

**25TH ANNIVERSARY OF THE FALKLANDS WAR SPECIAL**

APR – JUN 2007  
www.netspace.net.au/~navyleag

VOLUME 69 NO. 2

\$5.45 (including GST)

# THE NAVY

The Magazine of the Navy League of Australia

*Falklands 82  
The Road to War*

*The Falklands  
Today*

*Sea Harrier  
In Retrospect*

*SHEFFIELD and  
The Type 42 in  
the Falklands*

*League Intelligence Dossier  
Secrets of the Falklands Conflict*

*Australia's Leading Naval Magazine Since 1938*

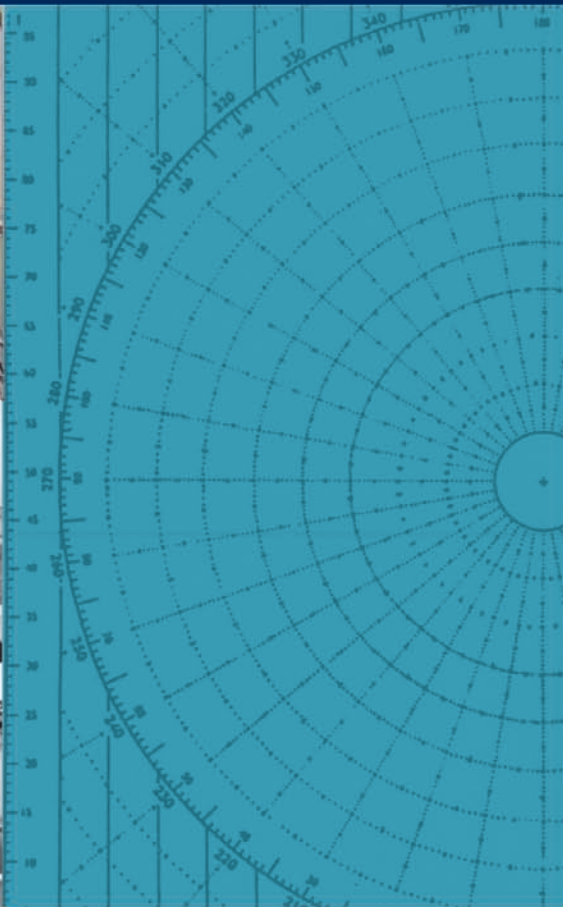
ISSN 1462-1271





## Naval Networks: The Dominance of Communications in Maritime Operations

2007 King-Hall Naval History Conference



## NAVAL NETWORKS: THE DOMINANCE OF COMMUNICATIONS IN MARITIME OPERATIONS

The Royal Australian Navy's Sea Power Centre - Australia, with the assistance of the School of Humanities and Social Sciences, University of New South Wales at the Australian Defence Force Academy, is hosting the fifth biennial King-Hall Naval History Conference, 24 July and 26-27 July 2007. This will be a major international conference with distinguished speakers from Australia, Canada, the United Kingdom and the United States of America. The keynote speaker will be Professor N.A.M. Rodger, author of the much acclaimed multi-volume *A Naval History of Britain*.

The conference program will address the shifting demands facing both national and combined international sea power, together with case studies of command, control, communications and intelligence taken from the ancient world through to the 21st century. The conference will offer new insights into the future face of maritime strategy, the changing nature of global connections, and the continuing nexus between communications and command at sea.

### GENERAL INFORMATION

#### Venue:

24 July: ANZ Theatre, Australian National Maritime Museum, Darling Harbour, Sydney NSW  
26-27 July: Rydges Lakeside Canberra, London Circuit, Canberra ACT

#### Registration:

Sydney: \$100.00 per person  
Canberra: \$200.00 per person  
(Registration includes lunch, morning tea and afternoon tea)

#### Proceedings:

Conference proceedings will be published and forwarded to all attendees at no cost.

#### Conference Dinner:

A dinner will be held on the evening of 26 July in the Anzac Hall, Australian War Memorial, Anzac Parade, Campbell, ACT.  
Cost will be \$90.00 per person.

### CONTACT

Sea Power Centre - Australia  
Conference Coordination Cell  
Department of Defence  
CANBERRA ACT 2600  
Tel: (02) 6127 6514  
Fax: (02) 6127 6521  
Email: [seapower.conferences@defence.gov.au](mailto:seapower.conferences@defence.gov.au)



THE UNIVERSITY OF  
NEW SOUTH WALES



AUSTRALIAN DEFENCE  
FORCE ACADEMY



  
AUSTRALIAN  
NATIONAL MARITIME  
MUSEUM



# THE NAVY

Volume 69 No. 2

## Contents

<b>FALKLANDS 82 – THE ROAD TO CONFLICT</b> By Mark Schweikert	Page 4
<b>SHEFFIELD AND THE TYPE 42 IN THE FALKLANDS</b> By Mark Schweikert	Page 12
<b>SEA HARRIER IN RETROSPECT</b> By David Hobbs	Page 17
<b>NAVY LEAGUE INTELLIGENCE DOSSIER SECRETS OF THE FALKLANDS CONFLICT</b> By Mark Schweikert	Page 30
<b>THE FALKLANDS TODAY</b> By Dr Roger Thornhill	Page 35
<b>Regular Features</b>	
From the Crow's Nest	Page 2
From our Readers	Page 2
The Presidents Page	Page 3
Flash Traffic	Page 24
Observations	Page 29
Hatch, Match & Dispatch	Page 39
League Policy Statement	Page 40

The opinions or assertions expressed in *THE NAVY* are those of the authors and not necessarily those of the Federal Council of the Navy League of Australia, the Editor of *THE NAVY*, the RAN or the Department of Defence. The Editor welcomes correspondence, photographs and contributions and will assume that by making submissions, contributors agree that all material may be used free of charge, edited and amended at the Editor's discretion. No part of this publication may be reproduced without the permission of the Editor.

**Front cover:** The RN Type 42 destroyer HMS SHEFFIELD after being hit by an AM-39 air-launched Exocet ASM on 4 May 1982 off the Falkland islands. (RN)

### *The Navy*

All letters and contributions to:

**The Office of The Editor**

**THE NAVY**

**Navy League of Australia**

**GPO Box 1719**

**Sydney, NSW 2001**

E-mail to: [editorthenavy@hotmail.com](mailto:editorthenavy@hotmail.com)

**All Subscriptions, Membership and Advertising enquiries to:**

The Hon Secretary,

Navy League of Australia, NSW Division

GPO Box 1719

Sydney, NSW 2001

**Deadline for next edition 5 May, 2007**

## The Navy League of Australia

### FEDERAL COUNCIL

**Patron in Chief:** His Excellency, The Governor General.

**President:** Graham M Harris, RFD.

**Vice-Presidents:** RADM A.J. Robertson, AO, DSC, RAN (Rtd): John Bird, CDRE H.J.P. Adams, AM, RAN (Rtd), CAPT H.A. Josephs, AM, RAN (Rtd)

**Hon. Secretary:** Philip Corboy, PO Box 2063, Moorabbin, Vic 3189.

Telephone: 1300 739 681, Fax: 1300 739 682,

Email: [nla@wxc.com.au](mailto:nla@wxc.com.au)

### NEW SOUTH WALES DIVISION

**Patron:** Her Excellency, The Governor of New South Wales.

**President:** R O Albert, AO, RFD, RD.

**Hon. Secretary:** Elizabeth Sykes, GPO Box 1719, Sydney, NSW 2001

Telephone: (02) 9232 2144, Fax: (02) 9232 8383.

