



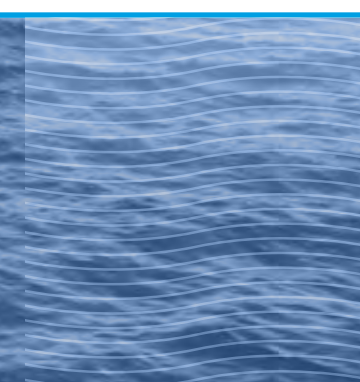
# CAPABLE BEYOND OUR DREAMS:

## Australia's Bathurst - Class Corvettes 1940 - 1960

John Henshaw

### OUR VALUES

- SERVICE
- COURAGE
- RESPECT
- INTEGRITY
- EXCELLENCE



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National Library of Australia – Cataloguing-in-Publication entry

Author: John Henshaw

Title: CAPABLE BEYOND OUR DREAMS: Australia's Bathurst – Class Corvettes 1940 – 1960

ISBN: 978-0-9807774-1-3

Subject: Royal Australian Navy Bathurst class corvettes

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**CAPABLE BEYOND OUR DREAMS:**  
Australia's Bathurst - Class Corvettes 1940 - 1960

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# SUMMARY

The title of this book are words used by Vice-Admiral Sir John Augustine Collins, Chief of Naval Staff, RAN, quoted by Alan Payne of the Naval Historical Society of Australia in June 1980 when writing to him about the Bathurst Class minesweepers:

“Fortunately they proved capable beyond our dreams and became in fact, corvettes.”

It is an apt description and totally in keeping with the ships’ histories.

These small, locally designed and built warships did more than could have ever been expected of them when they were first conceived in the uncertain pre-World War 2 years. Sixty of them came from seven Australian shipyards, the most numerous steel warships in the Royal Australian Navy’s fleet.

They served in the Pacific and Indian Oceans, the Red Sea and the Mediterranean Sea, the Persian Gulf and even ventured, albeit briefly, into the Atlantic Ocean. They patrolled coasts and oceans, they swept mines, they escorted convoys, they transported troops and supplies, they towed stricken ships, they bombarded enemy shores, they performed rescues, they surveyed uncharted waters under the very nose of the enemy. It was all in a day’s work for a Bathurst Class corvette.

They weren’t perfect - not by a long chalk. They were slow and cramped. They were poorly ventilated. They vibrated at speed. They rolled unnervingly. But they got the job done, whatever was assigned to them.

This book is not about the people, the flesh, blood and souls of the men and what they achieved. Those stories have been well told.

It is a book about the ships themselves, the nuts and the bolts, the steel and rivets, the very fabric of the ships: their design, construction, armament, fittings, all made clear by the author’s painstaking research, by reference to photographs and by his creation of twenty-four detailed general arrangement drawings at 1:250 scale which illustrate the way in which the Bathurst Class developed.



The Bathursts were versatile: troops of 2/9 Battalion being transported on HMAS *Broome*, Dec 1942 [AWM 305243]

# DEDICATION

## Ordinary Seaman Edward “Teddy” Sheean

28 December 1923 – 1 December 1942

Teddy Sheean was no ordinary seaman. He was an unrecognised hero for many years. The fact that the Collins Class Submarine HMAS *Sheean* bears his name was a small and belated recognition of an act that, in any other circumstances, would have been worthy of the British Commonwealth’s highest award for bravery in the face of the enemy – the Victoria Cross which was finally awarded on 1 December 2020.

Sheean’s story was as simple and uncomplicated as his selfless act of courage. Born in Lower Barrington, Tasmania, youngest of fourteen children, educated locally, working as a farm labourer, Sheean answered the call to arms and enlisted in the Royal Australian Navy in April, 1941. Four of his brothers enlisted in the Army and another in the Navy. After training at Flinders Naval Depot, he was posted to the newly commissioned Bathurst Class Corvette, HMAS *Armidale* as an Oerlikon gunner.

After months of east-coast convoy escort duties, *Armidale* was in Darwin and on 29th November, in company with sister ship Castlemaine, was ordered to Timor on two re-supply and evacuation missions.

Having successfully embarked 66 Dutch and Australian soldiers, and *en route*

to Betano Bay, Timor, the two ships were attacked – once by a single aircraft and twice by bombers. The scheduled rendezvous with HMAS *Kuru* was missed but the three ships met up later and the mission was postponed to the next day. Five Japanese aircraft attacked *Armidale* that afternoon. Despite evasive manoeuvring, two torpedoes and a bomb hit *Armidale* causing her to list sharply and start sinking rapidly.

Ignoring the order to ‘*Abandon Ship*’, yet having been wounded twice by strafing aircraft, Ordinary Seaman Sheean remained strapped to his Oerlikon gun, firing at the Japanese aircraft, destroying one bomber and damaging two others. His gun was still firing as *Armidale* slipped beneath the surface.

HMAS *Sheean* proudly bears this most appropriate of mottos:

“*Fight on*”.

**Vale Teddy Sheean.**



Seaman Edward “Teddy” Sheean [cropped from AWM 044154]

# CONTENTS

<b>Acknowledgements</b> .....	09
<b>Introduction</b> .....	10
<b>1 Genesis</b> .....	13
<b>2 Ships' Names</b> .....	19
<b>3 Design</b> .....	21
Origin	22
Bathurst & Bangor Classes Compared	24
Comparison with Flower Class Corvettes	26
Bathurst & Flower Classes Compared	28
<b>4 General Description</b> .....	29
<b>5 Construction</b> .....	32
Hull	33
Boilers	33
Engines	34
<b>6 Armament</b> .....	36
Main Armament	37
Secondary Armament	40
Ammunition	45
Anti-Submarine	46
Minesweeping	47
PAC Projector	48
Searchlight/Signalling Projectors	49
<b>7 Electronics</b> .....	51
ASDIC	52
Radar	52
Identification Friend or Foe	56
Radio Direction Finder	57
Radios	57
<b>8 Ships' Boats &amp; Life-Saving Gear</b> .....	58
<b>9 Camouflage</b> .....	60
<b>10 Variants</b> .....	65
<b>11 The Drawings</b> .....	70
Background	71
Navy Office Plan No, 157/4/4	72
Profile	76
Forecastle & Upper Deck	77
Lower Deck & Hold	78
<b>12 Individual Ships' Drawings: A Cross-Section</b> .....	79
HMAS Bathurst	80
HMAS Lismore 1943	82
HMAS Lismore 1945	84
HMS Maryborough	86
HMAS Goulburn	88
HMAS Burnie	90

	HMAS Mildura	92
	HMAS Geelong	94
	HMAS Geraldton	96
	HMAS Kapunda	98
	HMAS Wollongong	100
	HMAS Gympie	102
	HMAS Benalla	104
	HMAS Ararat	106
	HMAS Kiama	108
	HMNZS Inverell	110
	TCV Colac	112
	SS Akuna II	114
	SS Rip	116
<b>13</b>	<b>Bridge Evolution</b>	118
<b>14</b>	<b>Armament Evolution</b>	121
<b>15</b>	<b>Builders</b>	125
<b>16</b>	<b>Building Times</b>	128
<b>17</b>	<b>Ships' Histories</b>	131
	HMAS Ararat to HMAS Whyalla in alphabetical order	
<b>18</b>	<b>The Corvettes for the Royal Indian Navy</b>	214
<b>19</b>	<b>British Pacific Fleet</b>	217
<b>20</b>	<b>Highlights</b>	219

Submarines sunk/destroyed 220

Aircraft destroyed 220

Rescue Missions 221

## **21 Lowlights** ..... 225

Sinkings 226

Groundings 226

Collisions 228

Mutinies 229

## **22 Conclusions** ..... 231

Glossary 237

Appendices 243

Appendix I - Bathurst Class in Alphabetical Order 244

Appendix II - Bathurst Class in Alphabetical Order by Builder 248

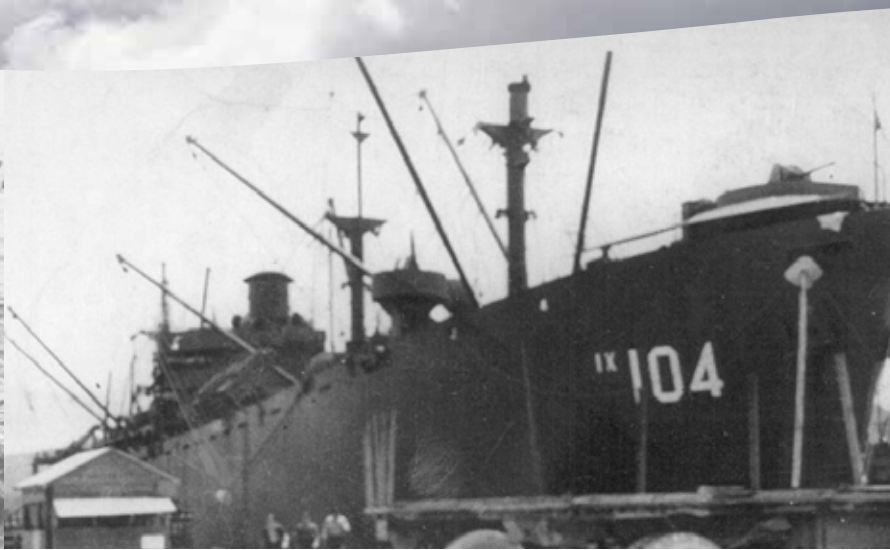
Appendix III - Bathurst Class in Order of Commencement 251

Appendix IV - Bathurst Class by Length of Construction 253

Bibliography 256



A corvette's 27-foot Montagu whaler waiting at the boat boom. (source unidentified or unestablished)



Liberty Ship SS P H Burnett. [navsource.org]



12-pdr 12 cwt QF being loaded. Note the holder with separate charge and projectile. [commons.wikimedia.com]



Another view of HMAS Gladstone taken the same day judging by the flag hoist: J 3, 2, 4 – her pennant number. [navy.gov.au]



HMAS Mildura in Noumea, June 1942, sporting a zig-zag camouflage. (source unidentified or unestablished)



# ACKNOWLEDGEMENTS

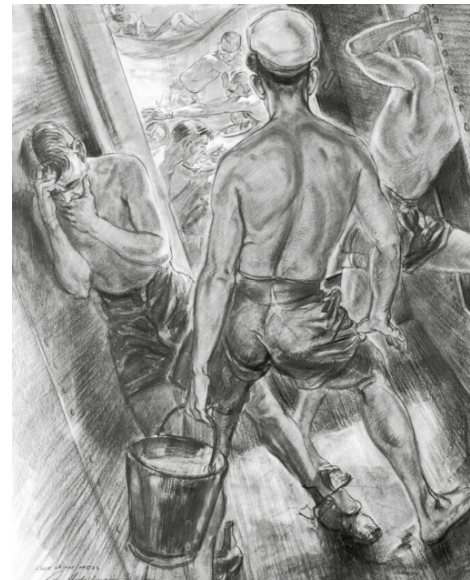
The individual histories of the Bathurst class corvettes have been paraphrased from *HMA Ship Histories*, Sea Power Centre – Royal Australian Navy in the absence of any other comprehensive official information and I am indebted for this vital information. I suspect that Iris Nesdale's book, *The Corvettes: Forgotten Ships of the Royal Australian Navy* published in 1982 which pre-dated the formation of the Sea Power Centre, formed the basis for these individual histories anyway and she, in turn, must have perused all of the Letters/Reports of Proceedings – in effect the monthly reports of commanding officers to the Secretary of the Naval Board to obtain this information.

I thank the Maryborough Military and Colonial Museum and Allan "Woody" Woodward in particular for assistance with providing important research material. The book cover, a painting by A. Hewson of HMAS *Maryborough*, one of the Bathurst class corvettes that took part in "Operation Husky", the Allied Invasion of Sicily, 1943 is used as the cover illustration with their kind permission. While a fine painting, it is, unfortunately, an inaccurate representation of *Maryborough* showing an incorrect main armament and bridge structure.

The Royal Australian Navy History Section has been a patient responder to my many queries for which I thank all involved and, in particular, Leading Seaman (Communication Information Systems), Kellie-Anne O'Connell for her prompt and enthusiastic responses to my many, impromptu enquiries.

Authorship or the origin of photographs have been acknowledged wherever possible. I am particularly indebted to the Australian War Memorial and the Sea Power Centre - Australia.

The importance of ex-HMAS *Castlemaine* at Gem Pier, Williamstown, Victoria and the work done by the volunteer [hmascastlemaine.org.au](http://hmascastlemaine.org.au) cannot be over-estimated. While not absolutely authentic, *Castlemaine* is as close as can reasonably be expected given finances and the non-availability now of those items necessary to fully re-instate her to her war time appearance. Long may she remain a living reminder of her heritage sustained by the enthusiasm of those who maintain her.



"Rough Going", artwork by Roy Hodgkinson in the AWM [AWM ART 22773]

The artist, Roy Hodgkinson, captured "The movement of a corvette in a rough or moderate sea keeps the matelot on his toes owing to the erratic motion, accentuated by continual changes of course during zig-zag procedure on anti-sub patrol." in his pastel on paper which is reproduced by kind permission of the Australian War Memorial. I have included this drawing for two reasons: it gives a very personal snapshot of what life on board these lively ships must have been like.

# INTRODUCTION

A letter from Vice-Admiral Sir John Augustine Collins KBE, CB, ex- Chief of the Naval Staff, Royal Australian Navy, to Alan Payne of the Naval Historical Society of Australia in June 1980 reflecting on the history of the development of what started as the Local Defence Vessel, became the Australian Mine Sweeper, contained this sentence: *“Fortunately they proved capable beyond our dreams and became in fact, corvettes”*.

*“Capable beyond our dreams”* was not my first choice for a title when I first set the proverbial pen to paper. I had in mind a phrase first seen in John Bastock’s book, Australia’s Ships of War – *“Maids of All Work”*.

*“The corvettes were handy and reliable, and in addition to minesweeping, patrol and escort work they were employed on an endless variety of tasks including the carrying of troops and stores, participation in bombardments and assault landings, surveying and towing operations. In short they were maids-of-all-work.”*<sup>[1]</sup>

It appeared again in Iris Nesdale’s book, *The Corvettes: Forgotten Ships of the Royal Australian Navy* and, the more I read, the more it so aptly applied to what a maid of all work did: *a domestic servant, who undertakes the whole duties of a household without assistance*. Truly that exemplified a Bathurst Class corvette during World War 2. Look at the range of duties they performed: patrolling, escorting, minesweeping, hydrographical surveying, rescuing survivors, towing, bombarding shore positions, transporting troops (100 up to four days and 400 ship-to-shore) and materiel and, in the post-War years, training National Servicemen. The Bathursts truly fitted the description - maids-of-all-work.

Then, as I examined the individual ship’s histories, after I had grasped the range of action they saw in local waters, in the Pacific and Indian Oceans, the Persian

Gulf, the Red Sea, the Mediterranean Sea and, albeit briefly, the Atlantic Ocean, that four of them had been present in Tokyo Bay as part of the British Pacific Fleet at the signing of the Japanese surrender on 2 September 1945, I thought that something like, *“In the thick of it”* might be appropriate too.

All seemed equally appropriate. Having written everything but this Introduction, I asked myself, which phrase best captured the contribution these diminutive, almost forgotten warships represented? Not just the battle to win a war but in the contribution they represented in the overall scheme of things, to the country as a whole, to the fact that they were very much a locally designed and locally built product, crewed by reservists and hostilities-only crews, many of whom who had never seen the sea before. Instead of being Local Defence Vessels they ventured far and wide, performing deeds beyond what was ever expected of them. They did indeed earn their laurels: *“Capable beyond our dreams”*.

The opening sentence of the Foreword of Iris Nesdale’s book by The Honourable Sir Laurence Street, KCMG K St, is:

*“The Story of the Corvettes of World War II is essentially the story of the men who sailed in them”*.<sup>[2]</sup>

It is a story, well researched and well told: an invaluable record of who did what, when and how. It is, as she says,

*“Intended as a tribute to the dedicated, courageous and efficient service performed by the fleet of Australian built minesweeping corvettes, to the officers and men who served on them during World War II”*.<sup>[3]</sup>



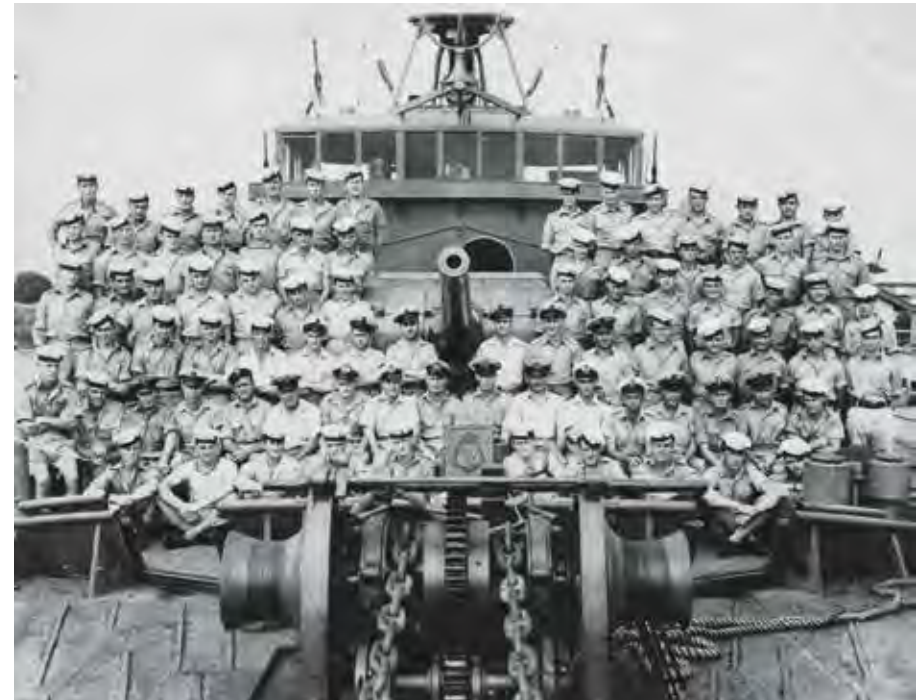
HMAS *Stawell*'s 4-inch gun crew. [AWM 10719]

This book is not about the people, the flesh, blood and souls of the men and what they did. It is a book about the ships themselves, the nuts and bolts, the steel and rivets, the very fabric of the ships. It is a comprehensive record I trust, in written word, photographs and detailed

drawings, of this little-praised class of warship that, while small and apparently insignificant when compared with the better-known and much larger frigates, destroyers and cruisers of Australia's war-time fleet, played a vital role in World War II.

Australia designed and built sixty of these corvettes and, while the majority of them took much longer to build than they should have, they still represented a remarkable achievement for a country with a population of only seven million people albeit with a small, but fiercely self-sufficient and innovative, heavy engineering industry largely moribund from the effects of the Great Depression.

Strangely, for their size and compared with Royal Navy contemporaries – particularly the larger Flower class corvettes of the Royal Navy and Royal Canadian Navy – they were reasonably well armed: not necessarily when the earlier ones were completed when suitable weapons were in short supply and there was a “make-do” situation for a while. Progressively, they were refitted and re-armed and when they went in harm's way, they were able to give a good account of themselves. Only one was lost to enemy action – *Armida*, to two aircraft-launched torpedoes – and none were lost to submarine or surface action. Four Bathurst corvettes, half the escort of a forty-ship convoy from Oran



HMAS *Ballarat*'s crew. Very pukka - caps at jaunty angles but none “flat-a-back”! [navy.com.au]

to Gibraltar, fought off almost 50 German torpedo bombers of which nine were lost for two ships with non-critical damage.<sup>[4]</sup>

The Bathursts weren't perfect – not by a long shot. They had their faults and their weaknesses. They were too small, too cramped, too slow, poorly ventilated – especially for the tropics. They rolled, quite unnervingly. Curiously, their twin propellers apparently rotated inwards and were said to make manoeuvring hazardous at low speed and going astern. Having owned a trawler with twin engines, turning outwards, (and twin rudders) by going astern on, say, the starboard engine and ahead on the port engine, the paddlewheel effect would cause the stern move to port and the bow to starboard. It's intuitive. With inward turning propellers, the opposite would have to apply. That's counter-intuitive but something one would get used to- one way or another.

Despite their faults, none were ever overcome by the sea – a tribute to their design, their construction and, of course, their crews. Speaking of which, around 20,000 men served in the corvettes – the largest single grouping in the RAN.

Readers will find the words “apparently”, or “seems/seemed to”, or “appears/appeared to” used quite frequently. They are used simply because, in the absence of unequivocal, documented evidence, having to rely on photographic evidence when, especially, the place or date of the photograph is unknown, or where it’s simply too indistinct to be precise, I have had to make what I regard as reasonable assumptions. Since the favoured position for most photographs to be taken seems to be when the ship is viewed from ahead and to port or starboard, detail aft of the bridge is obscured.

Iris Nesdale quotes in her Acknowledgements that she, “met so many contradictions in impeccable sources”.<sup>[5]</sup> she says: “There have been many areas of conflicting data”. In this respect, we’ve both been in the same boat – or ship – so to speak.<sup>[6]</sup>

If readers have evidence that is contrary to any assumption made in this book, I would like to have it so that these faults can be rectified in any future edition.

I trust that this book does justice to these ships and the men who served in them.

---

#### Endnotes

1. John Bastock, *Australia's Ships of War*, p. 163
2. Iris Nesdale, *The Corvettes*, foreword.
3. *Ibid*, p. xv
4. Hindsight, *The Australian Corvettes*, Issue 5, May 2010.
5. *Ibid*, p. ix
6. Nesdale, p 192



Some of HMAS *Dubbo's* crew relaxing. [AWM 018486]



Sailors on HMAS *Lithgow* observing the Japanese surrender Bougainville Aug 1945 [AWM 09509]



1

GENESIS

Success has many fathers and failure is an orphan.

The Bathurst Class Corvettes were a success but it is a little hard to establish a precise parentage.

The Seapower Centre–Australia produced an excellent summary in their Hindsight, Issue 05, May 2010 which states:

*“The staff requirements for large numbers of a relatively simple, anti-submarine (A/S) and minesweeping (M/S) patrol vessel arose in February 1938, but the design actually originated in the need for a tender to be permanently allocated to the RAN’s new A/S School at Rushcutters Bay in Sydney.”*

The reference to 1938 is cited as being the Paper by (then) Captain J. A. Collins when Assistant Chief of Naval Staff, RAN (later Vice-Admiral Sir John Augustine Collins KBE, CB): *“A plea for smaller sloops in larger numbers”*.

Captain Collins had spent 1933-4 in the Admiralty Plans Division responsible for planning the seaward defences of the Empire’s ports involving, inter alia, the processes for requisitioning vessels of suitable size and speed to be rapidly converted for such purposes in the event of hostilities. He was appointed ACNS and DNI (Director Naval Intelligence) in Australia in 1938 and promptly identified that Australia had not such pool of vessels for local defence.

Because of its importance, his paper is quoted here, in full:

---

A plea for smaller sloops in larger numbers.

#### FORMS OF ATTACK.

1. Submarines operating in Australian Waters may decide to keep clear of the coast and the approaches of the ports and attack merchant vessels in the open sea, for example in mid-Tasman Sea. On the outbreak of war evasive routing will be established and submarines will find it difficult to cause sufficient damage to our shipping

if this policy is continued. In time they will be tempted to the approaches to the principal ports where shipping must concentrate, and to coastal routes where smaller ships will be found.

#### DEFENCE IN THE APPROACHES.

2. In the United Kingdom reliance is placed in trawlers to provide Auxiliary A/S vessels to defend the approaches to the ports and the coastal routes. 100 trawlers are earmarked to be taken up for A/S duties on the outbreak of war, and a further 100 as soon as possible thereafter.

Unfortunately there is no such reservoir in Australia and the ships earmarked are very unsuitable and even these are not available in sufficient numbers.

3. Despite having such numbers of approximately suitable vessels available, the Admiralty decided that it was essential to have a certain number of really efficient vessels to back up the trawlers in the approaches and on the coastal routes, and the Colonial Sloop, now called the Patrol vessel, was evolved.

#### DEFENCE ON THE OCEAN ROUTES.

4. As already pointed out, if evasive routing is employed submarines will find it difficult to catch their quota of ships. In any even a haphazard patrol of suitable vessels in mid-ocean is unlikely to be successful. If the sinkings on the ocean routes become excessive then convoy must be adopted and suitable escort vessels will be required. For this purpose, the Convoy Sloop, now called the Escort Vessel, was built. In places where aircraft attack may be expected, this vessel must be capable of defending against aircraft as well as submarines, and therefore must carry strong H.A.

armament. It is not intended to be a match for a strong A.M.C.

#### TWO PROBLEMS.

5. It is suggested therefore that defence of trade against submarines provided two distinct problems:-

- (a) Defence in the approaches to the ports, in focal areas and near the coast.
- (b) Defence in mid-ocean.

Each problem requires a separate solution.

It has already been pointed out that problem (a) is the most likely, particularly in the early stages of war, when the number of submarines available will be limited.

#### SOLUTION OF PROBLEM (a).

6. So far we have progressed towards the solution of problem (a) by -

- (i) earmarking a certain number of unsuitable coastal vessels and ordering the first instalment of Asdics.
- (ii) Building and proposing to build a very limited number of vessels suitable for the solution of problem (b).

7. In view of the inadequacy of our Auxiliary Vessels it is submitted that our immediate need is a large number of vessels capable of solving problem (a).

#### SOLUTION OF PROBLEM (b).

8. It is considered that this problem is not so immediate as problem (a), and that when it does arise we shall probably have to contemplate convoys. So far we have 7 vessels capable of dealing with this (within

limits) and we propose now building 5 more. As this problem is the less urgent, it is suggested that our existing facilities should suffice to meet this threat at the moment.

#### TYPE OF VESSEL SUITABLE FOR COASTAL WORK.

9. The requirements of our coastal A/S vessel are as follows:-

(1) Cost must be so low as to allow the required numbers to be built. A "unit" should consist of 3 vessels, two continuously on patrol, and at least one unit should be stationed at each of our six principal ports, i.e. 18 vessels are required. The existing destroyers and sloops should be stationed at Sydney and Melbourne to assist the Auxiliary A/S and Coastal A/S vessels, and to deal with ocean attack if it develops.

(2) A pair must be capable of dealing effectively with a modern submarine, including speed and handiness.

(3) Must be able to withstand the worst weather likely to be experienced on the Australian coast during which submarines could, operate.

(4) Must be capable if required of escorting coastal convoys against submarine attack.

(5) Must have sufficient endurance to reach their war station at economic speed.

10. The following requirement need not be met:-

(1) Heavy defence against aircraft. (cf. Escort vessel with 6 - 4" H.A. guns)

(2) Sea keeping qualities of ocean escorts.

(3) Endurance of ocean escorts.

IS THE KINGFISHER CLASS SUITABLE?

11. The question for decision is - "Will the cheaper "KINGFISHER" class meet these requirements?" The particulars of this class as compared to the "SWAN" and the "BLACK SWAN" (Escort Vessels) are:-

	"KINGFISHER"	"SWAN"	"BLACK SWAN"	"HALYCON"
DISPLACEMENT-tons	585	1060	1250	815
LENGTH - Feet	243	266	300	246
DRAUGHT - Feet	6.5-7.5	9.5	8.5	8.85
SPEED -Knots	20-21	17	19.75	16.5-17
ARMAMENT	1-4"HA/LA	3-4"HA/LA	6-4"HA/LA	2-4"HA/LA
ENDURANCE - Miles	3,580	8,000	6,980	3,980
COST TODAY APPROX. (Aus pounds)	260,000	350,000	400,000 estimated	200,000
COMPLEMENT	61	119	167	84

12. It is clear that the "SWAN" and "BLACK SWAN" would meet requirements, but so also would a steam hammer be an expensive and uneconomical way of cracking nuts. Reiterating the theory that the approaches to the ports are where enemy submarines will congregate, it seems that the "KINGFISHER's" would meet requirements, and could be provided in adequate numbers. Their greater speed would be a big advantage.

13. The crux of the matter is "Can the "KINGFISHER" Class stand the weather on the coast?" It is submitted that they can. The "River" Class destroyers during the war were little bigger and probably less seaworthy (destroyer lines) and yet they carried on satisfactorily. If the weather were sufficiently bad to drive in the "KINGFISHER's", then a submarine would have

difficulty in carrying out a successful submerged attack, or fighting its gun on the surface.

MINESWEEPING.

14. In the limited time available, it has not been possible to ascertain the minesweeping possibilities of the patrol vessel. Judging from the photographs, it seems certain that they could be capable of conversion to minesweepers if required.

THE ALTERNATIVE.

15. If it is still considered that the "KINGFISHER" Class is unsuitable for our coasts, it is suggested that consideration might be given to the "HALCYON" class of minesweeper. These vessels are shown as being capable of conversion to A/S vessels should the need arise. We could do this before the need arose and fit them to carry more depth charges. Their particulars are given in paragraph 11 above. Conversion to A/S vessels would probably increase the price, but even so they should be cheaper than "KINGFISHER's".

CONCLUSION.

Our immediate need is for local defence. A/S vessels in numbers, and we are proceeding uneconomically contemplating building a few more ocean-going escort vessels.

/2/38

(signed)

J.A. Collins

A.C.N.S.



For the record, the Kingfisher Class was not a success. Effective Asdic performance required a deeper draught (ideally 10 feet), they were too lightly built and their sea-keeping was criticised.<sup>[1]</sup> They were unsuited to minesweeping too. So, the RAN avoided a big mistake there.

Further, the Halcyon Class were dedicated minesweepers and either of these two classes would have placed a demand that could not have been met by Australia's engineering capability for cutting the complex geared turbines and making the complicated reduction gear they required.

According to "Hindsight" (referred to previously) in response to the need for the Anti-Submarine school tender, the Australian Commonwealth Naval Board set the Director of Engineering (Navy), Rear Admiral (E) P. E. McNeill, the task of designing such a vessel in July, 1938. It may only be a co-incidence that this request post-dates Captain Collins' paper. The brief was, in part at least, for a 500-ton local defence craft with a speed of at least 10 knots, a range of 2,000 miles and that could be built locally for £100,000.<sup>[2]</sup>

This brief could well have been met via an adaptation of a Bar-Class Boom Defence Vessel, the construction of two of which was already committed and a third cancelled – subsequently re-instated. However, McNeill produced a design

within a month and by February 1939 construction drawings were substantially complete for what had become known as the "Australian Minesweeper" – AMS.

It took a further seven months for the approval process to be favourably completed, during which time apparently, British designs were evaluated and rejected as being too specialised for either A/S work (with too deep a draught) or M/S work (with too shallow a draught). The ANCB felt McNeill's design could perform both.

Around October 1939 the title, Local Defence Vessel seems to have been changed to "Australian Anti-Submarine and Minesweeping Vessel", abbreviated to AMS. The term "Corvette" did not materialise until some indeterminate time later – possibly in keeping with the adaptation of the term by the Royal Navy for its Flower Class.

Seven vessels were committed and the first keel (HMAS *Bathurst*) was laid in February, 1940 at the Cockatoo Island Dockyard.

The hard-pressed British Admiralty placed an order for ten which was later doubled. These were to be, nominally, Royal Navy ships under its control but named as HMA Ships and crewed by Royal Australian Navy



Kingfisher Class Coastal Sloop as it appeared mid-War with radar. [wikivisually.com]



HMAS *Swan* Sloop [navy.gov.au]

personnel. The Royal Indian Navy ordered four and Australia's own order for seven was increased to 24 and then to 36. This extraordinary volume of shipbuilding activity was spread over three states and eight shipyards. (see Appendix I & II for details)

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#### Endnotes

1. Norman Friedman, *British Destroyers & Frigates: The Second World War and After*, p.83
2. David Stevens, *A Critical Vulnerability: The impact of the submarine threat on Australia's maritime defence 1915-1954*, pp. 103-4



The keel laying of HMAS *Bathurst*. Note what appears to be French sailors on the deck of the warship in the background. [AWM 000783].



Black Swan Class Sloop in late World War II configuration. [ww2today.com]



Halcyon Class Minesweeper, probably prior to World War II. [halcyon-class.co.uk]



2

SHIPS' NAMES

I have seen references to the Bathurst Class corvettes originally being called “Town” class and, of course, that’s where their names were derived – from towns in all six Australian States.

However, I can’t help wondering about the selection of those names. I have been unable to uncover how, and by whom, the 56 names were derived. Did each State submit a list of “candidates”? Was there political interference? Did the spread of names reflect the size of the States? That is, was there an allocation of names on a pro rata population basis?

The last-mentioned question is perhaps only partly answered by the following statistics:

	SHIPS	POPULATION (principal urban areas, 1933)
New South Wales	16	1,235,367
Victoria	13	992,048
Queensland	11	299,782
South Australia	6	312,629
Western Australia	5	207,464
Tasmania	5	60,408

Note: there was no census taken between 1933 and 1947.

Clearly, on the basis of these figures, Tasmania’s share was disproportionate. So, perhaps this was not a consideration.

Also, having looked at the 1933 Census population figures, where available, for the 56 towns – or cities as some of them should rightly have been described – some glaring discrepancies appear.

In **New South Wales**, what was so special about Cootamundra, Junee and Kiama, for which no census data was available, that they were considered ahead of the much larger Newcastle (104,491), Broken Hill (26,921), Albury (10,542), Maitland (8,190), Orange (9,632), Grafton (6,412) and Liverpool (6,315)? There was, of course, a light cruiser HMS *Liverpool* and HMAS *Orange* doesn’t quite ring true, does it?

In **Victoria**, three towns that didn’t feature in the 1933 statistics – Benalla,

Colac and Echuca - were included at the expense of Wonthaggi (5,593) and Horsham (5,272) which did.

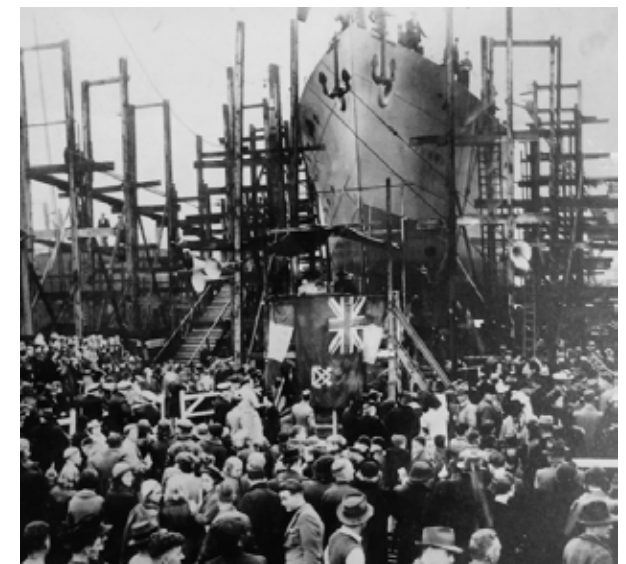
Take for instance, **Queensland’s** “allocation”. Why was a significant coastal town like Mackay (10,660) ignored in favour of the smaller Gympie (7,749)?

In **South Australia**, why was a regional centre like Mount Gambier (5,539) ignored in favour of Gawler, Glenelg (a beach suburb of Adelaide) and Wallaroo none of which even rate a separate mention in the data?

**Western Australia** had a significant coastal town in Albany (4,076), another in Northam (4,816) and yet another in town Collie (3,785) which were ignored in favour of Broome for which no data was available but which, surely, in 1933 been insignificant in comparison with the three towns mentioned. Also, Fremantle must have been considered part of “Perth and Suburbs” as no separate data was produced.

In **Tasmania**, the small town of Strahan (current population 636 and probably not much different in 1933) was selected ahead of say, Devonport (5,153 in 1933).

It does seem a trifle odd that major regional centres like, for instance, Geelong (39,225), Ballarat (37,409), Bendigo (29,131), Rockhampton (29,373), Toowoomba (26,430), Ipswich (22,499) rated equally, insofar as their “right”, or their “honour”, to have a ship named after them as tiny country towns – the worst examples of which would be Strahan and Broome.



Launching ceremony of the ill-fated HMAS *Geelong*. [navy.gov.au]



3

DESIGN

# ORIGIN

Contrary to popular belief, the Bathurst class was not a derivative of the contemporary, and slightly smaller, British Bangor class of minesweeper. Historian, G. Hermon Gill was, unusually, mistaken when in his “History of the Royal Australian Navy 1939-1942” he stated they were “*an Australian modification of an Admiralty design*”.

I am inclined to the views expressed by Sir Rowland Baker, who, as Britain’s Director of Naval Construction and, quite co-incidentally, the designer of the Bangor Class, and by Captain John Collins (in 1938, then Assistant Chief of the Naval Staff, later Vice-Admiral Sir John Collins) and the author of the Paper quoted earlier.

Sir Rowland Baker said:

*“I would accept that the Bathursts were designed in Australia. I do not suppose that there is anybody who really knows . . . So far as I know the Bangor design was not sent officially to Australia but Commander Allison might have. Certainly, at some point the Bathurst sketch design was vetted by me”.*<sup>[1]</sup>

Captain John Collins said:

*“I can state that the AMSs (the term then used for the Bathursts: Australian Minesweepers) were not a modification of the Bangor class. They were evolved to fill the gap in the local defences of the approaches to Australian ports as we had nothing available from our peacetime merchant service for this M/S and A/S duty. Fortunately they proved capable beyond our dreams and became in fact, corvettes. So far as I can recall the Naval Constructor (of the Navy Department) responsible was Mr. Leask, who certainly played a big role in their design. To sum up, whatever the dates of the Bangor and Bathurst designs, the AMSs were originated in Australia. It was fortuitous that a similar design developed in the United Kingdom, and that the AMSs were capable of ocean cruising”.*<sup>[2]</sup>

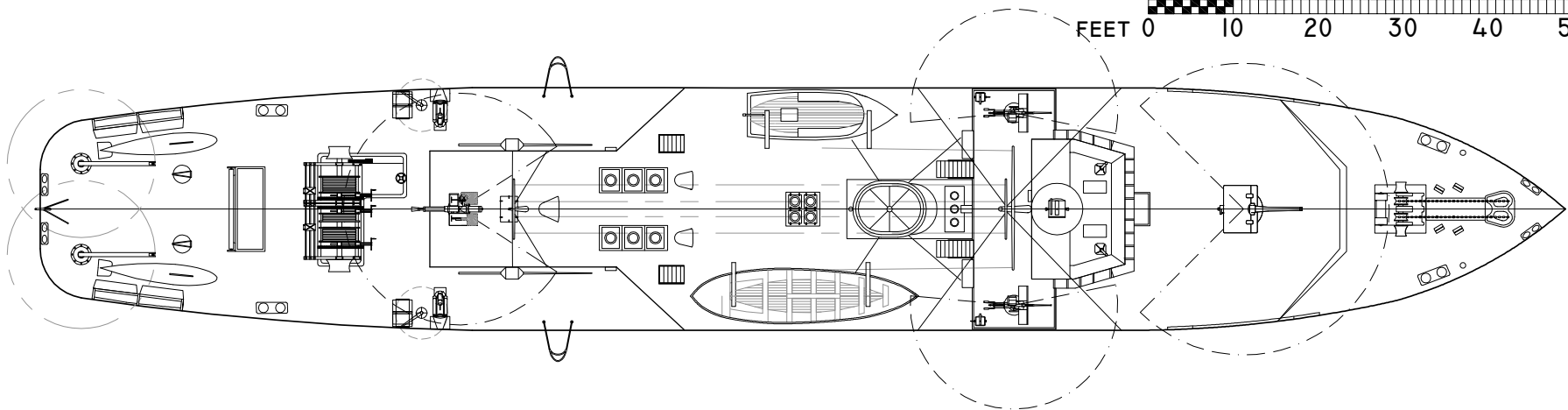
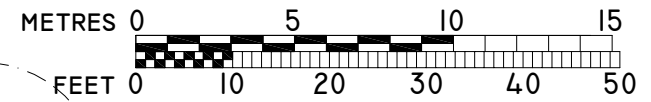
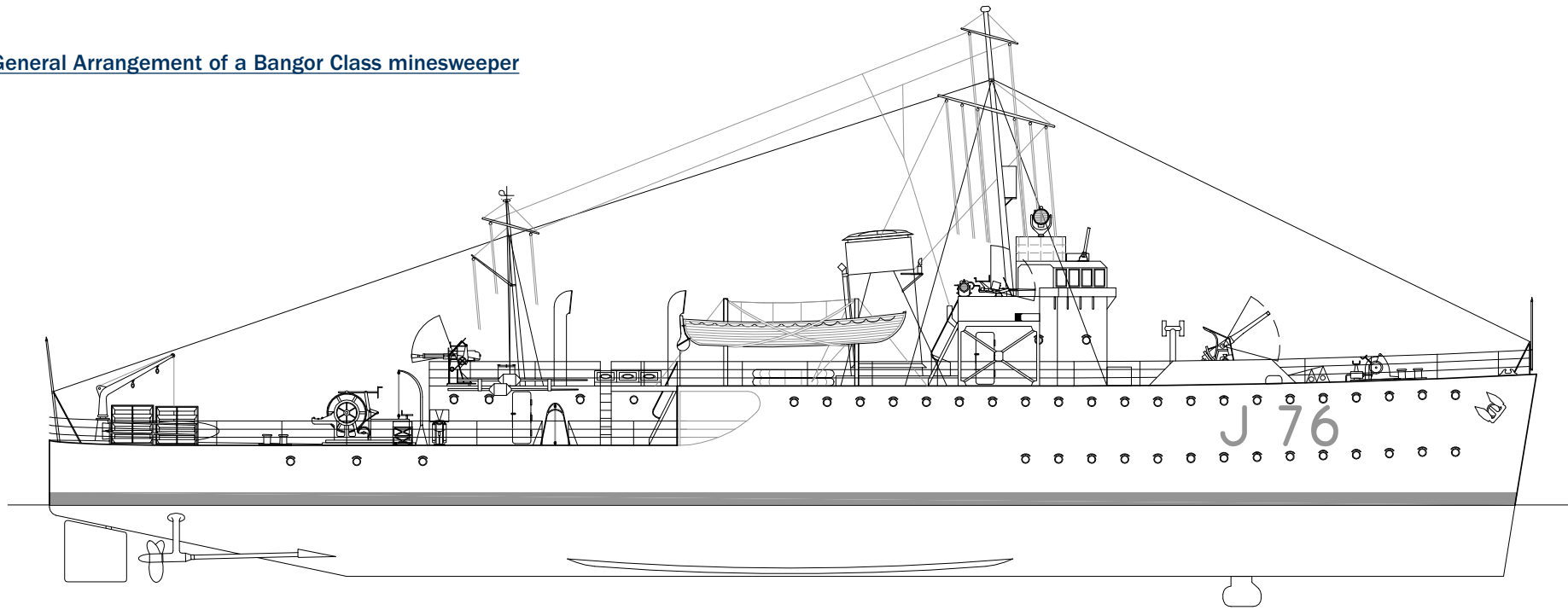
To say that the Bathurst Class was a modification of a Bangor Class shows,

in my opinion at least, a complete misunderstanding of the science and process of naval architecture. “Modification”, to my mind, means altering/improving/changing what already exists – not increasing its length by 8.45%, its beam by 10.9% and its draught by 3.03%. That’s an entirely new hull. It is simply not possible to enlarge or stretch a set of ship drawings from 171’6” overall length with a beam of 28’3” to 186’0” and 31’0” respectively and for the status quo of the many critical factors to remain constant. For instance, there would be an entirely different Block Coefficient, Prismatic Coefficient, Midships Coefficient and Waterplane Coefficient. The Longitudinal Centre of Buoyancy, the Longitudinal Centre of Flotation, the Vertical Centre of Buoyancy, Metacentric Height and Maximum Righting Lever would all change and have to be recalculated. Everything would have had to be redrawn and then recalculated – in effect, starting with a clean sheet of paper.

Three ships, *Bathurst*, *Lismore* and *Maryborough*, were visually different from the remaining 57 in that they had a three-level bridge structure: captain’s cabin, radio room on foredeck level, wheelhouse, chart room and signal bridge above and open bridge above that. This signal deck was accessed via two ladders (one each port and starboard of the foremast) and the upper bridge was accessed via one ladder to starboard, facing aft which is unusual. The funnel was taller, accordingly, but in all other respects they were identical to the other 57 ships which bore, admittedly, a strong visual similarity to the Bangors in profile and, from a distance, it is not easy to spot the difference. The hull shape, sheer, the break in the forecastle, the layout of the main gun, bridge, foremast, funnel, aft gun, minesweeping winch, minesweeping davits all follow a predictable and totally logically bow-to-stern sequence. The bridge structure looks, particularly, at first appearance to have been lifted straight off a Bangor or a Kingfisher. It has the same basic form and proportions, the same glazing, the same signal deck/bridge wings. Closer inspection shows differences but they were, undoubtedly, similar in layout. There are, of course, a limited number of options when considering the layout of a bridge on this sized ship as certain common functions simply have to be accommodated and this explains the areas of similarity.

There were three types, and sizes, of Bangors: two steam-driven (one type reciprocating the other turbine) and the third diesel-powered. A comparison of vital statistics is as follows:

General Arrangement of a Bangor Class minesweeper



## BATHURST & BANGOR CLASSES COMPARED

	BATHURST		BANGOR	
		Reciprocating	Turbine	Diesel
YEAR DESIGNED	1939	1939	1939	1939
YEAR FIRST LAID DOWN	Feb-40	1939	1939	1939
LENGTH OVERALL	186.0'	171.5'	174'	162'
BEAM	31.0'	28.25'	28.25'	28.25'
DRAUGHT	8.5'	8.25'	8.25'	8.25'
DISPLACEMENT LIGHT	650 tons	672 tons	656 tons	590tons
	650-790*			
	800**			
FULL LOAD	860-1025 tons*	not known	not known	not known
	1020 -1040**			
HORSEPOWER	1750 then 2000	2,400	2,400	2,000
	1,800*			
SPEED	15 knots	16 knots	16 knots	16 knots
	15-16 knots*			
	13 knots**			
ENDURANCE	4.000 miles at 10 knots*	not known	not known	not known
	2,640 at 10 knots**			
CREW	60 RAN	60 RN	60 RN	60
	87 RIN	70 RCN	87 RIN	
	70*	87 RIN		
	62 -70**			
MAIN ARMAMENT	1 x 3" or 4"	1 x 3" RN & RIN	1 x 3"	1 x 3"
	1 x 3" (3 ships) 1 x 4"*	1 x 4" RCN		
	1 x 4"***			
SECONDARY	1 x 20mm	1 x 2-pdr or	1 x 2-pdr or	4 x .5" MG RN
ARMAMENT	4 x .303 (2 x 2)	4 x .5" MG	4 x .5" MG	4 x .303 RCN
	1 x 40mm, 5-6 MG*		2 x 20mm	
	1 x 40mm, 2 x 20mm**	3 x 20mm RIN		
NUMBER BUILT	60	73	26	14

All data Lenton & Colledge except where noted

\* Gillett (but this is incorrect)

\*\* Naval Historical Society of Australia

For 3", read 12-pdr 12cwt.

The Bathursts were, by comparison with the data above, larger – in length, beam and displacement - and slower, having less horsepower. The following drawing of the two classes in outline shows both the similarities and the differences.

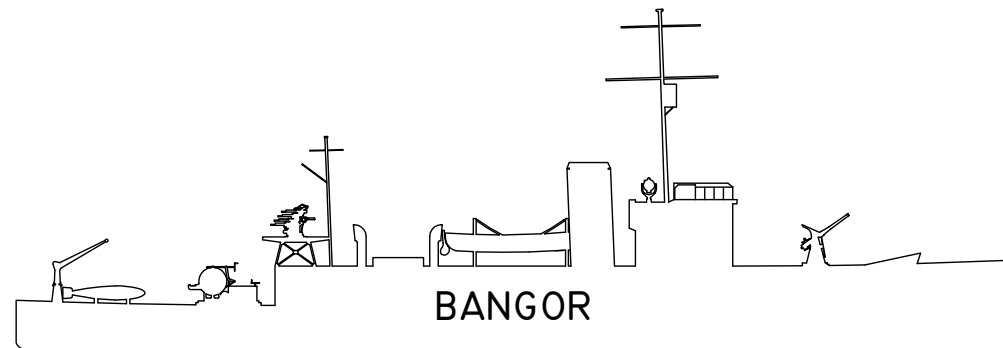
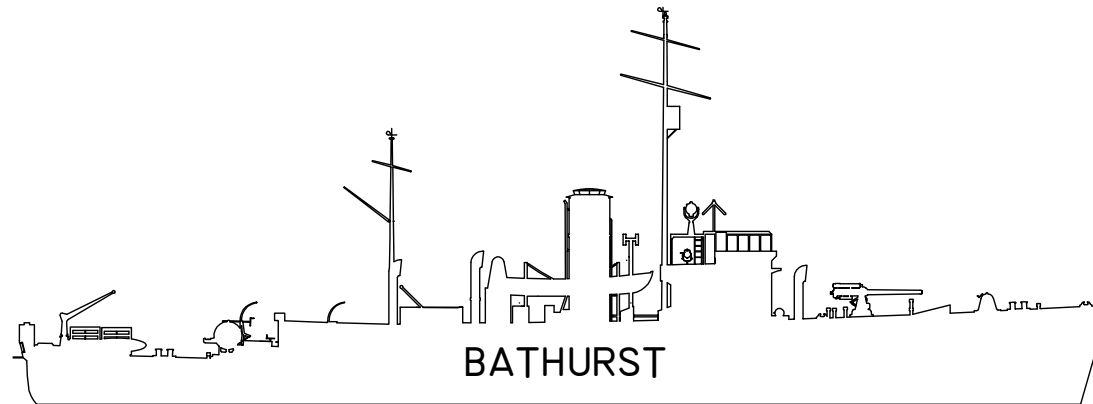
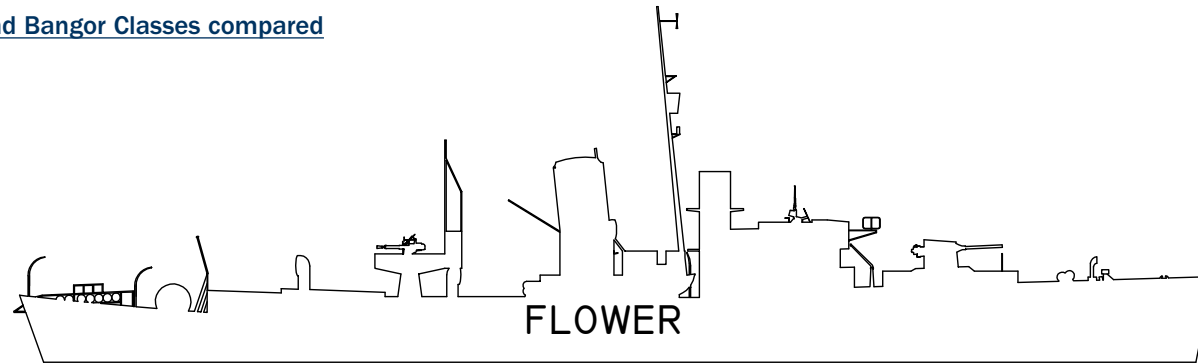
Generally speaking, the Royal Navy (49 Ships) and the Royal Canadian Navy (60 ships) found the Bangor class – whichever way they were powered - a disappointment. Perhaps, like the Bathursts, too much was expected of them. Certainly, they were cramped and the space available for minesweeping was inadequate. Their sea-keeping was poor and perhaps their greatest indictment was how quickly they were disposed of as compared with 17 Bathursts which were transferred to other navies: Royal New Zealand Navy (4), Royal Netherlands Navy (8) and the Turkish Navy (5). The last Bathurst in Australian service as a functioning corvette – in this case a training ship - was HMAS *Wagga*: decommissioned on 28 October, 1960 and sold in March, 1962. HMAS *Colac* was decommissioned on 30 January, 1953 but was converted to a specialised tank cleaning vessel in 1962 and remained doing that job until 30 September, 1983.

David K. Brown, British Deputy Chief Naval Architect said of them,

*"Had they been used as intended they might have been seen as a great success but, with the addition of more sweeps, Asdic, radar and depth charges, they were overloaded and certainly overcrowded – up to 87 men... but they were described as wet...The Bangors were often criticised by those who did not understand their intended role."<sup>[3]</sup>*



Flower Class, Bathurst Class and Bangor Classes compared



## COMPARISON WITH FLOWER CLASS CORVETTES

Although the ubiquitous “Flower” Class corvettes of the Royal Navy and Royal Canadian Navy were never considered as an alternative design to answer Captain J.A. Collins’ 1938 “*A Plea for Smaller Sloops in Greater Numbers*”, above, it is worth considering the similarities between the two classes.

### Looking at the similarities:

- Both designs were conceived in an emergency or threatened one.
- Both filled a gap, to varying degrees in their respective navies’ fleet.
- Both designs were intended to be constructed by small shipyards more used to mercantile construction than to naval standards.
- Both were equipped with whatever was available by way of weapons and equipment in the early years.
- Both had good sea-keeping attributes.
- Both would “roll on wet grass”.
- Both were cramped, contrary yet capable.
- Both were progressively updated with better armament and equipment.
- Both did more than was ever expected of them.

### The areas where they were dissimilar were:

- The Flowers were bigger: overall length, beam, draught, displacement.
- The Flowers had one engine, the Bathursts two.
- The Bathursts were more warship-like, the Flowers were more mercantile in hull form, construction and appearance. (mast in front of bridge)
- The Flowers were designed as coastal escorts that could be used as minesweepers whereas the Bathursts were minesweepers that could be used as coastal escorts.
- The Bathursts’ initial descriptor was Local Defence Vessel which morphed into Australian Mine Sweeper and, later, into Corvette.
- The Flowers were called corvettes from the beginning having re-cycled the descriptor that applied to a comparatively larger type of naval vessel that had gone out of fashion/use in 1877.
- The Flowers had the wardroom a deck removed from under the bridge whereas the Bathursts had the wardroom aft of the engine room, the former being the more practical, especially in rough weather.

- The Bathursts used two Yarrow Admiralty Pattern 3-drum boilers whereas the Flowers used two of the simpler Scotch-type single-drum boiler – common in mercantile ships.
- The time from keel laying to completion/commissioning was much better than the Bathursts.
- The Flowers served in the RN, RCN, USN and were manned by and/or commissioned into the French, Belgian, Dutch, Norwegian, Greek, Indian, New Zealand and South African navies, whereas of the 60 Bathursts built, only four were RIN ships.
- Three Flowers were taken over by the Germans on French slipways, completed by them and served in the German Navy.
- The Flowers had a shorter life after the end of World War II than the Bathursts.
- A minor point, admittedly, but only one Flower still exists, ex-HMCS *Sackville*, whereas two Bathursts exist in ex-HMAS *Castlemaine* and ex-HMAS *Whyalla*.

The Flower Class originated when Smiths Dock Limited of Middlesbrough, proposed a design for a “*patrol vessel of the whaler type*” to the Admiralty as a coastal escort. Smiths had built 125 whalers between the wars. The hull lines displayed the sheer, rounded forefoot, deadwood cut away, spade rudder and rounded stern so typical of the whalers. However, the Smiths design had a flat plate keel and bilge keels. Approval was given in January 1939 for a 700-ton ship which grew to 1,390 tons then back to 940 tons.

The original application of these new ships was to enforce the Northern Patrol blockade requiring two masts for the radio aerials (6 ships). Fifty RCN Flowers had two masts for a time at least.

The Flowers came into their own doing something they had never been designed for: escorting Atlantic convoys. While suited to their long range, this role was not suited to their overall length in the long North Atlantic swells.

Modifications were made on the slipways and, *ad hoc*, during refits. The main modification, visually and practically, was to extend the short forecastle deck, with its open well ahead of the bridge, abeam of the funnel. Sometimes this happened without the foremast being moved aft. The extension, together with increased sheer and flare to the bows in ships still to be built improved

seaworthiness and habitability. The minesweeping equipment was removed to provide extra depth charge equipment and stowage and to improve range. The bridge was modified by lowering it and generally making it larger. The galley was moved further aft. The 10cm surface warning Type 271 Radar was fitted, off centre, with its “office” directly under the antenna in its characteristic lantern. Armament fit-outs improved over time. Two extra depth charge throwers were added, extra depth charge racks were added as minesweeping equipment was removed. A 20mm Oerlikon was fitted in each bridge wing with as many as six Oerlikons in total being fitted – particularly for Flowers serving in the Mediterranean Sea or in the English Channel’s environs for D-Day.

Like the Bathursts, the Low Angle 4-inch BL Mk IX was replaced with the HA/LA QF 4-inch Mk XIX on a CP Mk XXIII. Unlike the Bathursts, the Flowers received the Hedgehog ATW (Ahead Throwing Weapon).

The Modified Flowers were 5-feet longer with a more squared-off transom, plus an extra 300-tons of fuel and carried a 27-foot Montagu whaler on crescent pattern davits in place of one of the two 16-foot dinghies. They embodied all of the improvements listed in the previous paragraph, although not necessarily when launched, earlier launchings being incrementally improved.



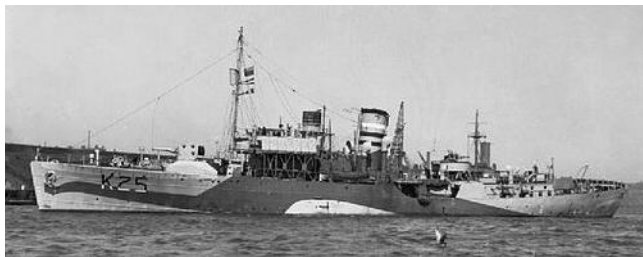
HMS *Peony* in near original form with acoustic hammer at bows but without radar and with 20mm in tubs port and starboard aft of stump mainmast. [commons.wikimedia.com]



HMS *Picotee*. Note the unusual fitting of a quad .5” MG in place of the usual 2-pdr. [commons.wikimedia.com]



HMS *Hyacinth* without extended forecastle with 12-pdr 12 cwt QF or QF 4-inch Mk XIX and Type 271 radar. [commons.wikimedia.com]



HMS *Azalea* showing foremast still in front of bridge with Type 271 radar but with extended forecastle deck. [commons.wikimedia.com]



HMNZS *Arbutus*, a Modified Flower Class but still retaining the 4-inch BL Mk IX. [commons.wikimedia.com]

## BATHURST & FLOWER CLASSES COMPARED

	BATHURST as designed		FLOWER as designed	
		Original	Modified	
YEAR DESIGNED	1939	1939	1940	
YEAR FIRST LAID DOWN	Feb-40	1939	1941	
LENGTH OVERALL	186.0'	205.0'	208.0'	
BEAM	31.0'	33.0'	33.0'	
DRAUGHT	8.5'	11.5'	11.0'	
DISPLACEMENT LIGHT	650 tons	925 tons	1,015 tons	
ENGINES	2 x 3 cylinder VTE	1 x 4-cylinder VTE		
BOILERS	Admiralty 3-drum forced draft	2 x Scotch-type boilers closed ashpit	2 x water-tube type forced draft	
HORSEPOWER	1,750	2,750		
	twin screw	single screw		
SPEED	15 knots	16 knots		
ENDURANCE	4,000 miles at 10 knots	7,400 at 10 knots		
CREW	60 RAN	85	90	
MAIN ARMAMENT	1 x 3" or 4"	1 x 4"		
SECONDARY	3 x .303 MG	1 x QF 2-pdr Mk VIII	1 x QF 2-pdr Mk VIII	
ARMAMENT	PAC Rockets	PAC rockets several .303 MG	2 x 20mm Oerlikons Snowflake rockets	
ANTI-SUBMARINE ARMAMENT	2 X DCT	2 X DCT	4 x DCT	
	2 X DC racks	2 x DC racks	2 X DC rails	
	40 depth charges	25 depth charges initially	up to 100 depth charges Hedgehog ATW	
ASDIC	Type 128B	Type 123A initially		
SURFACE WARNING RADAR	none	none	Type 271	
AIR WARNING RADAR	none	none	Type 286/Type 291	
NUMBER BUILT	60	225	69	

NOTE: This table is for basic comparisons only. Any variations are beyond the scope of this table.

### Endnotes

1. Alan Payne, *Bathurst Class Minesweepers (Corvettes)*, 1980
2. Ibid.
3. David K Brown, *Warship Design and Development, 1923-1945.*, p. 124.



The Flower Class corvette HMCS *Kitchener* somewhere in the Atlantic. Note the cut away forefoot from her whaler heritage. [wikivisually.com]



# 4

## GENERAL DESCRIPTION

The overall layout of the Bathursts was absolutely conventional and logical. In a ship of only 186-feet in length, the number and scope of alternatives are, of course, limited.

In its most basic terms, think of the hull as a floating shell. The heaviest equipment, the engines and boiler go amidships and as low down as possible to reduce the centre of gravity and be near the centre of buoyancy. The boiler goes in front of the engine-room so that the propeller shafts do not pass under the boiler room. Fuel oil needs to be close by and similarly low down and near the centre of buoyancy. A funnel has to exhaust the boiler gases. The bridge has to go in front of the funnel, to give the clearest possible visibility and avoid the gases. The mast is located behind and close to the bridge so that wireless aerials and signal halyards are close. (although in the early Flower Class corvettes it was, unusually, in front of the bridge). The main armament logically goes on the foredeck, in front of the bridge, because it is assumed that action will not only be initiated mainly forward to slightly aft of abeam the ship but that communication between bridge and main armament is expedited this way. The foredeck needs to be suitably high to provide the necessary freeboard and, in doing so, places the main armament where it is more likely to be able to be worked in heavy seas and, being on the centreline, will have the best arcs of fire forward and aft of the beam. The minesweeping and anti-submarine equipment need an aft location and, contrary to the foredeck, need to be close to the sea. Secondary armament needs to be located where it will augment the main armament. Logically this is on the centreline, aft where will have the best arcs of fire aft and forward of the beam.

So, having established this basic functionality, the next step is to establish how many personnel will be needed to work the ship under action conditions and where and how they will be accommodated. Had the Bathursts been designed only five years later, there may have been one distinct change in this regard in that the Hunt Class escort destroyers were the first ships in the Royal Navy to introduce all officer berthing close to the bridge rather than aft as had been common practice. The Bathursts used the deck beneath the upper deck, forward of the bridge for seamen's messing (44 men) in a generally open area. The deck below was petty officer messing. Beneath this again, below the waterline, were oil and water tanks, the main magazine, victualling store and the Asdic compartment where the transponder was retracted. The officers'

wardroom and three cabins were aft of the engine room, below the deckhouse which was the continuation of the lower deck level. Below this was more fuel oil, the secondary armament magazine and water tanks. Aft of the officer accommodation was a large minesweeping and depth charge store.

The captain had his own cabin and bathroom below the bridge, at forecastle deck level. Access to the bridge was via a lobby accessed via a watertight door off the foredeck level under the bridge wings.

The galley was located on the upper deck level aft of W/T office (under the bridge) where the exhaust could be positioned close beside the funnel, terminating in the 'H'-shaped "Charlie Noble" capping. Washrooms and lavatories were nearby. Curiously, W.C.s were one side and wash rooms the other - not exactly conducive to good hygiene.

The bridge had a signal deck/bridge wings to port and starboard with 10-inch signalling projectors and flag bins with easy access to flag halyards. This space became cramped when the 20mm Oerlikons were located there (one each, port and starboard) with their attendant ammunition lockers. A 20-inch searchlight/signal projector was located on the centreline, above the bridge and immediately forward of the mast. Other than *Bathurst*, *Lismore* and *Maryborough* which had an enclosed wheelhouse with open bridge above, all Bathursts had a shared bridge – that is, the ship's wheel and engine-room telegraph were on the bridge together with the Officer of the Watch, lookouts, signalmen etc. *Ballarat* was the first of these to be laid down and was to Admiralty order.

Unusually, the bridge was covered. It was and had been for some twenty years or more, common practice in the Royal Navy to have open bridges above wheelhouses as it was considered that these offered less obstruction when conning the ship and gave lookouts a better view. Also, the lack of glazing avoided the problems with reflections, particularly at night. The US Navy was the opposite with enclosed wheelhouses from which the ship was conned. The latter had the advantage of there being no disconnect between the Officer of the Watch and the helmsman and engine-room telegraph.

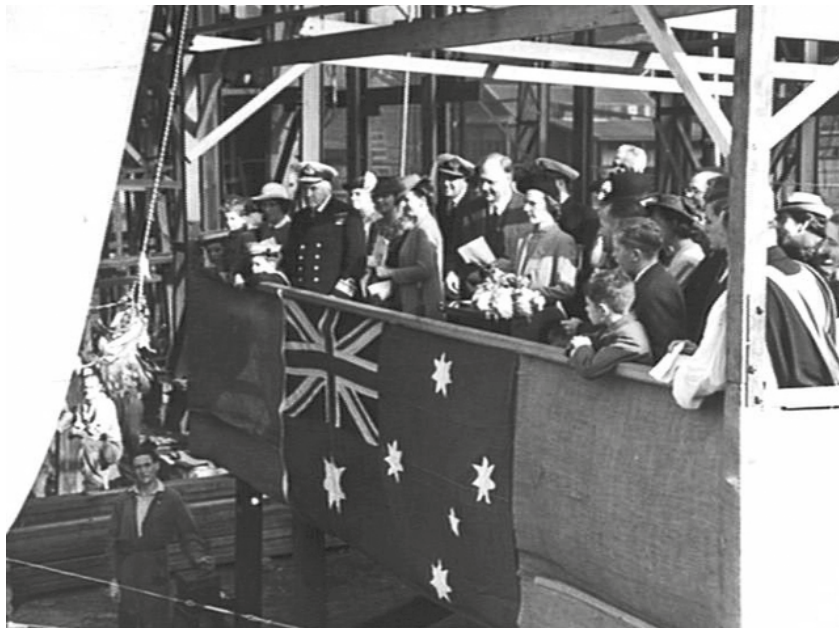
It is not clear, but it appears that some, perhaps all of the 60 Bathursts at some stage, had the helmsman in a separate, bullet-proof enclosure within the bridge.

Interestingly, in response to British experience with air attacks in World War II before air-warning radar was effective, the US Navy adopted, for a while, the open-bridge philosophy and then abandoned it.

One must ask the questions:

- When, why and how was the original 3-ship design altered?
- Was it a British Admiralty requirement that the first three have the three-level bridge structure?
- Were they envisaged, from the beginning, as flotilla leaders?
- Being cramped for space anyway, how and where were the extra staff/crew required by flotilla leaders in order to function as such expected to be accommodated?

Considering that HMAS *Ballarat* was laid down on 19 April – only three days later than HMAS *Maryborough* (the last of the three “flotilla leader” types) – it is clear that there was never an intention to build more than the three leaders and that all the conventional Bathursts that followed were not a modification of the leader type but the leaders were a very specific modification of the conventional type. It says something about the soundness of the design that the extra topweight of a flying bridge and, indeed, the progressive modifications to armament and the addition of radar did not affect stability.



Dedication ceremony, HMAS *Bathurst*, 1 August 1940 [AWM 004271]



Launching of HMAS *Inverell* 2 May 1942 [AWM 012726]



5

CONSTRUCTION



# HULL

The hull was constructed conventionally in accordance with common mercantile practice at the time. Strict naval design and construction protocols were deliberately not followed in order to broaden, as far as was considered possible, the range of shipyards to build the vessels. The ships were of riveted construction as welding on this scale was not an advanced technique in Australia at the time. While simplicity was the keynote, it is interesting to see that it did not necessarily extend to all aspects of the design or the build. Compare, for example, the austere profile of the change of deck levels of the Bangors with the Bathursts – the former having a very severe but cost-effective perpendicular cut-off whereas the latter has a pleasantly sculpted sweep into a bulwark which sweeps further aft on to the quarterdeck. Consider also the rounded corners of the bridge at forecastle deck level and the deckhouse aft at upper deck level – both which could have been more quickly and cheaply achieved with simple right-angled joins. On the other hand, the Bangors achieved a more aesthetic rake to their compact funnels whereas the Bathursts opted for a tall, distinctive and somewhat ungainly funnel.

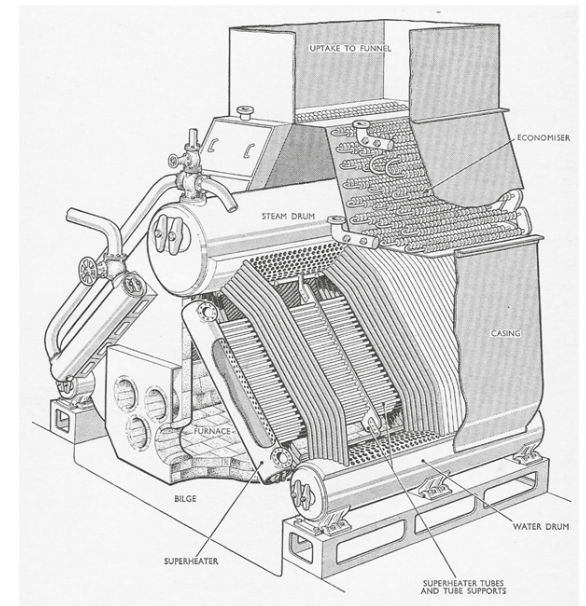
Frames were of angle-iron at 24-inch (609.6mm) centres. The British Flower Class corvettes had frames at 22-inch (558.8mm) centres. A plate keel was used rather than a bar keel more typical of mercantile practice and this can be seen in the photograph of the keel-laying ceremony on page 17. Like the Flowers, the structural weakness caused by the absence of deck beams over the engine room had to be handled by special reinforcing of the frames and the placing of the oil-fuel and smaller diesel-fuel tanks probably helped in this regard. The bilge keels, so essential to reduce the tendency for Bathursts to roll, insofar as it was possible, were apparently increased in size over time.

# BOILERS

In the absence of any reliable and detailed information I have been able to find out, I am indebted to [hmascastlemaine.org.au](http://hmascastlemaine.org.au) as the basis for the following:

Unlike the British Flower Class with their two unsophisticated Scotch-type boilers, the Bathursts employed two Yarrow Admiralty pattern, three-drum boilers of a vertical triangular configuration with two water drums at the base fed by four oil sprayers and the steam drum connected to the drums by some 400 steel tubes of 1 ½-inch diameter. The boilers operated at a conservative 210 pounds per square inch and provided steam to the two vertical triple expansion engines, various pumps, anchor winch, minesweeping winch (when fitted) an evaporator (desalinating unit) and the steering engine.

To be efficient, the boiler room was separate from the engine room and was pressurised at 4-8-inches forcing more air into the boilers for combustion rather than relying on natural draught. Inner and outer doors provided an airlock. If the air pressure ratio fell and there was not enough air feeding the furnace, black smoke would be made and this could give away the ship's position. Conversely, too much air in proportion to oil resulted in excessive white smoke. The air supply and thus the boiler room pressure was maintained by a steam-powered rotary fan. The



Yarrow Admiralty Pattern 3-drum boiler. [ngte.co.uk]

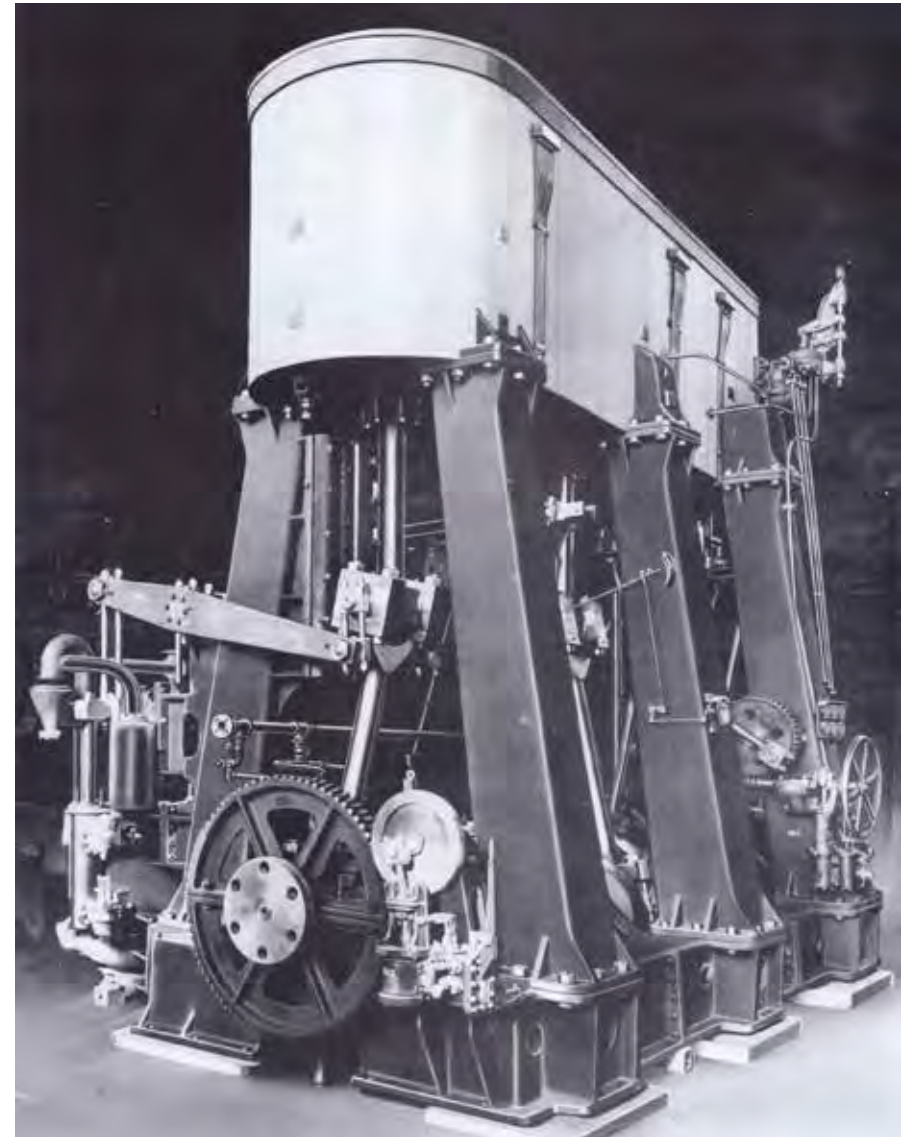
boiler room crew of a stoker Petty Officer and two stokers controlled the fuel-air sprayers and the supply air fan speed plus pre-heated the fuel oil to 68C and kept the boiler feedwater pumps operating correctly to maintain correct boiler water levels. Steam was condensed for re-use in the boilers as well as being utilised in the evaporator to produce 15 tons of distilled water per day.

## ENGINES

The Bathursts were propelled by a pair of vertical triple-expansion (VTE) reciprocating steam engines, each developing 1,000 IHP at 220 rpm. The earliest versions, apparently, had a total of 1,750 IHP and *Junee* is quoted as 1,800 IHP (refer to *HMA Ship Histories. Sea Power Centre – Royal Australian Navy*) Irrespective of the output, they were all built to the one design and were apparently, the largest that was believed could be mass-produced efficiently given the resources available at the time. For instance, engines were to be made by contractors other than shipbuilders in some cases (Perry Engineering Co. in Adelaide, South Australia and the Western Australian Railways for example). On the other hand, some shipbuilders like Walkers in Maryborough, Queensland made engines for ships other than the ones they built themselves. Fifteen of the first 17 Bathursts had engines officially rated at 1,750 IHP and *Bathurst* and *Burnie* had engines rated at 2,000 IHP (refer Appendix I)

The VTE engines, while representing old technology that had not changed for almost one hundred years, were chosen in favour of the more modern steam turbine power more commonly used in naval vessels because of their ease of manufacture, primarily, and their use and maintenance with what would be relatively unskilled crews. Turbines require sophisticated machining and installation of their rotors and also the reduction gears necessary to slow their high speed down to the required propeller speeds. Australia did not have that capability.

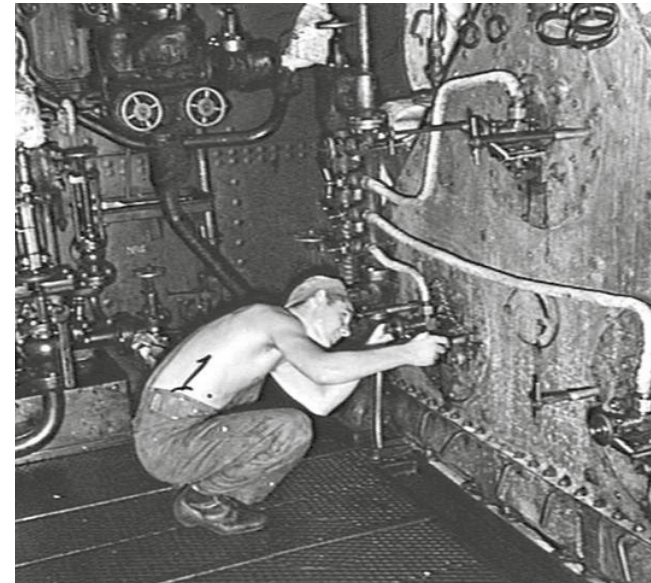
When under steam the engine room was manned by an engine room artificer (ERA), a leading stoker and a stoker. The ERA supervised the watch whilst the leading stoker carried out the instructions received from the bridge via the voice pipe or the telegraph. The stoker regularly oiled around the main and auxiliary



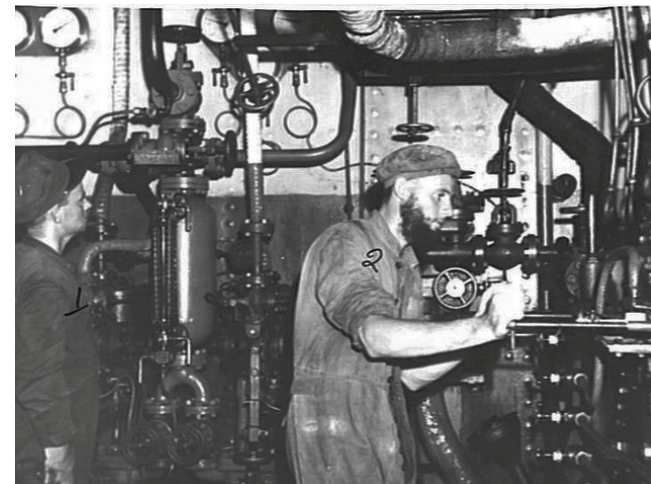
Vertical Triple Expansion engine. [wikivisually.com]

engines and when the main engines were doing high revolutions, felt around the main bearings for over-heating. Several times during the watch the stoker visited the tiller flat and oiled the steam steering engine there.

Curiously, their twin propellers rotated inwards and were said to make manoeuvring hazardous at low speed and going astern. The reason for this was unusual arrangement was to reduce manpower in the engine room by bringing the control platforms together. Mishaps are legendary as Reports/Letter of Proceedings will attest.



HMAS Geelong's boiler room [AWM 075745]



Attending to a boiler; HMAS Rockhampton [AWM 108625]



6

ARMAMENT

# MAIN ARMAMENT

The Australian Department of Defence drawing, #a-0146151 (redrawn 27/4/1989) – which forms the base drawing from which all the Bathurst class drawings have been prepared – shows the main armament (foredeck) as a “12 pdr H.A. gun”.

To give it its full title it was the **QF 12-pounder 12 cwt** and came in Marks I, II and V versions. The 12-pdr dated back to 1894 and was used, primarily, on early pre-World War I Destroyers. The Mk V related to production re-introduced during WW II.

Breaking the title down: the 12-pdr refers to the nominal projectile weight. The gun had a bore of 3-inches and a calibre of 40. That is, the length of the barrel was 40 times that of the bore. The 12 cwt represents the weight of the barrel and breech and the QF refers to Quick Firing. While QF normally refers to a gun which uses fixed ammunition in which the projectile and propelling charge were permanently attached and loaded as one unit, the British 12-pdr was semi-fixed in that a separate holder was used to load the weapon with the cartridge and projectile together.

