

# THE PIONEER

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## OCCASIONAL PAPERS

Historical accounts from the Buderim – Mooloolaba area

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*[Author's note. This paper is not about Buderim's history. Rather it tells a story of Australian history that is often only vaguely known to most people, but with more detail than is usually present.]*

## Endeavour Reef June 1770

**by Bill Lavarack**

### Introduction

Most Australians are familiar, at least to some extent, with the events of June 11 1770, the night when Captain James Cook's<sup>1</sup> vessel, His Majesty's Bark *Endeavour*, struck a coral reef off the coast of Cape York Peninsula. Cook and his wealthy botanist passenger Joseph Banks both left detailed journals and these provide the information on which the following account is largely based. Between Cook's journal which is written in a simple, accurate style, and Banks's which is more descriptive and even occasionally emotional, it is possible to obtain a clear picture of the events they describe. The passages of text quoted from Cook's and Banks's journals are shown in italics and all retain the original spelling. Cook's words, as presented below, are from Wharton (1893)<sup>2</sup> and Banks's from Beaglehole (1963). In addition Ray Parkin's well-researched book 'H.M. Bark *Endeavour*' (1997) has been an important source of information.

While the event is well known, few realise just how close the *Endeavour* came to being totally wrecked with the fate of the crew hanging in the balance. Had the ship gone down with all hands the history of Australia could have been totally different, although it should be recognised that such an expert seaman as James Cook would have stood a good chance of surviving with at least part of

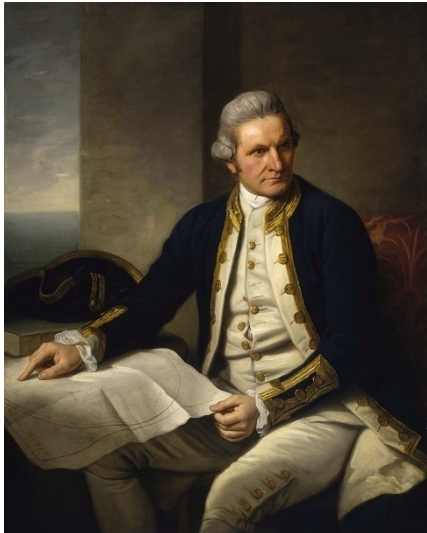
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<sup>1</sup> James Cook actually held the Naval Rank of Lieutenant in 1770, but custom was to refer to the commander of a vessel as 'Captain'. He was promoted to the rank of Post Captain before his second voyage.

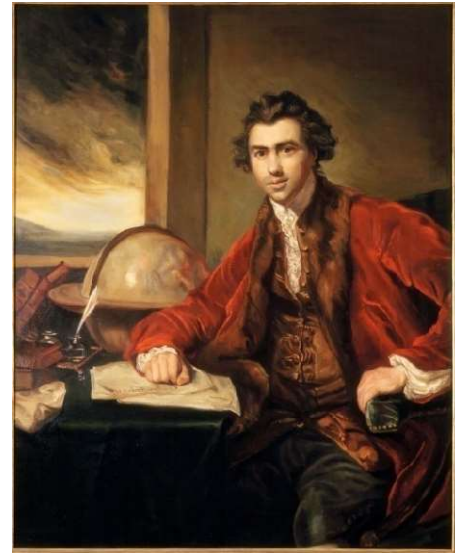
<sup>2</sup> Captain Wharton's 1893 publication of Cook's journal has been used as the source here as it is more readily available digitally than Beaglehole's 1968 version, and the two are substantially similar for the purposes of this account.

the crew via the ship's boats. Joseph Banks's survival was important to the future of Australia as he was a major proponent of the colonization of New South Wales some 18 years later.

Of course we all know that Cook and all on board survived the incident on Endeavour Reef. This excellent outcome was the result of several factors – initial choice of a shallow-drafted vessel, kind weather, exceptional seamanship, discipline of the crew, a piece of coral rock becoming wedged in the hole in the ship's side and the presence of a fortunately-located harbour at the mouth of the Endeavour River. Three of these factors - the good weather, the lump of coral rock and the harbour, were simply good fortune. On such things hung the future of our nation.