### VICTORIA DIVISION

**Patron:** His Excellency, The Governor of Victoria.

**President:** J M Wilkins, RFD\*. Email: [ausnavyleague@mac.com](mailto:ausnavyleague@mac.com)

**Hon. Secretary:** Ray Gill, PO Box 1303, Box Hill, Vic 3128

Telephone: (03) 9884 6237

Email: [raydotgill@optusnet.com.au](mailto:raydotgill@optusnet.com.au)

**Membership Secretary:** LCDR Tom Kilburn MBE, RFD, VRD

Telephone: (03) 9560 9927, PO Box 1303 Box Hill VIC 3128.

### QUEENSLAND DIVISION

**Patron:** Her Excellency, The Governor of Queensland.

**President:** I M Fraser, OAM.

**Hon. Secretary:** Matthew Rowe, PO Box 13402, George Street Post Shop, Brisbane, Qld 4003. Telephone: 0405 734 437.

### State Branches:

**Cairns:** A Cunneen, PO Box 1009, Cairns, Qld 4870.

Telephone: (07) 4054 1195.

**Townsville:** I McDougall, PO Box 1478, Townsville, Qld 4810.

Telephone: (07) 4772 4588.

**Bundaberg:** I Lohse, PO Box 5141, Bundaberg West, Qld 4670.

Telephone: (07) 4151 2210.

### SOUTH AUSTRALIAN DIVISION

**Patron:** Her Excellency, The Governor of South Australia.

**President:** CMDR Dean Watson, RFD\*, RANR (Rtd), 249 Fletcher Road, Largs North, SA 5016.

**Hon. Secretary:** Miss J E Gill, GPO Box 1529, Adelaide, SA 5001.

Telephone: (08) 8272 6435.

### TASMANIAN DIVISION

**Patron:** Mr Tony Lee.

**President:** Mr Tudor Hardy, 4 Illawarra Road, Perth, Tas 7300.

**Hon. Secretary:** Mr Derek Le Marchant, PO Box 1337, Launceston, Tas 7250.

Telephone: (03) 6336 2923, Mob: 0404 486 329.

### State Branch:

**Launceston:** Mr Tudor Hardy, 4 Illawarra Road, Perth, Tas. 7300

Mrs L Cottrell, 5 Anchorage Street, Clarence Point, Tas. 7280.

### WESTERN AUSTRALIAN DIVISION

**Patron:** His Excellency, The Governor of Western Australia.

**President:** Mason Hayman, 33 Keane Street, Peppermint Grove, WA 6011

Telephone: (08) 9384 5794, Mob: 0404 949 282.

**Hon. Secretary:** Trevor Vincent, 3 Prosser Way, Myaree, WA 6154

Telephone: (08) 9330 5129, Mob: 0417 933 780, Fax: (08) 9330 5129,

Email: [chebbie\\_rjnt@primus.com.au](mailto:chebbie_rjnt@primus.com.au)

### FEDERAL ADVISORY COUNCIL

F. Geoffrey Evans, OBE, VRD, Chairman

Neil Baird, Chairman Baird Publications

Wm. Bolitho, AM.

Vice Admiral David Leach, AC CBE, LVO, RAN (Rtd)

Lachlan Payne, CEO Australian Shipowners' Association

Vice Admiral Sir Richard Peek, KBE, CB, DSC, RAN (Rtd)

Vice Admiral Chris Ritchie, AO, RAN (Rtd)

John Strang, Chairman Strang International Pty Ltd.

### Corporate Members

The Australian Shipowners' Association

Hawker De Havilland Limited

Strang International Pty Ltd

## FROM THE CROW'S NEST

This edition of *THE NAVY* marks the 25th Anniversary of the Falklands Conflict between Argentina and the UK. The Falklands Conflict of 1982 is still the last truly maritime conflict that military strategists have to draw examples from, as both recent Gulf Wars had little in the way of maritime threats compared to the 1982 conflict.

The Falklands had all the tenants of what modern navies, such as the RAN, are trying to grapple with today when attempting to predict the future. The conflict included such topical issues as short notice; long range; jointness; expeditionary; operations in littoral environments; and against unknown and untried enemies with elements of modern weapons and weapon systems technology.

Modern navies, and governments, would shudder at having to face all these issues together. As an example, many people,

including military professionals, thought the UK did not have the wherewithal, skill or capability to mount a recapture. Thankfully they were proven wrong.

While tactically nothing new was learned in the Falklands Conflict it did reinforce a number of old lessons that all navies around the world are guilty of forgetting. This is partly due to exercises having low expectations and too much 'safety' built into them. All militaries tend to declare victory over the enemy in exercises and go home on the weekend having learned nothing, as you only learn from your mistakes. The old adage of 'train hard, fight easy' is still relevant today as it was in Caesar's day.

*By Themistocles*

## FROM OUR READERS

### Operation Tungsten

*THE NAVY* Vol. 68 No. 3 of July-September 2006 carried an article 'The X-FACTOR' on the courageous attack by midget submarines on the German battleship TIRPITZ of 52,600 tons, in September 1943. The ship was lying in KAA fjord off ALTEN fjord in the far north of Norway.

I thought your readers may like to hear about another attack on this ship which involved some Australians.

The midget submarine attack on TIRPITZ unfortunately did not put the battleship out of action for many months. By March 1944 sufficient repairs had been effected to bring it to an operational state again and the Admiralty became aware that it was about to start sea trials.

TIRPITZ was once more a threat to Russian convoys and could create havoc among ships in the D-Day build up of troops and materials. Accordingly, a major fleet operation was planned and rehearsed.

Ships involved were two battleships, DUKE of YORK, (C-in-C) and ANSON, two fleet carriers, VICTORIOUS and FURIOUS, four escort carriers, four cruisers, 16 destroyers and replenishment ships. The C-in-C Admiral, Sir Bruce Fraser, with escorts had an independent role, whilst ships of the strike force were under the command of Vice-Admiral Sir Henry Moore (VA2). Russian convoy JW58 preceded the fleet which was to give it distant support.

The Naval Air component comprised two Wings (four squadrons) of Barracuda dive bombers and 11 squadrons of fighters for air cover for the fleet and the bomber force, in addition to a strafing role. These were Corsairs, Hellcats, Wildcats and Seafires. The entire air strike force was under the command of Lieutenant-Commander Baker-Falkner DSO, DSC, RN, who was subsequently lost at sea.

The fleet sailed from Scapa in groups at the end of March 1944 and headed north, meeting up on 2 April 1944 in the Arctic Ocean south of Bear Island and north of Norway.

Just before dawn on 3 April, the attack on TIRPITZ was launched with No. 8 Barracuda Wing of 21 aircraft and escorting fighters taking off at 04:16 hours from the carriers.

