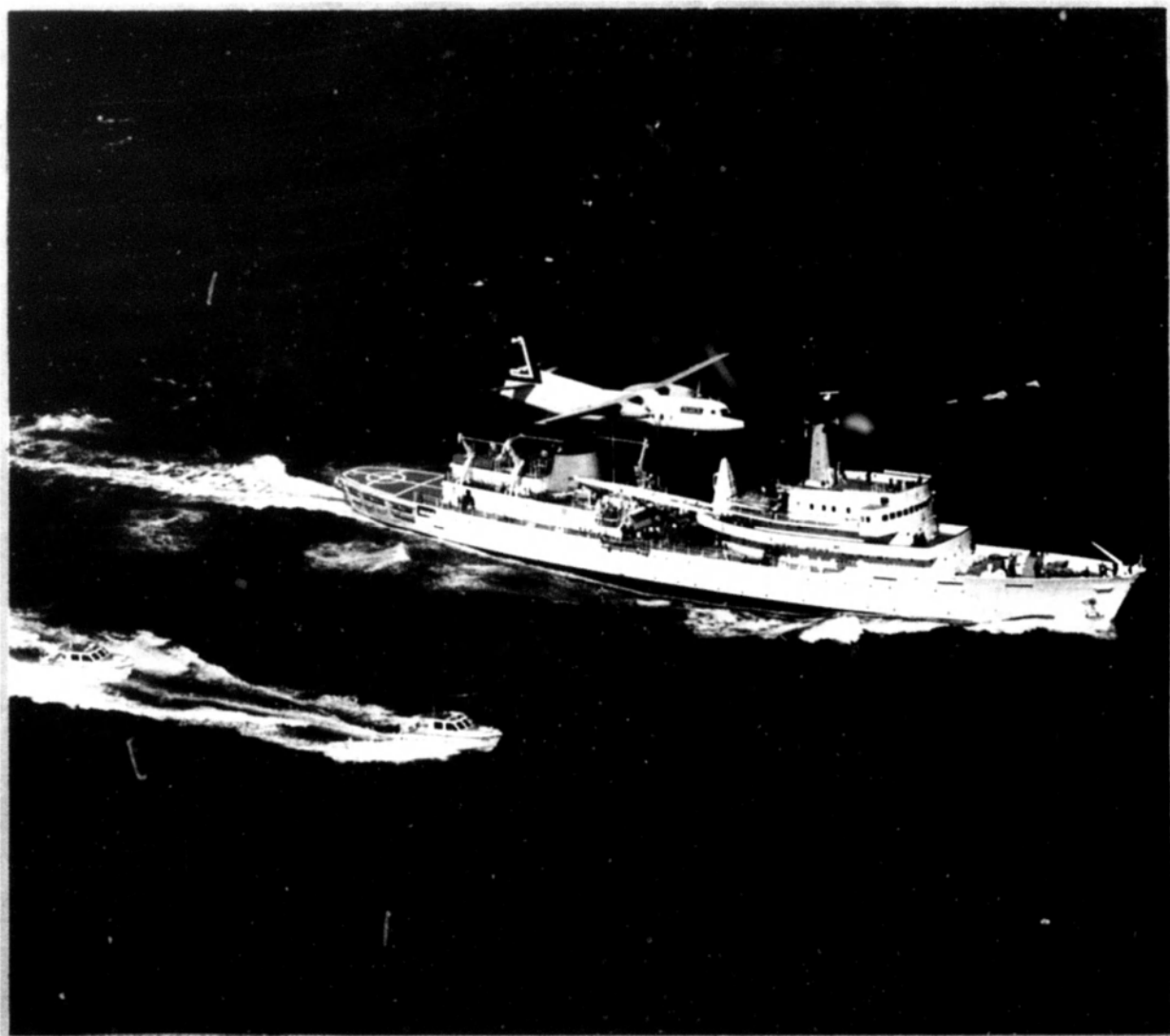


# THE NAVY

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*The Magazine of the Navy League of Australia*



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viewpoint

## AUSTRALIAN DEFENCE FORCE ACADEMY – An Uncertain Future

*There seem to be two entirely different points of view developing regarding the Australian Defence Force Academy, ("ADFA"). Whichever point of view prevails, the eventual outcome seems likely to be the closure of ADFA, at least in its present form.*

A parliamentary committee has just reported on ADFA. The committee's recommendation, if carried through would ultimately result in the closure of ADFA. The committee suggests that young people should no longer join one of the three services and enter ADFA to gain a degree. Instead, the committee proposes that the government should provide places in the ordinary university system. When those who have been provided with a university

place complete their degree the services will then select those who are suitable for military training.

It is said that this scheme would achieve considerable savings. However, the real reason for suggesting the closure of ADFA seems not to be economic. The chairman of the parliamentary committee described ADFA as a "military nunnery." Apparently he was concerned that the future leaders of our armed services were picking up military attitudes and values in the

course of gaining their degrees at ADFA. He felt that the ADFA students were not sufficiently exposed to the wider Australian community.

It is no doubt true that the armed services have a particular set of attitudes, values and traditions. Experience has shown their worth. Even in the late 20th century, where war fighting can employ the most advanced science, these values and traditions still have their place. They are the sort of thing that ought to be a part of the education of ADFA students.

However, even if ADFA is a "military nunnery" this does not mean that the students are or will be unexposed to the rest of the Australian

community. After all, until they enter ADFA they have lived their lives in the ordinary Australian community. And when they graduate they will thereafter have their homes in Australian suburbia, whether they be in Townsville, Sydney, Rockingham, Darwin, Katherine or Canberra.

It is in a way ironic that in the year in which the government has encouraged Australia to remember, a parliamentary committee would appear to wish to diminish the importance of military values and traditions.

Curiously, while the parliamentary committee appears concerned that ADFA

CONTINUED ON PAGE 2

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### OUR FRONT COVER:

Three elements of the RAN Hydrographic Branch; HMAS MORESBY with two survey motor boats and the LADS aircraft airborne.  
(Photo - NPL)

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The opinions or assertions expressed in articles in The Navy are those of the authors and are not necessarily those of the Federal Council of The Navy League of Australia, The Editor of The Navy or The Royal Australian Navy.

## Where's Australia?

Dear Sir,

I enjoy your magazine which contains very interesting articles relating to the Navy.

At a recent committee meeting we showed concern of the article written by Joe Straczek which related to the ships of the Royal Australian Navy at the outbreak of the Second World War in the October-December issue, with the omission of the Heavy Cruiser HMAS AUSTRALIA.

I think HMAS AUSTRALIA, an 8" Cruiser similar to HMAS CANBERRA had just been commissioned after a refit in Sept 1939. We thought Joe Straczek would have mentioned her as she had one of the most distinguished careers of any ship in the Royal Australian Navy past or present.

As most of our present Naval Personnel would receive this magazine we were disappointed that we didn't get a mention.

All the best,  
David Hopkins  
Honorary Secretary  
Condell Park 2220

EDITOR: Joe Straczek has advised me that AUSTRALIA was not included as the ships listed were taken from the September 1939 Navy List which depicted the "sea-going" strength of the Squadron. AUSTRALIA was inactive until 28th August 1939. The cruiser appears active in the October 39 Navy List.

\*\*\*

## Correction

Dear Sir,

Being an avid reader of The Navy for many years I find the articles of great interest.

In Vol 57 No 4 on pages 12 and 13 the DDG shown is HMAS PERTH not HMAS HOBART as mentioned.

At our local Navy Cadet Training Ship is a plaque of the Navy League, would you know if these are readily available for purchase.

Yours faithfully  
Steve Dunne  
Mayfield 2304

## Comments/Criticism

Dear Sir,

I am one of those long term readers of The Navy.

Each edition always fascinates me, mainly due to its variety of articles and naval news. However it does surprise me that very few Navy League members or subscribers to the magazine, ever seem to write in with their queries or comments on previous issues.

Other lesser quality magazines appear with much less interesting articles, are usually over-burdened with correspondence, but The Navy, it seems, never has such problems!

Has anyone else commented along these lines. P. Horne  
Gladesville 2111

EDITOR: I've always thought that our readers are so content, they have nothing to comment or complain about.

\*\*\*

## Attack Boat

Dear Sir,

I am writing in reference to MW Meredith's letter concerning the Attack class Patrol Boat in Port Moresby. It is to the best of my knowledge ex-HMAS ALTAPPE. I was in Port Moresby earlier this year and actually took some photos whilst I was nearby. Unfortunately they were destroyed during processing on return to Australia. I believe the story is that on decommissioning the boat was handed over to the local museum but sunk at her mooring. The debate continues on where the blame lies and who should pay to salvage it. Thus I should say that she will remain in her current state for a while yet.

Another unidentified but 'handsomely pink adorned' A-class was moored in the harbour minus armament but with the addition of a makeshift hard canopy aft. Rumour has it that it once served as a brothel.

Also to note, it is HMAS PERTH making headway on pages 12 and 13.

Yours sincerely,  
Paul Pelczar  
City Beach 6015

## Editor's Note:

This edition of The Navy includes the latest update of "The Fleet" and is current up to late November 1995. Unfortunately, the reproduction in the last edition incorrectly "chopped off" three of the patrol boats.

Since then, the general purpose vessel BANKS has been destroyed by fire and she too has been deleted. The diving launch PORPOISE, damaged after grounding, is included as no decision on her fate has yet been announced.

## riderpoint

## ADFA - AN UNCERTAIN FUTURE

## CONTINUED

is too military, there is a growing body of opinion which believes that the reverse is the case.

The concern is being expressed that ADFA in fact dilutes the military element too greatly. Students enter the Academy direct from school. Their first experience of service life is that of a university. It is said that during their ADFA education there is insufficient identification with the Service which is to be their future career. Far from being a "military nunnery" the concern has been expressed that the students do not get enough of the values and traditions of the Army or Navy or Air Force as the case may be.

It is also suggested that some students view ADFA as just another university and look for non-military careers upon obtaining their degrees.

Whatever the truth about ADFA, the future of the institution must be in doubt. Perhaps the solution is indeed to close it.

Would be officers could then, once again, join the Defence Force through the relevant Service college. Upon graduating from Jervis Bay, Point Cook or Duntroon the young officer could then proceed to an appropriate university to complete a degree in whichever discipline was suitable to his or her career.

*Graham Harris*

Graham HARRIS  
Federal President  
Navy League of Australia

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## Air Power and The RAN

By Navy Leaguer

Fifteen years ago, the Navy League argued strongly and publicly in favour of acquiring an aircraft carrier to succeed HMAS MELBOURNE. The new ship would operate anti-submarine helicopters and Sea Harrier type strike fighters to provide a strike capability and the outer layer of air defence of the Australian Fleet.

In 1983, the Australian government of the day decided against this. Since that time, neither of the alternative governing political parties nor any other defence group has propounded the need for an aircraft carrier capability. Indeed, successive leaders of the RAN have argued that other naval capabilities have a prior demand on scarce resources. Reportedly, the government has actively discouraged consideration of a carrier capability.

Shortly after the 1983 decision, the RAN's fixed wing aircraft squadrons (A4 Skyhawks strike fighters, S2 Tracker anti-submarine aircraft and Macchi jet trainers) were disbanded and the skilled personnel largely lost to the RAN. Only two H374B electronic warfare training aircraft survive.

However, the helicopter Fleet Air Arm has prospered. Six small Squirrels are in service in the training and support roles. The surviving six Sea Kings are being converted from anti-submarine to utility duties. Sixteen large modern Seahawk S70B2 helicopters operate from the Adelaide class ships in the anti-submarine, surveillance and anti-surface targeting roles. These latter aircraft are fully integrated indispensable components of the Adelaide class frigates' fighting system.

Tenders have been called for fourteen intermediate sized naval helicopters for the Anzac class frigates. The request for tender includes an option for further helicopters of the same type for the planned offshore patrol combatants. These aircraft will be equipped with anti-ship missiles and surveillance sensors. They will have no anti-submarine capability, although there is likely to be sufficient redundant payload for an ASW fit should this become necessary later.

Thus, once the additional helicopters planned enter service, the RAN will be sufficiently equipped with sea borne helicopters. Operating with the RAAF's P3C Orion long range maritime patrol aircraft, a distant ASW surveillance and weapon capability will be available.

However, none of these provides the RAN's seagoing units with a defence against attack by aircraft. It must be recognised that air attack means attack by flying weapons (most probably guided missiles) launched from aircraft, surface warships or submarines.

With other professional seagoing navies, the RAN plans defence against air attack in layers. A virtually important factor is the effective integration of the operations of each of these layers with one another.

The layers of defence are:

- Long range - destroying the hostile launching aircraft, surface ship or submarine well before it launches its missile.
- Medium range - destroying the hostile launching vehicle or its missile after launch, but still at a safe distance from the

defending or accompanying friendly vessels.

- Short range - destroying the missile after launch, or a bomb armed aircraft, but before it is close to the defending vessel.
- Close range - a last ditch defence against missiles by rapid firing gun or decoy.

Under current equipment plans, the RAN's close range defence is provided by the Phalanx rapid firing multiple gun close in weapons system, chaff launchers and the Nulka active off board decoys. At present, only some of the FFGs and DDGs have Phalanx and no ship is yet fitted with Nulka. The FFGs and Anzacs will be fitted with Nulka. The planned offshore patrol combatants will probably also be so fitted. When current plans are implemented, all of these warships will be well equipped

with close range defence against missiles. However, these systems are only effective in self defence. They are not effective in defence of accompanying vessels. None of the RAN's other naval vessels, such as HMAS SUCCESS or HMAS WESTRALIA (which accompany RAN task groups into operational areas) are to be fitted with close range AAW defence.

For short range defence, the Anzac

class frigates are being armed with the Sea Sparrow point defence missile system. This will be succeeded by the Evolved Sea Sparrow, with which the Adelaide class may also be armed during their planned AAW upgrade. The offshore patrol combatants are also expected to be armed with Evolved Sea Sparrow. Thus all the RAN's warships (as distinct from naval vessels) will be armed for close and short range defence against attacking aircraft and sea skimming and high trajectory missiles.

Medium range defence is provided by the DDGs' and Adelaide class' Standard SM-1 missiles launched from the rotating guided weapon launching system 13. Unless they are provided with Standard SM-1 under the proposed Anzac war fighting improvement program, the Anzac class frigates will lack a medium range AAW defence. The offshore patrol combatants will not be large enough to accommodate a medium range missile system.

The RAN's long range defence against surface ships or submarines armed with guided weapons can be, is being, or will be provided by naval helicopters integrated with their parent or accompanying warships.

Long range defence against aircraft launching missiles can be provided by Standard SM-2 missiles directed by Aegis type phased array radars. Such systems are in service with the Japanese and United States navies. Fixed wing fighter aircraft can provide this defence, although distance and competing operational requirements make this an unreliable form of defence in Australia's strategic circumstances.

With the RAAF's F/A-18s unlikely to be available for fleet air defence, and no known plans to provide at least the Adelaide





and Anzac classes with the SM-2/phased array radars, the RAN will have to rely on their close, short and medium range system for defence against attacking aircraft and air launched missiles.

A virtually important factor in this is the capabilities of the radar and methods of integration of the parent ships' command and control (C2) systems. The capabilities of the radars and the weapons and countermeasures of the three layers of defence are infinitely more effective if they are coordinated effectively by the C2 systems and command teams in the ships' operations rooms.

Technology in this area is advancing very rapidly. Systems that were the very latest ten years ago are now largely obsolete. At the same time, the missiles themselves (both attack and defence) are increasing in speed, and manoeuvrability.

It is the view of the RAN, and other professional medium sized navies, that the key to effective defence against missile attack lies in improved radars and C2 systems. It is the RAN's view that these improvements can provide effective defence

against air attack in the RAN's expected operational environment. The primary purpose of the Adelaide class update is to install the latest and most effective C2 and associated AAW systems.

Other professional navies which consider that it is feasible to provide their warship task groups with effective ship borne defence against air attack include Japan, Taiwan, Germany and the Netherlands. All of these navies operate ships with such systems and have proposed new generations of ships with these capabilities.

If such defence can be achieved without aircraft carriers, why do other medium sized navies (Britain, France, Italy, Spain, India) have aircraft carriers? The answer may well be because they envisage operating them in power protection, support of allies or peacekeeping roles. Certainly, Britain and France are now operating their carriers in the Bosnian peacekeeping role.



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# Hydrographic Branch 75 YEARS

## THE ROLE

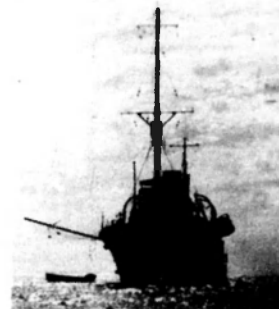
The role of the RAN Hydrographic Service is to discharge the Commonwealth Government's responsibility for the publication of all charts and supporting information required for the safety of all vessels navigating in Australian waters. To fulfil this role the RAN Hydrographer must meet the demands of both the military and the civilian customer for both freedom of manoeuvre and safety in all navigable waters within the area of Australian charting responsibility.

## THE TASK

The surveying and charting task is a formidable one with the area of responsibility extending over ninety degrees of longitude from the SW Pacific



The veteran survey ship HMAS MORESBY, is escorted by three of the smaller Survey Motor Boats (SMBs) on 5 October 1995. (Photo - NPLU)



The first survey ship, HMAS MORESBY entered service in 1925.

to the Indian Ocean and from Papua New Guinea to the Antarctic - an area of about one eighth of the earth's surface. Of the waters within the 200 nautical mile wide Australian Exclusive Economic Zone; 20% have been surveyed to modern standards, a further 20% are in need of re-survey and the balance of 60% are either inadequately or entirely unsurveyed. In some areas, charts are still based on the work of surveyors and explorers of the last century.

The advent of larger vessels and new

technology drives survey standards upwards. Deeper draught vessels, many drawing tens of metres, sail with little margin for error and require far more accurate and detailed hydrography than was previously required. For certain Defence operations such as submarine navigation, the level of detail required is even greater than for the surface user. Consequently, only those surveys conducted since the early 70s can now be considered to meet current standards.

Of the estimated 700 charts required



The Queensland gunboat PALUMA (1), commissioned by the Royal Navy during the 1880-90s for surveying duties.



HMAS GERANIUM in her survey ship role in the 1920s.

## HYDROGRAPHIC BRANCH – 75 YEARS

to cover the area, about 400 are available to the mariner.

### THE PEOPLE

The RAN Hydrographic Service of today consists of a small team of some 120 uniformed and 90 civilian staff. The men and women of the Service are dedicated to maintaining the highest standards and traditions of the naval, survey and cartographic professions.

Uniformed personnel are trained in all aspects of Hydrography within their naval specialisation. The qualifications of RAN survey officers are accredited to

The RAN Hydrographic Service was formed on 1 October 1920. Its traditions however, have developed from those of the Royal Navy and the pioneers of hydrography as a modern earth science. These include names synonymous with Australian history



*Diving party aboard HMAS MORESBY.*

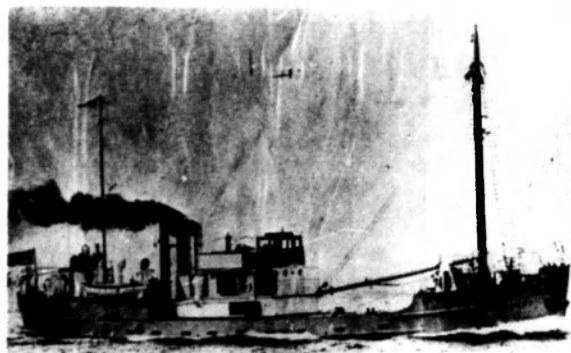


*HMAS MORESBY, in Sydney Harbour.*

international standards.

Civilian personnel undertake in-house and formal technical training in their various specialist fields. The combined efforts of all are required to gather, interpret and process the data required to produce the charts and publications required by the mariner.

### THE PAST



*One of the requisitioned survey vessels in the Second World War, BANGALOW.*

such as: James Cook, Matthew Flinders, William Bligh, Phillip Parker King - all hydrographers; all dedicated to science, exploration and the safety of life at sea.

Prior to 1920 the task of surveying Australian waters fell to the Royal Navy. By 1825 the Admiralty had published a series of charts of the coast. From 1860 through to 1880 the various colonies funded ongoing surveys. The Royal Navy



*The River class frigate LACHLAN was employed by the RAN and later RNZN in the survey role.*

presence continued on cost sharing basis from 1880 through to 1926 with at least two ships engaged in surveying.

HMAS GERANIUM was commissioned in 1920 as the first RAN survey ship, remaining until 1927. In 1924 she was fitted with a Fairey 111D seaplane and so began a tradition of air support to survey operations which continues to this day.

The second RAN survey ship, HMAS MORESBY arrived in Australia in 1925 and joined GERANIUM in the task of surveying The Great Barrier Reef.

MORESBY was laid up 1930-1933 and except for some minor harbour surveys, the Service was practically disbanded due to a lack of funds. On re-commissioning, urgent strategic surveys were undertaken prior to the outbreak of the Second World War.

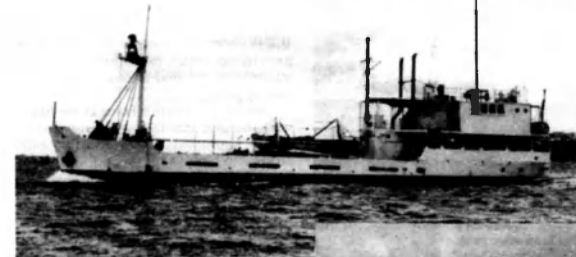
The Surveying Branch was again dispersed at the outbreak of war and was not recalled until 1941. Responsibility for the publication of all Australian charts was accepted in 1942. Military operations

had highlighted the paucity of reliable charts of our northern waters, New Guinea, The Solomons and the SW Pacific theatre in general. A topical press report at the time declared that "... more ships have been lost to navigational accident than to enemy action."

The imperative for reliable charts saw a host of vessels of all sizes pressed into service with surveys performed "under the noses of the enemy" in advance of operations. By war's end there were 16



*HMAS BARCOO in 1961. (Photo - Ron Hart)*



*Converted from a motor lighter, the small survey ship HMAS PALUMA (III).*

survey ships in commission. The small cadre of survey personnel had distinguished themselves with the award of 2 OBEs, 13 DSCs, 4 DSMs, 14 Mention in Dispatches and 2 US Legion of Merit.

Despite the progress achieved during the war not all surveys were of enduring quality as many served specific wartime purposes and/or were carried out in great haste.

The Australian Federal Cabinet reaffirmed the RAN's responsibility for hydrography in 1946, with a 25 year



*Early port broadside of HMAS MORESBY. Note the 40mm bolfors before the bridge and Westland Scout helicopter aft.*



*HMAS GASCOYNE, 1961. (Photo - Ron Hart)*

funding constraints. The surveying programme resumed in 1952 with HMA Ships BARCOO and WARREGO and has continued ever since.

Two wartime frigates, GASCOYNE and DIAMANTINI re-entered service in 1959 following conversion to the oceanographic survey role. Lasting until 1966 and 1980 respectively, their work supported that of the hydrographic survey ships.

Throughout the 1960s and 70s developments in mineral exploration and exports saw more deep draught ships using Australian ports. The needs of these vessels placed greater emphasis on the quality and accuracy of surveys due to their minimum under keel clearances.

The second MORESBY was commissioned in 1964 as a purpose built survey ship. Up until this time all survey ships had been warships converted to the survey role. In 1973 a second survey ship, HMAS FLINDERS, was commissioned.

A specialist Oceanographic ship, HMAS COOK commissioned in 1980 as a replacement for the veteran DIAMANTINA. She remained until 1990.

### THE PRESENT

The current survey 'fleet' included HMA Ships MORESBY, FLINDERS, PALUMA, MERMAID, SHEPPARTON and BENALLA. These surface units are supplemented by the recently developed Laser Airborne Depth Sounder System (LADS) installed in a Fokker F27 aircraft. In addition, the Hydrographic Office maintains a small survey unit which is routinely detached for surveys in the Antarctic. All ships are fitted with digital data gathering and processing systems, employ modern acoustic sensors and the latest satellite position fixing systems. The LADS employs unique laser technology developed in Australia specifically for hydrographic surveying.



HMAS FLINDERS off Sydney on 5 September 1995. (Photo - NPU)

In 1994, the Hydrographic Office relocated to new premises in Wollongong. The building was specially designed to accommodate and support the many functions and a d v a n c e d technology used to produce modern chart products and services.



HMAS COOK in 1983. (Photo - Ross Gillett)

scheduled for delivery by the end of 1997 and 1998. At 2,500 tons displacement and a length of 75 m, they are designed to maintain an offshore hydrographic capability. Central to the ships' role and design is a completely integrated Hydrographic Survey System with capabilities to detect all navigationally significant features and quantify their accuracy in both position and depth.

Australia is an island nation. Self reliance in strategic and economic terms depends on the ability to safeguard the freedom and safety of navigation. The RAN Hydrographic Service is dedicated to this task.

### THE FUTURE

The future of the Service in the expertise of their people and their ability to use modern technology to meet the same challenges faced by their forebears. The imperative for reliable charts continues to increase. Ships of great size and value ply our waters today with cargoes that pose threats to the environment which in years gone by were unimaginable.

To meet this challenge the Hydrographic Service places great emphasis on the need to employ systems capable of gathering and processing data in a cost effective manner. Enhancements to existing survey systems, laser sounding techniques, digital chart production, ECDIS systems all contribute to the aim of providing the mariner with the information required to ensure a safe and speedy passage.

The Marine Science Force of the future will include the four existing Survey Motor Launches, LADS and two new ships to replace MORESBY and FLINDERS. These new vessels are

# The RAN and Indonesia

*The RAN's association with the Republic of Indonesia dates from the very early days after the Second World War when HMAS MANOORA, commanded by Captain AP Cousins RAN, sailed from Australia for Indonesia to repatriate political prisoners from the Dutch prison of Tenah Merah (part of the Dutch colonial gulag system), located near Merauke. These political prisoners had been taken to Australia during the war by the Dutch.*

MANOORA had departed Australia for Indonesia during 1946. Throughout the voyage Captain Cousins and the crew of MANOORA made every effort to aid and assist the Indonesians, especially the women and children. After the ship berthed in Tanjung Priok, Dutch soldiers arrived demanding that the Indonesians be handed over to them. Captain Cousins refused and arranged for Gurkhas to escort the Indonesians to Republican territory.

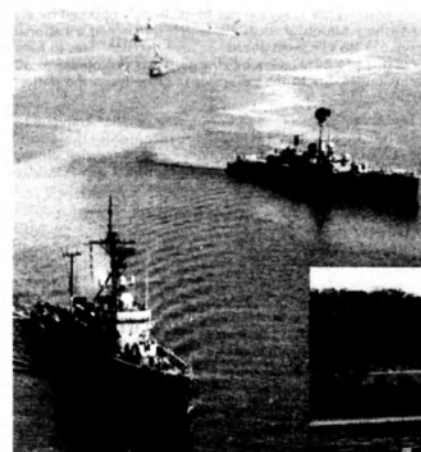
Following the successful removal of

Indonesians.

The year, 1972 saw the commencement of joint naval exercises between Indonesia and Australia. A major step in the relations between Indonesia and Australia occurred in early 1974 with joint naval exercises, Exercise SOUTHERN CROSS, being held off Jarvis Bay. This was the first occasion that an Asian country had held naval exercises in Australian waters.