Captain James Cook by Sir Nathaniel Dance-Holland. (c. 1775, National Maritime Museum, Greenwich)



Sir Joseph Banks Bt. by Sir Joshua Reynolds. (1771-1773, National Portrait Gallery, London)

## The night of June 11 1770

*We were safely in bed when we were called up with the alarming news of the ship being fast upon a rock, of which she in a few moments convinced us by beating very violently against it. Our situation became now greatly alarming; we had stood off shore three hours and a half with a pleasant breeze, so knew we could not be very near it. We were little less than certain that we were upon sunken coral rocks, the most dreadful of all, on account of their sharp points and grinding quality, which cut through a ship's bottom almost immediately.*

So wrote Joseph Banks in his journal describing the events of the night which developed as one of history's great turning points, setting in train the future of Australia as we know it today. This will be discussed further below. It was the night of June 11 1770.

Lieutenant James Cook commanding His Majesty's Bark *Endeavour*, wrote of this event as follows:

*Having the advantage of a fine breeze of wind, and a clear Moon light Night in standing off from 6 until near 9 o'Clock, we deepned our Water from 14 to 21 fathoms, when all at once we fell into 12, 10 and 8 fathoms. At this time I had everybody at their Stations to put about and come to an Anchor; but in this I was not so fortunate, for meeting again with Deep Water, I thought there could be no danger in standing on<sup>1</sup>. Before 10 o'Clock we had 20*

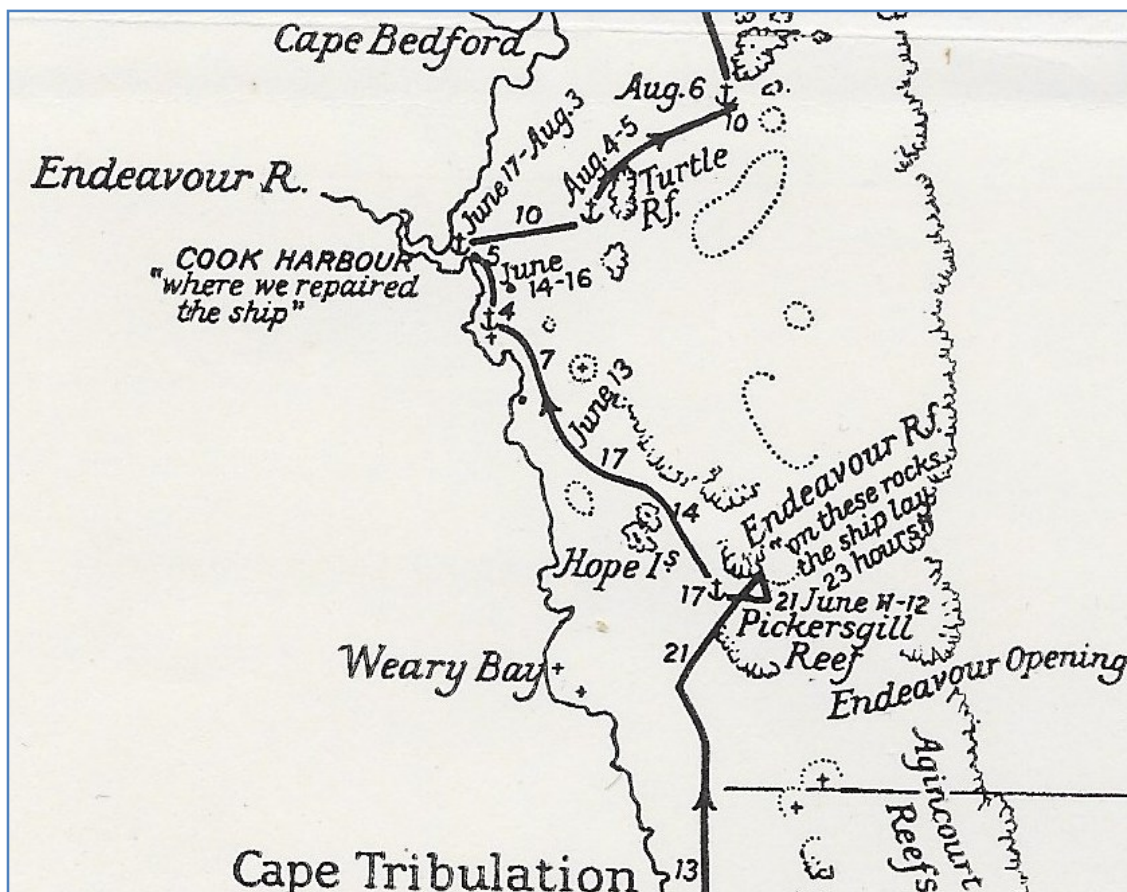
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<sup>1</sup> The ship had sailed close to Pickersgill Reef, which accounted for the suddenly shallowing depth, which then deepened as the ship passed the reef.