(The writer was leading a flight of Barracuda dive bombers. Cmdr. FT Sherborne RAN was flying a fighter as was LCmdr. J Bowles DSC, RAN – both now deceased).

The aircraft formations flew very low on the sea until the snow covered mountainous coast of northern Norway was reached, when they climbed to 10,000 feet and proceeded inland. They crossed the peaks surrounding KAA fjord, snow fields gleaming in the sun, stretched to the horizon but here heavy calibre AA fire was bursting near us and the great battleship of 122 guns (of all calibres) came into view.

Fighters were sent down to strafe and the Barracudas deployed for their attack, rolling into steep dives in rapid succession with AA fire coming from the ship and shore batteries. Smoke was released from canisters round the fjord. Explosions, fires and clouds of smoke occurred as many bombs hit.

Meantime No. 52 Wing of 19 Barracudas and its escort was launched from the fleet. On arrival over the target they found the ship almost obscured by smoke, nevertheless they carried out their attack and then headed for the coast and out to sea to their carriers.

Admiralty reports credit the aircraft with at least 24 hits. German records credit 15 hits and two near misses. TIRPITZ was saved from being sunk by the heavy armour plate decks which were from 130-200mm thick. Eight FAA aircraft were lost.

It was this precision attack which finally prevented TIRPITZ from becoming a threat to D-Day operations and continuing Russian convoys.

Captain Roskill RN – naval historian – said among other comments that the FAA attack was perhaps the most perfectly timed and brilliantly executed bombing attacks of the war.

On return to Scapa the C-in-C Home Fleet received messages of congratulation from: H. M. King George VI; The PM, Sir Winston Churchill; The 1st Lord of the Admiralty, and 1st Sea Lord and the A-O-C RAF Coastal Command.

*By Captain J. A. Gledhill DSC, RAN (Rtd)  
Mona Vale, NSW*

The interests of the Navy League are wide ranging. They cover almost anything to do with maritime affairs. The items below on Cadets, Naval acquisitions and Naval heritage are evidence of that.

Each year one Navy Cadet unit is chosen as the best unit in Australia. The judging process involves inspection of units throughout the nation. The prize for being judged as best unit is the award of the Navy League Efficiency Trophy.

In 2006 the winning unit was TS BUNDABERG in Queensland. In 2006, as in previous years, the award was presented by Chief of Navy, Vice Admiral Russ Shalders, who made the presentation at Bundaberg on 25th November 2006. The League congratulates TS BUNDABERG on its success.

The Efficiency Trophy is not the only award provided by the League for cadets. In each State there exist awards and prizes. In addition to awards recognising the work of units there are in a number of States prizes for individual cadets.

The League has a long, historic connection with the Cadets. Indeed from 1920 to 1973 the League, with some assistance from Navy, ran and funded what was then known as the Australian Sea Cadet Corp. Since the Navy took over the primary responsibility in 1973 the League has retained an active interest in the welfare of the cadets. It has regularly brought to the attention of Navy issues concerning cadets. It has also over the last thirty years provided financial support amounting to several million dollars.

This year is the centenary of naval cadets in Australia. The initial proposals prepared by the National Commander for the Celebration of the centenary have been withdrawn. An alternative programme including a national camp at HMAS CERBURUS is now proposed. The League will itself be undertaking a number of activities to recognise the first hundred years of cadets.

Readers of this magazine will know of the interest the League has taken in the proposed new amphibious ships and AWDs (Air Warfare Destroyers).

Although the Government has made a commitment to the acquisition of these ships no announcement has yet been made as to which ships will be built.

Whichever firm is chosen the question as to where has been decided. The Federal Government has stated that the AWD will be built in Adelaide.

The place at which the two amphibious ships are to be built is yet to be decided. It is at least a possibility that this could be overseas.

The decisions regarding both projects will be announced by the government mid year.

2007 is an election year. It is thus appropriate to consider the views of the Opposition regarding these projects. So far as the amphibious ships were concerned there has been a clear difference of approach. Mr Beazley, when he was Opposition Leader, opposed the government proposal to acquire two large ships. He argued for four smaller vessels. However, Mr

Beazley has been replaced by Mr Rudd. It is not yet clear whether a change in leader has been accompanied by a change in policy.

There seems less likelihood of differences arising over the destroyer project. Apart from any other factor, the commitments which have already been made by both the Federal and the South Australian Governments would make it difficult not to proceed.

It would be expected that should the present government enter into binding contracts in respect of these projects, then in the event that there was a change of government the contracts already entered into would be honoured.

No doubt the views of the new leadership of the Opposition will be made known during the course of this year.

The League is often involved in seeking to maintain our maritime heritage. In most cases this is done in concert with an ally appropriate to the particular issue. The League has for seven or eight years been lobbying for something to be done regarding the AE2, the Australian submarine lost in the Sea of Marmora at the start of the Gallipoli campaign. In recent years the Australian Submarine Institute has taken the lead in pressing the issue. There have now been some worthwhile developments. The government has offered the Institute \$368,000 to conduct a detailed dive survey. Following the survey a report is to be prepared and a joint Australian-Turkish workshop conducted to agree on options and make recommendations on the future management of the AE2.

A very long running heritage issue is the fate of Osborne House. Osborne House Geelong was the site of the first Australian Naval College and later the first submarine base. Members of the League have with other interested organisations, local community groups and the Geelong Council been engaged in meetings, committees and inquiries for fourteen years. A proposal now under consideration may finally result in a satisfactory outcome. It is the aim of the League to ensure that whatever development takes place the historic fabric of the House is preserved and its naval heritage recognised.

Recently I wrote to the Minister for Defence Concerning the possible disposal of the Belconnen Naval Transmitting Station. In my letter I supported representations already made by Engineers Australia and the National Trust. Belconnen was once the most powerful naval wireless station in the British Empire and the largest naval or commercial station in the southern hemisphere. The case is being put that it should be World Heritage listed. Another recent representation concerned the protection of naval memorials overlooking the sea at Queenscliff, Victoria.

Issues of this kind continue to arise. Whenever appropriate the League will give its support to the preservation of our naval heritage.

*By Mr Graham Harris,  
Federal President Navy League of Australia*

# Falklands 82

## The Road to Conflict

By Mark Schweikert

**Discovered in the 16th century and settled in the mid-18th century, the Falkland Islands have been the subject of a number of disputes. First between Spain and France. Then Britain and Spain. Then Spain and the US. And finally between Britain and Argentina. The British asserted their claim to the islands by establishing a naval garrison in 1833 until Argentina invaded on 2 April 1982. The British responded with an expeditionary force that landed seven weeks later and after fierce fighting forced an Argentine surrender on 14 June 1982. Returning them to British control, which remains to this day.**

The Argentine invasion and British recovery of the Falkland Islands in 1982 was very much a maritime affair. This is partly evidenced by the heaviest casualties coming from the naval services on both sides. Operation Corporate, the British mission to recover the Islands, was an amazing feat of military skill. Consider this, it was a long-range, joint, expeditionary mission to put significant land forces ashore that required sea control in the face of a determined modern land based air threat (which outnumbered them 6:1) and in a littoral environment without friendly land based air support.