During 1973 LABUAN transported survey equipment to North Sumatra for

were also handed over. The Indonesian Maritime Patrol Project was set up in 1973, with a small unit staffed by RAN personnel outposted to Surabaya in Java, Indonesia. The Project was tasked, amongst other duties, to oversee the transfer to the Indonesian Navy of two Attack class patrol boats, ARCHER and BANDOLIER, and provide advice and assistance in the maintenance and use of these craft. This team was renamed the RAN Advisory Team Indonesia (RANATI) in 1976. The RANATI was disbanded and



(Photo - Brian Morrison)

the Dutch from what is now known as Indonesia the newly formed Indonesian Navy acquired a number of ex-RAN Bathurst Class corvettes. These ships had been transferred to the Dutch but were integrated into the Indonesian Navy.

Subsequent relations between Indonesia and Australia deteriorated as a consequence of the Indonesian government's policy of Confrontation.

After this period of hostilities there followed a period of thaw which developed from visits and training courses. By 1972 relations between Indonesia and Australia were such that the Australian government announced a \$20 million defence programme to run from July 1972 to June 1975. During 1972 MELBOURNE, DUCHESS and SUPPLY paid a goodwill visit to

the Royal Australian Survey Corps deployed there. The provision of specialist service instructors continued as did the training of Indonesians in Australia. This has also involved an exchange of officer cadets from the two countries.

In November 1973, the first Attack Class patrol boat was presented to Indonesia. In addition, a number of 15.5 metre patrol boats and Nomad aircraft

withdrawn from Surabaya in December 1980 on completion of the project.

Exercises continued in 1975 with DERWENT and SWAN participating in Exercise ORION from 24 to 27 March. A second Attack class patrol boat was handed over in 1974. A total of eight Attack class patrol boats would eventually be transferred to Indonesia.

The exercise programme continued with BRISBANE visiting Indonesia in



The fourth HMAS PALUMA, a survey motor launch was commissioned in the early 1990s.



September 1975. SOUTHERN CROSS II was held in 1977 and this was followed up with Exercise NEW HORIZON II from 25-29 September 1978. The third of the NEW HORIZON exercises was conducted in November 1980 with PERTH and DERWENT taking part.

The bilateral naval exercise programme was further developed with the holding of a command post exercise in Sydney in July 1982. This was followed by Exercise NEW HORIZON IV held in

the Java Sea in May 1983. The NEW HORIZON series of exercises continued with NEW HORIZON 84 being held off Darwin in November. Both RAN and RAAF units participated.

Navy to Navy relations took a further step in 1988 when the first Western Pacific Naval Symposium was held on 5/6 October.

Throughout the remainder of the 1980s and 1990 the relationship between Indonesia and the RAN has continued to

develop through personnel visits, exchanges and bi-lateral and multi-lateral naval exercises. The maturity and openness of this relationship was demonstrated when two officers spent an extended time, during early 1995, studying the integration of women into the RAN.

Given the strong basis that already exists, the future relationship between the RAN and its Indonesian counterpart can only continue to grow and mature.

## IN BRIEF

By Geoffrey Evans

# Coalition Defence Policy

*The defence policy of the Coalition expounded by Opposition Leader John Howard in the lead-up to a federal election is, in essence, not greatly different to that of the Labor government.*

By and large the strategic outlook is the same - focus on the Asia-Pacific region, uncertainty concerning future developments and a wide range of potentially worrying possibilities. The Coalition appears to have a greater concern for developments in the northern Pacific countries and to show a greater appreciation of the importance of the Australian-American relationship.

Although the Coalition refers in disapproving tones to current defence spending "... we have seen a run down in defence expenditure to a point where we now spend only 2% of GDP on defence" there is little to indicate this figure will be increased by the Coalition; rather, it is planned to reassess the structure of defence arrangements with the object of reducing administrative costs and increasing combat capability.

Changing arrangements will be extremely difficult given existing commitments for equipment - to cancel or re-schedule delivery dates would cause considerable disruption on the industrial front quite apart from any cost penalties incurred.

Whatever party is in government during the next few years will almost certainly face personnel problems - the need for people to man the ships, aircraft and military equipment already in existence let alone planned for delivery during the next decade. The Labor government has not said a great deal about this problem during its term of office, while the Coalition, accepting the problem's existence, does not appear to have a realistic solution planned. Clearly, there is no "quick fix" in sight for any party given the community's disinterest in national security - often it seems because we are too busy quarrelling with each other to pay attention to external activities.

As this column goes to the publisher two separate but related issues involving the nation's shipping line are "on hold"; one awaits a finding and the other a solution.

- The Senate inquiry into matters relating to the proposed sale of the ANL, including the propriety of arrangements, took place in October. Those questions included the former chairman, Mr Bill Balitho, who presented a number of lengthy submissions relating arguments by Transport Minister Brereton and the Departments of Finance, Transport and Communications in respect of the sale process, the present chairman, Mr Neville Wran and officials from the departments involved. The Navy League and the company of Master Mariners tendered a written statement registering opposition to the sale for reasons published in earlier editions of *The Navy* and *The Master Mariner* magazines. The inquiry was expected to report on or before 30 November.

- Offer to purchase: An offer by the P&O Company has been accepted "in principle" by the government and while

favoured by the Coalition has been strongly opposed by the Maritime Union of Australia which threatened a national strike if the sale went ahead. A "final decision" was to have been made by 31 October but this was postponed to 30 November due to the failure of talks between the parties concerned.

The lack of a "maritime sense" in the Australian community, reflected in most (but not all) governments of various persuasions over the years, must be a cause for despair among those who realise that the sea is of fundamental importance to the nation and not simply a place for leisure.

### Recognition Sought

For many years naval personnel who served in ships involved with the Malaya Emergency in the fifties, and in the Vietnam War prior to the arrival in that country of the main body of Australian soldiers, have been seeking recognition of their service.

The recognition sought - parity with naval personnel from other countries and Australian army and air force personnel, has proved extremely difficult to obtain.

The writer has sighed some of the correspondence on this matter and to say he is surprised that such a seemingly small request has generated such a mountain of paper is to express his feelings mildly.

It is probably difficult for the reigning generation of ministers, officials and Service leaders - a remarkable number of whom have become involved in this matter - to give too much thought to the events of thirty and forty years ago but when all is said and done, it is a very small request to correct what appears to be an anomaly.

### Naval Reserve Cadets in Canada

Following an invitation from the Canadian Navy League to the Australian Navy League to send a contingent of cadets to help celebrate the Canadian League's centenary in 1995, Navy arranged for an NRC officer and six cadets to visit the country in July and August.

The Australian cadets joined sea cadets from Britain, Belgium, Bermuda, The Netherlands, Japan, Sweden, the United States and of course the host country which boasts a combined cadet force (sea, army and air cadets) of some 65,000 plus a sizeable staff. From all accounts it was an instructive and enjoyable occasion.

The Navy League of Australia, founder of the sea cadet movement in Australia, will celebrate its centenary in 2001 and it is hoped this country can host a similar international gathering of young people to mark the event.

# "FOXTROT" ON SHOW

Story and photographs by Mark Schweikert

*As I climbed aboard the cold war chariot and descended into its once secret interior I felt like Tom Clancy's fictional character Jack Ryan in the movie "HUNT FOR RED OCTOBER."*

Living in Australia, one would never expect to see inside a Soviet submarine let alone be given the opportunity of a tactile experience. This Foxtrot class diesel electric submarine (SSK) now calls the sunny shores of Australia home, a far cry from the cold waters of Vladivostok Naval Base and the shadowy world of the Soviet Pacific Fleet. After 51 days towing to Sydney Harbour including weathering a typhoon the Submarine finally arrived. Scorpion, will be the most exciting exhibit at the National Maritime Museum for anyone who has an interest in naval matters particularly Anti Submarine Warfare (ASW) and submarines.

The Foxtrot class submarine was a successful design for the Soviets. It bore the brunt of Soviet foreign policy during the Cold War by establishing

a naval presence far from its shores in every ocean of the world. When the Foxtrot submarine was laid down, many Western intelligence agencies mistakenly thought that it was the new and long awaited first Soviet nuclear powered submarine. A total of 62 Foxtrots were constructed for the Soviet Navy out of a planned 160 with each one built and commissioned in under 20 months. Construction was

halted to make way for the start of the nuclear powered submarine programme. Despite this the Foxtrot is still the second most numerous Soviet submarine design after the 236 units of the 'Whiskey' class. Foxtrots were built from 1958 to 1971 for the Soviet Navy and then again for a short period for export customers, India, Cuba, Poland and Libya. It was used as a long range patrol submarine with units operating off the US coast, the Indian Ocean and some reported sightings off the Australian coast.

It was designed to attack ships in shallow waters along coastlines or in busy shipping lanes in the open ocean. It also performed scouting operations for larger missile submarines hunting for US carrier battle groups. It has a very limited ASW role due to its low technology and radiated noise but could deal with other submarines if forced, although the results would have favoured an opponent.

### Propulsion/Endurance

The Foxtrot submarine was regarded by its Russian crews as being very reliable. It is powered by diesel-electric propulsion. Whilst on the surface it takes in air to run diesel engines which in turn not only power the submarine through the water but also recharge 448 large lead acid batteries. These batteries then supply power to three electric motors to power the submarine whilst submerged. The standard tactic for a diesel-electric submarine to recharge its batteries was for it to come to periscope depth, make sure there were no ships or aircraft in the

area before raising a 'snorkel' to take in air for the diesels.

This is the most dangerous time for a diesel electric submarine as the diesels are quite noisy and may attract the attention of another submarine. 'Snorkelling' was usually done at night at short intervals and at irregular times. This made it hard to find by a searching submarine, ship or aircraft. This tactic would lessen the chance of discovery and attack but increased the time for a full recharge for all night. However, Soviet Navy safety policy (peacetime) made this class do most of its recharging on the surface but, as I will detail later, this could be used as a tactic to evade the enemy.

The Foxtrot's submerged endurance was fairly impressive for a diesel-electric boat of its day; on batteries it could make 15.5

knots for one hour or run for 100 nautical miles at eight knots or 220 nautical miles at three knots with a surfaced range on diesels of 12,000 nautical miles at five knots. If silver zinc batteries were used rather than lead acid the underwater ranges would be doubled, but silver zinc batteries are far more expensive and harder to fully recharge. Usually the main barrier to underwater endurance was the air supply for the crew which would

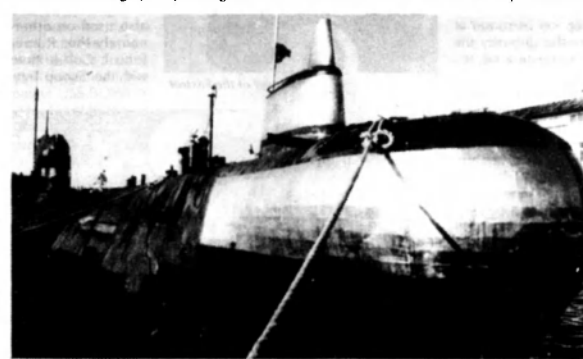
run out before the battery charge. Its maximum Soviet Navy test book patrol endurance was 90 days and it could dive to a depth of 300 metres (1000ft approx.)

Located at the front of the conning tower is an all weather enclosed bridge for conning the submarine whilst on the surface in bad weather. The Foxtrot is powered on the surface by three diesel engines, for a maximum speed of 16 knots. When submerged the batteries provide power to three electric motors for a maximum submerged speed of 15.5 knots to three propellers or to one "economy" motor for endurance speeds of two to four knots.

To quieten the submarine, during snorkel operations with the diesels, rubber was fitted between the engines and the hull to trap and absorb most of the sound, however, this was not very successful. Another noisy part of the Foxtrot is the three six blade propellers. These propellers were not designed with any quality control in mind and thus at various speeds would cavitate or sing on and over various frequencies. This cavitation noise made it possible to detect the submarine at long ranges as well as making it easy to classify each individual submarine by its own cavitation signature, much like a fingerprint, but this was common to all early Soviet submarines.

### Electronics

The Foxtrots are fitted with a 'Feniks' medium frequency passive sonar wrapped around the bow and a 'Herules' high frequency active sonar for 'pinging' in a rhino horn



*The bow of the Foxtrot. The bare metal around the bow contains the medium frequency 'Feniks' passive sonar. The horn on top of the bow houses the high frequency 'Herules' active sonar with the small protrusion above that for an underwater telephone.*

## "FOXTROT" ON SHOW

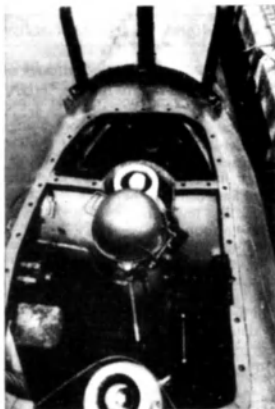
configuration on top of the bow with a further protrusion above it for an underwater telephone. Passive sonar listens for sound from a ship or submarine while an active sonar uses a high frequency 'ping' sound to measure a target's distance and bearing by the time it takes to bounce off the target and back to the transmitter. The same sonar suite was also fitted to the other Russian submarine classes of the Romeo (SSK), Echo I and II (nuclear powered cruise missile submarines), the Juliet (diesel-electric cruise missile submarine), Golf I (diesel-electric ballistic missile submarine) and Hotel I (nuclear powered ballistic missile submarine).

Around the front of the conning tower or sail are four fixed spot hydrophones which make up a passive ranging sonar system. This system measures the time delay between the reception of sound at each hydrophone. From the disparity the submarine can roughly compute a target's bearing and range.

The five stages of a submarine's attack operations are: detection, classification, localisation, tracking and then the kill. The 'Feniks' passive sonar would provide the detection and then the classification of a target, i.e. is it a submarine or a ship, the passive ranging sonar, around the sail, would then provide the localisation information by giving vague range and bearing data. Once the submarine has manoeuvred into a better position the 'Herkules' active sonar would track the target with that information being supplied to the torpedo fire control for the kill stage. The active sonar is used last as the 'ping' can also be heard by the target and consequently alert it to the submarine's presence and intentions.

The act of 'going active' was necessary as passive sonar of the day was insufficient to provide an adequate fire control solution for the torpedoes. Soviet submarines had to 'go active' in their attack sequence as their Western counterparts were far quieter and thus more difficult to track by passive means. So behind were the Soviets in ASW technology that each time a new ASW improvement was made their submarines would be upgraded regardless of where the submarine was in its four year maintenance cycle.

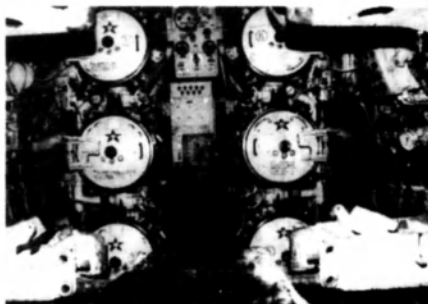
The conning tower of the submarine contains, an attack and search periscope, a snorkel for recharging batteries on diesel



Conning tower of the Foxtrot.

engines whilst remaining submerged, a radio direction finder, a VHF/UHF radio antenna, a HF antenna, an Electronic Support Measures (ESM) pod for detecting radar emissions, their strength and type, and a surveillance radar used for ships or aircraft. Also located at the rear of the conning tower is a HF radio mast which can be raised or lowered to the deck.

During the Cold War, and to some extent today, all Soviet military equipment observed by NATO was given a code word for classification purposes. The name of this class of submarine, Foxtrot, was the NATO code name given when it was first observed (the Russians knew it as a project number, Type 641). The ESM pod on the submarine was called the: 'Stop Light ESM', the radio direction finder was the: 'Quad Loop DF', and the radar was the: 'Snoop Tray radar'. These same sensors are also used on other Russian submarines, namely the: Romeo, November, Hotel, Echo I, Golf I, Hotel I and Tango classes with the 'Snoop Tray' and 'Quad Loop' still



The business end of the Foxtrot, the forward torpedo room with its six 533mm (21 inch) torpedo tubes. The reload racks are fixed and cannot swing out of the way when empty. They carry two torpedoes each for a total of 12 torpedo reloads.

used today on the new Kilo class SSK.

The black paint covering the submarine was thought to contain, in its formulation, sonar absorbing qualities to mask the sub from active or 'pinging' sonar transmissions. However this submarine class was never painted with this type of paint but other Soviet submarines were. The areas on the submarine which are unpainted, such as the 'Feniks', 'Herkules' and the passive ranging sonar around the sail are left this way as normal lead formula paint would interfere with the sonar performance of these systems.

### Weapons

The Foxtrots are armed with ten 533mm torpedo tubes, six bow tubes and four stern tubes capable of discharging a total of 22 torpedoes. These torpedoes consisted of ASW homing, anti ship straight and pattern running torpedoes and could be replaced by 44 ground influence sea mines which are tube launched. In later years the stern tubes were used to fire torpedo decoys to confuse incoming ASW torpedoes rather than its own torpedoes. An interesting weapon that Soviet submarines were capable of using was a 15 kiloton nuclear tipped torpedo. This torpedo was designed to be fired at a point where it would intercept the centre of a large task force or US Carrier Battle

Group (CBG) and then explode destroying everything in the blast. It could also be fired into a port or harbour to destroy ships and facilities. It was rumoured that Soviet submarines carried two to four of these torpedoes.

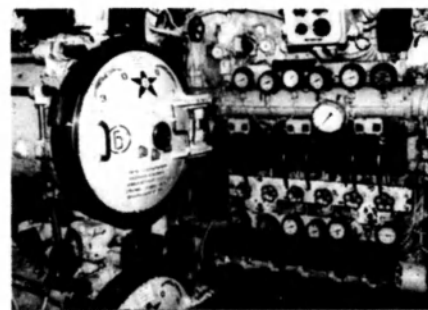
During operations at sea the torpedo room was restricted to the crew and only the Captain and Zampolli (Political Officer) were allowed access only with the torpedo room crew.

The Australian owner of the submarine, Kevin McMillan (Toldeo Enterprises International Pty Ltd of Surfers Paradise), had the torpedo tubes welded shut with a metal plate, the operating batteries removed, the torpedo fire control severed and one of the propellers holed in order to conform to the standards set by the Australian Department of Defence (DoD) for a non offensive weapon. Other than that, this submarine is fully equipped and was taken by the owner just after it had completed a patrol. This company was looking for a submarine to use as a floating museum and tourist attraction, much like the World War II submarine USS BOWFIN at Pearl Harbour. Mr McMillan is currently looking for a maintenance crew, preferably ex NCO submariners, so retired Admirals and Captains need not apply.

The first Foxtrot that Mr McMillan inspected was unsuitable due to cannibalisation to keep other Foxtrots operational. The second, and the one that was acquired, had just come from a patrol and was found to be in perfect condition. After some disagreement the Russians finally agreed to the second Foxtrot which was the last operational Foxtrot in the Russian Pacific Fleet.

### Soviet Submarine Philosophy

Even though electric propulsion is very quiet compared to nuclear the Foxtrot was still rather noisy. One source of noise was the large number of limber holes around the outside hull of the submarine. The Foxtrot, like many other Soviet designs, possesses a double hull. The outer hull is free flooding, hence the limber holes, surrounding the pressure hull. This design is purely for battle purposes. A lightweight ASW torpedo would hit the outer hull first and detonate. In theory the concussion wave would be absorbed by the water in between the outer and pressure hull still leaving the submarine's pressure hull intact, or not as badly damaged or leaking. The philosophy is much like the spaced armour principle on our army's Leopard tanks. Double hulls are also designed to help in quieting the submarine as the water inside the outer hull would absorb some of the sound. The Soviets decided to trade stealth for survivability. Western sub-



A close up of one of the 533mm torpedo tubes. Note the panel to the right with the six levers for firing the torpedoes.

four large water pumps to pump water out of the submarine but one can do the job adequately. All combat systems are double redundant. There are two deployable floating rescue buoys to indicate the spot where the submarine has sunk and two metal straps running under the submarine below the conning tower to enable it to be lifted off the ocean floor in case of sinking.

### Foxtrot Tactics

The best tactic a somewhat noisy Foxtrot could employ against other submarines was to either sit on the bottom or drift around submerged waiting for a submarine to pass, much like an intelligent mine. Another tactic was to work with other submarines in a barrier line. If one of the Foxtrots were fired upon by an unseen 'stealthy' Western submarine it would instantly fire two or three ASW homing torpedoes at the direction of the incoming torpedo whilst dropping decoys and starting evasive manoeuvres such as diving deep and fast. The incoming Soviet torpedoes would then force the Western submarine Captain to conduct his own evasive manoeuvres to avoid being hit. These manoeuvres may sever the guidance wires attached to the torpedo for guiding it to the target. At this stage the second Foxtrot, hearing this and remaining invisible with the noise being created by the other two, would then close in to attack the Western submarine. In army terms these tactics would be described as ambushing and counter ambushing. This is not surprising as most of the Soviet Navy's tactics were inspired from the Soviet Army.

One way the Western submarine Captain could avoid this tactic would be to fire his torpedo away from the enemy submarine and then guide it via the guidance wires onto the submarine from another direction. The Captain would not have to conduct evasive manoeuvres as the Soviet torpedoes fired at the incoming torpedo would be fired at the wrong direction and away from him thus increasing the chances of the Western submarine Captain achieving a kill.

Soviet submarines also operated in conjunction with surface warships. The ships providing air defence against ASW aircraft with the submarines going in close to a fleet to use their torpedoes even getting in amongst the fleet and hiding in the noise and confusion to torpedo more ships. It must be remembered that the Foxtrot is an anti-ship submarine whose origins can be traced to the last German U-boat design of World War II, namely the



The conning tower. Notice the four bare metal panels around the centre. These panels form a sector underwater telephone. The openings above indicate the position of the 'surfaced' bad weather bridge.



Located in the conning tower, commissioning plaque for 'Submarine 427'.



The communications room is located to the rear and behind the control room bulkhead. Virtually all the communication equipment remains intact.



## 'FOXTROT' ON SHOW

Type XXI U-boat. When the Russians invaded Germany many of the U-boats and their designers and crew were captured and put to work on submarines in Russia. It was only after the Foxtrot that Soviet technology and experience produced specialised ASW submarines.

One tactic that a diesel electric submarine could employ to evade detection during snorkel operations was for it to surface in a known shipping channel and then start its diesels. With most of the submarine out of the water the diesels would be started. This reduces underwater radiated noise thus making the submarine less detectable as some sound would escape into the outside air. The sound could also be very easily mistaken for that of a container ship, which are nearly all diesel powered.

An interesting bonus given to the Australian owner by the Russian Navy and lending weight to the theory of surfacing to recharge the batteries as a tactic was 220 litres of radar absorbent paint for the outside of the submarine. This paint would make it far more difficult to detect by radar on the surface and would give the submarine a sporting chance to dive and evade. The presence of the paint indicates that the Soviets may have used this tactic as this type of paint is useless underwater where a submarine normally operates.

An interesting find on board the submarine in its sonar room was a graph of Western ASW sonars with their active and passive ranges illustrated. The sonars ranged from those found on the US Spruance, Knox, Oliver Hazard Perry and Ticonderoga class surface ships to that found on the Los Angeles class nuclear powered attack submarine and the massive Ohio class nuclear powered ballistic missile submarine.

### Crew Comfort

The term "hot bunking" is quite well known to our RAN Oberon class submariners and would have been more so on the Foxtrot class. Out of a crew of nearly 80 I counted less than 40 beds including the Officers which when not used as beds were folded back and used as seats during meal times or relaxation. Space on board is very restricted due to the double hull arrangement and particularly so when compared to Western submarines. Apart from no actual beds the one complaint about the submarine was the level of inside noise. This was created from all manner of sources such as the air conditioning, the electric or diesel motors or the sound of the submarine going through the water.

During the days of the Soviet Union each ship or submarine embarked a Zampolit or political officer. It was his duty to keep the revolution alive in the minds of the crew by acting in a similar manner to a priest in any Western Navy but preaching the evil of the West and the righteousness of Communism. He would also watch and evaluate the officer's conduct as good party members and inform on them if they wavered in their faith. If this was so, a demotion would follow. The Zampolit also had the same level of rank as the Captain and effectively commanded the vessel's mission with navigation and battle left to the Captain.

The control room layout in the Foxtrot is very cramped and difficult for a Captain to see and control everyone. His crew control room stations are structured in such a way that no one person could see what the other was doing. This was also the case for the Captain and highlights the mis-trust the Communist leaders had of their service personnel. To further complicate matters his navigator's chart room is in a separate cabin off to



The four stern 533mm torpedo tubes. There is now no longer provision to carry reloads for these tubes. They were loaded from the outside through the tubes. The total torpedo load was 22 torpedoes, 6 in the forward tubes with 12 reloads and 4 in the aft tubes. The beds to left of the photo are the only truly designed beds on the sub. The rest double as sitting benches. The aft torpedo tubes were later used to fire ASW torpedo decoy devices.



Inside the 'surfaced' bad weather bridge. This area is outside the pressure hull and is flooded when submerged.

the Soviet navy.

Another interesting feature of the submarine is the metal lining and locks on certain doors. This was, I am told, to indicate that these areas are sensitive and restricted, but certainly a sign or different colour could have achieved this. This only conclusion regarding the locks that can be drawn was to stop crew members from forcing their way into these rooms for the purposes of mutiny. It is improbable that enemy commandos would gain access to the submarine so why the strong security doors? It is known that mutinies have occurred more than once on Soviet naval vessels.

Food on board the submarine was considered quite adequate with fish on the menu once a week. Soviet submariners are not dry as each man is allowed one glass of wine with his main meal every day. That contradicts the myth that a vodka ration was issued. One interesting ration was pure alcohol, for the purposes of cleaning the insides of the submarine, but it sometimes found its way into cleaning the insides of the sailors.

I would strongly suggest to anyone who is interested in the Cold War, ASW, submarines, and the Soviet Navy to visit the Foxtrot submarine, Scorpion at the National Maritime Museum for a rather eye opening experience. If you have been on any Western submarine the comparison is striking. The Foxtrot represents the Submariners profession at its hardest.



HMAS ADELAIDE in the Second World War.

## History Revisited

To commemorate the end of the Second World War and as part of the "Australia Remembers" year, the mast from the former light cruiser HMAS ADELAIDE was restored and on 9 November 1995, rededicated at an official ceremony.

The event was conducted in the Ku-ring-Gai Chase National Park, along with the unveiling of the Sphinx memorial to all servicemen and women in the park to the north of the city.

The improved Town class light cruiser ADELAIDE was commissioned into the Royal Australian Navy on 5 August 1992.

Built at the Cockatoo Island Dockyard in Sydney, HMAS ADELAIDE was active with the Australian Fleet until paid off into Reserve in 1928. During the ship's first commission, HMAS ADELAIDE participated in the 1924/25 world cruise as part of the Royal Navy's Special Service Squadron and in 1927 proceeded to the Solomon Islands on a peacekeeping cruise.

During 1938/39 the cruiser was modernised to meet the threat from more capable aircraft and recommissioned for service on 13 March 1939.

In the Second World War, HMAS ADELAIDE operated along the Australian eastern and western coasts. During September 1940 she proceeded to the French colony of New Caledonia to help in the transfer of formal control from Vichy to Free French forces and on 28 November 1942, the cruiser sank the German "blockade runner" RAMSES.

HMAS ADELAIDE provided gunfire support to landings at

## Adelaide Mainmast Rededicated



"Washing day".

