and overseas archives and collections turned up additional information that would help us.

In July 1830, HMS *Crocodile*, while escorting a convoy of ships through the inner route of the Great Barrier Reef, reported sighting the remains of HMCS *Mermaid* on a reef east of Frankland Reef (present-day Franklin Islands). A further sighting was reported by Charles James

Card, who landed on No. 4 Frankland Island with the crew of HMS *Rattlesnake* in June 1848. In his journal, Card stated that he observed the fore part of a wreck, reported to be from the *Mermaid*, on one of the island’s beaches.

Dr Nigel Erskine, curator at this museum, located an 1845 chart during research at Britain’s National Maritime Museum, Greenwich, annotated with the remark ‘supposed position of the wreck of *Mermaid*, south of Lat. 17s and 8–9 nautical miles east of the Frankland Islands near the location of present-day Flora Reef’. A copy of an 1847 chart, *Detailed Map of Dr Ludwig Leichhardt’s Route in Australia ...* by John Arrowsmith (State Library of New South Wales), showed the position of *Mermaid* in a similar location 8–9 miles east of the Frankland Islands.

Ongoing archival research, including an examination of the original logbooks of HMS *Crocodile* held in Mitchell Library, NSW, further strengthened the hypothesis that when *Mermaid* was wrecked on 13 June 1829 the vessel became stranded on one of a series of large coral reefs, possibly Flora or Maori Reef, offshore from the Frankland Islands. *Crocodile*’s Remarks Book states: ‘On the morning of the 18 July ... we observed the wreck of the Colonial Schooner *Mermaid* on a reef nearly dry 6½ to 7 miles eastward of Frankland Reef ... The weather was hazy and the land obscured so it was impossible to ... satisfactorily position other than by the log account ...’



ANTICLOCKWISE FROM RIGHT:

Precise measurements of the underwater site are an essential part of documenting the team’s archaeological work.

Experienced snorkellers surveying the reef use GPS and line to record the area covered, undistracted by marine life.

Australian National Maritime Museum curator and maritime archaeologist Kieran Hosty (right), leader of the museum’s HMCS Mermaid project, briefs the team.

Spoilsport, one of two dive vessels supplied by the Silentworld Foundation.







### The HMCS *Mermaid* 1829 Project (1–16 January 2009)

In mid-2008 the Australian National Maritime Museum began assembling a team of maritime archaeologists, technical officers, scientists and volunteer divers to search for the remains of HMCS *Mermaid* in January 2009. They were drawn from ANMM staff, the Museum of Tropical Queensland, James Cook University, Oceania Maritime, the Silentworld Foundation, the Department

of Environment, Water, Heritage and the Arts, and the Maritime Archaeological Association of Queensland. Searching for a shipwreck in tropical northern Australia during the cyclone season may appear at first glance to be sheer lunacy, but there is a method in our apparent madness!

## The Australian National Maritime Museum's HMCS *Mermaid* 1829 Project located the wreck site in just four days!

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HMCS *Mermaid* was reported lost on the southern or weather side of a reef during the annual south-easterly trades. As these strong winds blow for almost eight months of the year, high seas and swells build up on the southern side of all but the most sheltered reefs, making diving conditions extremely difficult. During the northern wet or cyclone season the winds swing around to the north and moderate, the swell and seas drop, and diving conditions improve radically, providing almost ideal conditions to work the southern edge of the reef.

Sailing east from Cairns, our two expedition vessels headed south along the Queensland coast, taking the inner route

Flora Reef covers an area of more than eight square kilometres. It would be almost impossible for snorkellers and

scuba-divers to visually scan each square metre of it, looking for archaeological clues. To help us search this huge area we had brought along several magnetometers – towed submersible electronic devices that measure changes in the earth's magnetic fields caused by the presence of iron-based objects, such as the tons of iron kentledge (ballast) carried by *Mermaid*, or one of its iron cannon.

Although highly sensitive instruments, magnetometers only provide a general geographical position for a magnetic anomaly or 'hit'. To pinpoint these more accurately, snorkellers and divers equipped with hand-held underwater metal detectors are then deployed to 'ground truth' any anomalies detected by the magnetometer.

After only an hour or so, the magnetometer teams were reporting a run of magnetic hits from the south-eastern edge of Flora Reef towards its centre. Within minutes, small dive boats were being sent off to investigate the shallow

reef. Among the rush were Megan Blacker, Alice Lafferty and Megan Cozens – two students and a teacher from Bega High School who had won first prize in a national competition to spend a week on board *Spoilsport* participating in the *Mermaid* Project. They would post regular blogs about their experience on the museum website ([www.anmm.wordpress.com](http://www.anmm.wordpress.com)).