The Falkland Islands lie some 300 miles off the Argentine coast and approximately 8,000 miles from the UK deep in the

South Atlantic. It is made up of two large islands and approximately 700 smaller ones.

Argentina claimed sovereignty over islands, known to them as the Malvinas. Efforts by her diplomats dating back to the 1960s to gain control of the islands brought nothing. Their claim was based on Spain's brief possession of the islands when it was the dominant colonial power in the region. With Argentina being a former Spanish colony it felt that the Falklands/Malvinas would also be part of its domain when Spain renounced all possessions in South America. However, at that time, the British occupied the islands, and continue to do so today.

The arrival of a Military lead government in Argentina in 1976, after a coup, saw a different perspective on the Falklands/Malvinas issue. The new Military leaders saw only ambiguity, lethargy and deliberate stalling on the UK's part on the issue. For a number of reasons it felt that it could invade the islands and get away with it.

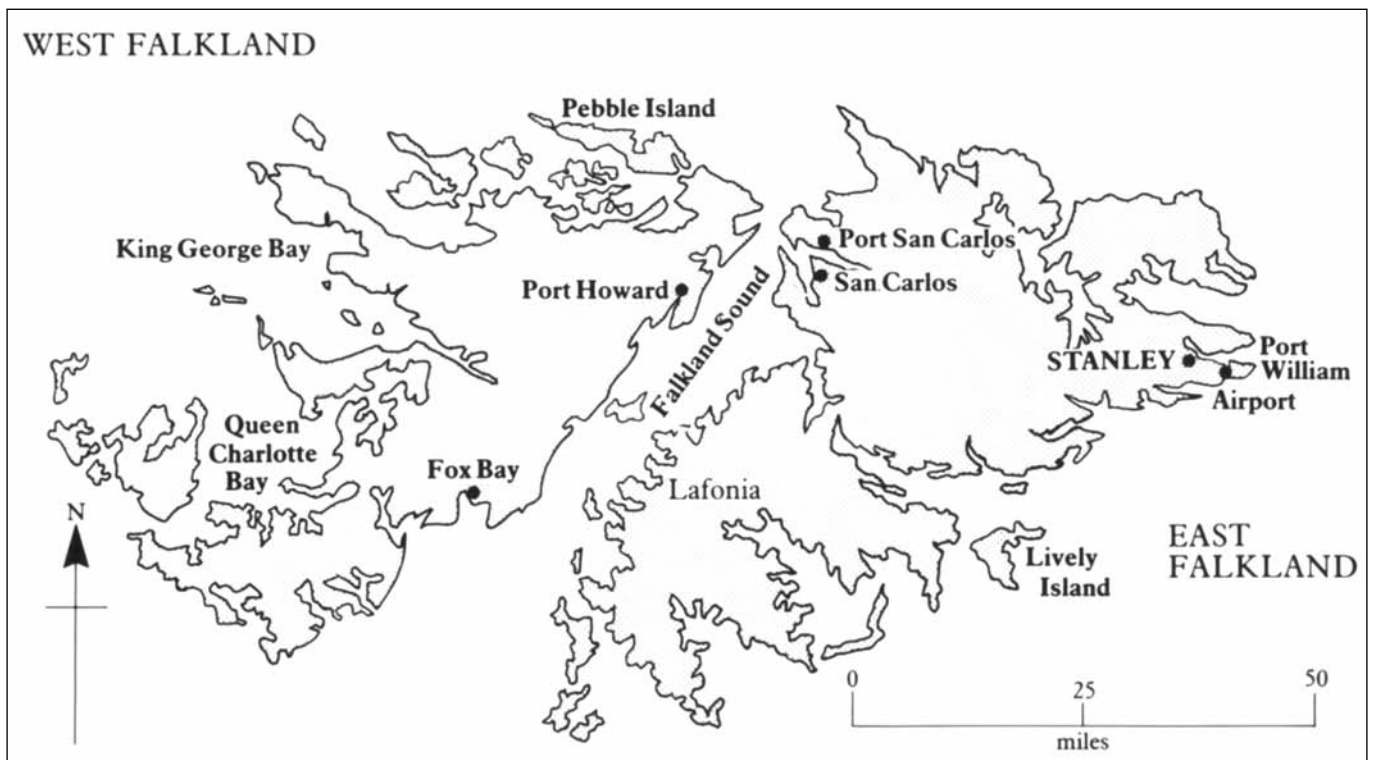
Before the 1982 invasion the British FCO (Foreign and Commonwealth Office) thought the Falklands a forgotten distant outpost of the old Empire which needed to be cut lose. This is also how Argentina perceived British attitudes to the Islands. However, the people of the Falklands saw themselves, and still do, as steadfastly British. In 1981 a film crew from the British Television network Anglia visited the Falklands to make a documentary about the Falkland Islanders. After meeting and talking to the people the documentary went to air with the title *'More British than the British'*.

Despite invading the islands on the 2nd of April 1982 as a hostile military force, the subsequent undeclared war over them was unexpected by Argentina. They had made three strategic assumptions, which on the surface seem quite logical. The first was that the British would not fight for the islands. The evidence for this seemed almost overwhelming. The second was that the Americans would not take sides, for fear of pushing the Argentines towards the Soviets. And finally that the Soviets would veto any UN Security Council Resolution, given the large quantity of grain Argentina was selling to them. Unfortunately for the Argentines these assumptions turned out to be wrong.

The Argentine Military Junta originally planned to invade the Falklands on the 15th of September 1982 under the name Operation Azul (or Operation Blue). This date was chosen for a number of reasons. September would mean all 14 Super Etendard aircraft and 14 AM-39 Exocet anti-ship missiles on order from France would be delivered; the fierce South



The Falklands lie some 300 miles off the coast of Argentina and around 8,000 miles from the UK.



The Falkland islands consist of two main islands and approximately 700 smaller islands.

Atlantic winter would have passed; their conscript army would have had another six months of training (as it was many conscripts deployed to face the professional NATO standard forces of the British Army after only 45 days of training given the conscript training cycle begins in February); and finally, by September, Argentine diplomatic efforts to find a solution would have been seen by the world to be exhausted – thus gaining Argentina the moral high ground. The date's other significance was to allow an Argentine Governor to be in power in time for the 150th anniversary of the last Spanish Governor's expulsion from the islands by the British.

As an aside, by September the new Super Etendards may also have been carrier qualified on Argentina's aircraft carrier, VEINTE CINCO DE MAYO (25th of May); they may have also been far more proficient in the offensive use of this anti-ship capability.

However, an incident involving Argentine scrap iron merchants on the nearby island of South Georgia made the Argentine's believe they had to move sooner rather than later. Operation Azul was changed to Operation Rosario and executed on 2 April 1982. Had the Argentines stuck with the original plan then the outcome of the war may have been very different.



Two British made Lynx helicopters on a football field near Government House in Stanley after transporting Argentine Marines ashore during the invasion. The helicopters came from the two British built Type 42 destroyers which played a big part in the operation.

As mentioned Argentina believed that Britain would not fight for the Falklands. Argentina's Dictator General Galtieri was actually reported to have said that he believed an "*English reaction was scarcely possible and totally improbable*". A fact they still believed in two weeks before the British arrived in Theatre. Only when one of its 707 transport aircraft found the RN Task Force south of Ascension Island in the mid-Atlantic did it really start preparations to defend the islands.