The projectile was HE (high explosive) and weighed 12.9 lbs (5.87 kg) and the propellant cartridge weighed up to 9.5 lbs (4.3kg). The gun's range at 40 degrees elevation was 11,750 yards (10,740 metres) and its Anti-Aircraft range at 70 degrees elevation was 19,000 feet (5,590 metres). Its rate of fire depended on elevation – being slower to load as elevation increased – was about 15 rounds per minute. The Bathursts carried 283 rounds.<sup>[1]</sup>

There were several types of mountings. The PI\* had an elevation range of –10 to +30 degrees and was an anti-surface weapon only whereas the H.A. (High Angle) reference on the Department of Defence drawing would indicate that what was specified was either the HA VIII mount, with an elevation range of –10 to + 90 degrees, or the HA/LA IX (High Angle/Low Angle) mounting, with an elevation range of –10 to plus 70 degrees.

There is a discrepancy as to how many of the 60 Bathurst Class were fitted with the 12-pdr on completion. Certainly, the four ships built for the Royal Indian

Navy were so fitted. According to Wallace, fifteen of the 56 Australian ships were fitted with this weapon – initially at least.<sup>[2]</sup> However, Gillette states it was three ships.<sup>[3]</sup> Unfortunately, the navy.gov.au site has conflicting or ambiguous information about armament. For instance, there are references to “12-pdr”, to “76mm” to “4-inch” and to “102mm” as main armament. The 12-pdr was a 3-inch (76.2mm) bore weapon and 4-inch happens to be 102mm when rounded off to the nearest whole number. Taking 12-pdr and 76mm as being one and the same, the number of ships so fitted according to the Navy site is 17.

Some photographs suggest that the 12-pdrs may have been retro-fitted with extensions to their shields (front and side) to give greater protection to the gun crews.

Whether three, 15 or 17, the main armament that seems to have been most frequently fitted on completion – at least in the 1940-41 period - was the **4-inch/45 BL Mk IX** on a CP Mk I mounting. The 45 refers to the calibre. That is, the barrel length was 45 times the bore – nominally 180 inches - although the actual bore length was 177.2-inches. It was a Breach-Loading



12-pdr 12 cwt QF. Note the second loader has a charge only. [commons.wikimedia.com]



12-pdr 12 cwt QF being loaded. Note the holder with separate charge and projectile.  
[commons.wikimedia.com]

gun. The projectile and the propelling charge were separate as distinct from a QF (Quick Firing) gun which used fixed ammunition in that the projectile and propelling charge were permanently attached and loaded as one unit.

The projectile was HE (High Explosive) and weighed 31lbs (14.1 kg). The propelling charge was 7.7 lbs (3.5 kg) in World War 1, increased to 7.9 lbs (3.59 kg) in World War 2. It had a muzzle velocity of 2,625 feet per second (800 metres per second) and a maximum range at maximum 30-degree elevation was 13,500 yards (12,345 metres).

The gun dated from 1916 when it was first used as secondary armament in the Renown and Courageous battle-cruisers, the Inflexible as re-armed, the Erebus

and Marshal Ney class monitors, Sir John Moore and M27 – also monitors. Its rate of fire was 10-12 rounds per minute and its elevation was -10 to +30 degrees making it an anti-surface weapon only.<sup>[4]</sup>

The drawing of *Bathurst* is shown with the 4-inch BL Mk IX without the benefit (to the gun crew) of a shield. A photograph of *Lismore* in the Mediterranean in 1943 (with 20mm Oerlikons on the foredeck and what looks like SW1C type radar at the masthead) has no shield fitted whereas *Maryborough* has the shield fitted.<sup>[5]</sup> Drawings of *Geelong*, *Mildura* and *Lismore* all show the gun shield fitted.

No photographs seem to exist of a *Bathurst* at the end of the War with the late-War modifications AND the BL Mk IX still fitted. Similarly, it is not known whether the replacements for this gun were ever fitted on completion through the spread of completion dates (1940 to 1944). Since the more modern alternatives were being retrofitted to early-War completion, I would suggest that this was most likely.

The need for a dual-purpose high angle/low angle gun to combat the threat from aircraft – particularly in those *Bathursts* assigned to the Mediterranean and to the South-West Pacific theatre – must surely have seen preference given to replacing the anti-surface 4-inch with a more versatile and generally better weapon. Also, for night action, the later weapon could fire star-shell.

That weapon was the **QF 4-inch Mk XIX** on a CP Mk XXIII mounting – commonly referred to, derogatorily, as the “Woolworth Gun” or “Woolworth’s Special”.



4-inch/45 BL Mk IX on a CP Mk I mounting. No shield. [AWM 023669]

*“A feeble weapon of misguided conception known simply as the “Woolworth” gun, which was mistakenly expected to make a bang loud enough to sustain morale of the merchant seaman whilst at a ridiculously short range, produce a splash big enough to make the submarine dive. Neither was the case...The cartridge case ejects faster to the rear than the shell leaves the muzzle.”*<sup>[6]</sup>

*"Many of the 12- pounder armed Bathursts replaced these weapons with a QF 4 inch Mark XIX on a Mark XXIII dual purpose mounting. This was the famous Woolworth gun, low velocity but dual purpose".<sup>[7]</sup>*

This was a low-velocity gun (only 1,300 feet per second [396 metres per second]) and while it had an elevation range of -10 to + 60 degrees, and therefore had twice the positive elevation of its predecessor and could fire star-shell for night actions, it was a compromise weapon and was more surface-action oriented and its low velocity and lack of suitable ammunition hardly improved a Bathurst's anti-aircraft capabilities.

While it came into service in 1939, no detail is available as to when the first Bathurst was fitted with this gun either as original equipment or as a replacement for the 12-pdr 12 cwt or the 4-inch BL Mk IX.

The HE projectile weight was heavier at 35 pounds (15.88 kg). It is not known what the star-shell weight might have been - probably lighter. According to navweapons.com, flashless propellant was provided to ships other than Defensively Equipped Merchant Ships and the outfit for escort ships – presumably the Bathursts came within this category – included 10 rounds of HE and 12 to 18 Shark rounds (a special anti-submarine round) per ship.

Range at 40 degrees elevation was 9,700 yards (8,870 metres). It is not known what the maximum anti-aircraft ceiling was. Having a muzzle velocity approximately half that of the BL 4-inch Mk IX and slightly more than half of that of the QF 4-inch Mk V (the anti-aircraft mounts on HMAS *Sydney*, for example), it cannot be expected to be significant.

The CP Mk XXIII mounting (CP meaning that it was a pedestal with the trunnion – the point around which the barrel elevates – directly above the centre of the traverse) allowed the gunlayer, trainer and breechman to rotate with the mount. It had a conspicuously tall and narrow shield and there appears to have been slight variations in these.

The rate of fire was 15 rounds per minute.

Australia produced 219 of these guns. This figure probably relates to barrel numbers rather than total mountings.



QF 4-inch Mk XIX on a CP Mk XXIII mounting. [AWM 109986]



QF 4-inch Mk XIX on a CP Mk XXIII mounting. [Library & Archives Canada LAC 3206297]

(11,890 metres).

The rate of fire was 15 to 20 rounds per minute according to navweapons.com but only 12 rounds per minute according to Friedman.<sup>[8]</sup> The latter may have referred to when being used in or near its maximum elevation when loading would have been more difficult.

Australia produced 45 of these guns.

All of the 4-inch guns would have had a crew of five men. The gunlayer was the gun captain (for want of a better term) and he elevated the gun as directed by the gunnery officer. He was assisted by a trainer who traversed the gun. A breechman was responsible for opening the breech to eject the spent cartridge and to close it after loading. Two loaders brought ammunition from the ready-use (RU) locker and loaded the rounds into the breech. However, photographs show three loaders and this number, at least, would have been needed to

The more versatile and better weapon, particularly when it came to anti-aircraft use, was the **4-inch Mk XVI or XVI\***. The single **Mk XX** was peculiar to Australia, the more common model being the Mk XIX mounting as the standard twin HA/LA weapon on some capital ships, cruisers, min, fast minelayers, destroyers, sloops and some frigates. It had a muzzle velocity of 2,660 feet per second (811 metres per second) with a standard charge or 2,000 feet per second (610 metres per second) with a reduced charge.

Shell types available, though not always carried, were: HE of 35 pounds (15.88 kgs), SAP of 38.25 pounds (17.35 kgs), shrapnel and star shell (both weight unknown).

The elevation range was -10 to + 80 degrees.

Range at 45 degrees elevation was 19,850 yards (18,150 metres) and its anti-aircraft ceiling at maximum 80 degrees elevation was 39,000 feet

sustain a maximum rate of fire – particularly when the Ready-Use lockers were emptied and ammunition had to be passed up from the magazine.

According to Gillette, 282 of 12-pdr or 4-inch shells were carried. Whether this was just the magazine capacity or included the RU lockers is not clear – probably the former.<sup>[9]</sup>



4" Mk XVI on single Mk XX mount on a RAN frigate. [State Library of Victoria SLV H91.250]

## SECONDARY ARMAMENT

The term Secondary Armament is a bit grandiose for a small warship with only one main gun. More usually the term refers to a larger warship that has a significant number and/or size of main armament and the lesser guns are secondary. In the case of the Bathursts, the secondary armament was, essentially, an anti-aircraft armament although it too could have been used in a close-range anti-surface action.

The Australian Department of Defence drawing, #a-0146151 (redrawn

27/4/1989) and the drawing of HMAS *Geelong* in "Warships OF Australia" by Ross Gillett show no secondary armament whatsoever despite the latter drawing being "as completed in 1942". However, positions for three weapons are shown – one in each bridge wing and one on centreline of the deckhouse, aft of the mainmast. Similarly, many of the photographs of ships prior to or after completion show no secondary armament whatsoever fitted. HMAS *Gawler* still only had 1898 brass Maxim Nordenfeldt guns in the bridge wings and Lewis guns on the deckhouse and quarterdeck in late 1942 until replaced by 20mm Oerlikons.



2-pdr QF Mk VIII being serviced on HMAS *Bendigo*. [AWM 026615]

While no records have been obtainable to verify the numbers involved, from photographs it appears that some Bathursts were fitted with the **2-pdr QF Mk VIII** - commonly referred to as the "pom-pom" from the noise it made when firing. Ships identified, by photographs, are: *Ballarat*, *Bendigo*, *Cairns*, *Maryborough*

The single-barrelled, manually-operated version was a redesign of the earlier 2-pdr QF Mk II which dated from 1915. The same basic mechanism was used by the Royal Navy in four and eight-barrelled versions (multiple pom-poms) nicknamed "Chicago Pianos". All versions were belt-fed with a rate of fire of 96-98 rounds per minute per barrel. The heat generated was countered by the barrel being encased in a water-cooled jacket.

Muzzle velocity was quite low at 1,920 feet per second (585 metres per second) for the LV (Low Velocity) ammunition and 2,300 feet per second (701 metres per second) for the HV (High Velocity) ammunition. Although the HV ammunition was introduced in 1938, it is not known if the Bathurst's 2-pdrs used this ammunition. The LV ammunition had a weight of exactly 2 pounds and a range of 3,800 yards (3,474 metres) whereas the HV ammunition weighed slightly less at 1.81 pounds but had a range of 5,000 yards (4,572 metres). The Anti-Aircraft ceiling with HV shells was 13,300 feet (3,960 metres). However, it was considered the HV had a maximum effective range of only



1,700 yards (1,550 metres).

The mounting had an elevation range of -10 to plus 70 degrees.

It is not clear if any of the Bathursts had the 2-pdrs still fitted at the end of the War but it is considered as most unlikely, they being a stop-gap measure fitted to only a few ships before better weapons became available.

The most common secondary weapon used was the **Oerlikon 20mm** cannon – sometimes referred to as a machine gun (especially by the US) but, more correctly, a machine cannon. The British classification was the 20mm/70 Mk I & II and the American classification was 20mm/70 (Marks 2,3 & 4. It is not at all clear whether it was British or American-supplied guns that were fitted in the Bathursts. It was probably a mixture of both: British-manufactured and supplied prior to, and for a short time after, December, 1941 and US-manufactured and supplied after that.

Prior to the Japanese Kamikaze threat materialising in October, 1944 this was the most effective and most readily available light anti-aircraft weapon available and was especially suited to smaller ships with their livelier movement. The



20mm Oerlikon on a Mk1 (US Mk 4) mounting. Note that the wheel on the left-hand side raises the whole gun.  
[AWM P00444.061]



20mm Oerlikon on a pedestal mounting on the bridge wing of a corvette. How did this high trunnion work for surface targets?  
[AWM O26614]

relatively light weight of the gun and mounting meant it could be installed more easily, and in more places (since it required less under-deck support) than the heavier 2-pdr or the later 40mm Bofors.

It was a gun of Swiss design that, unfortunately, the Royal Navy was slow to accept. When it finally did so, it was produced in large numbers but demand always exceeded supply. Generally, it replaced the Royal Navy's Vickers Mk III quad 0.5-inch heavy machine gun which proved ineffective against aircraft having too low a weight of projectile to cause sufficient damage. The measure of the continual shortage of supply was that the last of the Vickers Mk III's were not replaced until very late in the War. Fortunately, none were ever fitted to Bathursts although they were common enough in the Bangors.

The Oerlikon – its most commonly used term – was fed from a 60-round drum-type magazine. Its rate of fire was a cyclic 450 rounds per minute but, because of magazine-changing, was a more realistic 250-320 rounds per minute – still way in excess of the 2-pdr but having a lighter projectile weight of .272 pounds (.123 kg).

Muzzle velocity was 2,700 feet per second (820 metres per second).

Ranges were as follows:

- At 10 degrees elevation 3,450 yards (3,154 metres)
- At 15 degrees elevation 3,950 yards (3,612 metres)
- At 20 degrees elevation 4,275 yards (3,909 metres)
- At 25 degrees elevation 4,525 yards (4,138 metres)
- At 30 degrees elevation 4,650 yards (4,252 metres)
- At 35 degrees elevation 4,725 yards (4,320 metres)
- At 40 degrees elevation 4,775 yards (4,366 metres)
- At 45 degrees elevation 4,800 yards (4,389 metres)

The Anti-Aircraft ceiling was 10,000 feet (3,048 metres).

There were a number of mountings:

Single Mounts: Mks I, IA & II

Pedestal Mounts: Mks IIA, IIIA and VIIA

The Mk I & II were similar in design to the Swiss mounting. Height adjustment was via a hand-wheel. The pedestal mounts were all fixed-height.

Elevation ranges were -5 to +85 degrees except for the Mk VIIA which was -15 to +75 degrees.

It is not known which mounts were used as photographs do not make this clear. However, some photographs indicate that the pedestal type mount at least was used in *Lismore* (fore and aft) and *Maryborough* (aft).

Although there was, apparently, one example of a Bathurst being only fitted with one Oerlikon (aft), perhaps *Ararat*, post-war, the more usual fit was one in each of the bridge wings/signal deck and one on the centreline of the aft deckhouse.

Depending on the Mark, the crew to serve a gun could be a minimum of two but usually three and sometimes four.

The **Breda Model 35** (Cannone-Mitragliera da 20/65 modello 35 (Breda)) was a 20mm machine cannon – the Italian equivalent of the Oerlikon. None of these were fitted to Bathursts in



Captured Italian Breda Model 35, 20mm cannon on HMAS *Lismore*. Where did the loader stand? [AWM P0431.001]

Australia but some of the many captured ones were fitted to RAN ships in the Mediterranean such as HMA ships *Perth*, *Vendetta* and *Lismore* - the last-mentioned fitted on a frame spanning the aft deckhouse and the gunwale, about opposite the mainmast.

Unlike the Oerlikons, these 20mm guns were operated by the gunner sitting down and controlling the elevation and rotation via hand-wheels and the firing lever by foot. Ammunition was fed from a 12-round tray which, unusually, placed the empty cartridges, very neatly, back in the tray. While the rate of fire is at the lower end of the Oerlikons, it would have required exceptional teamwork changing trays every 12 rounds to maintain this rate of fire. Beggars couldn't be choosers!

The elevation range was -10 to +80 degrees and the gunner retained the target via a complicated but effective telescopic predictor sight on a pantograph. The cyclic rate of fire was 240 rounds per minute. Muzzle velocity was 2,800 feet per second (849 metres per second) which was quite comparable to the 20mm Oerlikon.

The maximum firing range was 5,985 yards (3.4 miles (5,470 metres) but the effective firing range was 4,900 feet (1,500 metres).

Probably because of the problems with maintaining an adequate ammunition supply and spare parts, these weapons would seem to have been discarded eventually as more of the 20mm Oerlikons became available.

The most effective light Anti-Aircraft gun, or heavy Anti-Aircraft machine gun, of World War 2 was the 40mm Bofors. The more official nomenclature was: **40mm QF Mk I, III** (both air-cooled), IV, VIII, IX, XI, NI and NI/I (all water-cooled). The MK III was the naval version of the standard US Army M1.

The Bofors, its most common title, was Swedish-designed and dated back to a prototype in 1930. The gun was refined and became the Model 1936 in that year. The British Army placed an order for 100 in 1937 and Britain obtained a manufacturing licence shortly thereafter. Typically short-sighted, the 40mm Bofors was ignored by the Royal Navy (like the 20mm Oerlikon) which placed its faith in the inferior 2-pdr – especially in its multiple guise of four or 8 barrels. The Bofors did not appear, officially at least, on Royal Navy ships



40mm Bofors Mk III on a raised mounting on a corvette. [AWM 109987]

(the battleships *Prince of Wales* and *Nelson*, the cruiser *Manchester* and the monitor *Erebus*) in late 1941 although, unofficially, ones that had been “relieved” from the Army were temporarily fitted in 1940. These were all air-cooled weapons limiting their ability to fire long bursts. The Royal Navy was introduced to the water-cooled versions (twin-barrelled) when Dutch Navy ships arrived in the

UK in 1940. It was not until late 1942 that British-manufactured versions were first fitted to Royal Navy ships. No water-cooled versions were ever fitted to the Bathursts as the only ones fitted were single-barrelled.

In the absence of information to the contrary, it would appear that the Mk III was the most commonly used and this replaced the single 20mm Oerlikon on the aft deckhouse where it had the best arcs of fire. This was also the most suitable location since this was from astern where the majority of aircraft attacks originated. It was easier for pilots to follow a ship’s wake and approach with the ship’s speed rather than against it giving more time and accuracy for the attack – especially at low level.

Photographs indicate that the MK III was elevated on a cylindrical-type base to clear the ship’s handrails and allow for depression against close-range surface-based targets.

Unlike the 20mm Oerlikons on the Bathursts in which the gunner aimed and fired the gun (with or without the assistance of a crewman to elevate the gun, depending on the Mark), the Bofors had two men - on either side - working in conjunction with each other, elevating (gunlayer, left side) or traversing (trainer, right side) the gun in a seated position via geared handwheels. The gunlayer

fired the weapon via a foot pedal trigger. One crew member loaded the gun via clips of four rounds passed in a chain to him by as many crewmen as could be spared. The feed guides held two clips (8 rounds) at a time.

Rate of fire was 120 rounds per minute per barrel nominal.

Muzzle velocity was 2,800 feet per second (853 metres per second).

The range of the Bofors at 45 degrees elevation was 10,750 yards (9,830 metres). Its Anti-Aircraft ceiling was 23,500 feet (7,160 metres). However, British rounds were set to self-destruct at 3,000-3,500 yards (2,700-3,200 metres) but this was increased to 7,000 yards (6,400 metres) in some ammunition types.

Compare this muzzle velocity and range with the somewhat equivalent (at least in the eyes some in the Royal Navy) 2-pdr: 2,300 feet per second (701 metres per second) for the HV (High Velocity) ammunition and the Anti-Aircraft ceiling with HV shells was 13,300 feet (3,960 metres). Despite these statistics, many die-hards in the Royal Navy believed that the multiple pom-pom was more effective against Kamikaze than the twin Bofors.

Ammunition was available in HET (High Explosive Tracer) and APT (Armour Piercing Tracer).

Beyond these secondary weapons various ship inventories refer to close-range, rifle-calibre weapons such as the Vickers Medium Machine Gun, the Lewis Gun and the Bren Gun.

The **Vickers** was a .303-inch, water-cooled machine gun, commonly used by the British and Commonwealth armies. It was a reliable belt-fed weapon dating back to before World War I and proved capable of sustained rates of heavy fire. According to Wallace, these were mounted port and starboard “either side of the deck-housing aft”.<sup>[10]</sup> While I do not disbelieve this, I have seen no photographic evidence



Vickers .303” Medium MG on an anti-aircraft mounting. [AWM 304886]

to support it. The more common position was in the bridge wings and in the standard position on the centre-line, aft. Maryborough only had this weapon fit-out until the aft Vickers was replaced by a 2-pdr pom-pom in Singapore in December 1941.

The Vickers had a rate of fire of 450-500 rounds per minute (cyclic) and a range of 4,500 yards (4,100 metres).

The **Lewis Gun** was a light machine gun, dating from World War I. Unlike the Vickers it was air-cooled and ammunition was fed from a top-mounted circular drum magazine holding either 47 or 97 rounds – also .303 inch. The Lewis Gun was fired from a simple anti-aircraft mounting.



Twin Lewis Guns on a shielded anti-aircraft mounting. [IWM A 8083]

Photographs show this on the bridge wings of the earliest Bathursts and, as Wallace states and as the museum ship ex-HMAS *Castlemaine* demonstrates, behind shields, port and starboard aft. The Lewis Gun had a rate of fire of 500-600 rounds per minute (cyclic) and a maximum range of 3,500 yards (3,200 metres).

HMAS *Wollongong* had, at some stage, two twin Lewis guns in shields mounted on the roof of the bridge.

Both the Vickers and the Lewis Guns may have been used to explode mines that had been swept and risen to the surface.

The **Bren Gun** was an army light machine gun and was probably not used other than by shore or boarding parties when necessary. It was a magazine-fed weapon (30 rounds) with a rate of fire of 500-520 rounds per minute (cyclic) and a maximum range of 1,850 yards (1,690 metres). Unlike the Lewis Gun, the Bren's barrel could be quickly changed in the field as and when it overheated.



Bren Gun on an anti-aircraft mounting. [AWM 025691]



The BL 4-inch Mk IX on HMAS *Maryborough*. Note the higher bridge. The seaman closest to the camera is carrying the propellant charges in a special container. [AWM 009556]

# AMMUNITION

I am indebted to hmascastlemaine.org.au for the following information which related to *Castlemaine* specifically and can be regarded as typical of all Bathursts:

## **As completed with 4-inch BL Mk IX:**

20 x SAP (Semi Armour Piercing) Shells  
40 X HEDA (High Explosive Direct Action) Shells  
40 X HETF (High Explosive Timed Fuse) Shells  
9 X Practice Shells (109 total)  
109 X 9 lb. Cordite Charges  
3000 Rounds 20mm Oerlikon  
20 Depth Charges  
20 Boxes .303 Lewis Ball  
3 Boxes .455 Bullets (presumably Webley pistol ammunition)  
1 Box .303 1 1/2" Rifle Grenades  
1 Box .303 Rifle Ball

## **After 1943 refit with 4-inch QF Mk XIX on CP Mk XXIII mounting:**

60 X 4-inch SAP Shells  
80 X HEDA Shells  
20 X Shrapnel Shells  
12 X Practice Shells  
40 x Starshells (212 total)

3000 Rounds 20mm Oerlikon  
40 Depth Charges  
7200 rounds .303 Lewis Ball  
9750 rounds .303 Ball  
3 Boxes .455 Bullets (presumably Webley pistol ammunition)  
1 Box .303 1 1/2" Rifle Grenades

## **After 1944 refit with 40mm Bofors replacing one 20mm Oerlikon:**

60 X 4-inch SAP Shells  
80 X HEDA Shells  
20 X Shrapnel Shells  
12 X Practice Shells  
40 x Starshells (212 total)  
60 Boxes 40mm Shells  
2000 Rounds 20mm Oerlikon  
40 Depth Charges  
7200 rounds .303 Lewis Ball  
9750 rounds .303 Ball  
3 Boxes .455 Bullets (presumably Webley pistol ammunition)  
1 Box .303 1 1/2" Rifle Grenades<sup>[11]</sup>

# ANTI-SUBMARINE

The Australian Department of Defence drawing, #a-0146151 (redrawn 27/4/1989) shows a depth charge thrower (DCT) located port and starboard abeam the aft gun mount plus two depth charges on each quarter. The DCT was, according to [hmascastlemaine.org.au](http://hmascastlemaine.org.au), a Mk II, making it a Thornycroft model. This type used a disposal arbor – called a “carrier stalk” on the Department of Defence drawing - a plunger with a cradle attached that held the depth charge in place on the thrower.

According to [navweapons.com](http://navweapons.com), development of this thrower started in 1916.



Depth charge or charges exploding in the wake of a Bathurst Class corvette. [AWM P00782.003]

It had a nominal range of 40 yards (27 metres). The Mk IV that replaced the Mk II used a piston with a non-expendable arbor. This did not enter service until 1944 and, since by then, the Japanese submarine threat to the waters Bathursts mainly served in had virtually ceased to exist, it is not known how many Bathursts were so fitted. *Castlemaine's* depth charge throwers were replaced with the Mk IV version after a 1944 refit.



Thornycroft type Mk II depth charge thrower being loaded on a corvette. Quite a lot of teamwork was required to lift these charges and position them, especially in a seaway. [AWM 075719]

According to Wallace, ships commissioned after mid-1943 did away with the minesweeping gear (winch, paravanes, Oropesa floats etc., See below) in favour of two additional DCTs and two depth charge racks holding, from an illustration, what looks to be seven charges each. Also, Wallace states that the last six

Bathursts to be commissioned (*Stawell, Cowra, Kiama, Strahan, Junee & Parkes*) were fitted this way on completion.<sup>[12]</sup>



Dummy depth charge test firing in Sydney. Note the arbor starting to separate from the depth charge. [AWM H98.105/3034]

Gillette says 30 normal and 20 heavy depth charges were carried and it is assumed that this relates to the dual purpose – minesweeping and anti-submarine - versions and that the dedicated anti-submarine versions would have contained more. Certainly, the removal of the large minesweeping winch would have freed up space for on-deck stowage.<sup>[13]</sup>

# MINESWEEPING

There were two types of mines that posed a threat to shipping: the **contact mine**, which, as the name implies, required a ship to actually hit the mine and explode it, and the **influence mine** which relied on a passing ship's magnetism or its noise to explode it.

Contact mines were laid so that they floated a set distance below the surface, restrained by a mooring wire to an anchor on the seabed. They were swept by trailing a cutting cable from the minesweeper's quarter – usually one to port and one to starboard when operating alone or to one side only when working in a staggered line (*en echelon*) as a flotilla. The cable was angled away from the ship by a Kite and kept at the correct depth by an Otter Board. An Oropesa float supported the end of the line and gave a visual indication as to the line's/lines' position. When the mines floated to the surface they were exploded by gunfire. Swept lanes were marked by coloured Danbuoys which were stowed horizontally from the life rails on the aft deckhouse, generally abeam of the aft gun. A special, demountable gallows was used to raise and lower the Dan buoys through the open accommodation door in the bulwarks.

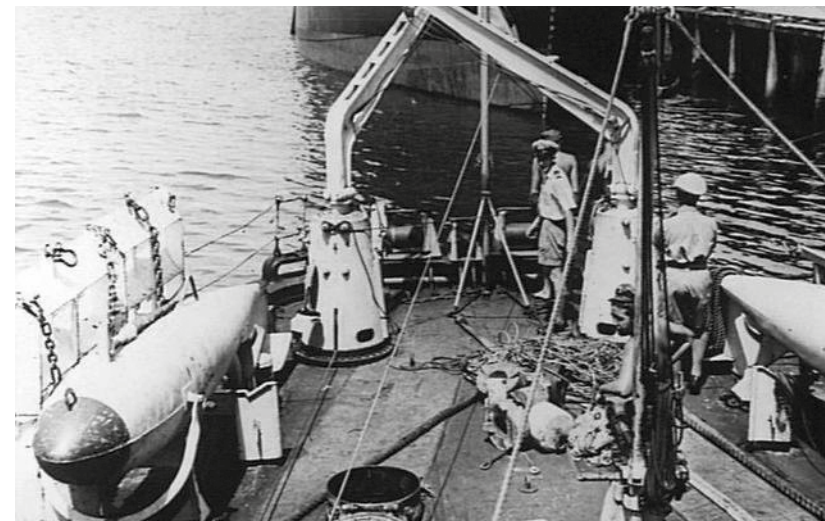
Magnetic mines were exploded, not swept. Since they were laid on the seabed in shallow water, they had to be exploded by creating a false magnetic field. The **LL sweep Mk VX** was a floating cable of two unequal lengths, trailed well astern of the ship, with a DC-pulsed electrical current from a diesel-powered generator in the engine room producing 1,000 amps. Many magnetic mines did not explode on the first passing of a ship. Instead the passing of ship simply incremented a counter in the mine which would then fool a ship's captain into believing a channel was safe. When the target number set in the counter was achieved, the mine blew up.

The ship's own magnetic signature was minimised by a degaussing cables within the ship. The ships involved in magnetic sweeping had to be positioned over a control grid to evaluate their magnetic field strength and characteristics in order to know how much power to apply to the various degaussing coils spread inside the ships.

Acoustic mines were detonated and not swept as such in that “sweeping” did not involve trailing cables astern of the ship. Instead, **SA Type C (Mk I or Mk II)** equipment was used. This produced a hammer-like sound in a flooded forepeak tank generated by two Fessenden oscillators which exploded the mine some distance away from the ship. One can only imagine the noise it made within the ship itself. Photographs show LL sweep cables coiled loosely on top of Oropesa floats.

A large twin-cylinder, steam-powered winch handled on the aft or sweep deck handled all the cables. This winch would seem to be the same as those made in England by Clarke Chapman Ltd.

Spare sweep wire was stored on a large reel or reels below decks, turned by a power take-off from the winch.<sup>[14]</sup> A pair of davits were used to swing the floats, kites and Otter boards overboard and to retrieve them. Some photographs indicate that some, or perhaps all, of these were capable of being hinged down from their pedestal bases. Why they had this capability is unknown.



The stern of a corvette showing Oropesa floats, paravanes, davits. [AWM P02294.006]

# P.A.C. PROJECTOR

Reference to the HMAS *Castlemaine* site (<http://hmascastlemaine.org.au/specifications/>) confirms that two PAC projectors were fitted. These may have been officially termed Air Defence Type D or PAC(D). PAC stood for Parachute And Cable.

The British Department of Miscellaneous Weapon Development (DMWD), headed by a RN Captain G.O.C. Davies, a gunnery specialist, responded to the shortage of close-range anti-aircraft by engaging the Schermuly brothers – famous for their life-saving rocket apparatus - around March, 1941 to develop a rocket-powered weapon. They designed a powerful rocket that could carry a steel cable up to a height of 500 feet with a parachute at the end to slow its descent. Later experiments had a parachute at the lower end. The concept was that a barrage of rockets would entangle low-flying bombers. During the Battle of Britain, a Dornier had its port wing torn off by a PAC. In the spring of 1941, the coaster *SS Fireglow* fired a PAC and tore the wing off an attacking aircraft. Similarly, *SS Milford Queen* and *SS Stanlake* had similar successes on separate occasions. By 1943, the device had claimed nine aircraft destroyed and thirty-five ships claimed the device had, in effect, saved them. The German pilots changed their tactics and masthead-height attacks were abandoned. Experiments were conducted with a bigger rocket, “Type J” which fired a bigger cable and parachute to 600 feet and others with an explosive charge attached.<sup>[15]</sup>

I obtained an indistinct drawing showing how and where the PAC projectors were to be fitted: at the aft ends of the bridge canopy to port and starboard. The drawing specifies that the projector is inclined both 5 degrees outwards and forwards on a wooden base. However, actual photographs show a wide variety of locations on or about the bridge. Some seem to be located forward and others attached to the searchlight platform. The drawing shows that the rockets were fired by simply pulling on a lanyard and there is a notation that these lanyards should be arranged so that both PACs can be fired simultaneously.

Whether these projectors were ever used in combat is unknown. They were to be fired about five seconds before the attacking aircraft was expected to

be directly overhead. So, timing, direction, altitude and wind direction would be critical for what was, basically, a one-shot opportunity from each projector. Reloading must have been slow and precarious, standing or kneeling on the bridge canopy.

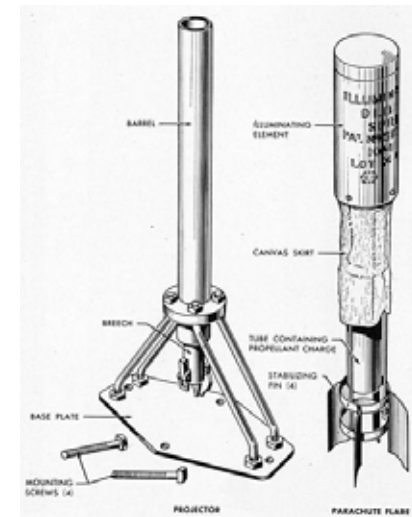
Despite the nine aircraft brought down, I think that PAC should have stood for Pretty Awful Contraption! I'm sure readers could find alternative and unprintable descriptors.

I am inclined to believe that the main use of the projectors would have been to fire signal or illuminating flares. To support this, I found a reference to “2-inch Rockets and Illuminants; Apparatus A. Type ‘D’, PAC. Apparatus AD, Type ‘J’, 1lb signal rocket, 1lb practice target Mk II.” The accompanying drawings, although with no scale given, look remarkably like apparatus fitted to the Bathursts.<sup>[16]</sup>

The photograph, below, would seem to indicate a likely diameter in the 2-inch range. There was a 6lb PAC rocket but its diameter was 177.8mm and this would have been much larger than the one in the photograph. I do not believe



PAC projector on a Canadian corvette.  
(source unidentified or unestablished)



Snowflake launcher. (source unidentified or unestablished)



that this was the type fitted to Bathursts.

The RN developed a brilliant flare called the “Snowflake” fired by a 4-inch gun. The limited elevation of the LA guns and their slow rate of fire, six rounds per minute best, did not fully utilise its potential. The Schermuly brothers fitted the flare into the head of a standard PAC. It produced 300,000 candlepower and burned for 65 seconds at 1,200 feet altitude, suspended from a parachute. They were fired from a tube 3-feet long by 3.3 inches in diameter. These dimensions would also fit the photograph.

The Commonwealth Naval Order 88/1944 (issued 15/2/1944) withdrew the PAC projectors from the Bathursts because it risked fouling radar and wireless aerials but two projectors were to be retained for firing Snowflakes.

## SEARCHLIGHT/SIGNALLING PROJECTORS

A standard 20-inch searchlight was fitted in most Bathursts. My research indicates that this was, officially, the **Admiralty 20-inch Signal Projector - Pattern 170A**. However, in 1943, it, or a modified version, became known as **20-inch Searchlight Projector Mk IV**. Whether 1943-completed Bathursts were fitted with the later model is unknown. When used as a searchlight, the beam was 2.6 degrees and produced 45-million candlepower from carbon arc rods. When used as a signalling projector the beam was a wider 4.5 degrees but at 10-million candlepower.

Nesdale refers to a 22-inch signalling light but I have been unable to find such a searchlight/signalling projector of that size on Royal Navy ships.<sup>[17]</sup> There was a 24-inch searchlight but that did not look like the photograph, opposite.

Whatever the size and precise description, these signalling projectors/searchlights were strategically mounted above and aft of the bridge roof on



20" searchlight/signal projector, HMAS *Geelong*. The A272 radar antenna is mounted above the searchlight platform. [AWM 075724]

cum enlarged searchlight platform minus the searchlight - and *Toowoomba* and *Burnie* with Type 271 radar “lantern” in place of the searchlight – perhaps the only Bathursts so fitted.

*Bathurst*, *Lismore* and *Maryborough* originally had two of these searchlights – one on each bridge wing – but these appear to have been either removed or moved aft when the bridge wings were extended aft and a single 20mm Oerlikon was fitted port and starboard. Certainly, *Maryborough* has both searchlight and Oerlikon in photographs of her visit to *Maryborough* in 1945. Whether her sister ships were so fitted is unknown.

The **Admiralty 10-inch Signalling Projector Pattern 3860A** was used in the bridge wings

a raised platform where an almost 360-degree arc was available, only blocked by the funnel.

The only instances where the central searchlight seems to have been deleted was *Benalla* & *Shepparton* (when fitted as survey ships with flying/upper bridges), *Geraldton* - which was unique in having an abbreviated flying/upper bridge



HMAS *Latrobe* bridge showing A 272 radar with what might be a Type 242 IFF interrogator in front. Note the 20-inch searchlight, PAC projectors, RDF loops, RU locker beside bridge. Catch net for 4" Mk XVI on MkXX mounting with depression rail forward. [Eric Hogben Collection 5701]

or, in the case of Bathurst, Lismore and Maryborough, on the open bridge itself for general light-signalling functions. The output was 1-million candlepower with a 6-degree beam from a 1,000-watt, filament lamp.

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#### Endnotes

1. Ross Gillett, *Warships of Australia*, p. 203
2. Robert Wallace, *The Secret Battle 1942-45: The convoy battle off the East Coast of Australia during World War II*, p.16
3. Gillett, p.203
4. [www.navweaps.com/Weapons/WNBR\\_4-45\\_mk9.htm](http://www.navweaps.com/Weapons/WNBR_4-45_mk9.htm)
5. [www.navy.gov.au/hmas-lismore](http://www.navy.gov.au/hmas-lismore)
6. Rowland H. Stokes-Rees, *Survival at Stake, Our Individual Responsibilities*.
7. A.N. Other, Naval Historical Society of Australia.
8. Norman Friedman, *British Destroyers: From Earliest Days to the Second World War*, p.388
9. Gillette, p.203
10. Wallace, p. 16
11. [www.hmascastlemaine.org.au](http://www.hmascastlemaine.org.au)
12. Wallace, p.22
13. Gillette, p. 203
14. John McKay & John Holland, *The Flower Class Corvette Agassiz*, p.15
15. Gerald Pawle, *The Secret War 1939-45*, pp.93-5
16. [www.cyber-heritage.co.uk](http://www.cyber-heritage.co.uk)
17. Iris Nesdale, *The Corvettes: Forgotten Ships of the Royal Australian Navy*, p.17.



A 10-inch signalling lamp in use. Note the telescope and the signals pad. [AWM 304775]



7

ELECTRONICS

# ASDIC

ASDIC was, according to folklore, the acronym for Anti Submarine Detection Investigation Committee. It fits well and may have been but is not supported officially in any way. Irrespective, the Royal Navy developed a method for detecting submarines by sound propagation – the signal reflecting off a target and the time for the return signal being converted to distance and its bearing established. The depth of the target was, initially, unobtainable.

It seems that the Bathursts might have been fitted with, not unexpectedly, a hybrid ASDIC set – neither fish nor fowl like so many fittings and equipment sourced in time of war from the other side of the world.

The Type 123 and 123A predate (1934) the Type 128 (1937). The [hmsascastlemaine.org.au](http://hmsascastlemaine.org.au) site states that the ASDIC fitted was a **Type 128B** and, after 1943, a **Type 128C**. It appears that both of these marks shared the same basic characteristics of the British **Type 127** set in that the dome in which the transmitter/receiving was housed was retractable into a well built into the hull.

The Type 123 was the standard ASDIC fitted to auxiliary anti-submarine vessels but the Type 128 was the superior set. However, supplies from Britain were slow and uncertain and this prompted the Naval Board in 1940 to seek plans and specifications for both the Type 123 and 128 sets with a view to local manufacture. They believed that Type 123 could be operated without a gyro-compass instead of a magnetic compass as a relative bearing set and a substitute alternator could be made locally. Ultimately the Admiralty confirmed the Type 128 could be operated without the gyro and this became the standard Australian ASDIC set for the Bathursts and when manufactured in Australia became the Type 28B. This was an incredible undertaking considering that it involved over 320 drawings and 5,000 specifications to be prepared and 170 separate contractors.

Apparently, the Type 128 had a training mechanism that was manipulated electrically rather than mechanically and was kept on target automatically by the ship's gyrocompass.

A search of the National Archives (UK) revealed there is a document: “ADM 234/1041 - Handbook for Asdic sets types AV, 128 CV and 128 DV” which is dated 1943 and suggests that this relates to two of many variations.

Brown states that the Type 128 had a “Dome and directing gear as (Type) 121, electronics as (Type) 127. There were nineteen wartime variations, with improved recorders, helmsman display, etc. Type 128 XE became (Type) 144. Some had Q attachment”.<sup>[1]</sup>

The “Q attachment” referred to was introduced in April 1943. It provided a wedge-shaped beam only 3-degrees wide in the horizontal plane and could measure depths 300-700 feet. Whether Bathursts were fitted with this is unknown. Since the submarine threat in Australian waters had subsided by the time these improvements might have been eventually made available to the Royal Australian Navy, it is considered unlikely.

From descriptions, it appears that the ASDIC operator was accommodated on the bridge to the right of the binnacle in a small – very small! – hut.



ASDIC training at HMAS *Rushcutter*, post August 1940. [navy.gov.au]

# RADAR

No radar was available when the first of the Bathursts was commissioned. I have not been able to determine which ship was first to receive radar. Photographs are only partly helpful because the dates on which they were taken cannot be accurately determined.

Readers will recall the comments quoted in the Preface about “contradictions in impeccable sources” and “many areas of conflicting data”. Nowhere in the research and preparation of this book has this been more frustrating than in

relation to the radar installations in Bathursts. I have written and rewritten this chapter on Radar several times and I believe that what finally appears here to be accurate and factual.

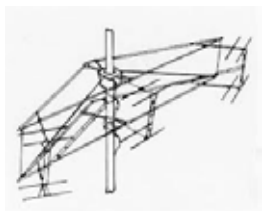
I started with the totally reasonable belief that captions to numerous photographs of Bathursts were correct, such as, for example: “HMAS *Latrobe* fitted with her A286 Air/Surface warning radar and A272 Surface Warning Radar” (nav.gov.au/hmas-latrobe),

or

“....HMAS GLENELG (J236) AND HMAS GYMPIE (J238)...BOTH HAVE EARLY SC SERIES AIR SEARCH RADARS AT THE HEAD OF THE FOREMAST BUT THE GLENELG HAS AN AMERICAN SG SURFACE SEARCH RADAR ON THE FOREMAST WHILE THE GYMPIE HAS A BRITISH TYPE 272 SURFACE SEARCH RADAR IN THE LANTERN ABOVE THE BRIDGE”. (ID 306625 Australian War Memorial).

Then I realised that there is a contradiction because they are both describing identical antennas on the foremast. At first, I believed the “*Latrobe*” description to be wrong and “*Gympie*” description to be right and vice versa for the reference to the surface search/warning radar.

The British Type 286 radar antenna looked nothing like the large, almost square “bedspring” antenna on HMAS *Latrobe*.



British Type 286 antenna. [JPROC.Ca]



US Type SC-1 (air-warning) top and SG (surface warning) antennas circled. [Pacific War Online, National Archives 19-N-40832]

The US type SC antenna looked like this:

So, did the “A” prefix mean that the A286 (note, no mention of Type) was an Australian version of the British Type 286 but with a different antenna that just happened to look like the American SC? How could two respected authorities have totally opposite conclusions?

Then I found the answer, and it is a previously well-hidden story – or, at least, one that hasn’t been public and is worth summarising here.

Just as designing and building 60 corvettes in a country not known for its shipbuilding industry was quite remarkable, so was Australia’s contribution to the development of radar during World War II.

The Council for Scientific and Industrial Research (CSIR) established a Radiophysics Division at the University of Sydney in 1940. The basic technology of using radio waves to detect aircraft was bought to Australia in 1939 and the equipment formed the basis for building systems for Australia’s armed forces. Significant redesigns took place to suit Australian conditions.

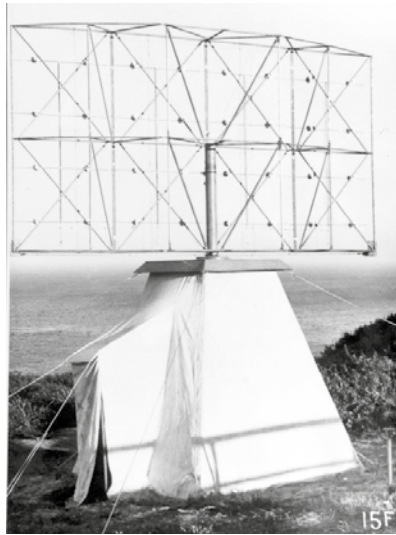
A Shore Defence (ShD) radar was built and tested at Dover Heights (near Bondi) in 1940 to detect shipping. It was innovative in that it used only one antenna on a tower, rapidly switching between transmitting and receiving radio pulses. It picked up a ship at Port Stephens, 90 miles away.

A radically modified version was used as the basis of an air-warning (AW) radar, operating on a 1.50 metre wavelength also at Dover heights that detected an aircraft at 65 miles distance.

A truly innovative advancement of this was the LW/AW (Light Weight/Air Warning) radar designed in September 1942. This was an air-transportable system of 2-3 tons that could be re-assembled in four hours. The equivalent American system weighed up to 40 tons. The antenna and its supporting structure was designed by the chief electrical engineer of the New South Wales Government Railways (NSWGR), J.G.Q. Worledge, and produced in less than a month. This became known as the Worledge Array/Aerial/Antenna. The installation at Dover Heights, photo below, detected aircraft at 5,000 feet altitude at 88 miles and at 25,000 feet altitude at 65 miles. Aircraft flying at 500 feet were detected at 10 miles. The antenna was turned by hand and the operators sat in the tent, beneath the antenna.

Fifty-six units were used by the Australian forces, 60 by the US Army in the Pacific and a further 12 in Burma by the British.

Not surprisingly, the RAN wanted a seaborne version of the LW/AW radar. Being sensitive to increasing top-weight high on the top of a ship’s mast, the



The LW/AW set at Dover Heights.  
[AWM P034.011]

antenna had to be lighter and smaller. This deficiency was made up by increasing power to 160 Kilowatts and this achieved a range of 60 miles. It was first installed and tested at sea in HMAS *Kybra* early in 1943. It was called the **A286Q**.

Page 3 of a poor copy of a letter from the Department of the Navy dated 1 August 1944 headed "RAN Priority For Allocation Of Radar Equipment No. 14", lists 41 Bathursts (still referred to as AMS) with columns headed WS, A272 and WC, A286 with the numeral "1" against each of the ship in the first column and either a "1 P" or a "1 Q" against each ship in the second column. There is no explanation of what the "WS" or "WC" means. I found out that WS stood for Warning Surface but since the A286 was Warning Air I could not see how

this got to become "WC". A humourist might suggest the equipment was located in a toilet! And that wouldn't be far wrong. In HMAS *Gawler*, at least, the radar equipment and the operator took over the commanding officer's bathroom. The antenna, type unknown but later known to have been a Type 291, was rotated by a cable in a tube up the mast and driven by a bicycle pedal arrangement! Later research proved that WC stood for Warning Combined.

This document does go to help to prove that contrary to the captions attached to some of the photographs in the AWM collection, the ships equipped with large "bedstead", American SC look-alike antennae were equipped with Australian A286 radar. When the National Archives of Australia were searched using the criteria "SC radar", only one file resulted - MP 138/1,603/256/1548. This refers to HMAS *Napier - Fitting of SC radar etc*. One would have thought that if the SC radar was fitted to Bathursts, as commonly referred to in AWM photographs, a search of the archives would have provided some evidence to that effect.

The **British Type 286** went into production earlier – 1940 – and was as follows:

- operated at 214 megacycles (1.4 metres)
- power output 6 kilowatts, peak.
- Fixed antenna of 2 x 6 element Yagi antennas.
- Surface detection 60 degrees either side of bow.
- Bearing accuracy was poor.
- Ship had to be turned to scan a different sector.

Type 286PQ had same the same aerial as Type 291 (see below), with only manual rotation, giving a beamwidth of 35°. Note the possible confusion with the use of the letter Q.

Type 286PU had one forward facing Yagi at top of mast for transmission and two angled Yagis below for beam-switched reception giving a fixed forward cover beam width of 140 degrees.

I think it fair to say, therefore, that the A286 was an almost totally Australian-derived air-warning radar. It may have shared some commonality with the British Type 286 insofar as the electrical componentry/circuitry was concerned but was made unique by the adaptation of the NSWGR-derived Worledge Antenna and the resultant improved performance.

The British Type 79 was an early Air Warning radar and the Type A79 was an Australian manufactured version of higher power. The National Archives of Australia records AWM79,677/1 dating between early 1942 and mid 1943 document the sea trials of a Type A79 set aboard HMAS *Kybra* including detailed reports on the performance of each component and the results of aircraft detection trials. There's a report to the officer commanding HMAS *Rushcutter*

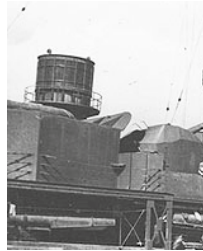


HMAS *Kybra* showing American SC or Australian A286Q antenna at masthead and a Type 271 above the bridge. To further confuse the nomenclature issue, when conducting radar trials in early 1943, official *Kybra* records describe these as A79 and A272 respectively! [AWM 300939]

from the commanding officer of HMAS *Kybra* for the period 16/1/43 to 7/2/43 referring to trials of Type A79 RDF and a later report of 6/3/43 referring to trials of **Type A272** RDF.

This last-mentioned radar opens up a whole new field of radar.

The British had proved that microwave radiation was most effective for detecting small sea targets using the newly invented resonant cavity magnetron in a team led by Australian Dr. M. Oliphant. This radar was the **Type 271** and it consisted of two rotating antennae, “cheesecakes”, one above the other (one transmitting, one receiving), which were housed in a faceted teak and Perspex “lantern” with a distinct appearance, as below: The original Type 271 had the office directly under the antenna (later very close to), whereas the **Type 272** used improved coaxial cabling – a waveguide - to locate the office further away, up to 40-feet.



The distinctive Type 271 “lantern”. [Pacific War Online, Naval History & Heritage Command NH-80532]

The Radiophysics Division developed a sea-search radar for the RAN by October 1941. Like its British equivalent, it operated on a 10-centimetre wavelength. In July 1942 a set was tried out at South Head, Sydney. It was called the **A271L** (A stood for Australian and L stood for Laboratory and used imported magnetrons). It exceeded expectations detecting a ship at about 45 miles.



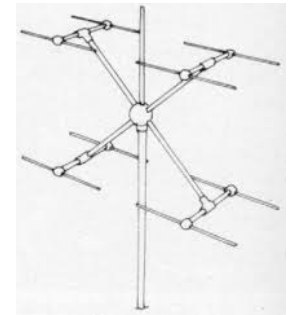
Type 272 (ship unknown) [www.hazegray.org]

The **A272 Mk I** was a later, closely related, model using locally manufactured magnetrons – no mean feat in itself for such intricate equipment.

The first Australian-built **A272** had its sea trials in November 1942 and an upgraded model, the A276 was first trialled in May 1944. It is not known when the first production sets were installed in Bathursts of either of these models.

Amalgamated Wireless Australasia (AWA) made some sixty of the microwave radar sets for the RAN and were installed in corvettes, destroyers and other RAN ships. They were equipped initially with an A-scope display. Later versions had a PPI display.

One ship only, HMAS *Geraldton*, is shown clearly in a photograph with a **Type 291** antenna at the head of the foremast. That doesn't mean there may not have been others, just that this is the only one clearly discernible from photographs generally available. The Australian War Memorial credits *Lismore* and *Maryborough* with having **Type 291** antennae when in Ceylon in November 1943 *en route* to Australia. Would *Geraldton* happened to be the “odd one out”?



Type 291 antenna. [www.hazegray.org]

When HMAS *Maryborough* was in Ceylon in dry dock in April 1943 she was fitted with radar of some sort of steel “shed” measuring some 6 x 6 x 7 feet with heavy double overlapping curtains at the entrance was fitted above the galley near the funnel.<sup>[2]</sup> A photograph of her in Tunis in 1943 shows this radar to have been of a type with the SW1C-type aerial.

The Type 291 was a British air-warning set, a development of the **Type 286**, and was introduced in 1942. Early versions of this set required separate transmitting and receiving antennas, but a TR box was soon developed. This antenna had a beam width of 40 degrees. Power output was 100 kilowatts. It had the capability of detecting a bomber at 15 nm. By 1944, Type 291 was fitted to nearly all British destroyers and lesser escorts. Its installation time was seven days. The M, P and Q versions had power rotation for the antenna and PPI displays in addition to the ‘A’ scopes.

An even more interesting and, despite considerable research on my part, radar conundrum concerned the radar antenna that, at some stage, topped the mainmasts of HMA Ships *Armidale* (photograph 11 June 1942) *Cairns*, *Castlemaine*, *Cessnock*, *Ipswich*, *Lismore*, *Maryborough*, *Tamworth* & *Wagga* – there may have been others too. This “Y”-shaped antenna – fixed, or at least always photographed in a fore-and-aft situation – looks almost identical to the Canadian-developed **SW1C** and **SW2C** radar. This was developed by

the National Research Council (NRC) in 1941 and was fitted to RCN ships in 1942. For some inexplicable reason, the Canadians were

unaware of the British development of the better, though not perfect, **Type 271**. Although obsolete, the RN received a few SW1C sets in 1941. Some of these, perhaps rejected by the RN in favour of the **Type 271** despite it being in short supply, may have found their way to Australia.

The antenna consisted of a rotating, multi-element, Yagi antenna. Rotation was provided by a rather cumbersome and primitive mechanism rotated by a wheel mounted in the RDF office. Yagi antennas are susceptible to detecting targets on reciprocal bearings, hence one of the reasons for the unreliability of the system. Despite inadequacies, the SW1C was upgraded to make it compatible with IFF sets and became the SW2C.

There was considerable liaison and co-operation between NRC and access to Research Enterprises Ltd. which was the government manufacturer of the Canadian radar. Dr. W.R. McKInley visited Australia and spent time with the Radiophysics Division. Canada provided pieces of equipment that were urgently needed for Australian research and development. Perhaps the SW1C/SW2C look-alikes were home-grown Australian versions as a stop-gap measure until the A286 sets became available.



HMA Ships *Toowoomba*, *Lismore*, *Burnie* and *Maryborough* beside a depot ship, most probably HMS *Lucia*, at Ceylon in mid-November, 1944 before departing the British Eastern Fleet for Australia. Note that *Toowoomba* and *Burnie* both have the distinctive Type 271 "lantern" above the bridge and *Lismore* and *Maryborough* may have the Type 291 at the masthead. [AWM 304875]



RCN Bangor Class minesweeper with SW1C type radar antenna. [JPROC.Ca]



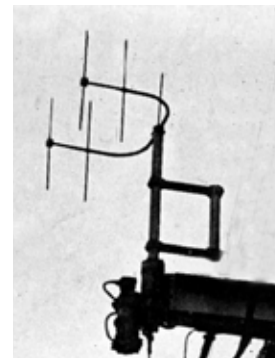
## IDENTIFICATION FRIEND OR FOE

More commonly referred to as IFF, it was an electronic method of communicating between aircraft and radar installations, and vice versa, so that friendly aircraft were identified from enemy aircraft and not fired upon.

British IFF used two designators: Series **Type 240** were interrogators and Series **Type 250** were responders and beacons.

The **Type 242** sat on top of the **Type 271** radar "lantern". I have not discovered a photograph of a Bathurst with **Type 272/A272** radar with such an aerial attached.

However, I have seen what looks like the spindly "hourglass" **Type 253** transponder attached to the foremast directly above the **Type 272/A272**.

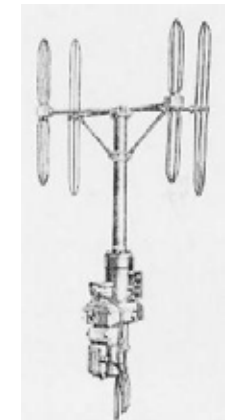


IFF Type 242. [JPROC.Ca]

**A272** radar with such an aerial attached.



The cramped ASDIC hut on the bridge of HMAS Rockhampton. [AWM 108628]



IFF Type 242M. [JPROC.Ca]



# RADIO DIRECTION-FINDER

A conventional crossed loop medium frequency radio direction finder seems to have been fitted in the majority of ships, eventually if not on completion. The favoured position was generally on the centreline directly above, or nearly directly above, the front of the bridge. I have no details as to how this was fitted but some photographs (*Inverell*) indicate that there was some sort of flat "V"-shaped structure projecting slightly forward of the bridge. I do not know where the direction finder was relocated to when the bridges were converted to the open-top type.

I have found no evidence of HF/DF (High Frequency Direction Finding, or "Huff Duff") ever being fitted.



Crossed loop MF RDF.  
[JPROC.Ca]

# RADIOS

The W/T (Wireless Telegraphy) Office was located on the Upper Deck directly forward of the Galley and immediately below the C.O.'s cabin. It was especially sound-proofed, probably not so much to keep the noise generated inside it in as to keep noise generated outside out. It may also have been encased in a copper mesh and lined in timber panelling. I have seen reference to a battery room annexe. A bulky aerial trunk led from the office, up through the Chart Room, under the port side bridge wing exiting just aft of the bridge wing.

## Cottrell states that the radios fitted in 1945 were:

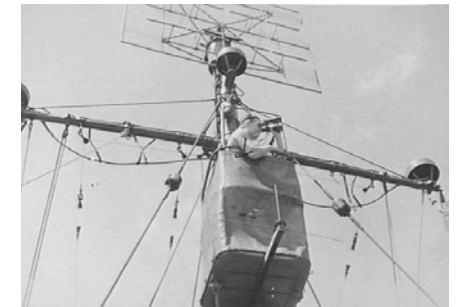
- Three Receivers: AWA (3-206940) (1-C6940) (2-106940)
- Transmitter: AWA 300 Watt (20J5385)
- RT/WT Transmit/Receive Set Type RC 8.<sup>[3]</sup>

According to Ian O'Toole of the Kurrajong Radio Museum, AWA designed a group

of marine receivers in 1940 which were used by the Royal Australian Navy and the merchant marine. There were three main variations. There was a low-frequency (LF) 2-band receiver model, a 4-band medium frequency (MF) model and a 3-band high frequency (HF) model.<sup>[4]</sup>

Within the three groups there were small variations. The various models are identified by numerals placed in front of the C6940, as seen in Cottrell's information.

Cottrell makes no reference to the Talk Between Ships – TBS radios. These series of VHF MCW/RT transmitter/receivers were manufactured between 1938 and 1944 by RCA Victor, Camden N.J. Specifically, the model TBS-6 was released on Aug 25, 1943. This set covered the 60 to 80 Mc range with a power input of 50 watts and operated at 110 volts, DC. Since the TBS operated in a line-of-sight range, a belief prevailed that it was impervious to enemy interception. The antenna was a quarter wave vertical with four horizontal rods to form a ground plane (see *Gympie* photo above).



HMAS *Gympie*'s foremast showing the A286 radar antenna, minesweeping lights. The TBS aerial projects forwards directly under the crow's nest. [AWM 076750]

## Ennotes

1. David K. Brown, *Atlantic Escorts: Ships, Weapons & Tactics in World War II*, Appendix IV (???)
2. Brian Ogle, *The History of HMAS Maryborough: Corvettes in World War II*, p.113
3. H.H. Cottrell, *The HMAS Pirie Story - The story of service in the Royal Australian Navy and the men who served in her*, p.168
4. Kurrajong Radio Museum.



# SHIPS' BOATS & LIFESAVING

The standard fit-out was a 27-foot Montagu whaler to starboard and a motorboat to port, both on quadrantal davits.



Boarding party being lowered in 27 Montagu whaler. Note the tiller is operated by a yoke ahead of the step for the mizzen mast. [wikivisually.com]

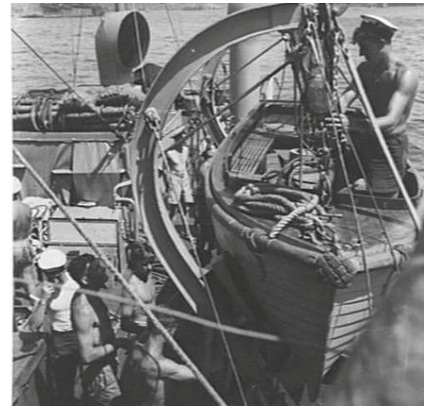


A corvette's 27-foot Montagu whaler waiting at the boat boom. (source unidentified or unestablished)

Rear Admiral Victor Alexander Montagu RN (1841-1915) might not necessarily have designed the whaler named after him but he certainly was the man responsible for seeing it standardised as the Royal Navy's universal ship's boat from the 1890s to the 1960s – testimony to the soundness of its design and construction. Generations of recruits learned basic seamanship rowing and sailing these extremely versatile and seaworthy craft. It had a steel centreplate in a casing and a simple yawl rig with a short mast and a dipping lug mainsail which was loose-footed.

A “three-in-one” whaler of similar dimensions was introduced with an air-cooled engine but it they were heavy and, while the river Class frigates were fitted with them, is not known whether they were ever fitted to corvettes

There are some discrepancies as to the sizes, or sizes, of the motor boat – also described as a motor cutter or motor dinghy – and varying in size from 17'6”, 18-foot and 20-foot according to whichever drawing or description one relies on. Regardless of size, they seem to have all had a



Hoisting out a motorboat, HMAS *Stawell*. [AWM 078148].

10 HP Ford petrol engine – a marinised version of the 1,172cc side-vale (flathead) engine. It may have been fitted with a simple dog clutch and no reverse gear. Petrol cans for this boat were stowed in two separate racks on the deck underneath nearby.

The ships specifically fitted out for survey work (HMAS *Benalla* and HMAS *Shepparton*) had extra motorboats on radial or round-bar davits generally abeam of the aft gun position. A photograph of the port side of *Shepparton* indicates that one of these extra ship's boats was located well aft.

Various combinations of sizes and types of Carley floats appear to have been used. The only standardisation seems to have been one, or most usually two, stowed flat on deck underneath the ships' boats. Presumably during refits and upgrades, extra Carley-type floats were added on steel frames spanning the aft deckhouse and the bulwarks generally abeam the aft gun, clear of the depth charge thrower, its loading davit and the ready-use depth charge stowage rack.

Lifebuoys – mainly circular but some noted as the larger square type, perhaps Denton floats - were located in no particularly standard positions. If there was one generally observed location it was on the side of the signal deck/bridge wing.



Survey Motor Boat “Fantome” from HMAS *Moresby*. [P02305.28]



Carley-type float. [warisboring.com]



9

CAMOUFLAGE

When I first typed in a heading for this subject, I thought I was going to be able to establish that the Bathursts were the subject of RAN Paint Scheme such-and-such and that those colours were so-an-so with official patterns and designations. Now, I'm not saying that they don't, or didn't, exist – just that I have never been able to find anything of the sort. So, RAN camouflage is well camouflaged!

Instead, I have had to rely on Malcolm Wright's excellent work on the subject.<sup>[1]</sup>

Wright's book, together with the many photographs I have looked at, confirm that there were many schemes and little apparent standardisation. Never was this more evident than in the case of HMAS *Benalla* that had a chocolate and green hull and upper-works with a blue deck. Apparently, this was a captain-inspired scheme as *Benalla* was undertaking surveying work and was frequently close to shore. Perhaps the intention was to look like an islet. The concept was not original in that RN ships based at Scapa Flow with land as the background early in WW2 adopted a similar scheme for a while.

Immediately following the entry of Japan into the War, the crew of HMAS *Maryborough* took twelve hours to apply a camouflage scheme of two tones of green.

Basically, camouflage was designed to achieve one, or both, of three things: concealment, confusion or deception.

**Concealment** applied more in a situation such as HMAS *Benalla*. Above. At sea, this was more difficult and a scheme which made a ship harder to distinguish in one sort of light might have had the opposite effect in other lights. Reduced visibility was achieved by painting vertical surfaces to harmonize with the horizon, and horizontal surfaces to blend with the sea.

**Confusion** was achieved by Dazzle style camouflage that used shapes or colours, or a combination of both, to make it difficult to estimate range, speed and bearing. Other methods of achieving confusion was painting a false bow wave so that the enemy would over-estimate a ship's speed. Disruptive camouflage was also designed to break up the outline of a ship making its size and type more difficult to establish by painting obtrusive patterns on vertical surfaces

**Deception** was aimed at making a ship look like something it was not. For example, HMAS *Townsville* had a section of the bow and stern painted black – the bow with a white – dividing slash. The aim of this was to foreshorten the hull and, as such, the enemy would underestimate either the size of the ship or its range. This may have been a one-off experiment as it is the only Bathurst I have discovered with this scheme. Wright says it was unique.

Some camouflage methods attempted to serve both of these purposes. However, a camouflage scheme for one theatre might not be suitable for another. Changing schemes was time consuming – even if the base surface was in good order – and expensive. Paint colours weren't consistent relying on formulae for mixing and the application itself was often open to interpretation and amateurish when done by crew-members rather than professional dockyard workers who weren't guaranteed to get it right anyway. The TLAR – that looks about right – formula was generally applied when it came to painting.

The “pallet” of specified colours for British and Commonwealth warships the most likely to have been specified by the RAN were:

WS B	Bright White
WS	White Western Approaches
B 5	Blue Grey
B 6/B 30	Mid-Grey
B 15	Blue-Black
B 20/G 20	(also a dark blue)
507a/G 10	Dark/ Battleship Grey
507b	Medium Grey
507c	Pale Grey/Mediterranean Grey/Far East Grey
MS1	Olive Black
MS2	Mid Olive
MS3	Slate Green

M4a	Home Fleet Grey
MS4	Brown Olive
RN	Waterline Black
G5/MS1	Grey Black
G45	Light Olive
1941 Blue	
Mid-Blue	
PB10	Blue

There were additional colours not listed here including, strange as it may seem, bright yellows and even red plus three shades of what was called “Mountbatten Pink”. None of these are listed because there is no evidence of any Bathursts having received any of these sorts of colours.

Actual shades of paint varied. Unlike today, when paint comes either pre-mixed and coloured from the factory or coloured at the point of sale to a prescribed shade, ships in RN and RAN service had formulae with which to mix paint.

An example is as follows:

To make 1 cwt of B55 (an un-named mid-grey):

White lead oil paste	40lbs
Blue Black paste	2lbs
Zinc Oxide White	47 lbs
Green paste	2 oz
Liquid dryers	3 pints
Raw linseed oil	9 pints
White spirit	11 pints

Lots of things could go wrong with this, and almost certainly did.

The Admiralty formalised camouflage, as follows:

Admiralty Disruptive Patterns were a wide range of patterns in blues, greys and greens with mottled boundaries between the various colour patches

Admiralty Standard Schemes were light grey overall, except for a sea blue patch low on the hull, either between the main gun turrets or the entire length of the hull. They were much like the American measure 22 (see below).

Admiralty Alternative Scheme was a dark grey hull with light grey turrets and superstructure, as the American measure 2. It was popular in the Mediterranean.

1942 Admiralty Light Disruptive Type: G10, B15, G20, B30, G45, B55

1943 Admiralty Intermediate Disruptive Type: GS, G10, B15, G20, B30, G45, BSS

1943 Admiralty Dark Disruptive Type: GS, G10, B15, G20, B30, G45

Looking at the 740 illustrations in Wright’s book, it is clear that while formalised in theory, the actual execution was subject to local interpretation, the materials available and, to some extent, the whims of commanding officers. With only a few exceptions, no two camouflage schemes are exactly the same.

Insofar as the Bathursts were concerned:

- HMAS *Maryborough* had a disruptive pattern which looks to have been black over predominantly grey – probably 507c Pale Grey, with the top of the funnel black – while in the Mediterranean.
- HMAS *Mildura* had a disruptive scheme of B6/B30 grey angular slashes over the presumably standard 507c Pale Grey.
- HMAS *Horsham* had an unusual scheme of two different tones of rounded shapes over, presumably, 507c Pale Grey.

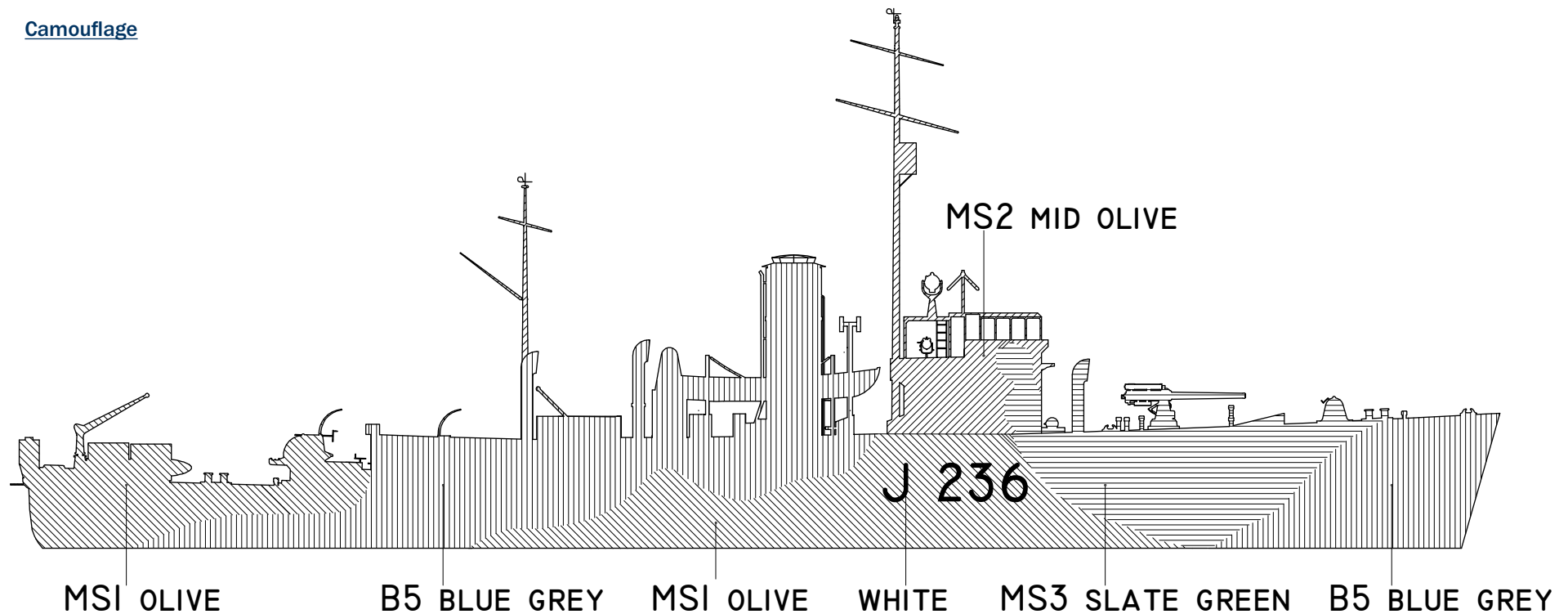
- HMAS *Pirie* had an overall dark blue scheme, which may have been B20/G20 or even PB10, similar to the USN's Measure 11 or 21. There was a similar blue called Chicago Blue – named after the USS Chicago which first tried this out. Pennant numbers were white. When attached to the BPF in early 1945 she had the standard – if one could call it standard because there were variations within this – two-tone camouflage scheme. (see below)
- HMAS *Burnie* had an overall 507c with diagonal bands of B20/G20 with part of the bow and stern in black.
- HMAS *Lismore* had a three-tone scheme when serving in the Mediterranean consisting of one large wavy band from the forefoot to, and

including part of, the bridge in 1941 Blue and two other patches, including the lower section of the funnel, in B5.

HMAS *Kybra*, an auxiliary escort/minesweeper, tried several different camouflage schemes off Sydney being painted four times in three weeks in 1940. It is not known what they were.

I obtained a poor-quality drawing titled: *AMS Vessels, Glenelg, Outline For Camouflage*. It is Plan 420A and has a Cockatoo Island Dockyard stamp on it but I cannot read the date. It shows the port, starboard and deck in simple detail and is redrawn, below:

### Camouflage



I have not been able to discover any photograph of HMAS *Gleneleg* in this configuration.

Royal Navy ships operating in the Eastern Fleet from Trincomalee and Kilindini seemed to favour the two-tone light grey, 507c above a blue panel that could vary from light to dark blue or from bow to stern. Many Bathursts appear in this basic style although the line differentiating the two colours seems to vary from the lower deck level to a short distance below it or to the top of the bulwark.

The BPF standard camouflage was Admiralty Standard Scheme A – a rectangular panel from the boot topping to the weather deck of B20 Dark Blue and every vertical surface 507c.

The US Navy had a number of specifically detailed Measures #1 to 17, 21 to 23 and 31 to 33-33. The ones most often duplicated or copied by RAN ships in the Pacific were as follows:

Measure 11 – Sea Blue System was sea blue overall including the decks. It was used in the Pacific and Mediterranean for concealment from aircraft. During the Battle of the Coral Sea and the Battle of Midway, ships wearing Measure 11 came under attack less often than ships wearing Measure 12. The Sea Blue colour was darkened to navy blue and designated Measure 21.

Measure 12 - Graded System with sea blue low on the hull below the first continuous deck, with ocean grey above that. The top of the masts were painted haze grey. The only visible difference to the later mainly used Measure 22 was that the navy-blue colour was painted parallel to the main deck, whereas with Measure 22 it was painted parallel to the waterline.

Measure 22 – Graded System was navy blue low on the hull below the first continuous deck (painted parallel to the waterline), with ocean grey above that. This bold contrast on a horizontal line near the horizon reduced visibility to surface observers and created the illusion of greater range. This measure largely replaced Measure 12 where aerial observation was unlikely and was used in the Atlantic and European coastal waters from the end of 1942 through the end of World War II.

Except in measures 11 and 21, decks were a blue grey shade.

Measures 12 and 22 were closest in principle to the BPF preferred camouflage. Both were designed to make a ship look further away than it was by darkening the deck/s closest to the water to a colour closest to the water's colour.



HMAS *Whyalla* with survey boat alongside, with extensive use of vegetation to augment camouflage painting scheme. Note the severe disruptive scheme on the survey boat, perhaps HMAS *Polaris*. [www.haber.ba]

I believe that AFO 2106/43 – External & Camouflage Painting, HM Ships, which I have not sighted, only seen referred to, relates, in part at least, to the standardisation of colour shades approved for use in the RAN to supplement the standard service paints.



HMAS *Polaris*. [awm.gov.au]

#### Endnotes

1. Malcolm Wright, *British and Commonwealth Warship Camouflage of WWII*, pp. 21-2, 92, 117-8





10

VARIANTS



An excellent photograph of nine Bathurst Class Corvettes almost certainly taken post World War 2 with HMAS *Deloraine* the only one to be clearly identified. Note the minor discrepancies between the three in the foreground: *Deloraine* has baffles to the bridge front and sides and retains the solid bridge top whereas the two inboard from her have the open-topped bridge with a simple deflector. The Bathurst closest to the pier has an American SG type radar antenna in place of the crow's nest instead of the Type A272 antenna present on the five other corvettes visible. Note also: the flotilla bands on the funnels; the apparent lack of secondary armament in the bridge wings; there seems to be some minor discrepancies in the minesweeping lights on the yardarms (the centre of the front trio having either smaller ones or having lost them completely); the absence of guardrails forward of the breakwater. [State Library of Victoria, Allan Green Collection, H91.250/1208]

As the preceding photograph illustrates, to the casual observer, all Bathursts look the same. I suppose all trains do too – except to trainspotters. However, all fifty-six of what we could reasonably regard as Australia's Bathursts were only fundamentally the same yet there were many visual and material differences. These differences were a function of many factors, not the least of which would have been:

- making do with what was available at the time of their construction
- feed-back from operational experience
- changes of operational requirements
- preferences in builder's own practices
- trial and error

- lessons gained from the learning curve of the production process
- economies of scale from the production process
- availability of new technology and materials

Despite searching, I have been unable to find any official records of what ships were modified, when and in what way. Even having sampled a number of ships' monthly Report of Proceedings I have found nothing specific. For instance, the term, "under refit" did not often say what work was done. I am sure that there are, somewhere, hidden in dusty shelves, maintenance/refit records for each ship. However, what is clear, again from examining very many photographs, are as follows:

- *Bathurst*, *Lismore* and *Maryborough* were the only three completed with, and retained the three-level bridge structure.
  - Originally, they had a small bridge wing/signal deck supported by a pair of braced stanchions without any visible secondary armament although there may have been a stand for a medium or light machine gun (Vickers or Lewis). This deck was accessed via two ladders (one each port and starboard of the foremast) and the upper bridge was accessed via one ladder to starboard, facing aft which is unusual.
  - The bridge wings were extended aft with another stanchion and bracing and a single 20mm Oerlikon installed.
  - The 20-inch signalling projector/searchlight was moved aft on the bridge wings.
- All others had the bridge characterised by the three-sided glazing and the continuous, beam-to-beam, signal deck/bridge wings.
  - Some were completed with a protruding baffle
  - Some were completed without a baffle or were so converted
  - Some were completed with an open-topped bridge with a steel truss frame to accept a tarpaulin or were so converted.
- *Burnie* and *Goulburn*, at least, were completed more or less in accordance with Navy Office Plan No. 137/4/4 (see earlier) in that there are

photographs of each of these ships which indicate that they had, in 1941 at least:

- Smaller and taller signal decks/bridge wings than those that can be regarded as standard and they also had the protruding baffle continued across their fronts
- They either had a 20-inch searchlight on each signal bridge/bridge wing OR one centrally mounted on rails as per that drawing – such detail not being visible in the photographs.
- Weapon fits varied considerably, according to what was available at the time of initial completion and at the various refits. As stated earlier, it has not been possible to determine which Bathursts had what main armament and what secondary armament fitted on completion. What does seem clear is that, initially at least, it was either the 12-pdr 12 cwt QF or the BL 4-inch Mk IX (without a shield) fitted as main armament. While it is considered unlikely that any RAN Bathurst retained its 12-pdr until the end of hostilities, it may have happened with regard to ships operating in relatively low threat areas. While some Bathursts had the 2-pdr QF Mk VIII fitted aft and 20mm Oerlikons in the bridge wings, the more usual fit was to have the third Oerlikon in the aft position replaced, as they became available, by the Bofors 40mm MK III. It is reasonable to conclude that, sometime in 1943, ships being completed had the ideal fit of a main armament of the QF 4-inch Mk XVI on the Mk XX mounting, single 20mm Oerlikons on the bridge wings and the 40mm Bofors aft. Anti-submarine armament by then would have been four depth charge throwers and two depth charge racks.
- A rare photograph – found in a Russian website of all places – shows *Lismore* late in the War in an Australian river – with no A272 radar but with what looks to be a US type SG radar antenna in place of the crows-nest. The 20mm Oerlikons remain on the forecastle deck abaft the now-fitted QF 4-inch Mk XIX, the bridge wings have never been extended aft (like sister-ships *Bathurst* and *Maryborough*) and it appears as though the 20-inch searchlights have been relocated at the forward edge of the bridge wings, the Carley floats under the 27-foot whaler have been moved to the frame where the 20mm Breda was located and the 20mm Oerlikons mounted

abeam of the minesweeping winch seem to have been removed. More curious of all, however, is what appears to be the 2-pdr QF Mk VIII retained on the aft deckhouse where a 40mm Mk III Bofors would have been expected as in sister-ship *Maryborough* (and presumably *Bathurst*) While the weapon is under a canvas cover, its height and general shape and the length of barrel apparent is clearly not that of a Bofors.