and 21 fathoms, and Continued in that depth until a few minutes before 11, when we had 17, and before the Man at the Lead could heave another cast, the Ship Struck and stuck fast.

One might ask why was Cook sailing at night 'with the advantage of a fine breeze of wind' in waters we now know to be extremely dangerous with numerous coral reefs? Of course Cook had no previous knowledge of these dangers, it was a clear moonlight night with everybody at their stations, the depth of water was increasing to 21 fathoms and the ship was travelling at only two knots. For several days the *Endeavour* had been sailing a little west of north a few kilometres off the coast without problems. This is a course which modern charts show is relatively clear of coral reefs that are densely located a few kilometres to the east.

At 6 pm on June 11 Cook sighted the Hope Islands and reefs lying to the north in the distance and altered course to the north-east to avoid the danger. This took the *Endeavour* into an area well supplied with coral reefs. (See point 21 on the map below.) Cook's luck now ran out as he narrowly missed Pickersgill Reef and then, about 11 pm, ran head on into Endeavour Reef to the north. The ship struck the reef near the top of the tide and as a result any rocks exposed at a lower tide would not have been visible, particularly at night. The shallow draft of the *Endeavour* must have been a factor lessening the extent of damage caused by the grounding.



**Map showing the track of HMB Endeavour in June 1770**, narrowly missing Pickersgill Reef, then grounding on Endeavour Reef, then after being freed from the reef, passing Hope Islands and then north-west to the Endeavour River.

The track of *Endeavour* is shown as a solid black line. The words in quotation marks are Cook's.

Map modified from Cook's original Chart of Part of the Coast of New South Wales from Cape Tribulation to Torres Strait 1770. This modified version is from J.C. Beaglehole's 'The Journals of Captain James Cook. The Voyage of the Endeavour 1768-1771.' Published by the Hakluyt Society in 1955.

## Attempts to free the ship

Sails were immediately furled to prevent the ship being driven further on to the reef. With the tide ebbing, it was clear there would be no chance to get the ship off before the next high tide, if then, and, as it eventuated, possibly not until the high tide after the next had arrived.<sup>1</sup> The next morning Cook was more optimistic as the morning brought a decrease in wind. Banks commented the next morning (Tuesday 12 June):

*In this situation day broke upon us and showd us the land about 8 Leagues<sup>2</sup> off as we judgd; nearer than that was no Island or place on which we could set foot. It however brought with it a decrease of wind and soon after that a flat calm, the most fortunate circumstance that could Possibly attend people in our circumstances.*

Cook quickly established that there was deep water astern of the ship, and that the ship was stuck firmly on the edge of a reef. The longboat was lowered, anchors put out to prevent the ship being driven further onto the reef and the yards and topmast struck. Daylight revealed the mainland to the east estimated by Banks to be about eight leagues away, but was actually much closer - Endeavour Reef is about 20 kilometres or 3.5 leagues off the coast. No other land was within reach except the Hope Islands about 10 kilometres to the north west.

Had the wind got up to more than a gentle breeze, indeed a 'flat calm' as stated by Banks, it is conceivable that *Endeavour* would have been driven further on to the reef and probably would have remained there, grinding to pieces no matter what the crew did. Bureau of Meteorology records for Cooktown in June show an average wind speed of 20.7 kilometres per hour, sufficient to make the refloating of the ship extremely problematical. Just how fortunate Cook was with the weather becomes clear when his journal is examined for the few days following the *Endeavour* striking the reef. On 12 June, the morning after, Banks records the weather as a 'flat calm'. On 13 June Cook reports 'in the P.M. had light Airs at East-South-East' and on 14<sup>th</sup> 'a Gentle breeze at South-East by East', but later in that day (when the ship had been refloated), he reports 'it begun to blow in so much that the Ship would not work, having missed stays Twice'<sup>3</sup>. On 15 June the conditions are reported as 'a fresh Gale at South-East and Cloudy weather'. Clearly the weather had changed significantly and had *Endeavour* been on the reef on the afternoon of 14 June, it is probable it would have been hopelessly wrecked. On such things did the success of the expedition hang.