The basis for this Argentine assumption came from a number of policy decisions taken by the UK Government, the FCO and the MoD (Ministry of Defence).

With the Empire's retreat still in progress and the Falklands costing the British Tax Payer money the UK's Cabinet Defence committee decided in 1980 to reach a solution to the sovereignty dispute with Argentina on the basis of a leaseback arrangement. This was acceptable to the Argentines but not to the islanders. The second policy issue regarded the proposed British Nationality Bill which threatened to exclude Falkland Islanders from British citizenship.

Added to this display of indifference by London to the Islanders was the 1981 UK Defence White Paper entitled '*The Defence Programme: The Way Forward*', or sometimes referred to as the Nott Review after the then Minister for Defence Sir John Nott. The White Paper articulated a refocussing on NATO defence through nuclear forces and land based airpower, at the expense of distant British territories and drastic cuts to the Royal Navy. The aircraft carrier INVINCIBLE was to be sold to Australia, the other carrier, HERMES, was to be decommissioned early. The large landing ships FEARLESS and INTREPID, ships that would make a long range expeditionary operation possible, were also to be decommissioned. Apart from other cuts to the numbers of destroyers, frigates, support ships and personnel, it was announced the Ice Patrol and Falklands guard ship ENDURANCE would be decommissioned. The Governor of the Islands' Sir Rex Hunt wrote in his book *My Falkland Days*:

*"The announcement by the MoD of the withdrawal of HMS ENDURANCE after the 1981-82 season was received with*

dismay. Islanders perceived immediately how this would be seen from Buenos Aires (a factor that appeared to have been totally ignored in the decision-making process in Whitehall)."

As one can imagine, had the Argentine's 15 September plan occurred the UK would have potentially been without aircraft carriers, no landing ships with HQ capabilities and no ship on the spot to provide local knowledge and intelligence. By that stage the RAF's long range Vulcan Bomber fleet would have also been withdrawn due to age. The 'Forward' in the 1983-84 edition of Jane's Fighting Ships, the first edition after the war, said:

"...the entire operation (to recover the Falklands) could have been nullified had the requirements of the cuts proposed in June 1981 taken place, including, as they did, the first of the Royal Navy's two assault ships."

So, displaying a lack of commitment to Falkland sovereignty, plans to provide Argentina with a leaseback arrangement and a new Eurocentric Defence policy is how the UK ended up in a war over the Falklands. Facing an enemy it had never envisaged (given their strong Warsaw Pact focus as a member of NATO); 8,000 miles from home; without land based air support; without a friendly harbour; against western weapons (some of which they made themselves) and in a harsh part of the world never thought likely.



Argentine Marines outside Government House with the Argentine flag flying from the main flagpole behind.

## Significant Dates

- 1592 First recorded sighting on August 14, by English sea captain John Davis in the ship *DESIRE*.
- 1690 First recorded landing made by English navigator, Captain John Strong in his ship the *Welfare*. He named the channel dividing the two main islands 'Falkland Sound' after Viscount Falkland, then Treasurer of the Royal Navy. Over the years several French ships visited the Islands, which they called Les Iles Malouines after the French port of St. Malo.
- 1740 Lord Anson passed the Islands on an exploration voyage and urged Britain to consider them as a preliminary step to establishing a base near Cape Horn.
- 1764 The French diplomat and explorer, Louis Antoine de Bougainville, established a settlement at Port Louis on East Falkland.
- 1765 Unaware of the French settlement, Commodore John Byron landed at Port Egmont on West Falkland and took possession of the Islands for the British Crown.
- 1766 Captain John MacBride established a British settlement at Port Egmont. The Spanish Government protested about the French settlement and Bougainville was forced to surrender his interests in the Islands in return



The aircraft carrier HMS INVINCIBLE leads the Task Force's exit from Portsmouth towards the Falklands.

- for an agreed sum of money. A Spanish Governor was appointed and Port Louis was renamed Puerto de la Soledad, and placed under the jurisdiction of the Captain-General of Buenos Aires; then a Spanish colony.
- 1770 British forced from Port Egmont by the Spanish.
- 1771 Serious diplomatic negotiations involving Britain, Spain and France produce the Exchange of Declarations, whereby Port Egmont was restored to Britain.
- 1774 Britain withdrew from Port Egmont on economic grounds as part of a redeployment of forces due to the approaching American War of Independence, leaving behind a plaque as the mark of continuing British sovereignty.
- 1811 The Spanish garrison withdrew from Puerto de la Soledad. At this time, South American colonies were in a state of revolt against Spain.
- 1823 A private attempt was made to establish a settlement on the Islands, but this failed after a few months. The organisers requested the Buenos Aires government to appoint one of their employees the unpaid 'Commander' of the settlement.
- 1825 Britain and the Government of Buenos Aires signed a Treaty of Amity, Trade and Navigation. No reference was made to the Falkland Islands.
- 1826 Louis Vernet, a naturalised citizen of Buenos Aires (originally French with German connections), undertook a private venture and established a new settlement at Puerto de la Soledad.



The Argentine heavy cruiser GENERAL BELGRANO. BELGRANO was sunk by the nuclear powered submarine HMS CONQUEROR using WW II era Mk-8 torpedoes south of the Falklands. Although sunk outside the RN declared exclusion zone the Argentine's themselves believed the entire South Atlantic to be a war zone.





Royal Marines from 40 Commando dig-in on the shores of San Carlos establishing an amphibious bridge head before the expected Argentine counter attack, which never materialised.

1829 Buenos Aires appointed Vernet unpaid Commander of his concession in the Falkland Islands and Tierra del Fuego, on the grounds that they claimed all rights in the region previously exercised by Spain. Britain registered a formal protest, asserting her own sovereignty over the Falkland Islands.

Vernet made the first of several approaches to Britain then to re-assert its sovereignty over the Islands. Earlier he had got the British Consul in Buenos Aires to countersign his land grants.

1831 Vernet seized three American sealing ships, in an attempt to control fishing in Falkland waters. In retaliation, the US sloop LEXINGTON destroyed Puerto de la Soledad, and proclaimed the Islands 'free of all government'. Most of the settlers were persuaded to leave on board the LEXINGTON.

1832 Diplomatic relations between the US and Argentina broke down until 1844. Supporting Britain, the US questioned the claim that all Spanish possessions had been transferred to the Government of Buenos Aires and confirmed its use of the Falklands as a fishing base for over 50 years. The US declared that Spain had exercised no sovereignty over several coasts to which Buenos Aires claimed to be heir, including Patagonia.

Buenos Aires appointed an interim Commander to the Islands, Commander Mestivier, who arrived (with a tiny garrison and some convicts) about a month before Britain re-asserted its claim at Port Egmont.

1833 Commander Mestivier had been murdered by his own men by the time Captain Onslow sailed from Port Egmont in the warship CLIO and took over Port Louis, claiming the Islands for Britain. Buenos Aires protested, only to be told: "The British Government upon this occasion has only exercised its full and undoubted right ... The British Government at one time thought it inexpedient to maintain any Garrison in those Islands: It has now altered its views, and has deemed it proper to establish a Post there." Since this time, British administration has remained unbroken apart from a ten week Argentine occupation in 1982.