Ambon in 1944, before returning to Sydney for duties as a submarine depot ship.

On 26 February 1946 HMAS ADELAIDE paid off from naval service and on 21 March 1947 was sold to be broken up in Port Kembla.

The ship's mainmast was erected adjacent to the Sphinx Memorial in Ku-ring-gai Chase National Park in about 1950.



Inclined weather.

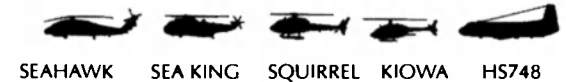


In a heavy swell.



# The Fleet

## Fleet Air Arm



SEA HAWK SEA KING SQUIRREL KIOWA HS748

### Guided Missile Destroyers



38 PERTH  
39 HOBART  
41 BRISBANE

### Guided Missile Frigates



01 ADELAIDE 04 DARWIN  
02 CANBERRA 05 MELBOURNE  
03 SYDNEY 06 NEWCASTLE

### Frigates



Anzac class

### Destroyer Escorts



50 SWAN  
53 TORRENS

### Submarines



Collins class  
60 ONSLOW  
61 ORION  
62 OTAMA

### Training and Helicopter Support Ships



51 KANIMBLA  
52 MANOORA

### Landing Ship Heavy



L50 TOBRUK

### Auxiliary Oiler Replenishment Ship



OR304 SUCCESS

### Underway Replenishment Ship



0195 WESTRALIA

### Mine Countermeasures Vessels



Huon class  
M80 RUSHCUTTER  
M81 SHOALWATER  
Y298 BANDICOOT  
Y299 WALLAROO  
1102 BROLGA  
1121 BERMAGUI  
1185 KORAAGA

### Patrol Boats



203 FREMANTLE  
204 WARRNAMBOOL  
205 TOWNSVILLE  
206 WOLLONGONG  
207 LAUNCESTON  
208 WARRALLA  
209 IPSWICH  
210 CESSNOCK  
211 BENBOW  
212 CANNIBAL  
213 GERALDTON  
214 DUBBO  
215 GEELONG  
216 GLADSTONE  
217 BUNBURY

### Survey Ships



73 MORESBY



312 FLINDERS

### Survey Motor Launches



01 PALUMA  
02 MERMAID  
03 SHEPPARTON  
04 BENALLA

### Landing Craft Heavy



L126 BALIKPAPAN  
L127 BRUNEI  
L128 LABUAN  
L129 TARAKAN  
L133 BETANO

### Trials Vessel



ASR241 PROTECTOR

### Navigational Training Vessel



A243 ARDENT

### Sail Training Ship



STS YOUNG  
ENDEAVOUR

### SUPPORT CRAFT Lighters



8001 WARRIGAL  
8002 WALLABY  
8003 WOMBAT  
8004 WYULDA  
01 WATTLE  
02 BORONIA  
03 TELOPEA

### Torpedo Recovery Vessels



801 TUNA  
802 TREVALLY  
803 TAILOR

### Tugs



2601 TAMMAR  
1801 QUOKKA  
501 BRONZEWING  
502 CURRAWONG  
504 MOLLYMAWK

### Diving/Patrol Launches



2001 SEAL  
2002 PORPOISE  
2003 MALU  
2004 SHARK

# NEWCASTLE VISIT Guided Missile Frigate Update



The new RAN minehunter coastal, HUON, in the builders construction hall. (Photo - NPU)

The Sydney based guided missile frigate, HMAS NEWCASTLE (Commander Nigel Perry) arrived in the Port of Newcastle on Friday, 27 October, at the start of a five day visit.

During her time alongside, the 200 officers and crew hosted and participated in a number of activities

During her time alongside the 200 officers and crew hosted and participated in a number of activities with local Hunter organisations including

a "Ship Smoking" ceremony with members of the Awabakal Aboriginal Community, a Charity Ball to raise money for the Hunter Orthopaedic School, a public open day aboard and a tour of the ship by children from the Hunter School.

The "Smoking" ceremony involved the lighting of a fire or "coolamon" of eucalypt leaves on the helicopter deck of HMAS NEWCASTLE to generate a considerable amount of smoke. According to aboriginal custom, the smoke cleanses and protects all persons who "enter" the smoked land and bestows upon them, the strength and the blessing of the Aboriginal people.

Following a successful visit the ship sailed for Sydney.

The Department of Defence has shortlisted two companies for the next stage of work in the planned upgrading of the Navy's six guided missile frigates (FFGs).

The companies selected to participate in the next stage are Australian Defence Industries and Transfield Defence Systems.

Their selection follows evaluation of responses to a Request for Proposal issued to undertake the upgrade work.

The responses, from four firms, were information packages describing possible upgrading strategies.

Defence will now fund a study to be carried out by ADI and Transfield. This will enable further consideration of cost-capability issues and development of detailed proposals leading to tenders to undertake the work.

The total cost of the upgrade is expected to be in excess of \$500 million.



The "Smoking" ceremony aboard the guided missile frigate HMAS NEWCASTLE. (Photos - NPU)

## Vintage Gannet Arrives



October 1995, the former RAN Gannet arrives in Australia for the Naval Aviation Museum at HMAS Albatross. (Photo - NPU)

A 40 year old former Royal Australian Navy Fairey Gannet anti-submarine aircraft arrived in Sydney in early October to begin a new phase of its long career.

The aircraft, originally built for flying from the aircraft carrier HMAS MELBOURNE, was offloaded from the container ship AUCLAND at the Port Botany Container Terminal.

Gannet, serial number XG888, was built by the Fairey Aviation Company at Hayes in the UK as a Mk2

trainer. Delivered to the RAN in December 1957, the Gannet was shipped to Australia onboard HMAS SYDNEY for duty with 816 and 724 Squadrons. The aircraft was sold to the Royal Navy in 1965 and returned via HMS VICTORIOUS in 1966.

In the UK, the Gannet was flown from 1970 to 1978 and then placed in long term storage from 1978 to 1995.

The Australian Naval Aviation Museum, located at Nowra on the NSW south coast arranged for the return of



OTWAY's fin is removed at the Fleet Base East in Sydney. (Photo - NPU)

Gannet XG888 in late 1994 and through the sponsorship of P & O Containers Australia, the aircraft was delivered to Port Botany free of charge.

The Gannet was removed from the ship onto a heavy

road transport for the last leg of its long journey to Nowra. The Museum has begun restoring the Gannet to its traditional RAN colours and intends to place the aircraft on public display.

## SHIPYARD PUTS US CARRIER THROUGH FIRST SEA TRIALS

The aircraft carrier USS JOHN STENNIS has successfully completed initial sea trials after construction at Newport News Shipbuilding, Newport News, VA.

The sea trials were conducted by the shipyard, with Adm. Bruce DeMars, director of the US Navy's nuclear propulsion programme, on board. Sea trials are extensive and test virtually every system aboard

the carrier, said Mike Hatfield, Newport News spokesman. The Navy was to conduct its trials the week of Oct. 23, with the STENNIS delivered to the Navy on Nov. 11.

The STENNIS is the seventh of the Nimitz-class carriers built for the Navy. The ship, which is being delivered seven months ahead of schedule, also includes nearly 1,200 upgrades to the carrier's basic design and internal configuration.



USS JOHN STENNIS

## OTWAY'S FIN

The former Royal Australian Navy submarine OTWAY lost its fin on Wednesday 25 October 1995, when cutting began at Fleet Base, Wollomoolloo.

The fin later headed for a new home in the Shire of Holbrook, with the remainder of the submarine to be sold. The town of Holbrook was originally named Germantown. In 1915 its name was changed to Holbrook, after the British submarine commander, Lieutenant Norman Holbrook VC guided his submarine, Bill, below a minefield to torpedo an enemy Turkish battleship. The Holbrook Shire Councils emblem depicts the WWI submarine.

In recent times the township has enjoyed close relationships with HMAS PLATYPUS, at Neutral Bay, and the Australian Submarine Squadron. On many occasions it has granted Freedom of Entry to the Squadron thereby recognising, cementing and fostering the intimate association which has come to be enjoyed between the Shire and the submarines.

A gift to the town from the Navy, OTWAY's fin will become a memorial situated alongside other submarine exhibits in the town.

Following detachment from the OTWAY's hull, the fin was lifted off and loaded onto a low loader for the trip to Holbrook, arriving there on Thursday, 27 October.



Last arrival at HMAS STIRLING by the submarine HMAS OVENS, September 1995. (Photo NPA-WA)

## Ovens Pays Off

The RAN's oldest submarine, HMAS OVENS, was officially paid off from naval service at a ceremony held at HMAS STIRLING in Western Australia on Friday, 1 December.

Previously, the boat arrived in the west on her final voyage from Fremantle. Proudly streaming her paying-off pennant she glided through the tranquil waters of Cockburn Sound and it was a memorable sight when she passed her sister submarine

HMAS ORION (LCDR S. O'Hearn) off Colpoys Point as the "West Coast Warrior" Proceeded to sea.

No stranger to Western Australia, OVENS was alongside at STIRLING during the commissioning of the RAN Submarine Squadron headquarters on November 14 last year after participating in Exercise Starfish off Australia's west coast with HMA Submarines ONSLOW, ORION and the USS INDIANAPOLIS.

OVENS is the third Oberon-class submarine to homeport to Fleet Base West, the others being HMAS OXLEY (1987-92) and ORION since 1992.

Due to decommission at Garden Island later this year, OVENS will become a stationary training submarine at Fleet Base West, fulfilling the role which OTWAY carried out at HMAS PLATYPUS.

OVENS received a fond farewell in Fremantle with more than 2500 visitors when she was opened to the public.

In 1997 the former HMAS OVENS will be gifted to the WA Maritime Museum as

previously announced by Federal Minister for Finance, Mr Kim Beazley.

Although her final resting place in Fremantle Harbour has not yet been confirmed, it is believed she will be lifted out of the water and placed on permanent display, possibly alongside the America's Cup victor AUSTRALIA II in a specially designed building which would also contain the National Submarine Museum.

Fremantle already boasts a rich World War II submarine history, being the largest Allied submarine base in the southern hemisphere between 1942-45.

## MINE WARFARE FORCE PROTECTS NEWCASTLE

The Royal Australian Navy recently deployed seven mine counter-measure ships to the Port of Newcastle during mid November.

In port for Exercise Shortscope 95 were the Newcastle built mine hunters RUSHCUTTER and SHOALWATER, plus auxiliary minesweepers, BANDICOOT, WALLAROO, BERMAGUI, KORAGAA and BROLGA. In addition, the diving launch SEAL operated in the support craft role for the exercise.

To assist the vessels, remotely controlled minesweeping drone boats and Navy clearance divers were also deployed. The vessels along with

approximately 200 Navy personnel, operated from Lee No. 5 Wharf where a Forward Support Unit was established.

The Forward Support Unit, housed in a "city" of containers, provided all services necessary to support the deployed mine warfare vessels and divers during the two week long exercise. These included technical workshops, storage and office containers, an operations room, a communications centre, accommodation, galley and dining facilities.

During the exercise, the ships practiced those skills necessary to keep a major port, such as Newcastle and its maritime approaches open in time of conflict.

## Polish Sail Training Ship In Sydney

A rare visitor to the southern hemisphere arrived in Sydney on Thursday, 12 October when the Polish Navy sail training vessel ORP ISKRA began a five day stay. It was the first official visit to Australia by a Polish Navy ship.

With a crew of 54 under the leadership of Commander Czeslaw Dycz, including 34 cadets from the Polish Naval Academy, the three masted barquentine was on a round the world training cruise. Before Sydney the ship called at Darwin, Fremantle and Hobart.

Designed and built by the Gdansk Shipyard, ISKRA entered naval service on 11 August 1982. She is 49 metres

long (including bowsprit) and has a beam of 8.2 metres. Maximum speed under sail is 16 knots with a 310 hp auxiliary engine, used for harbour manoeuvring, capable of 10 knots.

Since 1987, the ship has been an annual competitor in the Cully Sark Tall Ships race, claiming the main prize in 1989.

ISKRA was opened to the public at the Australian National Maritime Museum, Darling Harbour. While at the Museum, the Polish Military Cross was presented to Australian and Polish ex-servicemen from the Second World War by the Polish Ambassador to Australia.

## Porpoise Damaged



Diving launch PORPOISE, grounded on 26 September.

On 26 September the RAN diving launch PORPOISE was found grounded on rocks about one and a half kilometres from HMAS PENGUIN.

It was unknown whether the launch came adrift because of equipment failure.

"We are not 100 per cent sure about what happened and will carry out a full investigation," LCDR Forrest said.

"The boat, which cost about

\$900,000 to build, had "fairly extensive" water line and structural damage."

Some minor equipment on board PORPOISE was destroyed.

LCDR Forrest said his team's operational ability would be "somewhat affected".

"We will still do the job we are required to do, but not as efficiently or effectively."

He congratulated naval personnel for quickly ensuring

the grounded vessel did not damage the environment.

An investigation into the grounding of Australian Clearance Diving Team One's PORPOISE was carried out.

PORPOISE, a 20m diving launch, had been on a secure,

standard naval mooring when it came adrift in harsh weather conditions.

Huge swells had caused many boats in the Sydney area to break their moorings and crash into rocks or capsized.

## TORRES STRAIT TEST FOR NAVY'S PATROL BOATS

More than half of the Royal Australian Navy's 15 Fremantle Class Patrol Boats have battled in the waters of the Torres Strait in a nine day Minor War Vessel Concentration Period designed to test patrol boat operations in the region.

Eight Fremantle Class Patrol Boats from Cairns, Darwin, Sydney and Rockingham made up the "warring fleets" attempting to take control of the waters of the region.

Commander Warwick Conlin, the Commander of Australia's Patrol Boat Forces said "the Minor War Vessel Concentration Period was an integral part in assessing the way patrol boat Captains and their crews develop the skills that they are required to call on in peacetime operations and possibly in times of conflict."

The exercise provided the ships and their crews an opportunity to practise maritime surveillance, patrol and response techniques, as

well as infiltration and anti-infiltration procedures. The vessels also used a variety of naval skills to meet the challenges of operating in the tight waters of the Torres Strait.

Two Royal Australian Navy AS 350-B Squirrel helicopters and a HS 748 aircraft from the Naval Air Station at Nowra NSW provided aerial support to the exercise.

The Minor War Vessel Concentration Period concluded at Thursday Island on 21 November with the all important assessment by the Commander of Australia's Patrol Boat Force of the "warring parties" concentrated efforts.

The participating patrol boats were HMA Ships WOLLONGONG, GAWLER and CESSNOCK from Darwin, HMAS WARRNAMBOOL from Sydney, HMA Ships BENDIGO and IPSWICH from Cairns, and HMAS GERALDTON and HMAS BUNBURY from Rockingham WA.



New Submarine COLLINS on trials.



August 1995. The Thai warship CHAO PHRAYA visits Western Australia. (Photo - NPA-WA)

# HMAS ALATNA ...Ramming 1946

By Jim Nelson (ex PO Coxswain RANR)

**Fifty years ago this month, one of the RAN's smaller units, the service reconnaissance vessel HMAS ALATNA was rammed and sunk while being towed by the destroyer HMAS QUICKMATCH. The two vessels were enroute from Makassar bound for Labuan in Borneo. Jim Nelson, a member of the ALATNA's crew reports on the fiftieth anniversary of the loss.**

Lieutenant Victor Dan, Commanding Officer was on the bridge with myself at the helm. The weather was fine the ocean calm on 1 January 1946 at 1000 hrs on New Years Day. A ship appeared on the horizon bearing Red 140 degrees to be identified later as an American merchantman "Marine Runner", as the morning progressed "Marine Runner" was plotted by Dan and myself as to be on a collision course to either strike between the QUICKMATCH and ALATNA or to collide with ALATNA.

The procedure at this stage would be to start engines and proceed under own power, but owing to the nature of the tow this could not be achieved. Standard towing of this type of vessel, a heavy hemp rope was passed around the stern of the vessel with the two ends being brought together on the foc'sle, to this is secured a slipping shackle connected to the tow line. A blow with a hammer opened the shackle and the towline released. ALATNA was fueled by 100 high octane aviation petrol and as this was not available to us at Makassar we requested the tow by QUICKMATCH. Owing to lack of time in Makassar a tow was passed around the stern and the two ends were taken to a point about two metres in front of the bow and then shackled directly to the steel towline. This precluded ALATNA from aborting the tow. As the merchantman closed with ALATNA and it was now clear that a collision was inevitable an order was given to abandon ship.

The crew dived overboard with the exception of one, Able Seaman Raymond Dodgson. I went aft to endeavour to get him overboard but failed. He was unable to swim. I returned to the bridge and rejoined Dan. Marine Runner collided with ALATNA at a point about several degrees abaft the beam port side, the vessel was cut in half and the after section from amidships sinking immediately, the forward section floated with bow pointing upward, held in this position by an airlock in the foc'sle and still attached by the tow line to QUICKMATCH.

The crew were some distance behind the point of collision, only Dan and myself were in the vicinity of the floating bow. QUICKMATCH by now had cast the tow adrift, the Marine Runner continuing on her course. QUICKMATCH took chase and finally stopped her by a shot across her bows; there was no watch on her bridge. There was a considerable amount of time before QUICKMATCH returned to search for survivors.

At the point of collision when Dan and I went overboard I saw Dodgson on the

afterdeck as it went under. I was swept along the ships side in the bow wave to be drawn under the stern was sucked under the screw which was riding high in the water. Surfacing in the boiling wake, badly affected by immersion and high octane petrol that I had swallowed I swam clear of the floating foc'sle and realized that I was on my own, the crew members were much further astern. At this time the forward hatch on the foc'sle opened and a person clambered out. He was a soldier to whom we had given passage to from Makassar to Labuan in an endeavour to assist him to return to Australia for his discharge, he had with him a little black kitten which we had picked up at Makassar.

The opening of the hatch released the air lock and the foc'sle began to settle. I called to him to take to the water which he did and I watched as the bow slowly settled and slid under the water, the tow line by this time being cast loose from QUICKMATCH. Onboard QUICKMATCH the crew watched with horror as the drama unfolded, the watch had also plotted the collision course as Dan and I had, and were aware of the impending collision, but what could they do? If they increased speed they would drag us under by the bow or break the tow leaving us direct in the line of the oncoming merchantman. They could only wait, watch and pray that the vessel would miss us.

QUICKMATCH could not manoeuvre until the tow line had been winched in and by that time the Marine Runner was over the horizon at a speed of about 10 knots. They could not see any wreckage or survivors so they set chase for the merchantman finally putting a shot across her bows to bring her to, it appeared that no one was on the bridge being New Years Day, all were below having a party, the ship being set on automatic pilot and no lookout on watch.

Back at the disaster Able Seaman Gordon Hamilton who was an experienced surf lifesaver was rounding up the survivors and then came searching for me, I was a distance away from the others and owing to the immersion, salt water and petrol that I had swallowed I was not in good shape. Gordon swam away and later returned with a "Mae West" life jacket (so named after the likeness to the famous "Mae West" figure). He assisted me into this and I recall that I passed out at this time I did not remember anything until I came to being picked up by the QUICKMATCH. Gordon had kept me afloat during this time.

Onboard QUICKMATCH, a seaman Petty Officer, John Carpenter, took me

below and after a clean up I returned topside where I mustered the crew and officially reported Able Seaman Raymond Dodgson as missing presumed drowned. John then took me down to the Petty Officers mess and the realization that young Ray had been lost (it was to be his 19th birthday the next day January 2nd) after only six months at sea. The collision, the immersion, together with the sickness caused by the amount of salt water and petrol swallowed suddenly caught up with me and I went into shock and broke down. I was comforted by John and made to rest. Later a marine enquiry was convened by the commanding officer with statements taken from ALATNA'S crew. Copies of statements given by myself and Able seaman Hamilton are recorded here.

2nd January, 1946.

STATEMENT of:  
Petty Officer James Kenneth NELSON,  
Official Number S 3545. Coxswain of  
HMAS "ALATNA".

On the morning of January 1, 1946, I was at the wheel of HMAS ALATNA and when the MARINE RUNNER was about six cables away bearing about Red 150 she looked to me to be on a parallel course. When she was about three to four cables away she was bearing between Red 140 and Red 150 I thought she was going to pass close and ordered "Close all scuttles". Then she altered course towards us and seemed to swing to a deliberate ramming course and appeared to be steady about a minute before hitting. Before she hit I saw a man in an American skull cap with a peak wall to the starboard wing of the bridge, slowly gaze around and walk back into the wheelhouse.

I then left the wheel and dived over the starboard side. I was drawn under and whirled over and over and came up gasping in her wake. I saw her wake still boiling. She hit us at an angle of about 50 degrees. There was no smooth water near her wake.

Just before I dived over the side, I saw Able Seaman Raymond G. Dodgson standing down aft. Knowing that he could not swim, I looked for him in the water but could not see him. When I mustered survivors in HMAS QUICKMATCH I found him to be missing.

(Sgd) JK NELSON  
(Petty Officer RANR)

signed (CP Tilley)  
Sub-Lieutenant (S), RANR  
Witness.  
Copy

2 January, 1946  
Statement of:

Able Seaman Gordon Bladen HAMILTON, Official Number FV71 of HMAS "ALATNA".

On the morning of 1 January, 1946, I was on deck of HMAS ALATNA about 20 minutes before the collision occurred and saw the merchant ship on our port quarter. She was about two miles away about 60% below and after a clean up I returned topside where I mustered the crew and officially reported Able Seaman Raymond Dodgson as missing presumed drowned. John then took me down to the Petty Officers mess and the realization that young Ray had been lost (it was to be his 19th birthday the next day January 2nd) after only six months at sea. The collision, the immersion, together with the sickness caused by the amount of salt water and petrol swallowed suddenly caught up with me and I went into shock and broke down. I was comforted by John and made to rest. Later a marine enquiry was convened by the commanding officer with statements taken from ALATNA'S crew. Copies of statements given by myself and Able seaman Hamilton are recorded here.

I went below. Later the coxswain called me and told me to stow the crockery as he expected ship's wash. I put the dishes in the rack and the primuses in the sink and very shortly after came on deck. As I came up I saw MARINE RUNNER about to hit us at an angle of about 45% to 50% and saw three men dive over the starboard side. I heard the captain say "jump" and I dived over also. I was about 15 ft off the side of the MARINE RUNNER and had a hard fight to keep away from the suction of the screws. As she passed I saw her propellers turning pretty fast and her wake was boiling. There was no sign of smooth water near her wake. It was choppy.

Knowing Able Seaman Dodgson could not swim, while in the water, I looked everywhere for him but could not see him.  
(Sgd) GB HAMILTON  
Able Seaman, RANVR  
(Sgd) CP TILLEY.  
Sub-Lieutenant (S), RANR  
Witness.

QUICKMATCH eventually discharged us at Morait where we were given passage to Darwin by MERKUR. We were granted this passage under sufferance by the Captain and we were billeted on a spare in a mezzanine lounge on the after deck which was being used as an open storeroom for potatoes. Able seamen Gordon, Hamilton, Vic Hardy, "Hammer" Moor and myself were confined to this space until our arrival in Darwin. The reason was never explained to us however we were on our way home on 21 days "Survivors Leave" so it really mattered not.

We parted company at Darwin, Hamilton and Hardy to Western Australia, Moore to Queensland and myself to Sydney. We were never destined to meet again during the period of our service. In 1969, I visited Perth and a reunion was arranged with Gordon and Vic at the RSL Club in central Perth.

When the enquiry concluded, the CO QUICKMATCH returned to the scene of the collision to search for Dodgson. The after section of ALATNA was located

floating submerged just below the surface of the water and divers went to search it, with no luck.

The area was thoroughly searched without any trace of Dodgson or any other wreckage being found. We reluctantly had to presume that he had lost his life, missing at sea.

Draft laden: 7 ft. 6 in. (side, three vertical rows of two, fold up style).  
Displacement: 28 Tons | Crews quarters forward for six.  
Propulsion: Twin Gray Marine 64 HNR Petrol engines.  
Horsepower: 225. - 210 revolutions - 1.6:1 Reduction.

Speed estimated at 30 to 40 knots.  
Armament: Two twin Brownings: 50  
Crew: Officers: One, Coxswain: One  
Engine Room Artificer: Petty Officer Motor Mechanic: One.  
Wireless telegraphist: One.  
Seamen: Four, IA crew of eight).

Commanding Officer: Lieutenant Victor (Vic) Dan, RANR  
Coxswain: Petty Officer James (Jim) Kenneth Nelson, RANR  
Seamen: Able seaman Gordon Bladen Hamilton, D.no. FV.71 RANVR  
Able Seaman Victor Hardy  
Able Seaman Raymond G. Dodgson (Goodwood Park, SA) RANR  
Able Seaman "Hammer" Moore (QLD) RANR

A soldier whose name is unknown was also carried on board for transit to Labuan. QUICKMATCH proceeded to Brunai Bay Labuan and on to Morait where the survivors were discharged for repatriation to our home ports via Darwin.



HMAS ALATNA

## What was the ALATNA?

She was originally commissioned as an army fast supply vessel as AM 1475 and then pressed into service for Services Reconnaissance Division for use for Z Special Unit missions. SRD and Z being under command of Australian Intelligence Bureau. These being highly secretive classified units.

Her specifications: Built by Halvorsens Shipyards, Parramatta River, Ryde, NSW.

Length: 62 ft. 6 in. Breadth across bow 17 ft. Across stern 9 ft.  
After hatch: 11 ft. 6 in. by 8 ft. 6 in.  
[ Fitted with six wire framed bunks each

## Presentation of Peter Ballesty Memorial Trophy



The Peter Ballesty Memorial Trophy for 1994 for achievement in seamanship by a Naval Reserve Cadet Unit was presented to TS TOBRUK at a ceremony which coincided with their Annual Inspection on 8 July 1995. The trophy was presented on behalf of the Navy League by Commodore MJ Youl AM RANEM. Our photo shows Able Seaman Xanthe Simpson accepting the Award on behalf of TS TOBRUK.



## LPD 17

*Starting in 2004, the US Navy will take delivery of a new class of highly capable amphibious assault ship which will replace four existing classes of amphibious ships which are due to be decommissioned by 2010.*

Early in the next decade, US Navy amphibious forces will be comprised of three main ship types compared to the more than half dozen classes of today. By 2010, the US Navy hopes to have sufficient numbers of these three classes to meet its 12 Amphibious Ready Group (ARG) force structure goal.

These three classes - the 'Tarawa/Wasp'-class (LHA-1/LHD-1) assault ships, the 'Whidbey Island'- and 'Harpers Ferry'-class (LSD41/49 cargo variant) dock landing ships; and the new LPD 17 design - will replace a total of 41 different ships including elderly LPDs, LSDs, LSTs and LKAs.

This force composition, will provide

Operational Requirement (TOR). The TOR defined a range of options, to which were added a number of other alternatives, following the combined US Navy/US Marine Corps study on amphibious operations (known as the 'Lift Study'). The options were distinguished by size/capacity versus number of ships; old versus new, commercial versus combatant standards; and the level of capability required of the combat system for the LPD 17.

As the perceived primary shortfall in lift capability within the existing fleet focused on a shortfall in vehicle lift, the LPD 17 design emphasises vehicle lift and, in order that the design should

and the ability to support the 12 ARGs. Each ARG is required to support one Marine Expeditionary Unit. However, due to fiscal constraints, the Programme requirement is now based on a total life of 2.2 MEB. Lift elements for the MEB and MEU developed during the lift study were used in the Cost & Operational Effectiveness Analysis for the LPD 17.