- Wright's book states that *Lismore* "had a 12pdr AA aft until all her 20mm were available". I have found no evidence to support this. Further, Wright's illustration is not *Lismore* in that it is one of the 53 Bathursts that followed on from the three of the three-level bridge superstructure versions, of which *Lismore* was one.<sup>[1]</sup>
- Radar fits up until the end of the War could be:
  - None at all until circa 1942.
  - Type SW1-C in *Cairns, Castlemaine, Cessnock, Ipswich, Lismore, Maryborough, Tamworth* and possibly others.
  - Type 291 (*Geraldton* definitely and perhaps *Lismore* and *Maryborough*)
  - Type 271 only (*Toowoomba* and *Burnie*)
  - A272 only
  - A272 and A286
  - A272 and US SG
  - A286 and US SG
- The height of the mainmast was reduced and there appears to have been several variations to this. *Maryborough* lost its mainmast completely in favour of a frame to support wireless aerials.
- The height of the foremast was reduced (topmast removed) for the fitting of Type A286 radar antenna.
- The engine-room ventilation was changed in that it appears that two smaller, side-by-side cowl ventilators and the aftermost pair of the engine-room skylights were removed and replaced with one, larger cowl ventilator.

Even this single cowl varied in height. Studies of photographs clearly show that these modifications applied not only to new builds from a certain date onwards but were applied to refits. Either way, the reason for the change remains unknown. Perhaps it was simply an economy – two hinged skylights and one cowl less. Perhaps it achieved better ventilation.

- The bulwark doors seem to have been removed and replaced with a fourth scupper in many instances.
- Bridge wings had a low, solid dodger with a wire guard rail above and this was sometimes augmented with a canvas dodger fixed to the safety rail.
- Port and starboard navigation lights, attached to the sides of the bridge (except *Bathurst*, *Lismore* and *Maryborough* which were fixed to the sides of the flying/open bridge) were fixed in different positions.
- The searchlight platform sometimes was open and sometimes had a canvas dodger.
- The type, size, number and placement of Carley-type life rafts varied, as did the construction of the light frames that supported Carley Floats between the aft deckhouse and the bulwarks.
- Guard rails were sometimes omitted or removed forward of the forecastle's breakwater.
- The Radio Direction Finder antenna was sometimes missing, sometimes fixed, seemingly, somehow to the bridge roof over the forward-facing glazing, sometimes on a frame projecting forward of the bridge. The reason for this is unknown but may have something to do with signal reception interference.

If we look at HMAS *Maryborough* as an example of how armament/equipment varied:

12 June 1941: At Commissioning, 4-inch BL Mk IX as the main armament. Secondary armament consisted of rifle-calibre (.303") Vickers – number unknown. It is safe to assume that this included at least one Vickers Medium Machine Gun (MMG) mounted on the centreline at the after end of the forecastle deck. It may have included a similar weapon on each of the bridge

wings but they were mainly occupied by the 20-inch searchlights. She may have had Lewis gun, or paired Lewis guns available to be fitted, as required, ahead of the searchlights.

13 December 1941: At Singapore, 2-pdr QF Mk VIII fitted in place of the Vickers MMG.

30 January 1942: Ogle makes reference to “double .5 Bredas” assumed to be Breda-SAFAT 12.7 Heavy Machine Guns (HMG). These would have been captured Italian weapons but how and when they came to be fitted is unknown. Ogle refers to fears that the “*maniacal gun would sweep the pom-pom deck*”<sup>[2]</sup> For this risk to be apparent it/they must have been mounted somewhere in the waist. There's a reference, 26 February 1942, to a “*forward Breda*”.<sup>[3]</sup> I cannot see how a forward Breda would threaten the aft pom-pom. These weapons were very much a stop-gap, use-what's-available, what can be scrounged answer to the attacking aircraft problem and were probably discarded when ammunition was exhausted. [?]

17 August 1942: At Birkenhead, South Australia Oerlikons fitted port and starboard in the bridge wings which must have been extended aft, in effect doubled in size, to accommodate them.

April 1943: At Colombo, radar fitted. Ogle says “*extra Oerlikon .5 anti-aircraft guns were fitted*”.<sup>[4]</sup> There is a contradiction here because Oerlikons were 20mm not half-inch calibre. Where were they fitted? See the next entry. DF (radar) was also fitted with an antenna at the fore (masthead) and a steel structure 6 feet x 6 feet x 7 feet was located above the galley, near the mast to contain the equipment. Given that it was Colombo, it is safe to assume that this was not an Australian radar but, as photos would indicate, a Canadian SW1C or a hotchpotch of a Type 286 with a SW1C look-alike antenna.

15 May 1943: At Port Said, single 20mm Oerlikons fitted port and starboard on the upper deck near the minesweeping winch. Breda-SAFAT 12.7 (HMG) fitted abaft the funnel. A postcard in Ogle's book titled “*Entering Alexandria Harbour May 1943*”, and signed by all of *Maryborough's* officers, shows the ship in a distinct two-tone camouflage.<sup>[5]</sup> The bridge wings have definitely been lengthened but it is not possible to distinguish any armament on the bridge wings. However, the 20-inch searchlight does seem to have been moved aft.



HMAS *Gawler*. Note the A286 antenna is mounted aft of the mainmast. Note the ladders giving access to the signal deck and bridge. [navy.gov.au]

This may have freed up space for what Ogle referred to as the “forward Breda”. The 2-pdr pom-pom is evident as are 20mm Oerlikons aft of the bulwarks, about abeam of the minesweeping winch. It is possible to just make out the SW1C type antenna.

30 December 1943-1 April 1944: At Durban, South Africa: the 4-inch BL Mk IX replaced by 12-pdr 12 cwt QF. The 4-inch was near useless as an anti-aircraft weapon and the 12-pdr, although equally ancient, was frequently used in destroyers in place of the aft bank of torpedo tubes to augment anti-aircraft fire.

6-16 February 1945: At #16, Wharf, Darling Harbour, Sydney the 12-pdr 12 cwt

QF fitted in Durban was replaced by a QF 4-inch Mk XIX – presumably on the standard CP Mk XXIII.<sup>[6]</sup> The 2-pdr pom-pom may have been replaced a 40mm Bofors Mk III at this time or at the later refit, below. Type 272 (A272?) radar fitted and the steel structure fitted at Colombo was removed. At some stage the SW1C type antenna was replaced with what was either the Type A286 or SC air-warning radar antenna. That probably took place at the same time the Type 272 was fitted. An Australian War Memorial Photograph (304875) attributed to Colombo November 1944, shows *Maryborough* and *Lismore* and the caption states they are fitted with Type 291 radar antenna.

4 April 1945: At Birkenhead, South Australia: It is unclear what equipment/armament upgrades took place here. There is a contradiction between Ogle and the Naval Historical Society’s account.

The photographs of *Maryborough* visiting her namesake on 6 Dec 1945 clearly confirm that the armament and radar fit was:

- 1 x QF 4-inch Mk XIX
- 1 x 40mm Bofors Mk III
- 4 x 20mm Oerlikons (4 x 1)
- Type 272 / A272 surface warning radar
- Type A286 / SC air-warning radar

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#### Endnotes

1. Malcolm Wright, *Malcolm, British and Commonwealth Warship Camouflage of WWII*, p. 117
2. Brian Ogle, *The History of HMAS Maryborough: Corvettes in World War II*, p.43
3. Ibid, p.60
4. Ibid, p.113
5. Ibid, pp. 152-3.
6. Ibid, p.182



11

THE DRAWINGS

# BACKGROUND

The drawings in this book have all been prepared by me using AutoCAD – a computer-aided drawing program used worldwide and, for some time, probably the bench mark for this application.

The process to create what I think of as the base drawing commenced with methodically scaling off a nominal 1:50 drawing obtained from Australia's Department of Defence #a-0146151: Bathurst Class Minesweeper, Profile, Upper Decks and Sections. I say "nominal" because although this drawing is stated as being to a scale of 1:50, the actual scale is 1:48.29. That is, by measuring the exact length of the ship on the drawing in millimetres and fractions thereof, and then dividing this into the known length in metres and fractions of a metre, the ratio is 1 to 48.29. This has occurred probably due to some sort of incomparability when reproducing the actual drawing on a large enough, standard sized sheet of paper. Also, I have experienced the difficulties created by humidity when drawings shrink and expand overnight.

I then created a new set of drawings – starboard profile and deck plan - based on the measurements taken and adjusted for the difference in scale. Unusually, the Department's drawing has a 27/4/89 date on it. I must assume, therefore, that since no Bathursts were in service at that date, it was an exercise to test, perhaps, a student-employee or simply to give someone something to do in some naval drafting section of the Department. To recreate a drawing of a 1939 warship, fifty years later, makes no other sense. Irrespective, the drawing lacks some detail and represents a Bathurst in its earliest level of service as no secondary armament is shown.

Similarly, the drawing of HMAS *Geelong* in Ross Gillette's "*Warships of Australia*" – which measures only 190mm on deck - was scaled also and this served as a check that the measurements derived from the 1:50 scale drawing were reasonable and provided some of the missing or ambiguous detail. The internet provided a few indistinct drawings which, with many similarly sourced photographs, contributed to the bank of knowledge – or, rather, emphasised the paucity of that bank from time to time.

I have a large library of naval-related books and, over time, have built up a CAD drawing library of various standard items such as ships' boat, weapons, searchlights and the like – following the same "scaling off" method described above. When I have transposed these to the many drawings, I may have lost my record of the original authorship so I have included those books with drawings to which I am particularly indebted but which do not necessarily have a direct bearing on the Bathurst class corvettes.

Another drawing I used, I cannot say I relied upon, was John Lambert's 1977 version of HMAS *Bendigo*. (L/S/11), redrawn from "*Admiralty As Fitted Plans as supplied by the National Maritime Museum Greenwich London*". His drawing is at 1:192 (1/16-inch to the foot) scale and, while a poor-quality print and one of John's earlier works, both complimented some information and confused other. A lack of labelling was a frustration. The drawing shows the subdivision of the W/T Office although the detail is obscure at this scale. The bridge wings are unusual in that the aft faces are curved – something I've not seen elsewhere – and the bridge canopy finishes in a straight athwart-ship line rather than the cranked line shown on other drawings.

Photographs are at once as useful as they are frustrating. While a pennant number will prove identity, the point in time when the photograph was taken will often be unknown or, in some cases, ambiguous.

Typically, of most photographers – professional and amateur – the slightly bow-on view of a ship always presents best and, usually being taken from below deck level, looking up, the resultant photograph leaves us with more of an impression of the ship than an accurate record of its detail. Photographs taken from a stern-on position are quite rare, by comparison, and quite often the clutter aft on the Bathursts makes it difficult to discern detail other than the obvious – such as the presence of minesweeping davits. Even this could be ambiguous as it appears some, perhaps all, of them had a folding capability and, while fitted, may have been stowed in a folded or disassembled state.

Therefore, a lot of what appears on the drawing, while common to some ships may not have necessarily been present on the one shown in a particular drawing. It appears that there was a lot of leeway given to the various builders

at both the time of construction and at the various refits. Some aspects of the drawings are conjecture born of imagination coupled with a fair dose of practical engineering and marine experience. If readers can shed light on any grey areas, I would be only too happy to make corrections in a future edition.

## NAVY OFFICE PLAN

### No. 157/4/4

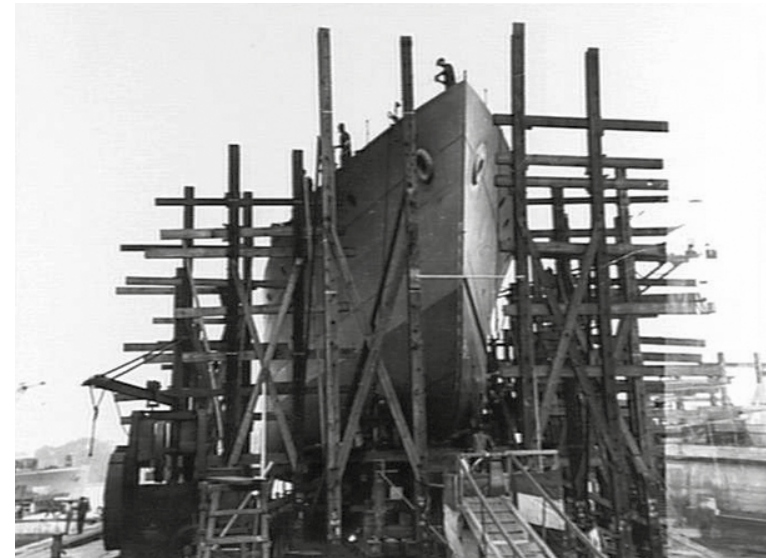
The Royal Australian Navy History Section kindly emailed me a photo-reduced copy of a 1/48<sup>th</sup> scale drawing titled “Navy Office Melbourne drawing Plan No. 157/4/4 dated 9/10/40, Australian Anti-Submarine & Minesweeping Vessels” and followed this up by sending me a disk with the drawings. When reproduced on A3 sized paper they equated to a 1: 150 scale. The drawings provided a starboard profile with hatched lines showing decks and compartments and plans for the forecastle deck, upper deck, lower deck and hold. They confirmed that the frame spacing were at 24-inch (609.6mm) centres.

The drawings are unusual in many respects:

- The first two Bathursts had already been launched and the third was not far from launching (the three-level bridge flotilla leader types) and the first of the remaining 57 standard Bathursts was well under construction yet there is no mention of “Bathurst” class in the drawing’s title.
- The bridge has an unusual arrangement for stowing the 20-inch searchlight midships directly in front of the mast and moving it to either bridge wing on athwart-ship rails, whereas the normal position for this searchlight, when fitted, was on a platform above the bridge canopy. The bridge wings are, as a result, smaller and there is no apparent provision for a 10-inch signalling projector or any form of light anti-aircraft armament.
- The wind baffle continues across the front of the bridge wings – also never apparent in photographs.
- The W/T office is not detailed at all and not sub-divided as other

somewhat sketchier drawings I have seen would seem to indicate.

- The Department of Defence drawing #a-0146151 does not show any secondary armament, nor does the drawing of Geelong, whereas this drawing shows a “2 pdr QF Mk VII” aft. Even if this was meant to have been a Mk VIII, the earliest record I could find of one of these weapons being fitted was over a year after the date of this drawing on 13 December 1941 when HMAS *Maryborough* had one fitted in Singapore.
- Ready Use (RU) lockers are shown on the forecastle deck in front of the bridge whereas other drawings have always shown line/warp reels in those positions.



HMAS *Bathurst* prior to launching [AWM 004272]



NAVY OFFICE MEMORANDUM  
PLAN N° 157/4/4  
S.E.S.

AUSTRALIAN

ANTI-SUBMARINE &

MINESWEEPING VESSELS.

LENGTH B.P. 180 - 0

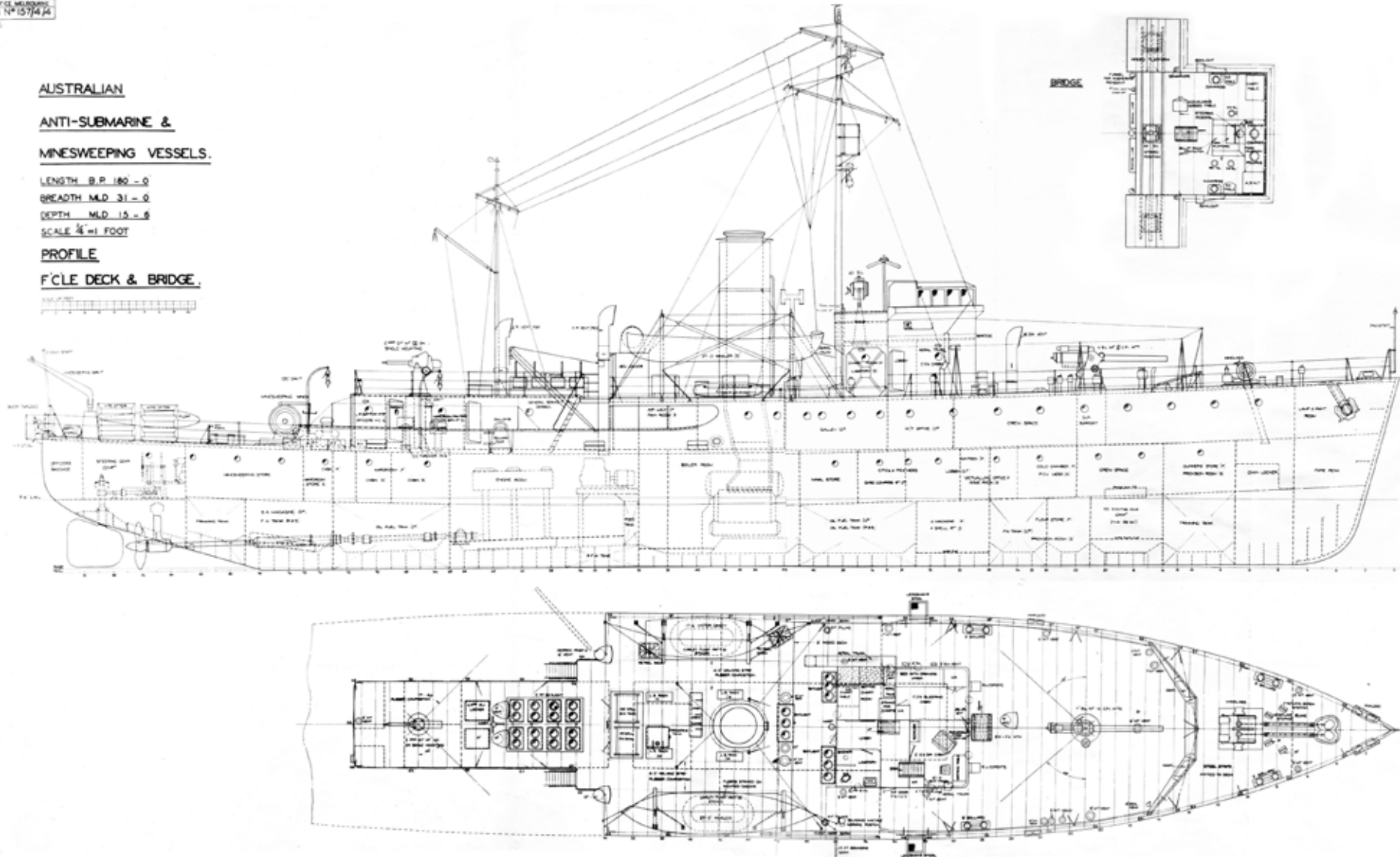
BREADTH M.D. 31 - 0

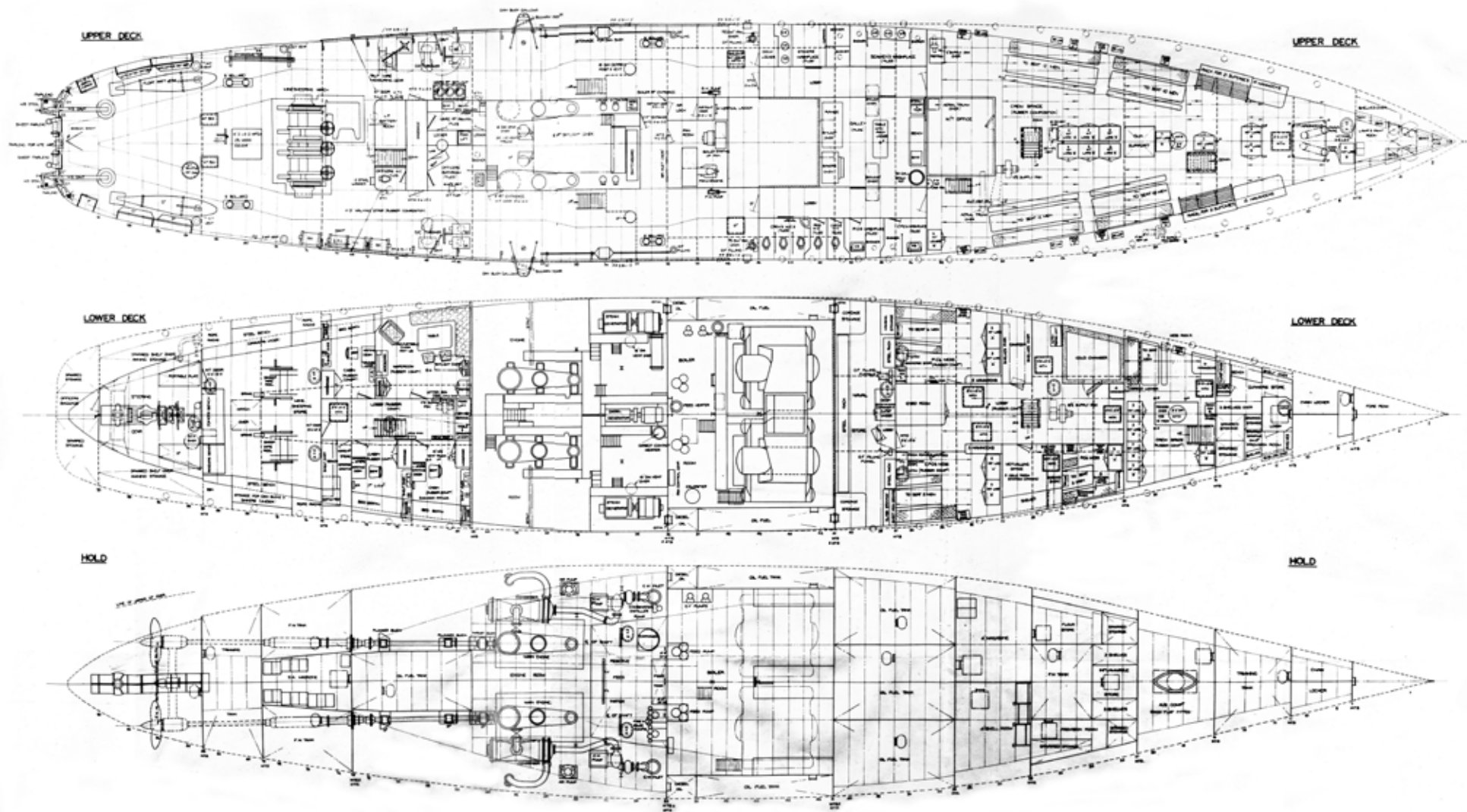
DEPTH M.L.D. 15 - 8

SCALE 1/4" = 1 FOOT

PROFILE

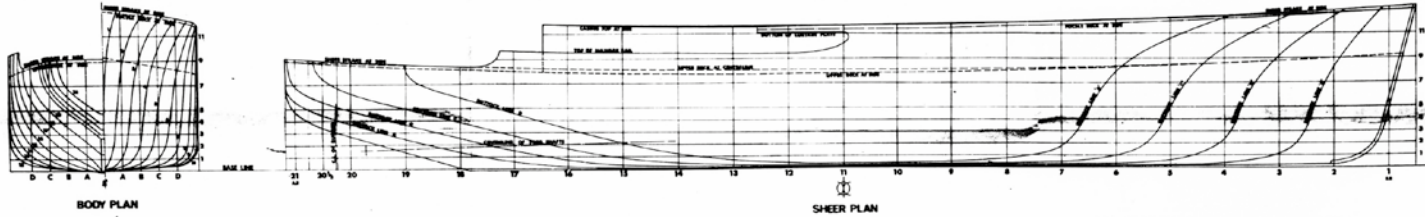
F'CLE DECK & BRIDGE.



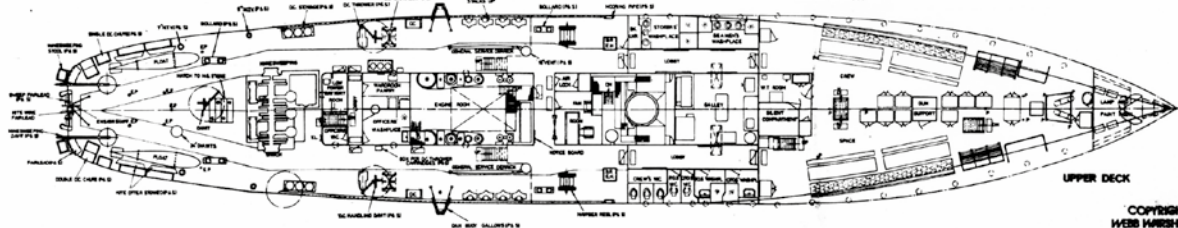
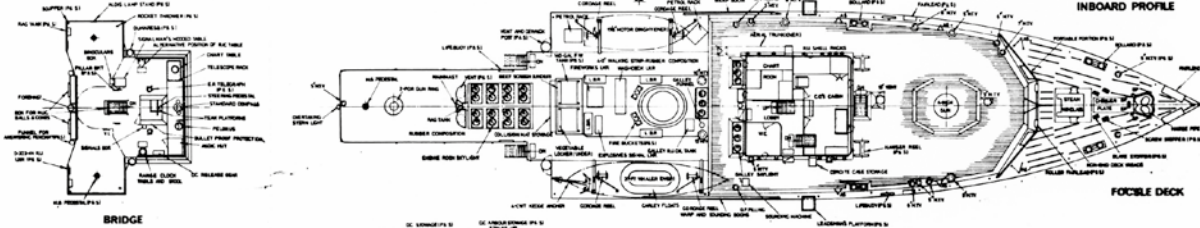
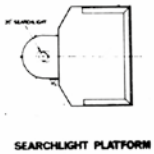
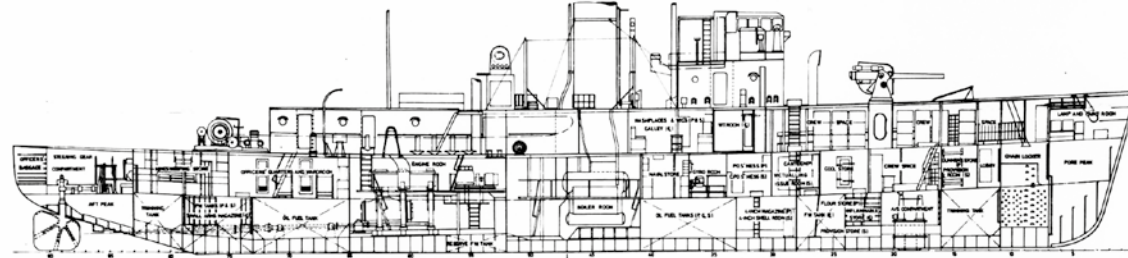
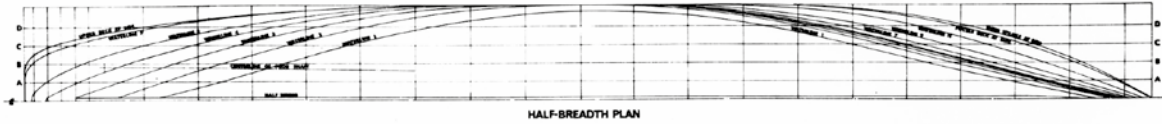


# H.M.A.S. GEELONG

SHEET 2: LINES, DECKS and INBOARD PROFILE  
 SCALE: 1-inch = 8-feet (1:96)



- Length between perpendiculars 180-0-ft
- Length overall 189-3-ft
- Moulded breadth 31-0-ft
- Station spacing 9-0-ft
- Buttock line spacing 3-0-ft
- Waterline spacing 2-0-ft
- Rake of keel, fp. to aft 1-0-ft
- Sheer forward 3-8-ft
- Sheer aft 2-2-ft



- ABBREVIATIONS
- AS APPOINTING STAIRWICHON
  - BR BOILER ROOM
  - DC DEPTH CHARGE
  - EH ESCAPE HATCH
  - EP EYEPLATE
  - ER ENGINE ROOM
  - LR LIFEBELT RACK
  - LD LOCKER
  - MTV MESSROOM TOP VENT
  - P PULLEY
  - RU READY USE
  - VL VERTICAL LADDER WITH WATER TIGHT HATCH

DRAWING NO. 2114/28

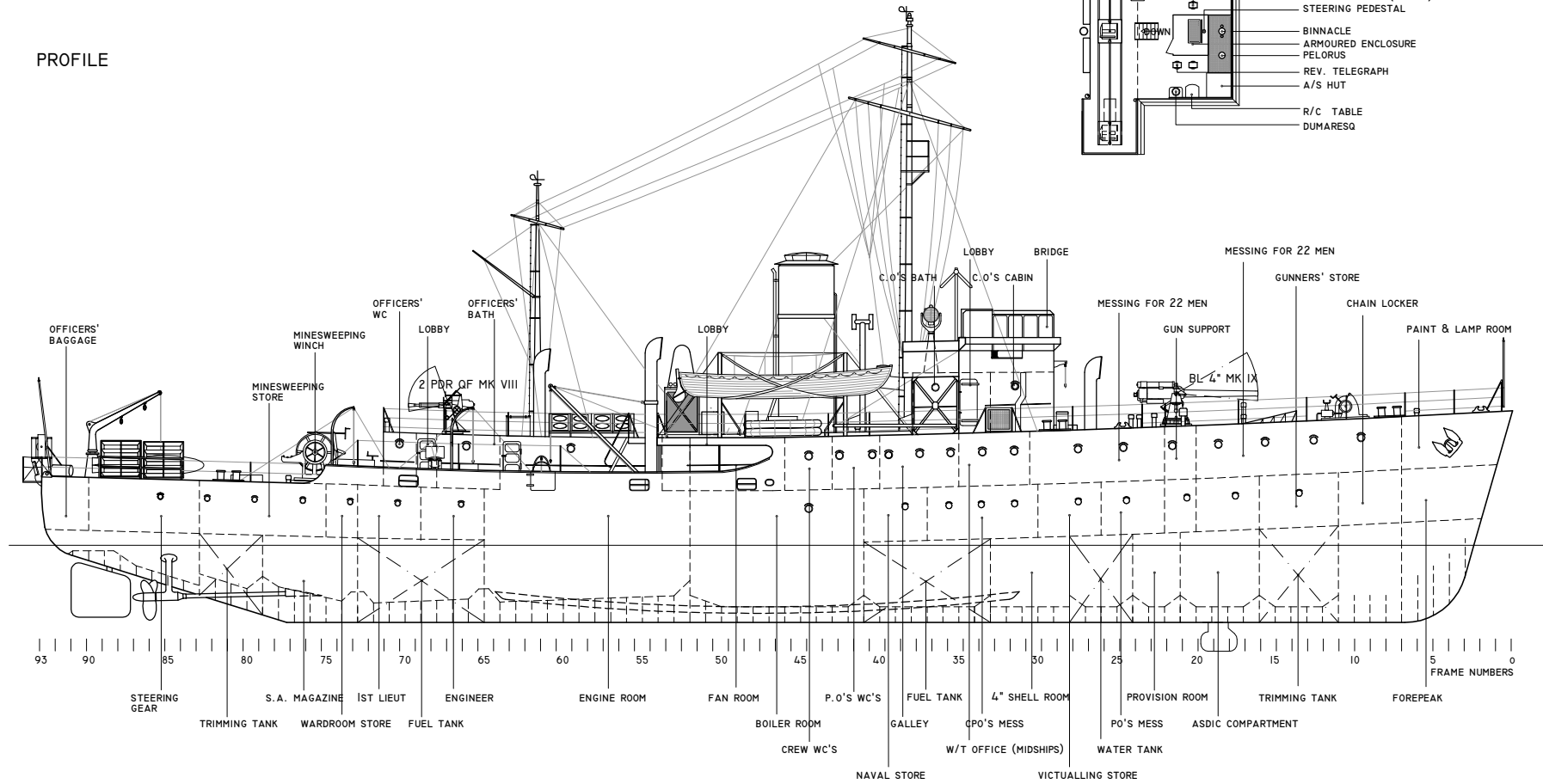
COPYRIGHT © 1977  
 WEBB PARSONS PTY LTD  
 S.L. 2114/28/77

A drawing by the late Paul Webb

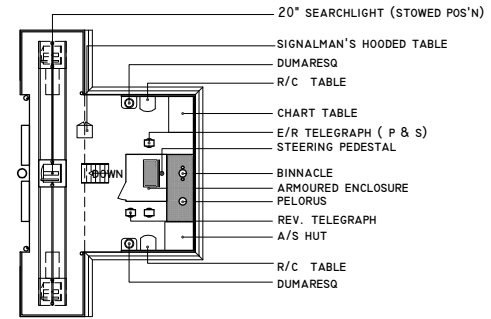
Found on-line I would like to have been able to acquire. It would have been most useful since the one shown does not reproduce clearly.

Re-creation of:  
**NAVY OFFICE MELBOURNE**  
**PLAN No 157/4/4**  
**9.10.40**  
**Australian Anti-Submarine & Minesweeping Vessels**

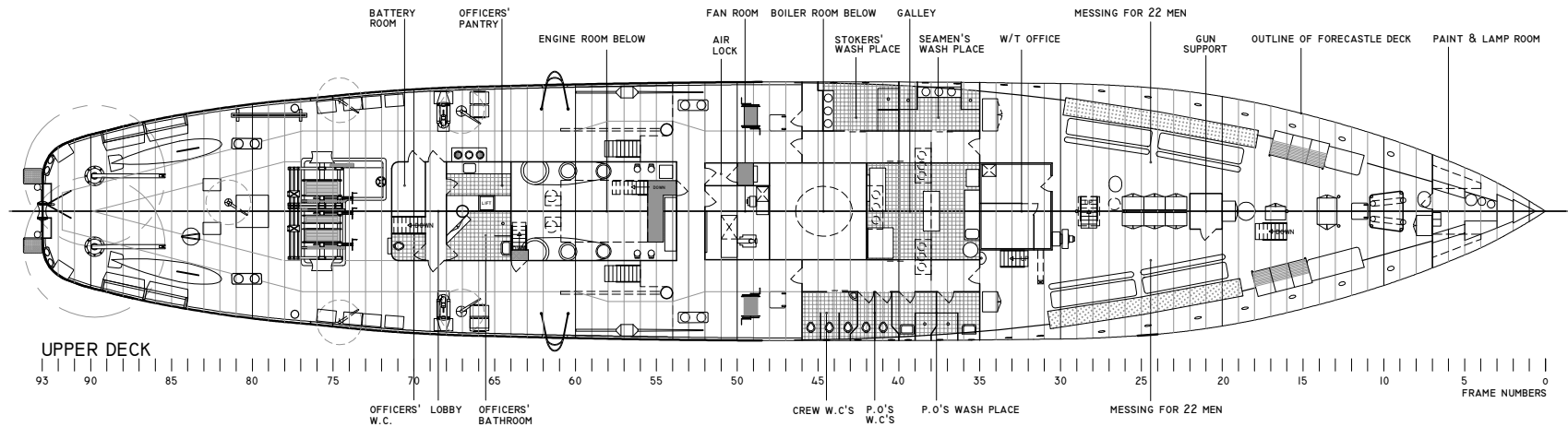
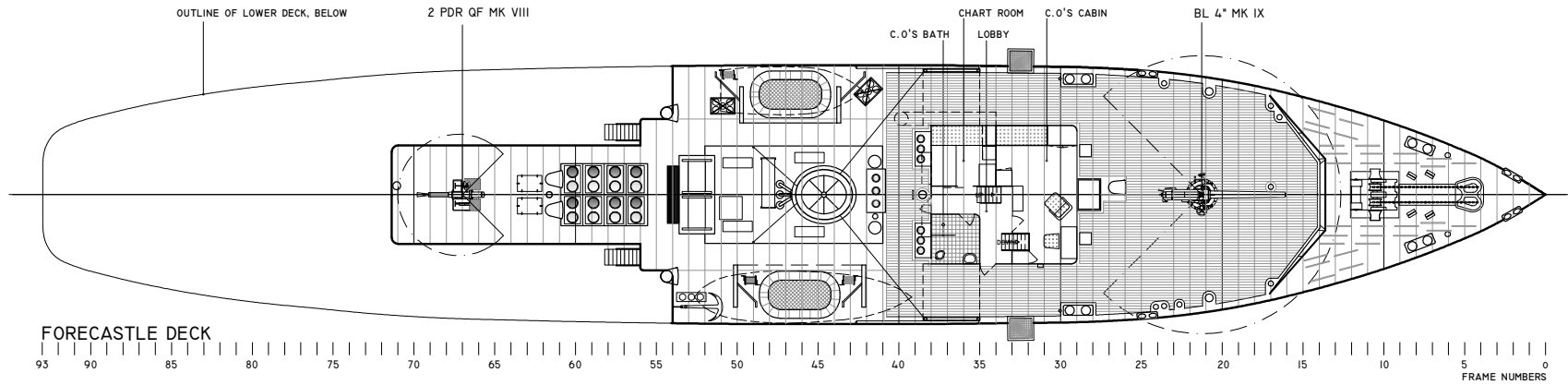
PROFILE



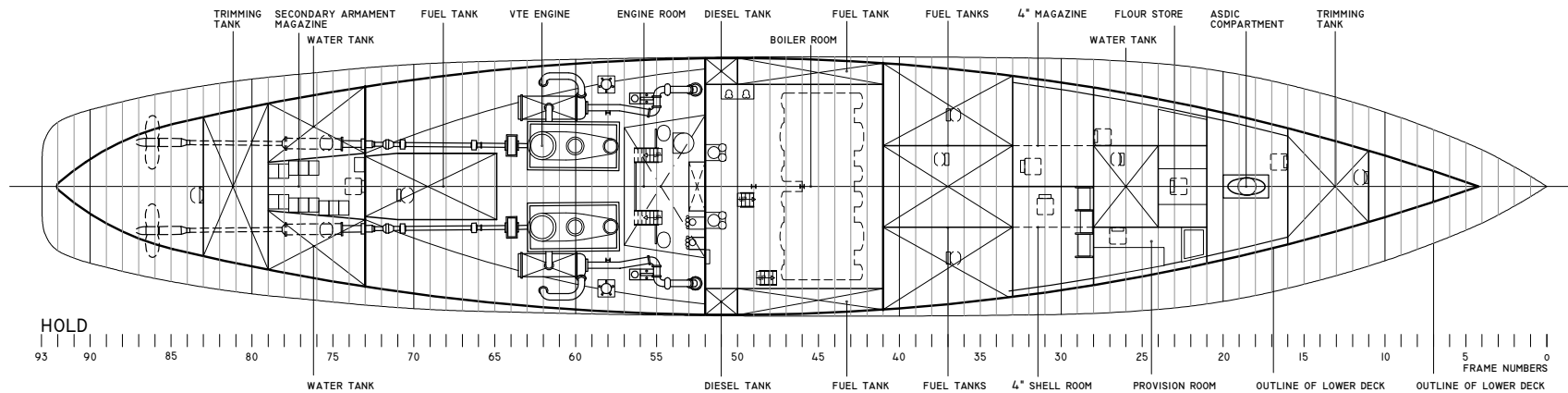
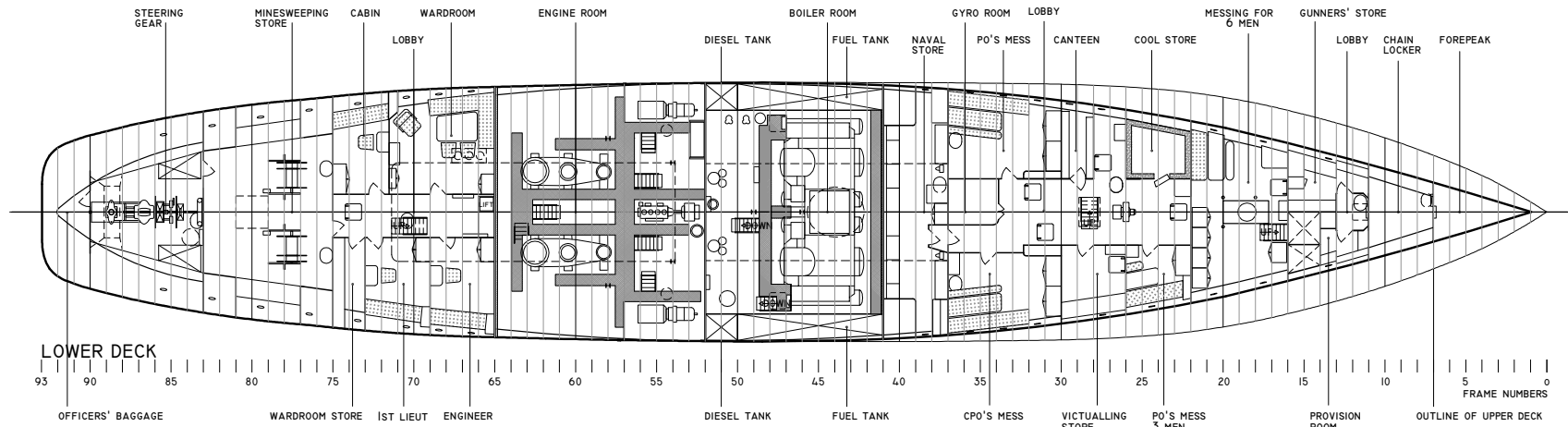
BRIDGE



Re-creation of:  
**NAVY OFFICE MELBOURNE**  
 PLAN No 157/4/4  
 9.10.40  
 Australian Anti-Submarine & Minesweeping Vessels



Re-creation of:  
**NAVY OFFICE MELBOURNE**  
**PLAN No 157/4/4**  
**9.10.40**  
**Australian Anti-Submarine & Minesweeping Vessels**





12

INDIVIDUAL SHIPS'  
DRAWINGS: A CROSS-  
SECTION

# HMAS *Bathurst*

*Bathurst* was typical of only three of the sixty ships to which her name was, finally, attributed.

No detailed drawing was available for *Bathurst* or her sister-ships, *Lismore* and *Maryborough*. However, the differences between these three and the fifty-seven that followed were, essentially, related to the superstructure. The three-level bridge with an open-topped bridge above a wheelhouse and chartroom may have been a deliberate design requirement with each of these ships envisaged as flotilla leaders – the better command facilities offered with a higher and open bridge perhaps being seen as an advantage.

Note the following:

- The World War 1 era cruiser-style bridge structure with enclosed wheelhouse and chartroom with the open-topped bridge above.
- The 20-inch searchlight in what would be termed each of the bridge wings.
- The external inclined ladders from the forecastle deck to the bridge wings and from the bridge wing to the open bridge itself.
- The taller funnel to clear the taller superstructure.
- No gun shield is fitted to the 4-inch BL Mk IX.
- There is no secondary armament fitted.
- Apart from these, the total duplication of the “standard” *Bathurst* design insofar as the general arrangement is concerned.



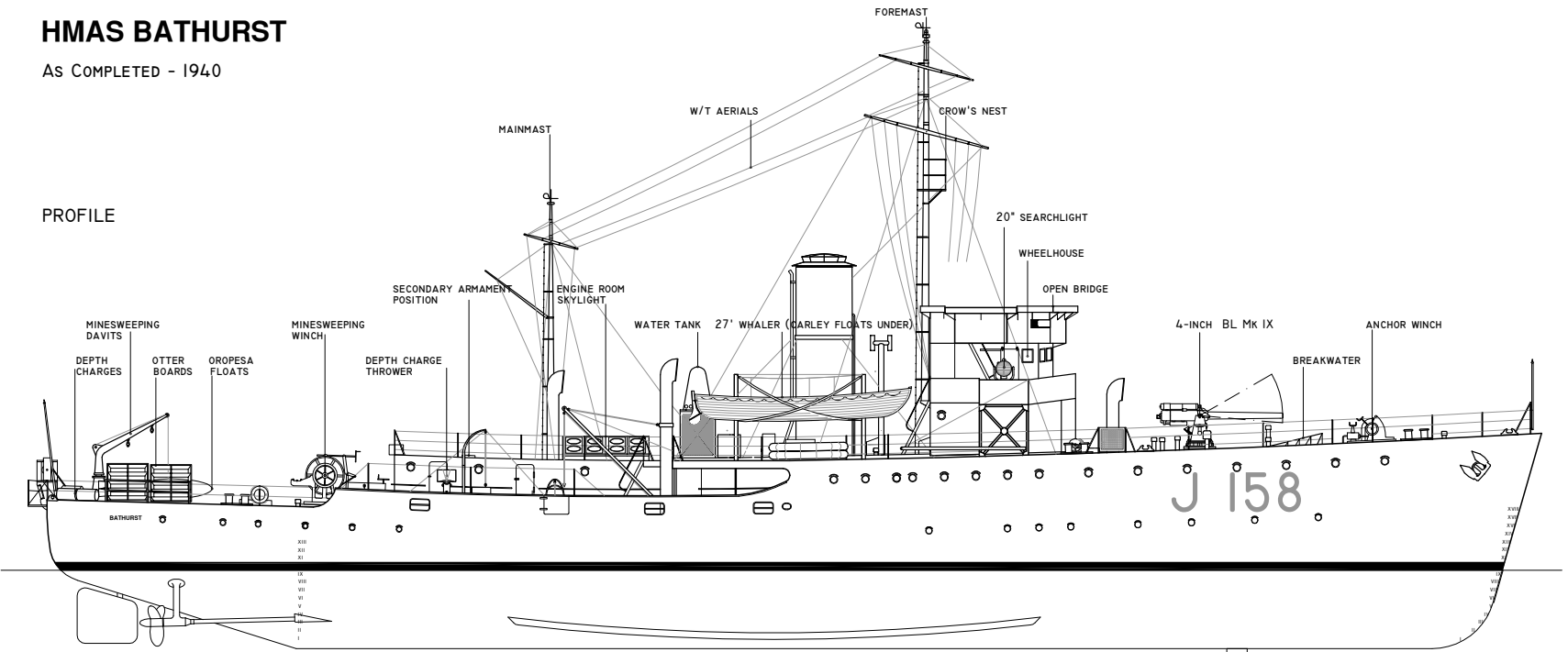
*Bathurst* under builder's trials on 5 December 1940 with Red Ensign flying, and not HMAS as not yet commissioned. [navy.gov.au]



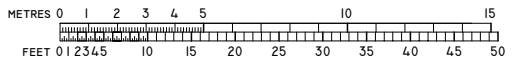
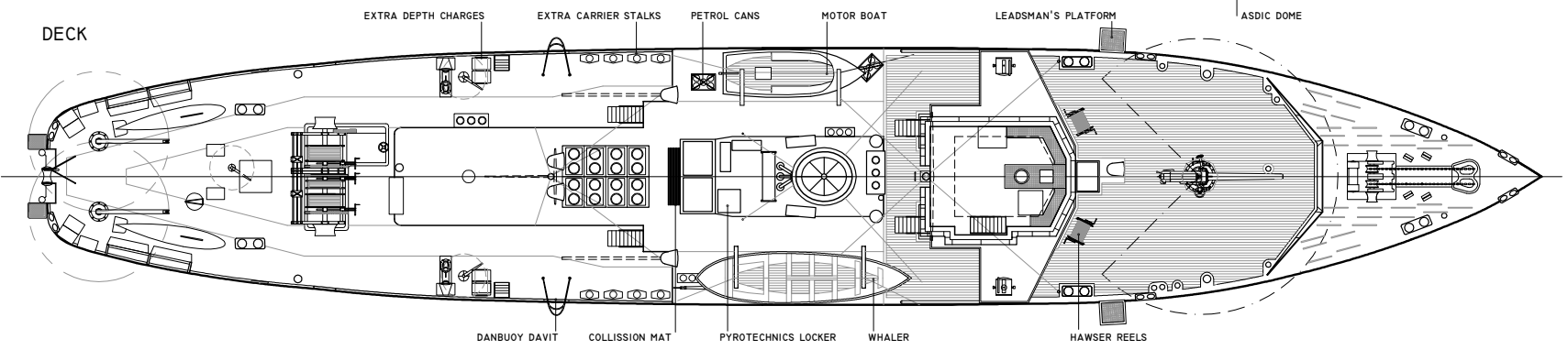
# HMAS BATHURST

AS COMPLETED - 1940

PROFILE



DECK



# HMAS *Lismore*: 1943

*Lismore* was the second Bathurst commissioned. Despite a paucity of photographs, and those that are available being of poor quality, *Lismore* is of interest. The drawing shows how she was modified, at least in her 1943 state.

Note the following:

- The 4-inch BL Mk IX is retained it is now fitted with a shield. I have not seen a photograph of this but there is a record of it being so fitted.
- There are single 20mm Oerlikons on what appear to be the fixed-height, pedestal-type Mk IIA or IIIA mountings, port and starboard immediately aft of the 4-inch mounting.
- The bridge wings have lost the 20-inch searchlights but have the 10-inch signal projectors in their place.



One of the few photos of HMAS *Lismore*. The 4-inch BL Mk IX is without a shield but 20mm Oerlikons are present on the foredeck, forward of the bridge structure. [navy.gov.au]

- A single .303-inch Lewis LMG is fitted to each bridge wing front.
- The antenna at the top of the foremast appears to be a Canadian-originated Type SW1C.
- Extra Carley floats are fitted aft of the ship's boats.
- Captured 20mm Breda Model 35's are mounted, port and starboard on a frame abeam the mainmast.
- The 2-pdr QF Mk VIII is still fitted aft of the mainmast.
- The mainmast has been reduced in height.
- There are single 20mm Oerlikons on what appear to be the fixed-height, pedestal-type Mk IIA or IIIA mountings, port and starboard abeam and slightly aft of the minesweeping winch.

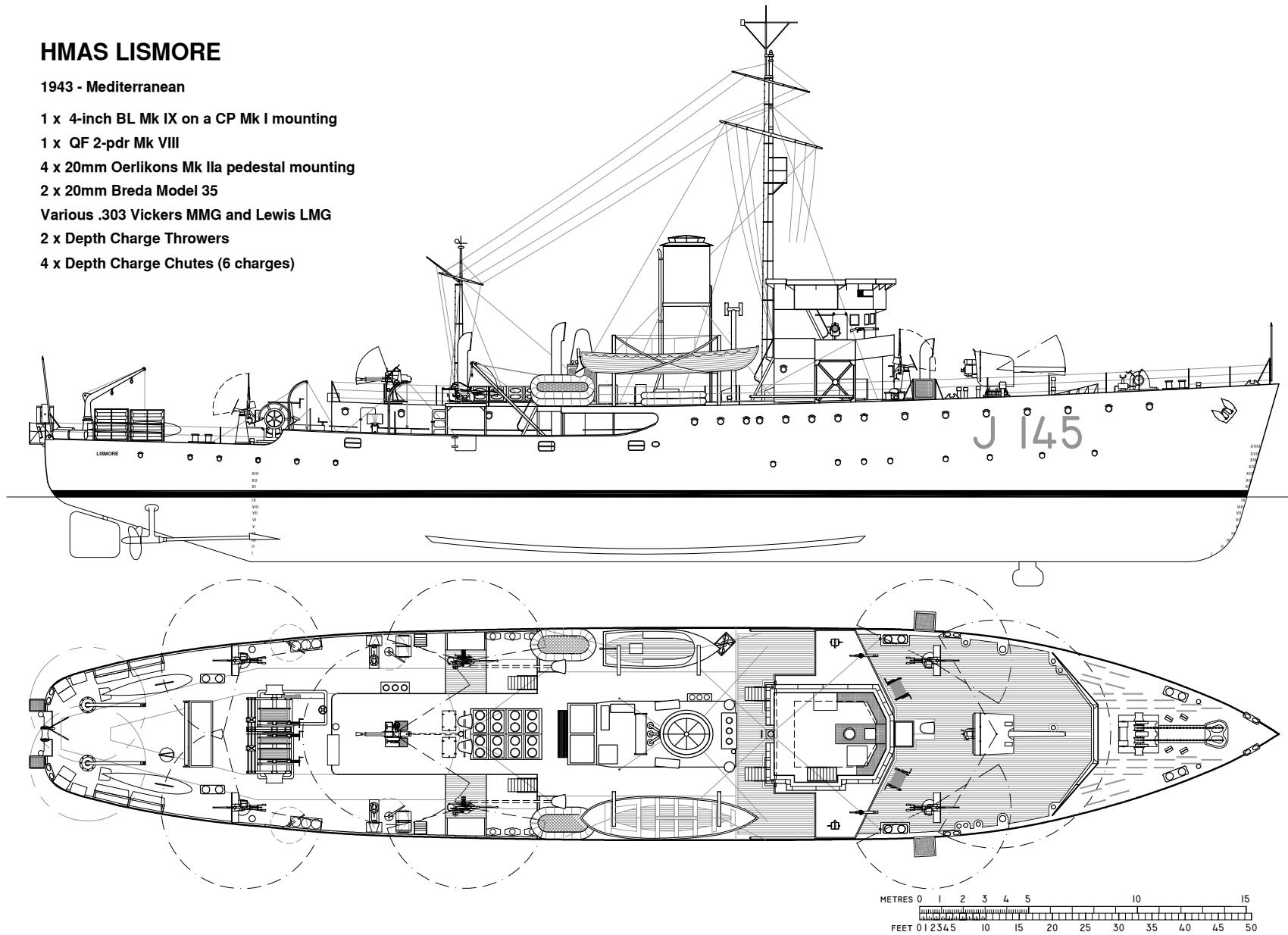


HMAS *Lismore* in the Mediterranean in 1943, probably alongside HMAS *Maryborough*. The SW1C type antenna is shown. [navy.gov.au]

# HMAS LISMORE

1943 - Mediterranean

- 1 x 4-inch BL Mk IX on a CP Mk I mounting
- 1 x QF 2-pdr Mk VIII
- 4 x 20mm Oerlikons Mk IIa pedestal mounting
- 2 x 20mm Breda Model 35
- Various .303 Vickers MMG and Lewis LMG
- 2 x Depth Charge Throwers
- 4 x Depth Charge Chutes (6 charges)



# HMAS *Lismore*: 1945

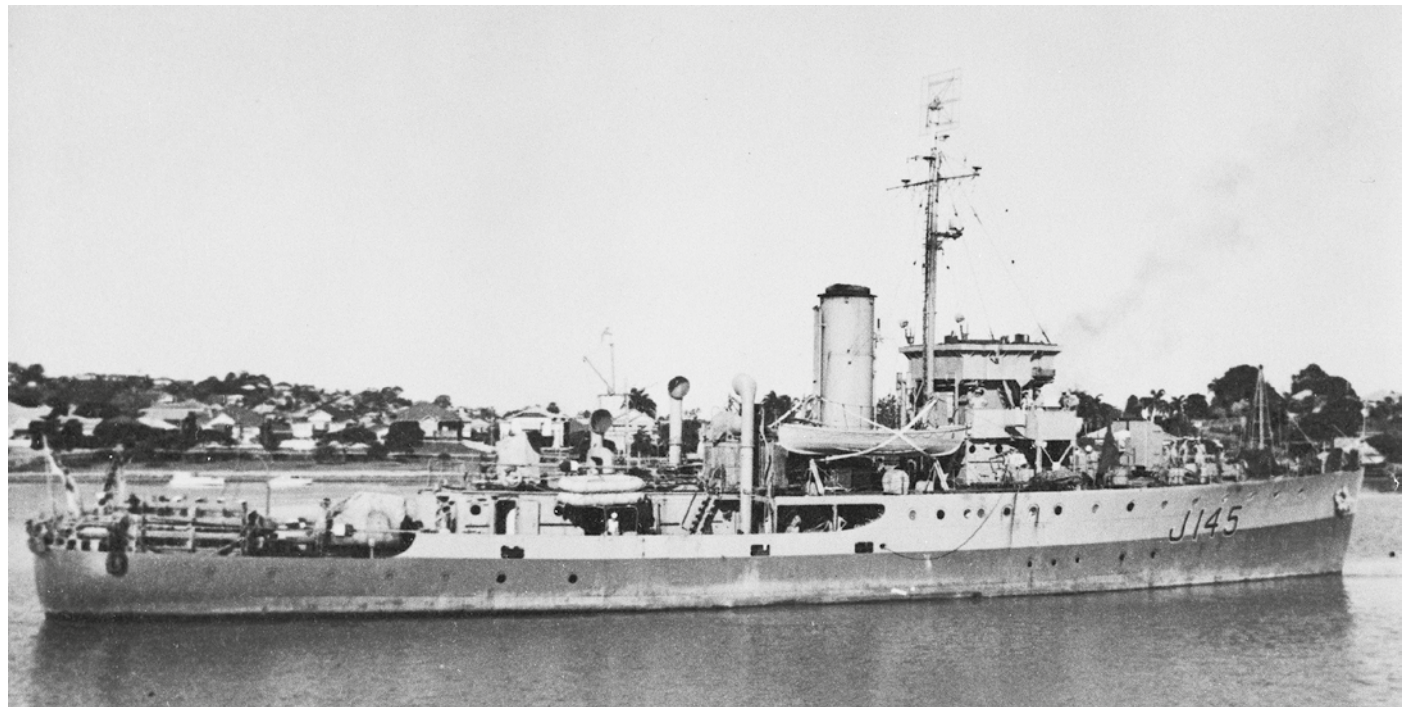
The next drawing shows *Lismore* as she appeared in 1945 with various modifications that had taken place since she returned to Australia.

Despite a lack of photographs *Lismore* is another Bathurst of interest and is illustrated for the following reasons:

- The 4-inch BL Mk IX has been replaced by the QF 4-inch Mk XIX on a Mk XXIII mounting.
- The 2-pdr QF Mk VIII appears to have been retained. This is most unusual as the more common replacement was, initially at least, the 20mm Oerlikon and, later, the far more effective 40mm Bofors. Why *Lismore* retained the obsolete 2-pdr is a mystery.
- The single 20mm Oerlikons are retained, port and starboard immediately aft of the 4-inch mounting.
- The bridge wings have lost the 20-inch searchlights but have the 10-inch signal projectors in their place.
- Loud hailers are fitted on stands, port and starboard above the open bridge.
- The antenna at the top of the foremast is now the Type A286.
- Instead of the A272 fitted above the open bridge there is an

American SG antenna on the foremast.

- The captured 20mm Breda Model 35's have been removed.
- Extra Carley floats are fitted aft of the ship's boats.
- The mainmast has been reduced in height yet again to a simple frame supporting WT aerials.
- The single 20mm Oerlikons are retained, port and starboard abeam and slightly aft of the minesweeping winch.

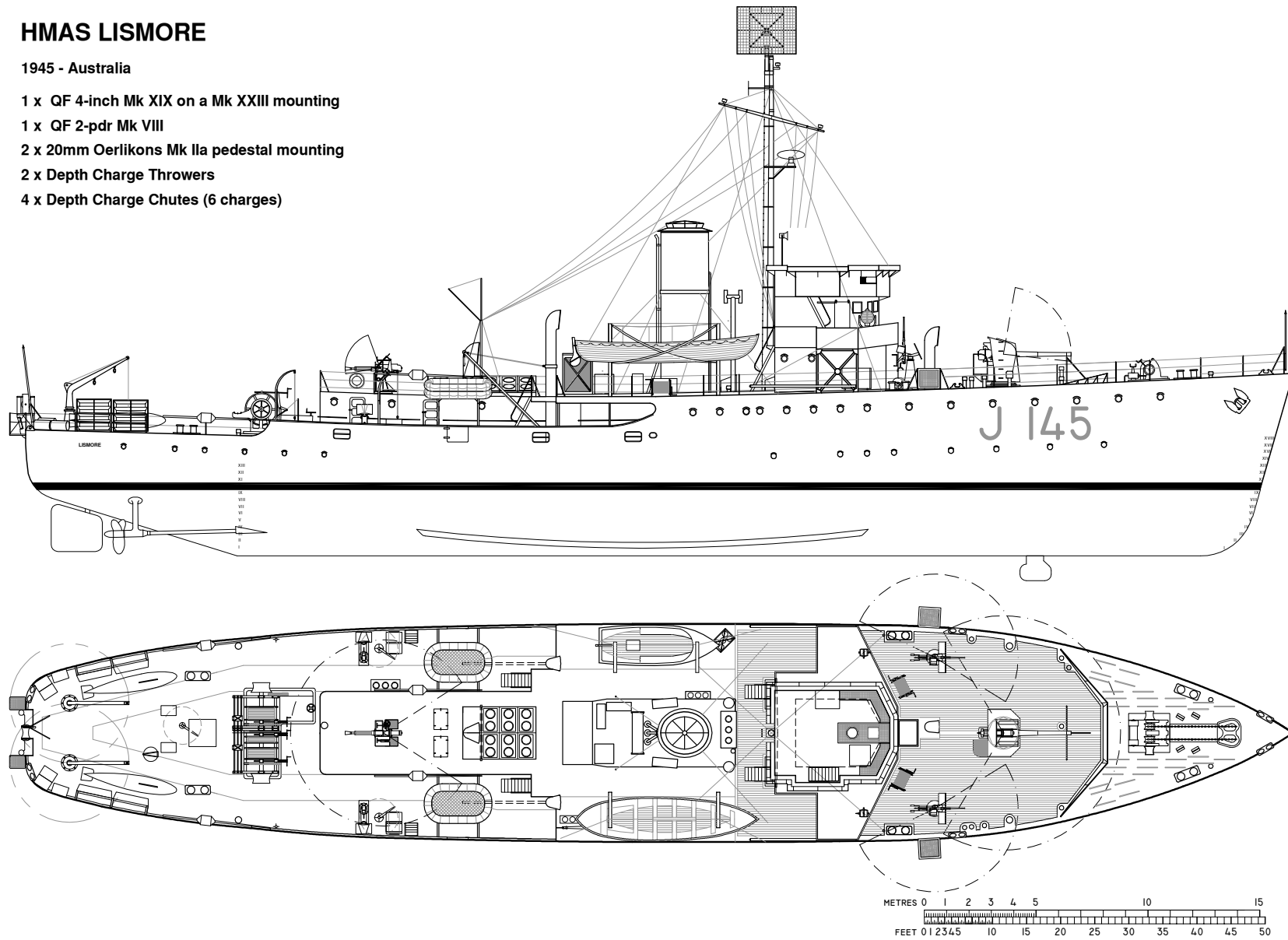


HMAS *Lismore* circa 1945 in Australian waters, location unknown. [navy.gov.au]

# HMAS LISMORE

1945 - Australia

- 1 x QF 4-inch Mk XIX on a Mk XXIII mounting
- 1 x QF 2-pdr Mk VIII
- 2 x 20mm Oerlikons Mk IIa pedestal mounting
- 2 x Depth Charge Throwers
- 4 x Depth Charge Chutes (6 charges)

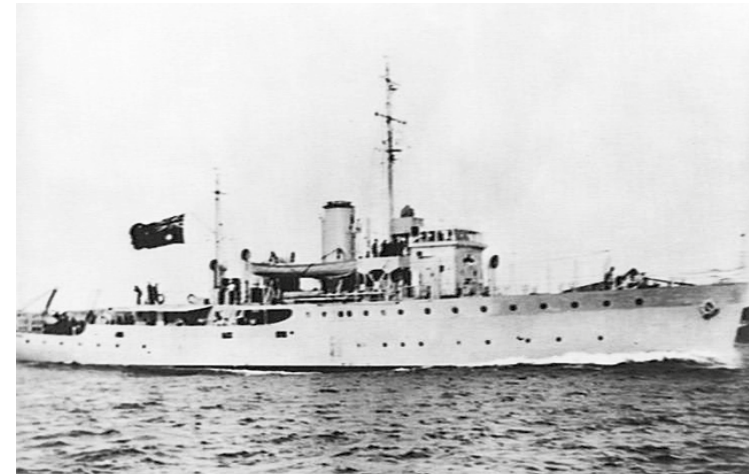


# HMAS *Maryborough*

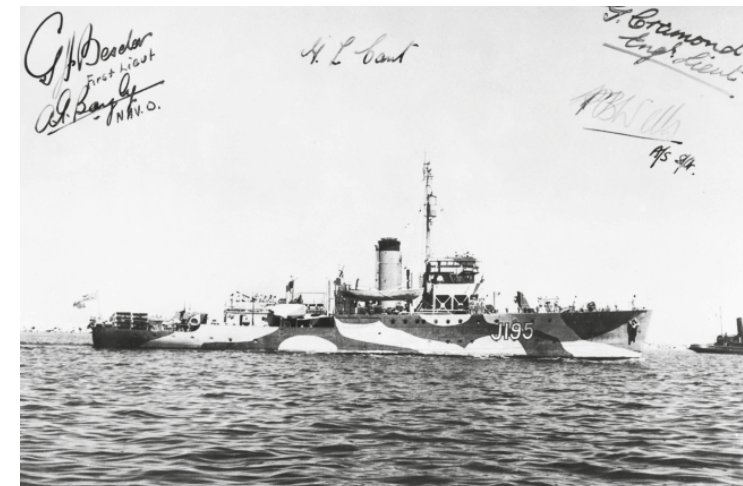
Of all the Bathursts, *Maryborough* has, perhaps, the greatest number of photographs available although most of them relate to either the building process by Walkers or the visit to her namesake town on 6 December 1945.

When making comparisons with sister ships *Bathurst* and *Lismore*, note the following:

- The 4-inch BL Mk IX on a CP Mk I mounting was replaced by a 12-pdr 12 cwt QF (date unknown but probably after she left the Mediterranean Sea) and this was in turn replaced by the QF 4-inch Mk XIX on a CP Mk XXIII mounting shown in the drawing.
- The bridge wings have been extended aft – in effect doubling their size – to accommodate not only a 20mm Oerlikon but allowing the 20-inch searchlight to be returned as per the original design.
- PAC rockets – presumably by then used for signalling or for illumination via Snowflakes – on the bridge.
- What looks like a light whip aerial, starboard side, rear of bridge.
- The A272 radar antenna on a raised platform above the open-topped bridge.
- The water tank above the vegetable locker aft of the funnel has been removed.
- The mainmast has been replaced by a simple frame to contain the W/T aerials and a very elementary ensign gaff attached to the aft side of the funnel.
- There are additional Carley floats on a frame spanning the bulwark and the top of the engine room casing
- The 40mm Bofors Mk III on a raised pedestal aft with a depression rail forward of it.
- There are single 20mm Oerlikons on what appear to be the fixed-height, pedestal-type Mk IIA or IIIA mountings, port and starboard abeam and slightly aft of the minesweeping winch.



HMAS *Maryborough* –still in builder's hands without pennant number and possibly not officially HMAS yet. [AWM 301586]

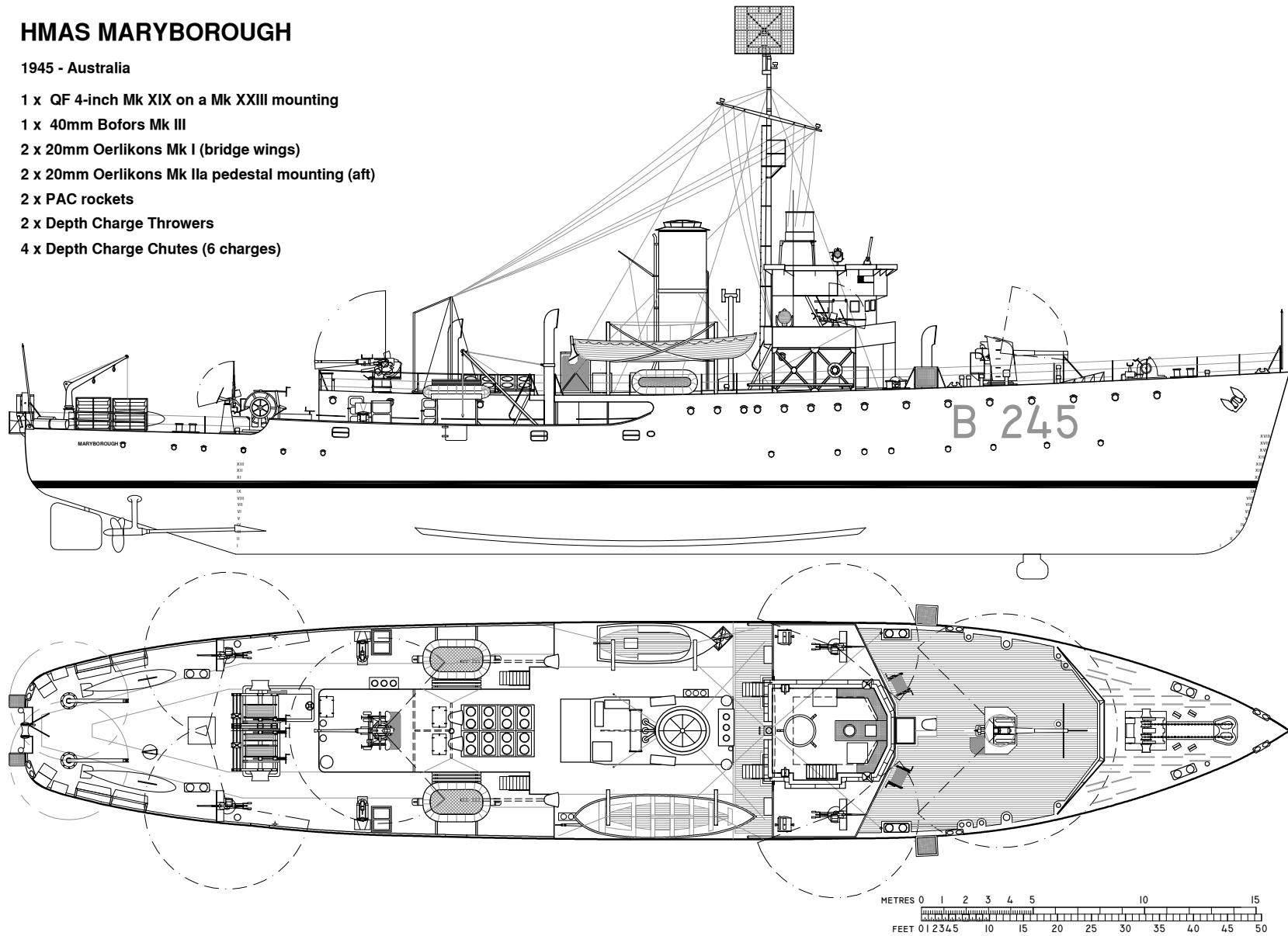


A photo of HMAS *Maryborough* autographed by her officers. Note the camouflage treatment applied, the black top to the funnel. [AWM 306734]

# HMAS MARYBOROUGH

1945 - Australia

- 1 x QF 4-inch Mk XIX on a Mk XXIII mounting
- 1 x 40mm Bofors Mk III
- 2 x 20mm Oerlikons Mk I (bridge wings)
- 2 x 20mm Oerlikons Mk IIa pedestal mounting (aft)
- 2 x PAC rockets
- 2 x Depth Charge Throwers
- 4 x Depth Charge Chutes (6 charges)



# HMAS *Goulburn*

Continuing on from HMAS *Bathurst* and her sister ships, *Lismore* and *Maryborough*, the first of what might be termed the 57 more typical Bathurst Class – that is without the three-level bridge structure - to be commissioned was HMAS *Goulburn*.

*Goulburn* is noteworthy for the following reasons:

- The “new” bridge is similar to the Bangor Class minesweepers of the RN and RCN in outward appearance at least. Since no plans of the Bangors have been sighted no further comparisons can be made.
- However, the bridge wings in *Goulburn* and *Burnie* were apparently the only Bathursts constructed with either the 20-inch searchlight on a transversely mounted rail (as shown in NAVY OFFICE PLAN No. 137/4/4 referred to earlier) or sided 20-inch searchlights. The former is considered doubtful as AWM photographs of *Goulburn* credited as being taken on 28<sup>th</sup> February, 1941 (seen opposite) give credit to the latter.
- The bridge wings are smaller than those adopted for all later Bathursts and the 20-inch searchlight was located on the centreline, above the bridge.
- The sides of the bridge wings are higher than the bridge wings adopted for the later Bathursts where, clearly, having moved the searchlight to the higher level, the need for secondary armament in the bridge wings was recognised and a bigger and wider platform with lower sides was needed. *Goulburn* and *Burnie* were so modified at some early stage.
- There is no gun shield is fitted to the 4-inch BL Mk IX.
- There is no secondary armament fitted.
- In all other respects, *Goulburn* is very much a standard Bathurst of its time.



HMAS *Goulburn* in Sydney in an AWM photograph on 28 Feb 1941 on the day of her commissioning. Note that the 20-inch searchlight may be of the type shown in the 137/4/4 drawing or duplicated in each bridge wing. Note that the bridge wings appear smaller and taller than what would be regarded as standard in both photographs. Photographs of *Burnie* indicate that she was similar. [AWM 300709]



Aerial photograph of HMAS *Goulburn*. [AWM 300710]



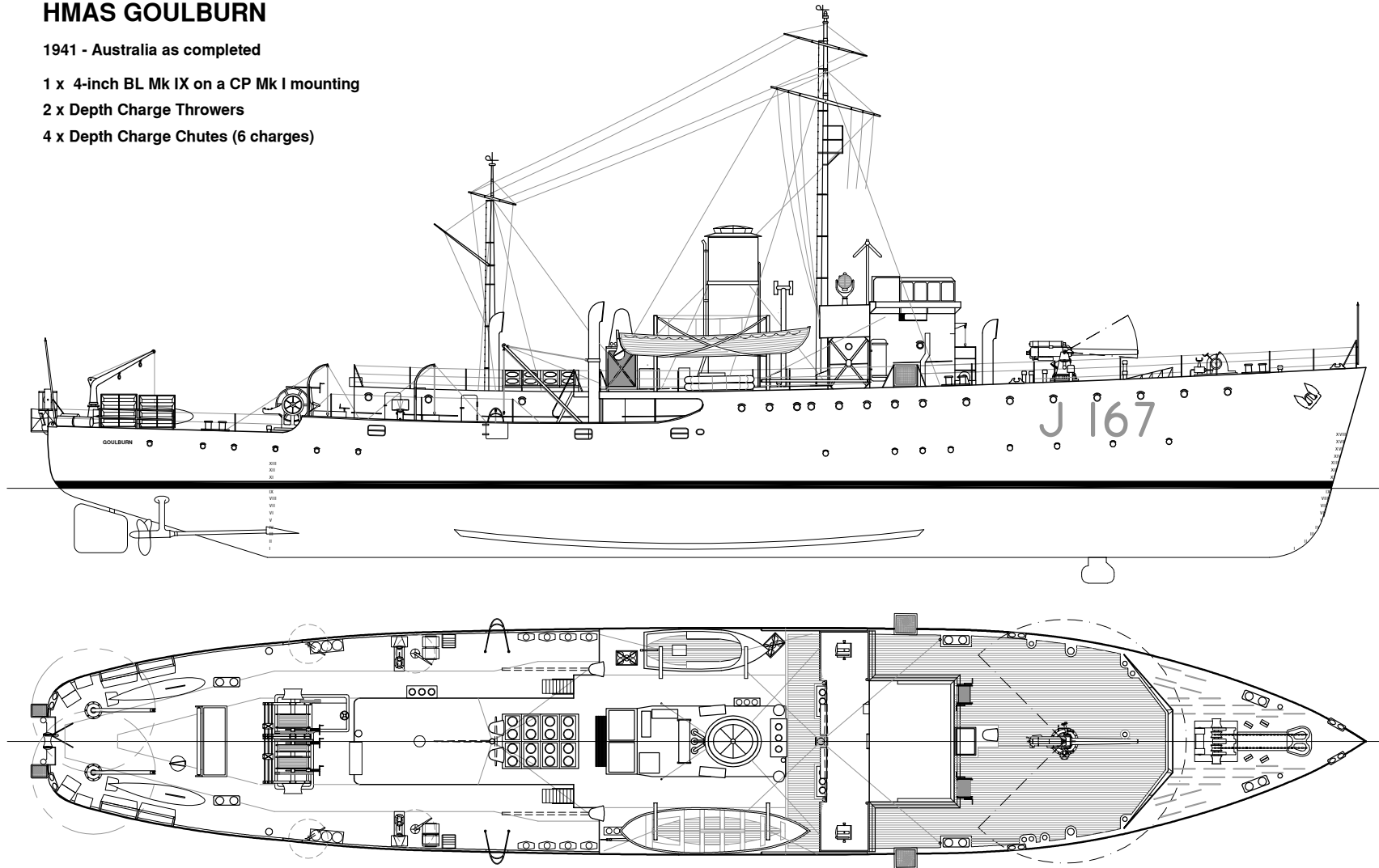
# HMAS GOULBURN

1941 - Australia as completed

1 x 4-inch BL Mk IX on a CP Mk I mounting

2 x Depth Charge Throwers

4 x Depth Charge Chutes (6 charges)



# HMAS *Burnie*

The inclusion of *Burnie* is solely because there is a reasonable photograph of *Burnie* which showed some non-standard “modifications”. Also, she is the second of what may have only been two Bathursts to have been fitted with the narrow bridge wings, quite apparent in the top photograph, opposite.

Note the following:

- She appears to be one of two Bathursts that have been fitted with Type 271 radar as distinct from the type A272 as evidenced by the type of enclosure for the antenna, the A272 having a smooth Perspex type enclosure whereas the Type 271 had a teak-framed enclosure with Perspex type panels.
- A distinct semi-circular depression rail to restrict the 20mm Oerlikon's fire on the bridge wing.
- The 10-inch signalling projector mounted forward and slightly outboard of the bridge wing.
- Loud hailers, port and starboard, on the bridge roof.



HMAS *Burnie* as completed. Note: Small bridge wings, no apparent searchlight/s, no secondary armament. [AWM 3921887]

- The mainmast replaced by a simple frame to support W/T aerials.
- Very elementary ensign gaff attached to the aft side of the funnel.
- Flotilla band to the funnel.
- BPF, two-tone paint scheme.



HMAS *Burnie*, December 1945. Note the BPF type camouflage and pennant number. [navy.gov.au]

# HMAS BURNIE

1945 - Australia

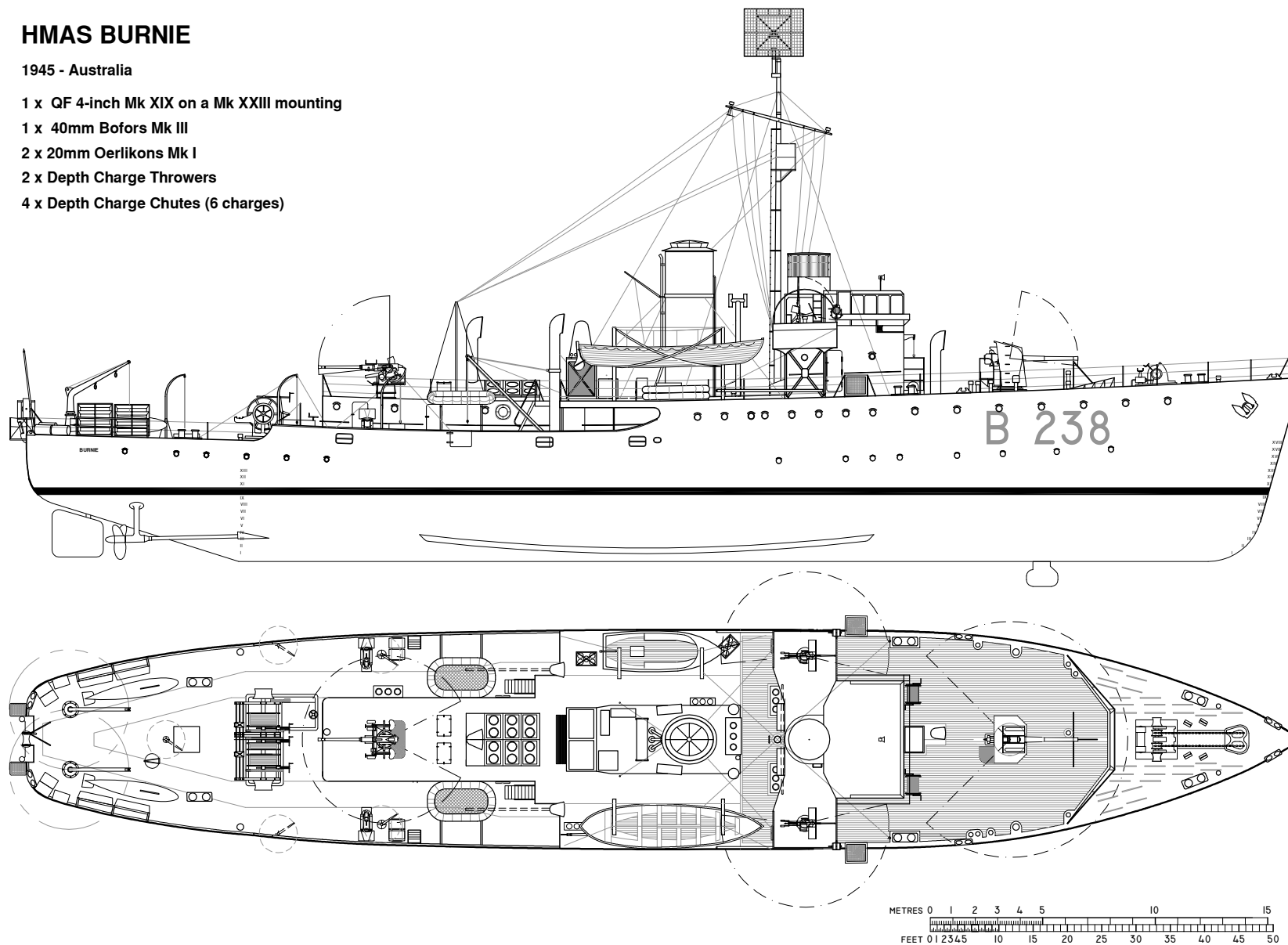
1 x QF 4-inch Mk XIX on a Mk XXIII mounting

1 x 40mm Bofors Mk III

2 x 20mm Oerlikons Mk I

2 x Depth Charge Throwers

4 x Depth Charge Chutes (6 charges)



# HMAS *Mildura*

*Mildura*'s commissioning was only five months after *Goulburn*. The drawing of *Mildura* in particular is of interest because there is a particularly good, clear photograph of her taken in Noumea in 1942. This shows a Bathurst in what might be termed an intermediate state – that is, with the standard 20mm secondary armament fitted but without radar of any sort.