Other ships struck reefs of the Great Barrier Reef in this period, but were not as lucky as the *Endeavour*, notably HMS *Pandora* in 1791 and HMS *Porpoise* and *Cato* both in 1803, all three sinking, but with most of the crew surviving. Cook goes on to tell us that the sea was calm which was fortunate as gale force south-easterlies are not uncommon at that time of year.

In an attempt to lighten the ship much was thrown overboard including cannon<sup>4</sup>, ballast, water, casks, hoop staves, oil jars, decayed stores and many other items. Cook's journal states:

*All this time the Ship made little or no Water. At 11 a.m., being high Water as we thought, we try'd to heave her off without Success, she not being afloat by a foot or more, notwithstanding by this time we had thrown overboard 40 or 50 Tuns weight. As this was not found sufficient we continued to Lighten her by every method we could think off; as the tide fell the ship began to make Water as much as two pumps could free: at Noon she lay with 3 or 4 Streakes<sup>1</sup> heel to Starboard . . .*

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<sup>1</sup> Cook was probably not aware that, on this coast, every alternate tide does not reach full height and he was forced to wait for a lower high tide to pass before the highest mark would be reached on the next high tide.

<sup>2</sup> One nautical league equals 5.556 kilometres.

<sup>3</sup> A ship is said to miss stays when she fails in the attempt to go about from one tack to another.

<sup>4</sup> Six of the ship's cannon went overboard, all of which were recovered in 1969. Cook retained four cannon which were in the hold at the time. The salvaged cannon are now in various museums in London, Wellington, Philadelphia, Cooktown and two in Sydney at the Australian National Maritime Museum.

Joseph Banks in his journal, informs the reader that he thought the ship was doomed and he considered his life as 'at serious risk':

*At night the tide almost floated her but she made water so fast that three pumps hard workd could but just keep her clear and the 4th absolutely refusd to deliver a drop of water. Now in my own opinion I intirely gave up the ship and packing up what I thought I might save prepard myself for the worst.*

Cook commented on the behaviour of the crew at this stage in his journal as it was not unknown for crews to lose discipline, break into the liquor store and become drunk if they thought the ship might be certain to sink. In this case the crew acted with great discipline, realising that this was the only way in which lay hope for the future. Banks too, was impressed by the crew, saying:

*The seamen worked with surprising cheerfulness and alacrity: no grumbling or growling was to be heard throughout the ship, not even an oath (though the ship was in general as well furnished with them as most in His Majesty's service).*

## Refloating the ship

Later on Tuesday 12 June, after reducing the load on board, Cook again turned to attempts to float the ship on the high tide:

*Fortunately we had little wind, fine weather, and a smooth Sea, all this 24 Hours, which in the P.M. gave us an Opportunity to carry out the 2 Bower Anchors, one on the Starboard Quarter, and the other right a Stern<sup>2</sup>, got Blocks and Tackles upon the Cables, brought the falls in abaft and hove taught. By this time it was 5 o'Clock p.m.; the tide we observed now begun to rise, and the leak increased upon us, which obliged us to set the 3rd Pump to work, as we should have done the 4th also, but could not make it work. At 9 the Ship righted, and the Leak gaind upon the Pumps considerably. This was an alarming and, I may say, terrible circumstance, and threatened immediate destruction to us. However, I resolved to resk all, and heave her off in case it was practical, and accordingly turnd as many hands to the Capstan and Windlass as could be spared from the Pumps; and about 20 Minutes past 10 o'Clock the Ship floated, and we hove her into Deep Water, having at this time 3 feet 9 Inches Water in the hold. This done I sent the Long boat to take up the Stream Anchor, got the Anchor, but lost the Cable among the Rocks<sup>3</sup>; after this turnd all hands to the Pumps, the Leak increasing upon us.*