1845 Stanley officially became the capital of the Islands when Governor Moody moved the administration from Port Louis. The capital was so named after the Colonial Secretary of the day, Edward Geoffrey Smith Stanley, 14th Earl of Derby.

1914 Battle of the Falkland Islands, one of the major naval engagements of the First World War in which British victory over a German High Seas Fleet secured the Cape Horn passage for the remainder of the war.

1965 United Nations Assembly passed Resolution 2065, following lobbying by Argentina. This reminded members of the organisation's pledge to end all forms of colonialism. Argentine and British Governments were called upon to negotiate a peaceful solution to the sovereignty dispute, bringing the issue to international attention formally for the first time.

1966 Through diplomatic channels, Britain and Argentina began discussions in response to UN Assembly pressure.

1967 The Falkland Islands Emergency Committee was set up by influential supporters in the UK to lobby the British Government against any weakening on the sovereignty issue. In April, the Foreign Secretary assured the House of Commons that the Islanders' interests were paramount in any discussions with Argentina.



Bombs falling into the sea as the amphibious task group comes under attack by the Argentine Air Force. The attacks, while sinking two small frigates, did not stop the amphibious lodgement nor the eventual victory of the land force.

- 1971 Communications Agreement was signed by the British and Argentine governments whereby external communications would be provided to the Falkland Islands by Argentina.
- 1982 On 2 April Argentina invaded the Falkland Islands and diplomatic relations between the two nations were broken off. Argentine troops occupied the Islands for ten weeks before being defeated by the British. The Argentines surrendered on 14 June, now known as Liberation Day.

## The Conflict

The Falkland Islands were invaded by Argentina on 2 April 1982. Despite a determined defence by a small detachment of Royal Marines (posted there primarily for ceremonial duties) with some of the Falkland Islands Defence Force, the Governor, Rex Hunt eventually ordered them to surrender to the vastly superior Argentine force. South Georgia soon followed after a spirited defence by a handful of Royal Marines which proved costly to the Argentines.

The following day Prime Minister Margaret Thatcher announced the formation of a naval task force to liberate the Falklands. Planning for such a move had commenced a few days before after intelligence reports warned of a possible invasion. This Cabinet decision was backed by the leader of the opposition, Michael Foot, who stated Britain had "a moral duty, a political duty and every other kind of duty" to ensure the Falklanders could continue to live as they wished, as a territory of Great Britain.

The task force set sail for the South Atlantic from Portsmouth on 5 April. They were preceded by warships that had been carrying out annual manoeuvres off Gibraltar and three nuclear-powered submarines. More specialist vessels followed, including some 50 ships requisitioned from the commercial sector, amongst them the liners *Canberra*, *QE2*, and the converted hospital ship *Uganda*. In all, over 110 ships and 28,000 men headed for the South Atlantic.

The mission to retake the islands from Argentina was never declared a war. Declaring war would have proven to be detrimental, to both sides. For a start it meant that no country could help either belligerent without being declared a co-belligerent, and thus open itself to attack by the other side. In the UK if war was declared a number of laws and statutes would be automatically enacted making the significant trade the UK had with Argentina illegal. Anyone participating in that trade would be gaoled automatically for dealing with the enemy. There was also a significant ex-pat community in Argentina which provided much of the economic prosperity and support to the government. A declaration of war would mean their incarceration.

The outlying island of South Georgia was retaken on 25 April and a 200 mile exclusion zone was imposed by the



Gun still pointing skyward, HMS ARDENT seen here after being abandoned. She was attacked 17 times by Argentine A-4 Skyhawks while defending the San Carlos bridgehead.



The Royal Fleet Auxiliary SIR GALAHAD burns in Bluff Cove after being attacked by Argentine A-4 Skyhawks. Virtually no air defence was in place to defend this amphibious landing.

British around the Islands on 28 April. The South Georgia campaign saw the first major Argentine casualty, the submarine SANTA FE. She was caught on the surface heading towards open sea from South Georgia's main harbour when set upon by a number of RN helicopters from task group.

On 1 May an RAF Vulcan bomber flown by an Australian, FLTLT Martin Withers, bombed Port Stanley airport in a record 8,000 mile round trip from Ascension Island in the mid-Atlantic. This was immediately followed by several sorties of Fleet Air Arm Sea Harriers bombing not only Stanley airfield but also the grass airstrip at Goose Green.

The first of many air battles between the Fleet Air Arm and the Argentine Air Force took place off Stanley while the Royal Navy bombarded Argentine positions around the town and airfield. Sea Harriers, shot down the first Argentine Aircraft on 1 May.

On 2 May the Argentine Navy attempted a 'pincer attack' on the British Fleet. This involved Argentina's aircraft carrier and three destroyers to the North, three Exocet armed corvettes in the centre and the BELGRANO group with two Exocet armed destroyers to the south. The outcome of the fleet action was the sinking of the cruiser GENERAL BELGRANO, with the loss of 368 Argentine lives, to date the only warship sunk by a nuclear-powered submarine in battle.

Ironically, BELGRANO was the former USS PHOENIX which survived the attack on Pearl Harbor by the Japanese and WW II only to be sunk by a WW II era Mk-8 torpedo in the South Atlantic by the British.

After this the Argentine Navy's surface ships took no further part in the conflict. Its aircraft however did. Two days later, the Type 42 destroyer HMS SHEFFIELD was hit by an Exocet missile, with the loss of 20 lives, launched from an Argentine Navy Super Etendard aircraft.

On the night of the 20/21 May, the 3rd Commando Brigade consisting of three Royal Marine Commando battalions (40, 42 and 45), and two parachute battalions (2 and 3 PARA, from the Army's 5 brigade) and supporting units, landed in San Carlos Water on four beaches. There was little opposition, although two light helicopters were shot down.

The main battle that ensued was between the Royal Navy and the Argentine Air Forces. On the first day every Royal Navy escort was damaged in one of the fiercest air-sea battles since Crete in 1941. Two Type 21 frigates, HMS ARDENT and ANTELOPE were sunk. Another ship, the Type 42 destroyer HMS COVENTRY was also sunk north of San Carlos while providing early warning of air attack and air defence of the Northern approach. Over the following six days Argentine air attacks against the beachhead and shipping took place daily. Fortunately not one logistic ship or item of 3 Commando Brigade's stores had been lost. Thanks must be given to the extraordinary bravery of the Mine Clearance Divers of the Royal Navy and Royal Engineers who defused a large number of unexploded bombs that had lodged in some of the ships.

The battle for San Carlos, or bomb alley as it quickly became known, reduced the Argentine air force to a non-sustainable level. It lost over 12 aircraft in one day alone. The war itself accounted for more than half its air force. After San Carlos its air operations were quite piece meal.