Note the following:

- This is the preceding HMAS *Goulburn* now with a secondary armament fit of single 20mm Oerlikons in the bridge wings and aft of the mainmast.
- The 4-inch BL Mk IX now has a shield.
- There appear to be some sort of rudimentary minesweeping lights on the lower yardarm of the foremast.



HMAS *Mildura* in Noumea, June 1942, sporting a zig-zag camouflage. (source unidentified or unestablished)

- There are two danbuoys attached to the guardrails adjacent to the aft 20mm Oerlikon.
- There are canvas screens enclosing the gap between the bulwark and the deck above immediately under the ships' boat's positions.
- The camouflage is a distinctive disruptive pattern of, presumably a darker grey (507A) over the light grey (507C).

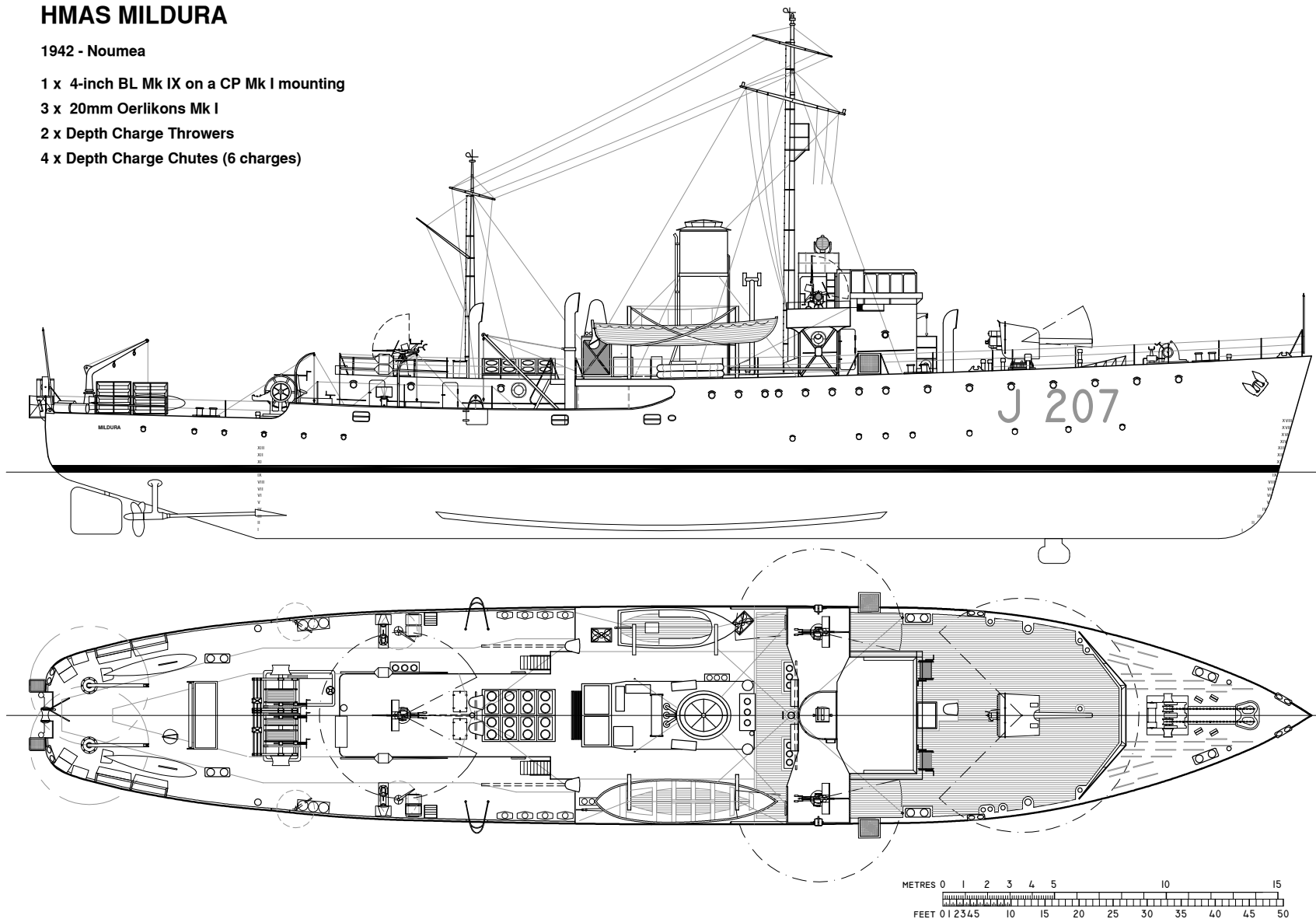


A 1945 photograph of HMAS *Mildura* at Tarakan with a QF 4-inch Mk XIX on a Mk XXIII mounting forward, a 40mm Bofors aft, full radar fit-out, RDF loop ahead of the bridge and a two-tone BPF type camouflage scheme. [AWM 110292]

# HMAS MILDURA

1942 - Noumea

- 1 x 4-inch BL Mk IX on a CP Mk I mounting
- 3 x 20mm Oerlikons Mk I
- 2 x Depth Charge Throwers
- 4 x Depth Charge Chutes (6 charges)



# HMAS Geelong

This drawing is my reproduction of the small drawing in Ross Gillett's "Warships of Australia" book of *Geelong* as completed. As such, it is very much the basic Bathurst. That is, it shows all of the observable features of the class – but not in detail – of that time.

Note the following:

- This is 1942, as completed. One can only assume it's prior to going into action given the paucity of its armament.
- While the antiquated 4-inch BL Mk IX was still being fitted it now has a shield.
- There is no secondary armament indicated whatsoever.
- There are 10" signal projectors on each bridge wing where one would expect that at least light machine guns, such as .303" Lewis, or medium machine guns like .303" Vickers would have been fitted prior to the more common 20mm Oerlikon as they became available.
- Semaphore is still being shown as fitted yet few photographs show this.
- There is some sort of apparatus immediately over the hatch (aft of the minesweeping winch) to the Minesweeping Store whose purpose is unknown.
- The depth charge thrower is of the Thornycroft Mk II type and the depth charges themselves are of the type with the disposable carrier stalk or arbor (shown on deck, stowed parallel to the bulwark).
- Some extra detail, not shown on the Gillett drawing, has been added such as the ladders on the masts.
- Unfortunately, no photograph has been found of *Geelong* in its "completed" state.



This is a photograph attributed to HMAS *Mildura* prior to commissioning but which would be applicable to HMAS *Geelong*. Note there is no secondary armament aft and what appears to be semaphore equipment fitted. [AWM 301051]



HMAS *Geelong* with later modifications including QF 4-inch Mk XIX on Mk XXIII mounting and full radar fit out. AWM photograph recorded as Broken Bay, 1942 but it is most unlikely that this radar fit would have been available at this time. [AWM P01311.001]

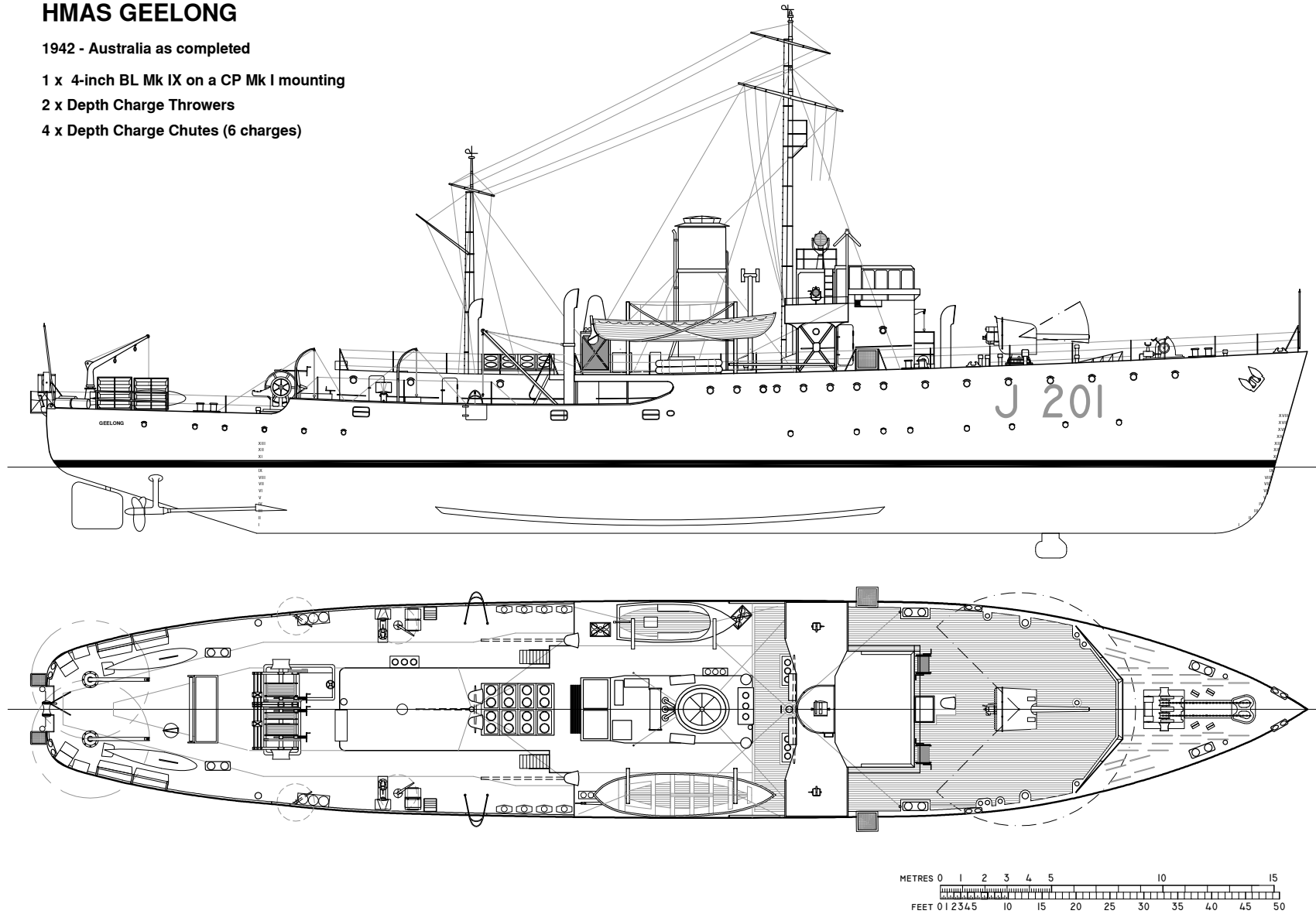
# HMAS GEELONG

1942 - Australia as completed

1 x 4-inch BL Mk IX on a CP Mk I mounting

2 x Depth Charge Throwers

4 x Depth Charge Chutes (6 charges)



# HMAS *Geraldton*

*Geraldton*'s drawing is noteworthy because there was no other Bathurst modified in precisely the same way. It was unique.

Note the following:

- The replacement, or augmentation of, the searchlight platform with an abbreviated flying bridge. The reason for this is unknown.
- The 10-inch signalling projectors fitted to this flying bridge and the wind baffles.
- The RDF loops mounted on the forward edge of the bridge.
- A loud hailer on the bridge canopy.
- PAC rockets on the bridge canopy.
- Type 291 radar antenna at the mast head – the only Bathurst observed to be so fitted.
- Unidentified apparatus (light, ship's crest?) on the front of the crow's nest on foremast.
- Lengthened galley exhaust.
- Shortened mainmast.
- Two-tone BPF colour scheme.



HMAS *Geraldton* with 12-pdr 12 cwt QF as fitted, probably shortly after commissioning. [AWM 300674]



HMAS *Geraldton*, believed to be at Princes Pier, Port Melbourne, February 1945. [AWM 045137]



## HMAS GERALDTON

1945 - Australia

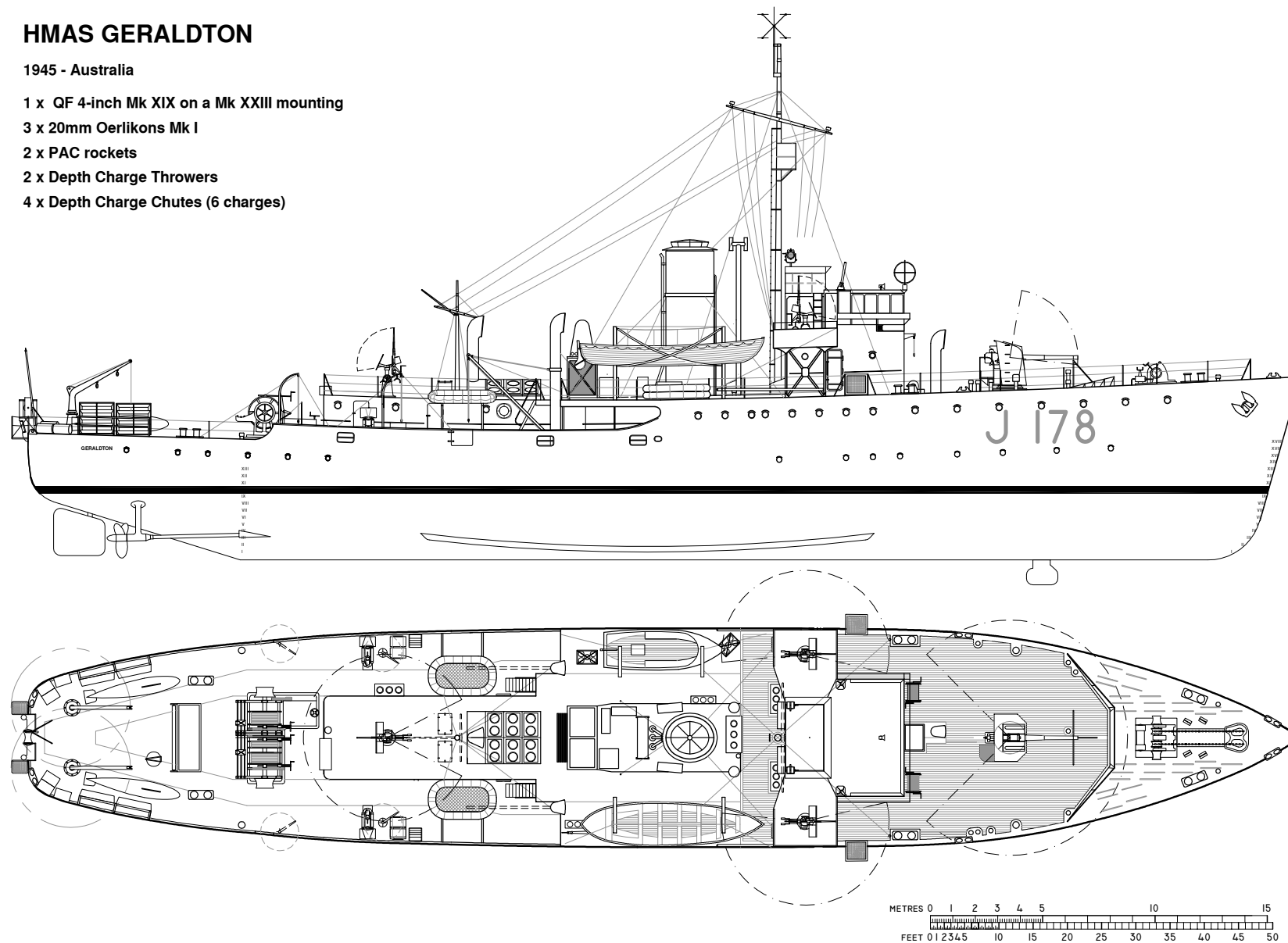
1 x QF 4-inch Mk XIX on a Mk XXIII mounting

3 x 20mm Oerlikons Mk I

2 x PAC rockets

2 x Depth Charge Throwers

4 x Depth Charge Chutes (6 charges)



# HMAS *Kapunda*

*Kapunda* is included because she is unusual and untypical, as follows:

- The drawing shows *Kapunda* in September, 1943 and her outfit is most unusual in that she is fitted with the 4-inch Mk XVI on a MkXX mount. This is the only instance I have discovered of a Bathurst so fitted.
- Note the absence of any no radar fit whatsoever.
- Note the RDF loop mounted on the bridge roof projecting forward of the bridge.
- Note no minesweeping equipment fitted.
- Note no Carley floats fitted.
- PAC rockets to bridge roof.
- Later photographs show *Kapunda* refitted with the less effective QF 4-inch Mk XIX on the XXIII mounting, and unusual exchange, with a 40mm Bofors replacing the aft 20mm Oerlikon. Photographs show her with a .50" Browning heavy machine gun on a pedestal aft of the aft-most depth charge thrower, presumably port and starboard.



HMAS *Kapunda* in 1945 in BPF type paint scheme. [AWM OG3573]



Aerial photo of HMAS *Kapunda* clearly showing the 4-inch Mk XVI on the foredeck. [AWM 300860]

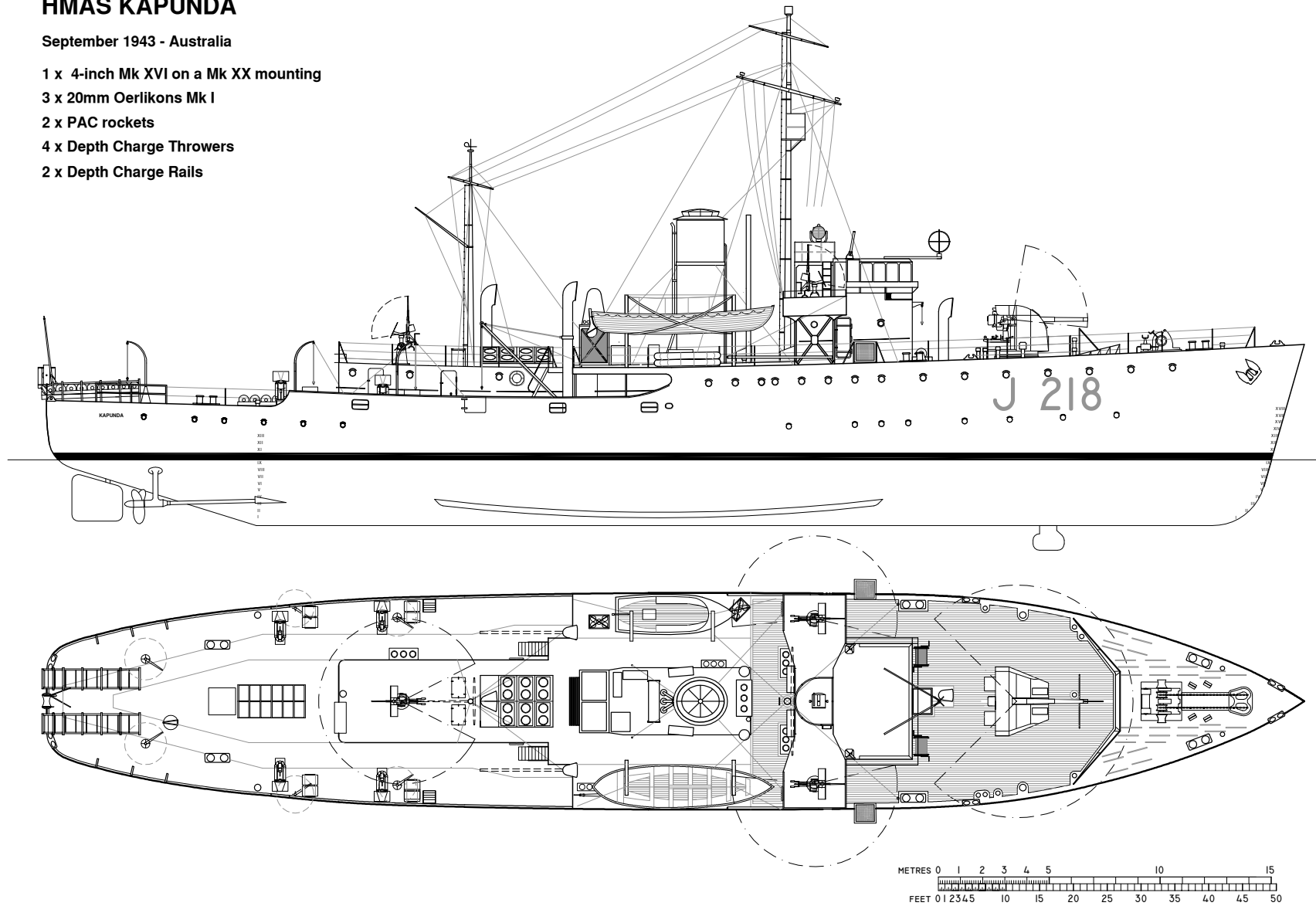


A 1944 photo of HMAS *Kapunda* showing the QF 4-inch Mk XIX on the Mk XXIII mounting and full radar fit out but retaining the dark blue-grey overall camouflage – probably similar to the USN's. [AWM 300857]

# HMAS KAPUNDA

September 1943 - Australia

- 1 x 4-inch Mk XVI on a Mk XX mounting
- 3 x 20mm Oerlikons Mk I
- 2 x PAC rockets
- 4 x Depth Charge Throwers
- 2 x Depth Charge Rails



# HMAS Wollongong

*Wollongong* is interesting because she is the only Bathurst Class:

- To have mounted the antiquated and barely adequate 12-pdr 12 cwt QF – and without its extended shield – together with the best of the anti-aircraft weapons, the 40mm Bofors. A most unusual combination.
- To have twin .303-inch Lewis guns in shields on the bridge canopy. These were almost certainly an ad hoc modification instigated by her commanding officer as the situation dictated and materials and weapons became available.

Additionally,

- No extra Carley floats are apparent where usually fitted on racks adjacent to the mainmast.
- The mainmast has been shortened.
- No radar is present.
- No minesweeping davits seem to be fitted.
- No minesweeping lights are fitted to the foremast main yardarm.
- Yet, Oropesa floats and otter boards are present on the minesweeping deck /quarterdeck.



HMAS *Wollongong*. [AWM 301738]



HMAS *Wollongong*. [AWM 301736]

## HMAS WOLLONGONG

1942/1943 - Australia

1 x 12-pdr 12 cwt QF

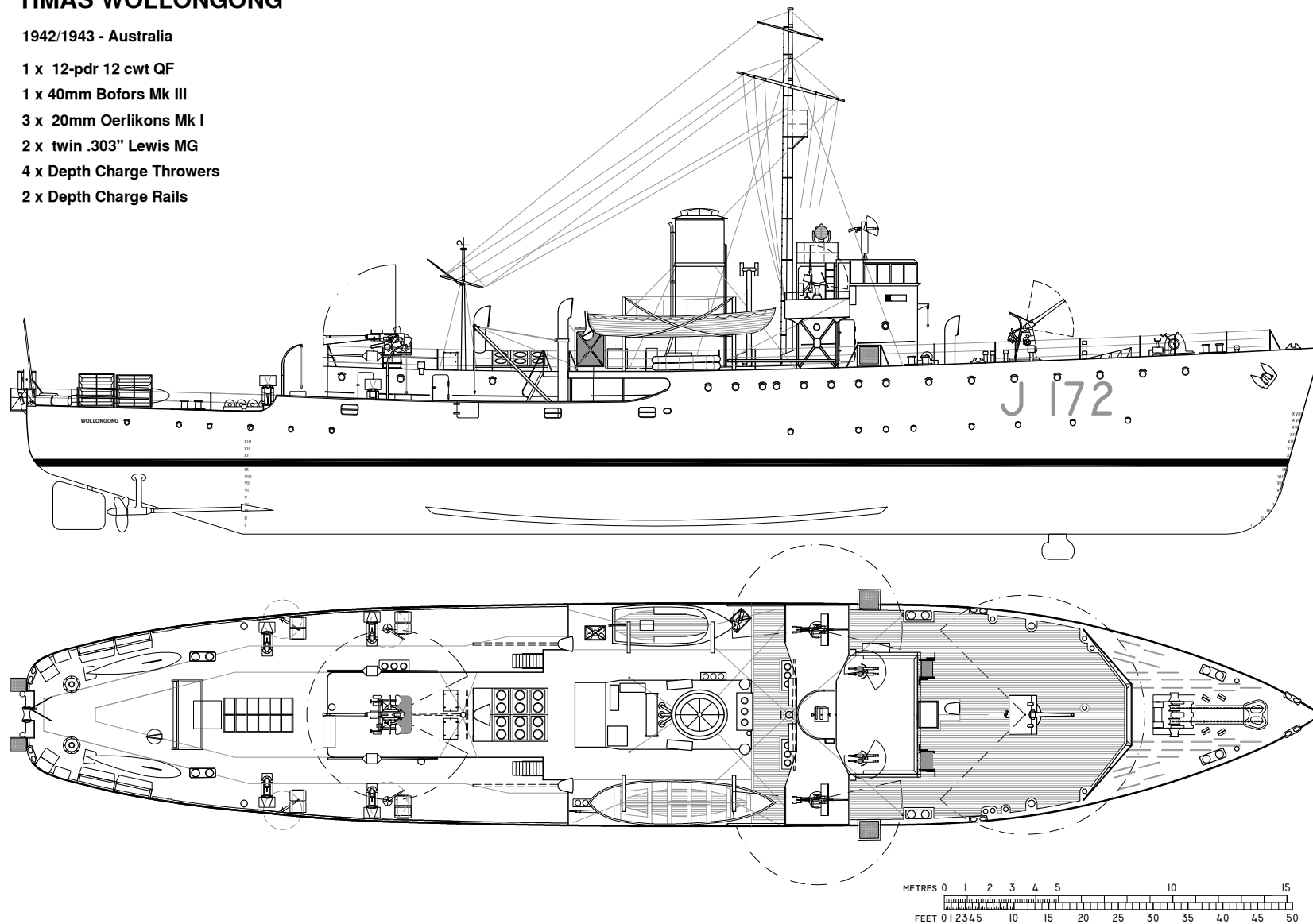
1 x 40mm Bofors Mk III

3 x 20mm Oerlikons Mk I

2 x twin .303" Lewis MG

4 x Depth Charge Throwers

2 x Depth Charge Rails



# HMAS *Gympie*

*Gympie* is included because she is unusual and untypical.

Note the following:

- It is one of the few Bathursts with the 12-pdr 12 cwt QF gun which has had its shield extended to the sides and for which no drawings exist PLUS the full anti-submarine fit-out common from 1943 onwards.
- As if this was not unusual enough, she has absolutely no radar present whatsoever.
- There are four PAC rockets – two on the bridge canopy and two on the searchlight platform.
- The engine room ventilators have been foreshortened.
- The two ventilators normally aft of the engine room skylight have been replaced by one large one set into the skylight itself. Whether this was a builder's own modification or the result of a Department of Defence/RAN directive is not known.
- The mainmast has been reduced in size.
- There's a triangular fitting on the forward edge of the bridge canopy, presumably for an RDF antenna to be fitted later.
- She carries two danbuoys but no minesweeping equipment.
- No extra Carley floats are apparent where usually fitted on racks adjacent to the mainmast.



HMAS *Gympie*. Note there is no radar fitted and the 12-pounder has an extended shield. [navy.gov.au].

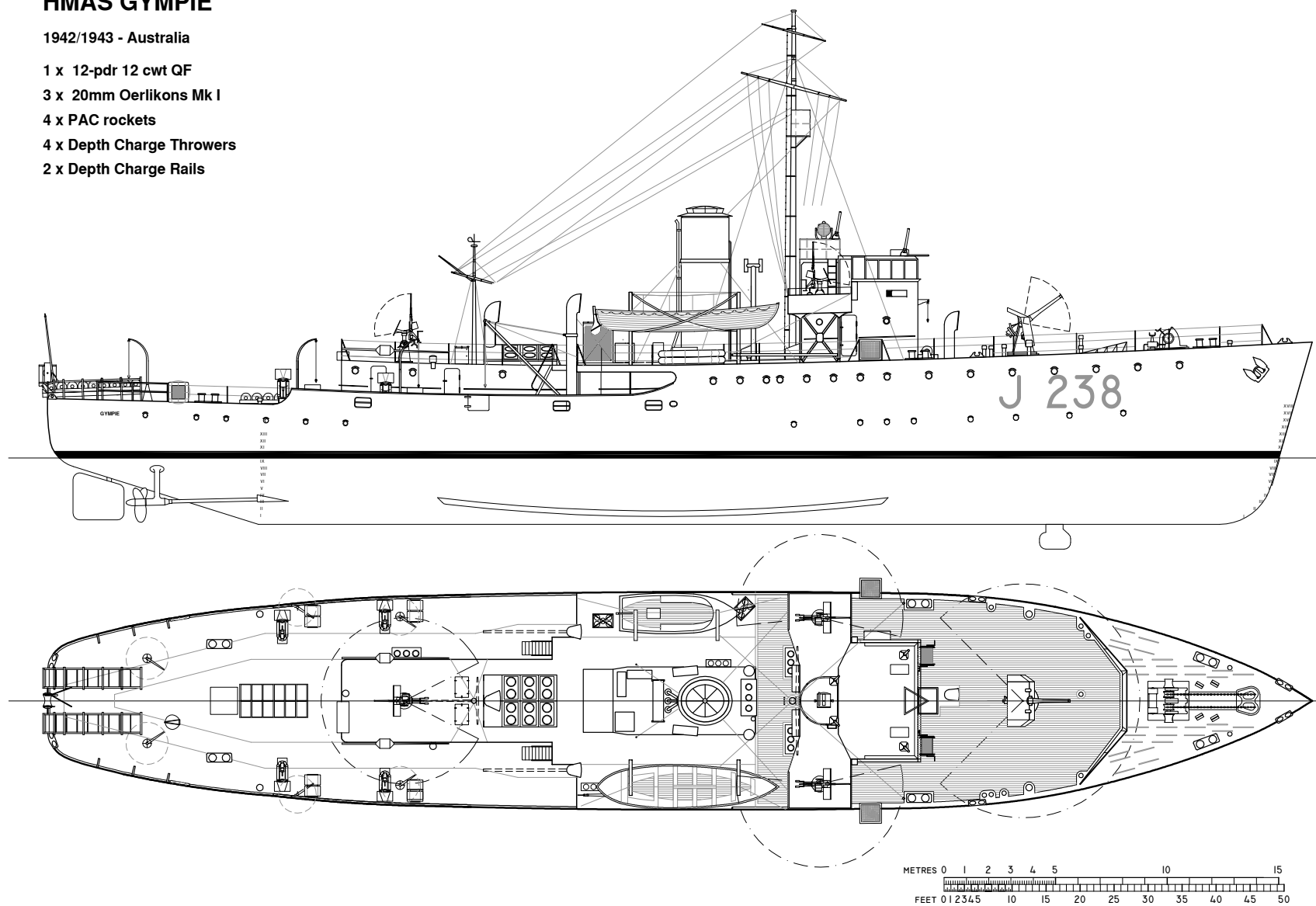


HMAS *Gympie* at Koepang. Note complete radar fit. [AWM 121545]

# HMAS GYMPIE

1942/1943 - Australia

- 1 x 12-pdr 12 cwt QF
- 3 x 20mm Oerlikons Mk I
- 4 x PAC rockets
- 4 x Depth Charge Throwers
- 2 x Depth Charge Rails



# HMAS *Benalla*

Unfortunately, what few photographs of *Benalla* exist are of poor quality. As a Hydrographic survey ship, note the following:

- Despite being used as a survey ship, or perhaps rather because of it, *Benalla* was fitted with the 4-inch Mk XVI on the Mk XX mount.
- The extended deckhouse aft over where the minesweeping deck.
- This drawing shows a single 40mm Bofors on the extended deckhouse. There are references to *Benalla* having 4, even 5 20mm Oerlikons and one photograph, opposite alludes to this, with what might have been an additional Oerlikon at the extreme aft end of the deckhouse.
- Single .50 cal MG abeam of the forward ventilator cowl.
- Davit adjacent to leadsman's platform.
- 20mm Oerlikon and 10-inch signalling projector on bridge wing.
- Flying bridge above the navigating bridge, presumably dedicated for survey work.
- Raised A272 radar antenna to compensate.
- Mainmast reduced in height.
- 25-foot motor-boat on port side.
- Extra motor-boats (precise size unknown but presumably standardised) on davits.
- Bulwark door moved aft.
- Extra Carley float on a frame at the break in the bulwark.
- Minesweeping davits retained.
- No apparent anti-submarine capability.



A later photo of HMAS *Benalla* showing what might be two 20mm Oerlikons on the centreline of the extended deckhouse, prior to the fitting of the 40mm Bofors shown in the drawing. Note the flying bridge. [navy.gov.au]



HMAS *Benalla* shortly after commissioning. Note the longer deckhouse [AWM 300888]



# HMAS BENALLA

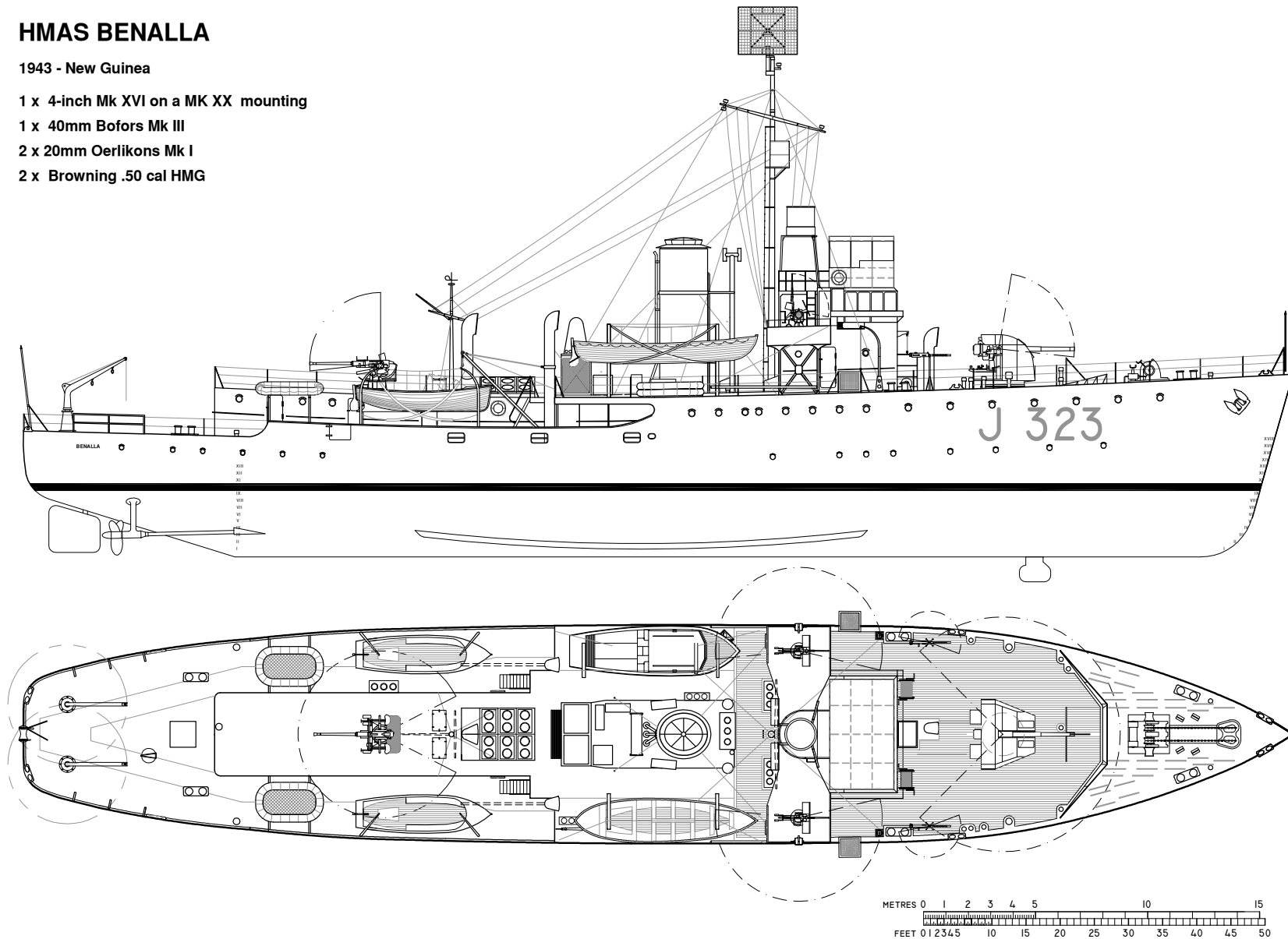
1943 - New Guinea

1 x 4-inch Mk XVI on a MK XX mounting

1 x 40mm Bofors Mk III

2 x 20mm Oerlikons Mk I

2 x Browning .50 cal HMG



# HMAS *Ararat*

This drawing is based on the photograph shown in the ship's history which is almost certainly immediately post-war.

Note the following:

- There are no guardrails forward of the breakwater, unusual in peace-time.
- The style of pennant number.
- The QF 4-inch Mk XIX has, somewhat unusually, replaced the 4-inch Mk XVI.
- The ventilator in front of the bridge is reduced in height.
- The bridge is now open-topped.
- Curiously, the PAC rockets are retained.
- The previously prominent minesweeping lights on the foremast yardarm have been removed or replaced with smaller ones.
- The TBS aerial on the starboard end of the yardarm.
- Standard A286 and A272 radar antennae.
- Davit adjacent to leadsman's platform.
- No 20mm Oerlikon present in bridge wings.
- Flotilla band on funnel.
- Galley exhaust re-routed and no "Charley Noble" cap.
- Reduced height of aft ventilators.
- Mainmast retained at full height.
- What looks to be a depth charge aft of the 27-ft Montagu whaler.
- Large number of danbuoys on an overhead rack and, presumably (because of the obstruction the danbuoys caused) no depth charge thrower installed. As part of the 20th Minesweeping Flotilla, *Ararat* may have been

charged with the responsibility of laying the buoys to mark lanes to be swept or already swept.

- No minesweeping davits, Oropesa floats or otter boards present.



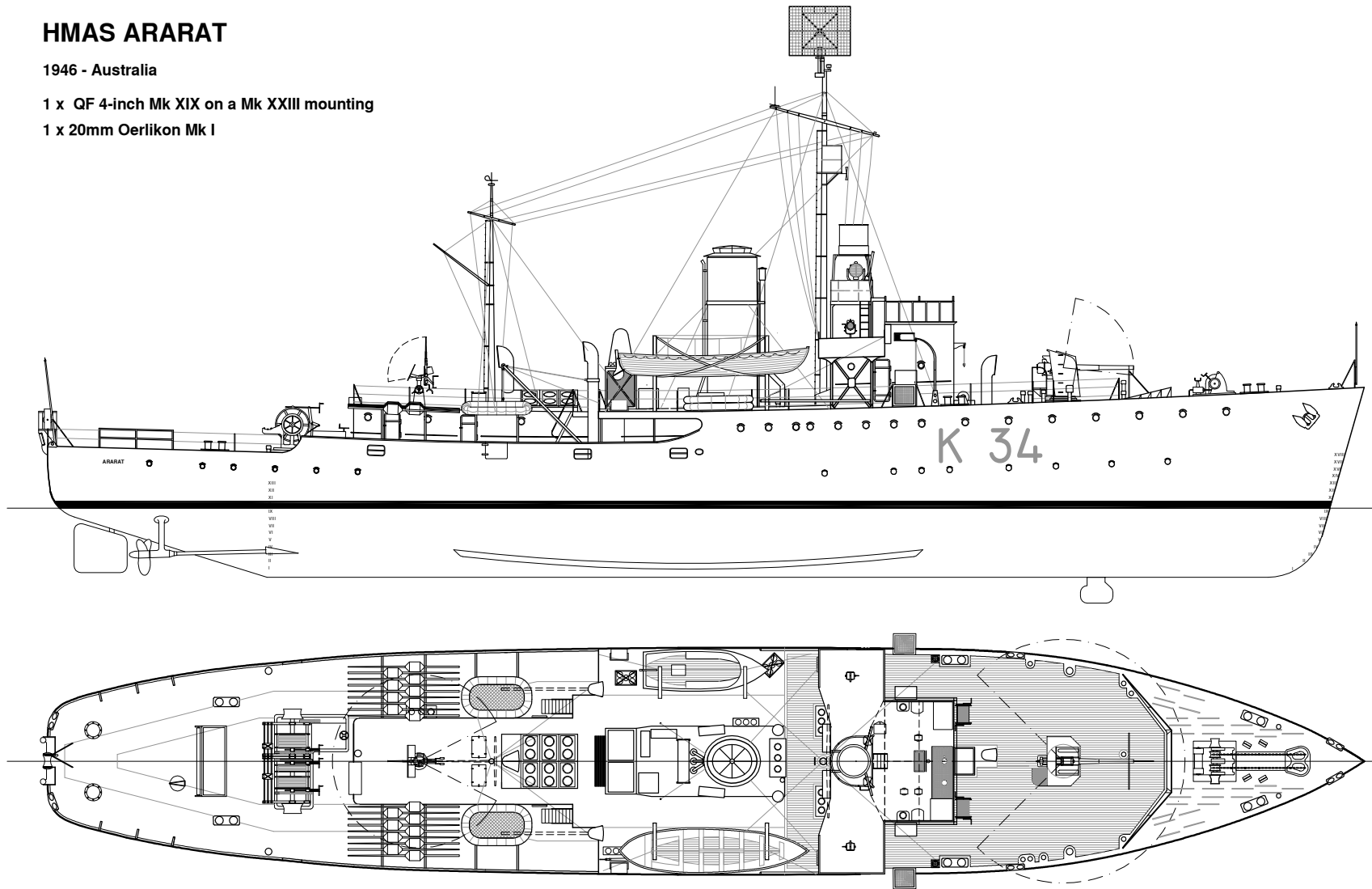
HMAS *Ararat* post World War 2, probably early 1946. [State Library of Victoria Allan C Green collection]

# HMAS ARARAT

1946 - Australia

1 x QF 4-inch Mk XIX on a Mk XXIII mounting

1 x 20mm Oerlikon Mk I



# HMAS *Kiama*

*Kiama* is interesting because there are several quite clear photographs showing her from different angles and she is fitted as a dedicated anti-submarine corvette without any minesweeping equipment.

Note the following:

- There are no guard rails forward of the breakwater.
- RDF antennal to top of bridge.
- PAC rockets to top of bridge.
- 20mm Oerlikons and 10-inch signal projectors to bridge wings.
- Full-height mainmast retained.
- Large single ventilator on centreline to Engine Room skylight in lieu of twin, smaller ventilators often seen.
- Some sort of extra ventilator fitted starboard side adjacent to the officers' bathroom.
- No extra Carley floats provided as with many other Bathursts.
- Extra depth charge thrower (Mk IV) fitted at break of bulwark.
- Two depth charge rails fitted what might be with up to nine depth charges each.
- Deck stowage for extra depth charges forward of the hatch to the Minesweeping Store.
- No 40mm Bofors aft and 20mm Oerlikon retained.



HMAS *Kiama*. Note the prominent boat rope. [navy.gov.au]

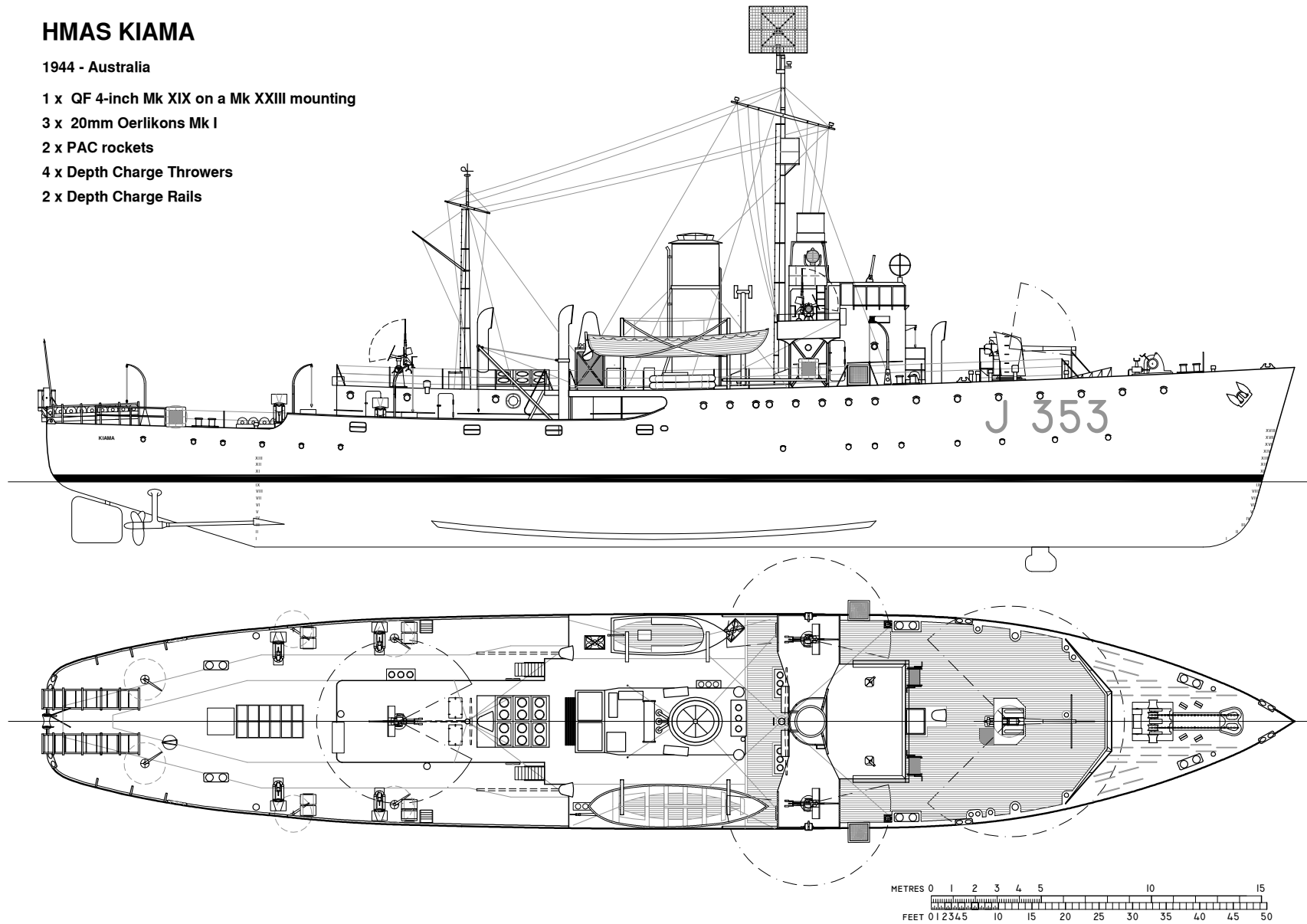


HMAS *Kiama*, Sydney Harbour, June 1944. [navy.gov.au]

# HMAS KIAMA

1944 - Australia

- 1 x QF 4-inch Mk XIX on a Mk XXIII mounting
- 3 x 20mm Oerlikons Mk I
- 2 x PAC rockets
- 4 x Depth Charge Throwers
- 2 x Depth Charge Rails



# HMNZS *Inverell*

This is the only drawing of a Bathurst transferred to another navy, in this case the Royal New Zealand Navy.

She was the subject of modifications that are visible in the drawing as follows:

- The Pennant number were moved more amidships.
- Single 40mm Bofors in power-operated Mk VII mountings fore and aft.
- Open-topped bridge with trusses above for supporting tarpaulin.
- Bridge wings reduced in size and rounded off.
- Radar office at back of bridge.
- Radar – possibly Type 277 - on short lattice tower above radar office.
- External access to bridge.
- RDF antennal to front of bridge.
- Life raft in canister on stand under bridge wings and on frame abeam of aft Bofors.
- Engine room ventilators extended and whip aerials added.
- Deckhouse extended aft.
- Danbuoys on railing above deckhouse.
- Extra bollards on quarterdeck.
- No anti-submarine capability (not known whether ASDIC was retained).



HMNZS *Inverell*. [navy.gov.au]

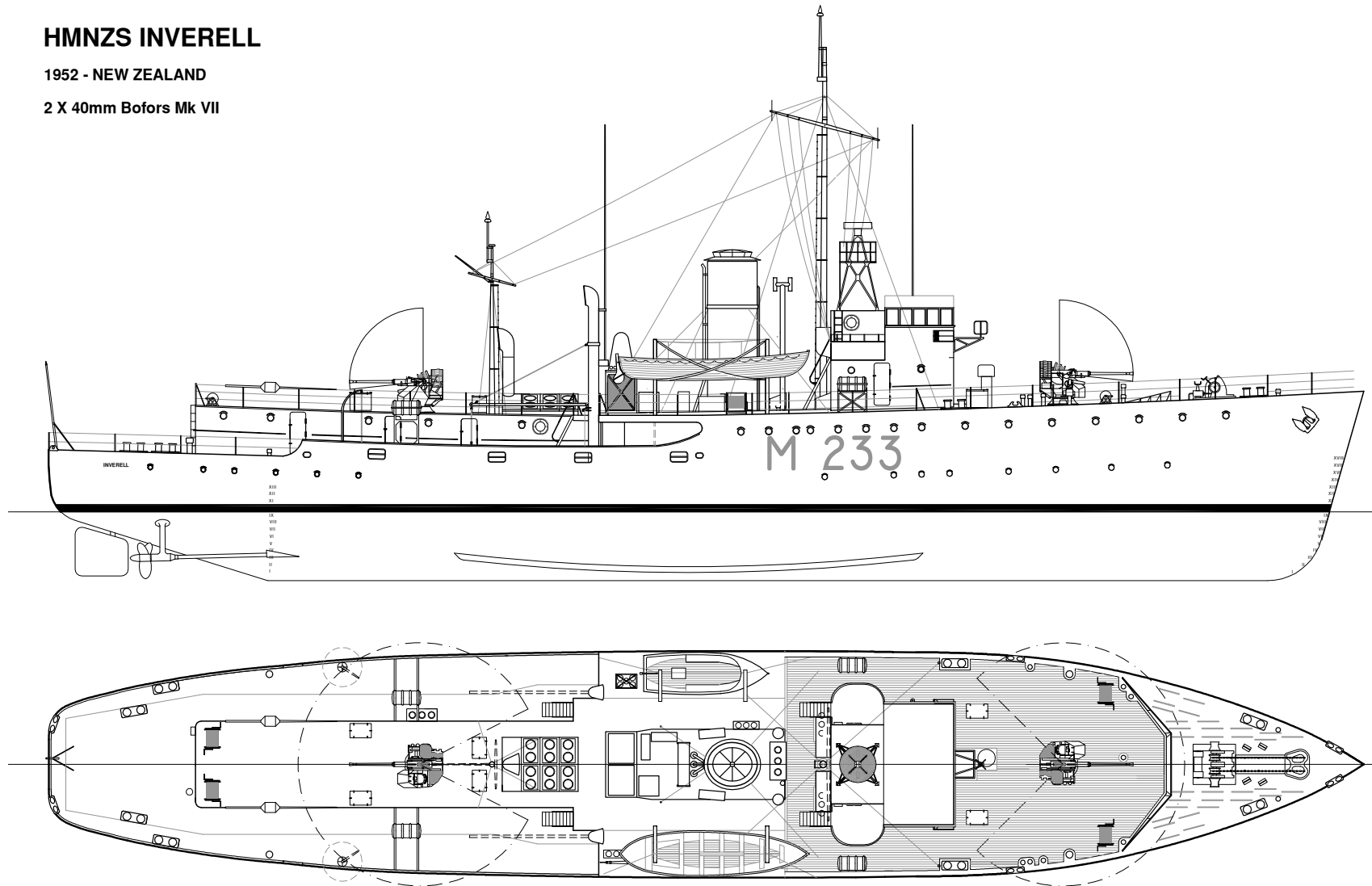


HMNZS *Inverell*. [navy.gov.au]

# HMNZS INVERELL

1952 - NEW ZEALAND

2 X 40mm Bofors Mk VII



# TCV *Colac* (Ex-HMAS *Colac*)

When HMAS *Colac* was decommissioned and converted to a Tank Cleaning Vessel in 1962 it is not clear exactly in whose ownership – for want of a better word – she was vested. Photographs are a guide only and readers should only take the drawing as a “best guess” interpretation of these photographs.

The following is of note:

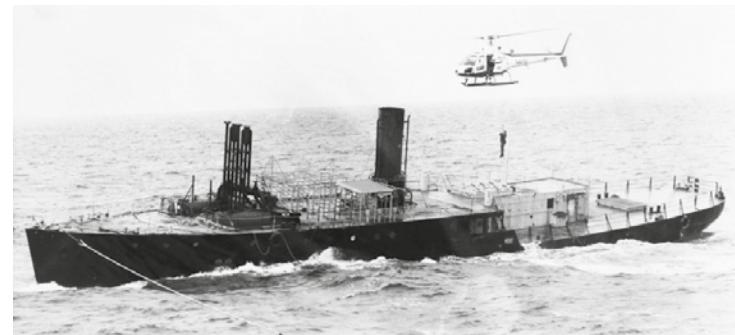
- The upper and lower deck, forward, seem to have been largely consumed by two, side-by-side tanks.
- The tanks appear to have bulged ends indicating they may have been pressure vessels.
- They do not appear to be lagged indicating they do not contain steam.
- However, above the tanks there appears to be either some sort of vertical condenser pipe arrangement.
- Forward of these tanks, mounted athwart-ship, is a small tank that looks very like a road-trailer tank, possibly for diesel fuel.
- The tanks are bridged by a walkway giving access to various large valves, presumably to control water under pressure.
- Aft of this what appears to be an extensive racking system, presumably for the flexible, modular piping necessary to reach from TCV *Colac* into whichever ship's tanks were being cleaned.
- The funnel appears to be unaltered although the various exhausts from the boiler room look to have been altered.
- The engine room ventilators appear to have been capped.
- The bulwarks have been shortened to almost adjacent the ladder from the upper deck to the forecastle deck.
- There's a glazed “shed” with a stubby forward of it at forecastle deck level just aft of the engine room skylight which may be some sort of

control position or even a steering position. It is not clear how *Colac* was manoeuvred.

- It is considered likely that TCV *Colac*'s boiler was used to generate steam for tank cleaning but that she was towed from ship to ship as required.



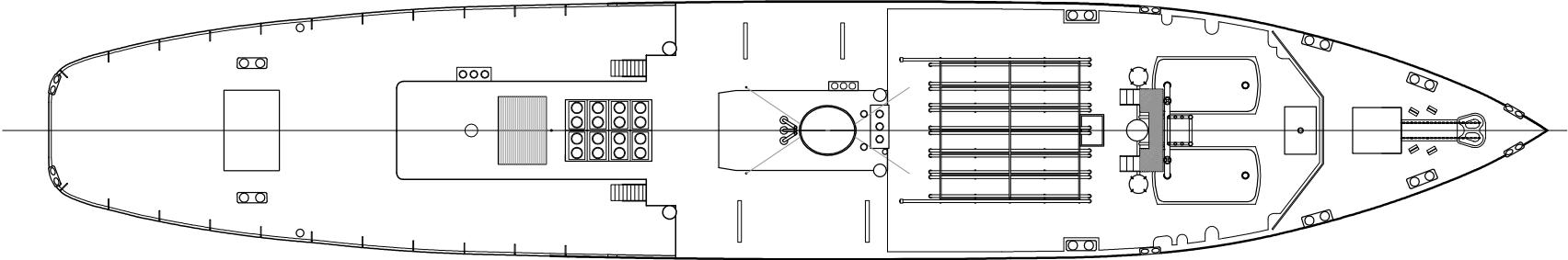
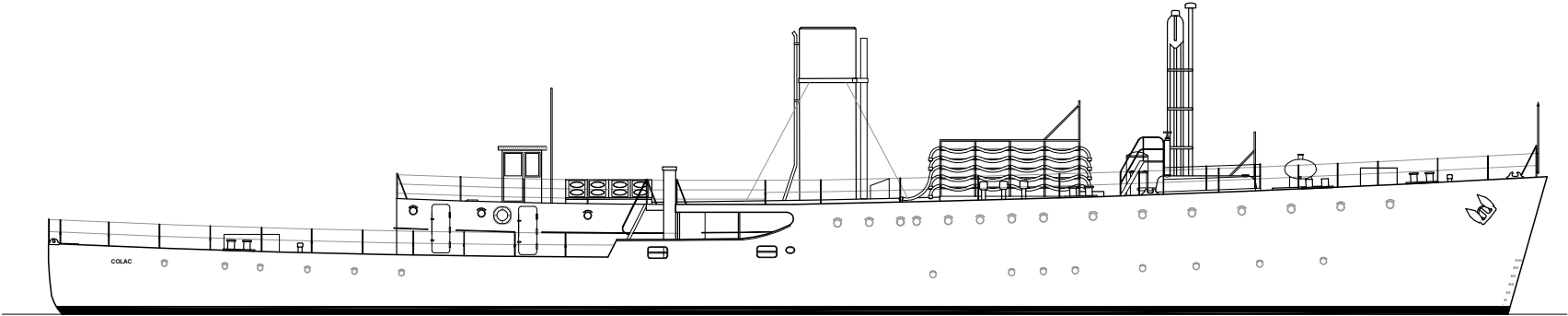
Tank Cleaning Vessel *Colac*. [navy.gov.au]



TCV *Colac* prior to being used for target practice. [navy.gov.au]



TCV COLAC



# SS *Akuna* (Ex-HMAS *Gladstone*)

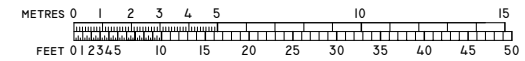
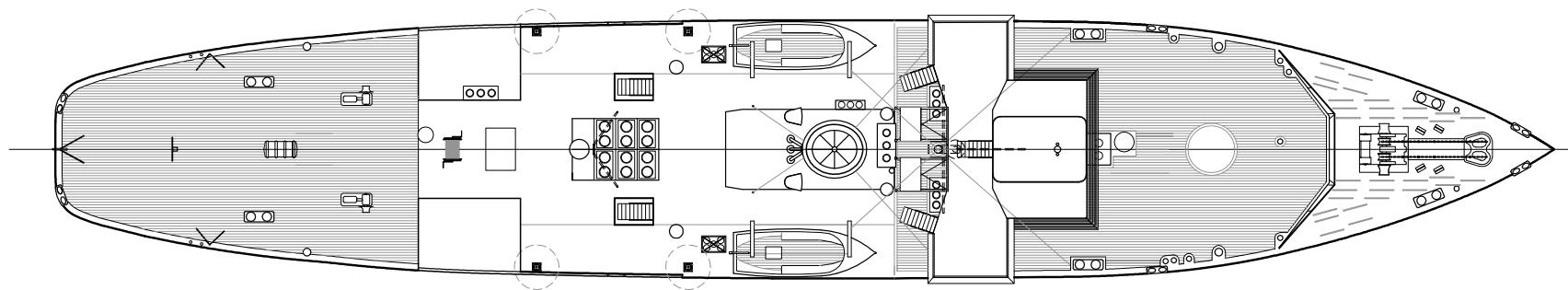
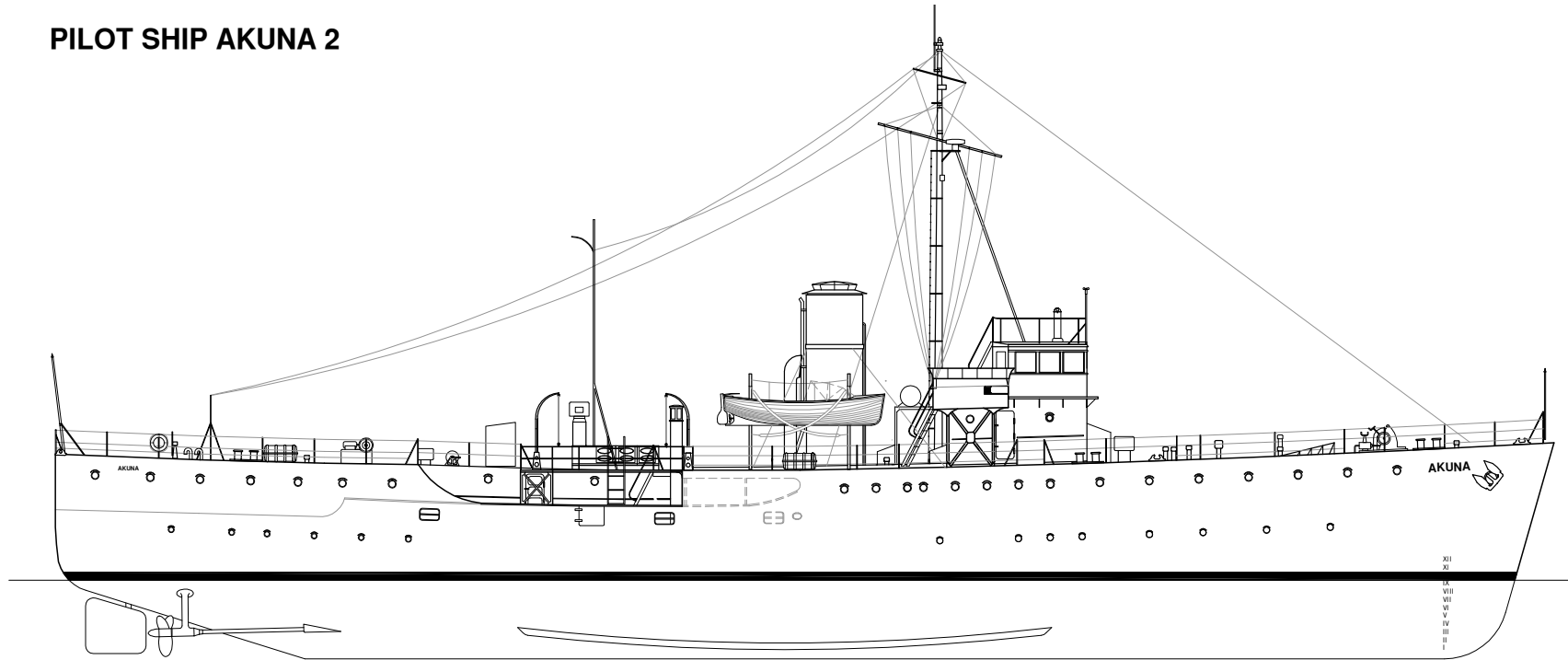
There is no drawing of *Gladstone*, as such, only its post-service manifestation as SS *Akuna* 2 when owned and operated by the Port Phillip Sea Pilots' Association. While the parentage is unmistakable, the significant points of difference are:

- The significant amount of accommodation added aft by extending the forecastle deck over the minesweeping deck/quarterdeck. Quite why this was necessary is unclear since a Bathurst's complement was designed for sixty-plus and accommodated eighty-plus leaving plenty of room, one would have thought, for subdividing the upper deck into cabins.
- The bridge remains quite recognisable in form but with altered glazing and now totally enclosed.
- The front and sides of the bridge wings are raised.
- The external access to the bridge.
- The small flying bridge with binnacle.
- The water tank aft of the funnel has been replaced by one aft of the bridge.
- The 27-foot whaler has been replaced by what appears to be a motor-boat identical to the original.
- The mainmast has been replaced by rudimentary support for W/T aerials.
- The emergency steering has been brought up two deck levels.
- Despite modifications, *Akuna's* naval heritage is still apparent.



The Port Phillip Sea Pilots' Ship S.S. *Akuna* moored in the Yarra River, possibly South Wharf or Victoria Dock. [www.photoship.co.uk]

# PILOT SHIP AKUNA 2



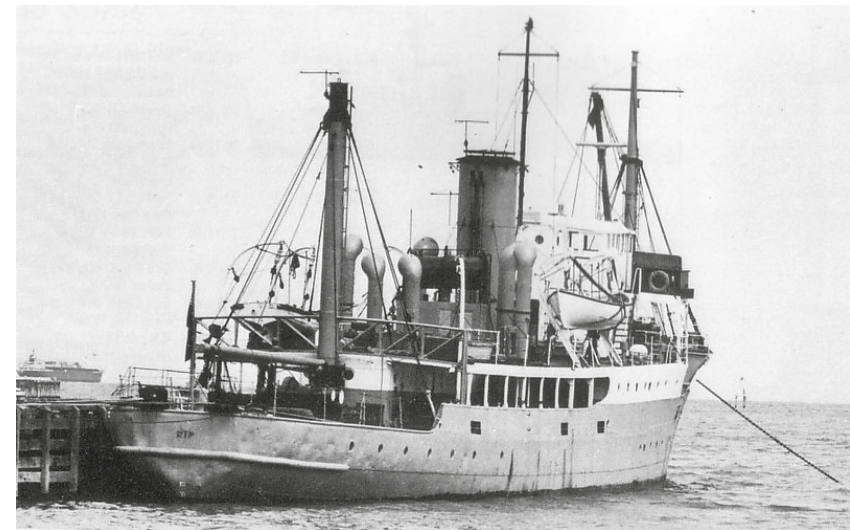
# SS Rip (Ex-HMAS Whyalla)

Like so many of the Bathursts, there is no drawing of *Whyalla* or its post-service manifestation as *SS Rip* when owned and operated by Victorian Public Works Department. As with all of the preceding drawings, photographs have to be relied upon and, since they are not dated and show different stages of modifications at different times, this drawing of *Rip* is another “best guess” amalgam. Notwithstanding the quite severe modifications and alterations, the Bathurst parentage is still discernible.

- The significant points of difference are:
- The general “merchant ship” appearance.
- The well deck created by removing the forecastle deck from about frame # 14 to frame # 29. This well deck was apparently used for servicing buoys and the like, a typical one of which is shown on deck.
- A mast and derrick aft of frame # 14.
- The bridge is fully enclosed but with the bridge wings removed and new ones moved forward flush with the front of the bridge and with inclined ladders either side.
- An enclosure to port and aft of the bridge, possibly a radar and/or radio room and an open signals type platform to starboard of it.
- A light, signals-type mast aft of the bridge, not present in early photographs of *Rip*.
- The forecastle deck has been extended to the sides of the ship to approximately frame # 71/72.
- An extra workboat has been located with crescent pattern davits on the forecastle deck, on the port side aft of the motorboat.
- A heavy-lift mast and derrick has been located immediately forward of what is assumed to be the retained minesweeping winch.

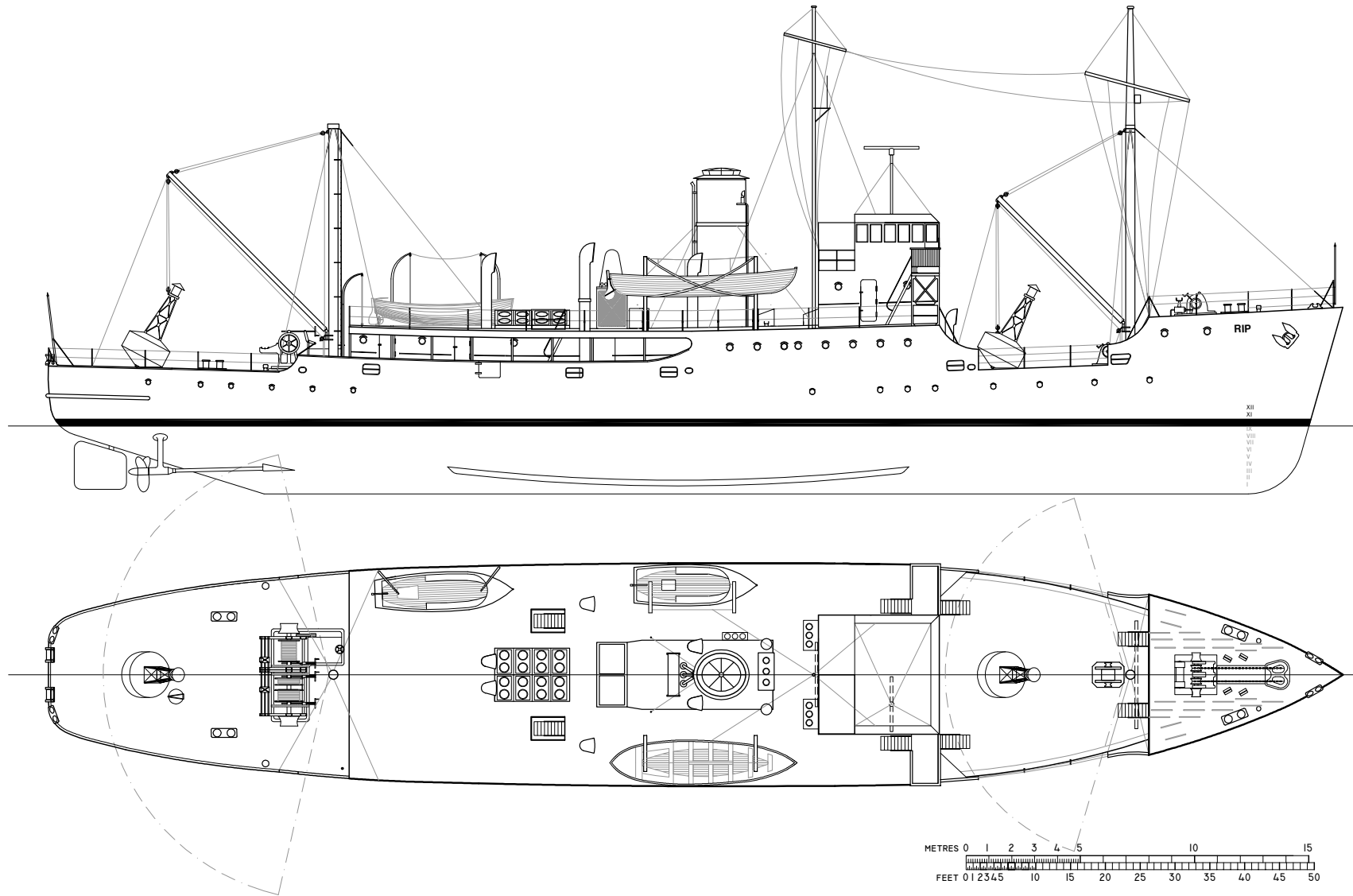


Ex-HMAS *Whyalla*, ex-SS *Rip* at her final resting place in Whyalla, South Australia. Note the stakes under the waterline at the bow which probably relate to her use as a service vessel for Victoria's Ports and Harbours. [navy.gov.au]



The converted Bathurst Class corvette, *SS Rip* beside the Rye Pier in Port Phillip. Note the warp out to starboard to help her away from this exposed location. [Ross Gillette]

# S.S. RIP





13

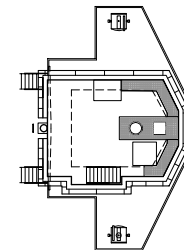
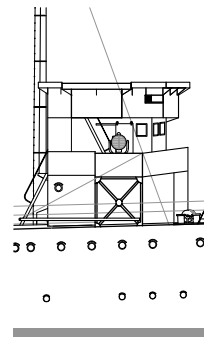
BRIDGE EVOLUTION

As previously mentioned, the first three Bathursts (*Bathurst*, *Maryborough* & *Lismore*) had a three-level bridge comprising a flying bridge of current destroyer proportions above the mid-level enclosed wheelhouse and charthouse. Access to this mid-level with its substantial bridge wings containing a 20-inch searchlight port and starboard was via two external ladders and one external ladder on the starboard side led to the flying bridge. This arrangement is well illustrated in the 1940 depiction of HMAS *Bathurst*'s in the drawing on page???.

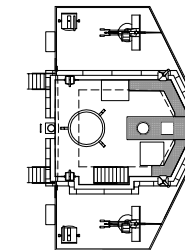
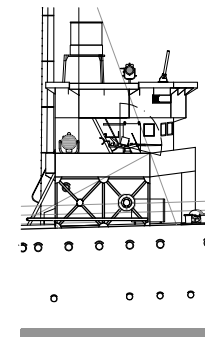
The bridge of HMAS *Maryborough* is shown as it appeared in 1945 in the second drawing. Note that the bridge wings have been extended aft to accommodate the single 20mm Oerlikon mounting and to retain the 20-inch searchlights. The flying bridge now has the standard Type 272 radar lantern in its perspex drum on a simple steel stand at the rear of the bridge and there's 10-inch signalling projectors present plus PAC rockets – presumably for launching flares or for signalling. The third drawing is of HMAS *Goulburn* as completed and represents what may have been a one-off or certainly a restricted version of the bridge and bridge wing combination in that the latter is of a narrower type than those which followed, there is no searchlight tower and semaphore equipment is fitted. The drawing of HMAS *Geelong*'s bridge arrangement in the fourth drawing, as at 1941, could be regarded as the final design. Note that the centre-line searchlight tower is now introduced as standard, the bridge wings are wider (although the supports remain unchanged) and single .303-inch Vickers machine guns are mounted port and starboard as are 10-inch signalling projectors and semaphore equipment.

## BRIDGE EVOLUTION

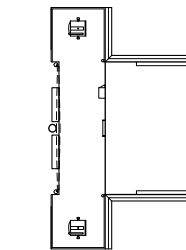
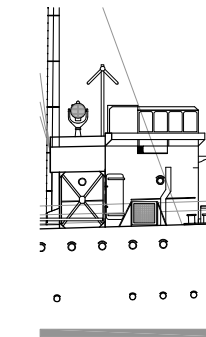
HMAS BATHURST 1940



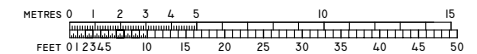
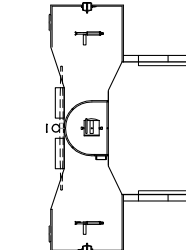
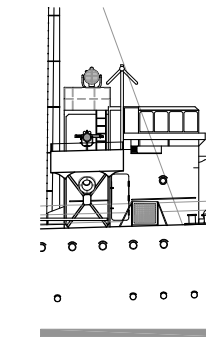
HMAS MARYBOROUGH 1945



HMAS GOULBURN 1940

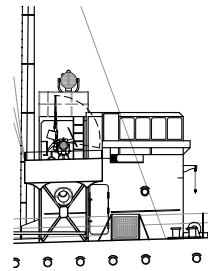


HMAS GEELONG 1941

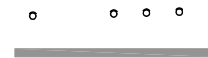
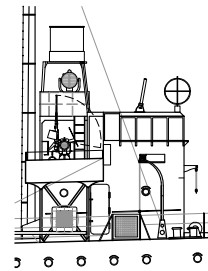


The 1942 version of HMAS *Mildura* shown in the first illustration shows the important upgrade to the ubiquitous single 20mm Oerlikon on the bridge wings. The second illustration, HMAS *Kiama* of 1944, shows the addition of the Type 272 radar above the bridge, the PAC rockets and an MF/DF loop on the bridge canopy. Post-war, HMAS *Ararat*'s drawing shows that the bridge canopy has been removed in favour of hoops supporting a canvas shade cover. Gone also are the 20mm Oerlikons and the MF/DF antenna. The final drawing of HMNZS *Inverell* shows a vastly modified bridge with substantially reduced bridge wings, external ladders, a substantial radar office with a lattice tower above supporting a Type 293 antenna and an MF/DF antenna cantilevered ahead of the bridge face. Note the GRP life raft on a stand beneath the bridge wing.

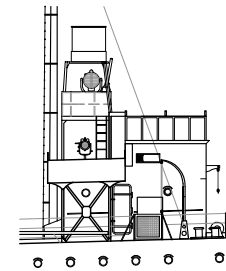
HMAS MILDURA 1942



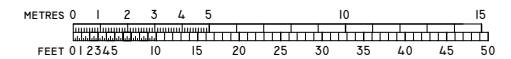
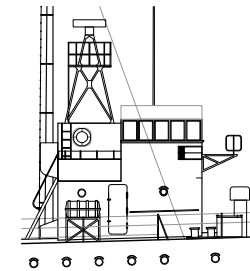
HMAS KIAMA 1944



HMAS ARARAT 1946



HMNZS INVERELL 1952







14

ARMAMENT  
EVOLUTION

The main armament varied over time from a 12-pounder 12 cwt QF (a quick-firing weapon of 3-inch bore) through three versions of 4-inch weapons (one breach-loading and two quick-firing) to, finally, only the 40mm Bofors reflecting availability and application.

The 12-pounder 12 cwt QF Mk I was a tried and tested weapon dating from 1894 in the “27-knotter” destroyers of the Royal Navy. They were simple, robust and reliable and were fitted to a HA/LA IX mounting that provided -10 degrees to +70 elevation. (refer Chapter ???) Just how many Bathursts were commissioned with this weapon (other than the four corvettes for the Royal Indian Navy) is unknown. The first drawing shows such an arrangement and the second shows the same mounting with extended sides to the somewhat rudimentary gun shield.

The third drawing shows the more common 4-inch BL (Breach Loading) Mk IX on a CP (Centre Pivot) Mk I mounting. This gun dated from 1916 and was the single-barrelled version of the triple-barrelled Mk V as fitted to HMS *Renown* and *Repulse*. While adequate for surface action, it had no anti-aircraft capability – save the doubtful technique of using shell splashes to dissuade low-flying torpedo bombers. The fourth drawing shows the same weapons as more commonly fitted with a shield.

The fifth drawing shows the locally-produced replacement, the QF 4-inch Mk XIX on a Mk XXIII mounting – the derided “Woolworth Gun”. While the basic tall and narrow shield remained constant in overall appearance, readers will notice variations in detail – some appearing simpler than others.

The lack of anti-aircraft ability led to the peculiarly Australian development of a single-barrelled version of the effective twin-barrelled 4-inch Mk XVI – in this case the single Mk XX mounting as shown in the first illustration of the second page. The shield was simply a cut-down version of the twin-barrelled version. The drawing shows a hatched depiction of the cartridge catch net that was sometimes fitted.

The post-war training application of the Bathurst Class resulted in the 4-inch weapons being removed in favour of a 40mm Bofors in a power-operated Mk VII mounting. Having removed the bulky and heavy gun mount, it is curious that no effort was made to fit a split Hedgehog – an ahead-throwing anti-submarine

mortar. But, with a 15-knot top speed, a Bathurst’s use as an antisubmarine platform – albeit a training one – was particularly limited anyway.

The secondary armament – as it related to the mounting on the centreline on the aft deckhouse – was less varied. This position offered good unobstructed firing arcs and the 2-pounder QF fitted to the earliest versions (the middle drawing) of the Bathursts (as and when available) were often replaced or upgraded to single 20mm Oerlikons in later completions – as shown in the fourth drawing. The ultimate weapon, shown in the last drawing, was the air-cooled 40mm Bofors in what was basically a slightly modified version of the army type but fitted to an elevated mounting to clear the lifelines and still allow for a depression for surface fire. Unfortunately, the bridge wings were neither spacious or strong enough to mount the Bofors there and the single 20mm Oerlikons were retained there.