Cook's language here is illuminating with words such as 'terrible circumstance' and 'threatened immediate destruction' showing just how serious the situation was. Cook was never prone to exaggeration and it is clear that he saw real danger. So, in summary, the ship floated at 20 minutes past 10pm and was dragged off the reef by hauling on the two bower anchors, a crisis point as the leak then increased markedly requiring all hands to the pumps. So serious was the situation that Banks in agreeing with Cook, says in his journal that he 'prepared myself for the worst'. He goes on to describe the position as follows:

*. . . she leakd so fast that with all our pumps we could just keep her free: if (as was probable) she should make more water when hauld off she must sink and we well knew that our boats were not capable of carrying us all ashore, so that some, probably the most of us, must be drownd: a better fate maybe than those would have who should get ashore without arms to defend themselves from the Indians or provide themselves with food . . .*

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<sup>1</sup> Streak - a continuous line of planks on the side of a ship, running from bow to stern.

<sup>2</sup> In other words Cook had the two main ('bower') anchors which are situated on the bow of the ship, one on either side, carried in the longboat, one dead astern and the other on the stern starboard quarter and anchored them to the sea bed. Another three anchors were also deployed astern. The crew then hauled on these with the capstan and windlass to drag the ship backwards into deep water.

<sup>3</sup> In the Ship's Log Cook states that he was successful in retrieving the best bower anchor but not the small bower anchor. This was salvaged in 1971 and is now in the James Cook Museum in Cooktown.



On Wednesday 13 June with the weather holding to light winds, and the crew just managing to keep the leak under control, Cook edged the ship towards the shore. Running the ship aground on the exposed shore to attempt to repair the leak or build a new vessel from the ship's timbers, was now considered. This was unlikely to be practicable due to the strong winds, surf and shallow water, but might have been necessary as a last resort. However at this stage the ship was floating reasonably well, no doubt partly due to a lump of coral about the size of a fist that was wedged in a hole, but was still in a precarious position.

There was one last option, which was to fother the ship. This was suggested by midshipman Jonathon Monkhouse who had seen it done on a previous voyage. While Banks gives Monkhouse the credit, it is likely that Cook as experienced as he was, would also have been aware of this procedure. Cook wrote in his journal: 'The Leak now decreaseth, but for fear it should break out again we got the Sail ready fill'd for fothering.' A sail was prepared by mixing together a large quantity of oakum<sup>1</sup> chopped fine, wool and other material which was stuck down in fist sized bundles in rows on the sail. This was designed to be drawn into the hole by suction. The prepared sail was then passed over the side near the bow so that it covered the leak and then made fast in that position.

Fothering proved a success and Cook was able to keep the leak under control with only one pump, giving fresh hope to all on board. In his journal Cook gave fulsome praise to all on board and every one of the 'gentlemen' as well as the crew 'exerted himself to the very utmost'. In Cook's words:

*At 6 we Anchored in 17 fathoms, about 5 or 6 Leagues from the land, and one from the Shoal. At this time the Ship made about 15 Inches Water per hour. At 6 a.m. weigh'd and stood to the North-West, edging in for the land, having a Gentle breeze at South-South-East. At 9 we past close without 2 small low Islands, laying in the Latitude of 15 degrees 41 minutes, and about 4 Leagues from the Main; I have named them Hope Islands, because we were always in hopes of being able to reach these Islands.*

So, on the morning of 14 June the exhausted crew was relieved to have the ship floating and operating almost as normal. This success was due to two factors – the calm weather and a feat of extraordinary seamanship in fothering the leak which had worked beyond all expectations.

With respect to the Hope Islands, it is clear that one volume and/or map Cook had with him was the account of the voyage of de Queiros in 1606<sup>2</sup>, as in his journal Cook had earlier remarked:

*My intention was to stretch off all Night as well to avoid the danger we saw ahead as to see if any Islands lay in the Offing, especially as we now begun to draw near the Latitude of those discover'd by Quiros, which some Geographers, for what reason I know not, have thought proper to Tack to this land.*

In this he refers to islands off the coast of modern Espiritu Santo in Vanuatu which de Queiros named 'Australia del Espíritu Santo', 2000 kilometres to the east of the Australian coast, discovered by de Queiros, and suggested in Cook's own words 'by some geographers' to belong to the Australian coast near where the *Endeavour* was sailing<sup>3</sup>. In his journal he refers to passing close to islands which he named the Hope Islands. These islands lie north-west of Endeavour Reef, apparently in about the same latitude as the islands off Espiritu Santo.