Joining them was expedition medical officer Lloyd Fletcher (borrowed from the Australian Antarctic Division), John and Jacqui Mullen from the Silentworld Foundation, Peter Illidge from Ocean Maritime, Warren Delaney from the Maritime Archaeology Association of Queensland, and a host of other divers from many different countries.

As unlikely as it sounds to those familiar with the painstaking nature of archaeology, within minutes of the first divers entering the water, shipwreck finds were being reported. Divers had located what appeared to be a shipwreck smear – a scattering of loose copper-alloy artefacts across the shallow reef platform. Although no iron artefacts had been sighted on the surface, it was obvious from the magnetometer signal that a scattering of iron lay buried underneath the coral growth and sand pockets.

As Flora Reef is part of the Great Barrier Reef Marine Park, our permit only allowed us to recover surface artefacts.

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## We find the missing *Mermaid*!

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So after the artefacts had been recorded and photographed in situ, two compass gimbals and a small viewing port (possibly from a binnacle) were brought back to the main expedition vessel for a more careful examination. Other items that would have required excavation – including a small bilge pump, a rigging turnbuckle and some copper tubing – were left in place.

To say that the mood on board was elated would be an understatement! Here we were on the very first day of a 14-day expedition with a shipwreck site – but was it our *Mermaid*?

A more careful examination of the viewing port revealed a rubber gasket sealing the glass to the copper alloy frame. Vulcanisation of rubber (hardening it with sulphur to make it durable for industrial products) was not patented by

line was a floating, waterproof global positioning system (GPS), and their track logs were downloaded at the end of each search day. This system proved highly successful. Over the course of the expedition each snorkeller covered over 10 kilometres, allowing our team to search the entire site.

On day four, a magnetometer team reported a significant hit in two to three metres of water on the extreme south-western edge of Flora Reef. Team leaders arrived to find an empty boat and lots of excited snorkellers duck-diving down to examine lumps on the seabed. It didn't take long for us to join in the enthusiastic investigation of the expedition's second shipwreck!

The site was quite different to the first. The snorkellers' metal detectors indicated that a number of what looked like coral



ABOVE: A diver surveys the HMCS *Mermaid* shipwreck site on Flora Reef using a hand-held metal detector.

RIGHT: The expedition dive team on board *Spoilsport*, mother ship of the HMCS *Mermaid* 1829 Project on the Great Barrier Reef in January 2009.

## Searching for a shipwreck during the cyclone season may appear at first glance to be sheer lunacy

Charles Goodyear until 1851, and was not in common production until after 1860. A closer examination of the bilge pump by Trevor Jackson (well-known Queensland diver and skipper of *Spoilsport*) detected the name Esbe – an early 20th-century pump manufacturer. Together, these observations confirmed that although we had found the wreck of a small wooden ship, it was far too late to be *Mermaid*.

Although this was a disappointment, finding a small wreck so quickly confirmed that our survey methods were working well and would give us the best chance of success. So over the next three days the magnetometer surveys of the southern edge of Flora Reef continued.

With over 40 divers in the expedition, we also took the opportunity to send out large groups of snorkellers led by certified archaeological divers Paul Hundley, a senior ANMM curator, and Lee Graham from ANMM fleet services, to visually search areas of the reef top which were too shallow for towing magnetometers. To record the area covered by the snorkellers, they were spaced out along a rope swim-line between 20 and 50 metres long. Attached to each end of the swim-

lumps were in fact iron. One was a mound of anchor chain, while others were found to be canister shot. Scattered around were several copper-alloy keel staples, together with fastenings, sheathing tacks, pulley sheaves, another compass gimbal and copper sheathing.

Work continued on the new site as the weather conditions took a turn for the worse. A centre line was established. ANMM diver Nigel Erskine and divers from Silentworld Foundation began plotting all the surface artefacts that had been located so far. Expedition photographer Xanthe Rivett and Warren Delaney started work on a complete photo-mosaic of the wreck. Although the new shipwreck was the right size to be *Mermaid*, we had found nothing on the site to confirm its identity at this stage. This, however, was to change over the next few days.

According to the statement of chief officer John Hastings to the inquiry into the loss of the schooner, a kedge anchor and hemp cable were deployed to the south-east of the wreck in an attempt to warp *Mermaid* off the reef. This attempt failed and the anchor was left in the sea when the vessel was abandoned.

Based on this information, we started searching the reef to the south-east of the wreck using a magnetometer backed up by scuba divers with hand-held metal detectors. On the fourth run, a substantial anomaly was recorded in 8–10 metres of water about 130 metres from the wreck site. Divers located an iron anchor, lying palms-down and almost completely covered with plate coral. The absence of chain cable (the reported hemp cable having long since rotted away), the positioning of the anchor in relationship to the wreck, and the size of the anchor – *Mermaid's* kedge anchor weighed two hundredweight or 106 kilograms – all seemed to point to our wreck being the *Mermaid*!