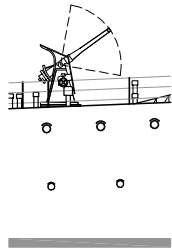
An Oerlikon crew HMAS *Rockhampton*. Note the crew are wearing anti-flash gear. The seaman on the left adjusts the trunnion height via a wheel. The one on the right changes the 60-round magazines. [AWM 108649]



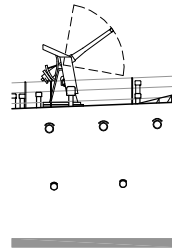
The gun crew of a QF 4-inch Mk XIX with the gun at maximum elevation. [AWM 075718]

## MAIN ARMAMENT EVOLUTION

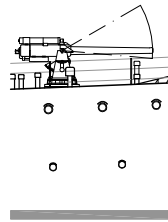
12-pdr 12 cwt QF



12-pdr 12 cwt QF  
(shield extended)

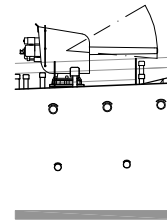


4-inch BL Mk IX  
on a CP Mk I mounting

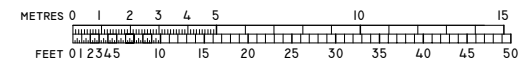
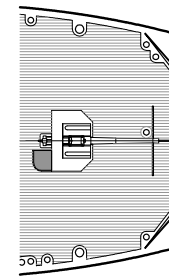
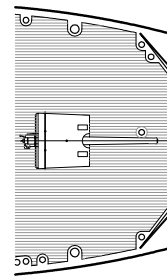
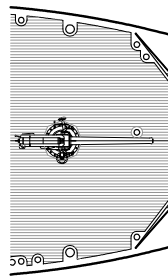
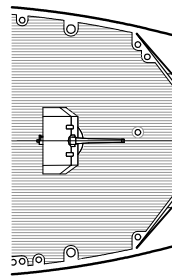
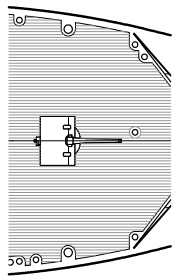
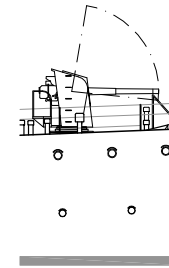


4-inch BL Mk IX  
on a CP Mk I mounting

with shield

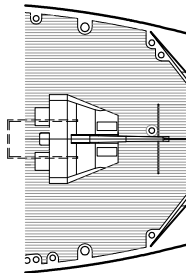
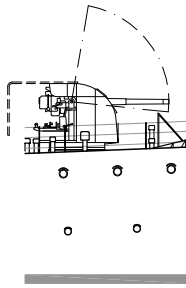


QF 4-inch Mk XIX  
on a Mk XXIII mounting

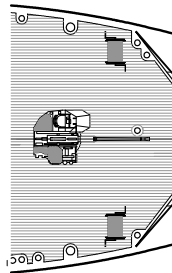
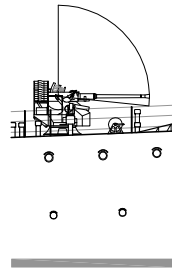


## SECONDARY ARMAMENT EVOLUTION

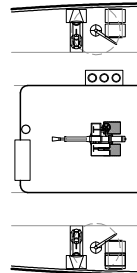
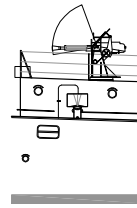
4" Mk XVI  
on a MK XX mounting



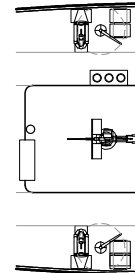
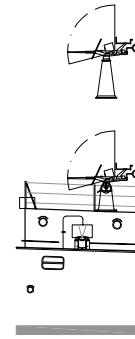
40mm Bofors Mk VII



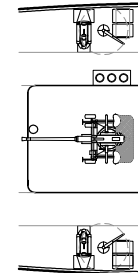
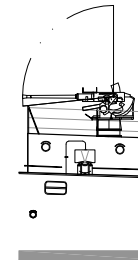
2-pdr QF Mk VIII



20mm Oerlikon



40mm Bofors Mk III





15

BUILDERS

When orders were placed for the first seven ships in September 1939 it was expected that the production rate expected to be an optimistic two per month which ignored the difficulties occasioned by the commencement of World War II. The first keel was not laid until 10 February 1940 (HMAS *Bathurst*) by the lead builders, Cockatoo Island Dockyard which provided support for the other seven builders. By June, only five ships had been laid down and when Japan entered the war on 8 December 1941 only three corvettes were available for local operations.

There were eight builders of the Bathursts. In alphabetical order they were:

Broken Hill Pty. Ltd., Whyalla, SA	4 ships
HMAS <i>Gawler</i> , HMAS <i>Kalgoorlie</i> , HMAS <i>Pirie</i> , HMAS <i>Whyalla</i>	
Cockatoo Island Dockyard, Sydney, NSW	7 ships
HMAS <i>Bathurst</i> , HMAS <i>Bendigo</i> , HMAS <i>Cessnock</i> , HMAS <i>Glennelg</i> , HMAS <i>Goulburn</i> , HMIS <i>Madras</i> , HMAS <i>Wollongong</i>	
Evans Deakin & Company, Brisbane, QLD	11 ships
HMAS <i>Ararat</i> , HMAS <i>Broome</i> , HMAS <i>Bunbury</i> , HMAS <i>Bundaberg</i> , HMAS <i>Fremantle</i> , HMAS <i>Gympie</i> , HMAS <i>Ipswich</i> , HMAS <i>Kiama</i> , HMAS <i>Launceston</i> , HMAS <i>Parkes</i> , HMAS <i>Townsville</i>	
His Majesty's Naval Dockyard Williamstown, VIC (see note, below)	8 ships
HMAS <i>Ballarat</i> , HMAS <i>Benalla</i> , HMAS <i>Castlemaine</i> , HMAS <i>Echuca</i> , HMAS <i>Geelong</i> , HMAS <i>Horsham</i> , HMAS <i>Shepparton</i> , HMAS <i>Stawell</i>	
Morts Dock & Engineering Company, Sydney, NSW	15 ships
HMAS <i>Armidale</i> , HMAS <i>Burnie</i> , HMAS <i>Colac</i> , HMAS <i>Deloraine</i> , HMAS <i>Dubbo</i> , HMIS <i>Bengal</i> , HMIS <i>Bombay</i> , HMAS <i>Punjab</i> , HMAS <i>Inverell</i> , HMAS <i>Latrobe</i> , HMAS <i>Lismore</i> , HMAS <i>Lithgow</i> , HMAS <i>Mildura</i> , HMAS <i>Wagga</i> , HMAS <i>Warrnambool</i>	
New South Wales State Dockyard, Newcastle, NSW	1 ship
HMAS <i>Strahan</i>	
Poole & Steel, Sydney, NSW	7 ships
HMAS <i>Cootamundra</i> , HMAS <i>Cowra</i> , HMAS <i>Geraldton</i> , HMAS <i>Junee</i> , HMAS <i>Kapunda</i> , HMAS <i>Katoomba</i> , HMAS <i>Wallerawang</i>	
Walkers Limited, Maryborough, QLD	7 ships
HMAS <i>Bowen</i> , HMAS <i>Cairns</i> , HMAS <i>Gladstone</i> , HMAS <i>Maryborough</i> , HMAS <i>Rockhampton</i> , HMAS <i>Tamworth</i> , HMAS <i>Toowoomba</i>	

The first 10 laid down were to British Admiralty order (*Bathurst*, *Lismore*, *Maryborough*, *Ballarat*, *Burnie*, *Goulburn*, *Whyalla*, *Kalgoorlie*, *Toowoomba* & *Bendigo*).

The first ship commissioned was HMAS *Bathurst* (6<sup>th</sup> December, 1940) and the last was HMAS *Parkes* (25<sup>th</sup> May, 1944).

(see Appendix III)

Production by year:

1940	1 ship
1941	13 ships
1942	33 ships
1943	9 ships
1944	4 ships

Appendix IV shows the production times and completions times.

Note: His Majesty's Naval Dockyard, more usually referred to a Williamstown Naval Dockyard, was the Melbourne Harbour Trust's dockyard until requisitioned by the Commonwealth of Australia in 1942.

It is worth looking at **Walkers Limited** as an example of how the ship-building industry had to mobilise to undertake these orders and the sorts of difficulties they had to face.

John Walker & Co was founded in Ballarat, Victoria in 1864 and operated as the Union Foundry. In 1868 it expanded to Maryborough in Queensland in response to the needs of the mining and sugar industries.

In 1884 the company was floated as John Walker & Co, Ltd. and changed its name four years later to Walkers Limited.

Shipbuilding began at Maryborough, on the banks of the Mary River, in 1877 with a slipway, lofting shed and workshops. Thirteen ships were built in the 21 years to 1898.

Severe industrial unrest caused the Victorian Government-owned shipyard at Williamstown to be closed in 1915 until sold to the Commonwealth Government in 1918. A nationwide, Commonwealth-headed shipbuilding program aimed at providing continuous construction got underway only after unions made concessions. Of the 21 "D" & "E" class 6,000-ton cargo ships built under the program, Walkers received an order for four of which two were later



Hammerhead crane at Walkers Limited with corvette on the slipway. [State Library of Queensland]

cancelled. The slipway was reconstructed to provide two building berths allowing side-by-side construction of ships up to 350-feet by 55-feet. An 80-ton heavy lift crane and a fitting-out berth were added. A 6-ton steam forging

hammer was designed and built and, as with previous orders, Walkers built the ships' steam Vertical Triple Expansion reciprocating engines and the boilers.

The shipyard was idle from 1928 to 1939 when it reopened after the Commonwealth embarked on what had been known as the LDV (Local Defence Vessel) program – later to become the AMS (Auxiliary/Australian Mine Sweeper). Order for AMS Vessel No.3 (Later HMAS *Maryborough*) was placed on behalf of the Admiralty. The order was to be the Senior Ship of the 21st Minesweeping Flotilla.

The slipways were cleared of accumulated silt and a new electric hammerhead crane was obtained from the Walsh Island State Dockyard and Engineering Works, Newcastle (NSW) shipyard – closed in 1933. It had a lift capacity of 6-tons at 66-foot radius and 3-tons at 100-foot radius. A second, similar crane was designed, built and installed.

Seven of the Bathurst class were built by Walkers – see above. However, that is not the whole of the story. Walkers built forty of the main engines of 875 IHP, 1000 IHP (Bathursts) and 2,750 IHP (River Class frigates) of which 14 went into the Bathursts they built and six went into the three frigates they built. No records have been found as to which of the ten Bathursts built by

other shipyards had Walker-built engines. In addition to the engines, Walkers made the propeller shafts and thrust blocks for each engine. They also built 114 Admiralty steam-driven pumps, 79 steam-driven cargo winches, 1,000 watertight doors and thousands of bronze valves and fittings for other shipyards. Up to 1,200 employees worked 56-hour weeks.

Between 1939 and 1974 when the shipyard closed for good, 52 ships and 7 smaller vessels were built at Walkers.

Servicing the Admiralty and RAN orders was not without their problems. Launching dates were extended many times prompting many "Please Explain" signals from the Admiralty. Late deliveries of steel, delays with templates for steel fabrication, delays with equipment delivery, lack of labour – not surprising in a small Queensland country town – and cyclonic weather were valid excuses. Unlike other yards, Walkers does not seem to have suffered union disputes.

Commendable as Walker's contribution was, HMAS *Maryborough* had one engine fail in Bass Strait not long after commissioning requiring passage to Melbourne in inclement weather on the remaining engine then 14 days at Williamstown to remedy the problem/s mainly, it seems, to a thrust shaft.



HMAS *Maryborough* prior to launching at Walkers Ltd. [navy.gov.au]

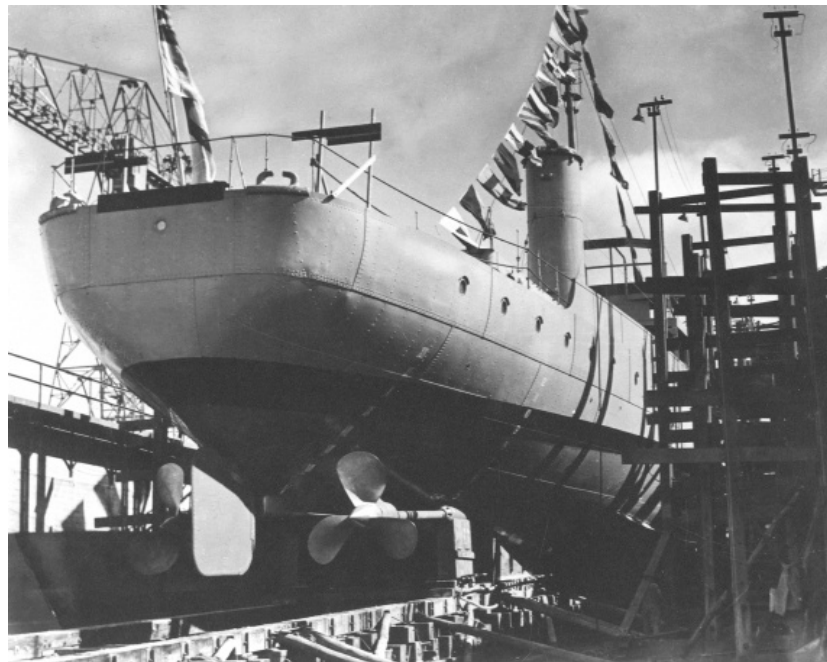
11111

# 16 BUILDING TIMES



The quickest building time, (that is, Laying Down to Commissioning) of 231 days (4<sup>th</sup> Aug, 1942 to 23<sup>rd</sup> March, 1943) was HMAS *Gladstone* built by Walkers Limited, Maryborough. This was quite remarkable considering Walkers was probably the most remote and smallest of the dockyards. Maryborough was a small, regional town with a mainly sugar-cane-based industry on the narrow, winding Mary River which, in turn, is accessed via the shallow Great Sandy Straights. *Gladstone* was the last Bathurst they built and their average time was 364 days (a best of 231 and a worst of 441).

The slowest building time was by Broken Hill Pty. Ltd. at Whyalla when HMAS *Kalgoorlie* took an incredible 619 days (24<sup>th</sup> July 1940 to 7<sup>th</sup> April 1942). Of the four ships they built, their best time was only 509 days and their average



HMAS *Kalgoorlie* prior to her launching time. The bunting was hardly a celebration as *Kalgoorlie*, and her builders BHP at Whyalla, had the longest building time. [navy.gov.au].

time was 557 days – a truly abysmal performance. Broken Hill did not make the engines or the boilers. The engines were made by Perry Engineering Co. in Adelaide in *Pirie*'s case and by Western Australian Railways for the others. But all the boilers came from the Cockatoo Island Dockyard – a potential bottleneck. These arrangements may have contributed to delays but keel-laying to launch times were not unreasonably long. The overall average was 206 days and Broken Hill's average for four ships was 280 days with *Kalgoorlie*, again, setting a record of 376 days - 145 days more (62.8% longer) than Walkers took to build *Gladstone* from keel-laying to commissioning.

The builder with the best average time was Cockatoo Island Dockyard. Its seven ships averaged 272 days with a best of 233 days and a worst of 300 days. The builder with the worst average time was, as stated, Broken Hill Pty.Ltd. The average building time over all 60 ships was 385 days.

By ranking – expressing each builder's average performance as a percentage of the best average performance, then:

Cockatoo Island Dockyard, Sydney, NSW	272 days	100.00%
Morts Dock & Engineering Company, Sydney, NSW	289 days	106.27%
Walkers Limited, Maryborough, QLD	364 days	133.77%
Evans Deakin & Company, Brisbane, QLD	431 days	158.8%
Poole & Steel, Sydney, NSW	443 days	162.92%
His Majesty's Naval Dockyard Williamstown, VIC	467 days	171.78%
New South Wales State Dockyard, Newcastle, NSW	523 days	192.28%
Broken Hill Pty. Ltd., Whyalla, SA	557 days	205.10%

(see Appendix IV)

The reasons for the slow building times are complex. First, Australia had a small population with a proportionately small ship-building industry and its skilled workforce was depleted by service in the armed forces. These 60 ships, plus others that were building, put an enormous strain on skilled labour. Secondly, the demands on materials resulted in shortages. Thirdly, there were

delays in sourcing equipment that could only be obtained overseas. Fourthly, the socialist trade unions and peace activists were disruptive, particularly before Russia entered the war in mid-1941. The Cockatoo Dockyard work force, for example, operated under fifty-five different award systems creating lines of demarcation as to who was allowed to do what, when and how.

Hal Colebatch said in “*The enemy within that killed Curtin*”, (Sydney Morning Herald, 25 April 2007):

*During the war, about 6 million working days were lost directly through strikes in Australia, while the number lost indirectly was a considerable multiple of that. About two-thirds were after the Curtin government came to power (the figures are skewed by a prolonged coal strike on the NSW fields early in the war).*

*Ship building was a paradigm case of unimpressive industrial production. It took in general almost as long, in some cases longer, to build 800-ton Bathurst-class corvette/minesweepers with engines of 1750 or 2000 horsepower with a main armament of a single four-inch or 12-pounder gun, in Australia as it took in America to build 35,000-ton, 150,000-horsepower Essex-class aircraft-carriers. The Essex-class carrier Franklin was completed in 14 months - as fast as or faster than half the Bathursts.*

*Frigates and destroyers laid down in Australia during the war were either not completed until the end of the war or later, or were cancelled incomplete. Despite the desperate need, almost no major merchant ships were built. This was in glaring contrast to the performance not only of the US and Britain, but also of Canada. Factories and industries such as aircraft production without a strong tradition of union militancy tended to perform much better.*

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Endnotes

1. David K Brown, *Atlantic Escorts: Ships, Weapons & Tactics in World War II*, p.146

By way of comparison, Brown in his *Atlantic Escorts* book provides the following interesting data:

<b>UK-built Flower Class corvettes</b>		
UK-built	124 days	Worst 610 days
Canadian-built	238 days	Worst 540 days
<b>River Class Frigates</b>		
UK-built	Best 217 days	Worst 745 days
Canadian-built	Best 155 days	Worst 531 days
Australian-built	Best 493 days	Worst 743 days

Note: These figures relate to Keel-Laying to Completion not to Commissioning.<sup>[1]</sup>

British yards were subject to night-time blackouts, bombing raids and the ever-present shortage of materials whereas the Australian and Canadian shipyards were able to operate without such hindrances, material availability excepted.



17

SHIPS' HISTORIES

# HMAS *Ararat* K 34 & M 34

Laid Down:	6 July 1942
Launched:	20 Feb 1943
Commissioned:	16 June 1943
Days to build:	345
Builder:	Evans Deakin & Co. Ltd.
To Order:	RAN

*Ararat* was the only Bathurst class to receive a K prefix in its pennant number. I have found no explanation for this. All others had, initially at least, a J prefix.

August 1943: Commenced her operational duty as a convoy escort vessel on the east coast of Australia.

17 October 1943: Proceeded from Townsville escorting her first New Guinea convoy for Milne Bay and thereafter continued duty as an escort vessel to the forward areas until the close of the year.

1944: Continued escort and patrol duties between Queensland and New Guinea until March when she transferred to Langemak, New Guinea. Until May, when she proceeded for Melbourne to refit, she was engaged mainly on escort and patrol work in the New Guinea and New Britain areas. Following a refit, *Ararat* returned to New Guinea waters in July 1944 and resumed operational duty on escort and patrol work between Langemak and Hollandia. On 11 August she transferred to the operational control of the United States naval command at Manus Island. Based there until the close of 1944 she was almost constantly at sea on escort and patrol to the forward areas of the rapidly developing Allied offensive. Though mostly in New Guinea waters during this period, *Ararat's* duties at times took her as far afield as the Palau Islands in the Pacific.

1945: The first six months were spent on escort, patrol and guard ship duties, mainly in the Morotai area, escorting convoys for Mios Woendi and onward. In March she returned briefly to Australia and in June she was sent to Borneo where Australian troops were engaged in operations against the Japanese forces ashore.

22 July 1945: War service came to an end when she departed Langemak en route for Adelaide to refit.

22 October 1945: Joined the 20th Minesweeping Flotilla for post-war mine-clearance operations. As a minesweeper, she operated first in Australian waters (October 1945 to April 1946) and then, until November 1946, in the waters of New Britain, New Ireland and the Solomon Islands. On 13 November she arrived at Sydney from Rabaul, her work with the 20th Minesweeping Flotilla completed and her seagoing career ended. She had steamed 109,000 miles.

11 April 1947: Paid off into the Reserve Fleet at Sydney.

6 January 1961: Sold on 6 January 1961 to Burns Philp & Co Ltd, Darwin. She was later resold to Japanese interests. Under that ownership she carried out salvage operations in Darwin Harbour.

20 July 1961: Left Darwin under the control of the Fujita Salvage Company of Japan, towing a floating crane.

([www.navy.gov.au/hmas-ararat](http://www.navy.gov.au/hmas-ararat))

## Battle Honours

PACIFIC 1941-45, NEW GUINEA 1942-44



HMAS *Ararat*, the only Bathurst with a K prefix pennant number. [navy.gov.au]

# HMAS *Armidale* J 240

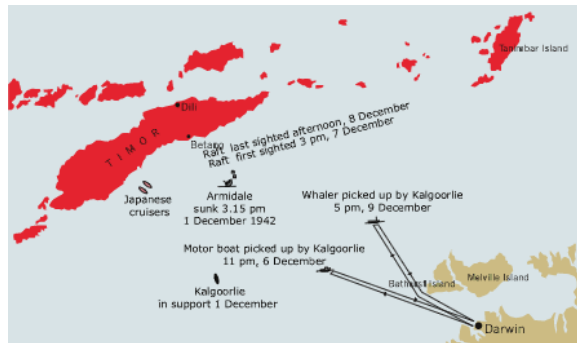
Laid Down:	1 Sep 1941 6 July 1942
Launched:	24 Jan 1942
Commissioned:	11 June 1942
Days to build:	283
Builder:	Morts Dock & Engineering Co. Ltd.
To Order:	RAN

1942: Following a workup period *Armidale* was brought into operational service as an escort vessel protecting Australian coastal and mainland – New Guinea convoys. This service ended in October 1942 when she was ordered to join the 24th Minesweeping Flotilla at Darwin.

7 November 1942: Arrived at Darwin

29 November 1942: Ordered to proceed to Betano (Timor) in company of her sister ship HMAS *Castlemaine*. The purpose of this mission was the reinforcement of guerrilla forces operating in Timor and evacuation of Dutch troops and Portuguese women and children. *Armidale* carried three AIF soldiers, two Dutch officers and 61 Indonesian troops of the Netherlands East Indies Army.

1 December 1942: Arrived off Betano. En route with *Castlemaine* they had been attacked three times by Japanese aircraft, but without sustaining any damage or casualties. Failing to make contact with forces ashore, the ships retired so as to clear the coast before daylight. Later the same day, contact was made



Map of Timor Sea showing where HMAS *Armidale* was sunk and where survivors were recovered. (source unidentified or unestablished)

with the patrol vessel HMAS *Kuru*, Darwin bound with 70 evacuees. Following the transfer of *Kuru*'s passengers to *Castlemaine*, *Armidale* and *Kuru* proceeded to Timor independently. At 3:15 pm on 1 December, *Armidale* was attacked by nine bombers, three fighters and a floatplane. The ship was hit twice by torpedoes and sank within five minutes in position 10°S, 126°30'E.

The survivors of the attack abandoned ship in two boats (a motor boat and a whaler) and a Carley float and a raft. They remained together until midday on 2 December, when the commanding officer, Lieutenant Commander Richards, 16 of the ship's company and some Dutch service personnel set out in the motor boat in the hope of being sighted. This group was rescued by another sister ship of *Armidale*, HMAS *Kalgoorlie*, on 6 December, following sighting by aircraft. On 5 December, the whaler parted company from the raft with 26 RAN and the three AIF personnel on board. On 7 December, the raft was sighted by searching aircraft and on the following day both whaler and raft were again observed. HMAS *Kalgoorlie* subsequently located and rescued the occupants of the whaler. However, the raft was never seen again. Out of a total of 83 naval personnel, comprising five officers and 78 ratings, 40 (two officers and 38 ratings) lost their lives. Losses of Netherlands East Indies personnel were two officers and 58 soldiers. (www.navy.gov.au/hmas-armidale)



Commissioning ceremony HMAS *Armidale*, 11 June 1942. [navy.gov.au]



HMAS *Armidale*. Note what appears to be Canadian type SW1C radar at masthead. [AWM 026612]

## Battle Honours

PACIFIC 1941-45, DARWIN 1942-43, NEW GUINEA 1942-44

# HMAS *Ballarat* J 184 & B 236

Laid Down:	19 April 1940
Launched:	10 Dec 1940
Commissioned:	30 August 1941
Days to build:	498
Builder:	Williamstown Naval Dockyard
To Order:	Admiralty

*Ballarat* was the first Bathurst Class laid down after the three original design ships with the three-level bridge structure. It was, in effect, the prototype for the remaining 57 of the Class.

20 September 1941: After trials in the Melbourne area sailed for Sydney and joined the 20th Minesweeping Flotilla, based in Sydney.

1 November 1941: Sailed for Jervis Bay to give anti-submarine protection to the transport *Queen Mary*. That ship and another giant liner of the Cunard Line, *Queen Elizabeth*, were to comprise Convoy US13 to the Middle East, the troops embarked being mainly from the 6th, 7th and 9th Australian Divisions. After embarkation of troops at Sydney the transports proceeded to Jervis Bay, whence they sailed for the Middle East on 3 November. *Ballarat* returned to Sydney the same day.

14 November 1941: Departed Sydney towing Oil Lighter No 1. The vessels proceeded via Brisbane, Townsville and Thursday Island to Darwin, where they arrived on 8 December. Two days later she commenced escort duty between Darwin, Timor and Ambon.

Early January 1942: Arrived at Batavia then proceeded to Singapore. After leaving Singapore on 3 February 1942, she carried out patrols in Banka Strait ('Bomb Alley'), and was employed also in rescuing shipwrecked crews and carrying out demolition work. *Ballarat* carried out one of the largest rescue operations, picking up 215 survivors from the MV *Derrymore*, sixty miles north west of Batavia on 14 February 1942. The *Derrymore* had been sunk by

Japanese submarine in position 5°18'S, 106°20'E. Amongst those rescued by *Ballarat* was Flying Officer J.G. Gorton RAAF, who was later to become Prime Minister of Australia. Amongst other ministerial posts held by Mr Gorton before he became Prime Minister was that of Minister for the Navy.

She landed parties at Oosthaven for demolition, which was successfully carried out without loss. With sister ships, *Ballarat* took a prominent part in the evacuation of Sumatra, operating from Palembang. She was the last RAN ship to leave, staying behind to sink a small unseaworthy minesweeper. The ship then returned to Australia and was employed on convoy escort work, mainly to New Guinea. In November she and her sister ship HMAS *Katoomba* were heavily attacked by Japanese dive-bombers.

December 1942: *Ballarat* and her sister ships HMAS *Broome* and HMAS *Colac* were detailed to transport Australian troops and land them as far forward as possible in the Buna area. The three vessels reached the landing point at Cape Sudest near Oro Bay without incident, but a few minutes later unidentified aircraft began dropping flares. Because of the threat of attack from enemy aircraft and from enemy warships believed to be in the area it was decided to retire temporarily after only 46 men had disembarked out of a total of 762. Later the same day (14 December) the operation was successfully completed using a new landing position and under cover of darkness all troops were put safely ashore. During the remainder of the month *Ballarat* was involved in troop carrying on three further occasions.

April 1943: Ordered to operate off the Australian east coast to counter the Japanese submarine menace.

January 1944: Returned north for escort duty to New Guinea. Later employed between Thursday Island and Darwin.

August 1944: Ferried troops from Eilanden River (southern Dutch New Guinea) bringing them without loss to Merauke.

1945: Minesweeping off Sydney prior to the arrival of the British Pacific Fleet, departing for Manus on 25 February and arriving at Leyte Gulf on 26 March. Participated in the operation for the capture of Okinawa (March-May 1945).

September 1945: Present at the surrender ceremony at Tokyo, after which she

was engaged in minesweeping in the Hong Kong area with the 20th and 21st Minesweeping Flotillas. She was damaged by a mine at Amoy on 6 November, and returned to Melbourne on 13 December where the ship's company went on long leave. At the conclusion of hostilities *Ballarat* had steamed 130,000 miles.

27 September 1946: Paid off into Reserve at Sydney.

10 July 1947: Sold to a Hong Kong shipping company, China Traders Ltd. *Ballarat* did not leave Australian waters and in December 1950 she was resold to the Ta Hing Company (Hong Kong) Ltd. She was subsequently refitted for the Chinese coastal trade and renamed *Carmencita*.

January 1951: The Commonwealth Government issued a Statutory Order banning her from proceeding to Chinese waters.

1953: Sold to John Manners and Co (Aust) Pty Ltd, Sydney. It was reported that the ship had been broken up in 1953. ([www.navy.gov.au/hmas-ballarat](http://www.navy.gov.au/hmas-ballarat))

There is some slightly more recent history that can be included here, as follows:

SECRET

AUSTRALIAN STATION INTELLIGENCE SUMMARY

Serial No. 35

Date of Issue 1 Nov 1955

Naval Intelligence Division

Navy Office

Melbourne

SECTION I . R.A.N. AND OTHER COMMONWEALTH NAVIES

Page 5

(NOTE: pages 1 - 4 of this report have been deleted as irrelevant)

Ex-H #M, A, Ships BALLARAT and GOULBURN

Leave Australia.

Ex~H.M.A. Ships BALLARAT and GOULBURN Leave Australia.

On 1st September an interesting tow left Sydney heading north. The towing vessel was the 382-ton S. S. "ISABEL", owned by the Isabel Navigation Co, (John Manners and Co. Ltd.), and the ships towed were the former Ocean Mine-sweepers BALLARAT and GOULBURN purchased by John Manners and Co., Hong Kong;, and renamed "CARMENCITA" and "BENITA" respectively.

The first leg of the tow was to have been to Rabaul, where John Manners and Co, have sold "BENITA" to Messrs, Nelson and Robertson Pty.Ltd, as a lighter for copra storage, ("BENITA" is virtually a hulk, as she has been almost completely gutted out and her engines removed in Sydney),

S.S. "ISABEL" was to continue the tow of "CARMENCITA" to Kobe, where the ex-O.M.S, is apparently to be broken up. ("CARMENCITA" has been demilitarised, but her boilers and engines are in suitable condition for refitting to permit the vessel to steam)

Little publicity accompanied the departure of the tow from Sydney, "BENITA" being the first ship at the end of the tow-line end "CATMENCITA" being secured to the stem of "BENITA" o All went well for ten days, the tow making a good speed of advance of 5 knots. On 12th September, however, whilst in position 500 miles north-east of Townsville, "CARMENCITA" broke adrift and "ISABEL" commenced a search for her whilst still towing "BENITA". After several days' fruitless searching,

during which an air search by R.A.A.F, aircraft from Townsville was also unsuccessful, "ISABEL" continued to Samarai with "BENITA". Leaving "BENITA" at Samarai she returned to the area to search and was fortunate in recovering "CARMENCITA" on 20th September,

"ISABEL" proceeded to Cairns for fuel and departed with "CARMENCITA" on 29th September for Kobe, via Hong Kong. It is understood that John Manners and Co. acquired the two vessels for £4,000. A previous purchaser of the ships, the American Trading and Shipping Co., is believed to have paid out £25,000 on purchase money and harbour dues for the period the ships were lying in Sydney prior to the present sale.

### Battle Honours

PACIFIC 1941-45, NEW GUINEA 1942-44, OKINAWA 1945



HMAS *Ballarat*. Note no radar apparent and what appears to be a 2-pdr aft of the mainmast. [AWM 106652]



HMAS *Ballarat*, right, as SS *Carmencita* circa 1953. [navy.gov.au]



HMAS *Ballarat* in BPF two-tone camouflage. (source unidentified or unestablished)



# HMAS *Bathurst* J 158

Laid Down:	10 Feb 1940
Launched:	1 Aug 1940
Commissioned:	6 Dec 1940
Days to build:	300
Builder:	Cockatoo Docks & Engineering Co. Ltd.
To Order:	Admiralty

*Bathurst* was lead ship of the class, first to be laid down and first to be completed.

January 1941: Began her career in as a unit of the 21st Minesweeping Flotilla (RAN), operating on the east Australian coast.

March 1941: Left Australian waters for Malaya, where she operated as a patrol vessel based in Singapore until 26 May 1941.

3 June 1941: Arrived at Colombo and there joined the Eastern Fleet for escort and patrol duties.

End June 1941: Entered the Red Sea, spending a month in those waters before docking at Alexandria on 4 August 1941.

25 August 1941: Returned to Aden, and then began a period of three and a half months on patrol in the Gulf of Tajura (French Somaliland), with the mission of preventing dhow traffic and blockade maintenance of the African coast.

18 October 1941: Captured the French launch *Heron*, and dhows on 5 September and 14 November 1941.

16 December 1941: Red Sea Patrols ended and *Bathurst* proceeded to Colombo, arriving 29 December.

1942: Based at Colombo for escort and patrol duties in the Indian Ocean, Persian Gulf and Arabian Sea. At this stage of her career, *Bathurst* had steamed

70,000 miles and had escorted more than 1,000,000 tons of shipping without loss.

September 1943: With 102,000 miles steaming behind her, she began refitting at Colombo. Convoy escort duty between Colombo and Bombay resumed in November, and the year closed with *Bathurst* at sea en route for Calcutta.

1944: Escort duty between Colombo to Bombay continued.

14 April 1944: Played a worthy role in the rescue and salvage work that followed the explosion of the munition ships Fort Strikine and Jalapadma. Fifteen ships were gutted by the resulting fires and large numbers of the local population killed and injured.

7 August 1944: Reached Colombo after escorting her last Indian Ocean convoy.

29 August 1944: Sailed for Australia, ending almost three and a half years Indian Ocean – Red Sea service.

20 September 1944: Entered Fremantle harbour.

Australian coastal anti-submarine patrols kept *Bathurst* in home waters until April 1945 when she proceeded to New Guinea waters. At this stage of the Pacific War, with the Philippines in American hands, there remained only routine patrols for her until the end of hostilities in August 1945.

The war over, *Bathurst* proceeded to the Far East as a unit of the 21st Minesweeping Flotilla (eleven Australian minesweepers) attached to the British Pacific Fleet. Based on Hong Kong the Flotilla carried out sweeping operations on the Chinese coast until mid-November 1945.



*Bathurst*, still in the builder's hands with Red Ensign and not HMAS yet, no pennant numbers, and showing the much higher, three-level bridge with wheelhouse below. [source not established]

9 December 1945: Returned to Sydney, bringing her seagoing career to an end. She had steamed 160,165 miles.

27 September 1946: Placed in Reserve for disposal.

21 June 1948: Sold to T. Carr and Co of Sydney as scrap.

June 1950: Sank at moorings in 9.0 metres of water. Raised and scrapping continued.

([www.navy.gov.au/search/node/bathurst](http://www.navy.gov.au/search/node/bathurst))

#### Battle Honours

INDIAN OCEAN 1941-45, PACIFIC 1941-45



A later, poor quality photo of HMAS *Bathurst*. Note the extended bridge wings and radar antenna, possibly SW1C.  
(source unidentified or unestablished)

# HMAS *Benalla* J 323 & M 232

Laid Down:	24 Mar 1942
Launched:	19 Dec 1942
Commissioned:	27 April 1942
Days to build:	399
Builder:	Williamstown Naval Dockyard
To Order:	RAN

Although nominally a minesweeper, *Benalla* was fitted during construction for survey duties and did not carry minesweeping gear. The forecastle deck was extended to accommodate a large chart room. Extra motor-boats were fitted and the existing motor-cutter was replaced with a “high performance cabin clinker-built type” – presumably the 25-foot standard version.<sup>[1]</sup> Pfennigwerth refers to “Survey Motor Boats” and having “bigger davits”.<sup>[2]</sup> The maximum complement was 107. Occasionally if her programme permitted *Benalla* combined convoy escort duty with passage to another operating area.

Early in 1943, the Officer-in-Charge Hydrographic Branch “was delegated the charting authority for Allied Naval Forces in the South-West Pacific” and Task Group 70.5, a unit of the US Seventh Fleet was formed. [3]

19 May 1943: *Benalla* departed Melbourne for Sydney. After completion of trials, she was assigned to duty in northern areas.

2 June 1943: Sailed from Sydney for Brisbane with ammunition lighter in tow.

20 June 1943: En route to New Guinea waters to take up survey duties *Benalla* with sister-ship HMAS *Katoomba* as escorts for a convoy of six ships (three for Milne Bay and three for Port Moresby. When the convoy split *Benalla* and *Katoomba* escorted the Milne Bay and Port Moresby sections respectively. Another sister ship, HMAS *Bunbury*, joined the convoy from Cairns and accompanied *Benalla* to Milne Bay.

30 June 1943: With sister ship HMAS *Shepparton* engaged in the landing by

United States troops on Kiriwina Island. Landings on that island and Woodlark Island, both in the Trobriand Group, were unopposed, there being no Japanese troops on the islands. Following this operation *Benalla* was based at Milne Bay for survey duties.

July – September 1943: Survey Group comprising *Benalla* and *Shepparton* plus HMA Ships *Stella* and *Polaris* and other small craft carried out preparatory work for Australian landings at Lae, Salamaua and Finschhafen. Continued survey work based at Milne Bay until early December.

9 December 1943: she arrived at Sydney to undergo a refit.

29 January 1944: Sailed from Sydney on to return to survey duties in New Guinea waters.

March and April 1944: Participated in surveys of Seeadler Harbour, Admiralty Group, following capture of the islands by United States troops.

August 1944: Returned to Brisbane for a refit lasting two months.

11 October 1944: Sailed for Hollandia and on to the Philippines as part of the escort for 20 United States Liberty Ships.

4 November 1944: Joined the frigate HMAS *Gascoyne* for survey duty in San Pedro Bay before the Leyte Gulf landings before returning to New Guinea waters in December where she continued survey work.

6 January 1945: Arrived at Darwin to take up duty with a Survey Group on the Australian northwest coast.

3 May 1945: Sailed from Darwin for Fremantle, where she remained until July.

20 July 1945: Arrived at Darwin to resume survey duty.

7 September 1945: Sailed from Darwin as a unit of the Australian/Dutch force ordered to Koepang for the ceremony of surrender of all Japanese forces in Timor.

11 September 1945: Japanese commander signed the instrument of surrender aboard the sloop HMAS *Moresby*. After returning from Timor, she resumed

survey duty in the northwestern area.

2 November 1945: Departed Darwin and proceeded to Fremantle.

28 January 1946: Paid off into Reserve at Fremantle.

25 March 1955: Tug HMAS *Sprightly* sailed for Melbourne with *Benalla* in tow and later transferred to Geelong.

21 January 1956: Towed from Geelong to Sydney by *Sprightly*.

20 February 1958: Sold for scrap to Mitsubishi Shoji Kaisha Ltd of Tokyo. The Japanese salvage vessel *Tukoshima Maru* sailed from Sydney on 25 April 1958 with *Benalla* in tow.

([www.navy.gov.au/search/node/benalla](http://www.navy.gov.au/search/node/benalla))

Battle Honours

NEW GUINEA 1942-44



HMAS *Benalla* on slipway undergoing refit, late 1943-early 1944. [navy.gov.au]

# HMAS *Bendigo* J 187 & B 237

Laid Down:	12 Aug 1940
Launched:	1 Mar 1941
Commissioned:	10 May 1941
Days to build:	271
Builder:	Cockatoo Docks & Engineering Co. Ltd.
To Order:	Admiralty

4 July 1941: Departed Sydney and began her active war career in the Darwin area where she remained for a period of two months.



HMAS *Bendigo*, circa September 1942. Note non-standard camouflage and 2-pdr aft. [navy.gov.au]

22 September 1941: Sailed for Singapore to become a unit of the China Squadron. The period remaining before the outbreak of the Pacific War was spent on escort, sweeping and patrol duties in the Singapore area.

January 1942: Operated out of Singapore on sweeping, escort and patrol duties, down to Berhala and Banka Strait.

2 February 1942: While anchored in Singapore experienced two near misses in a Japanese bombing raid causing extensive scarring from shrapnel. Bendigo made only one move from her anchorage during this period

6 February 1942: Proceeded to No 24 Swept Channel north of Durian Strait, to act as lightship for an outward-bound convoy. All five ships proceeded to Amphitrite Bay.



HMAS *Bendigo*, Port Moresby September 1942. [navy.gov.au]

13 February 1942: While escorting the convoy to Batavia eight Japanese aircraft commenced bombing from approximately 10,000 feet.

28 February 1942: *Bendigo* sailed from Merak in company with her sister-ships *Maryborough*, *Toowoomba*, *Ballarat*, *Goulburn* and *Burnie* for *Tjilatjap*.

8 March 1942: Arrived Fremantle. She was assigned to escort Australia to New Guinea and coastal convoys, continuing in this role almost without a break until 1944 when convoys ceased.

8 March 1943: Rescued 153 survivors from the Dutch ship *Jacob*, which was sunk by Japanese aircraft off Oro Bay whilst under escort by *Bendigo* and *Kapunda*.

11 April 1943: Searched unsuccessfully for a Japanese submarine after the sinking of the Yugoslav ship *Recina* in convoy off the New South Wales coast with the loss of 32 lives.

February 1944: Began escort and patrol duties in the New Guinea area. Except for docking periods in Sydney, the remainder of 1944 was spent in New Guinea waters on routine patrols and escort duties.

March 1945: Arrived in Philippine waters, becoming part of a Task Unit operating with the British Pacific Fleet, to which she remained attached until the end of hostilities. She participated in the operation for the capture of Okinawa (Operation ICEBERG) between March and May 1945.

September to November 1945: Following the end of hostilities, operated as a minesweeper in the Hong Kong area.

20 December 1945: Returned to Williamstown.

4 February 1946: Sailed from Melbourne for Sydney, in company with *Ballarat* and reduced to a Care and Maintenance basis.

27 September 1946: Paid off in Sydney Since commissioning she had steamed 280,100 kilometres.

5 May 1947: Sold as a seagoing vessel to Ta Hing Co (Hong Kong) and was renamed *Cheung Hing*. She was later acquired by the Navy of the People's

Republic of China, converted from a merchant ship and rearmed for naval service under the name of *Loyang*.

([www.navy.gov.au/hmas-bendigo](http://www.navy.gov.au/hmas-bendigo))

### Battle Honours

PACIFIC 1941-45, NEW GUINEA 1942-44, OKINAWA 1945



HMAS *Bendigo* in BPF type two-tone camouflage. [navy.gov.au]

# HMAS *Bowen* J 285 & M 285

Laid Down:	9 Feb 1942
Launched:	28 Jul 1942
Commissioned:	9 Nov 1942
Days to build:	273
Builder:	Walkers Ltd.
To Order:	RAN

*Bowen* began her active wartime career with convoy escort duty on the east coast of Australia and to the New Guinea forward areas.

28 March 1942: At Oro Bay, a series of dive-bombing attacks ended in the destruction of the Dutch ship *Bantam* (3,014 tonnes) and the American tender *Masaya* (1,065 tonnes), the former having been escorted into the bay by *Bowen* two days previously. The corvette fortunately escaped the bombing but was strafed by two planes after they had released their bombs on *Bantam*. After taking off survivors *Bowen* successfully beached the burning Dutch ship away from the wharf. A stoker in *Bowen* suffered shrapnel wounds. There were no casualties on board the *Bantam* but the American ship suffered six killed and several wounded.

1943: Continued convoy escort, and anti-submarine patrols in the northeastern area, usual employment being the Cairns – Townsville – Port Moresby – Milne Bay run, interspersed with an odd run into Oro Bay or Buna. They were mostly monotonous, but essential patrols providing protection from submarines for the never-ending movement of supplies to the forward areas.

15 January 1944: While en route to Milne Bay, rescued two survivors from a RAAF Beaufort bomber which had crashed into the sea. In April, en route to Hyane Harbour, Admiralty Islands, rescued the only survivor of a crashed United States plane.

1944: Continued operating in the New Guinea area, escorting and patrolling further north as the war progressed, to Madang, Langemak, Saidor, Merauke and the Admiralties.

June 1944: *Bowen* began a period of duty operating between Darwin and Thursday Island, ending in November when she arrived at Melbourne for refitting.

March 1945: Returned to New Guinea on escort duties escorting shipping to Madang, Hollandia, Morotai and Biak. In July and August, she visited Darwin and was in that port when hostilities ended.

In the immediate post war period, she played her part with other units of the RAN in surrender and occupation operations in the Moluccas, before returning to Australia in December 1945.

17 January 1946: Paid off in Melbourne having steamed 95,651 miles on active service.

18 May 1956: Sold to Hong Kong Rolling Mills, Hong Kong, to be broken up.

([www.navy.gov.au/hmas-bowen](http://www.navy.gov.au/hmas-bowen))

## Battle Honours

PACIFIC 1941-45, NEW GUINEA 1942-44



HMS *Bowen* in BPF type two-tone camouflage but without BPF pennant number. [navy.gov.au]

# HMAS *Broome* J 191

Laid Down:	3 May 1941
Launched:	6 Oct 1941
Commissioned:	29 July 1942
Days to build:	451
Builder:	Evans Deakin & Co. Ltd.
To Order:	Admiralty

*Broome* commissioned at Brisbane but remained in the builder's hands until accepted by the Royal Australian Navy on 19 August 1942.

25 August 1942: Sailed for Sydney to complete fitting out.

19 October 1942: Commenced her operational service on when she joined a Sydney to Brisbane convoy off Newcastle. She parted from the convoy off Moreton Bay and proceeded to Townsville and then to Cairns engaged on anti-submarine patrols and escort duties in the North Queensland area.

Mid November 1942: Transferred to New Guinea waters for similar work in the Port Moresby and Milne Bay areas.

December 1942: With sister ships *Ballarat* and *Colac*, detailed to transport Australian troops and land them as far forward as possible in the Buna area. The three vessels reached the landing point at Cape Sudest near Oro Bay without incident, but a few minute's later unidentified aircraft began dropping flares. Because of the threat of attack from enemy aircraft and from enemy warships believed to be in the area it was decided to retire temporarily after only 46 men had disembarked out of a total of 762. Later the same day the operation was successfully completed using a new landing position and under cover of darkness all troops were put safely ashore.

January 1943: Returned to Australia where she spent a month based on Townsville before resuming escort duties.

February to May 1943: Constantly in service escorting convoys between

Townsville and Milne Bay. Japanese submarines were very active in Australian waters during this period and merchant ships were sunk but neither *Broome* nor any of the ships in her convoys were attacked.

26 May 1943: Returned to Sydney.

July 1943: Following a major refit she was assigned to duty as an escort vessel on the east coast of Australia, mainly between Sydney and Brisbane.

December 1943: Resumed escort of convoys proceeding between Queensland ports and Milne Bay.

June to December 1944: Assigned to New Guinea waters for escort and patrol work operating as far north as Morotai Island in the Halmahera's.

January 1945: Returned to Australia for refit and then, after further service in New Guinea in the Mios Woendi, Noemfoor and Morotai area:

March 1945: Joined the Royal Australian Navy Survey Group in Darwin. After a month on survey duties in the Darwin she proceeded to Fremantle, then to Adelaide for refit, and finally to Sydney at the close of June 1945. Her arrival there completed *Broome*'s circumnavigation of Australia. She had steamed 96,000 miles since commissioning.

July 1945: Returned to New Guinea for further escort and anti-submarine patrol duties. Shortly before the end of hostilities she visited Morotai, Borneo and the Philippines. When hostilities ceased on 15 August 1945 the ship was at sea on escort duty, *en route* from Zamboanga in the Philippines to Morotai.

30 August 1945: After returning to the Philippines, *Broome* commenced preparations for minesweeping duty in Hong Kong. In company with the ships of the Royal Australian Navy Minesweeping Flotillas she carried out clearance sweeps, survey duties and anti-piracy patrols.

17 October 1945: Returning to Morotai she was subsequently engaged in ferrying troops and stores in the Moluccas and searching the islands of Banda, Toel and Kai for signs of missing aircraft.

29 December 1945: Arrived at Darwin.



10 January 1946: Arrived at Fremantle, bringing her wartime service to a close. She had steamed 109,869 miles.

Mid April 1946: Paid off and recommissioned into the Royal Navy.

8 May 1946: Sailed from Fremantle for Colombo en route to Istanbul where she was officially handed over to the Turkish Navy and renamed *Alanya* and was classified as a Corvette (Logistic Support Ship). 'Jane's Fighting Ships' reported that *Alanya* was deleted from the Turkish Navy in 1975.

*Broome's* ship's bell was removed as a relic before transfer to Turkey. The bell was landed at Broome from

HMAS *Mildura* on 20 May 1952 and presented to the Broome Road Board by His Excellency the Governor of Western Australia on 29 June 1952. The Board presented the bell to the Broome State School on 7 November 1952.

It now hangs at the Returned Servicemen's Club in Broome.

([www.navy.gov.au/hmas-broome](http://www.navy.gov.au/hmas-broome))

#### Battle Honours

PACIFIC 1941-45, NEW GUINEA 1942-44



HMAS *Broome*. [AWM 300467]



HMAS *Broome*. Note 12-pdr still fitted yet she now has the full radar fit-out. [AWM 300469]



HMAS *Broome* showing how the Bathurst corvettes could roll. Lewis gun shield in left foreground. Note the sea is not particularly rough and the helm may be hard over turning to Starboard. The ensign is indistinct and this photograph may have been taken during builder's trials as no armament appears to be fitted. [[navy.gov.au](http://navy.gov.au)]



HMAS *Broome*, looking astern. Note the sea is not particularly rough so this must be a manoeuvre. (source unidentified or unestablished)

# HMAS *Bunbury* J 241 & M 241

Laid Down:	1 Nov 1941
Launched:	16 May 1942
Commissioned:	3 Jan 1943
Days to build:	428
Builder:	Evans Deakin & Co. Ltd.
To Order:	RAN

*Bunbury* began operational duty as an escort vessel on the east coast of Australia. At this time (January 1943) the Japanese were beginning their third and last attempt to disrupt the flow of supplies to the forward areas by stationing submarines in Australian coastal waters. However, although eleven ships were lost off the Australian coast before the enemy withdrew in May 1943, none were sunk or damaged while being escorted by *Bunbury*.

Late April 1943: Transferred to the northern area and based on Townsville began escorting convoys to Port Moresby and Milne Bay. These duties, which were arduous under the tropical conditions but uneventful, kept *Bunbury* almost constantly at sea until January 1944 when she proceeded to Melbourne for refit.

March 1944: Returned to the New Guinea theatre, where she was engaged on escort and general duties, until forced to return to Brisbane for repairs in April 1944 after running aground at Cape Cretin.

May 1944: Returned to New Guinea and resumed escort duties mainly between Madang, Langemak, Hollandia and Aitape.

August 1944: Began escorting convoys between Thursday Island and Darwin.

September 1944: Proceeded to Fremantle via the west coast, thence to Adelaide for docking.

31 October 1944: Returned to Fremantle and was used for tactical exercises with United States Navy submarines until 17 December when a collision with

HM Submarine *Sea Rover* put her in dockyard hands for a month.

12 January 1945: Resumed her interrupted exercise programme with American submarines:

17 April: Sailed via Onslow and Thursday Island for New Guinea, where she operated on patrol and as a guard ship in the Mios Woendi, Biak and Morotai area.

7 July 1945: Sailed for Adelaide for refit, bringing her war service to a close. By the time she reached Adelaide she had steamed 88,000 miles on war service.

November 1945: Joined the 20th Minesweeping Flotilla for sweeping operations off Hobart and in Spencer Gulf.

29 May 1946: Arrived in Sydney to pay off.

26 August 1946: Paid off on 26 August 1946 bringing her seagoing career to a close after steaming 101,000 miles since commissioning.

6 January 1961: Sold on to Kinoshita (Australia) Pty Ltd for breaking up. Her ship's bell was presented to the City of Bunbury where it is currently on display

([www.navy.gov.au/hmas-bunbury](http://www.navy.gov.au/hmas-bunbury))

## Battle Honours

PACIFIC 1941-45, NEW  
GUINEA 1942-44



HMAS *Bunbury* in late-War or post-War configuration with open bridge and US SG radar on foremast. [AWM 125071]

# HMAS *Bundaberg* J 231 & M 231

Laid Down:	7 Jun 1941
Launched:	1 Dec 1941
Commissioned:	12 Sep 1942
Days to build:	462
Builder:	Evans Deakin & Co. Ltd.
To Order:	RAN

October 1942: On completion of her trials *Bundaberg* was assigned to operational duty as a convoy escort vessel on the east coast of Australia between Melbourne, Sydney and Brisbane.

Until the end of 1942, the enemy were comparatively inactive in Australian waters, but in January 1943 the Japanese launched their third and final submarine campaign on coastal shipping in an attempt to disrupt the flow of war materials to the forward areas.

January to May 1943: Almost constantly at sea. Eleven ships were lost off the coast. Only four of these, however, were in convoy at the time of attack, one of which, the United States vessel SS *Portmar*, was being escorted by *Bundaberg*.

December 1943: Began escorting convoys from Cairns to Port Moresby and Milne Bay. After nearly three months of this duty that were mainly uneventful, she transferred to the operational control of Commander Task Force 74 (Australian Squadron) for service in New Guinea waters engaged on escort, anti-submarine patrol and bombardment assignments in support of military operations ashore in the New Guinea theatre. During this period (April to August 1944), *Bundaberg* bombarded Japanese positions on Alim Island (Admiralties), took part in the landings on Sek Island, and gave general support to the campaign that ended with the capture of the Admiralties and the establishment of an Allied base at Manus Island. In addition, she carried out anti-submarine patrols in the Solomon Sea, off Hollandia, off Alexishafen and in the Sepik River area. Escort duties were a continuing commitment during this period that included the escort of troop transports from Finschhafen to Madang.

July 1944: Assisted by her sister ship HMAS *Whyalla*, succeeded in refloating the Australian Landing Ship Infantry HMAS *Kanimbla* which had gone ashore at Cape Cretin, New Guinea.

September 1944: Returned to Australia in September 1944 for refit,



HMAS *Bundaberg* in disruptive camouflage. [navy.com.au]

October 1944: Returned to New Guinea and for the next six months was engaged on escort and anti-submarine duties between Mios Woendi, Biak and Morotai.

May 1945: Returned to Australia for another refit but by mid June was back in New Guinea waters to resume duty in the Biak and Morotai areas. There she carried out patrol and escort duties until the end of hostilities.

September 1945: Proceeded to Borneo where she took part in the recovery of Allied prisoners of war. She was also present at Kuching (Borneo) with her sister ship HMAS *Kapunda* for the official surrender ceremony of the Japanese forces in the area on 9 September.

29 March 1946: Paid off at Brisbane having steamed 112,199 miles since commissioning.

4 November 1947: Undertow by her sister ship HMAS *Katoomba*, departed Brisbane for Sydney.

6 January 1961: Sold for scrap on 6 January 1961 to Kinoshita (Aust) Pty Ltd

(<http://www.navy.gov.au/hmas-bundaberg>)

## Battle Honours

PACIFIC 1941-45, NEW GUINEA 1942-44

# HMAS *Burnie* J 198 & B 238

Laid Down:	4 Jun 1940
Launched:	25 Oct 1940
Commissioned:	15 Apr 1941
Days to build:	315
Builder:	Morts Dock & Engineering Co Ltd.
To Order:	Admiralty

10 May 1941: Joined the 20th Minesweeping Flotilla off Cape Otway. She was then based temporarily at Fremantle for escort and patrol duties.

June 1941: In company with HMAS *Goulburn* left Sydney for Singapore via Brisbane, Townsville, Cooktown, Thursday Island and Darwin.

When Japan attacked Pearl Harbour in December 1941 *Burnie* was in Malayan waters. Thereafter, in company with other Australian corvettes, she helped to oppose the Japanese advance through the Netherlands East Indies. She was engaged in demolition work during this period - blowing up wharves, destroying oil and rubber stocks and military supplies - duties made extremely difficult by the constant Japanese air raids. During this period *Burnie*, for a time, wore the broad pennant of Cdre. J.A. Collins RAN, then Commodore Commanding the China Force.

September 1942: Joined the Eastern Fleet and was engaged in anti-submarine patrols and escorting convoys to and from Bombay, Aden and Colombo.

December 1944: Together with other Australian corvettes serving with the Eastern Fleet returned to Australia where they were formed into a Minesweeping Flotilla and attached to the British Pacific Fleet. In this capacity *Burnie* carried out anti-submarine duties and escorted convoys in the New Guinea, the Admiralties and the Philippines.

August 1945: Proceeded to Hong Kong where she was engaged in minesweeping operations.

November 1945: Sweeping in Formosa Strait, Amoy, Morotai, Darwin and Fremantle.

4 June 1946: In company with her sister ships HMA Ships *Ipswich* and *Toowoomba*, departed Brisbane for Ceylon where they were to be handed over to the Royal Netherlands Navy.

5 July 1946: In Colombo the three ships paid off and were transferred to the Royal Netherlands Navy. *Burnie* was renamed *Ceram*. During her RAN commission *Burnie* had steamed over 160,000 miles. *Ceram* was removed from the effective list of the Royal Netherlands Navy in 1958.

([www.navy.gov.au/hmas-burnie](http://www.navy.gov.au/hmas-burnie))

## Battle Honours

INDIAN OCEAN 1941-45, PACIFIC 1941-45, OKINAWA 1945



HMAS *Burnie* in early-War configuration with no apparent secondary armament fitted. [AWM 07855]



Launching ceremony, HMAS *Burnie*. [AWM 004276]

# HMAS Cairns J 183 & B 239

Laid Down:	31 Mar 1941
Launched:	7 Oct 1941
Commissioned:	11 May 1942
Days to build:	406
Builder:	Walkers Ltd.
To Order:	Admiralty

After commissioning, *Cairns* was engaged in escort, anti-submarine and minesweeping duties in Australian waters.

16 October 1942: Departed Fremantle to join the Eastern Fleet.

14 November 1942: Arrived at the fleet base at Kilindini, Kenya, to begin a period of Indian Ocean patrol and escort duties.

Mid 1943: Transferred temporarily to the Mediterranean. Whilst serving in that theatre, *Cairns* and her sister ships, HMA Ships *Cessnock*, *Geraldton* and *Wollongong*, were at Sicily on 13 July, three days after the start of the Allied invasion. They had gone to the island as part escort of a convoy from Alexandria. They spent the day carrying out an endless chain patrol of the beach and saw an American Liberty Ship blown up in an air raid.

September 1943: Returned to the Indian Ocean. The ship's work in the Indian Ocean was mainly uneventful convoy escort duties.

11 February 1944: As a unit of the escort of a convoy that was attacked by the Japanese submarine *RO-110*. After one ship, *Asphalion*, had been torpedoed, a concerted attack by *Cairns*' sister ships, HMA Ships *Launceston* and *Ipswich*, and the Indian sloop HMIS *Jumna*, destroyed the submarine.

May 1944: Refitted in Adelaide.

July 1944: Rejoined the Eastern Fleet based on Colombo and resumed escort duties, mainly between Indian ports and Aden at the entrance to the Red Sea.

January 1945: Returned to Australia to begin operations with the British Pacific Fleet. After a brief period in home waters, she reached the New Guinea theatre.

Late March 1945: Began escort duties between Manus and Leyte in the Philippines. During March to May she was one of the Australian units operating with the British Pacific Fleet for the invasion of the island of Okinawa (Operation 'Iceberg'). At the end of these operations *Cairns* proceeded to Fremantle for refit.

October 1945: Proceeded to the Far East where, as a unit of the 21st Minesweeping Flotilla, she took part in sweeping operations in Chinese waters.

December 1945: Returned to Australia for paying off;

17 January 1945: In Brisbane was transferred to the Royal Netherlands Navy and was renamed *Ambon*.

6 April 1950: Transferred to the Indonesian Navy and renamed *Banteng*.

April 1968: Broken up. ([www.navy.gov.au/hmas-cairns](http://www.navy.gov.au/hmas-cairns))

## Battle Honours

INDIAN OCEAN  
1941-45, PACIFIC  
1941-45, SICILY 1943,  
OKINAWA 1945



HMAS *Cairns* in Fremantle. Note the two-tone camouflage, the Canadian type SW1C type radar antenna at the masthead, and a 2-pdr aft. [AWM 300507]

# HMAS *Castlemaine* J 244 & M 244

Laid Down:	17 Feb 1941
Launched:	7 Aug 1941
Commissioned:	17 June 1942
Days to build:	485
Builder:	Williamstown Naval Dockyard
To Order:	RAN

After commissioning *Castlemaine* proceeded to Sydney for completion and working up exercises, the latter comprising three days in Broken Bay, and escorting convoys from Sydney to Melbourne.

11 August 1942: Sustained damage in a collision with a Manly ferry in Sydney Harbour at night. Repairs resulting from the collision were completed by Cockatoo Dockyard.

29 August 1942: Proceeded to Townsville. Engaged in escorting vessels from Townsville to Port Moresby for a few weeks after which she sailed for Darwin.

5 October 1942: Arrived Darwin. Almost immediately began her involvement in the hazardous task of supporting the Australian and Allied troops engaged in guerrilla operations against the Japanese occupation forces in Timor.

30 November 1942: While engaged in escort duties between Darwin and Betano, with HMAS *Armidale*, was subjected to three air attacks, but fortunately suffered no damage or casualties.

15 December 1942: While escorting the merchant ships *Period* and *James Cook* from Thursday Island to Darwin, a Japanese aircraft scored a direct hit on *Period*, causing casualties (four fatal). Twice more that day and once the next day the ships came under air attack. These attacks were repulsed by *Castlemaine*'s anti-aircraft fire and the convoy reached Darwin without further damage or casualties.

After the force in Timor was withdrawn early in 1943, *Castlemaine* continued to operate in northern Australian waters on escort and general duties and some minesweeping work.

December 1942: Transferred to escort duties between North Queensland and New Guinea ports and remained on these duties until mid-1944.

18 December 1943: While making independent passage to Cairns she was diverted to render assistance to convoy TN 192. Seven of the eight merchant vessels in the convoy, along with one of the escorts, HMAS *Gladstone*, had run aground on Bougainville Reef on the Great Barrier Reef. By the time *Castlemaine* arrived at dawn on 19 December, *Gladstone* had managed to refloat herself and was waiting for daybreak in company with the other convoy escorts, HMA Ships *Gympie* and *Stawell*, just clear of the reef. The vessels *Colorado*, *Ambrose Bierce* and *City of Fortworth* had also all managed to free themselves and, with *Castlemaine* and HMAS *Lithgow* arriving to assist, and her own starboard propeller damaged, *Gladstone* detached at just after 7.00am to escort the trio back to Cairns. *Castlemaine* assisted in disembarking troops and refloating the stricken vessels before proceeding back to Cairns that afternoon. All of the ships in the convoy were quickly refloated suffering varying degrees of damage.

August 1944: Engaged in survey duties along the north coast of Australia.

29 August 1944: Arrived Morotai and thence to Hong Kong where she took part in the Japanese surrender ceremony and later carried out minesweeping duties.

November 1945: Returned to Melbourne after some further minesweeping and survey work in northern Australia waters.

14 December 1945: Paid off into Reserve. Later immobilised at HMAS *Cerberus*, Crib Point, Victoria, as a training hulk for Engine Room Artificers.

September 1973: The Minister for Defence announced that the Government

had decided to make a gift of *Castlemaine* to the Maritime Trust of Australia, to become a maritime museum. She was transferred later in the year and is stationed at Williamstown close to where she was built and Open for Inspection

#### Battle Honours

PACIFIC 1941-45, DARWIN 1942-43, NEW GUINEA 1942-44



HMAS *Castlemaine* as a museum ship, Gem Pier, Williamstown, Victoria. [[www.visitmelbourne.com](http://www.visitmelbourne.com)]

# HMAS *Cessnock* J 175 & B 240

Laid Down:	16 Apr 1941
Launched:	17 Oct 1941
Commissioned:	26 Jan 1942
Days to build:	285
Builder:	Cockatoo Docks & Engineering Co. Ltd.
To Order:	Admiralty

Following her period of working up in the Sydney area, *Cessnock* commenced duty as an escort vessel assigned to the forces engaged in protecting the flow of shipping between Townsville and New Guinea.

17 September 1942: Having steamed some 26,000 miles on escort duty, *Cessnock* returned to Sydney and then proceeded for Albany, where, until the end of October she operated as an anti-submarine patrol vessel in King George Sound followed by similar duty in the Fremantle approaches.

23 November 1942: Sailed in company with her sister ship HMAS *Toowoomba* for Kilindini, in Kenya, to join the British Eastern Fleet via Diego Garcia and the Seychelles. Operated on local escort and anti-submarine patrol duties.

25 January 1943: Proceeded on escort duty to Aden.

February – March 1943: Engaged escorting convoys between Aden and the Persian Gulf and on patrol in the Straits of Hormuz.

4 April 1943: Sailed from Bandar Abbas as part of the escort of a nineteen-ship convoy to Bombay where she underwent a short refit (10 – 29 April).

6 May 1943: Reached Aden from Bombay and two days later sailed for the Mediterranean in company with HMAS *Ipswich*.

1 June 1943: Reached Alexandria after being delayed by collision with a dhow. For the next four months she was constantly in service as an escort vessel over the entire length of the Mediterranean including participation in the Allied

invasion of Sicily.

On two occasions (one in August and one in September) she entered the Atlantic to rendezvous with Mediterranean bound convoys for which she acted as part escort. Each comprised seventy-five ships.

25 September 1943: Passed through the Suez Canal and proceeding to Aden resumed her former duty as an Indian Ocean escort vessel attached to the Eastern Fleet operating at first between Aden, the Persian Gulf and Bombay.

Escort and general fleet duty in the Indian Ocean kept *Cessnock* almost constantly at sea from the Persian Gulf, India and Ceylon in the north and as far south as East London in South Africa.

26 January 1945: Detached from the Eastern Fleet and departed Trincomalee for Fremantle forming at that time a unit of the 22nd Minesweeping Flotilla for service with the British Pacific Fleet - HMA Ships *Cairns*, *Cessnock*, *Gawler*, *Geraldton*, *Ipswich*, *Tamworth*, *Wollongong*, *Launceston* and *Pirie*.

March 1945: Proceeded to New Guinea and the Philippines on escort duty.

Late April 1945: Returned to Australia for refit that kept her in dockyard hands until the end of June.

July 1945: Returned to the forward areas and after hostilities had ended proceeded to Japan being present at Tokyo for the surrender ceremony. Afterwards she served in Chinese waters and in the Borneo – New Guinea area.

January 1946: Returned to Sydney.

12 July 1946: She paid off at Sydney.

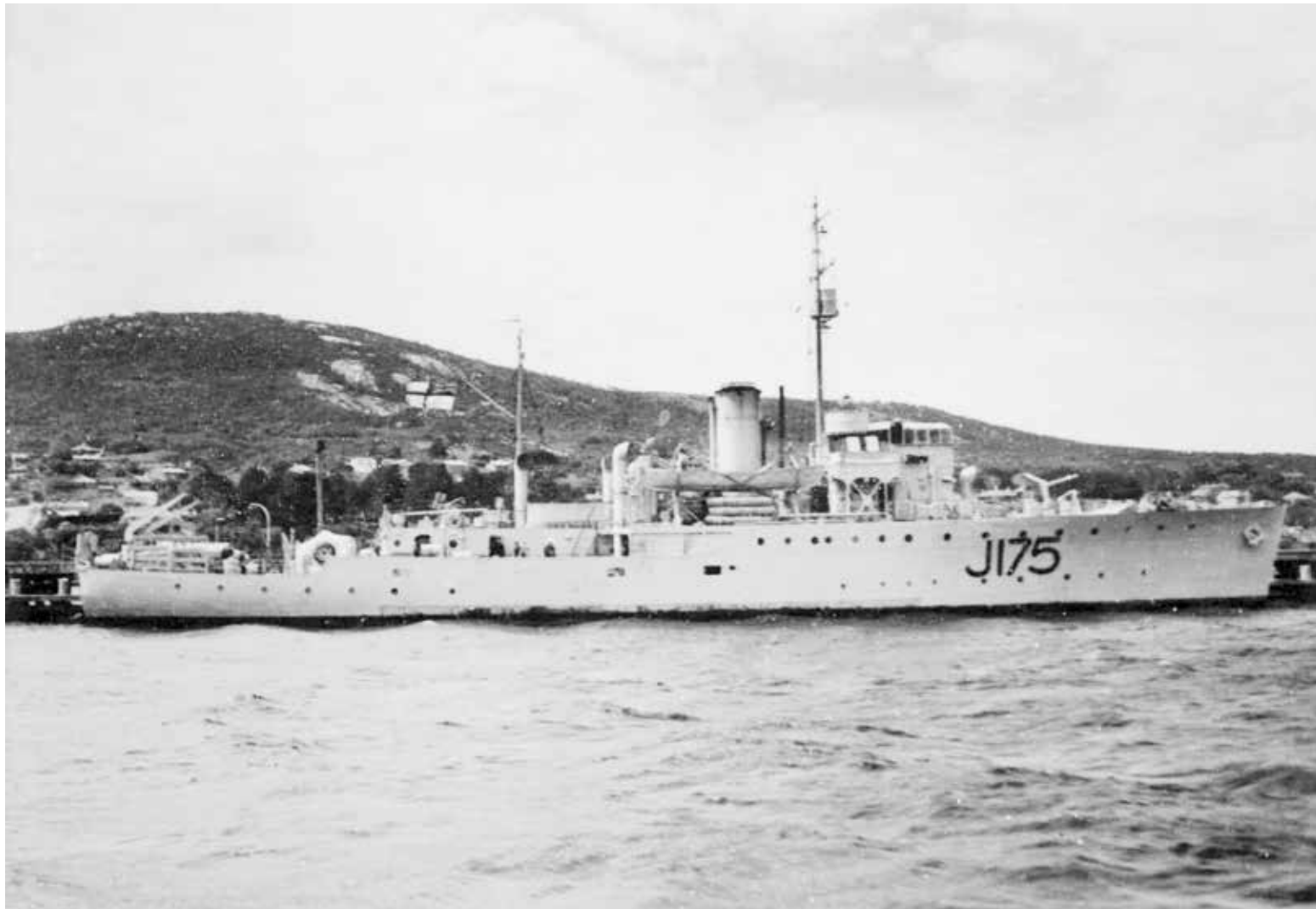
23 April 1947: Sold to the Nan Chiao Shipping and Salvage Co Ltd, Shanghai, for breaking up.

([www.navy.gov.au/hmas-cessnock](http://www.navy.gov.au/hmas-cessnock))

## Battle Honours

INDIAN OCEAN 1941-45, PACIFIC 1941-45, NEW GUINEA 1942-44, SICILY 1943





HMAS Cessnock. [navy.com.au]

# HMAS Colac J 242 & M 05

Laid Down:	18 Apr 1941
Launched:	30 Aug 1941
Commissioned:	6 Jan 1942
Days to build:	263
Builder:	Morts Dock & Engineering Co. Ltd.
To Order:	RAN

January 1942: Following a workingup period, *Colac* was assigned to anti-submarine patrol and convoy escort duty, operating between Townsville and New Guinea.

December 1942: together with her sister ships HMA Ships *Ballarat* and *Broome* was detailed to transport Australian troops and land them as far forward as possible in the Buna area. The three vessels reached the landing point at Cape Sudest near Oro Bay without incident but unidentified aircraft began dropping flares. Because of the threat of attack from enemy aircraft and from enemy warships believed to be in the area it was decided to retire temporarily after only 46 men had disembarked of a total of 762. Later the same day (14 December) the operation was successfully completed using a new landing position and under cover of darkness all troops were put safely ashore. During the remainder of the month *Colac* was involved in troop carrying on three further occasions.

*Colac* took part in Operation 'Lilliput', the reinforcement, supply and development of the Buna / Gona area after its capture.

March 1943: Detached from operations in the forward areas and was assigned to convoy escort duty on the Australian east coast.

26 April 1943: A convoy of five ships escorted by *Colac* and *Ballarat* was attacked by a Japanese submarine about 20 miles south east of Cape Byron. The British ship MV *Limerick* was hit by a torpedo and sank. Efforts

to locate and destroy the submarine failed but *Colac* rescued all but two of *Limerick's* crew.

July 1943: Returned to the escort of convoys between Australia and New Guinea, which kept her almost constantly at sea for the remainder of the year. January 1944: Resumed escort of east coast convoys for a brief period before a refit prior to further New Guinea service.

April 1944: Returned to New Guinea waters. Throughout the remainder of 1944 and the early months of 1945, she was operational on escort, patrol and transport duties as far forward as the Halmahera Group.

April and May 1945: In company with the sloop HMAS *Swan* and her sister ships HMA Ships *Deloraine* and *Dubbo*, gave bombardment support to operations in the Wewak area. Targets included Muschu Island, Kairisu Island, Cape Samier and Wewak.

May 1945: Proceeded to Bougainville in the Solomon Islands where she took part in operations to prevent Japanese troops on Choiseul Island from evacuating to Bougainville and to harass the enemy and destroy his installations on the coast.

26 May 1945: Sustained her first casualties when she received two hits from enemy shore batteries. The first killed two ratings and wounded two others while the second shell struck the ship on the waterline. She began to settle by the stern, but after moveable stores, depth charges and fittings aft had been jettisoned, she was able to proceed for Treasury Island, but had to be taken under tow for the latter part of the voyage to Blanche Harbour. After temporary repairs she was towed to Finschhafen in New Guinea.

18 June 1945: Arrived in Sydney to go into dockyard hands. The ship was still in dockyard hands when hostilities ended on 15 August.

27 November 1945: Paid off into Reserve without again becoming operational. She had steamed 119, 991 miles since commissioning.

20 February 1951: Recommissioned for service as a training ship for National Service Trainees and Naval Reserve personnel. In this role she served on the

Australian Station for two years.

30 January 1953: Paid off into Reserve at Sydney having steamed a further 33,317 miles.

1962: Taken in hand in 1962 for conversion to a tank cleaning vessel. *Colac* ceased service as a tank cleaning vessel on 30 September 1983.

4 March 1987: Sunk by a Mk 48 warshot torpedo fired by HMAS *Ovens* off Jervis Bay.

([www.navy.gov.au/hmas-colac](http://www.navy.gov.au/hmas-colac))

#### Battle Honours

PACIFIC 1941-45, NEW GUINEA 1942-44



HMAS *Colac* underway in overall dark grey camouflage. Note USN style small pennant number. [AWM 075753]

# HMAS Cootamundra J 316 & M 186

Laid Down:	26 Feb 1942
Launched:	3 Dec 1942
Commissioned:	30 Apr 1943
Days to build:	428
Builder:	Poole & Steel Pty.Ltd.
To Order:	RAN

May 1943: Following a period of trials and working-up in the Sydney area, *Cootamundra* began operating as an escort vessel to convoys on the Australian East Coast.

15 June 1943: Proceeded in company with her sister-ships *Warmambool*, *Kalgoorlie*, *Bundaberg* and *Deloraine* to escort a Brisbane-bound convoy of thirteen ships. *En route*, off Smoky Cape, New South Wales, the convoy was attacked by Japanese submarines of the 3rd Squadron then operating in Australian waters. Two ships were torpedoed; the *Portmar*, a United States Army Transport (5,551 tons) and a United States Navy Landing Ship Tank, *LST 469*. The *Portmar* sank in ten minutes with the loss of two lives but *LST 469*, though suffering heavy casualties (twenty-six were killed and many wounded) remained afloat and was later towed to port.

6 July 1943: Reached Thursday Island and from there proceeded to Darwin as escort to the merchant ship *Aroor*.

17 July 1943: Began a period protecting the shipping proceeding between that Darwin and Thursday Island. It proved in the main uneventful though arduous duty in the tropical conditions.

6 August 1943: While escorting *SS Macumba* to Darwin, two Japanese aircraft attacked at low level and in spite of anti-aircraft fire from both ships, scored

a direct hit on *Macumba's* engine room. Attempts to tow the damaged vessel failed and when later the same day it became obvious that *Macumba* was about to founder, the survivors were taken aboard *Cootamundra*.

April 1944: Proceeded to Sydney for refit having steamed more than 20,000 miles on escort duty in northern Australian waters and some 28,000 miles since commissioning.

3 June 1944: Proceeded to Darwin where for a brief period she resumed the role of escort vessel.

28 June 1944: Sailed from Darwin escorting *SS River Clarence*, her last duty as a vessel attached to the Darwin Command.

1 July 1944: At Thursday Island, transferred to the administrative and operational control of the Naval Officer-in-Charge, New Guinea.

5 July 1944: Arrived at Milne Bay to begin duty in the forward areas which lasted until the end of hostilities.

16 July 1944: Sailed from Langemak in company with HMA Ships *Rockhampton* and *Bunbury*, escorting her first New Guinea convoy of the war. Convoy escort duty continued through August.

6 September 1944: With HMAS *Gladstone* relieved two American warships as anti-submarine patrol vessels in the Sansapor area.

October 1944: Boiler cleaning at Madang. Mid-month she proceeded to Biak where she spent a few days patrolling the approaches.

25 October 1944: Sailed from Biak escorting two ships to Morotai and on arrival assumed anti-submarine patrol.

31 October 1944: Five enemy aircraft attacked shipping and shore installations and *Cootamundra* added shot down one aircraft and was hit once by machine gun fire from the enemy planes but suffered only superficial damage and no casualties.

November 1944: Returned briefly to Australia after escort duty during the first half of the month.

3 December 1944: Returned to New Guinea and resumed escort and patrol duty.

30 December 1944: In company of two American Torpedo Boats, carried out her first bombardment of the war when she shelled Japanese positions on Galela Bay, Northern Halmahera.

*Cootamundra* was kept busy on escort duty. She steamed on average 2,800 miles per month in New Guinea waters from January 1945 to the close of hostilities in August. On VJ Day (15 August 1945) she had steamed 74,609 miles on operational war service.

8 September 1945: In company with HMA Ships *Gleneig*, *Junee* and *Latrobe*, proceeded to Ambon and embarked Australian, American and Dutch prisoners of war for passage to Morotai. Later the same month she transported occupation troops to Ambon and took part in the surrender ceremony.

29 September 1945: Sailed from Ambon towing HMAS *Leilani* en route for Melbourne.

26 November 1945: Paid off into Reserve having steamed 81,181.2 miles.

12 December 1951: Recommissioned at Williamstown. In the post war period, she operated chiefly as a training ship in Australian waters. She visited New Zealand in 1954, and in 1957 spent a period in northern waters operating as the supervising vessel to the Japanese Pearlning Fleet. In her post war commission, she steamed 105,805.6 miles.

8 June 1959: Finally paid off.

27 September 1961: Declared for disposal.

28 March 1962: Sold to Banks Bros. & Street.

([www.navy.gov.au/hmas-cootamundra](http://www.navy.gov.au/hmas-cootamundra))

#### Battle Honours

DARWIN 1942-43, NEW GUINEA 1942-44



HMAS *Cootamundra* with 40mm Bofors fore and aft, US SG radar on shorter foremast. Probably post recommissioning 12 December 1951 as training ship. [AWM 300554]



HMAS *Cootamundra* in 1954 in Sydney Harbour. [AWM 300553]

# HMAS Cowra J 351 & M 351

Laid Down:	12 Aug 1942
Launched:	27 May 1943
Commissioned:	8 Oct 1943
Days to build:	422
Builder:	Poole & Steel Pty. Ltd.
To Order:	RAN

November 1943: *Cowra* began her operational career escorting convoys on the east coast of Australia.

March 1944: Transferred to the New Guinea theatre and took up escort and anti-submarine patrol duties until June 1944, when she proceeded to Melbourne for refit.