The LPD 17 will therefore carry two Landing Craft Air Cushion (LCAC) vehicles. When in ARG configuration the two LPD 17 landing spots become primary mission capabilities for CH-53 or CH46 helicopters. As a secondary medical casualty receiving ship (MCRS), the LPD 17 will be equipped with medical facilities comprising two operating rooms, two dental operating rooms, a 24 bed medical ward, and 100 casualty overflow beds.

The LPD 17 design provides a total of 2,300m<sup>3</sup> vehicle lift, 710m<sup>3</sup> cargo capacity, and space for 720 troops. As currently configured the LPD 17 will have a length overall of 208.4m, length between perpendiculars of 200.0m, maximum beam of 31.9m, draught of 7.0m, and displacement of 23,500t.

With the installed engine power of 4 x 3,700kW (provided by four medium speed diesels driving through reversing reduction gears to provide 20,000shp per shaft to two fixed pitch 4.9m diameter propellers based on those of the DDG-51 destroyer) and electrical power of 5 x 2,500kW, the LPD 17 will have a sustained speed of 21kts. The reversing elements are the same Tosi reversing converter couplings employed on the AOE6.

### Substantial self defence

Whereas most amphibious vessels have traditionally had only a modest self defence armament, the LPD 17 will be expected to operate in an increasing hostile Amphibious Operations Area (AOA) and therefore requires anti-air warfare defences against cruise missile attack that are the equal of any other

vessels in the fleet.

When it is delivered sometime in 2004, it will not only provide the US Navy with an impressive amphibious lift capability, the LPD 17 will have an unprecedented self defence combat system combining the Evolved Sea Sparrow, Ship Defence System and (SSUS) and Co-operative Engagement Capability (CEC).

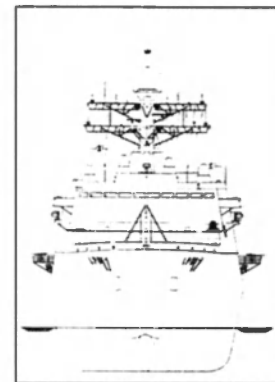
Although the LPD 17 will not be equipped with the Aegis SPY-1D multi-function radar, it will receive the SPS-48E 3-D air search radar, the SPQ-9B horizon search radar, and SPS-67(V)3 surface search radar, and will be equipped with a 16-cell Mk41 Vertical Launch System (VLS) for Evolved Sea Sparrow Missiles (ESSM), two Rolling Airframe Missile (RAM) launchers, and three Phalanx close-in weapon systems. It will also be equipped with SLQ-32A(V)3 ESM/ECM, the Mk36 (SBROC) decoy launching system, SLQ-49 inflatable decoy (Rubber Duck), and the SLQ-25A Nixie acoustic torpedo decoy.

### Signature Reduction

Considerable efforts have also been made to reduce the LPD 17's signatures, particularly the ship's radar cross section (RCS) and magnetic signature.

The basic hull and superstructure

## LPD 17



*The LPD 17 has been designed to have a low radar cross section.*

design departs from that traditionally associated with amphibious ships, and is reminiscent of the DDG-51 destroyer. Both the hull and individual items attached to the hull or weather decks are shaped to reduce RCS, including the stern gate, masts, crane, hangar doors, life rails, UNREP stations, catwalks and antenna

foundations.

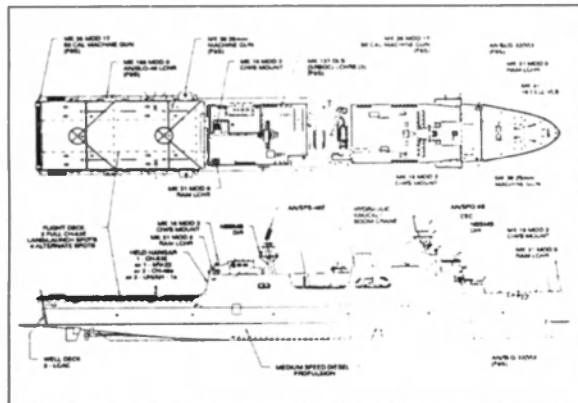
Other items have been hidden or concealed behind bulwarks or have been relocated to the interior of the ship. Large two-deck high boat deck enclosures conceal the boat stowage, while the rescue boat is relocated in a covered pocket, as is the anchor, and countermeasures washdown pipework is run internally.

During the design process and signature reduction effort, the use of radar absorbing materials (RAM) has been considered only as a last resort for radar hot spots and problems uncovered post-build.

### Programme schedule

The LPD 17 programme passed Milestone 0 at the beginning of Fiscal Year (FY)'91. Milestone 01 was passed in the second quarter of FY'93. Milestone 2 is scheduled for the first quarter of FY'97. The feasibility studies and Milestone 1 reviews were completed early in the second quarter of FY'93.

Having completed preliminary design early in FY'94, contract design is due to have been completed at the end of the third quarter of FY'96, in time for the Milestone 2 review process. A lead ship award is now scheduled for early in FY'98.



*General arrangement and profile of the LPD 17 showing its extensive self-defence weapons fit.*

the US Navy with the resources to deploy Amphibious Ready Groups based on just three ships, rather than the more traditional five-ship ARGs. To do so, and to meet the force structure goal required, the US Navy is planning to acquire a total of 12 LPD 17s (four more LPD 17s are in the current building programme) and seven 'Wasp'-class (LHD-1) vessels, to add to the LHA-1 amphibious assault ships.

### The design process

When the lead ship in the LPD 17 class is requested in the FY'98 budget it is expected to cost some \$1.15 billion, with the average ship price for the rest of the programme coming down to around \$700 million.

Initial studies for the LPD 17 started in 1988 in support of the Tentative

reflect the capabilities of retiring amphibious ships, a high level of flexibility.

The current Marine Corps lift requirements call for a total force lift of 3 Marine Expeditionary Brigades (MEBs)

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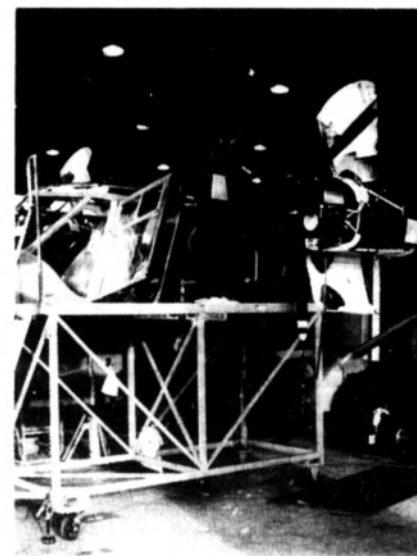
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# The South Korean Navy LOOKING TO THE SEA

By Mike James

*The Republic of Korea (ROK), also known as South Korea, has long focussed on the ground and air dimensions of defence, unsurprising given the nature of the threat that has menaced the country since its formation.*

In 1950 by the forces of the ill-named Democratic Peoples Republic of Korea (DPRK), or less formally, North Korea, the ROK has lived under the constant threat of another invasion from the implacably hostile North, relying on modern conventional forces and a large US presence on the ground to deter the North from further adventurism.

Despite these forces however, the DPRK has struck at the South repeatedly, smuggling commandos and terrorists into the ROK in an attempt to sow fear in the populace and undermine the government. It should be noted that there is no peace treaty between the North and South, simply a truce monitored by the UN from the village of Panmunjom in the demilitarised zone separating both countries.

The threat of another armoured assault across the 38th parallel that divides the two countries dictated that the lions share of defence appropriations were directed towards the Army and Air Force.

Traditionally, the Navy has been the Cinderella service, rating third behind the other services in prestige and appropriations. This situation began to change in the eighties, as more funds became available from the rapidly growing economy for defence. In addition, the ROK government saw indigenous construction of warships as part of its plan to further develop the Korean shipbuilding industry. As South Korea's overseas trade has grown the ROK has attempted to enlarge its maritime forces to ensure the safety of her shipping lanes out beyond the influence of North Korea.

Given that the Korean peninsula remains one of the most potentially violent legacies of the cold war, an examination of the Navy of the Republic of Korea may be timely.

## Submarines

Until recent years the ROK Navy operated only midget submarines. Two different classes of midgets have been in operation since 1983. The three 175

tonne TOLGORE class and eight 70 tonne COSMOS class are each armed with two torpedo tubes, can carry up to eight divers and are restricted to use in shallow coastal waters.

In 1987, following an exhaustive round of discussions with numerous submarine builders, the decision was made to procure the German designed Type 1200 submarine. The first, CHANG BOGO, was built in Germany by HDW and commissioned in 1993. The second and third boats, YI CHON and CHOI MUSON, were assembled in South Korea



South Korean frigate YONG BUK. (Photo - Brian Morrison)

from parts shipped out from Europe, while boats four through nine are being constructed at the Daewoo shipyard in Okpo. Displacing 1285 tonnes, armed with eight torpedo tubes and requiring a crew of only 33, they will provide an effective counter to the North's fleet of aging ROMEO and antediluvian WHISKEY class submarines. Initial plans are to have a fleet of nine submarines, divided between the three fleets, the Eastern, Southern and Western. Unconfirmed reports have speculated that up to an additional nine of an improved design incorporating an air-independent propulsion system may be ordered as a follow on in due course.

## Destroyers

Destroyers in the ROK Navy are optimised for anti-ship and anti-submarine warfare, allowing them to defend convoys from North Korea's fleet of old but numerous conventional submarines and fast attack craft.

The ROK operates seven ex-USN destroyers of the GEARING class. All are of WW2 vintage and had received the

comprehensive Fleet Rehabilitation and Modernisation (FRAM) programme prior to transfer to Korea in the 1970's and early 1980's. Since then they have undergone a number of upgrades and refits, most notably the addition of facilities to operate a Super Lynx helicopter in all but one ship. Displacing 1470 tonnes, the GEARING'S are armed with either four or six 5 inch guns in twin turrets, two sets of triple tubes for anti-submarine torpedoes, Vulcan Sea Galling 20mm cannon, and either an octuple launcher for the 10 km range Anti-Submarine Rocket (ASROC) carrying homing torpedoes, or two quad launchers for the 130 km range Harpoon anti-ship missile.

Despite frequent refits however, these ships are more than half a century old and have seen hard service in both the US and ROK Navies. In addition, their crew complement of two hundred and eighty is a drain on manpower that small navies cannot afford. A new class of destroyers to replace GEARING'S is under consideration, with a projected commissioning date for the lead ship of 2003. These will have a much reduced crew complement and will probably be optimised for anti-aircraft warfare, remedying a glaring deficiency in the capabilities of the South Korean Navy. At present none of their surface combatants are armed with a surface to air missile capability, relying on last-ditch rapid fire guns to bring down aircraft and anti-ship missiles, a chancy proposition at best.

## Frigates

The ROK uses its frigates as patrol vessels to guard against incursions from the north. Acting as command ships, they provide the command and control facilities to adequately coordinate the activities and smaller attack craft, as well as providing a larger sensor platform and more potent firepower.

Nine ULSAN class frigates were commissioned between 1981 and 1993. The class is broken up into two variants. The first four, of 2180 tonnes

displacement, having two 76mm guns in single mounts fore and aft, two quad launchers for Harpoon anti-ship missiles, two sets of triple anti-submarine torpedo tubes, depth charges and four twin mounts for 30mm cannon. The second batch of five have the 30mm mounts replaced by three twin mounts for Breda 40mm cannon optimised for anti-aircraft capability, giving greater effective range, and have an improved electronic fit, resulting in an increase in displacement to 2300 tonnes. All are capable of 34 knots and have a complement of one hundred and fifty. These frigates have made up the bulk of

biggest departure from all previous classes in the ROK is the fitting of the 15 km range Sea Sparrow surface to air missile (SAM) system in a vertical launching mount forward of the bridge, allowing these ships to be able to realistically operate in the face of hostile sea skimming anti-ship missiles such as the DPRK'S SS-N-2A Styx.

The first ship is projected to complete in 1998 with a probable commissioning date of late 1999. The programme has run substantially later than expected due to problems over the awarding of the contract for the ships combat data suite. Current planning is for three ships to be



Replenishment oiler CHUN JEE. (Photo - NPL)

the Navy's foreign task force deployments, including extended voyages as far afield as Australia and Europe.

Perhaps the greatest drawback in their capabilities is the lack of an organic helicopter capability. All modern Western frigates today feature extensive helicopter facilities to extend the range of the ships sensors, providing a highly mobile ASW platform for the deployment of sonobuoys or a dipping sonar and anti-submarine torpedoes and, more recently, a stand off anti-ship capacity by arming the helicopter with small air to surface missiles (ASM). This deficiency is being remedied in the next class of frigate, currently under construction.

This class, at this point known only as the KDX-2000 class, will displace some 4000 tonnes and is designed as a far better all round combatant. Despite the increase in displacement and capability, increased automation allows an increase in crew of only twenty over the ULSAN'S 150. Armament includes a single 5 inch gun, two 30mm Goalkeeper close in weapon systems for all-aspect defence against anti-ship missiles, the usual twin quad launchers for Harpoon, two sets of triple anti-submarine torpedoes tubes and the capability to operate a helicopter. The

commissioned.

These are the PO HANG class. Heeding the lessons of the DONG HAE class, they are some 150 tonnes heavier at 1220 tonnes and are optimised for either anti-ship or anti-submarine warfare. Twenty three vessels have been completed since 1984 with at least two more building. With a similar complement (95) and speed (32 knots) to the DONG HAE'S, they are armed with two single 76mm guns, two 42 km range Exocet anti-ship missiles and two twin mounts for 30mm cannon (surface warfare variant) or, one 76mm gun, two twin turrets for Breda 40mm cannon, 12 depth charges and six anti-submarine torpedo tubes in triple mounts, together with a hull-mounted sonar (submarine warfare variant).

Suggestions have been made that a third variant stressing anti-aircraft capability may be under consideration, however the difficulties of fitting an effective anti-air and anti-missile capability on such a low displacement would tend to rule this out.

## Patrol and Attack Craft

Displacing less than 250 tonnes each, the small patrol boats of the PAE KU, ASHEVILLE, WILDCAT and SEA DOLPHIN classes make up the front line of skirmishes with DPRK naval forces and form the bulk of the coastal patrol forces against incursions by North Korean seaborne saboteurs and commandos.

The largest boats are those of the PAE KU and ASHEVILLE classes. PAE KU 51, the single ASHEVILLE boat, originally served in the US Navy as the USS BENICIA. Displacing only 245 tonnes and armed with two 35 km range Standard anti-radiation missiles (designed to home on and destroy enemy radars), a single 3 inch rapid fire gun, a 40mm Bofors cannon and four machine guns, PAE KU 51 can achieve a speed of 40 knots. Following her transfer in 1971, she served as the basis for the eight boats of the similar PAE KU class.

The most obvious difference is the shape of her superstructure, with the first three boats having a very similar armament fit, different only in the replacement of the 40mm Bofors cannon with a twin turret mounting Emerson Electric 30mm cannon. These and other changes raised the displacement to 269 tonnes however more powerful gas turbine engines allowed the maximum speed to remain at 40 knots. Following the first three boats (built at Tacoma Boatbuilding in the USA, 1975-76) the remaining five boats were built in 1975-78 by a subsidiary, Korea Tacoma Marine, in South Korea to a modified design. The armament was substantially changed to incorporate Harpoon missiles in place of Standard and a fully automatic OTO Melara 76mm gun in place of the 3 inch, the 76mm having a substantially better capability against airborne targets.

The oldest of the first attack boats in service are the two WILDCAT class.

Displacing 140 tonnes and capable of 40 knots, they are armed with two 42 km range Exocet anti-ship missiles, a 40mm Bofors cannon and two machine guns. It is expected that they will pay off soon.

The SEA DOLPHIN class comprises the bulk of the coastal forces, with some ninety seven in service since the first boat commissioned in 1978. They are armed with an Emerson Electric twin 30mm cannon in a turret forward of the bridge and two single 20mm Sea Gatlings to turrets located on the quarterdeck and atop the superstructure aft of the mast, giving it a superior field of fire. Able to sustain 37 knots and with a crew of 31, many of the class are veterans of skirmishes against the fast raiding and amphibious craft of the North Korean Army and Navy.

### Amphibious Forces

The ROK Navy operates a number of landing ships and landing craft in support of the Army and Marines. The backbone of this force are seven former US Navy World War 2-era Landing Ship Tanks (LST) transferred in the late 1950's. Displacing 4080 tonnes and able to transport 2100 tonnes of equipment at 11 knots, these LST's are armed with one quad and two twin mounts for Bofors 40mm cannon and two 20mm cannon in single mounts. All are now more than a half century old, which must restrict their ability to beach themselves to deliver cargo directly ashore via their bow doors.

Largest and most modern of the landing ships are the ALLIGATOR class. Capable of 16 knots and able to deliver up to 700 tonnes of equipment across the beach through bow doors, the ALLIGATOR's displace 4200 tonnes and are armed for self defence with two twin turrets for Breda 20mm cannon and two 20mm cannon. Two ships are in service with at least one more under construction. Possible replacements for the WW2 era LST's could add more to this total.

Supporting the larger LST's are eight Landing Ship Medium (LSM). Also transferred from the US Navy in the 1950's, they are capable of beaching to discharge up to 400 tonnes of equipment. Displacing 1095 tonnes and able to steam at up to 13 knots, and armed with two 40mm and two 20mm cannon, they too are in need of replacement.

To transport cargo from ships lying at anchor to the beach, the ROK Navy constructed six FURSEAL class Landing Craft Utility (LCU) in the late seventies and early eighties. They are able to lift up to 200 tonnes of cargo, including main battle tanks, and transport it at 13 knots to the beach, where it can be discharged from a bow ramp. These 400 tonne craft are augmented by ten 115 tonne Landing Craft Mechanised (LCM) which were transferred from the US in 1978. In

addition a large number of small Landing Craft Vehicle/Personnel (LCVP) are in service.

### Mine Warfare

To counter the threat of a mining campaign against the Republic's maritime trade, the Navy operates two classes of mine-warfare vessels. The older class are the eight minesweepers of the KUM SAN class. Originally transferred from the US Navy beginning in 1959, these 370 tonne wooden vessels are fitted to sweep a passage clear of moored mines, however they would be ineffectual against the latest generations of influence and acoustic mines. To counteract these new and more potent mines, a new class of mine hunter was required.

This was the SWALLOW class of 470 tonne coastal minehunters (MHC), designed and built in Korea with the first ship commissioning in 1986. Following several years of trials five more were completed from 1991 to 1994. With a maximum speed of 15 knots and constructed of fiberglass, they represent a substantial improvement over their aging predecessors and incorporate a number of advances, most notably in electronics and sonar. To allow the safe clearing of mines two Pluto remote control submersible vehicles are carried to investigate suspicious contacts and lay demolition charges if the contacts prove to be mines.

To adequately protect South Korea's harbours and coastal shipping lanes rather more than six minehunters are required, and a follow on class of somewhat larger (750 tonne) minehunter/sweeper suitable for operations further out to sea in rough weather is planned.

To act as a support ship for the minehunters and provide a specialist minelaying capacity, a 3300 tonne minelayer is under construction. Scheduled for commission in 1997, the ship will be armed with a 76mm gun, two Breda 40mm twin turrets and six anti-submarine torpedo tubes, in addition to a substantial complement of mines and will have a crew of one hundred and sixty. A platform for a medium helicopter is also a feature of the design.

### Auxiliaries

To sustain the fighting elements of a navy, a host of non-combat units are required. Ranging from tankers to tugs, they perform the myriad tasks necessary to support a modern sea-going navy.

To support the deployment of task groups of frigates and destroyers, the Navy commissioned its first replenishment ship in 1990. Classed as a Logistic Support Ship and capable of supplying fuel and stores to two ships simultaneously, the 7500 tonne CHUN JEE is also equipped with a helicopter platform for vertical replenishment of stores to nearby ships. As a high value

target, CHUN JEE carries a strong defensive armament of two twin turrets for 30mm cannon and two single 20mm Sea Vulcan cannon. So successful has the design been that a second ship is currently building to a slightly improved design, currently scheduled to commission in 1997.

Two small 1945 vintage tankers are in service, having been leased from the US in 1982. At 6050 tonnes and capable of only 10 knots as opposed to 20 knots for the CHUN JEE, they are somewhat smaller and definitely less versatile. Additionally, two 1400 tonne self-propelled fuel barges are used to store and dispense fuel to the fleet in harbour.

Two 860 tonne World War 2 era SOYOTOMO class tugs were transferred from the US Navy in 1962, giving the Navy an interim salvage capability until the arrival of the DIVER class specialised salvage ships in the 1970's. These 1980 tonne ocean-going salvage ships were acquired from the US in the late 1970's to provide a comprehensive salvage and towing capability. In addition they are fitted to sustain diving operations, both "hard hat" and aquanaut, in support of salvage operations.

Their capabilities were ample for South Korean needs until the introduction of the new Type 1200 submarines in 1993. To provide a submarine rescue and salvage capability construction of a new, purpose designed vessel commenced in 1993 for delivery in 1996. This 4300 tonne vessel will be fitted to operate a nine man diving bell and a recompression chamber, allowing rescue of a stricken submarine crew down to the submarines crush depth. Provision has been made for a helicopter platform to allow evacuation of survivors while a high definition sonar and remotely operated submersibles are fitted to aid in the location of a wrecked submarine.

In the forty five years since the truce that ended overt hostilities on the Korean peninsula the South Korean Navy has developed from a small coastal force, to a 'brown-water' navy optimised to repel attacks from the North and today stands on the brink of a major expansion in capability, transforming itself into a full 'blue-water', deep ocean navy. Older, ex-US Navy vessels are being replaced with indigenous designs, built in the Republic's own shipyards and optimised for the roles and missions that circumstances have thrust upon this small country. Over the next decade new classes of submarines, destroyers, frigates, corvettes will transform the Navy into perhaps the most modern in Asia, further strengthening the defences of the Republic and contributing to a greater sense of peace and security on this troubled peninsula. That is a goal that all can hope for.

# PIRACY IN THE 1990s

By RADM Andrew Robertson AO DSC RAN (RTD)  
Federal Vice-President Navy League of Australia

*The recent seizure, in international waters off the Thai/Cambodia border, of the 7,500 tonne Cypriot-flagged Greek-operated Anna Sierra has highlighted a growing problem of the mid 1990s - the escalation in the incidence of the ancient crime of piracy.*

The 23 crewmen of the Anna Sierra were far more fortunate than those of the Australian-owned Erria Inge, pirated in Bombay in March 1991. In the case of the Anna Sierra, the crew, having been cast adrift in a flimsy craft and high seas off Vietnam, were finally rescued by fishermen, but the fate of the 10 crew of the Erria Inge remained shrouded in mystery until 1993 when their ship was broken up in South China. Their, by this time somewhat high, remains were reportedly found in a meat locker!

Worldwide there has been an increase of about 40% in reported piratical incidents in the first half of 1995, Lloyds List Australia Weekly showing 58 incidents in the first 5 months, 17 of which were in Indonesia. This year's Navy League/Company of Master Mariners' presentation on PIRACY IN THE 1990s was therefore well-timed and topical. Held at the Masonic Centre in Sydney on Tuesday 24 October, it drew an audience of about 140 persons including the current Naval Staff course from HMAS PENGUIN.

Ms Andrea Jansz, a solicitor specialising in Maritime Law from the firm Heath Winterthur Insurance gave an interesting historical perspective on Piracy, followed by an outline of the view of the Insurance industry today.

Having given the legal definition of Piracy she outlined the activities of pirates from the days of the ancient Phoenicians, through the Vikings, the Muslim rovers, the 17-19th century Algerian pirates of the Barbary Coast, the buccanniers of the West Indies and the pirates of Brunei and Borneo.

Tales, supported by fearsome slides, of some of the more famous individuals who at one time or another indulged in Piracy - Blackbeard, John Paul Jones, Sir Henry Morgan, Giovanni da Venazano, Jean Lafitte and William Kidd - enlivened her interesting presentation.

Ms Jansz was followed by Captain Norm Mackie, the Federal Prime Warden of the Company of Master Mariners, who spoke on what happens today. He gave some crew experiences and noted the difficulties captains faced with ever decreasing crew sizes while proposed anti-piracy measures often required more manpower.

Mr Greg Bondar, the Executive Director of the Australian Chamber of Shipping, then gave the view of the International Shipping industry. He coloured his presentation with anecdotes on pirates of former decades, including

the famous Mary Read. On one occasion a fellow male pirate discovered her sex, and they fell in love. However her lover had a quarrel with another pirate, which was to be settled by a duel. She feared for the survival of her lover so picked a quarrel with his opponent and challenged him to an immediate duel with cutlass and pistols. She killed the other pirate. History does not reveal the final fate of Mary, and especially that of her lover.

After the normal excellent fork supper Mr Bob Hartley the Manager, Maritime Policy, of the Australian Shipowners' Association outlined instructions given to Australian-flagged vessels. He reported that there had been no attacks on such vessels in the last 2 years, though the Association was nevertheless concerned and Australian vessels were issued with instructions on precautions to be taken.

Commodore Tim Cox AM RAN, the Navy's Commodore Flotillas in command of the main units of the seagoing fleet, then gave a most interesting outline of the naval view of piracy including the restrictions placed on warships by the recently greatly expanded area of the territorial waters of most nations. Some \$43 billion worth of exports yearly leave Australia, the vast majority of these goods passing through the waters of the SE Asian region. Any activity which could have adverse effect on that trade is of vital significance to Australian national interests. Australia also had Treaty obligations under the 1958 Convention on the High Seas and the 1982 Law of the Sea Convention which provides that "all states shall co-operate to the fullest possible extent in the repression of piracy on the high seas in any other place outside the jurisdiction of any state."

The definition of Piracy under International Law, which controls the actions of the RAN outside Australian controlled waters, is quite restrictive.

An act of piracy must be committed for a private purpose (ie personal gain). For example, the commission of any of the acts of robbery or other depredation by the crew of a warship, or government ship, is not piracy unless they have mutinied and taken control of their ship.

Location is also another important criterion in the definition of piracy in international law. Piracy is a crime that can only be committed beyond the territorial jurisdiction of any nation. Thus piratical acts committed in the territorial sea, or archipelagic waters of a nation do not constitute piracy in international law but are, instead, crimes which fall

exclusively within the jurisdiction and sovereignty of the coastal state. Nevertheless international law recognises a general duty by the master of a ship to render humanitarian assistance to any ship which has fallen to piracy.

The regional Piracy centre at Kuala Lumpur records incidents as piracy in accordance with the International Maritime Bureau's definition which makes no difference between the High Seas and Territorial Waters. Its more practical definition is "Piracy is the act of boarding any vessel with the intent to commit theft or other crime and with the capability to use force in the furtherance of the act".

There were many interesting points brought out during the presentation, the IMB definition of piracy being the basis for statistics used.

The greater proportion of piratical attacks now take place in harbours and approaches, on ships at anchor or berthed alongside, or on those steaming in territorial waters. Many attacks on shipping, involving loss of property only, go unreported due to the inconvenience and commercial loss involved in reporting incidents and ships then being delayed.