Additional confirmation came over the next few days, with divers locating additional pulley sheaves and some copper alloy fastenings, all stamped with the broad-arrow symbol. This Board of Ordnance mark was used from at least the 1540s in England to mark government property. It was a criminal offence to reproduce it without permission. It was highly unlikely that such a large number of items carrying the mark would be found on anything but a government vessel or one carrying government supplies, such as HMCS *Mermaid*.

Although confidence that we had found *Mermaid* was growing, there were still some questions that remained to be



answered. Where were the ship's cannon and the iron ballast? Why were we finding large numbers of copper-alloy ship's fastenings on a vessel that was supposedly iron-fastened? With the weather rapidly deteriorating – a monsoon trough developing to the north began to suck the wind in from the south east – work on the site cranked up a notch.

Thanks to modern technology and wireless internet we were also able to continue our archival research while the divers worked. Returning to the 1829–33 Remarks Book of HMS *Crocodile* in the Mitchell Library, we found a reference to

## Joining them were John and Jacqui Mullen from the Silentworld Foundation and a host of other divers from many countries

salvors who had worked on the site of the *Mermaid*: 'July 23 1830 ... observed the wreck of a large ship [Swiftsure] ... Saw a small vessel under sail ... observed a salvage camp ashore ... wreckers from Sydney working the Swiftsure ... had in a few days stripped the Swiftsure of everything valuable – as they had also done to the *Mermaid* ...'

It's highly likely these salvors would have recovered at least some, if not all of the *Mermaid's* cannon – highly valuable and resaleable items in the 1820s – thus explaining their absence from the site.

Additional archival information, this time from the account of Phillip Parker King, answered the question about copper fastenings. King reported in his log in September 1820 that *Mermaid* was 'nail sick' and that a number of its original iron nails had been replaced with copper-alloy

nails from the ship's store when the vessel was careened at Careening Bay in Western Australia. The remaining iron nails and fastenings were replaced when *Mermaid* returned to New South Wales in January 1821.

While it is likely that the cannon were recovered by salvors, it is less likely that they would have bothered about the pig-iron ballast. Immersed in seawater for the previous 12 months, it would have begun rusting into a large conglomerate at the bottom of the schooner. Not only would it have been extremely difficult to recover, it would also have fetched very little in

Sydney, where in 1830 *The Sydney Gazette* reported good-quality scrap-iron being sold for less than one penny a pound.

But where was this ballast? Our divers answered that question. While conducting a metal detector survey of the wreck area they had uncovered a series of significant iron anomalies lying buried underneath the coral and sand. These anomalies, covering an area some four metres wide by 20 metres long, were almost certainly the remains of the ballast. Given their concentration, they were most likely lying on top of and protecting some timber remnants – keels, frames and lower planking – of the *Mermaid* – an exciting prospect for us!

With these final questions answered – and with tropical cyclone Charlotte forming to the north – the decision was taken to

close down the site for the time being. With the permission of Ed Slaughter from the Museum of Tropical Queensland (the state authority delegated with managing shipwrecks in Commonwealth waters off the Queensland coast), the team raised a series of artefacts for diagnostic purposes. These include some of the ship's fastenings marked with the broad-arrow symbol, copper sheathing, the remains of the ship's bilge pump and some pulley sheaves that are being conserved in the Australian National Maritime Museum's laboratory before being returned to the Museum of Tropical Queensland.

We are currently working on a conservation management plan for the wreck site with the Commonwealth Government, the Museum of Tropical Queensland and the Great Barrier Reef Marine Park Authority (the Commonwealth agency that manages the Great Barrier Reef). The plan will direct all future research on the site and will look at public access, interpretation and site management. Given the exposed nature and shallowness of the location, the plan will also examine the various arguments for and against excavation and recovery of artefacts.

### Postscript

In the 18th and 19th centuries, shipping was not only the lifeblood, but also the lifeline of Australia's isolated colonies. Charting the coast and a way through the Great Barrier Reef to secure shipping routes was of paramount importance to both the colonial and British governments.

The survey vessel *Mermaid* and the work of Phillip Parker King played an essential role in this undertaking, and many of the charts used by Australian navigators today are still based on the surveys carried out by King in *Mermaid*.

Our quest to find the *Mermaid* would not have been possible without the contribution of our sponsor and partner the Silentworld Foundation, and the valuable assistance of Oceania Maritime, the Museum of Tropical Queensland, the Maritime Archaeological Association of Queensland, James Cook University, Mike Ball Dive Expeditions, and the crew of *Nimrod Silentworld* and *Spoilsport*. We also extend our thanks to our valued participants from Bega High School, and our enthusiastic team of volunteer divers from Queensland, New South Wales, Australian Capital Territory, Tasmania, Solomon Islands, Germany, the United States and Singapore. ■