On 26 May, after the news that the converted container ship *Atlantic Conveyor* had been lost to an Exocet attack with essential helicopters still on board, the move out of the beachhead began. The majority of the 3rd Commando Brigade (42 and 45 Commandos and 3 PARA) headed east towards Stanley on foot and by helicopter, while 2 PARA attacked the twin settlements of Darwin and Goose Green. The Argentine garrison of Goose Green surrendered on 28 May after fierce fighting that lasted over 24 hours, and cost the lives of 17 British troops including the Commanding Officer, Lieutenant Colonel 'H' Jones who was subsequently awarded a posthumous Victoria Cross.

While the 3rd Commando Brigade, Royal Marines, were moving east to the high ground dominating Stanley, the Army's 5 Brigade landed at San Carlos on 1 June. 5 Brigade was made up of three infantry battalions; 1st Battalion, 7th Duke of Edinburgh's Own Gurkha Rifles together with two Guards battalions – 1st Welsh and 2nd Scots transferred to 5 brigade to replace 2 and 3 PARA which had been transferred to 3 Commando Brigade.

Because of the shortage of helicopters, much of the brigade was brought forward by two large landing ships (very similar to the RAN's HMAS TOBRUK) to Bluff Cove south of



Argentine troops surrendered in their thousands to British forces despite outnumbering them.



'The guns fall silent'. HMS INVINCIBLE, and a host of support ships, anchored off the Island's capital, Stanley, after Argentine forces surrendered. Without the RN's ability to establish Sea Control (i.e. control of the ocean under, over and above it), through its aircraft carriers, destroyers, frigates and submarines, the mission to retake the Falklands could not have been mounted. (RN)

the capital Stanley by a long southern sea route. During the landing at Bluff Cove the weather cleared allowing Argentine air attacks on both ships, SIR TRISTRAM and SIR GALAHAD. They had landed most of their stores but tragically, some Welsh Guards and Sappers were still on board when the ships were bombed.

Sea Harriers had been placed on CAP (Combat Air Patrol) to protect the Bluff Cove landing but were vectored off to intercept part of the Bluff Cove raiding force over Falkland Sound. Leaving the landing ships to fend for themselves.

On 11 June after eleven days of patrolling, the attacks to defeat the Argentine Army defending Stanley started with a night attack by the 3rd Commando Brigade on three key hills, Mount Longdon, Two Sisters and Mount Harriet. By dawn these were taken, the heaviest losses being suffered by 3 PARA on Mount Longdon. But all three objectives were formidable involving a night of close-quarter fighting in rocky, rough terrain against a well dug-in enemy. The attack on Mount Harriet by 42 Commando Royal Marines was especially remarkable for capturing over 400 prisoners for comparatively light British casualties (two dead and 13 wounded).

Two nights later both brigades attacked, with 2 PARA on Wireless Ridge, and the Scots Guards on Mount Tumbledown. By morning both brigade objectives were taken and the Argentine Army was streaming back into Stanley. The 3rd Commando Brigade followed up immediately and by early afternoon on 14th June, the whole Brigade was in Stanley, while 5 Brigade remained outside.

That evening, General Menendez, the Argentine commander in the Falklands, surrendered to General Jeremy Moore, the British Land Force Commander and by 20 June all outlying settlements and other Islands were surrendered.

The conflict lasted approximately 70 days and claimed the lives of 255 British and 649 Argentine servicemen, and three civilian Falkland Islanders. The British lost 32 aircraft, 18 to enemy fire, and the following ships to Exocet missile and air attacks – HMS SHEFFIELD, HMS ARDENT, HMS ANTELOPE, HMS COVENTRY, RFA SIR GALAHAD, and the MV *Atlantic Conveyor*. The Argentines lost the heavy cruiser GENERAL BELGRANO, the submarine SANTA FE and approximately 117 aircraft of all types.

## NAVAL UNITS IN THE FALKLANDS WAR

The Royal Navy

Flag officer. First Flotilla: Rear-Admiral John Woodward. Commodore Amphibious Warfare: Michael Clapp. Commodore of the Royal Fleet Auxiliary: Captain S.C. Dunlop

Ship	Date entered AO	Class/Type
HERMES	25/4/1982	Aircraft Carrier
INVINCIBLE	25/4/1982	Aircraft Carrier
BRISTOL	23/5/1982	Type 82 destroyer
ANTRIM	17/4/1982	County class destroyer
GLAMORGAN	25/4/1982	County class destroyer
CARDIFF	23/5/1982	Type 42 destroyer
COVENTRY	20/4/1982	Type 42 destroyer
EXETER	19/5/1982	Type 42 destroyer
GLASGOW	20/4/1982	Type 42 destroyer
SHEFFIELD	20/4/1982	Type 42 destroyer
BRIILLIANT	20/4/1982	Type 22 frigate
BROADSWORD	25/4/1982	Type 22 frigate
ACTIVE	23/5/1982	Type 21 frigate
ALACRITY	25/7/1982	Type 21 frigate
AMBUSCADE	18/5/1982	Type 21 frigate
ANTELOPE	18/5/1982	Type 21 frigate
ARDENT	13/5/1982	Type 21 frigate
ARROW	20/4/1982	Type 21 frigate
AVENGER	23/5/1982	Type 21 frigate
ANDROMEDA	23/5/1982	Leander class Batch 3 Sea Wolf
ARGONAUT	13/5/1982	Leander class Batch 2 T.A frigate
PENELOPE	23/5/1982	Leander Batch 2 frigate
MINERVA	23/5/1982	Leander Batch 2 frigate
YARMOUTH	25/4/1982	Rothsay class frigate
PLYMOUTH	17/4/1982	Rothsay class frigate
ENDURANCE	(already in theatre)	Ice Patrol Ship
SPARTAN	12/4/1982	Swiftsure nuclear submarine
SPLENDID	19/4/1982	Swiftsure nuclear submarine
CONQUEROR	16/4/1982	Churchill nuclear submarine
VALIANT	16/5/1982	Valiant nuclear submarine
COURAGEOUS	30/5/1982	Churchill nuclear submarine
ONYX	28/5/1982	Oberon class submarine
FEARLESS	13/5/1982	Fearless class LPD
INTREPID	13/5/1982	Fearless class LPD
SIR BEDIVERE	18/5/1982	Sir Bedivere class LSL
SIR GALAHAD	8/5/1982	Sir Bedivere class LSL
SIR GERAIN	8/5/1982	Sir Bedivere class LSL
SIR LANCELOT	8/5/1982	Sir Bedivere class LSL
SIR PERCIVALE	8/5/1982	Sir Bedivere class LSL
SIR TRISTRAM	8/5/1982	Sir Bedivere class LSL
<b>Troop Transports (Ships Taken Up From Trade – STUFT)</b>		
Queen Elizabeth 2	23/5/82	Cunard Liner
Canberra	13/5/82	P&O
Norland	13/5/82	P&O Ro-Ro ferry
Tor Caledonia	6/6/82	Whitwill Ro-Ro ferry
St Edmunds	7/6/82	Sealink Ro-Ro ferry
Nordic Ferry	25/5/82	Townsend Thorsen Ro-Ro ferry
Baltic ferry	25/5/82	Townsend Thorsen Ro-Ro ferry
Elk	13/5/82	P&O Ro-Ro ferry; Req; 2 40mm guns
Europe	13/5/82	Townsend Thorsen Ro-Ro ferry; Req
Atlantic Conveyor	13/5/82	Cunard Container ship; converted to aircraft ferry
Contender Bezant	7/6/82	Sea Containers Ltd container ship; Req
<b>Royal Fleet Auxiliary Supply Ships</b>		
FORT AUSTIN	26/4/82	RFA Fleet Replenishment Ship
FORT GRANGE	26/5/82	RFA Fleet Replenishment Ship
RESOURCE	25/4/82	RFA Fleet Replenishment Ship
REGENT	8/5/82	RFA Fleet Replenishment Ship
STROMNESS	13/5/82	RFA Stores support ship
SAXONIA	20/5/82	Cunard freighter; Req
LYCAON	21/5/82	Chartered freighter; China Mutual steamship
GEESTPORT	6/6/82	Chartered freighter
<b>Support Ships (STUFT)</b>		
Uganda	8/5/82	Req and converted to hospital ship
Hydra	14/5/82	RFA Casualty ferry
Herald	15/5/82	RFA Casualty ferry
Hecia	9/5/82	RFA Casualty ferry
British Enterprise		BUE North-Sea oil-rig support ship; Req