There has recently been a decline in the number of incidents reported in the Malacca and Singapore Straits due to the effective anti-piracy campaigns now being run by the Malaysians, Indonesians,

CONTINUED NEXT PAGE

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and Singaporeans. However there has been an increase of more serious incidents involving organised well-armed gangs with supporting vessels and using more powerful and sophisticated equipment well offshore in the Hong Kong/Luzon/Hainan triangle.

While in the Malacca Straits/Natuna is area piratical seizures are usually short-term using makeshift weapons at night and boarding from astern with rare incidents of serious violence, in South China Seas it is a different story. Here the majority of attacks take place before dawn, often more than 120 nautical miles from land, with frequent use of firearms and violence, and with pirates often in military style uniforms and even monitoring VHF radio transmissions.

In addition to the major areas of reported piratical incidents in harbours and ports in Indonesia and the Hong Kong/Luzon/Hainan triangle, there have been reports of a number of attacks off Somalia, in Brazilian ports, in the northern Gulf area, off West Africa, in the Caribbean, in the Philippines, and off Pakistan, the Bay of Bengal and Sri Lanka. There has even been one reported incident in Denmark.

"Phantom Ships" is another form of piracy which has developed recently. These are stolen vessels that are fraudulently registered, take on cargo under a false outward manifest, and fail to deliver the cargo to its destination.

What then can be done about piracy?

It may never be possible to completely eradicate the crime but a combination of increased support to agencies such as the Regional Piracy Centre, continued international pressure on governments in whose jurisdiction attacks take place, and continued vigilance on the part of Masters, may result in at least a reduction in the number of attacks.

The Australian Chamber of Shipping also believes that there are a number of measures which ships can take to reduce the hazard including:

- ensuring that all Masters have a copy of the "Pirates and Armed Robbers: A Master's Guide" which includes details of measures such as
- maintaining a 24 hour visual and security watch
- strengthening night watches
- sealing off access to the ship
- reducing opportunities for theft
- keeping the crew informed of security plans;
- avoiding remaining at anchorage whenever possible in trouble spots, for example, steam slowly in circles or steam at least 20 to 40 miles off shore at night (or in the case of Somalia sail as far off the coast as possible);
- ensuring that Masters are on the alert for relatively small vessels moving at high speed in the vicinity of their ships as pirates often use this method of attack;
- ensuring that Masters are on the alert for "bugus" government officials who attempt to board their ships;

- Keeping Masters constantly informed of "trouble spots" so that those Masters operating in such areas can take extra security precautions (this information could be obtained from the Regional Piracy Centre or the ISF);
- reporting all pirate activity to the Regional Piracy Centre as soon as is practicable after it occurs and including as much detail as possible.

While Australian-flagged shipping and the RAN itself have not in recent times been victims or involved over incidents of piracy, the menace appears to be growing rapidly in areas of concern to Australia. Increased measures for the protection of shipping appear to be required in waters to our North. The general consensus of the meeting seemed to be that the arming of crews was not an answer. Initially the most sensible move would be best taken through diplomatic channels with the aim of convincing coastal states in areas of piratical activity to take firm measures including focussing on the three major concerns of a successful pirate - his safe havens, his markets, and increased naval anti-piracy patrols and rapid reaction maritime forces.

In the meantime, however, the happy yachtsman setting out for a spree in SE Asia had best take serious precautions and beware lest he or she become a statistic, perhaps in a meat sale.

## AUSTRALIAN SEAPOWER - BATTLESHIPS

Pages: 88 plus cover  
Format: A4 glossy

Published by Topmill Pty Ltd  
102 Victoria Road  
Marrickville NSW 2204  
Phone: 565 1266

This impressive pictorial is a summary of the battleship in Australian waters since the arrival of the former HMS NELSON in 1867 and the completion of the monitor HMVS CERBERUS three years later.

Like the earlier Submarine and Aircraft Carrier volumes, the new booklet is a combination of excellent photography and descriptive narrative, highlighting the battleships of five nations in Australian waters and major ports. These have included the famous Great White Fleet and the Special Service Squadron led by HMS HOOD.

The RAN's first flagship and battlecruiser HMAS AUSTRALIA is depicted through three sections, her active career, the 1924 scuttling and an impressive "photo album" of "life aboard" during peacetime and the Great War.

For the current generation with fond memories of the dreadnoughts during the past decade, the United States Navy's MISSOURI and NEW JERSEY visited three Australian ports, events which generated high levels of interest via their impressive firepower demonstrations and very public arrivals.

Australian Seapower - Battleships is a bargain at under \$10.00 and is recommended to all readers.

## "EXPLORING THE LUSITANIA"

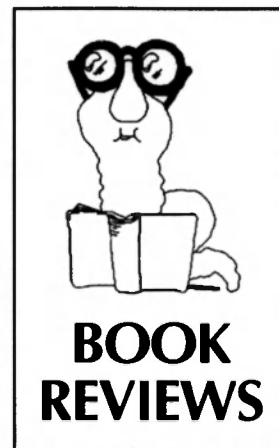
By Robert D. Ballard  
Published by Allen & Unwin

RRP \$49.95

Reviewed by Geoffrey Evans

Shipovers of all ages and those who recall the era of great passenger liners, together with students of maritime history, will find this account of the life and death in controversial circumstances of the giant Cunard liner LUSITANIA to be an invaluable addition to their library.

LUSITANIA and her sister-ship, the better known and much longer-lived MAURETANIA, were successors to the ill-fated TITANIA which had struck an iceberg and sunk with heavy loss of life three years earlier. The sisters were planned by Cunard to be "...



This review cannot be concluded without reference to the many fine photographs, drawings and paintings of a great ship in her heyday and as a rusting wreck at the bottom of the sea. They bring home to the reader the extent of the damage done to LUSITANIA and the sadness of her loss.

## "FOR THOSE IN PERIL"

By Vic Cassell  
Published by Kangaroo Press

Book Review by Greg Swinden

In the last 15 years more books on Navy history have been written than in the preceding 60 years. These texts have included the very good, the ordinary and the downright atrocious.

Vic Cassell's "For Those In Peril" is in the very good category, bordering on the exceptional, and will almost certainly become a standard reference text for current and future Naval historians.

The book details the ships of the RAN sunk or damaged in the wars of the Twentieth Century and the men and women who have lost their lives as a result. Peace time disasters such as the loss of HMAS WARRNAMBOOL (1947) HMAS WOOMERA (1960) and HMAS VOYAGER (1964) are also recorded.

I found the book easy to read, well illustrated with a photograph of nearly every ship and filled with a wealth of information relevant to all from the amateur historian to the diehard professional. The publishing of "For Those In Peril" in this year of "Australia remembers" makes the book a permanent memorial to those members of the RAN who have lost their lives in the service of this nation.

No book is ever perfect and my criticisms of the book are twofold. Firstly there is no index or bibliography. For a text of this quality a bibliography is essential to enable other historians and readers to understand where the information was derived from and to permit further research. It is obvious Vic Cassell has spent a substantial amount of time obtaining the information for his book, but apart from the casual references to Navy Office and Australian War Memorial records, future researchers have no original source material to start with.

At a guess the book could not have been written without reference to the standard texts ie AWJ for World War I and GH Gill for World War II, but without a bibliography stating published, or unpublished sources, the reader and more importantly the researcher will never know. Vic must also have gathered information from a variety of ex-serving members of the RAN, however, these valuable sources of oral history are not recorded.

My other criticism is that there are few

## The Fleet Is In At

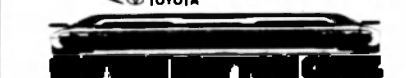
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## BOOK REVIEWS

noticeable gaps in the listings, mainly in the World War I casualty lists. Those who lost their lives in the submarine AE1, the SYDNEY-EMDEN clash and the capture of German New Guinea (Australian Naval and Military Expeditionary Force) are fully documented yet the bulk of World War I deaths are missing.

The four crewmen of AE2 who died in Turkish POW camps (following the sinking of AE2 in April 1915), the RAN Bridging Train personnel killed at Gallipoli and in the Sinai, those who died while serving in the cruisers in the North Sea and those who died on home service (such as five TINGIRA boys who drowned when their cutter was swamped in Sydney Harbour in 1919) are forgotten.

The RAN lost less than 100 men in World War I, yet barely half of these are recorded in 'For Those In Peril'. This is odd noting the availability of full records at the Australian War Memorial and in Navy Office (Directorate of Sailors Career Management and Directorate of Naval

Officers Postings).

World War II is substantially better dealt with, but I could not find a listing for the three RAN ratings (Able Seaman Falls, Marsh and Huston) of "Z" Special Unit who were killed or executed by the Japanese in 1945 following the failed operation Rimau.

The deaths of RAN personnel in the Vietnam conflict for HMAS HOBART and the RAN Helicopter Flight are recorded but for some obscure reason Clearance Diving Team 3's (CDT 3) single fatality (Able Seaman BK Wojcik) is missing and CPO Hunt of HOBART is incorrectly listed as an Ordinary Seaman!

Now don't get me wrong. I think Vic Cassell has done an excellent job in putting this book together and turning what could have been a dry listing of casualties and ships sunk into a very readable and worthwhile addition to Australia's written Naval history.

His descriptions of the ships careers and how some of the men met their end make fascinating reading. For example, the descriptions of the attack on the corvette PIRIE in which the Gunners officers head was removed by a falling bomb (before it burst on the forecable causing further casualties) and the tragic but accidental death of three men in HMAS TAMBOR, (when the ship was entering harbour she failed to give her recognition signal and was fired on by an Army shore battery, three of her men were subsequently killed) are particularly interesting and items generally glossed over in the official history.

On the whole "For those in peril" is an excellent book and credit to the author. Cited as "A comprehensive listing of the ships and men of the Royal Australian Navy who paid the supreme sacrifice in the wars of the Twentieth Century" it is unfortunately not a complete listing, however, it is 99% of the way there. I was not disappointed reading it.

Kangaroo Press, who are becoming regular publishers of Naval history texts, have done a particularly good job publishing with only a few minor

typographical errors. "For Those In Peril" is a paperback, quite affordable at \$29.95 and available at most good bookshops. A "must have" for all Naval historians, those interested in the RAN or researching specific ships or individuals.

### MAKE A SIGNAL

By Jack Broome  
Published by DB Books

Review copy from Maritime Books

**M**ake A Signal" is a classic book first published in 1955. Within 224 pages it describes a History by Signals, with many historical, some dramatic, others funny and sarcastic.

Signals spanning the 18th century to the mid 1950s are reproduced for the entertainment of the reader.

Intended to convey information between the various fleet units over the last three centuries, the recently republished "Make A Signal" highlights the pre-microphone era, with messages carefully worded to avoid misunderstanding between ships and their commanding officers.

Even in 1996, signals are still employed as a method of naval communication, despite the advent of more sophisticated electronic methods.

Examples of some of the briefer signals from the book are:

From HMS Renown -  
"Am being attacked by eleven dive-bombers."

Later  
"Seven dive bombers will not bat in second innings."

From tug towing battle practice target to firing cruiser whose shots were falling too close -

"We aim to please. You aim too please."

"Make A Signal" is available from Maritime Books in the UK. Highly recommended.

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# The Navy League of Australia

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*The Navy League was established in Australia in 1901, initially in the form of small branches of the United Kingdom Navy League (established in 1897) and since 1950 as an autonomous national body headed by a Federal Council consisting of a Federal President and representatives of the six States, the Australian Capital Territory and the Northern Territory.*

*The Navy League of Australia is now one of a number of independent Navy Leagues formed in countries of the free world to influence public thinking on maritime matters and create interest in the sea.*

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Any person with an interest in maritime affairs, or who wishes to acquire an interest in, or knowledge of, maritime affairs and who wishes to support the objectives of the League, is invited to join.

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The principal objective of the Navy League of Australia is "The maintenance of the maritime well-being of the Nation" by:

- Keeping before the Australian people the fact that we are a maritime nation and that a strong Navy and a sound maritime industry are indispensable elements of our national well-being and vital to the freedom of Australia.
- Promoting defence self reliance by actively supporting manufacturing, shipping and transport industries
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- By supporting the Naval Reserve Cadets, and assisting in the provision of training facilities.
- By encouraging and supporting visits by recognised world figures such as former United States Chiefs of Naval Operations and Britain's First Sea Lords.
- By publishing "The Navy", a quarterly journal reporting on local and overseas maritime happenings, past, present and projected.
- By maintaining contact with serving naval personnel through activities arranged during visits to Australian ports of ships of the Royal Australian and Allied Navies.
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- 2 Two-berth Junior Sailors' cabins.
- 7 Four-berth Junior Sailors' cabins.
- Officers' Wardroom.
- Senior Sailors' Mess and Recreational Spaces.
- Junior Sailors' Mess and Recreational Spaces.

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who may be embarked from time to time (up to a total of 61 persons) is provided in fold-down bunks in the standard accommodation cabins.

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# MARITIME AIR OPERATIONS

## The Naval Aviation Contribution

An address by Captain D.J. Ramsay RAN  
'Seapower in the New Century' Conference, 23 November 1995

### Current Aviation Force

Australian Naval Aviation is on the threshold of an exciting era as projects are underway within the ADF to ensure that every major RAN surface unit will have an integrated naval aviation capability. Let me start by outlining current developments within the RAN's Naval Aviation Force.

**S-70B-2 Seahawk.** The S-70B-2 Seahawk helicopter is the Fleet Air Arm's most capable platform with good sensors, range and endurance. We are currently operating 12 aircraft with four in attrition reserve. All six FFGs are planned to have fully integrated double crewed flights by the end of 1997. The Seahawk is able to operate at a considerable distance from its parent ship, conducting independent operations including ASW, surface surveillance and over the horizon targeting. The RAN variant features a Role Adaptable Weapons System (RAWIS) which is designed to permit relatively easy role changes and system upgrades. Aircraft sensor information is relayed by data link to appropriately fitted surface units but there is significant scope for enhancement as communications technology advances. A proposal is currently being considered to introduce the four attrition Seahawk aircraft into the operating pool and the Seahawk will support the life of type of the FFG, planned for around 2020.

**SK50 Sea King.** The RAN operates six Sea King helicopters which were acquired in the mid-1970s as carrier borne ASW aircraft with dipping sonar. They are currently being refurbished and converted to the utility role as the Sea King has an excellent passenger and cargo carrying capacity. The life of type extension refurbishment includes upgrading of the Radar, Avionics and Communications Suite and the aircraft will remain in service until at least 2008. Whilst primarily employed in the fleet support utility role the Sea King is an ideal platform for logistics over the shore support for ground forces deployed from

the recently acquired training and helicopter support ships.

In addition to these principal types in the RAN inventory, the Fleet Air Arm operates 6 AS350 Squirrels for training and light utility duties. These aircraft are still employed as the interim FFG helicopter, pending full availability of the Seahawk and they will become the interim Anzac helicopter pending availability of the new intermediate helicopters for those ships. The Fleet Air

normally employ a helicopter for their survey task as HMAS Moresby does now.

The two training and helicopter support ships will be modified to be able to embark and operate Army Blackhawk and Navy Sea King helicopters and to receive the recently acquired Army Chinook helicopters. The full scope of naval aviation operations from these ships is still being developed and may range from periodic short detachments to exercise embarked operations, for training purposes, to significant involvement in logistics over the shore operations to free the Blackhawk for its forward mobility role. I hold it as self evident in our maritime and archipelagic region that a multi-aircraft platform like the THSS offers great flexibility to government in its response to a wide range of challenging scenarios. It is a sovereign platform with which the RAN can exercise influence, exert will or simply do good in the disaster relief scenario.

**Seahawk.** Under a project which has just gone to tender, the Seahawk helicopters will be made more effective with the fitting of electronic support measures and a forward looking infra red sensor. These systems will come on line at about the turn of the century to greatly enhance the aircraft's surveillance capability. The ESM will include Missile Approach Warning System (MAWS), physical counter measures (chaff and flare) as well as a broad band ESM system with on board analysis and recording capabilities. DSTO has conducted extensive research into optimising FLIR operations for tropical conditions which will be beneficial for project considerations.

It is envisaged a mid-life upgrade programme will be required for the Seahawk around 2002/03 to address capability and supportability issues which are becoming evident at this point. Apart from a current system upgrade, with possible inclusion of an air to surface missile and dipping sonar, this is clearly the opportunity to significantly enhance communications to include a



Sikorsky S-70B-2 Seahawk

Arm also operates several Bell 206 Kiows for light utility work in support of survey operations carried out by HMAS Moresby. This leads me to planned and ongoing developments.

### Planned and Ongoing Developments

As I said in my introduction, RAN policy is for all major fleet units to be air capable. Accordingly, the two new Hydrographic Support Ships will have aviation facilities capable of fully supporting the operation of intermediate size helicopters although they will not

fleet wide, common data link capability.

**SK50 Sea King.** There are plans to provide an ESM fitment for self protection of the Sea King whilst it is performing the utility transport role. This will include a missile approach warning system, radar and laser warning receivers and chaff and flare dispensers.

**New Intermediate Helicopter.** The next major development for the Fleet Air Arm will see the introduction of 14 intermediate sized aircraft for the Anzac class frigates. Studies have shown that the ship's surface surveillance capability will be increased by a factor of 10 with an effective helicopter which becomes an extension of the ship's combat system and a force multiplier. The request for tender was recently issued and the main contenders for the NIH contract are the Westland Lynx, the Eurocopter Panther, the Kaman 52G Sea Sprite and the Sikorsky S-76N. It is planned to have the Anzac helicopter entering service in the year 2000. Observing that the first two Anzacs are in the water, the gap will be plugged by the Squirrel and is testimony to the programming difficulties which face the ADF and other regional defence forces with so much to be done and limited funding to do it with.

The primary roles of the NIH will be surface surveillance and ASW and the aircraft will be fitted with radar, ASM, FLIR and an ESM capability including chaff and flares. The NIH will be crewed by one pilot and one observer and will give the Anzac frigate a capability to engage surface targets at extended range using the NIH with its own ASM or for OTH. The helicopter will also have a limited ASW capability, being a torpedo carrying platform.

Project 1427 will see the procurement of up to an additional 13 NIH for the

offshore patrol combatant (OPC). The introduction of these additional helicopters will be driven by the timing of the OPC/JPV programme but I am hopeful that the Squirrel will put have to be the interim OPC helicopter.

### The Nature of Naval Aviation in the 21st Century

Admiral Barrie outlined the roles of the RAN and other navies in 21st century operations – the most radical change being in the C31 area.

This change is eagerly looked forward to by all in naval aviation as a necessary next step in realising the full potential of the Seahawk and other, future embarked aircraft. The increasing emphasis on constabulary roles is an area where the flexibility of organic naval airpower will be particularly useful. For example, boarding operations are hazardous in other than benign circumstances and helicopter insertion is becoming commonplace. The passenger carrying capacity of helicopters will be a consideration in future procurement decisions and more sophisticated armament may well be borrowed from army battlefield helicopters to replace the door mounted GPMG.

The trend towards most warships having organic helicopters and the increasing number of shore based surveillance and AEW&C aircraft is clearly leading to a potential for situations where these assets will encounter each other in areas of significant interest. The air combat capabilities of battlefield helicopters may well be carried across to the maritime environment, especially as air to air missiles have a not to be ignored capability against surface targets. We are already seeing counter and counter-counter measure systems appearing in maritime aircraft and this trend will con-

tinue along with the inherent obligation of air to air capable assets to be able to distinguish friend from foe. This leads us back to a point made by Admiral Barrie – the affordability of the sensors and weapons that technological advances are making practicable for smaller aircraft such as naval helicopters. The rate at which the trend to multi-role sophistication is followed will be driven by the perception of need, modified by the size of the defence budget and good intelligence will clearly be vital to the decision making process. Equally clearly, the rate of technological change is going to require a sea-change in procurement processes. No longer can we afford project gestation periods that exceed the product life cycle by a significant factor.

The principal advantage of organic air power is that it is there when the commander needs it. Of course being there on board ship means little if the aircraft is unserviceable, the crew exhausted or if weather conditions preclude launch or recovery operations. The technological revolution has significantly improved availability rates but the maritime environment is harsh and minimum manning is forcing us to pursue even more reliable systems with self diagnosing built-in-test and repair by replacement philosophies. Although naval aviation assets will become more reactive, cued by wide area surveillance systems, crewing arrangements will still be required to cope with 24 hour operations in adverse conditions by day or night and for prolonged periods will remain a prerequisite for success in naval aviation. This demands a considerable investment in ship-helicopter integration; rugged, properly marinised helicopters and capable recovery and deck handling equipment to prevent inadvertent losses of



HMAS KANIMBLA, the new training and helicopter support ship. (Photo - Brian Morrison)

expensive assets.

The small number of assets available to any one service or country will see increased emphasis on joint and combined operations. The exercises we conduct today as confidence building measures will become even more important as proving grounds for information systems connectivity. Much has been said at this conference about the prospects for increased naval co-operation in the region, ranging up to standing naval forces. In my view, the potential benefits of the effort that would have to go into making a standing naval force really work are worth it. Inter-operability requires far more than the technical or theoretical compatibility between systems. Mutually agreed doctrine and procedures must be used to allow the operators, the people in the system, to realise the full benefits of the technology. While not ignoring the difficulties, the benefits that would flow from having to work together so closely are immense.

RAN involvement in the Gulf conflict and with the Multi-National Interception Force (MIF) enforcing UN sanctions against Iraq has been instructive in the necessity to maintain inter-operability. Any significant contingency in the Asia-Pacific region will most likely see a number of countries come together to resolve the situation. RAN units, including helicopters, must be able to communicate effectively with all the players. Another multi-lateral inter-operability factor unique to naval aviation is cross-deck operation. To the maximum extent possible the physical compatibility between various helicopters and the deck handling systems and crews of air capable ships must be established and exercised. Etched in my memory of some years ago are pictures of

a very large USN Sea King perched athwartships on a rather small RNZN frigate flight deck and an RN Sea Harrier sitting forlornly on a Spanish container ship, both after emergency landings. Where there is a will there is a way, and overwater aviators will always try to find a way to avoid swimming. Routine cross-deck operations bring about improved communications and procedural compatibility as well as broadening options for the conduct of multi-lateral air operations and for handling emergency situations. I will now turn to some possible future developments.

### Future Developments

ASW. It is clear that ASW will play a more prominent role in the new century as more submarines enter regional inventories. Improved submarine detection technology, such as low frequency active sonar, is likely to be incorporated in the S-70B-2 mid-life upgrade and in helicopters for the new surface combatant. It will take time to regenerate the organisational and technical skills required to operate dipping sonar, however resource pressures dictated the decline and the problems of resurrection that will face the Fleet Air Arm are similar to those of other regional defence forces now developing their ASW capabilities.

OIS. Operational Information Systems incorporating artificial intelligence will be required to assist naval aircrew to more effectively operate in high workload multi threat environments. The technology is undoubtedly coming, but again funding constraints will impinge on when and how widespread this level of capability will be in naval aircraft.

UAVs. The demise of manned aircraft has been prematurely forecast for some time. While UAVs do not yet have the capabilities or performance character-

istics to replace manned helicopters at sea the new century will most likely see them utilised at least for high risk surveillance and OTH operations, complementing the manned aircraft fleet.

Mine Warfare. New capabilities are likely to evolve for airborne mine detection. With such a system, appropriately supported helicopters could clear territory faster than surface ships acting alone and a co-operative effort would clearly be most effective.

New radar technologies such as SAR and ISAR are extending the stand-off range for positive identification and engagement of surface targets. This is another pointer to the need to extend the reach of a ship's sensor and weapon system by arming organic helicopters. The US co-operative engagement concept technology is seeing weight, space and cost of such a system come down to levels where it may become feasible to fit to organic naval helicopters.

### Conclusions

In terms of naval aviation the implications are clear whether we face evolution or revolution in military affairs. The maritime air assets of tomorrow will need to be more capable and highly flexible. Their air and maintenance crews will need to be multi-skilled. Command, control and communication systems will need to easily cross service and national boundaries. There is no doubt that technology will provide equipment to meet the challenges of the new century. In a world that will be changing with ever increasing velocity, success will demand people and organisations geared to incorporate constant change. For navies in general, and naval aviation in particular this will require constant practice in the forums of a joint and combined multi-lateral exercises.



Westland Sea King

# Lessons from ... THE PERSIAN GULF

By Navy Leaguer

**Captain Chris Craig, CB, DSC, RN, has written a book 'Call for Fire' in which he describes his service in the Falklands War and the Kuwait Liberation War in the Persian Gulf.**

In the Falklands, then Commander Craig commanded the Type 21 frigate HMS ALACRITY. That ship was part of the initial task force that left the UK for the Falklands.

ALACRITY made two epic solitary sorties into the Falkland Sound (in one of which she sank by gunfire the Argentine support ship ISLA DE LOS ESTADOS), participated in the amphibious landings in San Carlos Water and rescued survivors from the merchant ship ATLANTIC CONVEYOR. In short, ALACRITY was in the thick of it.

In the Persian Gulf, then Commodore Craig commanded the British Task Group throughout the period of actual hostilities. Flying his broad pendant successively in the Type 22 frigates HMS LONDON and HMS BRAVE, Craig led a task force that included Type 22 anti-submarine frigates, Type 42 anti-aircraft destroyers, Sea King utility helicopters, Lynx anti-submarine and anti-surface target helicopters, Hunt class minehunters, Sir Lancelot class logistic landing ships, hydrographic ships (adapted as support ships), the helicopter training ship ARGUS (serving as a helicopter carrier and hospital ship), the forward repair ship DILIGENCE, stores ships and underway replenishment ships.

Captain Craig was a qualified Fleet Air Arm helicopter pilot who later served in key commands of naval air units and surface ships. As such, he had a breadth of experience which was to serve him and his country well in war.

In 'Call for Fire', he tells an excellent tale which is enjoyable and interesting reading for all those interested in naval and military matters. The author's only mention of Australia concerns the role played in mine clearance by RAN clearance diving teams.

Nevertheless, the perceptive Australian professional reader can draw from the book some important lessons for this country. These are in addition to or reinforce those already drawn and applied from the experiences of the smaller and less diverse in role RAN task group in the Gulf War.

Some of these lessons have been highlighted many times, but Navy Leaguer makes no apology for repeating them. These lessons include:

- The imprudence of relying on extended notice of an impending war
- The potential flexibility in the role of support ships

all and, therefore, can let our defence force decline. The Liberation of Kuwait taught aggressors that the world community may not permit aggression. Australia must be prepared to take her place in the world community. That means having a defence force that is ready to deploy effectively for combat at short notice.

Captain Craig describes the various roles played by the Sir Lancelot class logistic landing ships. These ranged from the movement of stores and personnel to remote and forward areas to headquarters and support ship for mine countermeasures forces. These ships are roomy, can receive and embark stores by helicopter, over the beach, over the side into smaller craft and by ro/ro. Australia has just such a ship - HMAS TOBRUK. Although that ship is only fifteen years old, she is to be put up for sale next year. She should be retained in reserve against future contingency needs.

The Royal Navy's hydrographic ships served as hospital and MCM support ships both in the

Falklands and the Gulf. That would not have been possible if their hydrographic ships had not been part of the RN. A proposal to remove the RAN Hydrographic Service was rejected a few months ago and hydrography is now classified as a core RAN activity. That decision was sound. The Hydrographic Service has a wide role to play in the RAN.