19 August 1944: Departed Melbourne to return to New Guinea waters. The following eleven months (excepting a brief visit to Brisbane in February 1945) were spent on patrol and escort, mainly in the Morotai area. The early months of 1945 were spent operating, between Sorido and Mios-Woendi.

January 1945: Bombarded Japanese held positions at Yalela Bay in the Northern Halmaheras.

17 July 1945: Wartime service in the forward areas came to an end when she departed Langemak for Melbourne. Joined the 20<sup>th</sup> Minesweeping Flotilla and took part in mine clearance operations on the east coast of Australia and off Tasmania.

4 December 1946: Paid off at Sydney.

20 February 1951: Recommissioned as a Training Ship for National Service Ratings.

26 June 1953: Paid off after steaming another 50,000 miles.

January 1961: Sold to Kino Shito (Aust) Pty Ltd.

([www.navy.gov.au/hmas-cowra](http://www.navy.gov.au/hmas-cowra))

## Battle Honours

PACIFIC 1941-45, NEW GUINEA 1942-44



HMAS Cowra post-war. [State Library of Victoria Allan Green Collection]

# HMAS *Deloraine* J 232 & M 232

Laid Down:	19 Mar 1941
Launched:	26 July 1941
Commissioned:	22 Nov 1941
Days to build:	248 (one of the quickest builds)
Builder:	Morts Dock & Engineering Co. Ltd.
To Order:	RAN

26 December 1941: Sailed from Sydney for Darwin to begin her active operational career with a period of antisubmarine patrol duty in the Arafura Sea.

7 January 1942: Arrived in Darwin and began duty protecting the harbour approaches. The first few days proved uneventful, though Japanese submarines were suspected of being in the area.

20 January 1942: At sea off Darwin, received a signal 'proceed forthwith to position 12°08' South, 130°10' East, for submarine sighted 0630 today Tuesday'. At 14 ½ knots she proceeded as ordered. Earlier the same day a Japanese submarine had been detected and attacked by the American destroyer USS *Edsall*, but it was not known if she had succeeded in inflicting damage. It was hoped *Deloraine* would regain contact on the given course. At 1:35 pm a torpedo was seen approaching, the ship swung sharply and it passed ten feet astern. Immediately a good echo contact was obtained and within a matter of minutes the minesweeper dropped a pattern of six depth charges. Large patches of oil and great air bubbles burst to the surface. The attack continued and after *Deloraine* had expended all of her charges, she was joined by her two sister ships HMAS *Katoomba* and HMAS *Lithgow*, before departing to reload with depth charges from HMAS *Vigilant*. Returning to rejoin *Katoomba* in the early hours of the following morning, *Deloraine* obtained a second contact and dropped a further series of charges over the position. Post war investigation of Japanese records showed that the first attack had been successful, and *Deloraine*, *Katoomba*, *Lithgow* and *Edsall* were officially credited



HMAS *Deloraine*. Note the non-standard sized pennant number, no apparent guardrails forward of the breakwater, scrambling net deployed and black ball in rigging indicating at anchor. [AWM 041255]



HMAS *Deloraine* in pristine condition with 12-pdr strangely aimed directly at the camera man! [AWM 300575]



Bow of HMAS *Deloraine* and stern of HMAS *Colac* delivering troops, Wewak. [AWM 075414]

with destroying the Japanese submarine *I-124*. A vessel of 1,142 tons, she was one of the only four minelaying submarines in the Japanese Navy and loaded forty-two mines and twelve torpedoes. *I-124* was the first enemy submarine sunk in Australian waters. On 28 June 1977 the Minister for Administrative Services signed a declaration under the Historic Shipwrecks Act 1976, that the remains of *I-124* are an historic shipwreck.

February 1942: Began a period of escort and anti-submarine duty between Darwin and Thursday Island, which lasted until June. She was berthed in Darwin Harbour when the first Japanese air raid took place on 19 February 1942. Fortunately, she suffered no damage and was able to render valuable assistance with rescue operations.

5 March 1942: While on anti-submarine patrol off Darwin, she was attacked three times by a Japanese four-engined flying boat, but again emerged unscathed.

July 1942: Returned to Sydney to begin convoy escort duties on the east coast and to forward areas. The midget submarine attack on Sydney Harbour was a recent event, and three ships had been sunk off New South Wales the previous month. For the next twenty months, except for brief periods in dockyard hands, the ship was in constant service protecting the coastal shipping moving between Sydney, Newcastle, Brisbane and New Guinea.

April 1943: Rescued nineteen survivors of the torpedoed United States merchant ship *SS Lydia M. Child*. Of the many hundreds of ships safely shepherded into port only two were lost in convoy. Both were torpedoed off the New South Wales coast on 16 June 1943 – the United States merchant ship *Portmar* and the landing ship *LST 469*.

May 1944: Took up station in the New Guinea area for escort, patrol and troop-carrying duties, including support of the operations at Noemfoor, Biak and Morotai.

February 1945: Carried out bombardments of Japanese positions on Bass and Penguin Islands in the Mapia group.

April 1945: Further assaults on enemy shore posts on Muschu and Kairiru Islands and Wewak on the New Guinea mainland.

30 April 1945: Sailed from Langemak for Brisbane to be refitted. Hostilities ended before the work was completed.

September 1945: Proceeded to Morotai where she embarked troops for the occupation of Menado in the Celebes, returning to Australia in November after visiting Labuan and Sandakan Harbour. The end of the year found her sweeping on the New South Wales coast.

13 July 1946: Returned to Sydney having been employed on minesweeping operations in the New Britain area as a unit of the 20th Minesweeping Flotilla.

4 November 1946: Paid off into Reserve at Sydney.

16 December 1946: Recommissioned at Sydney for further service as a unit of the 20th Minesweeping Flotilla. She remained on active seagoing service assisting in the post war mine clearance programme.

January 1948: Arrived at Fremantle to pay off. She had then steamed some 166,000 miles of which 129,000 miles were steamed on active service in World War II.

30 June 1948: Paid off into Reserve.

8 August 1956: Sold to the Delta Shipping Co Ltd, Hong Kong for breaking up.

([www.navy.gov.au/hmas-deloraine](http://www.navy.gov.au/hmas-deloraine))

#### Battle Honours

PACIFIC 1941-45, DARWIN 1942-43, NEW GUINEA 1942-44



# HMAS Dubbo J 251 & M 251

Laid Down:	13 Oct 1941
Launched:	7 Mar 1942
Commissioned:	31 July 1942
Days to build:	248
Builder:	Morts Dock & Engineering Co. Ltd.
To Order:	RAN

*Dubbo* began her seagoing career attached to the escort and anti-submarine group based on Fremantle and remained on this duty until March 1945, a period of two and a half years during which she steamed some 77,000 miles on routine patrols and escort work. A single German submarine, *U-862*, entered Australian waters in late 1944 and in February 1945 torpedoed and sank the American ship *Peter Silvester* west of Fremantle. *Dubbo*, as one of a search group, spent ten days unsuccessfully searching for survivors.

21 March 1945: Arrived at Darwin from Fremantle, remaining there as guard ship.

4 April 1945: Sailed for New Guinea waters. Thereafter until the close of hostilities *Dubbo* took an active part in operations supporting the Australian land forces in New Guinea and the Solomons.

25 April 1945: In company with HMA Ships *Swan* and *Colac* she bombarded Japanese positions on Muschu Island, off the New Guinea coast, in support of the Australian Sixth Division in its drive against Wewak.

May 1945: Took further part in the New Guinea operations, bombarding Wewak on 2 May and Kairiru Island the following day.

10 May 1945: Embarked troops at But and landed them at Dove Bay, east of Wewak, the following day. Fire support to the land forces continued throughout the month, succeeding in destroying a number of Japanese gun emplacements during this period while under fire herself.

June 1945: Proceeded to the Solomons, where she resumed her role of support

to the Australian land forces with a series of bombardments of Japanese positions on Buka Island and the Bougainville coast.

28 June 1945: Carried out her final bombardment of the war when she heavily shelled Japanese positions at Manahan.



HMAS *Dubbo* with disruptive pattern camouflage and no visible pennant number. [navy.gov.au]

10 July 1945: Departed Torokina for Brisbane, bringing her war service to a close.

August 1945: Returned to the Solomons area where she carried out some preliminary minesweeping operations. Similar duties in New Britain waters kept her fully occupied during September.

October 1945: Returned to Australia to begin a long refit at Brisbane.

January 1946: Joined the 20th Minesweeping Flotilla and for the next four months was engaged in minesweeping operations in Australian waters.

29 April 1946: Entered Sydney Harbour for the last time as a seagoing ship. In her four years of service *Dubbo* steamed 104,923 miles.

7 February 1947: Paid off into Reserve at Sydney.

20 February 1958: Sold for scrap to Mitsubishi Shoji Kaisha Ltd, Tokyo.

June 1958: The Japanese salvage vessel *Tukoshima Maru* departed Sydney for Japan with *Dubbo* and another former RAN vessel, the repair and maintenance vessel *Platypus*, in tow. (www.navy.gov.au/hmas-dubbo)

Battle Honours  
PACIFIC 1941-45

# HMAS *Echuca* J 252 & M 252

Laid Down:	22 Mar 1941
Launched:	17 Jan 1942
Commissioned:	7 Sep 1942
Days to build:	534
Builder:	Williamstown Naval Dockyard
To Order:	RAN

October 1942 – August 1944: Served as an escort and anti-submarine patrol vessel on the east coast of Australia and in the New Guinea area during which period she steamed 59,000 miles.

August 1944: Proceeded to Darwin where she passed to the operational control of the United States 7th Fleet Survey Group, Task Group 70.5 and operated on survey duties in northern Australian waters.

October 1945: Proceeded from Darwin to Brisbane to replace minesweeping gear prior to joining the 20th Minesweeping Flotilla to take part in the RAN post-war minesweeping programme. Following brief sweeping operations in Australian waters *Echuca* proceeded with the Flotilla to New Britain and the Solomon Islands.

Mid-1946: With HMAS *Deloraine* disposed of the first magnetic mine to be detonated in the Southern Hemisphere.

August 1946: Returned to Australia for paying off into the Reserve Fleet at Sydney.

January 1947: Returned to for further minesweeping duty with the 20th Minesweeping Flotilla and until October 1947 was engaged in mine clearance on the Barrier Reef, Queensland.

November 1947: Towed her sister ship HMAS *Inverell* from Brisbane to Sydney.

29 June 1948: Paid off into Reserve at Fremantle.

April – May 1952: Proceeded to Melbourne where she was transferred to the Royal New Zealand Navy, having steamed some 123,000 miles as a unit of the RAN.

1967: Sold for scrap to Pacific Scrap Ltd, of Auckland, New Zealand.

([www.navy.gov.au/hmas-echuca](http://www.navy.gov.au/hmas-echuca))

## Battle Honours

PACIFIC 1941-45, NEW GUINEA 1942-44



HMAS *Echuca* with 12-pdr, disruptive camouflage and no secondary armament. [anthonyfward.wordpress.com]



A later photo of HMAS *Echuca* with full radar and 20mm Oerlikon secondary armament fit-out. [State Library of Victoria Allan Green Collection]

# HMAS *Fremantle* J 246 & M 246

Laid Down:	11 Feb 1942
Launched:	18 Aug 1942
Commissioned:	24 Mar 1943
Days to build:	406
Builder:	Evans Deakin & Co. Ltd.
To Order:	RAN

April 1943: On completion of her trials *Fremantle* was assigned duty as an escort vessel on the east coast of Australia. At this period Japanese submarines were active in Australian waters and the month preceding *Fremantle*'s first operational duty, seven ships had been sunk in coastal areas.

August 1943: Proceeded to Darwin where she was based as an escort vessel, operating mainly between Darwin and Thursday Island, until April 1945. During this period on 21 months in northern waters the tide of war was steadily receding from the Australian theatre and her duties were confined mainly to routine uneventful merchant ship protection.

June 1945: Arrived at Manus to begin a period of escort and guard ship duty in the New Guinea area which occupied the ship until the end of hostilities.

31 August 1945: Arrived at Hong Kong and while based there as a unit of the 21st Minesweeping Flotilla took part in a series of clearing sweeps in Chinese waters.

25 January 1946: Paid off into Reserve at Melbourne.

10 December 1952: Recommissioned at Melbourne.

8 March 1953: Reached Fremantle and commenced service as a training ship for the Western Australian area. In this role, until the scheme was abandoned, *Fremantle* introduced large numbers of National Service Trainees to naval life afloat.

In addition to her training duties, *Fremantle* also acted at times as a fisheries protection vessel with the Japanese Pearlring Fleet in the Arafura Sea, and on a survey and general fleet duties in the Western Australian area.

22 June 1959: Finally paid off at Sydney for disposal. She had steamed 113,654 miles since recommissioning in 1952. In all, including her wartime service, she had steamed 190,776 miles.

6 January 1961: Sold to Kinoshita (Australia) Pty Ltd to be broken up.

([www.navy.gov.au/hmas-fremantle](http://www.navy.gov.au/hmas-fremantle))

## Battle Honours

PACIFIC 1941-45, DARWIN 1942-43



HMAS *Fremantle* without any minesweeping gear as anti-submarine escort. Note the single-barrelled version of the QF 4-inch Mk XVI on the foredeck. [navy.gov.au]



HMAS *Fremantle* in late 1950's, possibly flying decommissioning pennant. Note 40mm Bofors fore and aft. [navy.gov.au]

# HMAS Gawler J 188 & B 241

Laid Down:	24 Jan 1941
Launched:	4 Oct 1941
Commissioned:	14 Aug 1942
Days to build:	567
Builder:	Broken Hill Pty.Ltd.
To Order:	Admiralty

*Gawler* was the second slowest construction time – the worst being Broken Hill's 619 days for *Kalgoorlie*.

September 1942: Following completion of her working up period and trials proceeded to Fremantle. After a brief period of local anti-submarine patrol duty, she was sent to join the British Eastern Fleet at Colombo.

January to April 1943: Served as an escort vessel to Indian Ocean convoys.

Mid May 1943: Proceeded to the Mediterranean where, with sister ships HMA Ships *Ipswich*, *Lismore* and *Maryborough*, she formed the 21st Minesweeping Flotilla. However, her service in the Mediterranean, from May to October 1943, was mainly confined to escort duty.

July 1943: Took part in the invasion of Sicily.

August 1943: Entered the Atlantic to rendezvous with a Mediterranean-bound convoy for which she acted as part escort.

End October 1943: Returned to the Indian Ocean and rejoined the Eastern Fleet, having steamed 52,000 miles on war service.

January-February 1944: Refitting at Durban.

April 1944: Escort duty resumed and thereafter, until January 1945, she was constantly in service escorting convoys between Indian ports and between India and Aden.

26 January 1945: Detached from the Eastern Fleet and departed from Ceylon to return to Australia. A long refit was completed at Adelaide in April 1945 and the ship then proceeded to the United States Navy base at Manus, in the Admiralty Islands, where she became an operative unit of the British Pacific Fleet.

September 1945: Proceeded to Hong Kong where, in company with several sister ships attached to the British Pacific Fleet, she spent several weeks on minesweeping and on anti-piracy patrol duties.

17 October 1945: Arrived at Morotai Island and thereafter until the end of the year was one of a group of Australian warships engaged in surveillance of previously enemy-occupied territory in the Moluccas and adjacent areas.

February 1946: Returned to Australia.

5 April 1946: Paid off at Sydney having steamed 129,845 miles. She recommissioned the same day as HMS *Gawler*.

21 May 1946: Sailed for Colombo in company with her sister ships *Launceston* and *Pirie*. All were destined for transfer to the Turkish Navy. When transferred to the Turkish Navy was renamed *Ayvalik*. 'Jane's Fighting Ships' reported that she was withdrawn from service in 1963, her name then being transferred to her sister ship *Antalya* (ex-HMAS *Geraldton*).

([www.navy.gov.au/hmas-gawler](http://www.navy.gov.au/hmas-gawler))

## Battle Honours

INDIAN OCEAN  
1941-45, PACIFIC  
1941-45, SICILY 1943



HMAS *Gawler* in BPF service. [State Library of Victoria Allan Green Collection]

# HMAS *Geelong* J 201

Laid Down:	16 Oct 1940
Launched:	22 Apr 1941
Commissioned:	16 Jan 1942
Days to build:	457
Builder:	Williamstown Naval Dockyard.
To Order:	RAN

After commissioning *Geelong* commenced her trials and working up exercises. Operational war service began with a brief period of minesweeping and anti-submarine duty on the Australian east coast.

8 March 1942: Departed Brisbane for New Caledonia where she served on anti-submarine duties in the Noumea area until May 1942.

June 1942: Began a period of convoy escort duty between Sydney and Queensland ports:

January 1944: Proceeded to Adelaide for a refit.

March 1944: Following a further brief period of service in Australian waters, proceeded to the New Guinea theatre of operations. The next six months were spent on convoy escort duties in the South West Pacific



Launching of HMAS *Geelong*. [navy.gov.au]

Area, mainly in New Guinea and New Britain waters, and as an anti-submarine patrol vessel in the Solomons Sea.

18 October 1944: Sank following a collision with the United States tanker *York* (10,488 tons), north of Langemak, New Guinea. There were no casualties. The survivors were picked up by *York* and landed at Langemak, from where they were taken to Milne Bay by aircraft and her sister ship HMAS *Ararat*.

([www.navy.gov.au/hmas-geelong](http://www.navy.gov.au/hmas-geelong))

## Battle Honours

PACIFIC 1941-45, NEW GUINEA 1942-44



The ill-fated HMAS *Geelong* probably in the dark sea blue camouflage favoured by the USN. [AWM P01311.001]

# HMAS *Geraldton* J 178 & B 242

Laid Down:	20 Nov 1940
Launched:	16 Aug 1941
Commissioned:	6 Apr 1942
Days to build:	502
Builder:	Poole & Steel Pty. Ltd.
To Order:	Admiralty

For a short period after commissioning employed on patrol duties off the east coast of Australia.

26 July 1942: Departed Fremantle to join the Eastern Fleet escorting the tanker *Bahrein* to Addu Atoll, before proceeding on to Colombo. Two of her sister ships, HMA Ships *Bathurst* and *Lismore*, were already serving with the Eastern Fleet, and more of her sister ships arrived in the following months from Australia.

25 August 1942: Conducted an unsuccessful search for survivors of the *Harmonides*, which had been sunk by a submarine.

6 September 1942: Sailed from Bombay escorting her first Persian Gulf-bound convoy.

29 September 1942: Returning from Aden with a convoy attacked a strong submarine contact in the Gulf of Oman. She continued to escort convoys to and from the Persian Gulf throughout the remainder of 1942. Convoys were predominantly from Colombo and Bombay to Basra, Aden and the Persian Gulf. One such convoy, escorted by *Geraldton* and HMIS *Bengal* in November 1942, comprised 27 ships.

May 1943: Transferred temporarily to the Mediterranean, forming the 22nd Minesweeping Flotilla with her sister ships HMA Ships *Cessnock*, *Cairns* and *Wollongong*.

10 July 1943: While serving in the Mediterranean theatre participated in

Operation Husky, the Allied invasion of Sicily. *Geraldton* continued convoy escort duty for the remainder of her stay in the Mediterranean.

August 1943: Entered the Atlantic Ocean to rendezvous with a Mediterranean bound convoy for which she acted as one of the convoy escorts.

October 1943: Returned to convoy work in the Persian Gulf and continued this work between Aden and Bombay and numerous other ports en route to and from the Persian Gulf, until her return to Australia in early 1945.

November 1944: Assigned to the 22nd Minesweeping Flotilla, British Pacific Fleet.

26 January 1945: Sailed with the Flotilla from Trincomalee for Australia.

March 1945: Following gunnery modifications in Melbourne underwent a refit in Fremantle.

June 1945: Returned to the Australian east coast.

20 June 1945: Departed Sydney for service in northern waters, escorting elements of the British Pacific Fleet Train to Manus, Eniwetok and Leyte Gulf.

5 September 1945: Following the cessation of hostilities departed Leyte for Hong Kong. Present at Hong Kong for the Japanese surrender ceremony there on 16 September 1945 and supported the transfer of prisoners of war and internees, after which she was engaged on anti-piracy patrols in the Hong Kong area.

11 October 1945: Departed Hong Kong for Australia with the remainder of the 22nd Minesweeping Flotilla.

16 December 1945: Departed Brisbane for the passage to Western Australia.

8 May 1946: Sailed for Singapore.

14 June 1946: Paid off at Colombo.

24 August 1946: Transferred to the Turkish Navy and renamed *Antalya*.

After her sister ship *Ayvalik* (ex HMAS *Gawler*) was withdrawn from Turkish Navy service in 1963, *Antalya* was renamed *Ayvalik*. Jane's Fighting Ships reported that *Ayvalik* was deleted from the Turkish Navy list in 1975.

([www.navy.gov.au/hmas-geraldton](http://www.navy.gov.au/hmas-geraldton))

#### Battle Honours

INDIAN OCEAN 1941-45, PACIFIC 1941-45, SICILY 1943



HMAS *Geraldton* with Type 291 radar at masthead, no S/L and flying Bridge. [navy.gov.au] [AWM 045137]

# HMAS *Gladstone* J 324 & M 234

Laid Down:	4 Aug 1942
Launched:	26 Nov 1942
Commissioned:	22 Mar 1943
Days to build:	230
Builder:	Walkers Ltd.
To Order:	RAN

*Gladstone* has the distinction as being the quickest from Keel-Laying to Commissioning but by only one day.

April 1943: *Gladstone* began active operational career escorting merchant convoys on the Queensland coast from Brisbane to northern ports and return.

End September 1943: Began escorting the first of a series of convoys between the Australian mainland and New Guinea, from Cairns to Port Moresby and Milne Bay. Eight merchant vessels fell victims to Japanese submarine attack during the period of April to September 1943. None of these, however, was under escort by *Gladstone*.

18 December 1943: In company with HMA Ships *Gympie* and *Stawell* escorting convoy TN 192 of eight ships with troops embarked bound for Milne Bay when almost the entire convoy ran aground on Bougainville Reef in the Great Barrier Reef just after 9.30 that evening. *Gladstone* had observed Aldis Lamp signals down the convoy and intercepted the word "hit". Assuming that the convoy was under attack, the ship closed up at action stations, altered course towards the ship thought to be under attack and increased speed. She then prepared to attack with a full pattern of depth charges. Luckily for *Gladstone*, less than a minute after going to actions stations, she observed the signal "am aground" enabling her to reduce speed and prevent a hard grounding on the reef. As it was, *Gladstone* made a soft grounding and, thanks to some masterful

manoeuvring of the vessel, was refloated 42 minutes later. She navigated her way clear of the reef and waited, in company with *Gympie* and *Stawell*, until daylight.

Seven of the eight merchant vessels in the convoy had run aground, SS *Charles M Russell* being the only exception. The vessels *Colorado*, *Ambrose Bierce* and *City of Fortworth* had all managed to free themselves by dawn and, with HMA Ships *Lithgow* and *Castlemaine* arriving to assist, ad her starboard propeller damaged, *Gladstone* detached just after 7.00am to escort the trio back to Cairns. All of the remaining ships were quickly refloated suffering varying degrees of damage while *Gladstone* was forced to return to Brisbane to repair her damaged propeller.

January 1944: Operational again, resumed escorting convoys to Milne Bay.

March 1944: Proceeded to Adelaide for refit.

29 April 1944: Arrived at Milne Bay from Adelaide to begin a tour of duty in New Guinea waters, on escort and antisubmarine patrol duties in the Madang, Langemak, Hollandia and Biak areas.

October 1944: Paid a brief visit to home waters.

January 1945: Began operations in the Morotai, Biak and Mios Woendi areas, chiefly on patrol and as a guard ship at Morotai. It was in the main routine and uneventful duty.

May 1945: In cooperation with American PT boats, bombarded Japanese barge concentrations in the Halmaheras.

August 1945: Following the end of hostilities proceeded to Darwin.

September 1945: Took part in the Timor surrender ceremonies at Koepang, in surveillance of the Lesser Sundas and the transport of Netherlands East Indies troops from Darwin to Timor.

12 December 1945: Departed Darwin for Sydney.

27 December 1945: Reached Sydney, having steamed 98,997 miles since commissioning.



23 February 1946: Following a refit in Sydney, arrived in Westernport, Victoria, where she attached to Flinders Naval Depot as a training ship. She maintained this role for more than ten years. As a training ship *Gladstone* steamed 96,645 miles, giving a total of 195,642 miles steamed since commissioning.

16 July 1965: Paid off at Melbourne. She was not to be idle for long however, as she was sold to the Port Phillip Pilots' Association. She served as a pilot relief ship for seventeen years under the name *Akuna*.

The name *Akuna* commemorated the previous pilot vessel of that name which served from 1925 to 1956. That vessel, formerly HMAS *Una*, had also been sold to the Port Phillip Pilots' Association after service with the Royal Australian Navy. She was originally the German government vessel *Komet*, captured by the Royal Australian Navy in October 1914 following the capture of German New Guinea by Australian forces.

In November 1973 press reports stated that *Akuna* had been bought by a Melbourne businessman, Mr Scot Bevan Davies, for use as a private yacht. In February 1981 a report was received that *Akuna II*, as the ship had been renamed, was owned by 'Food for the Hungry International' and was based at Singapore. It was stated that she was engaged in picking up Vietnamese boat people in the Gulf of Thailand and had been doing so for about 18 months.

([www.navy.gov.au/hmas-gladstone](http://www.navy.gov.au/hmas-gladstone))

#### Battle Honours

PACIFIC 1941-45, NEW GUINEA 1942-44



Another view of HMAS *Gladstone* taken the same day judging by the flag hoist: J 3, 2, 4 – her pennant number. [[navy.gov.au](http://navy.gov.au)]



HMAS *Gladstone* without pennant number, QF 4-inch Mk XVI and no minesweeping gear apparent. [State Library of Victoria Allan Green Collection]

# HMAS *Glenelg* J 236 & M 236

Laid Down:	2 Mar 1942
Launched:	25 Sep 1942
Commissioned:	16 Nov 1942
Days to build:	259
Builder:	Cockatoo Docks & Engineering Co. Ltd.
To Order:	RAN

The early months of the *Glenelg*'s career were spent escorting convoys from Queensland ports to New Guinea.

May 1943: Began operating as escort for Sydney to Brisbane convoys.

December 1943: Began a refit.

January 1944: Returned to the New Guinea area and remained there in constant service on patrol and escort duties until the end of the year. In the early period she operated on patrol off Milne Bay and the entrance to China Strait and later escorted shipping to Langemak, Manus, Saidor, Morotai, Hollandia, Madang and Cape Gloucester. A considerable period was spent on patrol in Dutch New Guinea waters. Constantly operational, *Glenelg* covered a wide area, steaming 42,000 miles and being some 10,000 hours underway.

Since the Allied forces were at this period in control of the sea and air in the New Guinea area, most of the period passed without action.

20 October 1944: *Glenelg* was able to render signal aid to a sorely harassed American patrol at the mouth of the Woske River near Maffin Bay, Dutch New Guinea by proceeding close inshore having observed the American detachment under severe mortar fire. An appeal for assistance to evacuate wounded met with a ready response from volunteers to man *Glenelg*'s whaler and it was quickly despatched. Swamped by heavy surf the waterlogged boat was beached by her crew, and its bottom boards used as improvised stretchers to carry the wounded to the American held bank of the river. Meanwhile, on a request for bombardment support, *Glenelg* opened fire with her 4-inch gun. Under cover

of this fire (31 rounds), which effectively silenced the Japanese mortars, the American party was able to withdraw to cover with all wounded, leaving five dead on the beach. Lieutenant Peebles (United States Army), the senior surviving officer, was emphatic that the fire laid down by *Glenelg* and directed from the open beach by Lieutenant Pennington and Signalman Greet was the decisive factor in the successful withdrawal.



HMAS *Glenelg*. (source unidentified or unestablished)

December 1944: Returned to Australia.

2 January 1945: Commenced refit at Melbourne.

16 March 1945: Departed Sydney for Manus to resume operational duty. The remainder of the period to the close of hostilities was taken up chiefly by escort of Morotai and Biak convoys.

April 1945: Escorted a convoy to Leyte Gulf in the Philippines and spent some time in the Borneo area.

12 August 1945: Entered Darwin Harbour. She had steamed 103,027 miles on active operational duty.

September 1945: Took part in the reoccupation of Ambon and remained in the Celebes area during the following month.

1 November 1945: Departed Ambon for Fremantle, via Morotai, Townsville, Sydney, Melbourne and finally *Glenelg*, after which she had been named.

14 January 1946: Paid off into Reserve at Fremantle.

End of November 1945: While en route from Melbourne to *Glenelg*, the ship had steamed 110,019 miles since commissioning.

2 May 1957: Sold for breaking up to Hong Kong Rolling Mills Ltd of Hong Kong. ([www.navy.gov.au/hmas-glenelg](http://www.navy.gov.au/hmas-glenelg))

Battle Honours  
PACIFIC 1941-45, NEW GUINEA 1942-44

# HMAS *Goulburn* J 167 & B 243

Laid Down:	10 Jul 1940
Launched:	16 Nov 1940
Commissioned:	28 Feb 1941
Days to build:	233
Builder:	Cockatoo Docks & Engineering Co. Ltd.
To Order:	Admiralty

23 April 1941: Joined the 20th Minesweeping Flotilla in the Bass Strait following a period of working up exercises in the waters off New South Wales.

31 May 1941: Operated as a sweeper with the Flotilla until 31 May 1941 and was engaged in clearing sweeps in Bass Strait and off the New South Wales coast, where minefields had been laid by the German auxiliary cruiser *Penguin* and her auxiliary minelayer *Passat*. Swept one mine.

16 June 1941: In company with her sister ship HMAS *Burnie*, sailed from Sydney for Singapore where both ships became attached to the China Station.

November 1941: Formed the 21st Minesweeping Flotilla with HMA ships *Bendigo*, *Burnie* and *Maryborough* at Singapore. Following the outbreak of the Pacific War in December 1941, was engaged in escort, patrol and minesweeping duties, from Singapore down to Sunda Strait, until the end of January 1942.

30 January 1942: Arrived Batavia and remained in the harbour until 5 February. Then proceeded on an antisubmarine patrol of Batavia Roads.

8 February 1942: Proceeded with *Burnie* to escort two merchant ships bound for Colombo. The crew of one of these, the SS *Kumsang*, refused to sail. The Commodore Commanding China Force therefore ordered the movement to be made escorting the remaining ship, the SS *Harpasa*. At 1200 the following day *Goulburn* and *Burnie* parted company from the *Harpasa* in the Indian Ocean and returned through Sunda Strait.

12 February 1942: Arrived at Oosthaven in Sumatra and remained outside the

anchorage as the anti-submarine screen for the next few days.

17 February 1942: Stood by during demolition operations at Oosthaven before parting company from *Burnie* and proceeding to Ratai Bay to escort the Dutch ships *Both*, *Stage*, *Marilyse Moller* and *Balikpapan*. Joined by SS *Van Outhoorn*, steamed south into the Indian Ocean unmolested.

18 February 1942: Convoy was ordered to disperse and proceed independently. Set course for Tjilitjap and remained there 20th and 21st and left for Batavia the following day.

23 February 1942: Passed through Sunda Strait and reached Batavia without incident the following morning.

27 February 1942: Departed to join the 21st Minesweeping Flotilla on the Sunda Strait patrol. Subjected to from dive bombers operating in three waves of three planes at twenty-minute intervals. No damage resulted.

28 February 1942: Patrol was discontinued and the whole flotilla moved towards Tjilitjap and then to Fremantle with only 7 tons of fuel remaining.

March 1942: Assigned to convoy escort duty on the east Australian coast, mainly between Brisbane and Gladstone.

March 1944: After 3-month long refit, proceeded to New Guinea waters engaged in escort and patrol duties.

June 1944: Assisted the landings at Dugumu Bay and on Sogari Island in New Guinea.

July to September 1944: Engaged on general escort duty in New Guinea waters, broken by a brief visit to Cairns for docking.

25 September 1944: Proceeded to the Mapia Islands to endeavour to find out the strength and disposition of the Japanese remaining in the Mapia Island group.

19 September 1944: Sent armed party ashore in the whaler in an unsuccessful attempt to make contact with a reconnaissance party.

3 October 1944: Similar close inshore patrols and bombardments of suspected Japanese positions. Escorted convoys between Biak, Morotai and Madang, before returning to Australia in December.

January – April 1945: Home waters.

Early May 1945: Returned to New Guinea and engaged in anti-submarine and sweeping duties at Manus until June.

14 June 1945: Arrived in Darwin to act as escort to tugs towing a floating dock from Darwin to Milne Bay and returned to Manus.

23 July 1945: Proceeded for Eniwetok in the Marshall Islands to act as part escort of a convoy to Manus.

30 August 1945: Sailed for Hong Kong in company of her sister ships *Bendigo* and *Whyalla*, forming escort to a seven-ship slow convoy. Proceeding via Morotai and the Philippines.

21 September 1945: Joined the 21st Minesweeping Flotilla for sweeps in Chinese waters.

16 November 1945: The flotilla, consisting of HMA ships *Ballarat*, *Bathurst*, *Burnie*, *Maryborough*, *Cairns*, *Fremantle*, *Bendigo*, *Toowoomba* and *Goulburn*, proceeded for Australia. Arrived in Sydney in December 1945, bringing her naval seagoing career to a close, having steamed some 165,000 miles.

27 September 1946: Paid off.

13 October 1947: Sold as a seagoing vessel to Captain S. P. Bell, of Pacific Enterprise Incorporated, for £12,500. Later resold to P.J. Lobo & Co, Hong Kong, for £15,000, and again to A.H. Carrol, acting as agent for Ta Hing Co (Hong Kong) Ltd.

January 1951: A Commonwealth Statutory Order barred her removal from Australian waters.

1953: Resold to John Manners & Co (Aust) Pty Ltd, of Sydney and renamed SS *Benita*.

([www.navy.gov.au/hmas-goulburn](http://www.navy.gov.au/hmas-goulburn))

(Refer earlier, HMAS *Ballarat* for more detail on the fate of SS *Benita*)

#### Battle Honours

PACIFIC 1941-45, NEW GUINEA 1942-44



Aerial photo of HMAS *Goulburn* showing deck layout. [AWM 300715]

# HMAS *Gympie* J 238 & M 238

Laid Down:	27 Aug 1941
Launched:	30 Jan 1942
Commissioned:	4 Nov 1942
Days to build:	434
Builder:	Evans Deakin & Co. Ltd.
To Order:	RAN

Following trials *Gympie* assumed duty as a convoy escort vessel on the north east coast of Australia, which kept her constantly in service until February 1944.

18 December 1943: Part escort to Convoy TN 192 when seven of eight merchantmen and HMAS *Gladstone* ran aground on Bougainville Reef, Great Barrier Reef

22 January 1943: Rendered assistance to the torpedoed American ship SS *Peter H. Burnett*.

March 1943: Swept the first ground influence mine found in Australian waters. This was a German-supplied weapon laid by a Japanese submarine in the approaches to Brisbane.



HMAS *Gympie* as Anti-Submarine escort. Note three PAC projectors on bridge canopy. [AWM 300728]

February 1944: Refitted in Brisbane then proceeded to the New Guinea theatre of operations and engaged on escort duty and on anti-submarine patrols.

End of February 1945: Left New Guinea waters and proceeded to Melbourne for refit.

May 1945: Proceeded to Fremantle.

July 1945: Proceeded to Darwin. Escorted several small craft to Morotai.

23 September 1945: In company with HMA Ships *Warrnambool*, *Gladstone*, *Parkes* and *Kanimbla* arrived in Dili, Portuguese Timor for restoration of Portuguese control of its colony.

3 October 1945: Present at Koepang in Portuguese Timor for the surrender of the 48th Japanese Division with HMA Ships *Moresby*, *Hawkesbury*, *Katoomba* and *Gladstone*. A period of survey work in the Koepang area and the Daboe and Aroe Islands followed.

November 1945: Received slight damage as the result of a collision with the SS *Tullahoma* and returned to Brisbane for refit.

23 May 1946: Paid off into Reserve at Brisbane on, after having steamed over 100,000 miles.

4 November 1947: HMAS *Lithgow* sailed from Brisbane with *Gympie* in tow for Sydney where they arrived on 7 November.

6 January 1961: Sold on to Kinoshita (Australia) Pty Ltd to be broken up.

([www.navy.gov.au/hmas-gympie](http://www.navy.gov.au/hmas-gympie))



HMA Ships *Gympie* and *Glenelg*, Ambon, October 1945. [AWM 306625]

Battle Honours  
PACIFIC 1941-45, NEW GUINEA 1942-44

## HMAS *Horsham* J 235 & M 235

Laid Down:	26 Jun 1941
Launched:	16 May 1942
Commissioned:	18 Nov 1942
Days to build:	510
Builder:	Williamstown Naval Dockyard
To Order:	RAN

January 1943: On completion of trials *Horsham* was assigned to the Fremantle command as an anti-submarine patrol vessel. Except for a trip to Geraldton and another to Exmouth Gulf she remained in the Fremantle area.

August 1944: Proceeded to Darwin as a Survey Ship where she remained, except for a period refitting at Fremantle, until the close of hostilities.

September 1945: Present at the surrender of Japanese forces at Timor. Further survey duties in the Darwin area.

End November 1945: Returned to Fremantle for paying off into the Reserve Fleet. She steamed 95,872 miles and was 11,302 hours underway.

8 August 1956: Sold as scrap for breaking up to the Hong Kong Delta Shipping Co, Hong Kong.

([www.navy.gov.au/hmas-horsham](http://www.navy.gov.au/hmas-horsham))

Battle Honours

None recorded



HMAS *Horsham* with interesting individualistic camouflage and no pennant number. [AWM 300808]

## HMAS *Inverell* J 233 & M 233

Laid Down:	7 Dec 1941
Launched:	2 May 1942
Commissioned:	17 Sep 1942
Days to build:	284
Builder:	Morts Dock & Engineering Co. Ltd.
To Order:	RAN

7 November 1942: *Inverell* commenced her operational service after a period of working up the ship and departed Sydney to assume escort duty with a Melbourne-bound convoy then further escort duty on the Australian east coast.

End December 1942: Sailed from Sydney to take up similar duties in northern waters. Employed mainly in running between Thursday Island and Darwin, with one trip to Onslow in February 1943.

11 November 1943: Arrived at Williamstown Naval Dockyard to undergo a refit.

16 December 1942: Sailed for the north again to resume convoy escort and patrol duties.

Early February 1944: Rescued eight survivors from a United States Army Air Force Liberator bomber which had crashed on Croker Island, Northern Territory.

22 September 1944: Service in northern Australian waters came to an end and sailed for Fremantle for routine escort and patrol duties also exercising with United States Navy and Royal Navy submarines operating from Western Australia.

4 May 1945: Departed Fremantle for Darwin.

11 July 1945: After a period occupied with minesweeping and exercises the ship sailed from Darwin towing the Services Reconnaissance Department vessel HMAS *River Snake*, accompanied by sister ship HMAS *Stawell* as Senior Officer. Occupied mainly on patrol duties from Morotai until the end of hostilities on 15 August.

With the end of hostilities, she remained busily occupied with various duties related to the assumption of control of Netherlands East Indies territory from the Japanese. A Port Directorate was established in *Inverell* from 21 September to 18 November, with her Commanding Officer as Port Director Macassar. The ship's duties in that period took her to Borneo, Amboina and Morotai.

29 November 1945: Sailed from Morotai for Australia for duty on the Queensland coast.

25 December 1945: Arrived Brisbane to commence preparations for paying off into Reserve. Various factors made this process a somewhat protracted one and the ship did not pay off until 14 June 1946. She had steamed 93,720 miles since commissioning.

4 November 1947: Sister ship HMAS *Echuca* departed Brisbane with *Inverell* under tow to Sydney where she remained in Reserve.

5 March 1952: Presented by the Australian Government to the New Zealand Government Together with three of her sister ships (*Echuca*, *Kiama* and *Stawell*).

10 April 1952: Commissioned into the Royal New Zealand Navy at Sydney as HMNZS *Inverell*. Placed in Reserve after refit.

1965: Conversion to for training and fisheries patrol duties as a replacement for HMNZS *Rotoiti*. After a refit she was again placed in Reserve.

15 August 1965: Recommissioned at Auckland.

19 August 1976: She paid off at Devonport Naval Base, Auckland.

1 November 1977: Sold for scrap to Pacific Scrap Limited.

([www.navy.gov.au/hmas-inverell](http://www.navy.gov.au/hmas-inverell))

#### Battle Honours

PACIFIC 1941-45, DARWIN 1942-43



HMAS *Inverell* with rescued POW's from Dutch East Indies. [navy.gov.au] [AWM 045084]



HMNZS *Inverell* doing it tough! [source unclear]

# HMAS *Ipswich* J 186 & B 244

Laid Down:	6 Mar 1941
Launched:	11 Aug 1941
Commissioned:	13 June 1942
Days to build:	464
Builder:	Evans Deakin & Co. Ltd.
To Order:	Admiralty

June to October 1942: Employed on escort duty on the Australian coast.

3 November 1942: Departed Fremantle under orders to join the Eastern Fleet, based at Kilindini, Kenya. For the next six months she was almost constantly at sea on escort and anti-submarine patrol duty in the western Indian Ocean and between the Persian Gulf and India.

May 1943: Transferred to the Mediterranean for service as a unit of the 21st Minesweeping Flotilla. In the Mediterranean she took part in the Sicily campaign on escort and patrol duty visiting Oran, Haifa, Alexandria, Tobruk, Benghazi, Bizerta, Tripoli, Algiers, Malta, Gibraltar and the Dodecanese.

25 July 1943: Credited with shooting down a twin-engined bomber at Syracuse.

August 1943: Proceeded into the Atlantic to form part of the escort of an Alexandria bound convoy and despite numerous air attacks in the Mediterranean escaped damage.

29 October 1943: Departed Port Said to rejoin the Eastern Fleet and resume Indian Ocean escort duty. At the end of the year she had steamed 61,360 miles in eighteen months of service.

11 February 1944: Aided by sister ship HMAS *Launceston* and the Indian sloop HMIS *Jumna* destroyed the Japanese submarine RO-110 off the east coast of India.

March 1944: Narrowly missed by a torpedo. At the time she formed part of the escort of a large Colombo bound troop convoy. Continued serving in the Indian Ocean operating mainly between Ceylon and India.

July 1944: Proceeded to Australia for refit.

November 1944: Returned to Colombo after a brief period of service based on Fremantle and began a third period of duty as an Eastern Fleet escort vessel.

21 January 1945: Indian Ocean service finally ended and departed for Australia. Joined the British Pacific Fleet as a unit of the 22nd Minesweeping Flotilla. Until the end of hostilities on constant escort duty in the New Guinea area and to the Philippines.

End of August 1945: Arrived in Tokyo Bay in preparation for the Japanese surrender ceremony on 2 September onboard USS *Missouri*.

15 February 1946: Returned to Australia after a period of surveillance duty in New Guinea.

4 June 1946: Departed for Ceylon.

5 July 1946: Paid off and transferred to the Royal Netherlands Navy, to be renamed *Morotai*. During her RAN commission *Ipswich* had steamed some 143,000 miles.

1949: Transferred by the Royal Netherlands Navy to the Indonesian Navy and renamed *Hang Tuah*.

April 1958: Bombed and sunk by an aircraft operated by forces in rebellion against the Indonesian Government.

([www.navy.gov.au/hmas-ipswich](http://www.navy.gov.au/hmas-ipswich))

Battle Honours

EAST INDIES 1940-44, INDIAN OCEAN 1941-45, PACIFIC 1941-45, SICILY 1943, OKINAWA 1945



HMAS *Ipswich*. Note SW1C type radar antenna at masthead. [AWM P00433.007]



# HMAS *Junee* J 362 & M 362

Laid Down:	17 Feb 1943
Launched:	16 Nov 1943
Commissioned:	11 Apr 1944
Days to build:	419
Builder:	Poole & Steel Pty. Ltd.
To Order:	RAN

*Junee* spent a brief period in New Guinea waters following successful completion of her trials in the Sydney area.

14 June 1944: At Darwin on anti-submarine patrol and survey duties.

February 1945: Proceeded to Melbourne for a refit after steaming some 28,000 miles. There were no incidents worthy of note during this period of service.

April 1945: Proceeded to New Guinea waters and engaged on convoy escort and patrol duties. Mostly routine uneventful service.

August 1945: Engaged the enemy for the first time and sank three Japanese barges in Rouang Passage in the Sangi Group, north of the Celebes, while en route from Morotai to Borneo.

15 August 1945: On cessation of hostilities at Balikpapan acting as the harbour defence ship.

September 1945: Took part in the evacuation of the remnants of the Australian troops captured by the Japanese in Amboina in 1942. Later, evacuated civilians from Menado (Celebes) to Morotai, and assisted in the transport of the Australian occupation force to Amboina.

October and November 1945: Occupied assisting the restoration of Dutch authority in the Netherlands East Indies.

2 December 1945: Surveillance work in the East Indies came to an end sailed

from Macassar for Australia.

9 December 1945: Departed Morotai.

23 December 1945: Arrived at Sydney then proceeded to Melbourne.

21 January 1946: Paid off after steaming 52,541 miles on war service.

25 February 1953: Recommissioned as a training ship and operated in eastern Australian waters.

12 August 1953: Sailed from Melbourne for Fremantle and subsequently engaged mainly on training duties in western and north western Australian waters.

8 June 1957: Berthed at Fremantle for the last time as a seagoing ship of the Royal Australian Navy. During service as a training ship, she steamed a further 64,508 miles bringing the total mileage to 117,049 miles.

21 August 1957: Paid off.

18 June 1958: Sold to Mr W.G. Davies of Fremantle for conversion into a fisheries parent ship but never completed.

27 September 1968: Scrapped and her hull sunk 20 miles west of Rottnest Island, Western Australia.

([www.navy.gov.au/hmas-junee](http://www.navy.gov.au/hmas-junee))

## Battle Honours

PACIFIC 1941-45, NEW  
GUINEA 1942-44



HMAS *Junee* as an Anti-Submarine escort. [AWM 300826]

# HMAS *Kalgoorlie* J 192 & B 245

Laid Down:	27 Jul 1940
Launched:	7 Aug 1941
Commissioned:	7 Apr 1942
Days to build:	619
Builder:	Broken Hill Pty. Ltd.
To Order:	Admiralty

*Kalgoorlie* had the dubious distinction of having the longest construction time being almost 2.7 times as long as the shortest time (*Gladstone*, 230 days). I have been unable to find an explanation for the extraordinary delay. Engines came from the West Australian Railways and boilers from Cockatoo Island Dockyard to Whyalla, SA and this may have been a contributing factor. The time from laying of keel to launching (376 days) was longer than the average time from keel-laying to commissioning.

June 1942: Commenced operational service after carrying out trials in Port Phillip Bay. Escort duties on the east coast of Australia.

28 July 1942: Sailed from Sydney for Darwin, arriving via Townsville. Employed on further convoy escort duties between Thursday Island and Darwin.

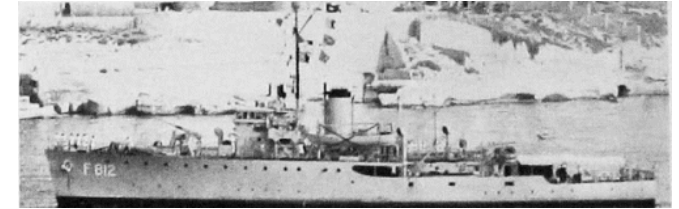
September 1942: Transported troops to Timor.

25 September 1942: In company with sister ship HMAS *Warrnambool*, safely evacuated the ship's company of HMAS *Voyager*, which had run aground at Betano Bay, in Timor, two days earlier.

November 1942: Operated in support of Operation Lizard III, a clandestine Services Reconnaissance Department operation in Timor.

December 1942: Under sporadic air attack searched for survivors of HMAS *Armidale*, which had been sunk on 1 December, rescuing 20 personnel from a damaged motorboat on 6 December. Three days later she rescued a further 29 survivors from *Armidale's* whaler.

Late February 1943: Returned to the Australian east coast after escorting convoys between Darwin and Thursday Island.



Royal Dutch Navy *Ternate*. (source unidentified or unestablished)

April to December 1943: Escorting convoys on the east coast of Australia.

16 June 1943: East of Smoky Cape while part of the escort with sister ships HMA Ships *Warrnambool*, *Deloraine*, *Cootamundra* and *Bundaberg* of Convoy GP55 (10 merchant ships and 3 American Land Ship Tank (LST), the SS *Portmar* was struck by a torpedo and sank within 10 minutes. *LST 469* was damaged by another torpedo and towed to the safety of port. Conducted an unsuccessful search for the attacking submarine throughout the following days.

January to June 1944: Carried out escort duties between north Queensland ports and New Guinea. Reverted to the east coast of Australia for the remainder of the year, with the occasional visit to New Guinea.

August and September 1944: With sister ship HMAS *Pirie* commenced the clearance of defensive minefields that had been laid in the through the Great Barrier Reef by HMAS *Bungaree* in 1942 and 1943. A total of 491 mines were swept during these initial mine clearance operations.

December 1944: Joined the 21st Minesweeping Flotilla, British Pacific Fleet.

Late February 1945: Sailed for the forward areas via Ulithi Atoll to Leyte Gulf in the Philippines.

15 July 1945: Arrived in Brisbane for a refit.

26 September 1945: Returned to New Guinea waters.

January 1946: Returned to Australian waters.

2 to 10 March 1946: Visited Esperance in Western Australia to pay a visit to her namesake town of Kalgoorlie.

8 May 1946: Paid off at Melbourne having steamed 131,607 miles. On the same day *Kalgoorlie* was transferred to the Royal Netherlands Navy and renamed *Ternate*.

([www.navy.gov.au/hmas-kalgoorlie](http://www.navy.gov.au/hmas-kalgoorlie))

#### Battle Honours

PACIFIC 1941-45, DARWIN 1942-43, NEW GUINEA 1942-44, OKINAWA 1945



HMAS *Kalgoorlie*. [AWM 045093]

# HMAS *Kapunda* J 218 & M 218

Laid Down:	27 Aug 1941
Launched:	23 Jun 1942
Commissioned:	21 Oct 1942
Days to build:	420
Builder:	Poole & Steel Pty. Ltd.
To Order:	RAN

1942: *Kapunda* began operational duty as a convoy escort vessel on the east coast of Australia, between Sydney and Brisbane.

18 January 1943: Involved in the rescue of survivors from the torpedoed and badly damaged tanker *Mobilube* 60 miles off Sydney.



HMAS *Kapunda*'s non-standard 0.5" MG and QF 4" Mk XIX in action. (source unidentified or unestablished)

March 1943: Began escorting convoys from Queensland ports to Port Moresby and Milne Bay in New Guinea, a duty which kept the ship almost constantly at sea for the following twelve months. While escorting a Milne Bay-bound convoy was attacked by a flight of eight Japanese bombers escorted by 12 fighters. With sister ship HMAS *Bendigo*'s fire, the attackers were diverted from their targets and bombs fell harmlessly into the water.

12 April 1943: While escorting a convoy in New Guinea waters an enemy formation of thirty-seven aircraft attacked MV *Gorgon*. One of the planes was shot down by Oerlikon fire from *Kapunda* and another hit by anti-aircraft fire from the merchant ship, but the others pressing home the attack scored several hits, setting *Gorgon* on fire. *Kapunda*'s Commanding Officer, however, took his ship alongside the burning vessel, put fire-fighting parties aboard, and after a long struggle subdued the flames and brought the damaged ship safely to port.

1 April 1944: Arrived at Lae in New Guinea to begin operations in New Guinea waters. Thereafter was engaged in the forward areas escorting, patrolling, including in the Solomon Sea, and furnishing bombardment support to Australian troops ashore.

October 1944: Returned to Sydney for refit in October 1944.

20 November 1944: Refit completed.

2 December 1944: Returned to New Guinea. Operational mainly in the Morotai and Biak Island areas with patrol, bombardment and escort duty.

June 1945: Proceeded to Darwin for docking and then returned to Morotai for escort duty to Borneo.

29 July 1945: While en route to Balikpapan in Borneo, *Kapunda* steamed her 100,000th mile since commissioning.

Following the end of the hostilities assisted with the evacuation of Allied prisoners of war from Kuching. Present for the official surrender ceremony of the Japanese forces in the area. Major General Yamamura signed the instrument of surrender on board *Kapunda*.

17 November 1945: Reached Sydney after work connected with the re-

establishment of British authority in Borneo was completed. This marked the end of her seagoing career after four years of war service during which she had steamed 110,177 miles and had been nearly 12,000 hours under way.

14 January 1946: Paid off into Reserve.

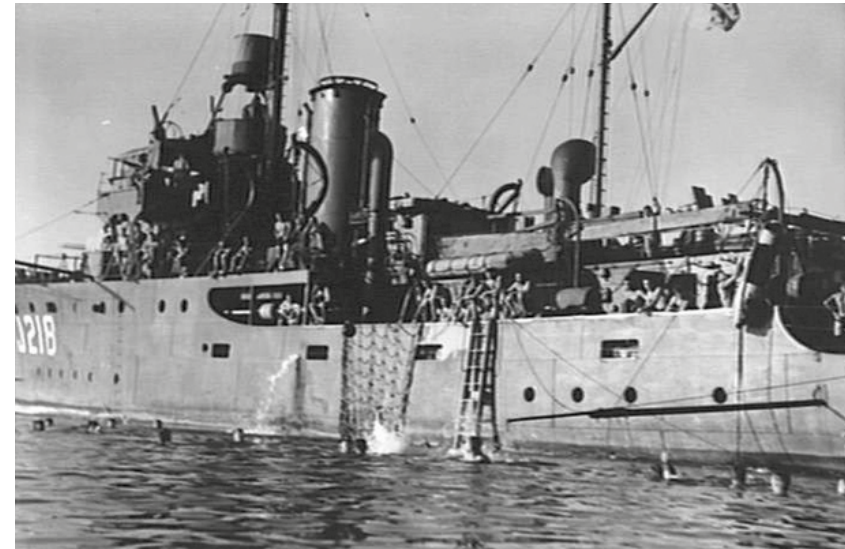
30 December 1960: Declared for disposal.

6 January 1961: Sold for scrap to Kinoshita (Australia) Pty Ltd.

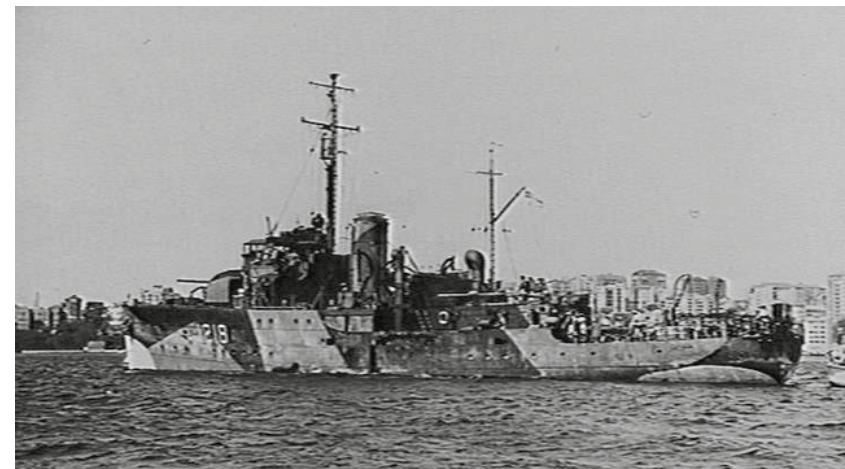
([www.navy.gov.au/hmas-kapunda](http://www.navy.gov.au/hmas-kapunda))

#### Battle Honours

PACIFIC 1941-45, NEW GUINEA 1942-44



HMAS *Kapunda*: water polo match in quieter times. [AWM1073180]



HMAS *Kapunda*. Note the way the DF loop projects forward of the bridge. [AWM 300856]

# HMAS *Katoomba* J 204 & M 204

Laid Down:	9 Sep 1940
Launched:	16 Apr 1941
Commissioned:	17 Dec 1941
Days to build:	464
Builder:	Poole & Steel Pty. Ltd.
To Order:	RAN

19 January 1942: Arrived Darwin and began active wartime career.

20 January 1942: Officially credited with sister ships *Deloraine* and *Lithgow* and USS *Edsall* with destroying the Japanese submarine *I-124*. A vessel of 1,142 tons, she was one of only four mine-laying submarines in the Imperial Japanese Navy was the first enemy submarine sunk in Australian waters.

19 February 1942: In Darwin Harbour for the first Japanese bombing of the Australian mainland.

11 March 1942: Docked at Brisbane for repairs.

28 June 1942: Began a period of escort duty shepherding convoys between Townville and Port Moresby, Milne Bay and Oro Bay.

On 14 August 1942: Went to the assistance of the American submarine USS *S-39* was ashore on Rossel Island Reef. The following day an attempt was made to refloat the submarine but it unsuccessful. Despite very rough seas *Katoomba* was able to sail for Townsville on 16 August with all of *S-39*'s crew of four officers and forty-three enlisted men safely embarked.

28 November 1942: Off Buna in company with sister ship HMAS *Ballarat* escaped serious damage when ten dive bombers made a determined assault on the two ships.

January 1943: Six aircraft attacked convoy. Suffered only superficial damage but

Dutch ship *Van Heutz* received a direct hit which killed one man and seriously wounded three.

End February 1944: Escorted last mainland to Milne Bay convoy and after a period on anti-submarine patrol in Grafton Passage proceeded to Sydney for refit.

First week May 1944: Returned to New Guinea waters and began four months duty in the forward areas with antisubmarine patrols in the Solomon Sea.

September: Returned to mainland for three weeks leave and maintenance.

First week October 1944: Returned to the operational area and spent a further five months in New Guinea waters, based on Mios Woendi mainly patrolling and escorting in the Morotai, Biak and Sansapor areas.

15 October 1944: Shelled two Japanese barges drawn up on the beach.

5 March 1945: Sailed from Madang for Townsville, ending wartime service in New Guinea waters. Had steamed over 100,000 on operational duty.

31 March 1945: Proceeded to Fremantle and spent the next three months based at that port.

July 1945: Departed for Darwin in July.

September 1945: Present at the surrender of the Japanese forces on Timor.

In the post war period became a unit of the 20th Minesweeping Flotilla and operated in New Guinea, New Britain and the Solomons.

October 1946: Began preparations to pay off at Sydney.

January 1947: Rejoined the 20th Minesweeping Flotilla, spending the following twelve months in sweeping operations off the Queensland coast.

16 January 1948: Berthed at Fremantle and brought seagoing career to an end.

2 August 1948: Paid off having steamed 152,804 miles.

2 May 1957: Sold to Hong Kong Rolling Mills Ltd to be broken up.

([www.navy.gov.au/hmas-katoomba](http://www.navy.gov.au/hmas-katoomba))

#### Battle Honours

PACIFIC 1941-45, DARWIN 1942-43, NEW GUINEA 1942-44



A late-War, early post-War photo of HMAS *Katoomba* with flotilla band on her funnel. [[navy.gov.au](http://navy.gov.au)]

# HMAS *Kiama* J 353 & M 353

Laid Down:	2 Nov 1942
Launched:	3 Jul 1943
Commissioned:	26 Jan 1944
Days to build:	450
Builder:	Evans Deakin & Co. Ltd.
To Order:	RAN

March 1944: Began operational wartime career at Milne Bay for service in New Guinea waters. The first three months of duty were almost entirely occupied in escorting New Guinea coastal convoys.

June 1944: Engaged on anti-submarine patrols in the Solomon Sea.

July 1944: New Guinea convoy duties were resumed.

September 1944: Engaged in troop transport operations between New Guinea and New Britain and on the New Guinea coast.

October 1944: Escorting of convoys was resumed and continued almost without break to the end of the year. At the close of 1944, *Kiama* had with the exception of a brief visit to Cairns, served continuously in New Guinea waters for a period of more than eight months. During that time the ship steamed some 30,000 miles and was at sea for more than 3,000 hours.

21 December 1944: Arrived in Sydney. On Christmas Day the ship's company was recalled from leave to go to the assistance of the American ship *Robert J. Walker* that had been torpedoed and was sinking off the New South Wales coast. Anti-submarine patrols followed until the close of the year.

3 January 1945: Reached Adelaide and commenced a period in refit.

February 1945: Resumed service arriving at Fremantle on the 14th of the month. Spent the next two months in Western Australian waters exercising with American submarines based at Fremantle.

7 May 1945: Arrived at Port Moresby to begin a further period of service in New Guinea waters. Later in May carried out a series of coastal bombardments of eastern Buka Island and northeastern Bougainville areas. Bombardments of the same area were repeated in June 1945.

July 1945: At Torokina, embarked His Royal Highness The Duke of Gloucester for passage to Mutupina Point in the Solomon Islands. Later in the month carried troops between Torokina and the Treasury Islands.

End July: Left New Guinea waters for Brisbane.

24 August 1945: Returned to New Guinea waters and for the next five months was occupied with troop and store carrying, sweeping and general duties.

29 January 1946: Arrived in Sydney.

3 April 1946: Paid off into Reserve. In two years and two months of service *Kiama* steamed 60,882 miles and was underway for 6,369 hours.

May 1952: Transferred to the Royal New Zealand Navy.

19 August 1976: Paid off from the Royal New Zealand Navy for disposal.

([www.navy.gov.au/hmas-kiama](http://www.navy.gov.au/hmas-kiama))

## Battle Honours

PACIFIC 1941-45, NEW GUINEA 1942-44



HMAS *Kiama* in two-tone BPF livery, Torokina July 1945. [AWM 093772]



# HMAS *Latrobe* J 234 & M 234

Laid Down:	27 Jan 1942
Launched:	19 Jul 1942
Commissioned:	6 Nov 1942
Days to build:	283
Builder:	Morts Dock & Engineering Co. Ltd.
To Order:	RAN

January 1943: Commenced wartime career in escorting convoys to New Guinea.

25 February 1943: Passed to the operational control of the Darwin Command.

10 March 1943: Escorted a convoy from Thursday Island. Remained in northern Australian waters shepherding convoys between Darwin and Thursday Island.

5 May 1943: Escorting a convoy from Thursday Island to Darwin attacked by Japanese aircraft for two days in succession. One plane destroyed.

July 1943: Again, attacked by enemy aircraft.

December 1943: Attacked by a single Japanese bomber.

12 February 1944: Unsuccessfully attacked a Japanese submarine.

17 June 1944: Proceeded to New Guinea waters. Spent seven months escorting convoys to Madang, Hollandia, Morotai, Biak, Noemfoor and Mios Woendi. Considerable periods were spent on anti-submarine patrol mainly in the Morotai and Biak areas.

January 1945: Spent seven weeks in refit in Adelaide.

End March 1945: Proceeded to Sydney.

23 April 1945: Arrived at Langemak to begin a second tour of duty in the New Guinea area. Spent nine days in May operating as an anti-submarine unit off Tarakan, Borneo, followed by similar duties at Morotai.

July and August 1945: Returned to Borneo for a period as the duty minesweeper off Balikpapan, carrying out a bombardment of the Japanese held village of Separtim on 3 August

September 1945: Operated between Morotai and the Celebes, evacuating Allied prisoners of war and civilian internees.

October 1945: Transported occupation forces to Menado and Sandakan, returning to Sydney in December from Labuan, Borneo.

19 December 1945: Reached Melbourne having steamed 92,819 miles and spent some 10,000 hours underway since commissioning.

Early 1946: Assumed the role of training ship attached to Flinders Naval Depot, a duty which kept her occupied until the close of 1952.

13 March 1953: *Latrobe* paid off and transferred into the control of Williamstown Dockyard.

17 September 1953: Passed into the Reserve Fleet. In ten years of seagoing service *Latrobe* steamed 155,293 miles and spent more than 17,000 hours underway.

18 May 1956: Sold to Hong Kong Rolling Mills to be broken up.

([www.navy.gov.au/hmas-latrobe](http://www.navy.gov.au/hmas-latrobe))

## Battle Honours

PACIFIC 1941-45, DARWIN  
1942-43, NEW GUINEA  
1942-44, BORNEO 1945



HMAS *Latrobe*. Note the single QF 4-inch Mk XVI on a Mk XX mounting; a peculiarly Australian weapon. [AWM 300954]

# HMAS *Launceston* J 179 & B 246

Laid Down:	23 Dec 1940
Launched:	30 Jun 1941
Commissioned:	9 Apr 1942
Days to build:	472
Builder:	Evans Deakin & Co. Ltd.
To Order:	Admiralty

On completion of trials *Launceston* was employed on escort duty around the coast of Australia:

September 1942: Left for Colombo in September 1942 to join the Eastern Fleet. She was then engaged in escorting convoys in the Indian Ocean.

21 October 1942: Helped rescue 64 survivors from the SS *Martaban*, torpedoed on 13 October in the Indian Ocean.

11 February 1944: Aided by sister ship HMAS *Ipswich* and the Indian sloop HMIS *Jumna*, destroyed the Japanese submarine RO-110 off the east coast of India.



HMAS *Launceston*, probably post War. Note no apparent 20mm in bridge wings, mainmast reduced to a frame, no pennant number and flotilla bands on the funnel. [navy.gov.au]

*Launceston* continued her escorts between Aden and Hormuz, Khor Kuwait, Bombay and Karachi and also between Chittagong and Vizagapatam and Bombay.

September 1944: Returned to Fremantle for refit and remained in the Fremantle area on anti-submarine patrols.

February 1945: Proceeded to Manus, escorting en route.

March – May 1945: Participated in the operation for the capture of Okinawa. After the end of hostilities based at Hong Kong for minesweeping and patrol duties.

29 October 1945: Arrived at Brisbane 16 to 25 December 1945: At Launceston.

28 December: At Hobart.

11 Jan 1946: Arrived Sydney and began refit.

Mid-March 1946: Paid off having steamed 136,064 miles.

21 May 1946: Recommissioned in the Royal Navy sailed for Colombo in company with her sister ships *Gawler* and *Pirie*. All were destined for transfer to the Turkish Navy.

As a unit of the Turkish Navy, *Launceston* originally bore the name *Ayancik* and was later renamed *Hamit Naci*. 'Jane's Fighting Ships' reported that she was withdrawn from service in 1965.

([www.navy.gov.au/hmas-launceston](http://www.navy.gov.au/hmas-launceston))

## Battle Honours

EAST INDIES 1940-44, INDIAN OCEAN 1941-45, PACIFIC 1941-45, OKINAWA 1945

# HMAS *Lismore* J 145 & B 247

Laid Down:	26 Feb 1940
Launched:	10 Aug 1940
Commissioned:	24 Jan 1941
Days to build:	333
Builder:	Morts Dock & Engineering Co. Ltd.
To Order:	Admiralty

21 February 1941: Departed Sydney for service on the East Indies Station in company with her sister ship HMAS *Bathurst*.

26 March 1941: Arrived at Singapore via Darwin and took up duty on anti-submarine patrols off Singapore.

26 May 1941: Sailed for Suez via Colombo, the Seychelles and Aden and took up duty with Red Sea Force.

August to December 1941: Employed on East African coastal patrol duty which included patrols in the Gulf of Tadjoura as a unit of the forces employed in maintaining a blockade of French Somaliland.

16 December 1941: Detached from the Red Sea Force and proceeded for Colombo to join the Eastern Fleet for Indian Ocean escort duty.

January 1942 to April 1943: Served as an escort vessel for Indian Ocean convoys including duty in the Persian Gulf area in the second half of 1942.

3 May 1943: Arrived at Aden en route for the Mediterranean and formed the 21st Minesweeping Flotilla with sister ships HMA Ships *Gawler*, *Ipswich* and *Maryborough*. Service in the Mediterranean was mainly escort duty.

August 1943: Proceeded into the Atlantic to form part of the escort of an Alexandria bound convoy. Despite numerous air attacks in the Mediterranean en route to the Atlantic the ship escaped damage.

25 September 1943: Departed Suez for Kilindini to rejoin the Eastern Fleet for

further Indian Ocean escort duty. Almost constantly at sea for the next fifteen months protecting convoys moving between India and Africa.

3 December 1944: Arrived at Fremantle, the absence from Australia was longer than that of any other Royal Australian Navy ship of World War II.

2 January 1945: Returned to Sydney after an absence of nearly four years (1,409 days) having steamed some 156,000 miles since commissioning. Joined the British Pacific Fleet and served as an escort vessel for shipping moving north to the forward areas including the Philippines.

March to June 1945: Was one of the Royal Australian Navy ships that participated in the invasion of Okinawa.

Following the cessation of hostilities served for several months in the Darwin, Timor and Moluccas.

March 1946: Returned to Sydney.

1 June 1946: Sailed for Ceylon for transfer to the Royal Netherlands Navy.

3 July 1946: Paid off at Trincomalee and commissioned as HNMS *Batjan* having steamed 191,132 miles as a unit of the Royal Australian Navy.

The ship was classified in the Royal Netherlands Navy as a frigate. She was removed from the effective list in 1958. ([www.navy.gov.au/hmas-lismore](http://www.navy.gov.au/hmas-lismore))



HMA Ships *Lismore* and *Maryborough* in Tunis, 1943. Note what appears to be SW1C type radar antenna at the masthead and pedestal-mounted 20mm Oerlikon forward of their taller bridges. [source unidentified]

## Battle Honours

INDIAN OCEAN 1941-45, PACIFIC 1941-45, SICILY 1943, OKINAWA 1945

# HMAS *Lithgow* J 206 & M 406

Laid Down:	19 Aug 1940
Launched:	21 Dec 1940
Commissioned:	14 Jun 1941
Days to build:	299
Builder:	Morts Dock & Engineering Co. Ltd.
To Order:	RAN

July 1941: Began active career as a unit of the 20th Minesweeping Flotilla sweeping in Bass Strait and Tasmanian waters. Twenty German mines were swept by the Flotilla in 1941.

14 October 1941: Swept one mine off Tasman Island.

January 1942: Escorted first US convoy to Darwin and passed to the control of the Darwin command having previously conducting sweeping operations and anti-submarine patrols off Sydney.

20 January 1942: Took part in the destruction of the Japanese mine-laying submarine I-124 officially credited to HMA Ships *Deloraine*, *Lithgow* and *Katoomba* and USS *Edsall*.

January to December 1942: Escorting of Darwin - Thursday Island convoys and escorted a troop convoy of three ships for Port Moresby. The remainder of the year was taken up protecting New Guinea convoys.

December 1942: Took part in the landing of troops and equipment at Oro Bay for the Buna campaign.

30 December 1942: On completion of more than eighteen months service in Brisbane for refitting.

5 March 1943: Refit completed and began nine months of escort and anti-submarine duty on the Queensland coast.

19 December 1943: Took part in rendering assistance to convoy TN 192 when seven of the eight merchant vessels in the convoy, along with HMAS *Gladstone*, had run aground on Bougainville Reef on the Great Barrier Reef.

April 1944: After with escort duties to New Guinea and an annual refit at Melbourne, arrived at Milne Bay to begin a period of ten months escort and anti-submarine operations in New Guinea waters. She was in constant service to Langemak, Hollandia, Madang, Wakde, Biak, Morotai, Noemfoor and Mios Woendi.

April to May 1945: A refit at Williamstown was followed by a return to New Guinea waters.

June and July 1945: Took part in Allied operations in the Solomons, supporting the land forces with a series of bombardments against enemy held territory. Remained based on the Solomons until the end of September 1945, operating as a minesweeper in the latter period.

August 1945: Present at the Japanese surrender at Rabaul.

October was spent in New Guinea waters.

1 November 1945: Ended active war career at Sydney Harbour.

1946 – 1947: Operated as a unit of the 20th Minesweeping Flotilla. Constantly employed on minesweeping duties: in 1946 in the New Britain / Solomons area and on the Queensland coast the following year.

January 1948: Arrived Fremantle.

8 June 1948: Paid off into reserve having steamed 178,000 miles and being underway for almost 20,000 hours.

8 August 1956: Sold as scrap to the Hong Kong Delta Shipping Company, Hong Kong. ([www.navy.gov.au/hmas-lithgow](http://www.navy.gov.au/hmas-lithgow))

## Battle Honours

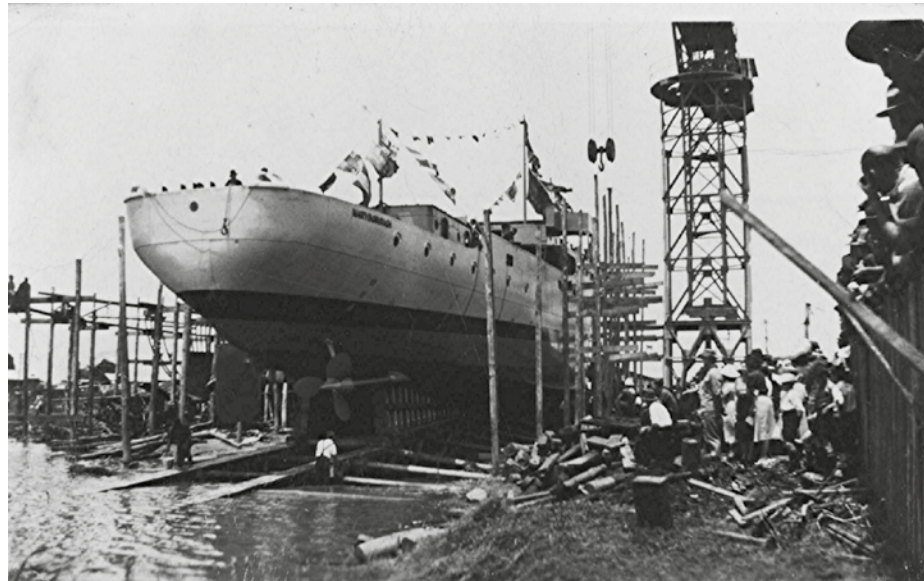
PACIFIC 1941-45, DARWIN 1942-43, NEW GUINEA 1942-44

# HMAS *Maryborough* J 195 & B 248

Laid Down:	16 Apr 1940
Launched:	17 Oct 1940
Commissioned:	12 Jun 1941
Days to build:	422
Builder:	Walkers Ltd.
To Order:	Admiralty

November 1941: Proceeded to Singapore after a brief period of service on the east coast of Australia.

28 November 1941: Became a unit of the 21st Minesweeping Flotilla.



*Maryborough* being launched, 17 Oct 1940. [Shipbuilding At Walkers Limited]

Following the outbreak of the Pacific War, with six of her sister ships played a notable part in the Malayan-Java Sumatran operation.

2 March 1942: Departed Tjilatjap for Fremantle.

March to November 1942: Escort and patrol duties in Western Australian waters based on Fremantle. It was an uneventful period. During April 1942,



HMAS *Maryborough* visiting her namesake city, Dec 6 1945. (source unidentified or unestablished)

*Maryborough* took the submarine USS *Searaven* in tow and brought her to Fremantle. The submarine, which had rescued a party of servicemen from Timor, had broken down.

3 November 1942: Departed Fremantle for Diego Garcia en route to join the Eastern Fleet. The following four months were spent escorting shipping from Colombo to Bombay and to the Persian Gulf.

May 1943: Entered the Mediterranean. Five months were spent in this theatre on convoy, escort and anti-submarine patrol, including the operations for the Sicily landings.

November 1943: Returned to the Indian Ocean and resumed convoy escort duties.

3 December 1944: Returned to Fremantle after more than two years of overseas service.

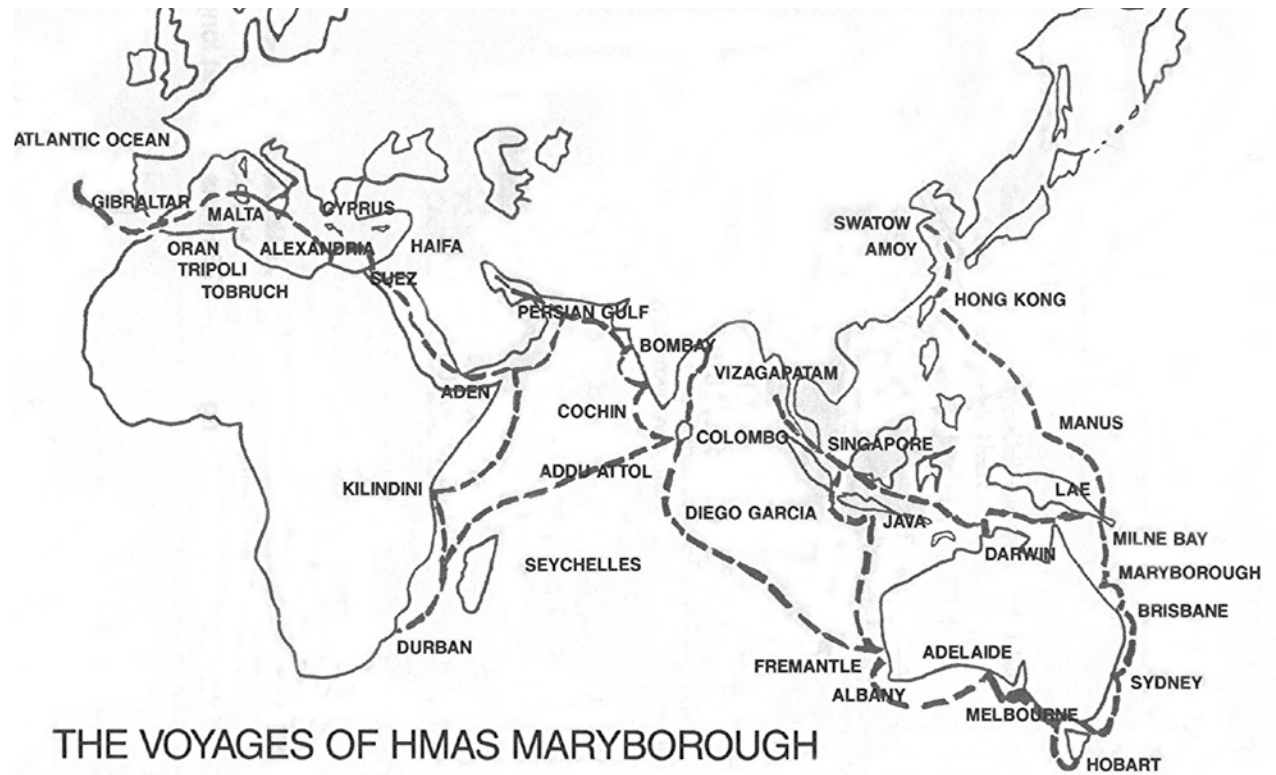
16 March 1945: Departed Sydney for Seadler Harbour. Spent the remaining months of the War on patrol in Australia and New Guinea.

Spent the remainder of active service with the RAN as a unit of the 21st Minesweeping Flotilla based in Hong Kong. December 1945: Finally returned to Australia and was paid off for disposal.

9 May 1947: Sold to Australian General Trading and Shipping Syndicate, Sydney (Comino Bros Pty Ltd) and renamed *Isobel Queen*.

1953: Sold to Carr Enterprises Ltd, Sydney, in 1953 for breaking up.

([www.navy.gov.au/hmas-maryborough](http://www.navy.gov.au/hmas-maryborough))



Map showing HMAS *Maryborough*'s voyages. [Shipbuilding At Walkers Limited]

#### Battle Honours

INDIAN OCEAN 1941-45, PACIFIC 1941-45, SICILY 1943



HMAS *Maryborough* visiting her namesake city, Dec 6 1945. Note the taller funnel to clear the taller bridge. [Shipbuilding At Walkers Limited]



HMAS *Maryborough* visiting her namesake city, Dec 6 1945. Note the rather puny fenders being positioned. [Shipbuilding At Walkers Limited]



HMAS *Maryborough* visiting her namesake city, Dec 6 1945. [Shipbuilding At Walkers Limited]

# HMAS *Mildura* J 207 & M 207

Laid Down:	23 Sep 1940
Launched:	15 May 1941
Commissioned:	23 Jul 1941
Days to build:	303
Builder:	Morts Dock & Engineering Co. Ltd.
To Order:	RAN

29 August 1941: Joined the 20th Minesweeping Flotilla and operated as a unit of the Flotilla until it was disbanded late in 1941. Engaged in minesweeping, escort duties and anti-submarine patrols in Australian and South Pacific waters.