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<sup>1</sup> Oakum consists of tarred fibres usually made from old ropes, used to caulk joints in wooden ships to make them watertight.

<sup>2</sup> Pedro Fernandes de Queirós (1563–1614) was a Portuguese navigator in the service of Spain. He is best known for his involvement with Spanish voyages of discovery in the Pacific Ocean.

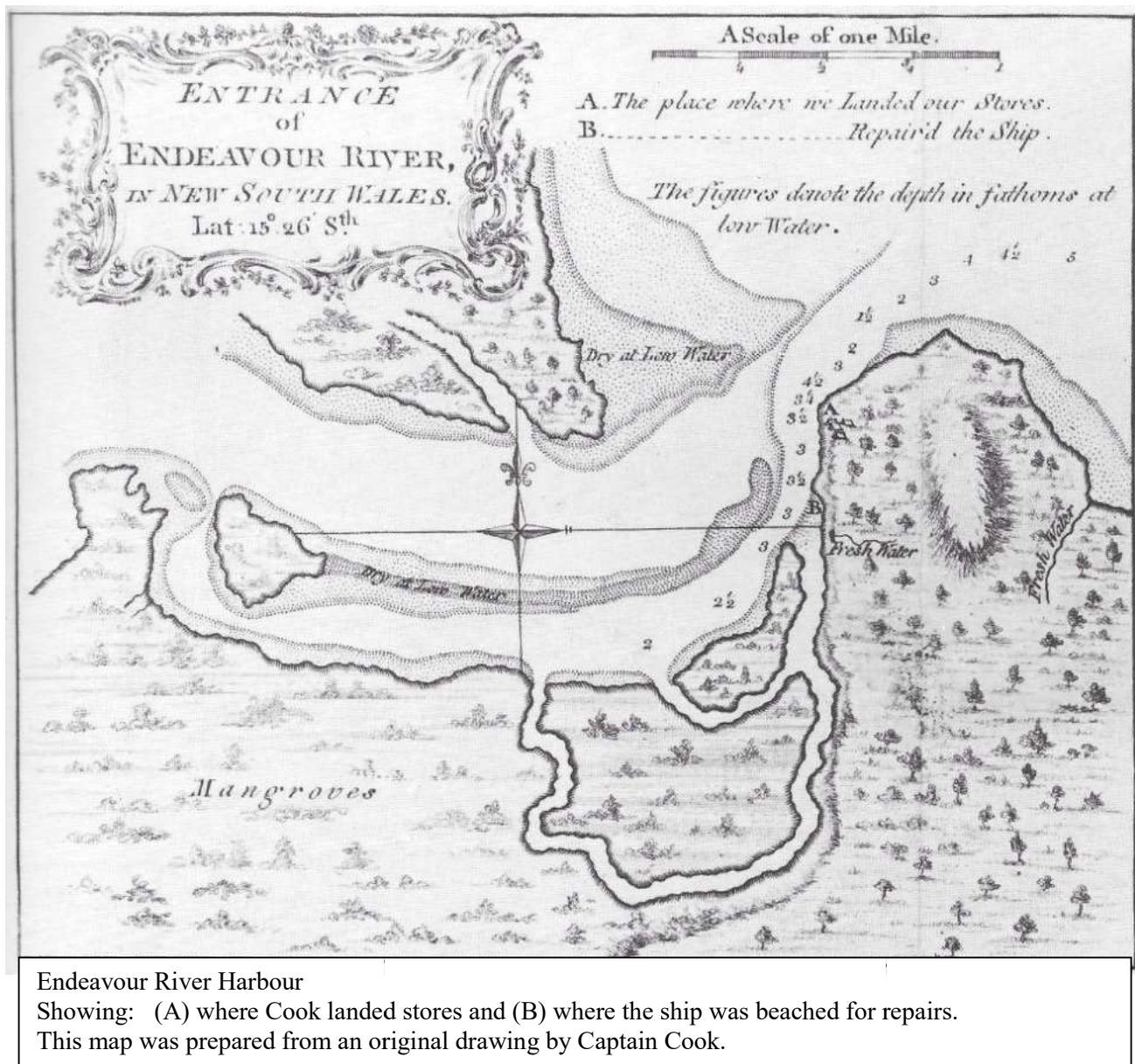
<sup>3</sup> Here Cook was taking no chances that the de Queirós islands might lie ahead. He clearly did not think that at all likely, but the problems of determining longitude meant that the islands could lie almost anywhere in that latitude.