It is common knowledge that, for several decades, the US Navy neglected mine countermeasures. The Gulf War showed that this neglect extended beyond a failure to provide sufficient equipment and trained personnel. Many of the more senior general service officers ignored or belittled MCM in their planning. This is exemplified in Captain Craig's difficulties

in getting the senior US Navy command to recognise the mine threat and plan realistically to deal with it.

As a result, two large US warships, one of them equipped with the most modern anti-air warfare armament vital to the task force, had to be withdrawn from the war area as a result of mine damage.

Iraq used mines - varying from the primitive to most sophisticated - very effectively in the defensive role.

The defence of the vast and vulnerable Australian coastal trade routes could be enhanced very cost effectively by mines. Yet the RAN has no mines at all. THE RAAF has the ability to convert some bombs to mines, for laying from aircraft in the offensive role. Not before time, Australian Project Joint 2045 "seeks to procure mines to enhance the defensive, protective and offensive mining capability of the ADF." A decision on acquisition is planned for 1998/99.

After many years, the RAN is finally on course to establish an effective MCM force. When the Huon class coastal mine hunters join the inshore hunters, clearance diving teams and auxiliary mine sweepers, we will have a balanced capable MCM force. More broadly, the mine threat is recognised by the inclusion of a mine avoidance capability (probably a sonar modification) in the Adelaide class FFG progressive update and possibly in the proposed Anzac class war fighting improvement programme.

The basic cause of the US Navy's MCM discomfiture was the MCM profession's lack of a voice at the top. The airmen, submariners and to a lesser extent general surface warfare officers dominated the strategy and budgeting.

Speaking recently to Navy Leaguer, a serving US Navy flag officer expressed his concern that, although their MCM organisation is now strong, and new equipment is entering service, time will dull the prominence resulting from the Gulf War and the US Navy's Mine Warfare Command will slip back.

The same thing could happen here. The RAN's mine warfare professional officers must stay up there with a voice in Navy Office and HQ ADF, and with career prospects as strong as other PWOs.

The United States Navy is a good friend, a strong ally which achieves high standards of professionalism with excellent equipment in many fields. However, they would be the first to recognise that they are not perfect. We need to learn from their mistakes as well as their successes.

Captain Craig's descriptions of the roles played by naval helicopters in both the Falklands and more recently the Gulf are enlightening. Sea Kings played an essential role in moving stores and personnel. With no submarine threat, Lynxes used their sensors and anti-ship

## LESSONS FROM THE PERSIAN GULF

missiles with devastating effect against Iraqi naval surface units. Key to this effectiveness was the integration of the helicopters with their parent and accompanying ships and aircraft.

With their Sea Hawk S70B2s, the RAN has made much progress in this area. The impending acquisition of naval intermediate helicopters, armed with anti-ship missiles, will improve the position further. The Sea Kings' enforced shore based

respectively. This showed up in Captain Craig's dispositions of his Type 42 (AAW) and Type 22 (ASW) warships in the Gulf. The RAN current construction programme of Type 23 (ASW) and planned Horizon (AAW) ships indicates their sustained preference for a greater individual specialised capability over the flexibility in disposition of general purpose ships. Although this preference may originate in the threat scenarios of the North Atlantic



operations since 1982 have prevented the full exploitation of the potential of these aircraft. The Sea Kings' life of type extension and the conversion of the training and helicopter support ships MANOORA and KANIMBLA offer an opportunity to use these aircraft effectively.

There are other concerns about the Fleet Air Arm. Anti-submarine warfare is unrecognised in the capabilities required of the intermediate helicopters. Plans to equip the Seahawks with a dunking sonar are in abeyance, although that may change with the completion of the current HQADF ASW study.

Although in earlier years, Fleet Air Arm personnel have achieved flag rank and the very highest posts in the Australian Defence Force, that has changed. Today, no Fleet Air Arm officer holds a rank higher than Captain. Although statistics can be produced in mitigation, there is a view that the Fleet Air Arm's promotion prospects are limited and that Fleet Air Arm officers are not appointed to vital posts.

There are plans to change this, and to ensure that Fleet Air Arm professional views are heard, with the appointment of a captain to the new post of Commander Australian Naval Air at Nowra.

Turning to major surface combatants, the RAN has two types of specialist ships for anti-air and anti-submarine warfare

cold war, it is apparent that the RAN consider specialist ships appropriate to the much broader range of threat scenarios they now face.

To meet their need to find naval combatants to face a wide range of threat scenarios, over very broad ocean areas, the RAN selected the multi-purpose FFG7 type. Their views on the latest requirements will become apparent when we know the capabilities to be added to the Anzac frigates under their war fighting improvement programme.

To revert to the importance of being ready for combat at short notice, perhaps for budgetary and political reasons, in the past the ADF has neglected this and got away with it in some areas. The RAN went for years without an effective MCM capability. The first ships of the Adelaide class had no Seahawk helicopters for a decade after their completion. Even when they sailed for the Gulf, the Seahawks had not been fully accepted into service. Without a fully integrated helicopter, the modern ocean going surface combatant is seriously deficient in both defensive and offensive capabilities. When will the Anzacs get their helicopters?

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# MALU BAIZAM

Life at sea is about to change for the small but enthusiastic naval contingent in the remote area of Torres Strait.

LCDR George Graham and POMTH Henry Higgins, the only PNF personnel in the area, have taken possession of the new patrol launch *Malu Baizam*, which departed Geraldton Boat Builders on May 21, 1996 for her maiden voyage of 2400nm from Geraldton to Thursday Island for RNOTI (Resident Naval Officer Thursday Island).

The name *Malu Baizam* is a combination of the two main languages in the Strait, meaning ocean and shark, hence the name was *Ocean Shark*.

The patrol launch has a range of 500nm at 21 knots and can carry three, six-man Army patrols with all their equipment, including 4.2 metre aluminium run-abouts.



Given RNOTI's 135 square nm area of operations, the vessel should go a long way toward fulfilling the role placed on this two-man section.

*Malu Baizam* is the fifth delivery to the Australian defence forces by Geraldton Boat Builders, continuing the existing contract adjusted to CPL, which in this instance was less than US \$750,000 delivered to Thursday Island.

Similar to the Navy's 20m dive launch, *Malu Baizam* has considerable improvements in capabilities and habitability. Included are an extra cabin with three bunks giving sleeping accommodation for seven, better navigational aids, air-conditioning, microwave oven, refrigerator, freezer and desalinator to allow extended deployments.

Torres Strait is the only place in Australia with a common border with another country, with PNG being only 1.6nm away. RNOTI is also called on to police this border in cooperation with State and Federal Police, Customs and Fisheries.



## MALU BAIZAM

### Malu Baizam SPECIFICATIONS

Type of vessel:	Southerly 65 naval patrol boat	Radar:	JRC JMA-3610
In survey to:	Lloyds Register of Shipping	Depth sounder:	Furuno FCV-581 coupled with an ED-2200 indicator on the flybridge
Name:	<i>Malu Baizam</i>	Autopilot:	Furuno FAP-330 coupled with an FAP-6501 rudder angle indicator
Home port:	Thursday Island	Compass:	Ritchie Helmsman
Owner:	Department of Defence (Royal Australian Navy)	Two-way radios:	Codan 58285 HF and GME FX558 VHF
Skipper:	Lieutenant Commander George Graham	Integrated electronics by:	J.N. Taylor
Builder:	Geraldton Boat Builders	Electrical installation by:	Page's Auto Electrical
Designers:	John Fitzhardinge Inc.	Hydraulics installation by:	Steeform Hydraulics
LOA:	20 metres	Windows by:	Marine & Mobile Windows
Beam:	5.7 metres	Steering:	Hydraulic assisted
Draught:	1.5 metres	Fuel capacity:	5,000 litres
Hull, superstructure and deck construction material:	Marine grade aluminium alloy	Freshwater capacity:	1,000 litres, plus desalinator
Main engines:	Twin MTU 8V 183 TE, each developing 650hp	Maximum speed:	25 knots
Gearboxes:	Twin Disc 5111A	Cruising speed:	21 knots
Propellers:	Teignbridge 32x32 three-bladed	Range:	650 nautical miles
Auxiliary engine:	Kubota/Mecalte 17kW	Accommodation:	Four berths in fore/cabin and three below wheelhouse sole
Global positioning system:	Furuno GP-80 interfaced with a Furuno GD-188 colour plotter		

The design by John Fitzhardinge Inc was developed in the demanding proving grounds of the West Australian rock lobster fishery.

A fine entry and broad low deadrise planing area has produced a soft riding, easily driven hull.

Three boats have been configured for the Royal Australian Navy, one is in service with the Royal Australian Army's SAS Regiment, with the latest delivery to the RAN to provide support at the RAN's Thursday Island patrol base situated in Torres Strait between Australia and Papua New Guinea.

Duties will include regular patrols among the myriad islands in the Strait, support for other government agencies requiring transport and deploying units of the 51st Far North Queensland Regiment during exercises in which troops are put ashore in dinghies.

The versatility of the Southerly 65 design was demonstrated during 'Kangaroo 95' joint service exercises held in Australia's north with *Malu Baizam*, Seal and Coral Snake participating.

*Malu Baizam* is powered by twin MTU 8V 183 TE diesels, each developing 650hp and driving through Twin Disc 5111A gearboxes of 1.94:1 reduction and

giving a maximum speed of 25 knots and a continuous speed of 21 knots.

Auxiliary power is supplied by a Kubota/Mecalte 17kW genset.

Two integral tanks hold 5,000 litres of fuel and ensure a range of 650 miles with 10% reserve, while a 1,000 litre fresh water tank and a desalinator unit guarantee a good supply of water.

The wheelhouse is air conditioned and finished to the usual GBB high standards with teak trim and polyurethane marine gloss.

The layout is arranged with the helm position to starboard, the comprehensive galley with full electric range, microwave and large sink situated along the rear port side of the house, and a large mess table with settee at the forward port side.

A toilet/shower is positioned to port at the rear of the wheelhouse and opens on to the weather deck.

A hanging locker for wet gear also opens on to the deck.

A companionway leads from the weather deck to the flybridge which is fitted with a bimini and protected by clear plastic screens.

Apart from the helm position and seating for the skipper and crew, two 10-man life rafts are also located in this area.

The work deck is protected with an aluminium-framed, vinyl-covered awning with roll down sides.

An A-frame gantry with hydraulic rams is positioned at the transom to simplify the tasks of bringing divers aboard, launching and retrieving dinghies etc.

Lieutenant Commander George Graham who was involved in the original tenders for two dive boats supplied to the RAN, is now in command of the base at Thursday Island and is delighted with his new command.

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# Naval Aviation

Naval aviation took a further step towards the future on 1 March with the launch of a new organisation to manage the Naval Aviation Force into the 21st century.

By the year 2010, the RAN expects to have some 55 aircraft in its inventory with nearly all ships operating helicopters as ships' flights as part of their integral capabilities.

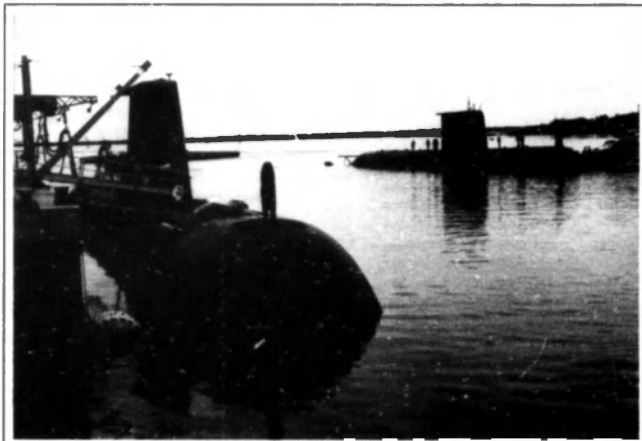
The move to create the position of Commander Australian Naval Aviation Forces (COMAUSNAVAIR) follows commissioning in 1992 of 816 Squadron as the parent unit for the 16 Sikorsky S-70B-2 Seahawk helicopters operating in ship's flights with the six guided missile frigates in the RAN inventory. This took the number of aircraft in the RAN to about 30.

*By the year 2010, the RAN expects to have some 55 aircraft in its inventory ...*

Tenders closed on March 20 for a further 14 new intermediate helicopters for operation from the ANZAC frigates and offshore patrol combatants proposed as replacements for the Navy's Fremantle Class patrol boats. The Request for Tender also foreshadows the possibility of buying a further nine or more of the new helicopters beyond the initial order.

In the launch ceremony at the home of Australian Naval Aviation, HMAS ALBATROSS, the Chief of Naval Staff, Vice Admiral Rod Taylor, welcomed the inaugural COMAUSNAVAIR, Captain Keith Eames, to the 'control column'.

VADM Taylor said the appointment of the first COMAUSNAVAIR heralded the new era in Naval aviation.



Australia's new Collins class submarines, COLLINS (left) and FARNCOMB

# First Sea King Delivered



First Sea King to complete the upgrade

The first of six Royal Australian Navy Sea King helicopters to be upgraded under a \$58 million contract with GKN Westland Helicopters was delivered on 16 January to the Naval Air Station, Nowra.

The handover of the Sea King with its airframe and avionics modifications will see the aircraft's life of type extended to 2008.

The Director of Aviation

contractor British Aerospace Australia."

With replacement communications, upgraded radar systems, new navigation systems, airframe modifications and minor mechanical modifications, the upgraded Sea Kings will be able to better

*The handover of the Sea King with its airframe and avionics modifications will see the aircraft's life of type extended to 2008.*

fulfill their role as maritime utility helicopters. Some of the equipment used in the upgrade was sourced through Australian industry. The program also includes an upgrade of the Navy's Sea King simulator.

The Sea Kings, from H5 817 Squadron, operate at the Naval Air Station Nowra, from the Navy's supply ship HMAS SUCCESS, and across the north of Australia in support of Army operations.

# WESTRALIA REFIT

The Navy's largest ship, HMAS WESTRALIA, has undergone refit in Newcastle.

The 40,000 tonne under-way replenishment ship, bought from the Royal Fleet Auxiliary in 1989 sailed from her home port, HMAS STIRLING, south of Perth, to Newcastle in mid-January.

WESTRALIA entered dry dock at Forgacs Shipyard in Newcastle on January 18 for a refit and modifications expected to take until mid-May and cost in excess of \$6 million.

These include:

- Extensive alterations to accommodate close-in weapons systems (CIWS);
- Significant alterations to internal cargo pipework and addition of another winch to improve the ship's ability to replenish other ships at sea;
- and
- Complete remodelling of the galley.

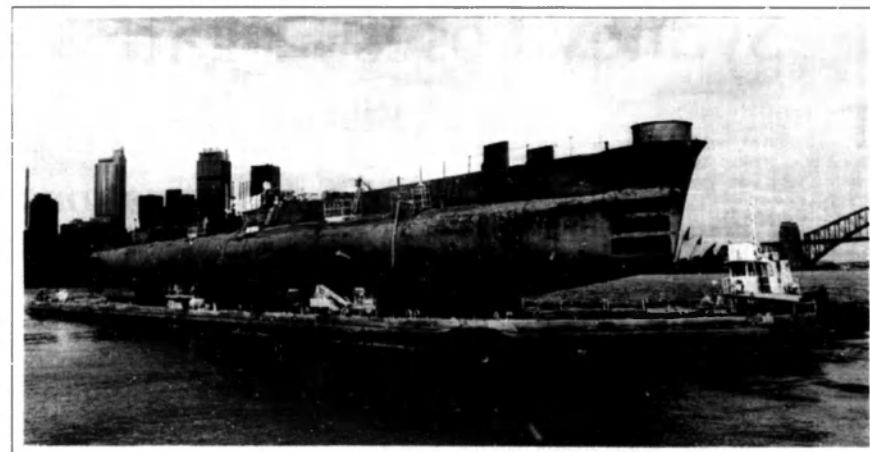
A Navy spokesman said the contract also incorporated a further 12 modifications. Only three Australian shipyards - all on the east coast - were large enough to accommodate WESTRALIA.



Only three Australian shipyards were large enough to accommodate WESTRALIA



The fire damaged general purpose vessel BANKS lies alongside in Port Macquarie, after the December 1995 blaze. (Photo - Graeme Andrews)



The former HMAS OTWAY, in the process of being broken up by ADI Marine at Garden Island in Sydney



Sailing for Western Australia, HMAS CANBERRA

## Sydney Loses Frigate

The Royal Australian Navy's guided missile frigate (FFG), HMAS CANBERRA (Cmdr Matt Tripovich), sailed from Sydney for the 'last time' on Tuesday, 9 January, bound for Western Australia and her new homeport at HMAS STIRLING.

"We all feel a bit sad leaving today, the ship has been part of the Sydney scene since first arriving, back in the early 1980s," Cmdr Tripovich said.

"Forty families have already re-settled in the west and in the future, the posters will actively seek personnel who wish to live in Western Australia," he added.

"For the trip across the Great Australian Bight, we are being crewed by just over a hundred of our normal complement. We expect to arrive on 15 January after a brief stopover in Jervis Bay for some brief trials."

Only a small number of families were on hand to farewell the frigate on the Tuesday, most 'Sydneyiders' being able to re-unite with crew members when the ship returned to the east for the Fleet Concentration Period 1-96 during February and March.

With the relocation of the FFG to Western Australia, three of the frigates are now

homeported at the Fleet Base East in Sydney, with three at

the Fleet Base West on Garden Island.

## THSS Modifications

Forgacs Engineering Pty Ltd has been selected as the preferred tenderer for the contract to modify HMAS KANIMBLA and HMAS MANOORA as Training and Helicopter Support Ships.

The modification contract involves significant alterations to the ships to enable them to embark an Army battalion group, with each ship able to operate three helicopters from

its flight deck, whilst carrying four helicopters in its hangar.

The ships will also be fitted out with classrooms and other facilities to enable them to carry out their other role as the primary training vessels for the Royal Australian Navy (RAN).

The ships to be modified are former US Navy tank landing ships (LSTs) purchased in 1994 and commissioned into the RAN.

## East Coast Armament Complex at Point Wilson

The Navy announced in January that development of the Royal Australian Navy's East Coast Armament Complex (ECAC) at Point Wilson, approximately 50 kilometres south-west of Melbourne, will commence later this year.

The announcement comes after an independent Public Inquiry under Section 11 of the Environment Protection (Impact of Proposals) Act 1974 into ECAC recommended that the development proceed.

The report also recommended Defence meet specific conditions designed to

minimise impact on the environment.

Construction of the East Coast Armament Complex will start in the second half of this year and Defence will meet the Public Inquiry's environmental recommendations.

Construction of this scale will provide a significant boost to the Geelong economy. At a cost of around \$200 million over a three year period, ECAC construction will provide an average of 280 jobs a year. Ongoing ECAC operations will provide long-term employment for about 110 people.

## Australian Frigate to the Gulf

The former Minister for Defence, Senator Robert Ray, announced in January that Australia would deploy a frigate to the Gulf in support of United Nations Security Council imposed sanctions against Iraq.

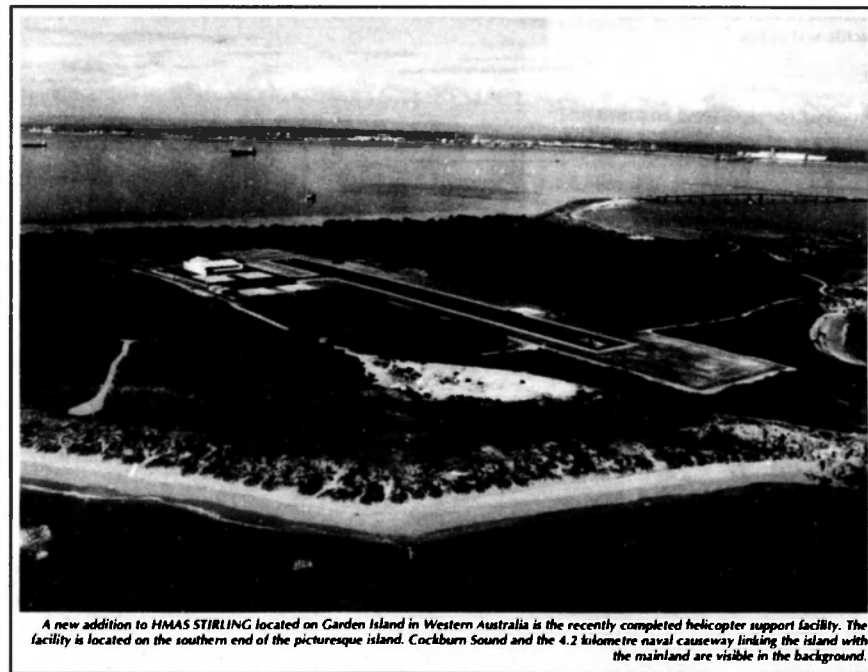
"The Guided Missile Frigate HMAS MELBOURNE will be part of the Multinational Maritime Interception Force (MIF) for a three month period, beginning in May. Other nations contributing to the MIF have been the United States, the United Kingdom, Canada, New Zealand and the Netherlands.

"Australia has a commitment to promoting peace and security in the Gulf region and to supporting the United

Nations.

"Significant progress is being made by the UN Special Commission in overseeing Iraq's compliance with UN resolutions not to develop, construct or acquire weapons of mass destruction – a mission which Australia continues to support with scientific expertise. This ship deployment reinforces our commitment to enforce the sanctions bringing pressure to bear on Iraq to meet conditions set by the UN," Senator Ray said.

Australian warships have undertaken five deployments with the MIF since the conclusion of Operation Desert Storm in 1991, with the most recent being HMAS SYDNEY from July to November 1993.

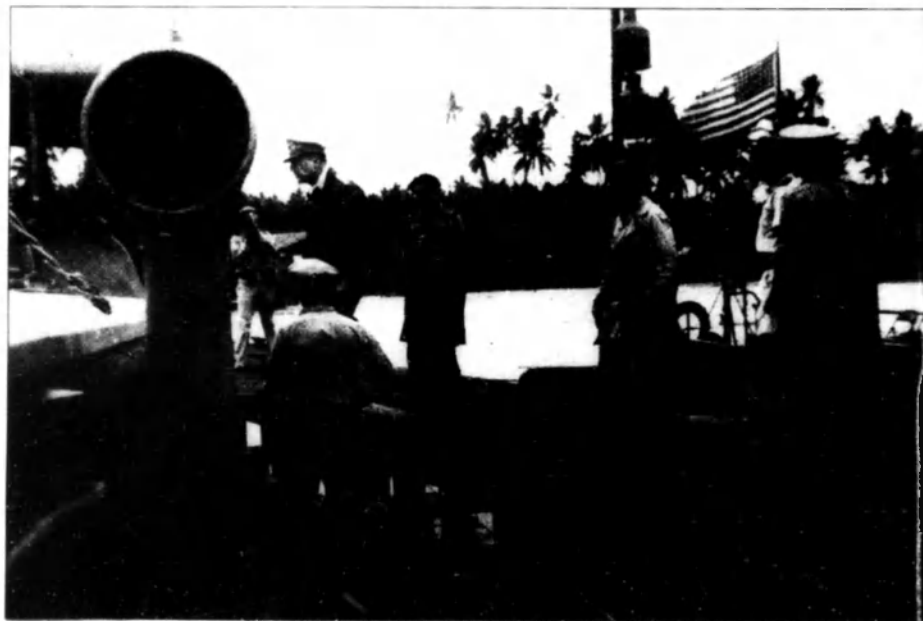


A new addition to HMAS STIRLING located on Garden Island in Western Australia is the recently completed helicopter support facility. The facility is located on the southern end of the picturesque island. Cockburn Sound and the 4.2 kilometre naval causeway linking the island with the mainland are visible in the background.



# So proudly she served

The *Lauriana* was commissioned by the Royal Australian Navy on 27/8/41 and fitted with depth charges and Oerlikon gun. She was the first vessel to sight the Japanese midget submarines in Sydney Harbour on the 31/5/42 and was credited with 1 1/2 kills. Later, whilst stationed at Milne Bay, she worked as an air/sea rescue vessel in operational areas. General Douglas MacArthur used *Lauriana* to tour the fleet in the Pacific war zones.



## On Active Service

These faded photographs show the former graceful ketch *Lauriana* converted to the Naval Auxiliary Patrol Boat 502

Commissioned in 1941, she was fitted with depth charges and an Oerlikon gun and operated out of Milne Bay as a air-sea rescue vessel.

Regarded as the flagship of the Papua New Guinea Navy she carried General Douglas MacArthur on his tours of the South Pacific operational zones.

From the top

**On the Slips' Cairns 1942**

Bill Arnott Jnr. at the helm.

**American P.T. Base' Cairns 1942**

**Make and Mend' Milne Bay 1942**

**South Pacific War Zone' 1942-1943**

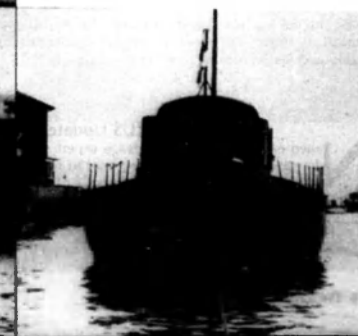
Showing protective cladding, depth charges and Oerlikon Gun.

**After the War' Sydney 1945**

Extensive refit followed.

**The *Lauriana* has featured in other notable events such as :**

- Towing the 'Krait' from Northern Australia following that vessels use for the daring commando raid in Singapore Harbour.
- Entertained the Queen and Prince Phillip when they dined on board during the coronation tour in 1954
- Served for seven times as the radio relay ship for the Sydney to Hobart race between 1955 and 1964.



# IN BRIEF

By Geoffrey Evans

## IRON BARON Investigation

**T**he Department of Transport's report on the grounding of the IRON BARON on the Hebe Reef, Northern Tasmania, on 10 July 1955 is a graphic account of the events leading up to an event which eventually resulted in the loss of the vessel and her cargo.

IRON BARON, 37557 dwt, under charter to BHP Transport Pty Ltd arrived off the entrance to the River Tamar on the morning of 10 July with a cargo of manganese ore for discharge at the Timco terminal, Bell Bay. She anchored to await a favourable tide and the arrival of a pilot, scheduled for 1930.

The ship got under way soon after 1900 and manoeuvred towards the pilot boarding position. Conditions were not good at the time — it was dark, the wind from the NNW at 20-25 knots and there were frequent rain showers. The pilot boarded at 1933 and was on the bridge shortly afterwards.

The report indicates that both the Master and Pilot were uneasy about the position of the ship relative to Hebe Reef, a hazard at the mouth of the Tamar and lying about a nautical mile from the boarding position; despite efforts to turn the ship IRON BARON grounded on the reef a few minutes after the pilot boarded (subsequently established to be at 1937%).

The Department's report then goes on to detail subsequent events including efforts to free IRON BARON, the arrival of a salvage team from United Salvage Company, evidence of the escape of fuel oil, eventual refloating on 16 July and discussions between various authorities prior to a decision to scuttle the vessel in the Tasman Sea.

Under the heading 'Conclusions' the report lists eight factors considered to have contributed to the grounding, the immediate cause appears to have been the Master's belief when manoeuvring that his ship was further from the pilot boarding position — and the reef — than was the actual case, and that due consideration was not paid to the effects of wind and tide.

Blame for the grounding was not apportioned in the report, while the crew of the pilot launch was singled out for special mention for the skill shown in handling their craft "in the prevailing conditions over a prolonged period of time, much of it in darkness."

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## HMVS CERBERUS Update

**N**oted naval architect and salvage expert Alan Colquhoun has told 'In Brief' that a new plan to restore the former Victorian Navy monitor CERBERUS is under consideration.