September 1942 to December 1943: Operated as one of the escort vessels protecting the movement of Australian east coast convoys. During this period eleven merchant ships were sunk by Japanese submarine off the east coast with a loss of 407 lives.

22 January 1943: Assisted in the salvage and tow to Sydney of the disabled American vessel SS *P. H. Burnett* which had been torpedoed some 530 miles east of Sydney. Several attacks were made on convoys escorted by *Mildura*.

The Australian vessel SS *Iron Knight* was torpedoed without warning and sank in two minutes with the loss of 37 lives on 8 February 1943.

January to July 1944: Served on anti-submarine patrol duty in Queensland waters and as escort to convoys proceeding from Townsville to New Guinea.

August 1944: Transferred to the operational control of the Naval Officer-in-Charge, Fremantle. Joined with other ships to provide escort and anti-submarine patrols, mainly in the approaches to Fremantle.

14 March 1945: Following a refit at Fremantle transferred to the control of the Naval Officer-in-Charge, New Guinea. Proceeding via Darwin and Port Moresby to

Morotai. Operated as a stationery patrol vessel interspersed with escort duty to Biak.

22 June 1945: Proceeded independently to Tarakan, Borneo and carried out dusk-to-dawn harbour approach patrols.

1 July 1945: Returned to Morotai having landed a party en route to search for the crew of a wrecked Catalina flying boat sighted on the beach. The remainder of July was spent at Morotai interspersed with escort duty between Zamboanga and Borneo.

Following two weeks of patrols and guard ship service at Balikpapan, proceeded to Subic Bay in the Philippines. Joined seven sister ships to form a Royal Australian Navy Minesweeping Flotilla.

30 August 1945: Flotilla arrived at Hong Kong.

Mid-September 1945: Allocated as a unit of the 21st Minesweeping Flotilla following a period of boiler cleaning, patrolling, rounding up enemy small craft and taking over the Hong Kong brewery from the Japanese. Minesweeping operations with the Flotilla in Chinese waters continued until 17 October 1945.

20 October 1945: Left Hong Kong on the first stage of the long and keenly awaited return to Australia.

19 November 1945: Arrived at Sydney after an absence of two years and seven days.

February 1946: Following a refit resumed service as a unit of the 20th Minesweeping Flotilla clearing minefields in Australian, New Guinea and Solomon Islands waters kept her fully occupied until October 1947.

16 January 1948: Reached Fremantle.

21 May 1948: Paid off.

20 February 1951: Recommissioned at Fremantle for service as a training ship. Served in Western Australian waters training National Service Trainees.



11 September 1953: Paid off at Melbourne having steamed 208,132 miles since first commissioning.

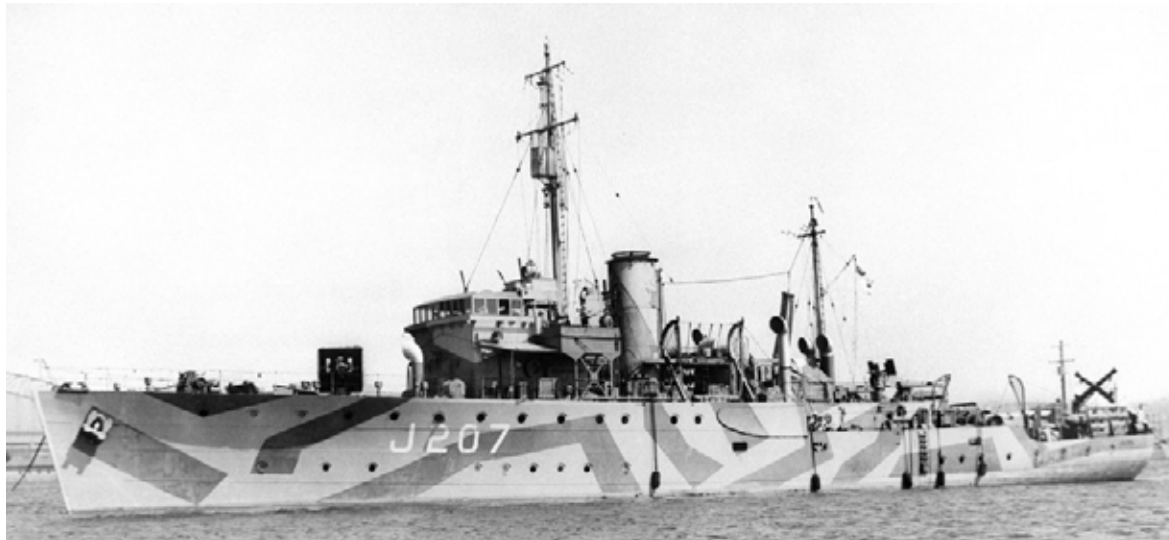
8 December 1954: Departed Melbourne undertow of HMAS *Sprightly* for Brisbane and used there as an immobilised reserve training ship.

8 September 1965: Sold for scrap on 8 September 1965 to Brisbane Non-Ferrous Pty Ltd.

([www.navy.gov.au/hmas-mildura](http://www.navy.gov.au/hmas-mildura))

#### Battle Honours

PACIFIC 1941-45, NEW GUINEA 1942-44



HMAS *Mildura* in disruptive camouflage, prior to radar being fitted. Note the five fenders. [[navy.com.au](http://navy.com.au)]

# HMAS *Parkes* J 361 & M 361

Laid Down:	16 Mar 1943
Launched:	30 Oct 1943
Commissioned:	25 May 1944
Days to build:	436
Builder:	Evans Deakin & Co. Ltd.
To Order:	RAN

*Parkes* was the last Bathurst to be laid down and last to be launched.

3 June 1944: Sailed for Milne Bay following trials in Moreton Bay. Returned to Australia after three weeks in New Guinea waters.

July 1944: Occupied in the escort of convoys between Thursday Island and Darwin. At the end of the month proceeded to the Eilanden River in Netherlands New Guinea to embark 78 troops for Merauke. With these personnel safely disembarked at their destination sailed for Thursday Island to resume convoy escort duties on the Darwin run.

18 September 1944: Rescued survivors of the SS *Kintore* which had been wrecked on Warrimist Reef (near York Island) four days earlier.

On 23 September 1944: Sailed for Fremantle.

October and early November proved an uneventful period occupied by routine patrols off Fremantle, before *Parkes* returned to Darwin on

7 November 1944: Returned to Darwin to take up escort and patrol duties in the Arafura Sea.

20 December 1944: Rescued six Dutch former prisoners of war who had succeeded in escaping from enemy held territory in an outrigger canoe.

From then until the end of hostilities on 15 August 1945 continued to be based on Darwin, principally occupied with local escort and anti-submarine duties. It was a period of mainly routine activity.

Early August 1945: Assisted in the successful extraction by HMA *HDML 1324* of Services Reconnaissance Department personnel from enemy occupied Timor after a clandestine operation.

7 September 1945: The sloop HMAS *Moresby*, accompanied by ten other Australian warships (including *Parkes*) and two Dutch vessels, sailed from Darwin to conduct the ceremony of the surrender of all Japanese forces in Timor. Two other RAN vessels joined the convoy, which also included some small craft undertow. The ceremony was conducted at Koepang on 11 September on *Moresby's* quarterdeck.

20 September 1945: Arrived back at Darwin and next day proceeded with sister ships HMA Ships *Gympie* and *Katoomba* to rendezvous off Dili with two other sister ships, HMA Ships *Gladstone* and *Warrnambool*. After the rendezvous on 23 September the five ships entered Dili harbour and were joined by *Moresby* the next day.

30 September 1945: Arrived back at Darwin.

October 1945: Again, visited Timor and assisted in the evacuation of Dutch prisoners of war and troops and stores were transported in the area.

11 November 1945: Departed Darwin for Fremantle.

17 December 1945: Paid off into Reserve at Fremantle having steamed 43,021 miles since commissioning.

2 May 1957: Sold for scrap on 2 May 1957 to Hong Kong Rolling Mills Ltd, of Hong Kong.

([www.navy.gov.au/hmas-parkes](http://www.navy.gov.au/hmas-parkes))

## Battle Honours

PACIFIC 1941-45, NEW  
GUINEA 1942-44



HMAS *Parkes*. [AWM 045089]

# HMAS Pirie J 189 & B 249

Laid Down:	18 May 1941
Launched:	3 Dec 1941
Commissioned:	10 Oct 1942
Days to build:	510
Builder:	Broken Hill Pty. Ltd.
To Order:	Admiralty

December 1942: Assigned to convoy escort duty operating between Queensland, New South Wales and New Guinea working up in home waters.

24 March 1943: At Milne Bay when 27 enemy aircraft passed overhead en route to attack shore targets.

11 April 1943: While escorting the British vessel SS *Hanyang* as part of operation 'Lilliput', the reinforcement, supply and development of the Buna-Gona area after its capture, was subjected to a particularly determined attack by a large force of Japanese fighters and dive bombers off Oro Bay. Experienced six very close misses and one direct hit which penetrated the bridge, killed the Gunnery Officer and struck the fore deck killing six ratings and wounding four others. Fortunately, after hitting Pirie the enemy broke off the attack having lost several aircraft hit by close range anti-aircraft fire. *Pirie* is credited as having shot down one of these.

14 April 1943: Sailed in company with HMAS *Swan* for Townsville then on to Maryborough for repairs.

18 May 1943: Repairs completed and resumed operations escorting convoys proceeding between the Australian east coast and New Guinea.

8 June 1943: Crew mutinied (see separate section dealing with this)

Mid November to early December 1943: Under refit at Garden Island.

April to July 1944: Under a new captain (replaced end 1943) mainly engaged

in escorting convoys moving along Australia's northern coast between Thursday Island and Darwin.

August 1944: Assigned to duty as a minesweeper and assisted by her sister ship HMAS *Kalgoorlie* began a series of clearing sweeps of defensive minefields in the Great Barrier Reef area.

End September 1944: Task was completed and at Brisbane for refitting.

Mid December 1944: Sailed for Fremantle in mid-December to join the 22nd Minesweeping Flotilla on its reformation.

31 January 1945: Sailed from Fremantle for Sydney.

24 February 1945: Sailed for Manus as a unit of the British Pacific Fleet. From Manus proceeded to the Philippines and thereafter until hostilities ended acting as an escort vessel to units of the Fleet. Participated in the operation for the capture of Okinawa (March to May 1945).

31 August 1945: Entered Tokyo Bay, being the third Australian warship to enter Japanese home waters since hostilities commenced, preceded only by the destroyers HMA Ships *Napier* and *Nizam*.

Mid-September 1945: Proceeded to Hong Kong and was engaged on local patrol duty.

11 October 1945: Sailed to return to Australia.

30 October 1945: Reached Brisbane.

28 February 1946: Arrived at Sydney after service in Australian waters. Having steamed a total of 117,230 miles since commissioning.

5 April 1946: Paid off and recommissioned in the Royal Navy as HMS *Pirie*.

21 May 1946: Sailed for Colombo in company with sister ships *Gawler* and *Pirie*. All were destined for transfer to the Turkish Navy.

As a unit of the Turkish Navy *Pirie* was renamed *Amasra*. The vessel was not listed in 'Jane's Fighting Ships' after the 1971/72 issue. In 1984, in answer to

a query from the HMAS *Pirie* Association, the Turkish Consulate General advised that *Amasra* was put out of service on 26 March 1984 after having rendered valuable service to the Turkish Navy’.

([www.navy.gov.au/hmas-pirie](http://www.navy.gov.au/hmas-pirie))

#### Battle Honours

PACIFIC 1941-45, NEW GUINEA 1942-44, OKINAWA  
1945



HMAS *Pirie* showing bomb damage to bridge and 12-pdr gun. [[navy.gov.au](http://navy.gov.au)]

# HMAS *Rockhampton* J 203 & M 203

Laid Down:	6 Nov 1940
Launched:	26 Jun 1941
Commissioned:	21 Jan 1942
Days to build:	441
Builder:	Walkers Ltd.
To Order:	RAN

November 1942: Two ships in a convoy escorted by *Rockhampton*, collided. One of the ships, the SS *Zvir*, sank and the survivors had to be rescued.

Continued to be employed on east coast convoy escort duties until December 1943.

January 1944: Proceeded to the New Guinea area, escorting convoys from the ports of north Queensland to Port Moresby, Milne Bay, Langemak, Hollandia and Morotai.

March 1944: Duties ceased.

4 April 1944: Returned to Sydney.

12 April to 20 May: Refit in Adelaide.

June 1944: Resumed service in New Guinea waters escorting convoys between the ports of Hollandia, Langemak, Madang and Morotai.

July 1944: Went to the assistance of the USS *Porcupine* which had run aground to the south of Tami Island, successfully towing her free after a strenuous tussle.

First half of 1945: Operating predominately between Morotai and Biak.

June 1945: Returned to Australian waters.

September 1945: Returned to New Guinea for further service in the Morotai

area. Following the cessation of hostilities with four sister ships evacuated Dutch and Indonesian internees from Menado, disembarking them at Morotai. *Rockingham* was one of the Australian warships to support the occupation of Ambon following the surrender of Japanese forces on the island.

8 October 1945: Arrived at Tenate in the Halmaheras with the Sultan of Ternate on board as a passenger.

23 October 1945: Departed Morotai for the return passage to Australia, returning to Sydney, via Townsville and Brisbane.

13 November 1945: Upon return to Australia joined the 20th Minesweeping Flotilla and took part in post-war minesweeping operations off the Australian east coast, Bass Strait and later at Hobart. This was followed by survey duties in South Australia.

15 April 1946: Departed Adelaide for passage to Sydney.

5 Aug 1946: Paid off into Reserve at Sydney having steamed some 176,077 miles.

January 1961: Sold as scrap to Kino Shito (Australia) Pty Ltd.

([www.navy.gov.au/hmas-rockhampton](http://www.navy.gov.au/hmas-rockhampton))

## Battle Honours

PACIFIC 1941-45,  
NEW GUINEA 1942-44



HMAS *Rockhampton*, Morotai, June 1945. [AWM 109370]

# HMAS *Shepparton* J 248 & M 248

Laid Down:	14 Nov 1941
Launched:	15 Aug 1942
Commissioned:	1 Feb 1943
Days to build:	444
Builder:	Williamstown Naval Dockyard
To Order:	RAN

End April 1943: Following successful completion of her trials in home waters proceeded to New Guinea and began operations as a Survey Ship. For the next seventeen months, except for occasional visits to Queensland ports, operational on survey duties in New Guinea and New Britain waters. This period of her service ended with a survey of Endeavour Strait and Scotts Reef.

8 October 1944: Arrived at Darwin where and became attached to the Survey Task Unit operating in the area to begin a series of surveys in north-west Australian waters.

1 February 1945: Began refitting at Brisbane.

2 April 1945: Returned to Darwin to resume survey work between Cape Croker and New Year Island.

13 June 1945: Work in the Darwin area ended and sailed next day for Thursday Island to resume operations in Torres Strait.

2 September 1945: Sailed for Jacquinet Bay (New Britain) and thence to Rabaul and spent ten days surveying in Simpson Harbour.

17 September 1945: Returned to Jacquinet Bay to take soundings of the anchorage. This work was completed in two days then proceeded to the Solomons and spent three weeks surveying the approaches to Torokina.

21 October 1945: Arrived at Brisbane bringing service outside home waters to a close.

Early February 1946: Seagoing career ended after some further survey work on the Australian coast, including six weeks operating in Moreton Bay. Assisted in refloating sister ship HMAS *Cairns* which had grounded on Shark Spit, Moreton Island.

10 May 1946: Paid off into Reserve at Brisbane having steamed some 62,000 miles.

4 November 1947: Sister ship HMAS *Deloraine* sailed from Brisbane for Sydney with *Shepparton* in tow.

7 November 1947: Both ships arrived at Sydney and *Shepparton* remained in Reserve.

20 February 1958: Sold for scrap to Mitsubishi Shoji Kaisha Ltd of Tokyo.

([www.navy.gov.au/hmas-shepparton](http://www.navy.gov.au/hmas-shepparton))

## Battle Honours

PACIFIC 1941-45, NEW  
GUINEA 1942-44



HMAS *Shepparton* as a survey ship with flying bridge. Note davits for extra ship's boat, aft. [navy.gov.au]

# HMAS *Stawell* J 348 & M 348

Laid Down:	18 Jun 1942
Launched:	3 Apr 1943
Commissioned:	7 Aug 1943
Days to build:	415
Builder:	Williamstown Naval Dockyard
To Order:	RAN

Following trials in the Melbourne area *Stawell* was engaged in escorting convoys on the Australian east coast and to and from New Guinea ports. A considerable proportion of service was in the New Guinea area. Duties including, in addition to escort work, patrolling and assistance to land forces by bombardment.

18 December 1943: In company with HMA Ships *Gympie* and *Gladstone* while escorting a convoy of eight merchant vessels with troops embarked bound for Milne Bay when seven of the eight ships, along with *Gladstone*, ran aground on Bougainville Reef in the Great Barrier Reef. *Gladstone* refloated herself within the hour and the three escorts took up station just off the reef until daybreak. The vessels *Colorado*, *Ambrose Bierce* and *City of Fort Worth* had all managed to free themselves by dawn. HMA Ships *Lithgow* and *Castlemaine* arrived to assist.

April 1944: Rendered assistance with other ships, to the United States vessel *Frederick Billings* (operated by the US War Shipping Administration), which had gone aground in Milne Bay.

May 1944: In action against Japanese forces on Kar Kar Island, northeast of Madang, and later escorting convoys between Madang, Manus Island, Humboldt Bay and Langemak.

August 1944: Ended patrol duty to return to Melbourne for a refit.

October 1944: Returned to the New Guinea area on convoy and minesweeping duties.

July and August 1944: At Morotai and Balikpapan.

3 August 1945: Attacked and sank a Japanese armed barge in the Moluccas area.

19 August 1945: Attacked and sank a Japanese armed barge. Departed Morotai on 19 August for Subic Bay in the Philippines.

26 September 1945: Sailed for Hong Kong and remained in the Hong Kong area on anti-piracy patrol.

17 October 1945: Departed with other ships of the 21st Minesweeping Flotilla for Morotai.

Early November 1945: Arrived at Brisbane.

26 March 1946: Paid off having steamed 75,723 miles.

May 1952: Transferred to the Royal New Zealand Navy and commissioned as HMNZS *Stawell*.

Late 1950s: Paid off into Reserve.

July 1968: Sold to Pacific Scrap Ltd of Auckland and broken up.

([www.navy.gov.au/hmas-stawell](http://www.navy.gov.au/hmas-stawell))

## Battle Honours

PACIFIC 1941-45, NEW  
GUINEA 1942-44, BORNEO  
1945



HMAS *Stawell*. [AWM 301340]

# HMAS *Strahan* J 363

Laid Down:	9 Oct 1942
Launched:	12 Jul 1943
Commissioned:	14 Mar 1944
Days to build:	522
Builder:	New South Wales State Dockyard
To Order:	RAN

*Strahan* had the fifth worst building time of 522 days and was the only Bathurst built by the New South Wales State Dockyard.

May 1944: Following a period of trials proceeded to the New Guinea area employed on escort and anti-submarine patrol duties.

October 1944: While in harbour at Morotai enemy planes bombed the harbour and adjacent targets. Engaged and drove off with main armament and automatic weapons one fighter-bomber which attacked.

April 1945: Returned to Sydney and then proceeded to Adelaide for a refit. On completion she returned to the New Guinea area and resumed escort and patrol duties in the Morotai and Biak areas.

June 1945: In action against Japanese land forces for the first time and bombarded gun emplacements on Kairiru Island. Then performed escort duties to Tarakan in Borneo and back to Morotai.

August 1945: Attacked and sank a Japanese barge and picked up three survivors of a crew of ten.

Following the cessation of hostilities proceeded to Hong Kong and engaged in minesweeping and anti-piracy patrols as a unit of the 21st Minesweeping Flotilla.

26 September 1945: While on patrol struck a mine and had to be towed into Hong Kong Harbour.

November 1945: Returned to Australia after repairs had been carried out.

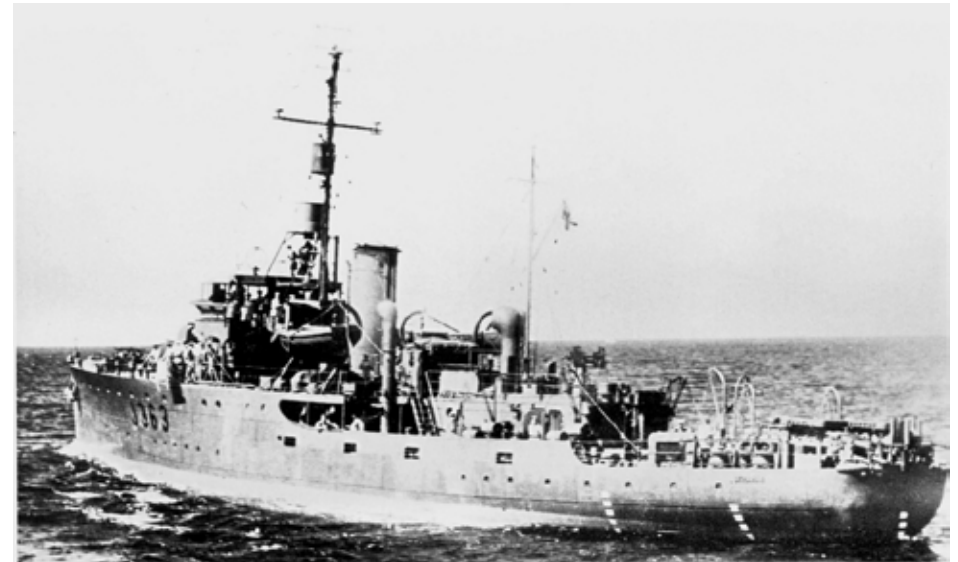
25 January 1946: Paid off into Reserve at Sydney bringing seagoing career to a close having steamed almost 60,000 miles.

6 January 1961: Without being again commissioned, she was sold to Kinoshita (Australia) Pty Ltd.

([www.navy.gov.au/hmas-strahan](http://www.navy.gov.au/hmas-strahan))

## Battle Honours

PACIFIC 1941-45, NEW GUINEA 1942-44



HMAS *Strahan*. Notice absence of M/S gear in favour of A/S weapons as evidenced by the number of loading davits. [AWM 301346]



# HMAS *Tamworth* J 181 & B 250

Laid Down:	25 Aug 1941
Launched:	14 Mar 1942
Commissioned:	8 Aug 1942
Days to build:	348
Builder:	Walkers Ltd.
To Order:	Admiralty

Early November 1942: *Tamworth* first proceeded to Melbourne as one of the escorts of a convoy following trials and working up exercises in the Hervey Bay and Sydney areas.

Late November 1942: Sailed to Port Adelaide and then to Fremantle.

27 January 1943: Sailed from Fremantle, escorting the tanker SS *Athelduke* to Diego Garcia then proceeded to Colombo to join the British Eastern Fleet. Served for some two years on Indian Ocean and Persian Gulf convoy escort duty.

5 October 1943: Whilst escorting a convoy about 140 miles north of Cape Guardafui, in the entrance to the Gulf of Aden, a German submarine of the 'Monsoon Group' torpedoed the Norwegian tanker *Anna Knudsen* which did not sink and was assisted to Aden by *Tamworth*.

16 - 23 February 1944: Escorted convoy 'PA 69' from the Persian Gulf for Aden as Senior Officer, Escort with the Indian ship HMIS *Orissa*. The convoy was attacked by the German U-Boat U-188 at the entrance to the Gulf of Aden and three tankers were torpedoed. *Tamworth* brought 133 survivors to Aden.

17 July 1944: Sailed with sister ship HMAS *Ipswich*, the destroyer HMAS *Napier* and the tanker SS *American Arrow* from Addu Atoll for Australia.

21 October 1944: Departed Fremantle to rejoin the Eastern Fleet in company with *Ipswich*, *Napier*, *Nepal* and the tanker SS *British Fusilier* and became a unit of the 22nd Minesweeping Flotilla (constituted on 24 November 1944) and the

British Pacific Fleet (formed on 22 November 1944).

26 January 1945: Departed Trincomalee for Fremantle.

March 1945: Proceeded to the United States naval base at Manus Island in the Admiralties Group to take up duty in the Pacific. Until the end of hostilities was mainly engaged in escort duty between Manus and the Philippines.

June 1945: With sister ship HMAS *Goulburn* she escorted the floating dock AFD 18, towed by the tug HMAS *Heros* and the salvage vessel HMS *Salvestor*, from Darwin to Milne Bay in the final stages of its voyage from North Africa to Manus for use by the British Pacific Fleet.



HMAS *Tamworth*. Note what looks like 12-pdr with extensions to sides of shield. [AWM 301485]

September 1945: With other units of the 22nd Minesweeping Flotilla, was based at Hong Kong for minesweeping duty and anti-piracy patrols.

28 September 1945: Reverted to Australian operational control and sailed for Australia the next day.

A short period of service in Australian waters followed, including training duties in the Bass Strait area towards the end of the ship's service.

30 April 1946: Paid off at Sydney having steamed over 125,000 miles. Transferred to the Royal Netherlands Navy on the same day and renamed *Tidore*.

December 1949: Transferred to the Indonesian Navy and renamed *Pati Unus*.

1969: Disposed of.

([www.navy.gov.au/hmas-tamworth](http://www.navy.gov.au/hmas-tamworth))

#### Battle Honours

INDIAN OCEAN 1941-45, PACIFIC 1941-45



HMAS *Strahan*. Notice absence of M/S gear in favour of A/S weapons as evidenced by the number of loading davits. [AWM 301346]

# HMAS *Toowoomba* J 157 & B 251

Laid Down:	9 Aug 1940
Launched:	26 Mar 1941
Commissioned:	9 Oct 1941
Days to build:	426
Builder:	Walkers Ltd.
To Order:	Admiralty

10 October 1941: Departed Brisbane for Sydney after which employed on convoy escort duty on the Australian coast.

January 1942: Proceeded to Batavia in company with sister ships HMA Ships *Ballarat* and *Wollongong*.

February 1942: On passage from Singapore to Palembang *Ballarat* came under heavy bombing by five Japanese aircraft which were repulsed by gun fire after *Toowoomba* had sustained slight damage.

14 February: Arrived at Batavia in company with the destroyer HMS *Jupiter* and escorting four tankers.

10 March 1942: With sister ship HMAS *Maryborough* and the Dutch merchant ship *Gernraal Verspyck* entered Fremantle Harbour. Thus, all the ships of the 21st Minesweeping Flotilla had safely returned to Australia after a series of desperate rear-guard actions.

March until November: Remained in Australian waters on escort duties in the south and south-western area.

November 1942: Departed Fremantle to join the British Eastern Fleet.

December 1942: Began a period of service that ranged widely over the Indian Ocean on convoy escort and patrol work including duty in the Persian Gulf.

22 November 1944: British Pacific Fleet was formed including two flotillas of

Bathurst Class minesweepers; the 21st Minesweeping Flotilla and the 22nd Minesweeping Flotilla.

3 December 1944: Returned to Fremantle on to undergo a refit.

Mid-March 1945: Refit completed and sailed for Manus Island in the Admiralty Group, via Melbourne and Townsville. The remainder of the war engaged in convoy escort duties and anti-submarine patrols, operating between Australia and New Guinea.

21 September 1945: Arrived at Hong Kong and engaged in minesweeping in the area and also carried out surveys of Hong Kong and Swatow Harbours.

December 1945: Returned to Australia.

4 June 1946: In company with sister ships HMA Ships *Burnie* and *Ipswich* departed Brisbane for Ceylon where they were to be handed over to the Royal Netherlands Navy.

5 July 1946: At Colombo the three ships paid off and were transferred to the Royal Netherlands Navy having steamed over 100,000miles.

*Toowoomba* was renamed *Boeroe* and was removed from the effective list of the Royal Netherlands Navy in 1958.

([www.navy.gov.au/search/node/toowoomba](http://www.navy.gov.au/search/node/toowoomba))

## Battle Honours

INDIAN OCEAN 1941-45, PACIFIC  
1941-45



HMAS *Toowoomba*. Note the Type 271 radar "lantern" above the bridge, no S/L and what appears to be a 12-pdr on the foredeck. [[navy.gov.au](http://navy.gov.au)]

# HMAS *Townsville* J 205

Laid Down:	16 Nov 1940
Launched:	13 May 1941
Commissioned:	19 Dec 1941
Days to build:	398
Builder:	Evan Deakin & Co. Ltd.
To Order:	RAN

February 1942: Began operational career escorting Darwin to Thursday Island convoys under the Darwin command.

28 July 1942: Proceeded for Sydney to take up escort duties on the east coast of Australia.

13 August 1942: Assumed responsibility for her first east coast convoy, bound from Sydney for Melbourne. It was the first of many on a two-year tour of duty on the Australian coast. It included the period of the maximum Japanese effort against the Allied supply line. Twelve ships were sunk off the Australian coast with the loss of more than 150 merchant seamen. Only one ship, the 4,800 ton *Iron Knight*, was lost in a convoy under *Townsville*'s protection.

31 May 1944: Departed Brisbane to begin a period of escort and patrol duties in New Guinea waters. Five months were spent in operations from Milne Bay to Morotai, including Madang, Hollandia, Langemak, Wakde, Noemfoor and Manus.

November 1944: Returned to the mainland and carried out a series of minesweeping operations before returning to Milne Bay on the last day of the month. Remained in New Guinea waters operating on patrol in mainly the Morotai / Biak area.

June 1945: Proceeded to Melbourne for refitting. The refit was in progress when hostilities ended.

In the post war period operated as a unit of the 20th Minesweeping Flotilla in

the New Britain area and in Australian home waters.

5 August 1946: Paid off into Reserve at Fremantle. In more than four and a half years of seagoing service *Townsville* steamed 155,450 miles.

8 August 1956: Sold to the Hong Kong Delta Shipping Co, Hong Kong, for breaking up.

([www.navy.gov.au/hmas-townsville](http://www.navy.gov.au/hmas-townsville))

## Battle Honours

PACIFIC 1941-45, DARWIN 1942-43, NEW GUINEA 1942-44



HMAS *Townsville*. Note camouflage to “blackout” the bow and stern and give a false impression of the ship’s length. [[navy.gov.au](http://navy.gov.au)]

# HMAS *Wagga* J 315 & M 315/183

Laid Down:	8 Mar 1942
Launched:	24 Jul 1942
Commissioned:	18 Dec 1942
Days to build:	285
Builder:	Morts Dock & Engineering Co. Ltd.
To Order:	RAN

January 1943: Began seagoing career escorting convoys on the east coast of Australia.

18 January 1943: Unsuccessfully searched for survivors of the steamer *Kalingo* that had been sunk by a Japanese submarine off the New South Wales.

March 1943: Proceeded to Queensland waters. Later that month extending escort duties to the forward areas in New Guinea. Then supported Operation Lilliput, which involved the transshipment of troops and supplies to Oro Bay for the reinforcement and development of the Buna-Gona area.

14 April 1943: Came under heavy attack from Japanese dive bombers during an air raid by 40 to 50 bombers and about 60 fighters at Milne Bay. Despite several near misses escaped any serious damage. The British ship *Gorgon* was hit a number of times and set on fire, and the Dutch ship *Van Outhoorn* was damaged from near misses. Another Dutch ship, the *Van Heemskerck*, was also hit by several bombs and set on fire and beached. Convoy escort duties between north Queensland ports and New Guinea occupied *Wagga* through to the close of 1943.

11 June 1943: Rescued survivors from the collision between *Henry Gilbert Costin* and HMAS *Wallaroo*.

December 1943-January 1944: Refit at Williamstown.

February 1944: Returned to the New Guinea area and constantly employed

in there throughout the whole of 1944. Escorted convoys, conducted anti-submarine patrols, transported troops and provided naval gunfire support to Allied military forces by bombarding selected targets ashore.

16 May 1944: Bombarded Japanese positions in the Bunabun Harbour, Neptune Point and Uligan Harbour areas, all north west of Madang.

Continued service in the New Guinea area in 1945.

29 August 1945: Arrived Hong Kong via Darwin, Morotai and Subic Bay and based there conducting local minesweeping operations and anti-piracy patrols.

11 October 1945: Departed Hong Kong in company with a number of sister ships for the long passage to Australia via Morotai. She arrived in Sydney on 2 November and Melbourne on 7 November.

28 November 1945: Paid off into the Reserve Fleet at Melbourne, having steamed 105,000 miles on active service.

12 December 1951: Following a period of six years in the Reserve Fleet, *Wagga* recommissioned at Melbourne. In the following six years employed as a training ship, providing seagoing instruction for naval reservists and National Service Trainees on the Australian east coast. During this period steamed a further 78,000 miles on training cruises, naval exercises, northern patrol and oceanographic survey duties.

August 1952: Assisted with the tow of the cruiser HMAS *Hobart* from Sydney to Newcastle.

Late 1954: Following a three-month refit in Sydney proceeded to New Guinea for a two-month patrol in northern waters.

25 February 1955: Returned to Sydney on for refit and modernisation which was completed in June and continued to operate in Australian waters.

December 1956: Undertook another northern-waters patrol in the New Guinea area.

March 1957: Returned to Sydney and another short refit and further seagoing service on the Australian east coast.

25 October 1957: Paid off into Reserve at Sydney. Returned to seagoing service a year later.

31 October 1958: Recommissioned for two weeks to resume service as a training ship for naval reservists and cadets.

12 November 1958: Paid off again and spent several further short periods in commission as required to conduct training cruises. These periods were 6 to 18 February 1959, 29 May 1959 to 10 June 1959, 4 to 16 June 1960 and 15 to 28 October 1960.

28 October, 1960: Paid off for the final time and had steamed some 190,000 miles since she first commissioned. Was the last of the Bathurst Class in seagoing commission in the Royal Australian Navy.

31 May 1961: Declared for disposal.

March 1962: Sold out of service and purchased by the South Australian Carrying Co.

([www.navy.gov.au/hmas-wagga](http://www.navy.gov.au/hmas-wagga))

#### Battle Honours

PACIFIC 1941-45, NEW GUINEA 1942-44



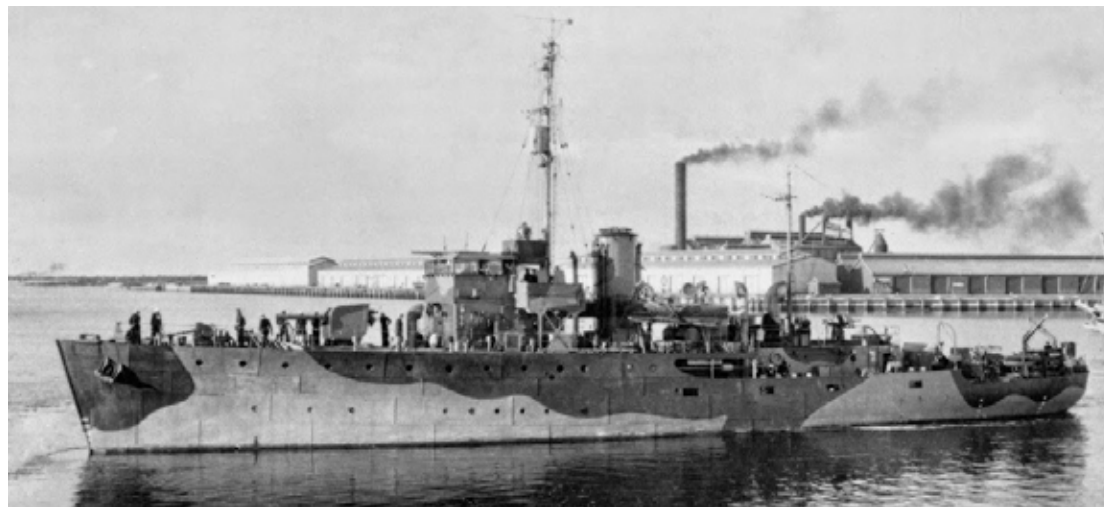
HMAS *Wagga*. Note no radar apparent but the 4-inch Mk XVI is fitted. [AWM 041254]

# HMAS *Wallaroo* J 222

Laid Down:	24 Apr 1941
Launched:	18 Feb 1942
Commissioned:	15 Jul 1942
Days to build:	447
Builder:	Poole & Steel Pty. Ltd.
To Order:	RAN

September 1942: Commenced duty on anti-submarine patrols between Adelaide, Geraldton and Fremantle. Also employed on escort duties and minesweeping in the Fremantle area.

11 June 1943: Met her end in the early hours of when she sank as the result of a collision with the United States Liberty Ship *Henry Gilbert Costin*.



The ill-fated HMAS *Wallaroo* lost on 11 June 1943. [navy.gov.au]

The collision occurred shortly after midnight off the Western Australian coast, approximately west of Fremantle. The night was dark and overcast and in accordance with wartime precautions the vessels were steaming without lights. Some four hours after the collision, while endeavouring to reach Fremantle, *Wallaroo* sank. *Henry Gilbert Costin* reached port safely with no casualties and only minor damage.

Three ratings from *Wallaroo* lost their lives at the time of the collision.

([www.navy.gov.au/hmas-wallaroo](http://www.navy.gov.au/hmas-wallaroo))

Battle Honours

PACIFIC 1941-45

# HMAS *Warrnambool* J 202

Laid Down:	13 Nov 1940
Launched:	8 May 1941
Commissioned:	23 Sep 1941
Days to build:	314
Builder:	Morts Dock & Engineering Co. Ltd.
To Order:	RAN

After completion of trials immediately *Warrnambool* engaged in patrols in Bass Strait. Present at Darwin when the first Japanese air raid occurred on 19 February 1942, but sustained no damage or casualties.

20 February 1942: Rescued 73 survivors of the Filipino merchant ship *Don Isidro* which had been attacked and set on fire by Japanese dive bombers. During the rescue operation was bombed by a Japanese flying boat but without damage or casualties.

In the first twelve months of 1942, all except the first three of which were spent in northern waters carried out five evacuations or rescue trips, been present during 18 air raids, and ferried 4,000 troops in New Guinea.

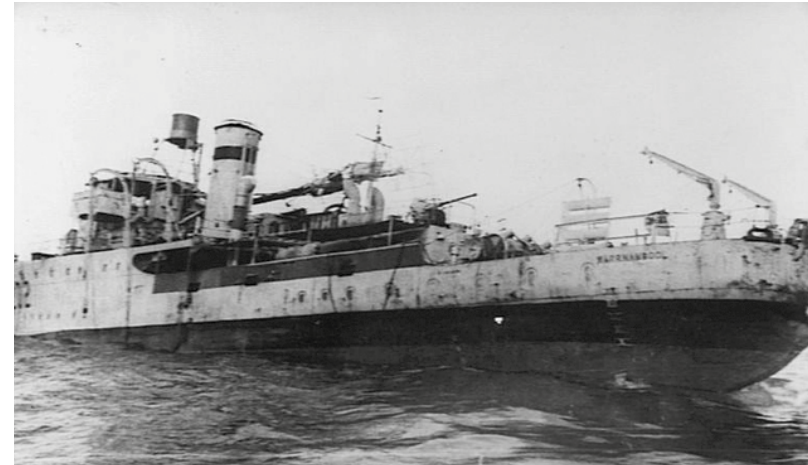
July 1942: In company with HMAS *Southern Cross* carried Netherlands East Indies troops and stores from Darwin to Dobo, in the Aru Islands.

September 1942: Rescued survivors of the force from Dobo.

Late September 1942: Assisted in the rescue of personnel of HMAS *Voyager*, which had grounded at Betano on the south coast of Timor while landing Australian troops and subsequently became a total loss.

Late 1942: Transferred to the Australian east coast and spent most of the remainder of the war operating in that area on anti-submarine patrols and convoy protection.

Late September 1944: Proceeded to Fremantle and based there.



Two views of HMAS *Warrnambool* after having struck a mine. Note how the foremast has collapsed on deck. [AWM P02294.023]



HMAS *Warrnambool*. [AWM P02294.024]



End February 1945: Transferred to Darwin and based there for the remainder of 1945.

11 September 1945: Present at the Japanese surrender at Koepang, Timor.

Subsequent post war career consisted of mine clearance work in Solomons and New Guinea waters, followed by similar operations in the Great Barrier Reef area.

13 September 1947: While engaged in this work *Warrnambool* struck a mine in the vicinity of Cockburn Reef on and sank shortly afterwards. Four sailors lost their lives.

3 July 1972: The wreck was sold to Southern Cross Diving and Salvage, of Dee Why, New South Wales.

([www.navy.gov.au/hmas-warrnambool](http://www.navy.gov.au/hmas-warrnambool))

#### Battle Honours

PACIFIC 1941-45, DARWIN 1942-43, NEW GUINEA 1942-44

# HMAS *Whyalla* J 153 & B 252

Laid Down:	24 Jul 1940
Launched:	12 May 1941
Commissioned:	8 Jan 1942
Days to build:	533
Builder:	Broken Hill Pty. Ltd.
To Order:	Admiralty

Following commissioning and a workup period *Whyalla* went into service on escort and patrol duty on the Australian east coast.

12 June 1942: Together with the United States destroyer USS *Perkins* was escorting a convoy of eight ships bound from Newcastle to Melbourne when the straggling Panamanian ship *Guatemala* was torpedoed and sunk. *Whyalla* continued east coast coastal convoy escort duty until December 1942. No further losses were suffered by any of the convoys of which she was one of the escorting units.

December 1942: Proceeded to New Guinea and took part in the operations leading to the capture of Buna at the end of the year.

1943: Continued operations in the New Guinea theatre, operating as a survey ship.

2 January 1943: Attacked by six dive bombers escorted by twelve fighters in McLaren Harbour, Cape Nelson, New Guinea along with the small survey vessels HMA Ships *Wareen* (Stella) and *Polaris*. All bombs missed their targets and except for minor damage from near misses.

April 1943: Relieved by HMAS *Shepparton* after the hazardous work of surveying the inadequately charted New Guinea waters.

14 April 1943: At anchor in Milne Bay when attacked by forty to fifty bombers and about sixty fighters. Again, the ship escaped serious damage but other vessels were not so fortunate. The Dutch merchant ship *Van Heemskerk* was a

total loss. *Whyalla* and her sister ships HMA Ships *Kapunda* and *Wagga* drew praise from the Naval Officer-in-Command ashore for their rescue and salvage work, remarking that 'we were indeed fortunate to have the assistance of the three corvettes.'

June 1943: Returned to Australia for a major refit and was then reallocated for east coast convoy escort duty.

February 1944: A period on Sandy Cape anti-submarine patrol interspersed with escort duty.

June 1944: Further service in New Guinea waters.

December 1944: Attached to the British Pacific Fleet as a unit of the 21st Minesweeping Flotilla, consisting of nine Australian minesweepers.

March to May 1945: Escorted shipping between Manus and the Philippines.

June 1945: Returned to Australia for refit. (March to May).

2 July 1945: Proceeded to Manus on for further escort service to the forward areas. In the immediate post-war period, the 21st Minesweeping Flotilla proceeded to Hong Kong.

October 1945: Returned to Australia having steamed some 111,000 miles on war service.

16 May 1946: Paid off at Brisbane.

10 February 1947: Sold to the Victorian Public Works Department.

8 November 1947: Undertow from Brisbane to Melbourne by tug HMAS *Reserve*.

14 November 1947: Handed over to her new owner and renamed *RIP* and was employed in blasting operations to keep clear the approaches to the *Rip*, the entrance to Port Phillip Bay, also maintaining buoys, moorings and pile lights in Port Phillip Bay and other Victorian ports.

1984: Ceased service as *RIP*. When the Whyalla City Council became aware

that the ship was to be sold as scrap, successful negotiations resulted in the Council purchasing her for \$5,000. She returned to Whyalla under her own power later in 1984.

February and April 1987: *Rip/Whyalla* was moved up the slipway from which she was launched in 1941, and relocated two kilometres inland and placed on permanent foundations, becoming the centrepiece for the Whyalla Maritime Museum which was officially opened on 29 October 1988. *Whyalla* is one of only two Bathurst Class preserved as museum ships, the other being HMAS *Castlemaine* in Williamstown, Victoria.

([www.navy.gov.au/hmas-whyalla](http://www.navy.gov.au/hmas-whyalla))

#### Battle Honours

PACIFIC 1941-45, NEW GUINEA 1942-44, OKINAWA 1945



HMAS *Whyalla* possibly post World War 2 but still in BPF two-tone camouflage of dark blue lower hull and pale grey above. Note flotilla band to funnel. [State Library of Victoria, Allan Green Collection]



An early photo of SS *Rip*, previously HMAS *Whyalla*. Note, the cut down forecastle and presence of masts, but, otherwise, the distinct Bathurst parentage. [State Library of Victoria, Allan Green Collection]

# HMAS Wollongong J 172 & B 253

Laid Down:	24 Jan 1942
Launched:	5 Jul 1942
Commissioned:	23 Oct 1942
Days to build:	272
Builder:	Cockatoo Docks & Engineering Co. Ltd.
To Order:	Admiralty

11 January 1942: Departed Darwin for Singapore in company of sister ships HMAS *Toowoomba* and HMAS *Ballarat* and operated on escort, patrol and evacuation duties throughout the campaigns in Malaya, Java and Sumatra.

6/7 February 1942: Sailed from Singapore, the last Australian warship to leave before the city's surrender to Japanese forces on 15 February. Picking up sister ship HMAS *Bendigo*, which had left Singapore a few hours earlier, proceeded first to Palembang, where the two ships joined *Ballarat* and *Toowoomba*.

27/28 February 1942: With the Allied situation rapidly deteriorating as the enemy advance continued, sailed from Tanjong Priok, Batavia as rear escort of a convoy of six ships, the main escorts of which were the sloops HMAS *Yarra* (II) and HMIS *Jumna*. One of the vessels, the minesweeper HMS *Gemas*, turned back to Tanjong Priok and had to be sunk on 2 March by *Ballarat* to prevent her capture. Some four hours after the convoy sailed the tanker HMS *War Sirdar* ran aground on a reef west of Tanjong Priok. *Wollongong* detached and stood by until daylight and made repeated but unsuccessful attempts to tow the tanker off the reef. The efforts were terminated by an enemy air attack and *Wollongong* set off to rejoin the convoy after advising *War Sirdar* to abandon ship and land on a nearby island. Further misfortune befell the convoy after dark on 28 February when the tanker SS *British Judge* was torpedoed south of Sunda Strait. However, she remained afloat and proceeded to Tjilatjap some distance astern of the convoy at slow speed and escorted by *Wollongong*.

When the convoy arrived off Tjilatjap, *Jumna* was ordered to Colombo and *Yarra* (II) and the convoy to Fremantle. *British Judge* intercepted the signal to *Jumna*

and passed it to *Wollongong*, who instructed the latter to make for Colombo independently, while *Wollongong* set course for Fremantle. *Wollongong's* detachment from the convoy almost certainly saved the ship from destruction. *Yarra* (II) and her three remaining charges, the depot ship HMS *Anking*, the tanker HMS *Francol* and the minesweeper MMS 51 were sunk south of Java on 4 March a strong Japanese force.

14 September 1942: Following a period of escort duties in Western Australian waters departed Fremantle for Diego Garcia to become a unit of the Eastern Fleet. Operated for more than two years on escort and patrol in the Indian Ocean, Persian Gulf and Arabian Sea.

Mid 1943 to end September 1943: Served in the Mediterranean.

13 July 1943: Three days after the start of the Allied invasion of Sicily, *Wollongong*, in company with sister ships HMAS *Cairns*, HMAS *Cessnock* and HMAS *Geraldton*, visited the island as part escort of a convoy from Alexandria. They spent the day carrying out an endless chain patrol off the beach and saw an American Liberty Ship blown up in an air raid.

On two occasions (one in August and one in September) entered the Atlantic to rendezvous with Mediterranean bound convoys for which she acted as part escort. Each comprised seventy-five ships.

11 September 1943: The German submarine *U-617* was attacked in the western Mediterranean by a Wellington aircraft of 179 Squadron, RAF. The U-boat was seriously damaged and after fifteen minutes moved off slowly on the surface for the North African coast. In the early hours of 12 September another Wellington from 179 Squadron also attacked and damaged the submarine. *U-617* beached herself on the shore of Spanish Morocco at 2am. The crew abandoned ship under gunfire from the requisitioned Dutch trawler HMS *Haarlem*. The corvette HMS *Hyacinth*, with *Wollongong* under her orders, later arrived at the scene and the two ships shelled the U-boat. The destruction of *U-617* was officially credited to the two aircraft of 179 Squadron, *Haarlem*, *Hyacinth* and *Wollongong*.

16 May 1944: Returned to home waters and arrived in Fremantle for a two-month refit. On completion of the refit she sailed from Fremantle for further service with the Eastern Fleet.

February 1945: Completed service with the Eastern Fleet and returned to Australia in. The concluding months of hostilities were spent chiefly in the Manus area. This included participated in the operation for the capture of Okinawa (Operation Iceberg) between March and May 1945.

In the immediate post war period *Wollongong* proceeded to the Far East and spent a few weeks on anti-piracy patrols followed by a brief period of service at Morotai.

11 February 1946: Paid off at Sydney in preparation for transfer to the Royal Netherlands Navy having steamed more than a quarter of a million miles during her commission with the Royal Australian Navy.

Renamed *Banda*, served with the Royal Netherlands Navy.

April 1950: Handed over to the newly created Indonesian Navy, being renamed *Radjawali*. 'Jane's Fighting Ships' reported that *Radjawali* arrived at Hong Kong in April 1968 for scrapping.

([www.navy.gov.au/hmas-wollongong](http://www.navy.gov.au/hmas-wollongong))

#### Battle Honours

MEDITERRANEAN 1940-43, EAST INDIES 1940-44, INDIAN OCEAN 1941-45,  
PACIFIC 1941-45, SICILY 1943, OKINAWA 1945



An interesting photo of HMAS *Wollongong* fitted with the original 12-pdr forward but a 40mm Bofors aft and no apparent radar. [AWM 301738]



A later photo of HMAS *Wollongong*. Note the 12-pdr with added side protection. [navy.gov.au]



18

THE CORVETTES FOR  
THE ROYAL INDIAN NAVY

Australia built four ships to Admiralty Order for the Royal Indian Navy:

## HMIS *Bengal* J 243

Laid Down:	3 Dec 1941
Launched:	7 Jul 1942
Commissioned:	8 Aug 1942
Days to build:	248
Builder:	Morts Dock & Engineering Co. Ltd.
To Order:	Admiralty

## HMIS *Bombay* J 249

Laid Down:	19 Jul 1941
Launched:	6 Dec 1941
Commissioned:	24 April 1942
Days to build:	279
Builder:	Morts Dock & Engineering Co. Ltd.
To Order:	Admiralty



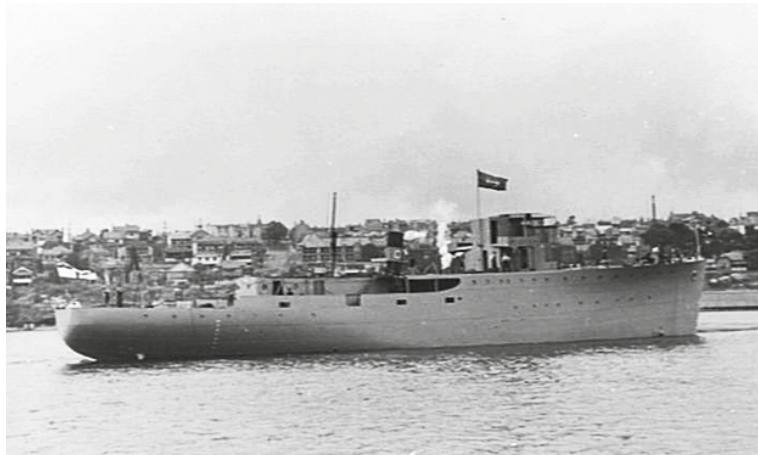
Despite extensive enquiries, no photographs were found for HMIS *Bengal*. This is HMIS *Punjab*. [AWM 305831]



A later photograph of HMIS *Bombay* in a three-tone camouflage. [AWM 305287]

## HMIS Madras J 237

Laid Down:	4 Aug 1941
Launched:	17 Feb 1941
Commissioned:	12 May 1942
Days to build:	281
Builder:	Cockatoo Docks & Engineering Co. Ltd.
To Order:	Admiralty



The only photograph found of HMIS Madras. Her launching on 17 Feb, 1941.  
[AWM 011639]

## HMIS Punjab J 239

Laid Down:	26 May 1941
Launched:	10 Oct 1941
Commissioned:	20 Mar 1942
Days to build:	298
Builder:	Morts Dock & Engineering Co. Ltd.
To Order:	Admiralty



HMIS Punjab. [AWM 305830]

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### Endnotes

1. Iris Nesdale, *The Corvettes: Forgotten Ships of the Royal Australian Navy*, p. 197
2. Ian Pfennigwerth, *Royal Australian Navy & MacArthur*, pp. 106 & 109
3. Nesdale, p.74





19

THE BRITISH  
PACIFIC FLEET

Despite Churchill's assurances to Australia that Singapore would be defended at all costs and that a Royal Navy fleet would counter any Japanese threat, the ill-fated and too-little-too-late response of sending the battleship HMS *Prince of Wales* and the battle-cruiser HMS *Repulse* only – without suitable air-cover – and the subsequent fall of Singapore meant the British influence in the Pacific Ocean was extinguished in early 1942.

Anticipating an end to the European war in the 1944-45 time-frame, the British began to make plans to reclaim lost territories in South East Asia – Singapore and Hong Kong especially – and to restore their lost prestige and influence. The Octagon conference in Quebec in September 1944 discussed, amongst other things, the role of the Royal Navy in the war against Japan. While the British Pacific Fleet (BPF) was officially formed on 22 November 1944 – two months after the Conference – it had been years in the making insofar as its predecessor, the Eastern Fleet, had continued to be based at Ceylon (Trincomalee Harbour) after the surrender of Singapore and this had morphed into the reorganised and revitalised British East Indies Fleet.

The British plans were resented by the Americans who saw the opportunity to extend their own sphere of influence in the vacuum left by the British and Dutch withdrawal from South East Asia – the nadir being the fall of Singapore on 15 February 1942. Admiral Ernest King, Commander-in-Chief of the United States Fleet and Chief of Naval Operations was, and always had been, an Anglophobe, and presented obstacles wherever possible – no doubt still smarting from the lesson the Royal Navy had taught him in finally adopting convoys for American East Coast shipping and having to accept RN escort vessels into the USN to plug gaps when the Germans instituted Operation Drumbeat between January-August 1942.

Notwithstanding American reluctance to see Britain re-enter the Pacific to re-instate Empire and its lost possessions, the BPF formed and worked up in the Indian Ocean, attacking Japanese installations at Palembang, and arrived in Sydney in February, 1944 where it established its headquarters. To operate in the vast Pacific Ocean the BPF assembled a mixed collection of 60 supply and repair ships for the Fleet Train.

The Royal Australian Navy provided five “N” class destroyers (*Napier, Nepal, Nizam & Nestor*) two “Q” class destroyers (*Quickmatch & Quiberon*) and 18

of the corvettes. Eight ships comprised each of the 21<sup>st</sup> Minesweeping Force (*Ballarat, Bendigo, Goulburn, Kalgoorlie, Lismore, Maryborough, Toowoomba & Whyalla*) and the 22<sup>nd</sup> Minesweeping Force (*Cairns, Cessnock, Geraldton, Ipswich, Launceston, Pirie, Tamworth & Wollongong*). Nesdale states Burnie was part of the 21<sup>st</sup> Minesweeping Flotilla (not Force) but I can find no reference to her in the BPF files as part of that unit. Similarly, *Gawler* was, apparently, acting independently of these flotillas.

When one considers the use to which the Admiralty-ordered Bathursts were put prior to the formation of the BPF – serving in the Indian Ocean, Red Sea, Persian Gulf, Mediterranean Sea and, briefly, the Atlantic – it is quite apparent that they were, to all intents and purposes, Royal Navy ships manned by RAN crews. The way in which they were disposed of after the War confirms this.

It is interesting to conjecture why they weren't made available to serve in Australian waters after December 1941, especially when considering the fight that Prime Minister John Curtin had with Winston Churchill to have the Australian troops serving in the Middle East, and unilaterally diverted by Churchill for the defence of Burma to be returned to Australia. Was there some sort of quid pro quo or did the Royal Navy simply “own” these ships?

There were only two Admiralty-ordered ships that did not form part of the BPF although they received BPF pennant numbers: *Bathurst* and *Broome*.

In May, 1944 the BPF was engaged in action against Japanese bases in the Sakishima Islands, an archipelago at the southernmost of the Japanese Archipelago, and Formosa (now Taiwan). In late May the Fleet returned to Manus Island and then to Sydney before departing in late June to join the US Third Fleet attacking the Japanese mainland in July.

Four of the Bathursts were present at the Japanese surrender in Tokyo Bay on 2 September, 1945: HMA Ships; *Ballarat, Cessnock, Ipswich* and *Pirie*.



Ships of the BPF in Sydney, 1945.  
[navy.gov.au]



# 20 HIGHLIGHTS

# SUBMARINES SUNK/ DESTROYED

## **HMAS *Deloraine***

20 January 1942: Was attacked by the Japanese submarine off Darwin. *Deloraine* responded and after the first attack with six depth charges oil was seen to come to the surface. Attacks continued until all charges were expended. She was joined by sister ships *Katoomba* and *Lithgow* and, having replenished depth charges from HMAS *Vigilant*. Post-war records showed that it was the first attack that had been successful in sinking I-124 – the first Japanese submarine to be sunk in Australian waters.

## **HMAS *Wollongong***

11 September 1943: Had a minor role, together with a Flower Class corvette, HMS *Hyacinth* and aircraft in the destruction of German submarine *U-617*. The submarine had previously been successfully attacked by an RAF bomber, run aground and abandoned on the Moroccan coast

## **HMAS *Ipswich* and HMAS *Launceston***

11 February, 1944: In company with the Indian sloop HMIS *Jumna* were responsible for the sinking of Japanese submarine *RO-110* in the Bay of Bengal, about 200 miles NE of Madras, India.

# AIRCRAFT DESTROYED

NOTE: Claims of enemy aircraft shot down or damaged are notoriously inaccurate and often over-stated due to the difficulty in determining which ship's anti-aircraft fire was truly responsible and, indeed whether a "probable" or "damaged" was significant.

## **HMAS *Armidale***

See Dedication and Ships' History section.

## **HMAS *Cootamundra***

31 October 1944: When five enemy aircraft attacked shipping and shore installations, having expended 500 rounds of anti-aircraft fire, one aircraft was shot down.

## **HMAS *Ipswich***

25 July 1943: Is credited with shooting down a twin-engined bomber at Syracuse.

## **HMAS *Kapunda***

12 April 1943: In New Guinea waters, an enemy formation of thirty-seven aircraft attacked MV *Gorgon*, one of the ships of HMAS *Kapunda*'s convoy. One of the planes was shot down by Oerlikon fire from *Kapunda*.

## **HMAS *Katoomba***

28 November 1942: In company with sister ship *Ballarat* escorting SS *Muliana* en route to Holnicote Bay, Buna, they were attacked by 10 Japanese dive-bombers and shot down one aircraft and damaged two others.

## **HMAS Latrobe**

5 May 1943: While escorting a convoy from Thursday Island to Darwin attacked by Japanese aircraft for two days in succession. One plane destroyed

## **HMAS Pirie**

11 April 1943: While escorting the British vessel SS *Hanyang* as part of operation 'Lilliput', was subjected to a particularly determined attack by a large force of Japanese fighters and dive bombers off Oro Bay. Experienced six very close misses and one direct hit which penetrated the bridge, killed the Gunnery Officer and struck the fore deck killing six ratings and wounding four others. Fortunately, after hitting *Pirie* the enemy broke off the attack having lost several aircraft hit by close range anti-aircraft fire. *Pirie* is credited as having shot down one of these.

## **HMAS Maryborough**

13 August 1943: While escorting a 28-ship Convoy MKS21 from Port Said to Gibraltar the convoy was attacked near Alboran Island by 37 Heinkel 111's and 8 Ju 88's, shot down one Ju 88 with the 4-inch gun. No mean feat considering its maximum elevation was only Friday 30-degrees.

# **RESCUE MISSIONS**

## **HMAS Ballarat**

14 February 1942: Carried out one of the largest rescue operations, picking up 215 survivors from the MV *Derrymore*, sixty miles north west of Batavia on. The *Derrymore* had been sunk by Japanese submarine. Amongst those rescued by *Ballarat* was Flying Officer J.G. Gorton RAAF, who was later to become Prime Minister of Australia. Amongst other ministerial posts held by Mr Gorton before he became Prime Minister was that of Minister for the Navy.

## **HMAS Bendigo**

8 March 1943: Rescued 153 survivors from the Dutch ship SS *s'Jacob*, which was sunk by Japanese aircraft off Oro Bay whilst under escort by HMA Ships *Bendigo* and *Kapunda*.

## **HMAS Bowen**

15 January 1944: While en route to Milne Bay, rescued two survivors from a RAAF Beaufort bomber which had crashed into the sea.

April 1944: While en route to Hyane Harbour, Admiralty Islands, rescued the only survivor of a crashed United States plane.

## **HMAS Bundaberg**

July 1944: Assisted by her sister ship HMAS *Whyalla*, succeeded in refloating the Australian Landing Ship Infantry HMAS *Kanimbla* which had gone ashore at Cape Cretin, New Guinea – the same Cape where HMAS *Bunbury* grounded in March 1944.

## **HMAS Colac and HMAS Cessnock**

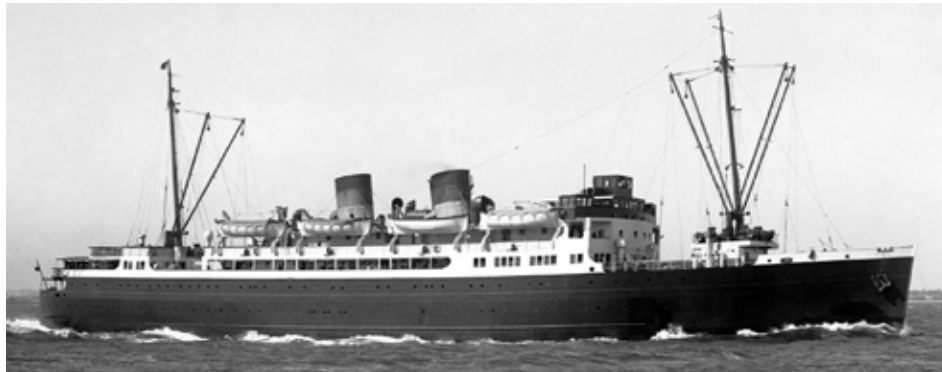
29 March 1942: Stood by and helped refloat the fast troop transport MV *Taroona*, (a Bass Strait ferry previously operating between Melbourne and Beauty Point (Tas)) which had run aground on Nateara Reef on 23 March after leaving Port Moresby. *Colac* briefly grounded during the operation.

## **HMAS Colac**

26 April 1943: A convoy of five ships escorted by *Colac* and was attacked by a Japanese submarine about 20 miles south east of Cape Byron. The British ship MV *Limerick* was hit by a torpedo and sank. Efforts to locate and destroy the submarine failed but *Colac* rescued all but two of *Limerick's* crew.

## HMAS Cootamundra

6 August 1943: While escorting SS *Macumba* to Darwin, two Japanese aircraft attacked at low level and in spite of anti-aircraft fire from both ships, scored a direct hit on *Macumba*'s engine room. Attempts to tow the damaged vessel failed and when later the same day it became obvious that *Macumba* was about to founder, the survivors were taken aboard *Cootamundra*.



MV *Taroona* before conversion to a fast troop transport when the aft funnel was cut down.  
[en.wikipedia.org] [clydeships.co.uk]

## HMAS Deloraine

27 April 1943: Rescued nineteen survivors of the torpedoed United States Liberty ship *Lydia M. Child*.

## HMAS Gawler

17 June 1943: With HMAS *Lismore* picked up 130 survivors from British troop transport SS *Yoma* that had been torpedoed by *U-81* northwest of Derna in convoy GTX2 from Gibraltar to Alexandria.

## HMAS Gympie

22 January 1943: Rendered assistance to the torpedoed American ship SS *Peter H. Burnett*.

## HMAS Kalgoorlie

25 September 1942: In company with sister ship HMAS *Warrnambool*, safely evacuated the ship's company of HMAS *Voyager*, which had run aground at Betano Bay, in Timor, two days earlier.

Under sporadic air attack searched for survivors of HMAS *Armidale*, which had been sunk on 1 December, 1942.

6 December 1942: Rescued 20 personnel from *Armidale*'s damaged motorboat.

9 December 1942: Rescued a further 29 survivors from *Armidale*'s whaler.

## HMAS Kapunda

18 January 1943: Involved in the rescue of survivors from the torpedoed and badly damaged tanker *Mobilube* 60 miles off Sydney.

12 April 1943: While escorting a convoy in New Guinea waters an enemy formation of thirty-seven aircraft attacked MV *Gorgon*. One of the planes was shot down by Oerlikon fire from *Kapunda* and another hit by anti-aircraft fire from the merchant ship, but the others pressing home the attack scored several hits, setting *Gorgon* on fire. *Kapunda*'s Commanding Officer, however, took his ship alongside the burning vessel, put fire-fighting parties aboard, and after a long struggle subdued the flames and brought the damaged ship safely to port.



Liberty Ship type EC2-S-C1 like the SS *Lydia M Child*.  
(source unidentified or unestablished)

## HMAS Katoomba

14 August 1942: Went to the assistance of the American submarine USS S-39 ashore on Rossel Island Reef. The following day an attempt was made to refloat the submarine but it unsuccessful. Despite very rough seas *Katoomba* was able to sail for Townsville on 16 August with all of S-39's crew of four officers and forty-three enlisted men safely embarked.

## HMAS Launceston

21 October 1942: Helped rescue 64 survivors from the SS *Martaban*, torpedoed on 13 October in the Indian Ocean on 16 October. HMAS *Lismore*.

17 June 1943: With HMAS *Gawler* Picked up 130 survivors from British troop transport SS *Yoma* that had been torpedoed by *U-81* northwest of Derna in convoy GTX2 from Gibraltar to Alexandria.



SS *Yoma* before conversion to a troopship. [clydeships.co.uk]

## HMAS Lithgow

19 December 1943: Took part in rendering assistance to convoy TN 192 when seven of the eight merchant vessels in the convoy, along with HMAS *Gladstone*, had run aground on Bougainville Reef on the Great Barrier Reef.

## HMAS Maryborough

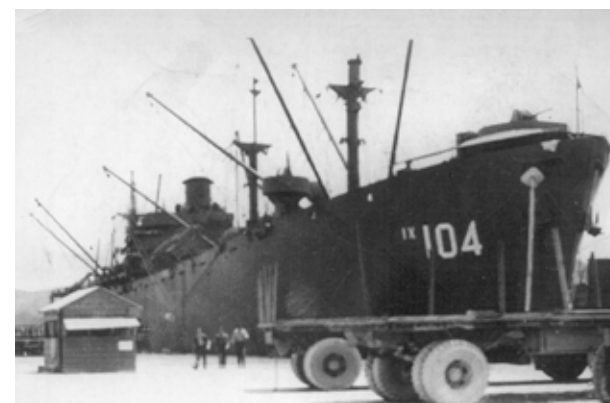
April 1942: Took the submarine USS *Searaven* in tow and brought her to Fremantle. The submarine, which had rescued a party of servicemen from Timor, had broken down.



USS *Searaven*. [en.wikipedia.org]

## HMAS Mildura

22 January 1943: Assisted in the salvage and tow to Sydney of the disabled American vessel SS *P. H. Burnett* which had been torpedoed some 530 miles east of Sydney.



Liberty Ship SS *P H Burnett*. [navsource.org]

## **HMAS Rockhampton**

November 1942: Two ships in a convoy escorted by *Rockhampton*, collided. One of the ships, the SS *Zvir*, sank and the survivors had to be rescued.

July 1944: Went to the assistance of the USS *Porcupine* which had run aground to the south of Tami Island, successfully towing her free after a strenuous tussle.

## **HMAS Lismore**

Circa 12 May 1943: Rescued a downed RAF Hurricane pilot while en route Haifa to Alexandria.

## **HMAS Stawell**

April 1944: Rendered assistance with other ships, to the United States vessel *Frederick Billings* (operated by the US War Shipping Administration), which had gone aground in Milne Bay.

## **HMAS Wagga**

11 June 1943: Rescued survivors from the collision between *Henry Gilbert Costin* and HMAS *Wallaroo*.

## **HMAS Warrnambool**

20 February 1942: Rescued 73 survivors of the Filipino merchant ship MV *Don Isidro* which had been attacked and set on fire by Japanese dive bombers near Melville Island. During the rescue operation was bombed by a Japanese flying boat but without damage or casualties.



MV *Don Isidro*. [AWM 302304]





21

LOWLIGHTS

# SINKINGS

## HMAS *Armidale*

1 December 1942: Sunk after being hit by two air-launched torpedoes and one bomb in the last of several air attacks by Japanese fighters and bombers. Out of a total of 83 naval personnel, comprising five officers and 78 ratings, 40 (two officers and 38 ratings) lost their lives. Losses of Netherlands East Indies personnel were two officers and 58 soldiers.

Refer also to the *Dedication* and *Armidale*'s history.

## HMAS *Geelong*

18 October 1944: Sunk following a collision with the United States tanker *SS York* (10,488 tons), north of Langemak, New Guinea. There were no casualties.

The survivors were picked up by *York* and landed at Langemak, from where they were taken to Milne Bay by aircraft and her sister ship HMAS *Ararat*, in the vicinity of Cockburn Reef.



Type T2-SE-A1 Tanker *USS York*. [AWM 304163]

## HMAS *Wallaroo*

11 June 1943: Sunk four hours after a collision with the United States Liberty Ship *Henry Gilbert Costin*. Three ratings from *Wallaroo* lost their lives at the time of the collision

## HMAS *Warrnambool*

13 September 1947: While engaged in clearing a defensive minefield in the vicinity of Cockburn Reef, *Warrnambool* struck a mine and sank shortly afterwards. Four sailors lost their lives.



Typical EC2-S-C1 Liberty Ship like *SS Henry Gilbert Costin*. [en.wikipedia.org]

# GROUNDINGS

## HMAS *Bunbury*

April 1944: Forced to return to Brisbane for repairs in April 1944 after running aground at Cape Cretin.

## HMAS *Cairns*

February 1946. Grounded on Shark Spit, Moreton Island and assisted off by HMAS *Shepparton*.

## HMAS *Castlemaine*

19 March 1943: While escorting *SS Babinda* with RAAF personnel and supplies to Milingimbi in Arnhem Land, *Castlemaine* went aground in an unsurveyed channel. After unsuccessful efforts to free the vessel, she finally refloated with the tide on 21 March, with a fractured Asdic dome and sand abrasion to a propeller.

## HMAS Gawler

26 December 1943: Drifted into and entangled with the harbour defence boom at Kilindini, East Africa.

## HMAS Gladstone

18 December 1943: In company with HMA Ships *Gympie* and *Stawell* escorting convoy TN 192 of eight ships with troops embarked bound for Milne Bay when almost the entire convoy ran aground on Bougainville Reef in the Great Barrier Reef just after 9.30 that evening. *Gladstone* had observed Aldis Lamp signals down the convoy and intercepted the word "hit". Assuming that the convoy was under attack, the ship closed up at action stations, altered course towards the ship thought to be under attack and increased speed. She then prepared to attack with a full pattern of depth charges. Luckily for *Gladstone*, less than a minute after going to actions stations, she observed the signal "am aground" enabling her to reduce speed and prevent a hard grounding on the reef. As it was, *Gladstone* made a soft grounding and, thanks to some masterful manoeuvring of the vessel, was refloated 42 minutes later. She navigated her way clear of the reef and waited, in company with *Gympie* and *Stawell*, until daylight.

## HMAS Glenelg

12 November 1944: Spent 12 hours on a sandbank at Mios Woendi/Wundi, Dutch New Guinea. Towed off by HMAS *Stawell*. It is interesting that the November 1944 Report of Proceedings is missing from the official files and this grounding was only discovered via the photograph, below, from the Australian War Memorial.



Photograph taken from HMAS *Stawell* preparing to tow HMAS *Glenelg* free of a sandbank. [AWM 084755]

## HMAS Maryborough

1945, sometime after May: When entering the lagoon at Rara Island, the entrance was missed and *Maryborough* grounded on the reef. Despite measures to lighten the ship she remained fast. She was eventually pulled free by the fleet tug, HMAS *Reserve* and had to go into dry dock for repairs. A court martial followed but details are unknown.<sup>[1]</sup>



Fleet Tug, HMAS *Reserve*, which freed the grounded HMAS *Maryborough* at Rara Island. [AWM 301278]

28 November 1945: After taking an Army boat in tow at Thursday Island bound for Townsville, *Maryborough* ran aground on Sunk Reef and was refloated two hours later with the tide. *Bendigo* took over the tow

## HMAS Mildura

Nothing is known about the poor-quality photograph, below, which shows *Mildura* well and truly aground and what looks to be a US Gridley or Sims Class destroyer in the background. All searches proved negative to establish any information about a grounding by *Mildura*. But photographs don't lie - or do they? Is the international flag signal JF2 (I am aground forward) or JF8 (I am aground full length of vessel) of JH (I am aground but not in danger) flying?



HMAS *Mildura* high and dry. [HMS *Mildura* website since defunct]

# COLLISIONS

## HMAS *Bunbury*

17 December 1944: Collision with HM Submarine *Sea Rover* put her in dockyard hands for a month.

## HMAS *Cessnock*

1 June 1943: Reached Alexandria on after being delayed by collision with a dhow.

## HMAS *Castlemaine*

1 August 1942: Sustained damage in a collision with a Manly ferry in Sydney Harbour and spent seven days in dockyard hands for repairs.

## HMAS *Glenelg*

16 December 1944: Was rammed port side forward of bridge by USS *Vaquero* at Mios Woendi/Wundi, Dutch New Guinea. Seam sprung in PO's mess and leak in magazine. Stood by and towed *Vaquero* to Hollandia.

## HMAS *Gympie*

November 1945: Received slight damage as the result of a collision with the SS *Tullahoma* and returned to Brisbane for refit.

## HMAS *Katoomba*



SS *Tullahoma*, a T2-SE-A1 type tanker. [en.wikipedia.org]

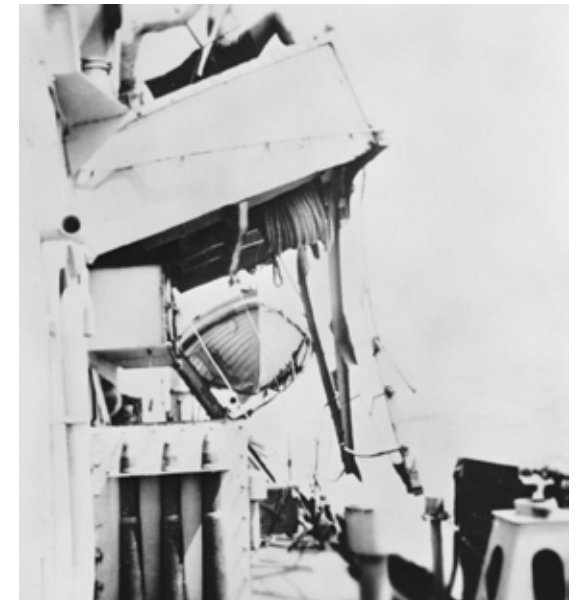
22 January 1942: Was rammed by the USS *Pecos* (AP-06), a fleet oiler, outside Darwin, ripping a large hole in her starboard side exposing the engine room. Was towed to a floating dock in Darwin and was still in dock on 19 February when the first Japanese attack on Australian soil took place.



USS *Pecos*. [navsource.org]

## HMAS *Pirie*

4 April 1945: While transferring mail at sea, collided with the light cruiser HMS *Swiftsure* demolishing the port bridge wing and the motorboat. Repairs affected 9-17 April by HMS *Tyne* and motorboat replaced with a 30-knot "skimmer".



Damage to HMAS *Pirie*'s port side bridge wing. [AWM P01185.034]

# MUTINIES

## HMAS *Pirie*

Although this is a book about the ships themselves, under the section. SHIPS' HISTORIES, there is a reference to a mutiny on HMAS *Pirie* in June 1943 which needs elaboration.

As Iris Nesdale states: "It was called a mutiny, but to equate the protest with the gravity of genuine Royal Navy, honest-to-goodness mutinies recorded in history, seems portentous in the extreme".<sup>[2]</sup>

Readers will recall that *Pirie* had been subject to damage from a Japanese air attack on 11 April 1943 off Oro Bay (New Guinea) in which a bomb slanted diagonally through the bridge roof and out through the bridge front hitting the foredeck. It killed seven and wounded four others.

Temporary repairs were undertaken at Oro Bay and *Pirie* sailed for Townsville on 14 April. Tarpaulins had to be used over gaping holes in the foredeck to try and keep water out, unsuccessfully, of the mess deck below.

When *Pirie* docked at Walkers Ltd.'s yard at Maryborough for permanent repairs only some of the crew were given ten days' leave – hardly enough for those with homes in the far south to make it home and back by train. The rest were forced to remain living on board in high humidity with repairs going on around them. To make matters worse, the commanding officer - Lieutenant Commander Charles Ferry Mills – chose to live ashore with his wife. He escorted visitors around, showing the damage and, apparently, for some time had one arm in a sling although he suffered no wound in the attack.

Mills was a regular officer of the RAN. It seems he was unable to relate to his basically Reservist and Hostilities-Only crew. He was a strict disciplinarian, treated sailors and subordinate officers with contempt and had an air of superiority. The dislike of the crew for their commanding officer was compounded by receiving little or no mail and no pay. Complaints made through the Coxswain were dismissed. Repairs were completed on 18 May, and *Pirie*

sailed to Townsville to await reassignment where matters came to a head on 8 June. When the "Clear Lower Deck" was piped only Leading Hands and above responded to the call. The 45 men who didn't asked to discuss grievances with Mills. An enquiry or hearing by the captain could have diffused the situation but, instead, he ordered a pipe for all personnel to assemble aft but the same 45 refused and did not report for afternoon duties. Meanwhile, Mills had gone ashore and met with the Naval Officer in Charge (NOIC). At 1720 a full ship's company fell in on the quarterdeck. The NOIC read the relevant section of the Articles of War and no sailor stood aside as being unwilling to work.

*Pirie* sailed for Cid Harbour and arrived on 10 June. A Board of Inquiry was held and 24 sailors were called the ringleaders were unable to identified and the Inquiry handed the matter back to Mills. Instead of addressing the root cause of the dissatisfaction, on 15 June he charged 12 men with joining a mutinous assembly and two others with disobeying instructions. Ten were gaoled for 21 to 60 days and re-assigned and four received on-board punishment – all despite there being no Court Martial.

The Inquiry reprimanded Mills for having failed to respond quickly and appropriately to the sailors' actions. He was transferred to the training base HMAS *Cerberus* in December but in the interim over-asserted his authority penalising petty breaches. There was a distinct change for the better when Lieutenant Commander D. L. Thompson took command.

A mutiny? Hardly. Ask yourself: what would you have done?



HMAS *Pirie* showing where Japanese bomb passed through the bridge. [AWM P01185.008]

## HMAS *Mildura*

This was even less of a storm in a teacup, although it was a storm which initiated the so-called mutiny.