## A fortunate harbour

Cook summarised the situation after the fothering as follows:

*It is much easier to conceive than to discribe the satisfaction felt by everybody on this occasion. But a few minutes before our utmost Wishes were to get hold of some place upon the Main, or an island, to run the Ship ashore, where out of her Materials we might build a Vessel to carry us to the East Indies; no sooner were we made sensible that the outward application to the Ship's bottom had taken effect, than the field of every Man's hopes enlarged, so that we thought of nothing but ranging along Shore in search of a Harbour, when we could repair the Damages we had sustained.*

As it happened there was a harbour not far away. It has been argued that because Cook took his ship virtually straight to it, he must have had a map showing the existence of this harbour. The Desleins map of 1566<sup>1</sup> is just such a map and K.G. McIntyre in his book 'The Secret Discovery of Australia' (McIntyre 1977) proposed that this is what led Cook directly to the mouth of the Endeavour River. This is controversial and not generally accepted.



<sup>1</sup> The Desleins map was prepared by Nicholas Desleins in 1566 and was part of the series of world maps known as the Dieppe maps produced in Dieppe, France. K.G. MacIntyre (1977) proposed that important features on the North Queensland coast including the harbour at the mouth of the Endeavour River, were shown on the Desleins map.

At 8:00pm the pinnace returned to the ship from exploring the coastline and reported in Banks's words:

*... that she had found just the place we wanted, in which the tide rose sufficiently and there was every natural convenience that could be wished for either laying the ship ashore or heaving her down. This was too much to be believed by our most sanguine wishes: we however hoped that the place might do for us if not so much as we had been told yet something to better our situation, as yet but precarious, having nothing but a lock of Wool between us and destruction.*

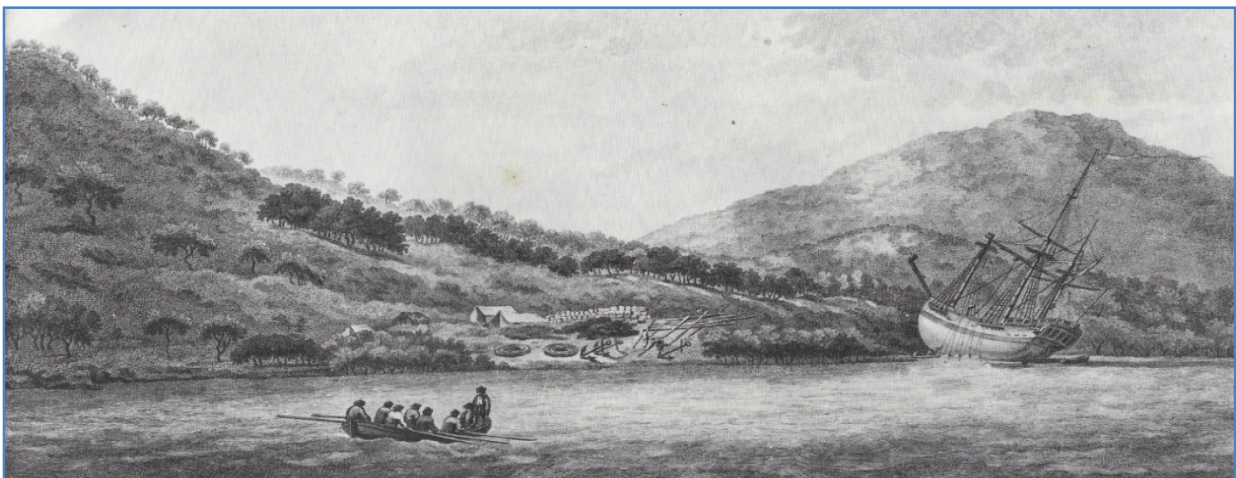
This harbour turned out to be the mouth of a small river, named by Cook the Endeavour River. It has been suggested above that this discovery was more than a coincidence. But in reality Cook had no other option than to sail north. It would have been dangerous to attempt to sail his damaged vessel against the prevailing south-east to east-south-east winds and futile, as Cook had charted the coast to the south and not seen any suggestion of a harbour. In any case, for whatever reason, Cook steered the damaged *Endeavour* north-west to anchor off the mouth of the river and await calm weather to take the ship into the harbour which had a shallow, narrow, winding entrance. On the evening of 14 June the gentle breeze had changed to blow so hard that the ship could not be worked properly and Cook wrote:

*I was afraid of being drove to Leeward before the Boats could place themselves, and therefore Anchored in 4 fathoms about a Mile from the Shore, and then made convenient the Signal for the Boats to come on board, after which I went myself and Buoyed the Channel, which I found very narrow, and the Harbour much smaller than I had been told, but very convenient for our Purpose.*

The next day it continued to blow and the crew was kept busy bringing down masts, yards and sails to lighten the ship forward in preparation for bringing her into the harbour and to make it easier to get at the leak which was near the bow. On 16 June the bad weather continued and Cook was again obliged to wait at anchor.

## In Endeavour Harbour

On 17 June the weather had moderated somewhat and Cook took the *Endeavour* unto the harbour. In doing so she grounded twice in shallow water, but Cook commented 'that this was of no consequence any further other than giving us a little trouble and was no more than what I expected'.



The ship beached on the bank of the Endeavour River and undergoing repairs. The stores landed from the ship are evident in the centre of the picture. Engraving by William Byrne, probably after a lost drawing by Sydney Parkinson.



On 18 June the ship floated after the second grounding and was moored beside a steep bank<sup>1</sup>. A wharf was built between ship and shore and equipment, stores and provisions etc were landed. Over the next days the ship was beached on a nearby shallow section of the river bank and repairs were commenced.

The full story of the stay in the harbour, the repairs, the contact with the local Aborigines, the passage through Torres Strait and the voyage to Java and then to home, must wait for another day, but one more Endeavour River occurrence of importance to the outcome of the voyage remains to be told. This is the tale of the botanical specimens collected by Joseph Banks and fellow botanist Daniel Solander. Over the 22 months of the expedition to this point, Banks and Solander had been assiduously collecting plant and animal specimens from Tierra del Fuego, the Pacific Islands, Tahiti, New Zealand, the east coast of Australia and, of course in particular, the Endeavour River. Over the whole expedition more than 3,600 plant specimens were collected on the almost three-year voyage, including an estimated 1,400 or more new species (H.B. Carter 1988).

This unprecedented collection, as we have already seen, was almost lost to science when the *Endeavour* struck the reef, but even snug in harbour, its future was not secure. In Banks's words on 26 June 1770:

*Since the ship has been hauld ashore the water that has come into her has of course all gone backwards and my plants which were for safety stowd in the bread room<sup>2</sup> were this day found under water; nobody had warnd me of this danger which had never once enterd into my head; the mischeif was however now done so I set to work to remedy it to the best of my power. The day was scarce long enough to get them all shifted etc.: many were savd but some intirely lost and spoild.*

Banks and Solander spread their specimens out in the sun and were able to salvage most of the specimens, but some were beyond saving. Had all these specimens perished on the reef or at the Endeavour River, many well known plants would have remained unknown for decades and today would have names different to those with which we are familiar.

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<sup>1</sup> The site of present day Cooktown.

<sup>2</sup> The room where bread was stored, usually aft and near the lowest part of the ship. Considered just about the driest room on the ship. The engraving by William Byrne (above) clearly shows how the water would have flooded the stern section of the ship.



**Top** One of the *Endeavour* cannon retrieved from the reef in 1969.

**Middle** *Endeavour* small bower anchor retrieved from the reef in 1971. Now in James Cook Museum, Cooktown.

**Lower** Replica of HMB *Endeavour* in Cooktown Harbour.