It is quite remarkable that a warship built in the United Kingdom in 1867 "for the defence of Melbourne Harbour," and scuttled for use as a breakwater off Black Road in Port Phillip

Bay in 1926, should have survived the elements and continues to be a visible reminder of an important period in Naval history — the transition from wooden sailing ships to iron and steam propulsion.

The ship, seen recently by the writer, is however deteriorating at an increasing rate and the virtual collapse of the lower part of the hull precludes removal to another site, as was the intention several years ago.

It is now proposed to lift and prop up the upper part of the hull, which consists of 6" to 8" armour plating, and to then restore the unique superstructure with the possibility of the vessel being connected to the shore by a walkway in the future.

It is understood a decision concerning the current plan will be made by the various authorities and historical organisations concerned, including the owners of the hulk, Bayside City Council, and the State Government in the not-too-distant future.

\*\*\*

## The ANL Faces Stormy Seas

**I**n the August 1991 budget the Federal Government foreshadowed the sale of its 100% owned shipping company, the Australian National Line. Small by international standards and generally under capitalised, but nevertheless a well-structured and diligently administered company, the ANL had been carrying the Australian flag in the highly competitive world of merchant shipping since 1956.

The four years that have passed since the sale announcement have seen three Boards of Directors — one forced to resign in acrimonious circumstances — a number of differing valuation reports, a specially commissioned auditor-general's report, a Senate inquiry and more recently the unexpected departure of the Line's chief executive officer and two senior executives. Not to be forgotten in this unhappy chain of events, rejection by the Maritime Union of Australia (MUA) of a government proposal to sell ANL to the overseas-owned P&O Company.

Following MUA rejection of the government's proposal, the present ANL Board is overseeing 'restructure' of the Company; at the time of writing ANL has withdrawn from the European shipping conference and sold the vessel engaged in that trade AUSTRALIAN VENTURE, to an overseas buyer; other sales have taken place or are anticipated.

Although there have been suggestions the ANL could continue to operate in reduced form, the main political parties have made it clear they want to off-load the line as a government responsibility and it is virtually certain they will do so by one means or another — probably sooner rather than later and despite MUA resistance. ANL's survival would appear to depend upon a renewed attempt to find a local owner and to be successful this would have to be accompanied by a watertight guarantee of co-operation by the waterfront unions. Many things are possible if the will exists and survival is at stake.



The former monitor, now hulk CERBERUS

# Japanese Navy

— Photofile

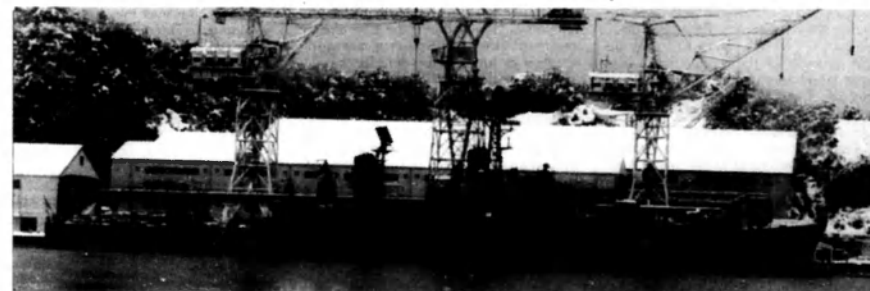
All photographs courtesy of R. Takayama

Left: Kongo class (Aegis type) guided missile destroyer, KONGO

Below left: Hibiki class auxiliary surveillance ship, HARIMA

Below: Training support ships; AZUMA (right) and KUROBE (left)

Above bottom: Nameship of AMATSUKAZE class destroyers  
Bottom: Takatsuki class guided missile destroyer, NAGATSUKI





# Canada's Maritime Command TURNING TO THE PACIFIC

From Mike James

*Canada faces a naval challenge similar in many respects to that facing Australia. The establishment of a two-ocean basing policy, the replacement of old warships with modern construction, the problems of restarting the indigenous construction of warships and the rationalisation of personnel to face budgetary constraints.*

Partly due to Australia having a strong focus on South East Asia, the Royal Australian Navy was little affected by the changes brought on by the end of the Cold War and the realities of the 'New World Disorder'. Canada, with its singular focus on the European confrontation with the Soviet Union, has found defining a new role for the Canadian Armed Forces (CAF) to be a difficult process. One that continues to this day.

The force structure of the Royal Canadian Navy (which, under the Canadian Forces Reorganisation Act of 1968, became the Maritime Command of the Canadian Armed Forces) was strongly biased towards anti-submarine operations in the context of a war with the Soviet Union. The Canadian surface fleet was expected to undertake anti-submarine escort duties for convoys travelling the sea lanes of communications between Europe and the New World, defending convoys from the depredations of the Soviet 300+ submarine fleet. The three submarines were acquired to provide ASW training for the surface fleet while various land-based maritime patrol aircraft and Sea King helicopters were also acquired with an eye to their anti-submarine warfare (ASW) capabilities.

The bias towards a possible Atlantic conflict was reflected in the fleet basing policy, with no submarines, a single replenishment vessel and the oldest, least capable destroyers assigned to the

Pacific. A defence review published in 1987, the first in sixteen years, acknowledged that a widening gap had developed between the roles and missions of the Maritime Command (MC) and its ability to carry out those tasks, particularly in the Pacific. The result was a commitment to rebuild Canada's moribund warship construction industry, together with acquisition of new equipment from overseas. The long-term planning for MC envisioned the purchase of up to twelve nuclear attack submarines, a similar number of modern frigates operating state of the art replacements for the Sea King helicopters, modernisation of older destroyers and the reconstitution of the nation's mine warfare capabilities.

In the years following the fall of the Berlin Wall, this plan rapidly moved from a blueprint for recovery to a list of hopeful options, to a pious wishlist and was finally consigned to the wastepaper basket of history. The realities of an economic downturn and the loss of the imminent threat of Soviet expansion resulted in funding for defence being sharply curtailed. The years since 1989 have been hard ones for the CAF and the Maritime Command has been no exception. With Canada's recently renewed focus on the Pacific the opportunity has arisen for a renaissance in Canada's dealings with the nations of the Asia-Pacific rim. The time seems ripe for an examination of Canada's Maritime Command as it

once again turns towards the vast expanses of the Pacific.

## Submarines

The current Canadian submarine squadron comprises three Oberon class boats, OJIBWA, ONONDAGA and OKANAGAN, which commissioned in 1965-68. Originally acquired to provide ASW training for the surface fleet, much as had the original Australian 'O-boats', the submarines soon outgrew their limited intended role, being tasked for a range of activities including ASW, covert reconnaissance and surveillance and anti-shipping strikes. In 1989 Canada acquired the decommissioned UK Oberon class OLYMPUS, which is used for alongside training to free up the operational boats for Fleet tasking rather than initial training. Armed with six 21 inch torpedo tubes firing US Mark 48 torpedoes, the squadron has been extensively refurbished to keep them operational, however they are approaching thirty years in commission and are in need of replacement.

The 1987 defence plan foreshadowed the acquisition of up to 12 nuclear-powered attack submarines, culminating in a hard fought (and extremely costly) marketing campaign between the British TRAFALGAR class and the French AMETHYSTE class. Unfortunately the entire programme was declared to be far too expensive and abandoned in late 1990. The requirement for a replacement

still existed and a number of studies were undertaken to find an affordable replacement but no action was forthcoming.

Then in mid-1994 the Royal Navy decommissioned the brand new UPHOLDER class as an economy measure, having determined that nuclear submarines would undertake all the RN's submarine tasks. The four boats, the oldest of which was barely 4 years old, were placed in reserve and the UK government announced that they were available for sale. The Canadian Navy immediately sought funding from the government to purchase all four boats, however Canada's treasurer stated that no funds were available and proposed in return that Canada lease various training facilities in Canada to the UK armed forces over the next decade. The costs of the UK's use of these facilities to be offset against the purchase price of the UPHOLDERS, resulting in no actual funds changing hands. The UK Treasury, hoping to recoup some of the tax-payers money, unsurprisingly vetoed the idea and a search for a workable compromise continues.

Latest reports suggest that the navies of Chile and Portugal are negotiating with

and two Sea King helicopters, the change in roles saw the 5 inch replaced by an Oto Melara rapid-fire 76mm gun, a twenty nine cell vertical launch system for the 73km range Standard SAM replacing the Sea Sparrow and the addition of a Phalanx close in weapon system (CIWS). The radars and electronics were also comprehensively upgraded to support the new capabilities fitted. Despite the additional weight of equipment the TRUMP destroyers are capable of 30 knots and have a complement of 285.

Intended to provide a task force or convoy with an area defence capability against attacking missiles and aircraft, all four ships have completed the TRUMP refit and are back in service. They are the only vessels in the inventory that have an area air defence capability, however all are over 20 years old and planning for a replacement will need to get underway soon.

## Frigates

Oldest frigates in service are the three ships of the Improved RESTIGOUCHE or GATINEAU class. Originally part of a seven ship class, they were fitted with four 3 inch guns in two twin turrets and the LIMBO ASW mortar, as well as six ASW torpedo tubes. In the late 1960's,

and must be considered of only marginal capability today, lacking a surface to surface anti-ship missile or a credible self defence system against missile attack. Two ships of this class, GATINEAU and TERRA NOVA, were extensively, if temporarily, modified to deploy to the Persian Gulf in 1990-91, having the ASROC launcher replaced with eight 130km range Harpoon anti-ship missiles, the boats replaced with two Bofors 40mm cannon and a Phalanx CIWS was fitted. These weapons were originally destined for the TRUMP destroyer update or the new HALIFAX class and have since been removed.

Only slightly less aged are the two ANNAPOLIS class, completed in 1964. Displacing 2930 tonnes and capable of 29 knots, both ships underwent a substantial upgrade programme in the mid-1980's to upgrade their electronics and habitability. Today they are armed with a twin turret for two 3 inch guns, two triple ASW torpedo tubes and a single Sea King helicopter. Despite their modest capabilities they require a complement of 210. Like the GATINEAU class their value as effective combatants is suspect.



HMCS MACKENZIE

the UK and that the decision cannot be put off for much longer. If Canada is not careful they may miss the 'boat' entirely.

## Destroyers

The four vessels of the 5,100 tonne IROQUOIS or TRIBAL class comprise the Maritime Commands destroyer force. Designed as specialist ASW escorts they were capable of operating two Sea King helicopters to localise and attack submarines at a distance from a convoy or the escort. Originally commissioned in 1972-73, all four received the Modernisation Project (TRUMP), starting with ALCONQUIN in 1987, designed to shift their focus from anti-submarine warfare (ASW) to anti-air warfare (AAW).

Originally armed with a single 5 inch gun, two 15km range Sea Sparrow surface to air missile quad launchers, two triple mounts for ASW homing torpedoes

they were modernised to operate an octuple mount for the Anti-Submarine Rocket (ASROC) carrying a homing torpedo out to a range of 10km and a variable depth sonar, losing the aft 3 inch turret and LIMBO to accommodate the changes. Three others of the class were not modernised and eventually paid off. A second major modernisation in the mid 1980's extensively refitted the electronics and habitability of the ships as well as fitting improved chaff launchers to upgrade the ship's self defence capabilities in the face of more sophisticated anti-ship missiles. One modernised ship, RESTIGOUCHE herself, paid off in 1992 and KOOTENAY is scheduled to follow in the near future. Today they displace 2,900 tonnes, have a crew of 214 and are capable of 28 knots.

All three were commissioned in 1959

The future of the Canadian surface fleet rests on the 12 ships of the HALIFAX class. Ordered in 1983, the Canadian Patrol Frigate, or CPF project sought to replace ships of several classes with a single, more versatile class of ship incorporating the advances inherent in more than twenty years of naval technology and construction. The CPF was intended to replace the MACKENZIE, ST LAURENT and RESTIGOUCHE classes, all constructed during the early to mid-1960's and represented the first new warships constructed in Canada in almost two decades.

HALIFAX and her eleven sisters displace 5,235 tonnes and have a complement of 225. They are armed with a single Bofors 57mm gun, a Phalanx CIWS, sixteen Sea Sparrow SAM's in vertical launchers, eight Harpoon SSM's,



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two triple ASW homing torpedo tubes and a single Sea King helicopter. Originally intended to be built in three groups of four ships, the last batch was to be built to an enlarged and significantly enhanced design and was intended to feature an area anti-air defence missile system similar in capability to that offered by the TRUMP destroyers. Unfortunately insufficient funds were made available and all were completed to the original design.

One of the major design objectives of the class was to incorporate advances in radar, infra-red and acoustic signature reduction, more commonly known as 'Stealth' engineering. To reduce radar cross section the ship's sides and superstructure surfaces are angled away from the vertical to avoid reflecting radar beams directly back at the enemy vessel, instead angling enemy radar beams away to reduce the apparent size of the vessel on enemy radar screens. All major machinery is flexibly-mounted or insulated to isolate noise while all sources of heat are diffused and cooled to match the surrounding ambient temperature, resulting in a vessel that is difficult to target using radar, passive sonar or infra-red systems.

The last of the class, OTTOWA, is due for completion in 1997 with five of the class planned to be assigned to the Pacific fleet.

#### Naval Aviation

The Maritime Command operates thirty Sea King helicopters from its destroyers, frigates and replenishment vessels for ASW, surface surveillance and general support duties. The 1987 defence review foreshadowed the replacement of the ageing Sea King's with new helicopters. The 1992 decision to acquire thirty-five Anglo-Italian EH101 helicopters was reduced in 1993 to a twenty-eight aircraft buy. The 1994 election saw the replacement become a political issue with the new government scrapping the entire project (at a cost of almost \$1 billion) on the basis of cost.

Despite this the requirement for a new helicopter remains and the contest has been reopened and expanded to include replacements for the thirty-year-old

Labrador search and rescue helicopters. A number of manufacturers are vying for the contract with a diverse range of aircraft on offer, including the CH-47D Chinook, an austere version of the previously offered EH101, the Franco-German NH90 and the Sikorsky S-70 Seahawk. A decision is not expected until late 1996 at the earliest.

#### Mine Warfare

The latest mine warfare vessels to be constructed are the twelve FRONTENAC class Maritime Coastal Defence Vessels (MCDV), the name ship of which commissioned in late 1995. Originally intended to be specialist minehunters, a shrinking budget saw their role modified to a dual role as patrol vessels with a secondary mine countermeasures (MCM) capability. Displacing 962 tonnes the MCDV were constructed of steel rather than the usual glass reinforced plastic (GRP) of most modern minehunters as a cost saving measure. They will be armed with a 40mm Bofors cannon, are capable of 15 knots and are to be manned by a mixed regular/reserve crew of 37. A number of modular kits will be procured to allow them to be used in a limited minehunting role. The last vessel is due to commission in 1999.

This will allow them to complement the two ships of the 2,200 tonne ANTICOSTI class. Originally built as offshore support vessels for the oil industry, they were acquired in 1988 to operate as trials vessels for the auxiliary minesweeper (MSA) concept. Fitted with precise navigation gear and mine sweeping equipment, they also evaluated the mixed regular/reserve manning concept, each vessel having a crew of 18.

Also operated in the MCM support role are six small diving tenders, YDT 6, 8-12, of under 110 tonnes. They are equipped with a basic sonar, sufficient to detect suspicious objects which are then investigated, and if necessary destroyed, by the complement of divers.

#### Research, Replenishment and Auxiliary Vessels

Two Survey/Research vessels are in operation, the 1,600 tonne ENDEAVOUR

and the 2,100 tonne QUEST. Commissioned in 1965 and fitted with facilities to operate a small helicopter, ENDEAVOUR, with a complement of 50, is designed for specialist ASW research in a range of climatic conditions including in the ice-covered Arctic. Commissioned in 1969, the larger QUEST is fitted to conduct more general research in the acoustic, hydrographic and oceanographic fields and undertakes towed array sonar research and has a crew of 55. Both vessels have undergone refits, principally of the computers and scientific equipment but replacements will be required within the next few years.

To provide replenishment facilities for the fleet, necessary to support task forces deployed away from port facilities and essential in the vast spaces of the Pacific, Maritime Command operates three Auxiliary Oiler/Replenishment (AOR) ships. The oldest is the 22,000 tonne PROVIDER, commissioned in 1963 and assigned to the Pacific fleet. Transporting 12,000 tonnes of fuel, 900 tons of helicopter fuel and 300 tonnes of dry stores, PROVIDER can replenish two ships alongside simultaneously, while transferring dry cargo and spares using the three embarked Sea King utility helicopters for vertical replenishment (VertRep). Capable of 21 knots from her steam turbines, PROVIDER is normally unarmed, however Phalanx CIWS, Bofors 40 mm cannons and chaff launchers can be fitted if required for operational deployments. Crew complement is 225.

So successful was this initial design that two more were built to a similar design, the IMPROVED PROVIDER class. PROTECTEUR, commissioned in 1969 while PRESERVER joined the fleet in 1970. Improved design and a growth in displacement to 27,000 tonnes allowed the cargo capacity to be increased to 13,700 tonnes of fuel, 400 tonnes of helicopter fuel, 1,050 tonnes of dry cargo and 1,250 tonnes of ammunition, however, crew complement also increased to 280. In an unusual move both ships were fitted with a sonar set identical to that fitted to the IROQUOIS class destroyers, in addition to three Sea King ASW/utility

helicopters, allowing them to take an active role in ASW task forces, being fitted with flagship facilities. PROTECTEUR deployed to the Gulf in 1991 as part of Canada's UN commitment, requiring extensive upgrades to her defensive subsystems. Today, both ships are fitted with two Phalanx CIWS, multiple chaff launchers and enhanced electronic warfare equipment. Originally both ships were assigned to the Atlantic fleet, however PROTECTEUR was transferred to the Pacific in late 1992.

PROVIDER is more than thirty years old and a study has been undertaken to design a new class to replace both her and her half sisters. The current option is described as a Multi Role Support Vessel (MRSV), a 26,000 tonne hybrid-mercantile standard vessel designed to act as a replenishment vessel while also able to transport, roll on-roll off style, a battalion sized ground combat force, including armoured vehicles and organic helicopters, especially important in view of Canada's commitment to supporting United Nations operations worldwide. At this stage initial plans call for four vessels to be built to mercantile standards but no order has yet been placed and the entire programme may fall victim to further budget cuts.

A number of smaller auxiliaries are

operated, usually in support of various trials, training and harbour operations.

A 2,350 tonne ex-sterm trawler was acquired in 1977 and underwent substantial rebuilding and modifications for her new role as a diving support ship. Rechristened COMORANT, she operates two small submersibles and a remotely piloted underwater vehicle, allowing the rescue of crewmen from a disabled submarine down to the crush depth of an OBERON class submarine. A set of requirements for a replacement is currently being drafted with an in-service date of 2000-2001 planned.

Four 300 tonne torpedo range and recovery craft are in service to support torpedo trials and exercise firings while a former commercial vessel was acquired to support the trials of the new HALIFAX class frigates. The RIVERTON, formerly an offshore oil rig supply ship, displaces 2,600 tonnes and has a complement of 23. Her future after the completion of the HALIFAX class is uncertain. Maritime Command operates a single 800 tonne ocean tug, SAINT ANTHONY to provide an ocean salvage capability, and a selection of 16 coastal tugs and tenders ranging in size from 70 to 225 tons provide port services on both coasts.

The Canadian Maritime Command faces a testing time in the later years of

the twentieth century. Like Canada itself it must look away from the familiar east-west vista of Europe towards the beckoning expanses of the Pacific and the growing economies of Asia. More and more of Canada's foreign trade is with this dynamic region and the Maritime Command's focus is changing with it. The Command must shift its emphasis from anti-submarine warfare in the Atlantic to operations in the vast reaches of the Pacific, often a quarter of the world away from the nearest Canadian port. The changing nature of international relations suggests that Canada will be required to contribute effectively to multinational operations in support of United Nations sanctioned operations, often carried out at great distances from home bases.

Canada must accustom itself to operations in the vast reaches of the Pacific and amongst the complex web of relationships that characterise the Asian region if it is to take its place as one of the Asia-Pacific's major navies. Canada's professionalism and competence in the maritime arena is well documented, properly used it could be a force for peace and stability within the region, building bridges and making friends with the emergent navies of the Asia Pacific. The torch is lit, it is up to Canada to grasp it firmly.

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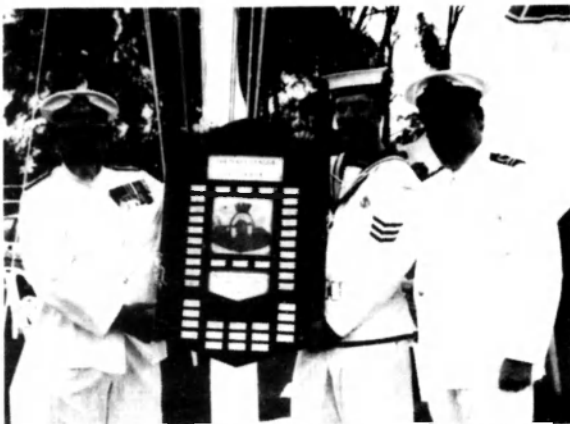
# CADET NEWS

## T.S. Norfolk – Australia's Number 1

T.S. NORFOLK at Redland Bay, Queensland was announced as Australia's most efficient Naval Reserve Cadet Unit for 1995/96.

During November 1995, Rear Admiral David Campbell visited Redland Bay and presented the unit with the Navy League Trophy.

The unit has achieved a lot over recent years winning the Queensland Colour four years running for the most



Rear Admiral David Campbell, with Cadet CPO Craig Cook and the Commanding Officer, Lieutenant Tony Russell

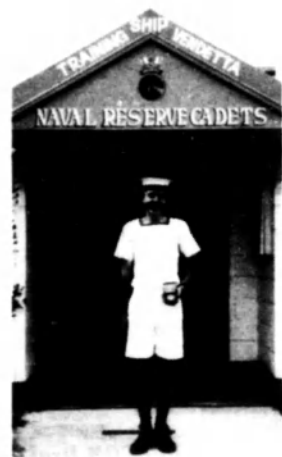
One of the unit's projects for the 1995 training year was the refurbishment of a retired Lion's Club caravan into a recruiting caravan for the use of the Queensland division of the naval reserve cadets. The van will now make appearances at schools and public events to show young people what the Naval Reserve Cadets has to offer.

The big challenge for the new year of 1996 is the unit to finalise negotiations with the Redland Shire Council on securing a block of land at Cleveland Point that the unit can call home. This will allow the pressure to be released on its present accommodation at the Department of Aviation's Navigation Facility which only has one toilet and

shower and limited operational space.

## 'Cadet of the Year' Prize Awarded

In November 1993, the NSW Division of the Navy League struck a medallion for annual presentation to the Naval Reserve 'Cadet of the Year' in New South Wales. The first winner (1994) was CDT Chief Petty Officer Luke Clarke of TS VENDETTA. The award included a sponsored berth on an STS YOUNG ENDEAVOUR cruise. The medal was presented by Capt Errol Stevens (a former Director of Naval Reserves and Cadets) at a ceremony at VENDETTA on 10 September 1995.



CPO Clarke

efficient unit in Queensland. T.S. NORFOLK's ship company had an exact proportion of half males and half females at the time of Rear Admiral Campbell's visit which was seen as something special. The unit has over the past couple of years given the Royal Australian Navy with 13 recruits and other currently being processed, which has complemented a total 36 new recruits from the Sunshine State.

# Sea Power in the New Century

By R. Adm Andrew Robertson

The RAN and the Australian Defence Studies Centre held a major international conference on 'Sea Power in the New Century' at the Novotel Brighton Beach Hotel on 22-23 November 1995.

The rather grandiose title referred in fact largely to the early years of the next decade rather than attempting to look into the cloudy more distant future. After all, political, economic and technology changes can wreak havoc on any predictions attempting to cover a century of change. If one had tried to gaze into a crystal ball during the Napoleonic Wars, for instance, how could one have seen the advent of steam, armour plate, long range battleship guns, torpedoes, submarines, aircraft and their effects on sea power in the 19th century!

In opening the conference, the Hon Gary Punch MP, Minister for Defence Science and Personnel, stated that the ANZAC frigates would be fitted from commissioning with their full equipment; the FFGs would be upgraded; there would be enhanced naval aviation capability; and a major review of personnel policies was now underway to take account of changes in social conditions. He defended the reduction to 2% of the nation's GDP now allocated to defence, pointing out that this was in monetary terms greater than the 2.6% spent in 1985.

Keynote addresses were given by Dr Ian Breemer of the US Naval Post Graduate School on 'Sea Power in the New Century' and by Dr B A Hamzah, Director General of the Malaysian Institute of Maritime Affairs on 'Navies and Strategic Change in the Asia Pacific'.

Dr Breemer gave a stimulating and thought-provoking presentation covering the changes wrought by the end of the Cold War and the economic collapse of the old Soviet Union; the impact of technological change on sea-power; and the differences between the strategic outlooks in East Asia and the North Atlantic.

In his view the British and French fleets and those of the Euro-Atlantic region as a whole would be structured and equipped primarily for power projection from the sea and not for the traditional role of sea control which would become a secondary function. International politics, budgets and a declining defence industry market will drive Europe's navies increasingly towards multinationality. An example of this was the recent decision of the Belgian Government to place its fleet under the daily operational control of the Netherlands Navy.

The advance of technology particularly of long-range aircraft and missiles means that it is becoming increasingly difficult to speak of 'sea-power' as a

distinct and separate form of military power generally. Ships at sea will be subject to attack by land-based forces at progressively greater stand-off ranges and, in reverse, sea-going platforms will be able to project power against the land mass from vastly increased distances. The key will be the creation of comprehensive information-based systems of surveillance, reconnaissance and targeting. One strategic implication will be a fusion of sea-control and land-control. More and more sea-going forces wishing to operate safely will have to overcome land-based systems first.

In Europe there was a strong drive towards multinationalisation forced by escalating costs, force reductions, the political appeal to domestic audiences, and last but not least the difficulty of justifying military forces for national needs. In 1996, members of the European Union will meet to review the Maastricht Treaty including the development of a Common Foreign and Security Policy and a Common European Defence Policy.

However, the scene in the Asia Pacific region was different, deriving from the strategic situation. Here there was no security community! On the contrary, rivalries, tensions and uncertainties about long-term intentions abound. While this situation continues, regional states will feel compelled to hedge against insecurity at sea, and they now had the economic wealth to do so and were upgrading their navies. He felt that the next century will almost certainly see a continuing evolution of the region's navies towards 'balanced' sea-securing capabilities. Aviation-capable and at-sea logistical support vessels will likely figure prominently in future acquisition programmes as will submarines and anti-submarine capabilities.

One critical factor in the planning of all political-military decision-makers in the Asia Pacific region must be the longevity of the US Navy's forward deployment in the region. He believed that there can be no question that for the foreseeable future the United States will remain strategically engaged in the region, with a significant military presence. It was also important to remember that the US Navy has a vested institutional interest in a robust overseas presence. However, forward deployment is a political choice and it is not an immutable 'principle of war' that if not obeyed will necessarily bring disaster. Nevertheless if cutbacks force a re-evaluation of the US Navy deployments, the end of the Cold War could well see a reduction in the Mediterranean presence

rather than in the Pacific.