*Mildura* had experienced monotonous and continual service on East Coast convoys since mid-1942. Relations between the crew and the First Lieutenant were strained. When docked at Newcastle in late 1943 after a particularly rough passage, two things happened which resulted in a “lock-in”. First, the First Lieutenant expected the crew to replace mess crockery – broken as a result of the storm – out of mess funds. Second, while the crew of *Rockhampton* which was berthed outboard and part of the same convoy were granted shore leave from 1230 to 0700 next morning, the First Lieutenant would only grant leave from 1630 to 2300. When told at Dinner at 1200, bitter discussion resulted in a meeting on the mess deck and a decision not to turn to after Dinner and the forward hatch and bulkhead doors were closed – a lock-in. When the news of this was relayed to the Captain (Lieutenant Commander J.M. Little RANR) – who happened to be dining with *Rockhampton*’s captain - the men were mustered on deck and lectured about the potential gravity of their actions. They were ordered to elect a delegation to state the men’s case. When Little heard the delegation, he was shaken. King’s Regulations required that any request to see the Captain must come through the First Lieutenant and therein lay the problem. He was unaware of the grievances. However, he could not countermand the First Lieutenant’s orders as that would undermine authority. The men returned to duty. Little summonsed his officers and, whatever happened at that meeting, morale immediately improved.



The crew of HMAS *Mildura* in happier times: Tarakan 27 June 1945. [AWM 110293K]

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### Endnotes

1. Brian Ogle, *The History of HMAS Maryborough: Corvettes in World War II*, pp. 190-1
2. Iris Nesdale, *The Corvettes: Forgotten Ships of the Royal Australian Navy*, p. 77



22

CONCLUSIONS

Perfect is the enemy of the good. Well, so the saying goes that is often attributed to Voltaire although the principle, expressed differently, can be equally attributed to Shakespeare and Confucius.

Given the exigencies of war, Robert Watson-Watt propounded the “cult of the imperfect” in which he stated, “Give them the third best to go on with; the second best comes too late, the best never comes!” As the developer of Britain’s Chain Home radar this was quite apt – it was probably third best and had its faults, but was it better to have had that in the summer of 1940 for the Battle of Britain or not have it then and to have waited to have something better in 1942?

The Bathurst Class corvettes were not perfect. Not by a long chalk. But they were more than good enough – given the circumstances. Could they – indeed, should they – have been bigger and faster? Well, yes...and again, no. It would have been desirable to have been both as were the River Class frigates bigger, faster, better anti-submarine platforms than the Flower Class corvettes. Certainly, the crews would have appreciated the extra room, especially as their numbers increased as more armament and more electronics were added. Faster is always better but I could not find any operational instance where a Bathurst Class corvette failed to carry out its duty due to lack of speed. Of course, there may have been instances where duties were not assigned to Bathursts because they had insufficient speed. However, that is a different issue altogether and one that is incapable of being answered.

But, in many ways, the equation boiled down to this: which was better – twice as many single-engined, slow, shortrange, seaworthy but hard-on-their-crews Flower Class OR half as many twin-engined, faster, long-range, better armed, seaworthy, easier-on-their-crews River Class? Had the RAN opted, unwisely I think, for something larger – and by extension faster – they would have not obtained the sixty that were ultimately produced as the Bathurst Class. Design-wise, the Bathursts grew from something that already existed in principle and did not represent any quantum leap in designing a totally new hull form. One cannot simply scale up and existing set of drawings to provide a larger ship. It doesn’t work that way. As I said in Chapter 3, Design; the Bangor Class could not simply be stretched here and there to produce the Bathurst’s required dimensions because this would involve an entirely different Block Coefficient, Prismatic Coefficient, Midships Coefficient and Waterplane Coefficient. The Longitudinal

Centre of Buoyancy, the Longitudinal Centre of Flotation, the Vertical Centre of Buoyancy, Metacentric Height and Maximum Righting Lever would all change and have to be recalculated after drawings had been prepared – themselves a long and arduous undertaking providing, of course, that there were the resources to do this in the first place which is itself doubtful.

When Australia embarked on building the 12 River Class frigates (8 River Class & 4 Modified River Class in effect Bay Class), the documentation for these was shipped from Britain and the building experience was, to put it mildly, a very long process. They all took an inordinately long time to build – an average of 721 days – with a best of 207 days which would beat the best of the British yards, above. This was from Walkers with a maximum workforce of 1,200. The worst building time was an incredible 1,356 days (3.71 years!) for which there is simply no comparison! Admittedly the War had ended while the ship – HMAS *Culgoa* – was being completed at the HMA Naval Dockyard, Williamstown, Victoria (which had a poor record for building the Bathurst Class) and she was placed into Reserve upon completion, so there was obviously no hurry to get her into action. Irrespective, long building times in Australia were the norm and partly due to the shortage of skilled labour which, in turn, led to union militancy (demarcation disputes, go-slows, sit-downs, stop-works, strikes), shortages of materials generally, the wide-spread nature of various suppliers – steel coming from different plants, propellers cast in Western Australia, guns made in Victoria, engines made in Queensland – all having to be transported great distances by rail and often transhipped because of up to three different rail gauges between states. The building of the Modified Chatham-class light cruiser, HMAS *Adelaide* – derided as HMAS Long Delayed – at HMA Naval Dockyard, Cockatoo Island, Sydney Cockatoo took an incredible 2,450 days (6.7 years) from laying down to commissioning. She was obsolete by the time she was commissioned on 5 August 1922.

Size alone may have precluded shipyards from such a program although Walkers managed to build River Class frigates despite being on a narrow, twisting Mary River debouching into the shallow Great Sandy Straits. Having cruised the Great Sandy Straits extensively, and the Mary River, I marvel that the Walker-built corvettes managed to make their way down that twisting, turning river through Heath Reach, squeeze by South Bank and out into the shallow Straits then Hervey Bay.



The size of engines necessary to produce the required horsepower may have reduced the range of manufacturers available to undertake this sort of work. Cockatoo may not have been able to cope with making larger boilers.

However, I could not help making a comparison with the British Algerine Class minesweepers which were the replacement for the Bangor Class. Interestingly, at 225'0" LOA they were powered by turbines or VTE's of 2,000 SHP and IHP respectively – identical to the majority of the smaller Bathurst Class – and at 850 tons standard achieved 16.5-knots.<sup>[1]</sup> So, on that basis, an enlarged Bathurst Class of some 39'0" in extra length without any increase in beam just might have been a possibility – perhaps by simply stretching the midships sections where the frames are of constant size and shape. Certainly, the extra length would have provided the space necessary to provide a better level of accommodation. To this end I have included a drawing of what such a version might have looked like. Half of the extra length has been added forward of the bridge which is now a deck higher due to the shelter deck. The bridge wings have been kept at the original level in keeping with the Australian River Class frigates but have been extended forward on to the shelter deck for access. The other half of the extra length has been added partly in the boiler room and engine room area assuming that larger boilers and engines may have been necessary (if a speed greater than 16 knots was required) and aft of that again. I have drawn the anti-submarine version with split Hedgehogs on the shelter deck forward with a 20mm Oerlikon and six depth charge throwers and two depth charge rails aft. For the minesweeping version, the split Hedgehogs and Oerlikon are deleted in favour of a single 40mm Bofors, a pair of depth charge throwers are deleted as are the depth charge rails and the minesweeping winch, davits, Oropesa floats and depth charge chutes are reinstated. The funnel has a funnel cap to keep gasses away from the bridge. The mainmast is retained but the more likely option would have been a simple frame to support the aerials and to provide better firing arcs and, perhaps, an extra single 20mm Oerlikon on the centreline superfiring over the 40mm Bofors.

Maximum hull speed for a displacement hull is a function of the square root of the load waterline length (LWL) multiplied by a figure more or less around 1.34. The Bathurst Class maximum hull speed (the 2,000 IHP ships) was 16-knots on a waterline length of approximately 162'0" – that is, the length between perpendiculars (PP) as the only data available. By calculation, the multiplying

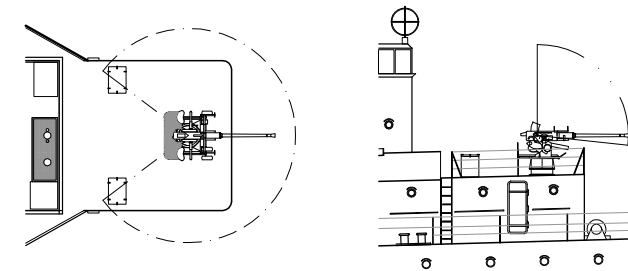
factor then was  $16/\sqrt{162} = 1.2571$ . By comparison, the Algerine Class had a PP of 212'6". Therefore  $16.5/\sqrt{212.5} = 1.1319$ . On that basis, the Bathurst hull was a bit more efficient than the Algerine and it is fair to assume that, if stretched, could have at least matched if not bettered the Algerine in speed on the same 2,000 IHP. However, the calculation as to how much extra power is required to drive a displacement hull that extra few knots is a very complicated one. In some cases, doubling the power may only add a few knots of maximum speed.

I began this chapter with a quote and I am going to use another one now: comparisons are odious. However, since the myth is often repeated that the Bathurst Class was based on, or derived from, the Bangor Class (as discussed in Chapter 3), I think it is fair to compare – or at least to consider – the Bangor Class' shortcomings which were: poor sea handling abilities, the diesel-engined versions were considered to have poorer handling characteristics than the slow-speed reciprocating-engined variants, their shallow draught (8'3') made them unstable and their short hulls tended to bury the bow when operating in a head sea, cramped for the purposes it was built for, insufficient space provided for the acoustic and magnetic minesweeping gear needed.<sup>[2]</sup> While the issue of crew space was undoubtedly common to the Bathursts, they appeared more than capable of performing their minesweeping and anti-submarine duties concurrently. As to their seakeeping, while far from ideal and operating far from the harsh conditions of the North Atlantic, none was ever found wanting in the notorious conditions of the Southern Ocean, the Great Australian Bight, Bass Strait or the Tasman Sea.

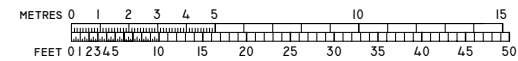
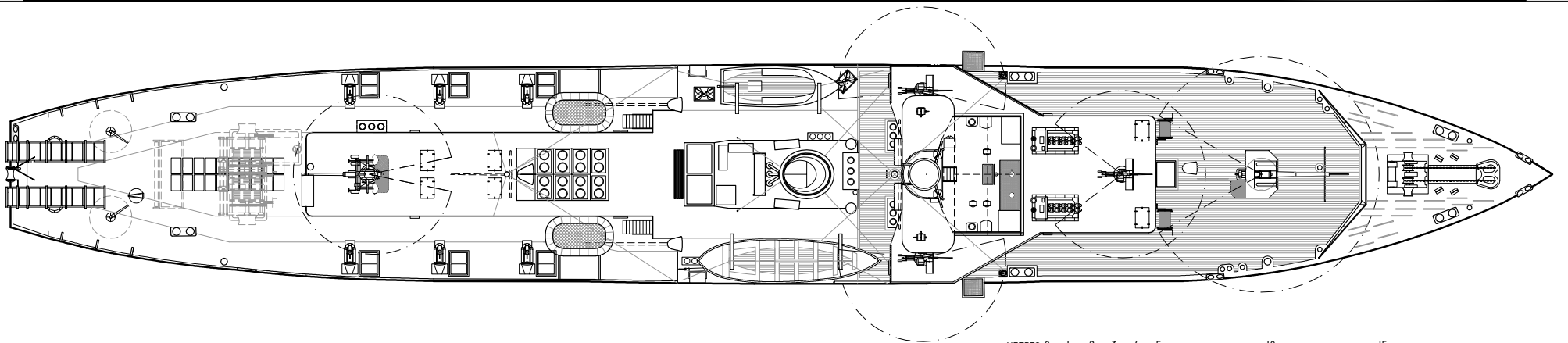
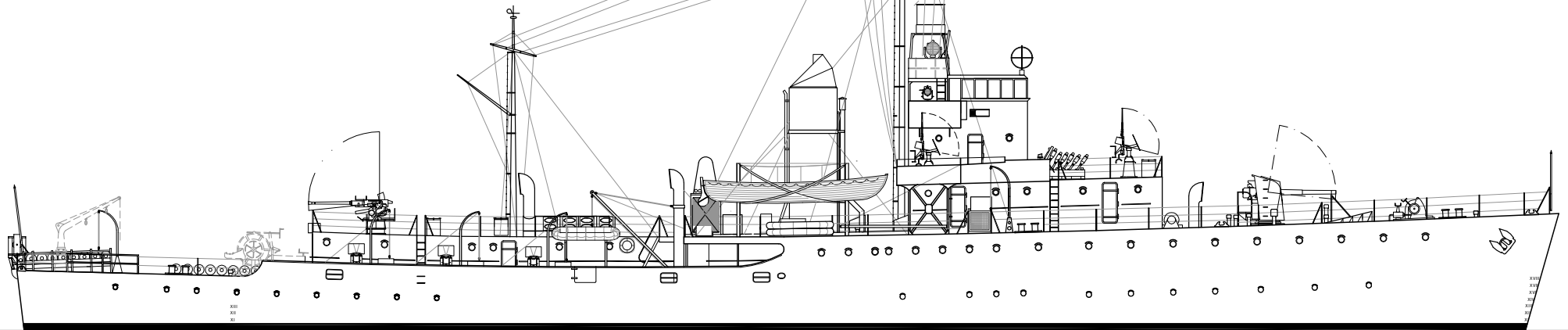
It speaks well of the soundness of the basic design that the armament could be increased, the extra electronics and the like added plus the crew to man them and all of the necessary support they require that their stability was not affected. Such tended not to be the case with pre-war designed and built warships which were often too "tender" (that is, top-heavy with too much weight above their centre of gravity and with very slow roll rates) that often had to have topweight reduced (by way of cutting down funnel heights, reducing mast heights, removing ships' boats and generally getting rid of anything thought dispensable) plus adding ballast all to compensate for added armament (usually anti-aircraft) or depth charges. The direct opposite applied in the case of the American-designed and built Captain Class frigates (Destroyer Escorts

## ENLARGED BATHURST CLASS (A/S version)

- 1 x QF 4-inch Mk XIX on a Mk XXIII mounting
- 1x 40mm Bofors Mk III
- 3 x 20mm Oerlikon Mk I
- 2 x PAC rockets
- 6 x Depth Charge Throwers
- 2 x Depth Charge Rails
- 2 x Split Hedgehogs



(M/S version inset)



in USN terminology) which were too “stiff” (that is, bottom-heavy with too much weight below their centre of gravity and with very quick, snappy roll rates) that had to have extra depth charges added to their main decks (above their centres of gravity) to slow down their roll rates.

I am going to repeat an apt quote from John Bastock's book, *Australia's Ships of War* which sums up the role the Bathurst Class corvettes played and which, I am sure, was never envisaged when Captain J. A. Collins, then Assistant Chief of Naval Staff, RAN, presented his paper; “A plea for smaller sloops in larger numbers”.

“The corvettes were handy and reliable, and in addition to minesweeping, patrol and escort work they were employed on an endless variety of tasks including the carrying of troops and stores, participation in bombardments and assault landings, surveying and towing operations. In short they were maids-of-all-work.”<sup>[3]</sup>

As my book title quotes: Capable beyond our dreams.

What armchair admiral could dispute that?

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#### Endnotes

1. H.T. Lenton & J.J. Colledge, J.J, *Warships of World War II*, p.191
2. David K. Brown, *Nelson to Vanguard: Warship Design and Development, 1923-1945*, p.140.
3. John Bastock, *Australia's Ships of War*, p.163



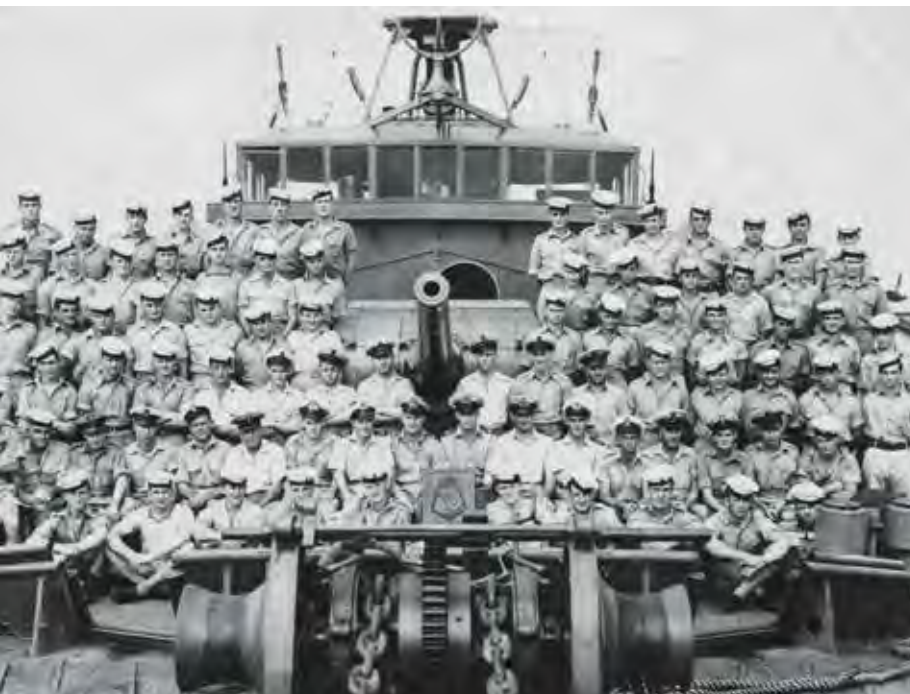
HMAS *Ipswich*. Note SW1C type radar antenna at masthead. [AWM P00433.007]



One of the few photos of HMAS *Lismore*. The 4-inch BL Mk IX is without a shield but 20mm Oerlikons are present on the foredeck, forward of the bridge structure. [navy.gov.au]



HMAS *Maryborough* prior to launching at Walkers Ltd. [navy.gov.au]



The Bathursts were versatile: troops of 2/9 Battalion being transported on HMAS *Broome*, Dec 1942 [AWM 305243]



HMAS *Burnie*, December 1945. Note the BPF type camouflage and pennant number. [navy.gov.au]



Bren Gun on an anti-aircraft mounting. [AWM 025691]



# GLOSSARY

AA	Anti-Aircraft
"A" POSITION etc.	In British ships, main armament positions – almost invariably on the centreline of the ship - were given alphabetical designations starting with "A" and "B" at the bow and finishing with "X" and "Y" at the stern. Midships turrets usually had something like a "Q" designation. The reason the designations did not follow the alphabet was to ensure that when giving orders, the names sounded sufficiently distinct so they would not be confused.
ASDIC	This was the primary device for detecting submarines via echolocation. Called Sonar by the USN. The most common types used by the RN's frigates during World War II were:
	Type 127: This was designed for convoy sloop and was the first type to be fitted with a bearing plotter.
	Type 128: This was the next development and had a range recorder.
	Type 141: This was exclusive to the Town Class destroyers from America.
	Type 144: This was in use from mid-1942 and had a visual bearing recorder which provided a memory of the bearing of echoes received. It was the first set specifically intended for the ahead-throwing weapons like Hedgehog.
	Type 144Q: This was a variation of Type 144. With Type 147B the ultimate war-time
	Type 147: This had a steerable beam which was broad in the horizontal plane but vertically shallow and was designed to work with Squid.
	Type 147B: This was a variation of Type 147. Also referred to as Sword due to the shape of the transducer which was placed ahead of the Type 147 transducer.
Q Attachment In use from 1943, the opposite of Sword in that the beam was very narrow – again about 3-degrees – but the wedge shape was in the long fore and aft plane. It could be retrofitted to Types 127, 128 and 144.	

ATW	Ahead Throwing Weapon (such as Hedgehog or Squid) designed to project anti-submarine missiles ahead of an attacking ship's path.
AW	Air Warning – as in Air Warning radar. Air-Search was another term used.
Beam	A ship's extreme breadth measured from the most outboard point on one side to the most outboard point on the other at the widest point on the ship. While this dimension should include any fixed projections on either side of the vessel, there are many instances, particularly in naval vessels, where it does not.
Block Co-efficient	The ratio of the volume of the displacement of a ship to that of a rectangular block having the same length, breadth, and draft.
BL	Breach Loading where the projectile and propellant are separately loaded as distinct from QF – Quick Firing where the projectile and propellant are one entity.
Cal/cal	Abbreviation for calibre, being either the ratio of the bore of the barrel of a gun to the length of the barrel (as in the USN 4"/50 cal meaning the barrel length was 50 times 4-inches or 200-inches) or, as in the case of the .50 cal Browning HMG, the bore, or calibre, was 1/2inch.
Carley Float	A life-raft made from a steel or copper inner tube, divided into watertight sections and covered in a buoyancy material such as cork in turn covered in painted canvas with a floor of webbing or slatted wood. They came in various sizes and shapes.
Charley/Charlie Noble	The easily identifiable "H"-shaped smoke exhaust at the top of the stack from the warship's galley.
Commissioning	The act or ceremony of placing a warship into active service.
CTL	Constructive Total Loss: the cost of repair of a damaged ship is more than the value of the ship.

Bofors	The Swedish armaments manufacturer whose name was simply used to describe its famous 40mm anti-aircraft gun that was made under licence. The first models were simple single-barrelled air-cooled models but were developed by the licensees into two and four-barrelled water-cooled versions.
Brake Horsepower	(BHP) Is the power measured at the crankshaft just outside the engine, before the losses of power caused by the gearbox and drive train.
DC	Depth Charge, a drum-shaped canister filled with high explosive detonated via a hydrostatic valve set at pre-determined depths.
DCT	Depth Charge Thrower, hydraulic or explosively detonated projector to launch a depth charge clear of a ship. Called a Depth Charge Projector in USN ships.
Decommissioning	The act or ceremony of taking a warship out of active service. Sometimes referred to as Paid Off.
Depth	A vessel's depth is measured vertically from the lowest point of the hull, normally from the bottom of the keel to the side of any deck that you may choose as a reference point, but most usually the weather deck. Note to be confused with Draft/Draught.
Depth Charge Chute	A simple way of stowing one or two depth charges for dropping over the stern.
Depth Charge Rail	A frame for stowing a series of depth charges so that they can be released as and when required over the stern. In USN these were termed a Depth Charge Rack.
DF	Direction Finder (more particularly MFDF or MF/DF for Medium Frequency Direction Finder to distinguish it from the later, HF/DF High Frequency Direction Finder) an electronic device for homing in on and thereby obtaining the bearing of a radio source. Sometimes called RDF or Radio Direction Finding/Finder. The square-shaped aerial was Type FM 12 or Outfit FM 12.

Displacement	By the Archimedes' Principle: the weight of the water displaced by the vessel when floating.
Draft/Draught	Is the vertical distance between the waterline and the lowest point of the hull, normally from the bottom of the keel.
Flag Superior	The letter that prefixes a pennant/pendant number indicating a flotilla or class or type of ship.
Flag Inferior	The letter that follows a pennant/pendant number indicating a flotilla or class or type of ship, usually of a minor nature.
Freeboard	The distance between the waterline and lowest point of the main or weather or freeboard deck at its lowest point. That deck is the uppermost continuous deck which has means of closing off all its opening. Often, the difference between Depth and Draft.
Full Load	That is Full Load Displacement, the weight of the water displaced by the vessel when floating at its greatest allowable draft.
HA	High Angle, in effect anti-aircraft capable only.
HA/LA	High Angle/Low Angle, in effect both capable of surface and anti-aircraft action.
Hedgehog	A 24-spigot anti-submarine mortar firing 7" diameter contact-fused projectiles with a 35lb charge. Spigots were arranged to give a 40 yd diameter circle approximately 200 yards ahead of the ship.
HMG	Heavy Machine Gun, such as the .50 cal Browning or 5-inch Vickers.
IFF	Identification Friend or Foe; an electronic system to establish via interrogation signals the identity of aircraft, ships etc.
Indicated Horsepower (IHP)	Is the total power produced by the engine measured at the crankshaft, such as a reciprocating engine.

Knot	One nautical mile (1.852 km) per hour. A vessel travelling at 1 knot along a meridian travels approximately one minute of latitude in one hour.
LA	Low Angle, in effect surface action capable only.
Laid Down	The term applied to the keel being laid down which was traditionally the first and major structural item on which the rest of the framework of the ship was constructed.
Launched	Ships are seldom launched in a completed state – that is, fully fitted out. The slipways are needed for the next ship so ships are launched when they are substantially complete and moved to fitting-out berths.
Length Between Perpendiculars	(LBP) Sometimes expressed as b.p. or p.p., especially prior to World War 2. It is measured from the forward surface of the stem, or main bow perpendicular member, to the after surface of the sternpost, or main stern perpendicular member.
Length Overall	(LOA) Is measured from the extreme forward end of the bow to the extreme aft end of the stern. Watercraft operators must be familiar with this and similar dimensions to safely manoeuvre the ship. The dimension is commonly found in lists of data for each vessel.
Length Load Waterline	(LWL) Is an important dimension because length at the waterline is a key factor in the complex problem of speed, resistance, and friction. In simple terms, the maximum speed of a displacement hull is $\approx 1.34 \times \sqrt{\text{LWL}}$ .
MF/DF	See DF
MG	Machine-Gun.
mm	Millimetre, in this case the calibre, the bore, of the weapon.
Montagu Whaler	The standard rowing/sailing ships' boat in service for seventy years, 27-feet long, highly seaworthy, double-ended and clinker construction.

Oerlikon	A Swiss armament manufacturer but the name more commonly used to describe their high-velocity 20-mm cannon made under licence in large numbers in Britain and the USA primarily as a light, short-range, anti-aircraft weapon.
PP	Length Between Perpendiculars, is the length of a ship along the waterline from the forward surface of the stem, or main bow perpendicular member, to the after surface of the sternpost, or main stern perpendicular member. Also referred as LBP or BP.
PPI	Plan & Position Indicator; Introduced in 1942 and what we think of as normal today by way of a circular radar screen showing the targets – that is, coastline, other ships, navigational marks, etc. – “painted” as glowing marks on the screen. Prior to this invention, radar signals had to be interpreted on a cathode ray tube as blips in a straight line – an “A” trace (or “grass” as it was called) running across the tube.
Paid/Paying Off	The process leading up to decommissioning when the ship is de-stored and the crew is “paid off”.
Pendant Number	Pronounced Pennant Number the numbers or letters or combinations of numbers and letters used to identify individual ships.
Pom-pom	The name is derived from the sound the Vickers 40mm QF 2-pounder Mk II made when fired. It was, in effect, an oversized Maxim machine gun. The later Mk VIII model was made in single, quad and eight-barrel mountings and capable of a high rate of fire.
Prismatic Co-efficient	(PC) is a technical term used to define how displacement is distributed along a hull, or how fine or full the ends of the hull are.
Proximity Fuse	A miniature radar-like device embedded in the nose of a shell causing it to explode in the vicinity of aircraft, mainly, but could be used in bombardment for air-bursts.



QF	Quick Firing uses fixed ammunition where the projectile and propellant are in one piece offering a higher rate of fire as distinct from Breach Loading (BL) where the projectile and propellant are separate and slower to load.
QF 12-pounder 12 cwt	This weapon dated back to 1894. Twelve pounds (12-pdr) was the weight of the projectile and 12 hundredweight (12cwt) the weight of the barrel and breech. It was not a Quick Firing gun in the true sense of the word in that the projectile and propellant were separate but they were loaded together on a special tray although it did achieve 15 rounds per minute. The gun stayed in production throughout World War 2 with improvements, such as demand.
QF 2-pounder Mk VIII	A single-barrelled, manually-operated and updated version of the QF 2-pounder Mk II commonly referred to as a pom-pom from the noise it made when firing. Usually replaced by 20mm Oerlikon or, later, 40mm Bofors.
Radar	Originally called RDF - Range and Direction Finding – but the acronym came from RAdio Detection And Ranging. It is an object-detection system that uses radio waves to determine the range, angle, or velocity of objects via a transmitter producing electromagnetic waves through an emitting antenna and a receiving antenna to capture any returns from objects in the path of the emitted signal plus a receiver and processor to determine the properties of the object.
RCN	Royal Canadian Navy
RDF	Radio Direction Finder
Reciprocating Engine	One that uses one or more reciprocating pistons to convert pressure on the pistons into a rotating motion.
RIN	Royal Indian Navy

RN	Royal Navy
RNR	Royal Naval Reserve; at the time of WW II it was a volunteer reserve force formed mainly from professional merchant seaman officers.
RNVR	Royal Naval Volunteer Reserve; this was a “hostilities only” volunteer force of officers formed mainly from volunteers with some form of seagoing experience, however slight.
R/T	Radio Telephony. (Voice)
SC	A type of USN Air-Search/Air-Warning radar.
SG	A type of USN Surface-Warning radar. The antenna was a revolving compact, dished rectangular plate
SHP	Shaft Horsepower: is the power delivered to the propeller shafts of a steamship This measure is not commonly used in the automobile industry because in that context drive train losses can become significant.
Signal Projector	Signalling lamp, usually 6-inch or 10-inch diameter for signalling by light using Morse but the larger ones (20-inch, 24-inch) were primarily used as searchlights.
Splinter Matting	A protection of limited value consisting, mainly, of a canvas envelope containing compressed coir (or similar material) designed to stop the penetration of shell splinters. Used to protect exposed gun positions, navigation bridges etc.
Standard	That is, Standard Displacement, the weight of the water displaced by the vessel complete, fully manned, engined, and equipped ready for sea, including all armament and ammunition, equipment, outfit, provisions and fresh water for crew, miscellaneous stores, and implements of every description that are intended to be carried in war, but without fuel or reserve boiler feed water on board.
SW	Surface Warning – as in Surface Warning radar.

SW1C/SW2C	A Canadian radar with an antenna characterised by a “Y”-shaped antenna with a horizontal bar projecting forward over the top. Developed at the same time in ignorance of the parallel development of centimetric Type 271.
TBS	Talk Between Ships; low-powered, line-of-sight VHF radio system.
Turbine	A rotary engine actuated by the reaction or impulse or both of a current of fluid (such as water, steam, or air) subject to pressure and usually made with a series of curved vanes on a central rotating spindle and entirely filling a housing around the rotor.
Type 242	An IFF aerial sometimes called Outfit ASB Type 242. (See IFF) Often seen on top of the Type 271 radar lanterns.
Type 253	An IFF aerial, sometimes called Outfit 252, a distinctive egg-timer shape.
Type 271	The original naval centimetric target indication radar British design Surface-Warning radar made possible by the invention of the cavity magnetron, its antenna readily recognisable in a drum-shaped, teak-framed “lantern”.
Type 272	Improved versions of Type 271, mainly allowing the antenna and the radar “office” to be separated as waveguides improved. The first Royal Navy radars to use a PPI – Plan Position Indicator. These versions were identified by the antenna being in a slightly smaller, simpler lantern or perspex drum.
Type A286	An Australian-derived air-search radar with an antenna that could be mistaken for the American SC, it was derived from the LW/AW (Light Weight/Air -Warning) system with a special antenna designed by the NSW Government Railways.

Type 291	A derivative of Type 286 radar, small-ship search radar. The original Type 291 had a hand-steered antenna, replaced by Type 291M with power training and plan position indicator, PPI.
USN	United States Navy
Vertical Triple Expansion	(VTE) Is a compound engine that expands the steam in three stages. That is, an engine which has cylinders operating at three different pressures. Exhaust steam from the small high-pressure cylinder goes to the medium pressure, middle-sized cylinder and thence to the lowest pressure and biggest-sized sized cylinder before going to a condenser to be turned back into water thence to the boiler to be turned back into steam.
W/T	Wireless Telegraphy (Morse Code)



# APPENDICES

## Appendix I Bathurst List Alphabetical Order

	NAME	PENNANT NUMBER/S			TO ORDER	DATE	DATE	DATE	HP	BUILDER	DATE	BUILDING	DAYS IN	MILES
		ORIGINAL	BPF	POST WAR		LAI D DOWN	LAUNCHED	COMMISSIONED			DECOMMISSIONED	TIME	COMMISSION	TRAVELLED
									(Gillett)		(days)	(days)	(Nesdale)	
1	Ararat	K 34		M 34	RAN	6-Jul-42	20-Feb-43	16-Jun-43	2,000	Evans Deakin & Co. Ltd.	11-Apr-47	345	1395	109,000
2	Armidale	J 240			RAN	1-Sep-41	24-Jan-42	11-Jun-42	2,000	Morts Dock & Engineering Co. Ltd.	1-Dec-42	283	173	sunk
3	Ballarat	J 184	B 236		Admiralty	19-Apr-40	10-Dec-40	30-Aug-41	1,750	Williamstown Naval Dockyard	27-Sep-46	498	1854	130,000
4	Bathurst	J 158			Admiralty	10-Feb-40	1-Aug-40	6-Dec-40	2,000	Cockatoo Docks & Engineering Co. Ltd.	27-Sep-46	300	2121	160,165
5	Benalla	J 323		M 323	RAN	24-Mar-42	19-Dec-42	27-Apr-43	2,000	Williamstown Naval Dockyard	28-Jan-46	399	1007	n/a
6	Bendigo	J 187	B 237		Admiralty	12-Aug-40	1-Mar-41	10-May-41	1,750	Cockatoo Docks & Engineering Co. Ltd.	27-Sep-46	271	1966	151,242
7	Bowen	J 285		M 285	RAN	9-Feb-42	28-Jul-42	9-Nov-42	2,000	Walkers Ltd.	17-Jan-46	273	1165	95,651
8	Broome	J 191			Admiralty	3-May-41	6-Oct-41	28-Jul-42	2,000	Evans Deakin & Co. Ltd.	15-Apr-46	451	1357	109,869
9	Bunbury	J 241		M 241	RAN	1-Nov-41	16-May-42	3-Jan-43	2,000	Evans Deakin & Co. Ltd.	26-Aug-46	428	1331	101,000
10	Bundaberg	J 231		M 231	RAN	7-Jun-41	1-Dec-41	12-Sep-42	2,000	Evans Deakin & Co. Ltd.	26-Mar-46	462	1291	112,119
11	Burnie	J 198	B 238		Admiralty	4-Jun-40	25-Oct-40	15-Apr-41	2,000	Morts Dock & Engineering Co. Ltd.	5-Jul-46	315	1907	n/a
12	Cairns	J 183	B 239		Admiralty	31-Mar-41	7-Oct-41	11-May-42	2,000	Walkers Ltd.	17-Jan-46	406	1347	n/a
13	Castlemaine	J 244		M 244	RAN	17-Feb-41	7-Aug-41	17-Jun-42	2,000	Williamstown Naval Dockyard	14-Dec-45	485	1276	n/a
14	Cessnock	J 175	B 240		Admiralty	16-Apr-41	17-Oct-41	26-Jan-42	2,000	Cockatoo Docks & Engineering Co. Ltd.	12-Jul-46	285	1628	n/a
15	Colac	J 242		M 05	RAN	18-Apr-41	30-Aug-41	6-Jan-42	2,000	Morts Dock & Engineering Co. Ltd.	27-Nov-45	263	1421	119,991

	NAME	PENNANT NUMBER/S			TO ORDER	DATE	DATE	DATE	HP	BUILDER	DATE	BUILDING TIME	DATE	MILES TRAVELLED
		ORIGINAL	BPF	POST WAR		LAI D DOWN	LAUNCHED	COMMISSIONED			DECOMMISSIONED		COMMISSION	
16	Cootamundra	J 316		M 186	RAN	26-Feb-42	3-Dec-42	30-Apr-43	2,000	Poole & Steel Pty. Ltd.	8-Jun-59	428	5883	105,805
17	Cowra	J 351		M 351	RAN	12-Aug-42	27-May-43	8-Oct-43	2,000	Poole & Steel Pty. Ltd.	26-Jun-53	422	3549	140,000
18	Deloraine	J 232		M 232	RAN	19-Mar-41	26-Jul-41	22-Nov-41	2,000	Morts Dock & Engineering Co. Ltd.	30-Jun-48	248	2412	166,000
19	Dubbo	J 251		M 251	RAN	13-Oct-41	7-Mar-42	31-Jul-42	2,000	Morts Dock & Engineering Co. Ltd.	7-Feb-47	291	1652	104,923
20	Echuca	J 252		M 252	RAN	22-Mar-41	17-Jan-42	7-Sep-42	2,000	Williamstown Naval Dockyard	29-Jun-48	534	2122	123,000
21	Fremantle	J 246		M 246	RAN	11-Feb-42	18-Aug-42	24-Mar-43	2,000	Evans Deakin & Co. Ltd.	22-Jun-59	406	5934	190,776
22	Gawler	J 188	B 241		Admiralty	24-Jan-41	4-Oct-41	14-Aug-42	2,000	Broken Hill Pty. Ltd.	5-Apr-46	567	1330	129,845
23	Geelong	J 201			RAN	16-Oct-40	22-Apr-41	16-Jan-42	1,750	Williamstown Naval Dockyard	18-Oct-44	457	1006	sunk
24	Geraldton	J 178	B 242		Admiralty	20-Nov-40	16-Aug-41	6-Apr-42	2,000	Poole & Steel Pty. Ltd.	14-Jun-46	502	1530	n/a
25	Gladstone	J 234		M 324	RAN	4-Aug-42	26-Nov-42	22-Mar-43	2,000	Walkers Ltd.	16-Jul-56	230	4865	195,642
26	Glenelg	J 236		M 236	RAN	2-Mar-42	25-Sep-42	16-Nov-42	2,000	Cockatoo Docks & Engineering Co. Ltd.	14-Jan-46	259	1155	110,119
27	Goulburn	J 167	B 243		Admiralty	10-Jul-40	16-Nov-40	28-Feb-41	1,750	Cockatoo Docks & Engineering Co. Ltd.	27-Sep-46	233	2037	165,000
28	Gympie	J 238		M 238	RAN	27-Aug-41	30-Jan-42	4-Nov-42	2,000	Evans Deakin & Co. Ltd.	23-May-46	434	1296	100,000
29	Horsham	J 235		M 235	RAN	26-Jun-41	16-May-42	18-Nov-42	2,000	Williamstown Naval Dockyard	17-Nov-45	510	1095	95,872
30	Inverell	J 233		M 233	RAN	7-Dec-41	2-May-42	17-Sep-42	2,000	Morts Dock & Engineering Co. Ltd.	14-Jun-46	284	1366	93,720

	NAME	PENNANT NUMBER/S			TO ORDER	DATE	DATE	DATE	HP	BUILDER	DATE	BUILDING TIME	DAYS IN COMMISSION	MILES TRAVELLED
		ORIGINAL	BPF	POST WAR		LAI D DOWN	LAUNCHED	COMMISSIONED			DECOMMISSIONED			
31	Ipswich	J 186	B 244		Admiralty	6-Mar-41	11-Aug-41	13-Jun-42	2,000	Evans Deakin & Co. Ltd.	5-Jul-46	464	1483	143,000
32	Junee	J 362		M 362	RAN	17-Feb-43	16-Nov-43	11-Apr-44	1,800	Poole & Steel Pty. Ltd.	21-Aug-57	419	4880	52,541
33	Kalgoorlie	J 192	B 245		Admiralty	27-Jul-40	7-Aug-41	7-Apr-42	1,750	Broken Hill Pty. Ltd.	8-May-46	619	1492	131,607
34	Kapunda	J 218		M 218	RAN	27-Aug-41	23-Jun-42	21-Oct-42	1,800	Poole & Steel Pty. Ltd.	14-Jan-46	420	1181	110,177
35	Katoomba	J 204		M 294	RAN	9-Sep-40	16-Apr-41	17-Dec-41	1,750	Poole & Steel Pty. Ltd.	2-Aug-48	464	2420	100,000
36	Kiama	J 353		M 353	RAN	2-Nov-42	3-Jul-43	26-Jan-44	2,000	Evans Deakin & Co. Ltd.	3-Apr-46	450	798	60,882
37	Latrobe	J 234		M 234	RAN	27-Jan-42	19-Jun-42	6-Nov-42	2,000	Morts Dock & Engineering Co. Ltd.	13-Mar-53	283	3780	92,819
38	Launceston	J 179	B 246		Admiralty	23-Dec-40	30-Jun-41	9-Apr-42	2,000	Evans Deakin & Co. Ltd.	23-Mar-46	472	1444	136,064
39	Lismore	J 145	B 247		Admiralty	26-Feb-40	10-Aug-40	24-Jan-41	1,750	Morts Dock & Engineering Co. Ltd.	3-Jul-46	333	1986	191,132
40	Lithgow	J 206		M 206	RAN	19-Aug-40	21-Dec-40	14-Jun-41	1,750	Morts Dock & Engineering Co. Ltd.	8-Jun-48	299	2551	178,000
41	Maryborough	J 195	B 248		Admiralty	16-Apr-40	17-Oct-40	12-Jun-41	1,750	Walkers Ltd.	1-Dec-45	422	1633	n/a
42	Mildura	J 207		M 207	RAN	23-Sep-40	15-May-41	23-Jul-41	1,750	Morts Dock & Engineering Co. Ltd.	11-Sep-53	303	4433	208,132
43	Parkes	J 361		M 361	RAN	16-Mar-43	30-Oct-43	25-May-44	2,000	Evans Deakin & Co. Ltd.	17-Dec-45	436	571	43,000
44	Pirie	J 189	B 249		Admiralty	18-May-41	3-Dec-41	10-Oct-42	2,000	Broken Hill Pty. Ltd.	5-Apr-46	510	1273	117,230
45	Rockhampton	J 203		M 203	RAN	6-Nov-40	26-Jun-41	21-Jan-42	1,750	Walkers Ltd.	5-Aug-46	441	1657	176,077
46	Shepparton	J 248		M 248	RAN	14-Nov-41	15-Aug-42	1-Feb-43	1,800	Williamstown Naval Dockyard	10-May-46	444	1194	62,000
47	Stawell	J 348		M 348	RAN	18-Jun-42	3-Apr-43	7-Aug-43	2,000	Williamstown Naval Dockyard	26-Mar-46	415	962	75,723

	NAME	PENNANT NUMBER/S			TO ORDER	DATE	DATE	DATE	HP	BUILDER	DATE	BUILDING TIME	DAYS IN COMMISSION	MILES TRAVELLED
		ORIGINAL	BPF	POST WAR		LAI D DOWN	LAUNCHED	COMMISSIONED			DECOMMISSIONED			
48	Strahan	J 363			RAN	9-Oct-42	12-Jul-43	14-Mar-44	2,000	News South Wales State Dockyard	25-Jan-46	522	682	60,000
49	Tamworth	J 181	B 250		Admiralty	25-Aug-41	14-Mar-42	8-Aug-42	2,000	Walkers Ltd.	30-Apr-46	348	1361	125,000
50	Toowoomba	J 157	B 251		Admiralty	9-Aug-40	26-Mar-41	9-Oct-41	1,750	Walkers Ltd.	5-Jul-46	426	1730	n/a
51	Townsville	J 205		M 205	RAN	16-Nov-40	13-May-41	19-Dec-41	1,750	Evans Deakin & Co. Ltd.	5-Aug-46	398	1690	155,450
52	Wagga	J 315		M 315/183	RAN	8-Mar-42	25-Jul-42	18-Dec-42	2,000	Morts Dock & Engineering Co. Ltd.	28-Oct-60	285	6524	n/a
53	Wallaroo	J 222			RAN	24-Apr-41	18-Feb-42	15-Jul-42	2,000	Poole & Steel Pty. Ltd.	11-Jun-43	447	331	sunk
54	Warrnambool	J 202			RAN	13-Nov-40	8-May-41	23-Sep-41	1,750	Morts Dock & Engineering Co. Ltd.	13-Sep-47	314	2181	sunk
55	Whyalla	J 153	B 252		Admiralty	24-Jul-40	12-May-41	8-Jan-42	1,750	Broken Hill Pty. Ltd.	16-May-46	533	1589	111,000
56	Wollongong	J 172	B 253		Admiralty	24-Jan-42	5-Jul-42	23-Oct-42	2,000	Cockatoo Docks & Engineering Co. Ltd.	11-Feb-46	272	1207	n/a
57	HMIS Bengal	J 243			RIN	3-Dec-41	7-Jul-42	8-Aug-42	2,000	Morts Dock & Engineering Co. Ltd.	1960	248		n/a
58	HMIS Bombay	J 249			RIN	19-Jul-41	6-Dec-41	24-Apr-42	2,000	Morts Dock & Engineering Co. Ltd.	1960	279		n/a
59	HMIS Madras	J 237			RIN	4-Aug-41	17-Feb-42	12-May-42	2,000	Cockatoo Docks & Engineering Co. Ltd.	1960	281		n/a
60	HMIS Punjab	J 239			RIN	26-May-41	10-Oct-41	20-Mar-42	2,000	Morts Dock & Engineering Co. Ltd.	1960	298		n/a

## APPENDIX II BATHURST CLASS CORVETTES - In Alphabetical Order by Builder

	NAME	PENNANT NUMBER/S			TO ORDER	DATE LAID DOWN	DATE LAUNCHED	DATE COMMISSIONED	HP	BUILDER	DATE DECOMMISSIONED	BUILDING TIME
		ORIGINAL	BPF	POST WAR								
									(Gillett)		(days)	
1	Gawler	J 188	B 241		Admiralty	24-Jan-41	4-Oct-41	14-Aug-42	2,000	Broken Hill Pty. Ltd.	5-Apr-46	567
2	Kalgoorlie	J 192	B 245		Admiralty	27-Jul-40	7-Aug-41	7-Apr-42	1,750	Broken Hill Pty. Ltd.	8-May-46	619
3	Pirie	J 189	B 249		Admiralty	18-May-41	3-Dec-41	10-Oct-42	2,000	Broken Hill Pty. Ltd.	5-Apr-46	510
4	Whyalla	J 153	B 252		Admiralty	24-Jul-40	12-May-41	8-Jan-42	1,750	Broken Hill Pty. Ltd.	16-May-46	533
5	Bathurst	J 158			Admiralty	10-Feb-40	1-Aug-40	6-Dec-40	2,000	Cockatoo Docks & Engineering Co. Ltd.	27-Sep-46	300
6	Bendigo	J 187	B 237		Admiralty	12-Aug-40	1-Mar-41	10-May-41	1,750	Cockatoo Docks & Engineering Co. Ltd.	27-Sep-46	271
7	Cessnock	J 175	B 240		Admiralty	16-Apr-41	17-Oct-41	26-Jan-42	2,000	Cockatoo Docks & Engineering Co. Ltd.	12-Jul-46	285
8	Glenelg	J 236		M 236	RAN	2-Mar-42	25-Sep-42	16-Nov-42	2,000	Cockatoo Docks & Engineering Co. Ltd.	14-Jan-46	259
9	Goulburn	J 167	B 243		Admiralty	10-Jul-40	16-Nov-40	28-Feb-41	1,750	Cockatoo Docks & Engineering Co. Ltd.	27-Sep-46	233
10	Woolongong	J 172	B 253		Admiralty	24-Jan-42	5-Jul-42	23-Oct-42	2,000	Cockatoo Docks & Engineering Co. Ltd.	11-Feb-46	272
11	HMS Madras	J 237			RIN	4-Aug-41	17-Feb-42	12-May-42	2,000	Cockatoo Docks & Engineering Co. Ltd.	1960	281
12	Gympie	J 238		M 238	RAN	27-Aug-41	30-Jan-42	4-Nov-42	2,000	Evans Deakin & Co. Ltd.	23-May-46	434
13	Ararat	K 34		M 34	RAN	6-Jul-42	20-Feb-43	16-Jun-43	2,000	Evans Deakin & Co. Ltd.	11-Apr-47	345
14	Broome	J 191			Admiralty	3-May-41	6-Oct-41	28-Jul-42	2,000	Evans Deakin & Co. Ltd.	15-Apr-46	451
15	Bunbury	J 241		M 241	RAN	1-Nov-41	16-May-42	3-Jan-43	2,000	Evans Deakin & Co. Ltd.	26-Aug-46	428
16	Bundaberg	J 231		M 231	RAN	7-Jun-41	1-Dec-41	12-Sep-42	2,000	Evans Deakin & Co. Ltd.	26-Mar-46	462
17	Fremantle	J 246		M 246	RAN	11-Feb-42	18-Aug-42	24-Mar-43	2,000	Evans Deakin & Co. Ltd.	22-Jun-59	406
18	Ipswich	J 186	B 244		Admiralty	6-Mar-41	11-Aug-41	13-Jun-42	2,000	Evans Deakin & Co. Ltd.	5-Jul-46	464
19	Kiama	J 353		M 353	RAN	2-Nov-42	3-Jul-43	26-Jan-44	2,000	Evans Deakin & Co. Ltd.	3-Apr-46	450
20	Launceston	J 179	B 246		Admiralty	23-Dec-40	30-Jun-41	9-Apr-42	2,000	Evans Deakin & Co. Ltd.	23-Mar-46	472
21	Parkes	J 361		M 361	RAN	16-Mar-43	30-Oct-43	25-May-44	2,000	Evans Deakin & Co. Ltd.	17-Dec-45	436
22	Townsville	J 205		M 205	RAN	16-Nov-40	13-May-42	19-Dec-41	1,750	Evans Deakin & Co. Ltd.	5-Aug-46	398
23	Armidale	J 240			RAN	1-Sep-41	24-Jan-42	11-Jun-42	2,000	Morts Dock & Engineering Co. Ltd.	1-Dec-42	283
24	Burnie	J 198	B 238		Admiralty	4-Jun-40	25-Oct-40	15-Apr-41	2,000	Morts Dock & Engineering Co. Ltd.	5-Jul-46	315



	NAME	PENNANT NUMBER/S			TO ORDER	DATE LAID DOWN	DATE LAUNCHED	DATE COMMISSIONED	HP	BUILDER	DATE DECOMMISSIONED	BUILDING TIME
		ORIGINAL	BPF	POST WAR								
25	Colac	J 242		M 05	RAN	18-Apr-41	30-Aug-41	6-Jan-42	2,000	Morts Dock & Engineering Co. Ltd.	27-Nov-45	263
26	Deloraine	J 232		M 232	RAN	19-Mar-41	26-Jul-41	22-Nov-41	2,000	Morts Dock & Engineering Co. Ltd.	30-Jun-48	248
27	Dubbo	J 251		M 251	RAN	13-Oct-41	7-Mar-42	31-Jul-42	2,000	Morts Dock & Engineering Co. Ltd.	7-Feb-47	291
28	Inverell	J 233		M 233	RAN	7-Dec-41	2-May-42	17-Sep-42	2,000	Morts Dock & Engineering Co. Ltd.	14-Jun-46	284
29	Latrobe	J 234		M 234	RAN	27-Jan-42	19-Jun-42	6-Nov-42	2,000	Morts Dock & Engineering Co. Ltd.	13-Mar-53	283
30	Lismore	J 145	B 247		Admiralty	26-Feb-40	10-Aug-40	24-Jan-41	1,750	Morts Dock & Engineering Co. Ltd.	3-Jul-46	333
31	Lithgow	J 206		M 206	RAN	19-Aug-40	21-Dec-40	14-Jun-41	1,750	Morts Dock & Engineering Co. Ltd.	8-Jun-48	299
32	Mildura	J 207		M 207	RAN	23-Sep-40	15-May-41	23-Jul-41	1,750	Morts Dock & Engineering Co. Ltd.	11-Sep-53	303
33	Wagga	J 315		M 315/183	RAN	8-Mar-42	25-Jul-42	18-Dec-42	2,000	Morts Dock & Engineering Co. Ltd.	28-Oct-60	285
34	Warrnambool	J 202			RAN	13-Nov-40	8-May-41	23-Sep-41	1,750	Morts Dock & Engineering Co. Ltd.	13-Sep-47	314
35	HMIS Bengal	J 243			RIN	3-Dec-41	7-Jul-42	8-Aug-42	2,000	Morts Dock & Engineering Co. Ltd.	1960	248
36	HMIS Bombay	J 249			RIN	19-Jul-41	6-Dec-41	24-Apr-42	2,000	Morts Dock & Engineering Co. Ltd.	1960	279
37	HMIS Punjab	J 239			RIN	26-May-41	10-Oct-41	20-Mar-42	2,000	Morts Dock & Engineering Co. Ltd.	1960	298
38	Strahan	J 363			RAN	9-Oct-42	12-Jul-43	14-Mar-44	2,000	News South Wales State Dockyard	25-Jan-46	522
39	Cootamundra	J 316		M 186	RAN	26-Feb-42	3-Dec-42	30-Apr-43	2,000	Poole & Steel Pty .Ltd.	8-Jun-59	428
40	Cowra	J 351		M 351	RAN	12-Aug-42	27-May-43	8-Oct-43	2,000	Poole & Steel Pty. Ltd.	26-Jun-53	422
41	Geraldton	J 178	B 242		Admiralty	20-Nov-40	16-Aug-41	6-Apr-42	2,000	Poole & Steel Pty. Ltd.	14-Jun-46	502
42	Juneë	J 362		M 362	RAN	17-Feb-43	16-Nov-43	11-Apr-44	1,800	Poole & Steel Pty. Ltd.	21-Aug-57	419
43	Kapunda	J 218		M 218	RAN	27-Aug-41	23-Jun-42	21-Oct-42	1,800	Poole & Steel Pty. Ltd.	14-Jan-46	420
44	Katoomba	J 204		M 294	RAN	9-Sep-40	16-Apr-41	17-Dec-41	1,750	Poole & Steel Pty. Ltd.	2-Aug-48	464
45	Walleroo	J 222			RAN	24-Apr-41	18-Feb-42	15-Jul-42	2,000	Poole & Steel Pty. Ltd.	11-Jun-43	447
46	Bowen	J 285		M 285	RAN	9-Feb-42	28-Jul-42	9-Nov-42	2,000	Walkers Ltd.	17-Jan-46	273
47	Cairns	J 183	B 239		Admiralty	31-Mar-41	7-Oct-41	11-May-42	2,000	Walkers Ltd.	17-Jan-46	406
48	Gladstone	J 234		M 324	RAN	4-Aug-42	26-Nov-42	22-Mar-43	2,000	Walkers Ltd.	16-Jul-56	230
49	Maryborough	J 195	B 248		Admiralty	16-Apr-40	17-Oct-40	12-Jun-41	1,750	Walkers Ltd.	1-Dec-45	422
50	Rockhampton	J 203		M 203	RAN	6-Nov-40	26-Jun-41	21-Jan-42	1,750	Walkers Ltd.	5-Aug-46	441
51	Tamworth	J 181	B 250		Admiralty	25-Aug-41	14-Mar-42	8-Aug-42	2,000	Walkers Ltd.	30-Apr-46	348
52	Toowoomba	J 157	B 251		Admiralty	9-Aug-40	26-Mar-41	9-Oct-41	1,750	Walkers Ltd.	5-Jul-46	426
53	Ballarat	J 184	B 236		Admiralty	19-Apr-40	10-Dec-40	30-Aug-41	1,750	Williamstown Naval Dockyard	27-Sep-46	498
54	Benalla	J 323		M 323	RAN	24-Mar-42	19-Dec-42	27-Apr-43	2,000	Williamstown Naval Dockyard	28-Jan-46	399

	NAME	PENNANT NUMBER/S			TO ORDER	DATE LAID DOWN	DATE LAUNCHED	DATE COMMISSIONED	HP	BUILDER	DATE DECOMMISSIONED	BUILDING TIME
		ORIGINAL	BPF	POST WAR								
55	Castlemaine	J 244		M 244	RAN	17-Feb-41	7-Aug-41	17-Jun-42	2,000	Williamstown Naval Dockyard	14-Dec-45	485
56	Echuca	J 252		M 252	RAN	22-Mar-41	17-Jan-42	7-Sep-42	2,000	Williamstown Naval Dockyard	29-Jun-48	534
57	Geelong	J 201			RAN	16-Oct-40	22-Apr-41	16-Jan-42	1,750	Williamstown Naval Dockyard	18-Oct-44	457
58	Horsham	J 235		M 235	RAN	26-Jun-41	16-May-42	18-Nov-42	2,000	Williamstown Naval Dockyard	17-Nov-45	510
59	Shepparton	J 248		M 248	RAN	14-Nov-41	15-Aug-42	1-Feb-43	1,800	Williamstown Naval Dockyard	10-May-46	444
60	Stawell	J 348		M 348	RAN	18-Jun-42	3-Apr-43	7-Aug-43	2,000	Williamstown Naval Dockyard	26-Mar-46	415

### APPENDIX III BATHURST CLASS CORVETTES - in Order of Commencement

	NAME	PENNANT NUMBER/S			TO ORDER	DATE LAID DOWN	DATE LAUNCHED	DATE LAUNCHED	HP	BUILDER	DATE DECOMMISSIONED
		ORIGINAL	BPF	POST WAR							
									(Gillett)		
1	Bathurst	J 158			Admiralty	10-Feb-40	1-Aug-40	6-Dec-40	2,000	Cockatoo Docks & Engineering Co. Ltd.	27-Sep-46
2	Lismore	J 145	B 247		Admiralty	26-Feb-40	10-Aug-40	24-Jan-41	1,750	Morts Dock & Engineering Co. Ltd.	3-Jul-46
3	Maryborough	J 195	B 248		Admiralty	16-Apr-40	17-Oct-40	12-Jun-41	1,750	Walkers Ltd.	1-Dec-45
4	Ballarat	J 184	B 236		Admiralty	19-Apr-40	10-Dec-40	30-Aug-41	1,750	Williamstown Naval Dockyard	27-Sep-46
5	Burnie	J 198	B 238		Admiralty	4-Jun-40	25-Oct-40	15-Apr-41	2,000	Morts Dock & Engineering Co. Ltd.	5-Jul-46
6	Goulburn	J 167	B 243		Admiralty	10-Jul-40	16-Nov-40	28-Feb-41	1,750	Cockatoo Docks & Engineering Co. Ltd.	27-Sep-46
7	Whyalla	J 153	B 252		Admiralty	24-Jul-40	12-May-41	8-Jan-42	1,750	Broken Hill Pty. Ltd.	16-May-46
8	Kalgoorlie	J 192	B 245		Admiralty	27-Jul-40	7-Aug-41	7-Apr-42	1,750	Broken Hill Pty. Ltd.	8-May-46
9	Toowoomba	J 157	B 251		Admiralty	9-Aug-40	26-Mar-41	9-Oct-41	1,750	Walkers Ltd.	5-Jul-46
10	Bendigo	J 187	B 237		Admiralty	12-Aug-40	1-Mar-41	10-May-41	1,750	Cockatoo Docks & Engineering Co. Ltd.	27-Sep-46
11	Lithgow	J 206		M 206	RAN	19-Aug-40	21-Dec-40	14-Jun-41	1,750	Morts Dock & Engineering Co. Ltd.	8-Jun-48
12	Katoomba	J 204		M 294	RAN	9-Sep-40	16-Apr-41	17-Dec-41	1,750	Poole & Steel Pty. Ltd.	2-Aug-48
13	Mildura	J 207		M 207	RAN	23-Sep-40	15-May-41	23-Jul-41	1,750	Morts Dock & Engineering Co. Ltd.	11-Sep-53
14	Geelong	J 201			RAN	16-Oct-40	22-Apr-41	16-Jan-42	1,750	Williamstown Naval Dockyard	18-Oct-44
15	Rockhampton	J 203		M 203	RAN	6-Nov-40	26-Jun-41	21-Jan-42	1,750	Walkers Ltd.	5-Aug-46
16	Warrnambool	J 202			RAN	13-Nov-40	8-May-41	23-Sep-41	1,750	Morts Dock & Engineering Co. Ltd.	13-Sep-47
17	Townsville	J 205		M 205	RAN	16-Nov-40	13-May-42	19-Dec-41	1,750	Evans Deakin & Co. Ltd.	5-Aug-46
18	Geraldton	J 178	B 242		Admiralty	20-Nov-40	16-Aug-41	6-Apr-42	2,000	Poole & Steel Pty. Ltd.	14-Jun-46
19	Launceston	J 179	B 246		Admiralty	23-Dec-40	30-Jun-41	9-Apr-42	2,000	Evans Deakin & Co. Ltd.	23-Mar-46
20	Gawler	J 188	B 241		Admiralty	24-Jan-41	4-Oct-41	14-Aug-42	2,000	Broken Hill Pty. Ltd.	5-Apr-46
21	Castlemaine	J 244		M 244	RAN	17-Feb-41	7-Aug-41	17-Jun-42	2,000	Williamstown Naval Dockyard	14-Dec-45
22	Ipswich	J 186	B 244		Admiralty	6-Mar-41	11-Aug-41	13-Jun-42	2,000	Evans Deakin & Co. Ltd.	5-Jul-46
23	Deloraine	J 232		M 232	RAN	19-Mar-41	26-Jul-41	22-Nov-41	2,000	Morts Dock & Engineering Co. Ltd.	30-Jun-48
24	Echuca	J 252		M 252	RAN	22-Mar-41	17-Jan-42	7-Sep-42	2,000	Williamstown Naval Dockyard	29-Jun-48
25	Cairns	J 183	B 239		Admiralty	31-Mar-41	7-Oct-41	11-May-42	2,000	Walkers Ltd.	17-Jan-46
26	Cessnock	J 175	B 240		Admiralty	16-Apr-41	17-Oct-41	26-Jan-42	2,000	Cockatoo Docks & Engineering Co. Ltd.	12-Jul-46
27	Colac	J 242		M 05	RAN	18-Apr-41	30-Aug-41	6-Jan-42	2,000	Morts Dock & Engineering Co. Ltd.	27-Nov-45
28	Wallaroo	J 222			RAN	24-Apr-41	18-Feb-42	15-Jul-42	2,000	Poole & Steel Pty. Ltd.	11-Jun-43

	NAME	PENNANT NUMBER/S			TO ORDER	DATE LAID DOWN	DATE LAUNCHED	DATE LAUNCHED	HP	BUILDER	DATE DECOMMISSIONED
		ORIGINAL	BPF	POST WAR							
29	Broome	J 191			Admiralty	3-May-41	6-Oct-41	28-Jul-42	2,000	Evans Deakin & Co. Ltd.	15-Apr-46
30	Pirie	J 189	B 249		Admiralty	18-May-41	3-Dec-41	10-Oct-42	2,000	Broken Hill Pty. Ltd.	5-Apr-46
31	HMS Punjab	J 239			RIN	26-May-41	10-Oct-41	20-Mar-42	2,000	Morts Dock & Engineering Co. Ltd.	1960
32	Bundaberg	J 231		M 231	RAN	7-Jun-41	1-Dec-41	12-Sep-42	2,000	Evans Deakin & Co. Ltd.	26-Mar-46
33	Horsham	J 235		M 235	RAN	26-Jun-41	16-May-42	18-Nov-42	2,000	Williamstown Naval Dockyard	17-Nov-45
34	HMS Bombay	J 249			RIN	19-Jul-41	6-Dec-41	24-Apr-42	2,000	Morts Dock & Engineering Co. Ltd.	1960
35	HMS Madras	J 237			RIN	4-Aug-41	17-Feb-42	12-May-42	2,000	Cockatoo Docks & Engineering Co. Ltd.	1960
36	Tamworth	J 181	B 250		Admiralty	25-Aug-41	14-Mar-42	8-Aug-42	2,000	Walkers Ltd.	30-Apr-46
37	Gympie	J 238		M 238	RAN	27-Aug-41	30-Jan-42	4-Nov-42	2,000	Evans Deakin & Co. Ltd.	23-May-46
38	Kapunda	J 218		M 218	RAN	27-Aug-41	23-Jun-42	21-Oct-42	1,800	Poole & Steel Pty. Ltd.	14-Jan-46
39	Armidale	J 240			RAN	1-Sep-41	24-Jan-42	11-Jun-42	2,000	Morts Dock & Engineering Co. Ltd.	1-Dec-42
40	Dubbo	J 251		M 251	RAN	13-Oct-41	7-Mar-42	31-Jul-42	2,000	Morts Dock & Engineering Co. Ltd.	7-Feb-47
41	Bunbury	J 241		M 241	RAN	1-Nov-41	16-May-42	3-Jan-43	2,000	Evans Deakin & Co. Ltd.	26-Aug-46
42	Shepparton	J 248		M 248	RAN	14-Nov-41	15-Aug-42	1-Feb-43	1,800	Williamstown Naval Dockyard	10-May-46
43	HMS Bengal	J 243			RIN	3-Dec-41	7-Jul-42	8-Aug-42	2,000	Morts Dock & Engineering Co. Ltd.	1960
44	Inverell	J 233		M 233	RAN	7-Dec-41	2-May-42	17-Sep-42	2,000	Morts Dock & Engineering Co. Ltd.	14-Jun-46
45	Wollongong	J 172	B 253		Admiralty	24-Jan-42	5-Jul-42	23-Oct-42	2,000	Cockatoo Docks & Engineering Co. Ltd.	11-Feb-46
46	Latrobe	J 234		M 234	RAN	27-Jan-42	19-Jun-42	6-Nov-42	2,000	Morts Dock & Engineering Co. Ltd.	13-Mar-53
47	Bowen	J 285		M 285	RAN	9-Feb-42	28-Jul-42	9-Nov-42	2,000	Walkers Ltd.	17-Jan-46
48	Fremantle	J 246		M 246	RAN	11-Feb-42	18-Aug-42	24-Mar-43	2,000	Evans Deakin & Co. Ltd.	22-Jun-59
49	Cootamundra	J 316		M 186	RAN	26-Feb-42	3-Dec-42	30-Apr-43	2,000	Poole & Steel Pty. Ltd.	8-Jun-59
50	Glenelg	J 236		M 236	RAN	2-Mar-42	25-Sep-42	16-Nov-42	2,000	Cockatoo Docks & Engineering Co. Ltd.	14-Jan-46
51	Wagga	J 315		M 315/183	RAN	8-Mar-42	25-Jul-42	18-Dec-42	2,000	Morts Dock & Engineering Co. Ltd.	28-Oct-60
52	Benalla	J 323		M 323	RAN	24-Mar-42	19-Dec-42	27-Apr-43	2,000	Williamstown Naval Dockyard	28-Jan-46
53	Stawell	J 348		M 348	RAN	18-Jun-42	3-Apr-43	7-Aug-43	2,000	Williamstown Naval Dockyard	26-Mar-46
54	Ararat	K 34		M 34	RAN	6-Jul-42	20-Feb-43	16-Jun-43	2,000	Evans Deakin & Co. Ltd.	11-Apr-47
55	Gladstone	J 234		M 324	RAN	4-Aug-42	26-Nov-42	22-Mar-43	2,000	Walkers Ltd.	16-Jul-56
56	Cowra	J 351		M 351	RAN	12-Aug-42	27-May-43	8-Oct-43	2,000	Poole & Steel Pty. Ltd.	26-Jun-53
57	Strahan	J 363			RAN	9-Oct-42	12-Jul-43	14-Mar-44	2,000	News South Wales State Dockyard	25-Jan-46
58	Kiama	J 353		M 353	RAN	2-Nov-42	3-Jul-43	26-Jan-44	2,000	Evans Deakin & Co. Ltd.	3-Apr-46
59	Junee	J 362		M 362	RAN	17-Feb-43	16-Nov-43	11-Apr-44	1,800	Poole & Steel Pty. Ltd.	21-Aug-57
60	Parkes	J 361		M 361	RAN	16-Mar-43	30-Oct-43	25-May-44	2,000	Evans Deakin & Co. Ltd.	17-Dec-45

## APPENDIX IV BATHURST CLASS CORVETTES - By Length of Construction

	NAME	PENNANT NUMBER/S			TO ORDER	DATE LAID	DATE	DATE	HP	BUILDER	DATE	BUILDING	% OF
		ORIGINAL	BPF	POST WAR		DOWN	LAUNCHED	DECOMMISSIONED			DECOMMISSIONED	TIME	
										(Gillett)		(days)	
1	Gladstone	J 234		M 324	RAN	4-Aug-42	26-Nov-42	22-Mar-43	2,000	Walkers Ltd.	16-Jul-56	230	
2	Goulburn	J 167	B 243		Admiralty	10-Jul-40	16-Nov-40	28-Feb-41	1,750	Cockatoo Docks & Engineering Co. Ltd.	27-Sep-46	233	101.30%
3	Deloraine	J 232		M 232	RAN	19-Mar-41	26-Jul-41	22-Nov-41	2,000	Morts Dock & Engineering Co. Ltd.	30-Jun-48	248	107.83%
4	HMIS Bengal	J 243			RIN	3-Dec-41	7-Jul-42	8-Aug-42	2,000	Morts Dock & Engineering Co. Ltd.	5/13	248	107.83%
5	Glenelg	J 236		M 236	RAN	2-Mar-42	25-Sep-42	16-Nov-42	2,000	Cockatoo Docks & Engineering Co. Ltd.	14-Jan-46	259	112.61%
6	Colac	J 242		M 05	RAN	18-Apr-41	30-Aug-41	6-Jan-42	2,000	Morts Dock & Engineering Co. Ltd.	27-Nov-45	263	114.35%
7	Bendigo	J 187	B 237		Admiralty	12-Aug-40	1-Mar-41	10-May-41	1,750	Cockatoo Docks & Engineering Co. Ltd.	27-Sep-46	271	117.83%
8	Woolongong	J 172	B 253		Admiralty	24-Jan-42	5-Jul-42	23-Oct-42	2,000	Cockatoo Docks & Engineering Co. Ltd.	11-Feb-46	272	118.26%
9	Bowen	J 285		M 285	RAN	9-Feb-42	28-Jul-42	9-Nov-42	2,000	Walkers Ltd.	17-Jan-46	273	118.70%
10	HMIS Bombay	J 249			RIN	19-Jul-41	6-Dec-41	24-Apr-42	2,000	Morts Dock & Engineering Co. Ltd.	1960	279	121.30%
11	HMIS Madras	J 237			RIN	4-Aug-41	17-Feb-42	12-May-42	2,000	Cockatoo Docks & Engineering Co. Ltd.	1960	281	122.17%
12	Armidale	J 240			RAN	1-Sep-41	24-Jan-42	11-Jun-42	2,000	Morts Dock & Engineering Co. Ltd.	1-Dec-42	283	123.04%
13	Latrobe	J 234		M 234	RAN	27-Jan-42	19-Jun-42	6-Nov-42	2,000	Morts Dock & Engineering Co. Ltd.	13-Mar-53	283	123.04%
14	Inverell	J 233		M 233	RAN	7-Dec-41	2-May-42	17-Sep-42	2,000	Morts Dock & Engineering Co. Ltd.	14-Jun-46	284	123.48%
15	Cessnock	J 175	B 240		Admiralty	16-Apr-41	17-Oct-41	26-Jan-42	2,000	Cockatoo Docks & Engineering Co. Ltd.	12-Jul-46	285	123.91%
16	Wagga	J 315		M 315/183	RAN	8-Mar-42	25-Jul-42	18-Dec-42	2,000	Morts Dock & Engineering Co. Ltd.	28-Oct-60	285	123.91%
17	Dubbo	J 251		M 251	RAN	13-Oct-41	7-Mar-42	31-Jul-42	2,000	Morts Dock & Engineering Co. Ltd.	7-Feb-47	291	126.52%
18	HMIS Punjab	J 239			RIN	26-May-41	10-Oct-41	20-Mar-42	2,000	Morts Dock & Engineering Co. Ltd.	1960	298	129.57%

	NAME	PENNANT NUMBER/S			TO ORDER	DATE LAID DOWN	DATE LAUNCHED	DATE DECOMMISSIONED	HP	BUILDER	DATE DECOMMISSIONED	BUILDING TIME	% OF BEST
		ORIGINAL	BPF	POST WAR									
19	Lithgow	J 206		M 206	RAN	19-Aug-40	21-Dec-40	14-Jun-41	1,750	Morts Dock & Engineering Co. Ltd.	8-Jun-48	299	130.00%
20	Bathurst	J 158			Admiralty	10-Feb-40	1-Aug-40	6-Dec-40	2,000	Cockatoo Docks & Engineering Co. Ltd.	27-Sep-46	300	130.43%
21	Mildura	J 207		M 207	RAN	23-Sep-40	15-May-41	23-Jul-41	1,750	Morts Dock & Engineering Co. Ltd.	11-Sep-53	303	131.74%
22	Warrnambool	J 202			RAN	13-Nov-40	8-May-41	23-Sep-41	1,750	Morts Dock & Engineering Co. Ltd.	13-Sep-47	314	136.52%
23	Burnie	J 198	B 238		Admiralty	4-Jun-40	25-Oct-40	15-Apr-41	2,000	Morts Dock & Engineering Co. Ltd.	5-Jul-46	315	136.96%
24	Lismore	J 145	B 247		Admiralty	26-Feb-40	10-Aug-40	24-Jan-41	1,750	Morts Dock & Engineering Co. Ltd.	3-Jul-46	333	144.78%
25	Ararat	K 34		M 34	RAN	6-Jul-42	20-Feb-43	16-Jun-43	2,000	Evans Deakin & Co. Ltd.	11-Apr-47	345	150.00%
26	Tamworth	J 181	B 250		Admiralty	25-Aug-41	14-Mar-42	8-Aug-42	2,000	Walkers Ltd.	30-Apr-46	348	151.30%
27	Townsville	J 205		M 205	RAN	16-Nov-40	13-May-42	19-Dec-41	1,750	Evans Deakin & Co. Ltd.	5-Aug-46	398	173.04%
28	Benalla	J 323		M 323	RAN	24-Mar-42	19-Dec-42	27-Apr-43	2,000	Williamstown Naval Dockyard	28-Jan-46	399	173.48%
29	Cairns	J 183	B 239		Admiralty	31-Mar-41	7-Oct-41	11-May-42	2,000	Walkers Ltd.	17-Jan-46	406	176.52%
30	Fremantle	J 246		M 246	RAN	11-Feb-42	18-Aug-42	24-Mar-43	2,000	Evans Deakin & Co. Ltd.	22-Jun-59	406	176.52%
31	Stawell	J 348		M 348	RAN	18-Jun-42	3-Apr-43	7-Aug-43	2,000	Williamstown Naval Dockyard	26-Mar-46	415	180.43%
32	June	J 362		M 362	RAN	17-Feb-43	16-Nov-43	11-Apr-44	1,800	Poole & Steel Pty. Ltd.	21-Aug-57	419	182.17%
33	Kapunda	J 218		M 218	RAN	27-Aug-41	23-Jun-42	21-Oct-42	1,800	Poole & Steel Pty. Ltd.	14-Jan-46	420	182.61%
34	Cowra	J 351		M 351	RAN	12-Aug-42	27-May-43	8-Oct-43	2,000	Poole & Steel Pty. Ltd.	26-Jun-53	422	183.48%
35	Maryborough	J 195	B 248		Admiralty	16-Apr-40	17-Oct-40	12-Jun-41	1,750	Walkers Ltd.	1-Dec-45	422	183.48%
36	Toowoomba	J 157	B 251		Admiralty	9-Aug-40	26-Mar-41	9-Oct-41	1,750	Walkers Ltd.	5-Jul-46	426	185.22%
37	Bunbury	J 241		M 241	RAN	1-Nov-41	16-May-42	3-Jan-43	2,000	Evans Deakin & Co. Ltd.	26-Aug-46	428	186.09%
38	Cootamundra	J 316		M 186	RAN	26-Feb-42	3-Dec-42	30-Apr-43	2,000	Poole & Steel Pty. Ltd.	8-Jun-59	428	186.09%
39	Gympie	J 238		M 238	RAN	27-Aug-41	30-Jan-42	4-Nov-42	2,000	Evans Deakin & Co. Ltd.	23-May-46	434	188.70%
40	Parkes	J 361		M 361	RAN	16-Mar-43	30-Oct-43	25-May-44	2,000	Evans Deakin & Co. Ltd.	17-Dec-45	436	189.57%





# BIBLIOGRAPHY



# PUBLISHED WORKS

Bastock, John, *Australia's Ships of War*, Angus & Robertson, Sydney, 1975

Brown, David K., *Atlantic Escorts: Ships, Weapons & Tactics in World War II*, Seaforth Publishing, Pen & Sword Books Ltd., Barnsley, Yorkshire, UK, 2007.

Brown, David K., *Nelson to Vanguard, Warship Design and Development, 1923-1945*, Seaforth Publishing, Pen & Sword Books Ltd., Barnsley, Yorkshire, UK, 2012.

Concannon, J.A., *Shipbuilding at Walkers Limited: 1877-1974*, Maryborough District Family History Society, Maryborough, Qld, 2009.

Cottrell, H.H. (editor), *The HMAS Pirie Story - The story of service in the Royal Australian Navy and the men who served in her*, HMAS Pirie association in conjunction with the Naval Historical Society of Australia Inc., 2000

Friedman, Norman, *British Destroyers & Frigates: The Second World War and After*, Seaforth Publishing, Pen & Sword Books Ltd., Barnsley, Yorkshire, UK, 2006.

Friedman, Norman, *British Destroyers: From Earliest Days to the Second World War*, Seaforth Publishing, Pen & Sword Books Ltd., Barnsley, Yorkshire, UK, 2009.

Friedman, Norman, *Naval Anti-Aircraft Guns and Gunnery*, Seaforth Publishing, Barnsley, Yorkshire, UK, 2013.

Friedman, Norman, *Naval Radar*. Annapolis: Naval Institute Press, 1981

Gillett, Ross, *Warships of Australia*, Rigby Limited, Adelaide, 1977.

Jenkins, David, *Battle Surface! Japan's Submarine War Against Australia 1942-44*, Random House, Sydney, 1992

Lenton, H.T. & Colledge, J.J., *Warships of World War II*, Ian Allan, London,

McKay, John and Holland, John, *The Flower Class Corvette Agassiz*, Anatomy of the Ship series, Conway Maritime Press, London, 1993.

Nesdale, Iris, *The Corvettes: Forgotten Ships of the Royal Australian Navy*, self-published, Adelaide, 1982

Odgers, George, *Navy Australia: An Illustrated History*, Child & Associates Publishing Pty.Ltd., Sydney, 1982

Ogle, Brian, *The History of HMAS Maryborough: Corvettes in World War II*, Murray & Ogle, Wahroonga, Sydney, 1992.

Pawle, Gerald, *The Secret War 1939-45*, George G Harrap & Co. Ltd., London, 1956.

Pfennigwerth, Ian, *Royal Australian Navy & MacArthur*, Rosenberg Publishing Pty, Limited, Sydney, 2009

Stevens, David, *A Critical Vulnerability: The impact of the submarine threat on Australia's maritime defence 1915-1954*, Sea Power Centre, Canberra, 2005

Walker, Frank B, *HMAS Armidale - The Ship That Had to Die*, Kingfisher Press, Budgewoi, NSW, 1990.

Wallace, Robert, *The Secret Battle 1942-45: The convoy battle off the East Coast of Australia during World War II*, Lamont Publishing, Ringwood, Australia 1995.

Worledge, G.R. (Editor), *Contact! HMAS Rushcutter and Australia's Submarine Hunters 1939-1946*, The AntiSubmarine Officers' Association, Sydney, 1994

Wright, Malcolm, *British and Commonwealth Warship Camouflage of WWII*, Seaforth Publishing, Pen & Sword Books Ltd., Barnsley, Yorkshire, UK, 2014.

# NEWS AND JOURNAL ARTICLES

Payne, Alan, *Bathurst Class Minesweepers (Corvettes)*, *Naval Historical Review*, June 1980, Naval Historical Society of Australia

Colebatch, Hal G.P., *The enemy within that killed Curtin*, *The Sydney Morning Herald*, 25 April 2007

Other, A.N., Naval Historical Society of Australia, 1980.

Stevens, David, *The Australian Corvettes*, (PDF). *Hindsight 05*, Semaphore, Sea Power Centre – Australia, 2010

Stokes-Rees, Commander Rowland H. R.N. (Rtd), “*Survival at Stake, Our Individual Responsibilities*”, and address by, 8 April 1958, Empire Club of Canada.

# ELECTRONIC RECORDS

<https://www.awm.gov.au/>

<http://hmascastlemaine.org.au/>

<http://www.go2war2.nl/>

<http://jproc.ca/sari/>

<http://www.naval-history.net/>

<http://www.navy.gov.au/>

<http://pwencycl.kgbudge.com/>





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