Dr B A Hamzah, the Director General of the Malaysian Institute of Maritime Affairs spoke on 'Navies and Strategic Change in the Asia Pacific'. He believed that the key to strategic change was the attitude of China. There was much concern at the high level of Chinese spending on defence and at its objectives. Tension in the South China Sea, missile firings in the Taiwan Straits, and continuing Chinese nuclear testing created uncertainties. Hong Kong was very important to Taiwanese trade and its transfer in 1997 will give China a strong card to undermining Taiwan. There were also question marks over US/Japanese relations and the declining US role. Would Japan re-arm or turn nuclear? One major concern in the region was the overall military build-up, particularly in the naval field, and its impact on regional security. Another important issue was that local navies were not well-trained for control of their large EEZs.

R Adm John Sigler USN, the Deputy Chief of Staff for plans and communications CINCPACFLT gave an interesting outline on the Pacific Fleet and the challenges facing it. At the end of WW2 the Pacific Fleet consisted of 4,790 ships. By the year 2000 it will be down to about 175 vessels. On the other hand, though the types of ships were essentially the same (except for battleships) as they were 50 years ago, their size and deadliness were very much greater, as unfortunately were their costs. Ships now were built to serve for 30-40 years and aircraft sometimes for over 35 years. Against this background of falling ship numbers he then outlined the Pacific Fleet's planning process to meet future needs and contingencies, covering enduring principles, identifiable trends and the great uncertainties of the future.

Presentations on the Japanese Maritime Self Defence Force (by R Adm Surrihiko Kawamura JMSDF Rtd) and China's Navy and the National Interest (Dr You Ji, University of Canterbury, NZ) then followed.

On completion of the current defence programme in 1999 the Japanese Fleet is expected to consist of 56 major surface combatants (including 4 Kongo class 7,250 tonne Aegis DDGs) 16 submarines, 30 MCM vessels, supply and transport vessels, 100 P-3C Orion aircraft and several EP-3E Elint variants.

Japan is committed to defend its sea lanes out to 1,000 miles. This falls far short of potential trouble spots in the South China Seas. It is also proposed that Japan provides supply ships (AOE) to

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support the US aircraft carrier battle group based on Yokosuka, and mine-sweepers for use throughout the US Seventh Fleet operations area in the Western Pacific and Indian Oceans.

According to Dr You Ji there is now a great drive in China to devote more resources to its Navy, to introduce hi-tech and to modernise and convert it from a green-water to a blue-water force capable of projecting power beyond the first island chain of the South China Sea by the early 21st century.

New generations of major surface combatants, larger submarines, and long-range aircraft together with C31 and a whole range of weapon and sensor systems will be developed. This active strategy aims at an ultimate deterrence against the big powers and the concept embraces a capability to project power from Chinese waters adjacent to Vladivostok to the Malacca Straits and the first island chain of the West Pacific. New designs of conventional submarines will be introduced and the nuclear force will comprise over a dozen boats early in the new century.

The real leap forward to acquire blue water power can be realised only when the Chinese Navy possesses aircraft carriers. The navy has reportedly planned to establish two aircraft carrier battle groups in the early years of the 21st century and several dozen pilots have already been trained on a simulated carrier deck at a naval base in North China. A model of China's first generation carrier was recently displayed at a highly-classified weaponry exhibition in Beijing. This vessel was reportedly of 40-50,000 tonnes, fitted with catapults and arresters and carrying 40 fixed-wing aircraft.

However, given the current backward equipment of the Chinese Navy, and the close scrutiny of Western exports of military technology to China since the Tiananmen event in 1989, the Chinese Navy's blue water dream will probably remain just that for a long time to come.

Nevertheless, the drive to improve its navy remains, fuelled by the desire to se-

cure China's sovereignty at sea in terms of its maritime rights; to protect the rapidly developing coastal industries and cities; to protect the estimated huge mineral resources in the EEZ; to protect China's sea lines of communication for the safe passage of its 1,500 merchant ships and growing trade; to exercise its sovereignty over the Spratly and other island groups; and to deter any crisis over Hong Kong or Taiwan.

The Chinese Navy is set to become more powerful in the new century, although as its transitional problems have

the surrender of the Pakistan Flag Officer and 92,000 soldiers.

India failed to protect her merchantmen in the Iran/Iraq war resulting in the loss of 9 Indian tankers and container vessels. Nor did she use her sealift capacity to evacuate citizens from Kuwait/Jordan during the Gulf War. Her merchant shipping has remained stagnant at 6.5M tonnes and suffers from lack of incentives and blinkered maritime policy. India continued to suffer from Sea Blindness.

Admiral Roy outlined various organs for co-operation on the Indian Ocean area and welcomed the formation of the Indian Ocean Rim Trading Bloc, the latest meeting of which, in Perth in June 1995, was attended by representatives of 23 littoral countries.

China and India are the world's two most populous nations and all projections about the future of the Asian region, and by extension the world, he saw as being dependent on the internal dynamics and external responses of these two big neighbours. China was now spending 5.8% of its GDP on defence, and there was ambiguity regarding the aims of its military modernisation.

China seized the Paracel Islands in 1970, has laid claim to the entire South China seas, and has occupied some of the Spratly Islands. The storm brewing in the South China seas will, he believed, create turbulence in the Bay of Bengal, with world powers turning a blind eye to Beijing's human rights violation, intellectual property rights, nuclear testing and missile proliferation, primarily due to economic compulsions.

The Chinese Navy has been expanded to 18 Guided Missile Destroyers, 35 missile carrying frigates, over 217 missile craft, 51 amphibious ships, 50 submarines including SSNs and SSBNs, 875 shore-based aircraft, and 68 armed

helicopters.

Pakistan was also re-equipping its navy, having acquired 3 Harpoon-armed ex US Destroyers, 9 ex UK Frigates, 8 Chinese built missile craft and 3 more Italian submarines (making 9 in total, all Harpoon-equipped).

Defence expenditure in India is only 2.3% of GDP with the navy getting at present only about one-eighth. The Indian Navy now had 2 carriers, 5 Guided Missile Destroyers, 18 frigates, 15 corvettes, 15 submarines, 38 maritime aircraft and 2 replenishment ships with 6 destroyers and frigates and some corvettes building. There was an urgent requirement for a modern sea control ship operating high performance aircraft to deter Harpoon-armed maritime aircraft. There was now a recommendation to increase the Navy's Defence allocation from 12% to 20% of the Defence Budget.

Admiral Roy believed there was an attractive sector for Indo-Australian co-operation in technology design and production of certain military hardware.

A perceptive presentation was given by Dr Derek da Cunha of the Institute of SE Asian Studies in Singapore concerning the naval power of the ASEAN nations.

He considered that although SE Asia was experiencing a rare period of peace, it was afflicted with strategic uncertainties of a kind that make any judgment of the region's future problematical. These uncertainties relate to the slippage in the credibility of the US as a stabilising influence in SE Asia and the wider Asia Pacific; the advent of a second wave of nationalism sweeping the area based on culture, ethnicity and religion; and the spectacular economic rise of China with attendant unease as to its strategic intentions.

As a result most SE Asian states were modernising and expanding their military capabilities, particularly in the maritime field, following a switch in emphasis from land-based threats.

The Thai and Singapore navies have developed credible deterrent and war-fighting capabilities while the other four navies are attempting to move that way, with Malaysia leading. The main maritime focus was now the South China sea and Malaysia, Singapore and Thailand had re-located their basing infrastructure accordingly. Malaysia was developing Tanjung Gelang; Singapore is to re-base its fleet at Changi; and Thailand has decided to base its helicopter/VSTOL carrier (when completed) at Sattahip instead of in the Andaman Sea.

The prospective power vacuum as the United States winds down its presence is likely to be filled by the SE Asian states themselves rather than by another possibly less-benign power.

It is now possible that the ASEAN states may formulate an increasingly uni-



fied strategic policy to deal with territorial encroachment, particularly by China.

He also foresaw the possibility of significant strategic rivalry taking off between China and Japan, and a possible rebound of Russian naval power, noting that Russia was hanging on to its base in Cam Ranh Bay in Vietnam. There was also concern over the goings on off the region's Western flank - the Andaman Sea, Malacca Straits and Indian Ocean.

There were some notable developments in Fleet concepts and Force structure in SE Asia. He believed that 5 ASEAN navies would, in aggregate, deploy something like 20 to 22 diesel-electric submarines by 2005-2010. This would be a significant jump from the 2 boats currently operated by just Indonesia. The use of land-based air power for maritime strike was of increasing significance given the geography of SE Asia and increasing integration of air forces' and navies' operations was now taking place.

Mr Tony Grazebrook, the Editor of the Asia Pacific Defence Reporter, in covering 'Sea Power and Australia's National Interest in the 21st Century', called for an increase in the defence budget from its present very low level. He considered that Australia needed a mining capability with both mines and the means to lay them economically. HMAS TOBRUK should be retained in reserve and not sold; the RAN's ASW capability should be upgraded in view of the number and capabilities of submarines now being introduced into the broad region; the Collins Class should be equipped with a modern heavyweight Torpedo and Tomahawk missiles; improvements in stealth should be designed into our new ships particularly the offshore patrol combatants and replacement destroyers; the projected number of OPCs should be increased to at least

twelve; and there was a strong case to increase the Collins Class submarines to the originally-projected 8. In addition we should look at increasing afloat medical facilities in the two training and helicopter support ships, and the ANZAC ships should be armed and equipped to their full potential including with Seahawk helicopters.

Other major themes covered at the conference included co-operative naval activities beyond 2000; operational lessons and developments in hulls, weapons and tactics; surface, maritime air, mine warfare, and submarine and anti-submarine operations.

Overall one was left with the impression that while the end of the Cold War in Europe has produced a peace dividend with room to greatly reduce armaments, the scene in East and South East Asia is very different, with many uncertainties and most countries considerably increasing their military spending, particularly in the Maritime area.

While there are opportunities for increased co-operation, particularly with the nations of ASEAN, the future strategic intentions of China, in particular, are a cause for concern, as are the relations which may develop between China, India, Japan, the US and possibly again in the future Russia. Any major change in relations between or in the individual strategic intentions of any of these countries could have profound effects in our general region.

Noting the time always needed for the development of maritime capabilities, Australia needs to review once again its programmes in that field to increase the surety of our long-term national defence. That must inevitably mean an increase in the proportion of GDP devoted to defence, observing that maritime capabilities are not the only requirements demanding further attention.





## History Revisited – Onboard HMAS Challenger

Above: The Royal Navy second class cruiser  
HMS CHALLENGER during a visit to Port  
Melbourne, July 1910  
Left: 'Playing Around', 1909  
Bottom Left: April 1909 visit to Port  
Chalmers in New Zealand  
Below: Shore leave



Above left: Coal Ship!



Above right:  
Ship's band, 1905



Right: Captain's staff and  
CHALLENGER's mascot

Below: Crew members  
with Cook Islands natives,  
1909





# Preserved Naval Ships

## HMAS ADVANCE

One of twenty Attack Class patrol boats built for the RAN during the late 1960s HMAS ADVANCE carried out many important and sometimes unusual duties until she was paid off in 1988.

ADVANCE is probably the most well known ship in the RAN, or at least her alter ego, HMAS AMBUSH. ADVANCE starred alongside HMAS BOMBARD during the filming of the ABC television series Patrol Boat. After being paid off ADVANCE was transferred to the National Maritime Museum and can still be seen on Sydney Harbour, this time serving under the red ensign.

## HMAS CASTLEMAINE

One of 60 Bathurst Class corvettes built in Australia during the Second World War, HMAS CASTLEMAINE and her sisters were to render invaluable service as maids of all work. After the war, some of her sister ships served in the navies of Turkey, the Netherlands, Indonesia and China. CASTLEMAINE was paid off in December 1945. After being modified in 1958 she commenced duties as a training ship at HMAS CERBERUS. She was to continue in this role until 1971. Two years later she was transferred to the Maritime Trust of Australia. Since then CASTLEMAINE has been restored and is now a museum ship located at historic Williamstown, Victoria.

## HMAS DIAMANTINA

Launched in April 1944 HMAS DIAMANTINA was one of four River Class frigates built for the RAN during the closing stages of the Second World War. Of 2100 tons and just over 306 feet long DIAMANTINA was built by Walkers Ltd of Maryborough, Queensland. She first commissioned into the RAN on 27 April 1945 and saw service in New Guinea

waters till the end of the war. Paid off in 1946 she was converted from a frigate to an oceanographic research vessel during 1959. Based out of Fremantle she conducted numerous cruises for the CSIRO and assisted in the charting of shipping routes for ore ships operating out of Port Hedland.

During 1969 DIAMANTINA paid a short visit to the East Coast when she undertook an oceanographic survey of the Great Barrier Reef. She returned to the west carrying out her oceanographic work until she was paid off in February

During the Second World War the 33 metre ketch was requisitioned for service as an examination vessel in Sydney. In 1943 she was utilised as a stores carrier and after the war paid off and returned to her owners. From 1946 FALIE resumed her previous career as a coastal trader and was a common sight in Australian waters carrying everything from wheat to cars and an airport control tower.

In 1982 FALIE was sold for the second time in her career to the South Australian Government. As a part of South Australia's 150th Anniversary celebrations FALIE was restored for a re-enactment of the coastal grain trade. She is currently used as a fully operating museum ship in South Australia.

## JOHN OXLEY

During the Second World War the RAN requisitioned a large number of commercial and private vessels for war service. The pilot steamer JOHN OXLEY was one of these.

Requisitioned from her owners, the Queensland Government Harbours and Marine Department on 28 January 1943 she was used by the RAN as an examination vessel. Her function was to prove the identity of any ships trying to enter the port during war. After being paid off on 1 February 1946 JOHN OXLEY was

returned to her original owners and resumed her duty as a pilot steamer. During 1970 she was acquired by the Sydney Maritime Museum and is currently being restored by that organisation.

## KRAIT

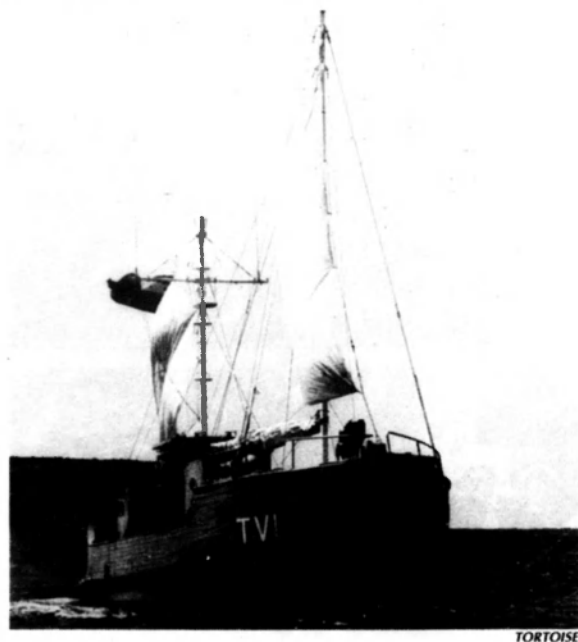
Captured by the RAN after the outbreak of war with Japan, KRAIT was transferred to the Services Reconnaissance Department for use in special operations against the Japanese. She was made famous as a result of the daring

1980. DIAMANTINA was eventually acquired by the Queensland Maritime Museum and steamed from Sydney to Brisbane.

She is currently being restored by the museum volunteer staff and can be inspected by the general public.

## FALIE

Built in the Netherlands in 1919 as the HOLLANDS TROUW, the sailing ketch FALIE was purchased by the Spencer Gulf Transport Co for service in the South Australian coastal trade from 1923.



TORTOISE

## PRESERVED NAVAL SHIPS

raid on Singapore Harbour carried out by Australian and British servicemen. As a result of this mission two merchant ships were sunk and five others damaged. KRAIT later operated in and around Borneo. After the war she was transferred to the British Borneo Civil Administration Unit and later sold into private hands. During the 1960s she was purchased by members of the Volunteer Coastal Patrol and brought to Sydney.

KRAIT currently forms part of the National Maritime Museum's fleet and is preserved as a monument to the valour of the men of the Services Reconnaissance Department.

## MARTINDALE

This South Australian built motor yacht was loaned to the RAN, free of charge, for war service from May 1941. Sixty-six feet long and displacing 52 tons, MARTINDALE served initially as one of over six hundred Naval Auxiliary Patrol Boats. In this role she was armed with a Vickers .303 inch machine gun and two depth charges. Towards the end of the war she served as an air sea rescue boat in waters around New Guinea.

On 31 July 1951 MARTINDALE was returned to her owners and subsequently sold. Today, MARTINDALE may be seen on the waters of Sydney Harbour.

## SLEUTH

The 100 feet steam yacht SLEUTH was built in Sydney in 1901. Part of the wood used in her construction came from the old Victorian naval vessel HMVS NELSON, one of the last three decked ships of the line to be built. SLEUTH was

requisitioned for naval service during the Great War and subsequently purchased. After the war she served as a tender to the RAN's training ship HMAS TINGIRA. SLEUTH was sold out of service in February 1920 and subsequently renamed ENA. During the 1970s ENA sank but was later raised and underwent extensive restoration in Sydney. Following this restoration she was once again named SLEUTH and is currently active on Sydney Harbour where she makes an impressive sight with her sleek yacht lines.

## TORTOISE

Built in 1945 for the RAAF as a 54 ton bomb scow, TORTOISE was transferred to the RAN in 1962. She was converted to carry out duties as a diving tender and in this role was based initially at HMAS RUSHCUTTER and then HMAS PENGUIN. TORTOISE was sold on 26 April 1974. After lying derelict for many years in Sydney Harbour she was acquired by the Naval Reserve Cadet Unit T.S. HAWKESBURY and restored. She is currently based in Gosford and is a regular visitor to Sydney. TORTOISE is an impressive and unusual sight making her way down Sydney Harbour under sail and power.

## HMAS VAMPIRE

A Daring Class destroyer built for the RAN, HMAS VAMPIRE was commissioned into naval service on 23 June 1959. The 388 feet long ship was one of the first sizable all-welded ships to be built in Australia.

VAMPIRE rendered valuable peace-

time service to the navy and the nation. Her final operational role as a training ship continued until she was paid off on 13 August 1986.

She is on display at the National Maritime Museum in Sydney.

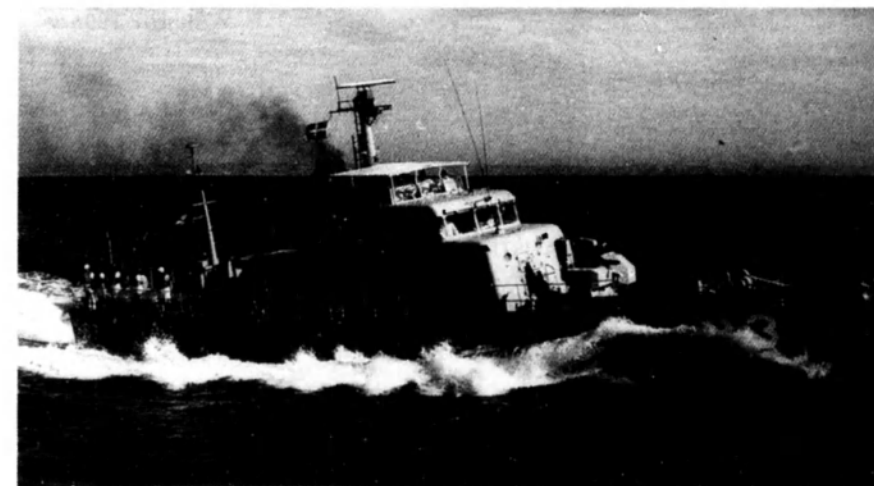
## WATTLE

The ex-naval tug WATTLE was launched in 1933 at Cockatoo Island Dockyard. She served as a harbour craft in Sydney from 1934 until being placed in reserve in 1969. During the Second World War she was used in experiments to provide information on the degaussing of ships as a protection against magnetic mines. WATTLE was sold in 1971 and is preserved by the Victorian Steamship Association in Port Phillip Bay.

## HMAS WHYALLA

A sister ship of CASTLEMAINE, WHYALLA was the first ship to be built by BHP at their Whyalla shipyard. She commissioned on 8 January 1942 and spent a considerable part of her war service engaged on survey duties.

After the war WHYALLA was paid off and laid up in Brisbane pending disposal. She was purchased by the Melbourne Ports and Harbour Department in 1947 for use in maintaining the buoys and navigation markers in Port Phillip Bay. For this task she was renamed RIP replacing the old Queensland gunboat PALUMA. After being paid off by Ports and Harbours she was acquired by the City of Whyalla, South Australia and has returned to her birthplace in Whyalla. Since then work has begun on restoring her to her original configuration.



ADVANCE

## THE DESIGN AND CONSTRUCTION OF BRITISH WARSHIPS 1939-1945 - THE OFFICIAL RECORD

Edited by D.K. Brown  
Published by Conway Maritime Press  
Reviewed by John Mortimer

This is the first volume of a set of three covering the design and construction of British warships during the Second World War. Volume one covers battleships and battlecruisers, monitors, aircraft carriers ranging from fleet to escort carriers, cruisers, fast mine-layers and destroyers. Volume two will be devoted to submarines, escorts and small craft, while the third volume will cover amphibious warfare vessels, the fleet train and other auxiliaries.

While the books emphasis is on the ships designed and built during the war there is also a fair degree of detail on those designs which were developed during the inter-war period, hence there is discussion on the Kent and modified Leander classes which served with the Royal Australian Navy. Similarly, the Tribal class is covered in the chapter on destroyers.

At the end of the First World War, the Naval Construction Department of the Admiralty produced a two volume history of its wartime activities. Though originally classified 'confidential' a number of copies found their way into a few libraries and were a valuable source to historians. When World War Two came to an end it was decided to produce a similar record but, though largely complete, it was never printed or issued. Some papers on the design of frigates, landing craft and submarines were published by the Institution of Naval Architects in 1947, but other areas of design have remained largely uncovered from the official view until the current day.

This book represents a valuable addition to our knowledge of factors that influenced the design of Royal Navy ships during the Second World War. In many respects this period represented a watershed in warship design as it saw the initial stages of the electronic and missile ages which were to have such a profound effect on naval vessels through to the present day.

It is worth noting that because of the rapid technological changes that occurred during and immediately after the war that by the early 1950s those ships which had formed the backbone of the Royal Navies forces during the war were largely obsolete. Few of the ships built during the war would continue on in operational service beyond the mid 1950s and those that did were significantly modified. The day of the battleship had essentially passed, the carrier needed modification to accept the larger and



## BOOK REVIEWS

more capable aircraft entering service, while the role of the conventional cruiser was supplanted by the multi-role destroyer or frigate which rapidly became the maid of all work and consequently grew in size to meet these increasing demands.

As such the period and topics covered by David Brown are of immense interest and provide considerable insight into the evolution of navies into the nuclear age. This series is highly recommended.



## AUSTRALIAN ARMY WATERCRAFT THE UNKNOWN FLEET

By Brian Alsop  
Published by Topmill Pty Ltd  
Reviewed by Mike James

The Australian Army is not an organisation that springs to mind as an operator of ships and craft. However, since Colonial times the Army has operated a vast and diverse range of small craft (and some not so small craft).

For almost a century the Army and its forebears have quietly gone about undertaking water-borne operations through several wars, earning numerous accolades for its skill and daring.

This book, covering the operations of the Army's maritime wing from its earliest days controlling the mining of estuaries and shipping channels, up to the present day activities of Army Water transport, covers an aspect of Australia's maritime history that until now has remained hidden. Published by Topmill Books as part of their excellent maritime series, this 88 page A4 book contains a wealth of information on this little known subject.

The book contains such surprises as the little known vehicular ferries GEORGE PEAT and FRANCES PEAT, converted for use as powered lighters in New Guinea in the Second World War, the strange history of the KALANG, used as a mobile workshop before conversion to a showboat on Sydney Harbour and subsequent wrecking under tow, and the Heavy Lift Ship CRUSADER, designed to lift vast quantities of equipment but completed too late for war service. Specifications are provided for all vessels described, providing a wealth of information for the maritime enthusiast and model maker, without overwhelming the casual reader.

The maritime wing of the Australian Army has served its country well in almost every war that Australians have fought in this century. This book is a fine tribute to those unsung men and women, whose duty, although lacking the glamour of the Senior Service, was every bit as vital. Australian Army Watercraft retails through better newsagents for the \$9.95, excellent value for money that is perhaps one of the biggest surprises of all.

## OTHER BOOKS RECEIVED

### WARSHIP 1995

Edited by John Roberts  
Published by Conway Maritime Press

As in previous years, the annual Warship is a naval reader's delight. A compilation of the writings of more than a dozen of the world's leading authors and commentators. For the 1995 edition, chapters span from the Union Navy in the Civil War, 1861-65, to the proposed Coastal Frigate Designs of the Royal Navy in the 1950s.

The Review Section of Warship 1995, includes current Warship Notes, Naval Books of the Year and the Year in Review. A detailed index is provided. Great reading.

### SUMNER-GEARING CLASS DESTROYERS

By Robert F. Sumrall  
Published by Conway Maritime Press

Naval author, Robert Sumrall has produced a well researched and illustrated technical history of these

famous United States Navy destroyers. Beginning with the design of the ships, he progresses through the Second World War and up to 1995, provides an excellent description of the long-lived 'tin cans'. Separate appendices include complete fleet lists of all ships, including later.

## TODAY'S ROYAL NAVY IN COLOUR

By Jeremy Flack  
Published by Arms and Armour Press  
Review Copy from Capricorn Link

A 192 page volume of the Royal Navy in the mid 1990s, this book is a companion to the author's earlier work on the British Army. Photographically, the book illustrates not only the ships, but includes the weapons, aircraft, shore establishments, Marines, Reserves etc, with numerous onboard and interior views of life aboard.

For the technical student, *Today's Royal Navy in Colour*, offers only a small insight into the service today. The book is designed for younger and general readers.

## BOOK REVIEWS

### WARSHIP LOSSES OF WORLD WAR TWO

By David Brown  
Published by Arms and Armour Press  
Review Copy from Capricorn Link

This superb soft cover book provides a massive amount of detail into the losses sustained by all the world's navies during the period 1939 to 1945. David Brown presents this information through a chronology of warship losses, a country by country summary of those ships and their particulars and a statistical analysis of all losses, presented via regions.

Additional data is presented on warship armament, supported by a very detailed index of ships, battles and actions. Highly recommended.

### CRUISERS OF WORLD WAR TWO

By M.J. Whitney  
Published by Arms and Armour Press  
Review Copy from Capricorn Link

A companion volume to the earlier *Destroyers of WWII*, this book provides much more information and

data than the earlier work. From Argentina to the United States of America, the book describes the cruisers of all allied, axis and neutral navies, whether in service, laid down or projected.


Information is set out with both data and date tables, plus notes on design, modifications and service careers. Supporting the text are hundreds of photographs and line drawings reproduced in large format. Highly recommended.

### MILITARY AIRCRAFT 1996/97

By Gerard Frawley and Jim Thorn  
Published by Aerospace Publications

Based in Canberra, Aerospace Publications have provided the Australian reader with a vast amount of excellent military aviation books in the past decade. This latest effort, March 1996, highlights more than 280 individual naval, air force and army operated aircraft flown by the world's air arms.

Each military aircraft is illustrated and described by a table of data and type history. Australian models are well represented, with the book concluding with a glossary and World Air Power Guide. The International Directory of Military Aircraft is available from all newsgagents.



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