The aircraft carrier HMS HERMES.



The Type 82 destroyer HMS BRISTOL.



The County class destroyer HMS GLAMORGAN.



The Type 22 frigate HMS BROADSWORD.



The Type 21 frigate HMS AMBUSCADE.



The Rothsay class frigate HMS PLYMOUTH.

<i>Stena Seaspread</i>	8/5/82	<i>Stena North-Sea oil rig support ship; Req</i>
<i>Stena Inspector</i>		<i>Stena North-Sea oil rig support ship; Req</i>
<i>Engadine</i>	2/6/82	<i>RFA Helicopter Support Ship</i>
<i>HMS PIET</i>	18/5/82	<i>United Trawlers; Req as Minesweeper Tender</i>
<i>HMS CORDELIA</i>	18/5/82	<i>J. Man- trawler; Req as Minesweeper</i>
<i>HMS FAMELLA</i>	18/5/82	<i>J. Man- trawler; Req as Minesweeper</i>
<i>HMS JUNELLA</i>	18/5/82	<i>J. Man- trawler; Req as Minesweeper</i>
<i>HMS NORTHELLA</i>	18/5/82	<i>J. Man- trawler; Req as Minesweeper</i>
<i>Salvageman</i>	2/5/82	<i>United Towing ocean tug; Req</i>
<i>Yorkshireman</i>	9/5/82	<i>United Towing ocean tug; Req</i>
<i>Irishman</i>	9/5/82	<i>United Towing ocean tug; Req</i>
<i>Wimpey Seahorse</i>	2/6/82	<i>Wimpey marine ocean tug; Req</i>
<i>St Helena</i>		<i>United International Bank Ltd island supply ship; Req</i>
<i>Iris</i>	21/5/82	<i>Chartered BT cable ship</i>

**RFA Tankers and STUFT**

<i>BAYLEAF</i>	9/6/82	<i>RFA Tanker</i>
<i>BRAMBLELEAF</i>	19/5/82	<i>RFA Tanker</i>
<i>PLUMLEAF</i>		<i>RFA Tanker</i>
<i>Scottish Eagle</i>	10/6/82	<i>Chartered King Line tanker</i>
<i>Alvega</i>		<i>Chartered Finance for Shipping Ltd tan</i>
<i>Balder London</i>		<i>Chartered Lloyds of London tanker</i>
<i>OLMEDA</i>	25/4/82	<i>RFA Tanker</i>
<i>OINA</i>	23/5/82	<i>RFA Tanker</i>
<i>TIDESPRING</i>	17/4/82	<i>RFA Tanker</i>
<i>TIDEPOOL</i>	13/5/82	<i>RFA Tanker</i>
<i>PEARLEAF</i>	4/5/82	<i>RFA Tanker</i>
<i>Fort Toronto</i>	12/5/82	<i>Chartered Canadian Pacific water tanki</i>
<i>Ebuma</i>	27/5/52	<i>Chartered Shell tanker</i>
<i>G.A. Walker</i>		<i>Chartered Canadian Pacific tanker</i>
<i>Dart</i>	14/5/82	<i>Chartered BP tanker</i>
<i>Test</i>	21/5/82	<i>Chartered BP tanker</i>
<i>Tay</i>	23/4/82	<i>Chartered BP tanker</i>
<i>Trent</i>	5/5/82	<i>Chartered BP tanker</i>
<i>Wye</i>	25/5/82	<i>Chartered BP tanker</i>
<i>Bask</i>	22/4/82	<i>Chartered BP tanker</i>
<i>Avon</i>		<i>Chartered BP tanker</i>
<i>Anco Charger</i>	15/5/82	<i>Chartered P&amp;O tanker</i>
<i>BLUE ROVER</i>	2/5/82	<i>RFA Tanker</i>
<i>APPLELEAF</i>		<i>RFA Tanker</i>

**Fleet Air Arm squadrons deployed**

<i>Squadron</i>	<i>Aircraft</i>
737	<i>Wessex III Helicopters</i>
800	<i>Sea Harriers</i>
801	<i>Sea Harriers</i>
809*	<i>Sea Harriers</i>
815	<i>Lynx Helicopters</i>
820	<i>Sea King Mk.II ASW</i>
824	<i>Sea King Mk.II ASW</i>
825*	<i>Sea King Mk.II ASW</i>
826	<i>Sea King Mk.V ASW</i>
829	<i>Wasp Helicopters</i>
845	<i>Sea King Mk.IV ASW</i>
846	<i>Sea King Mk.IV ASW</i>
847*	<i>Wessex V Helicopters</i>
848*	<i>Wessex V Helicopters</i>
899	<i>Sea Harriers</i>

Note: \* indicate squadron specially formed for Task Force operations.

**Argentine Naval Forces**

(some of the units listed did not participate in the conflict due to various causes)

<i>SANTA FE</i>	<i>Balao class submarine</i>
<i>SALTA</i>	<i>Type 209 class submarine</i>
<i>SAN LUIS</i>	<i>Type 209 class submarine</i>
<i>VEINTECINCO DE MAYO</i>	<i>Aircraft carrier</i>
<i>GENERAL BELGRANO</i>	<i>Heavy cruiser</i>
<i>HERCULES</i>	<i>Type 42 destroyer</i>
<i>SANTISSIMA TRINIDAD</i>	<i>Type 42 destroyer</i>
<i>HIPOLITO BOUCHARD</i>	<i>Allen M Sumner class destroyer</i>
<i>PIEDRA BUENEA</i>	<i>Allen M Sumner class destroyer</i>
<i>SEGUI</i>	<i>Allen M Sumner class destroyer</i>
<i>DRUMMOND</i>	<i>A-69 corvette</i>
<i>GRANVILLE</i>	<i>A-69 corvette</i>
<i>GUERRICO</i>	<i>A-69 corvette</i>



The nuclear powered submarine HMS VALIANT and the frigate HMS PENELOPE.



The victorious nuclear powered submarine HMS CONQUEROR seen here returning from the war.



The LPD HMS FEARLESS.



(from L to R) The RFA support ship TIDEPOOL in company with the P&O liner Canberra.

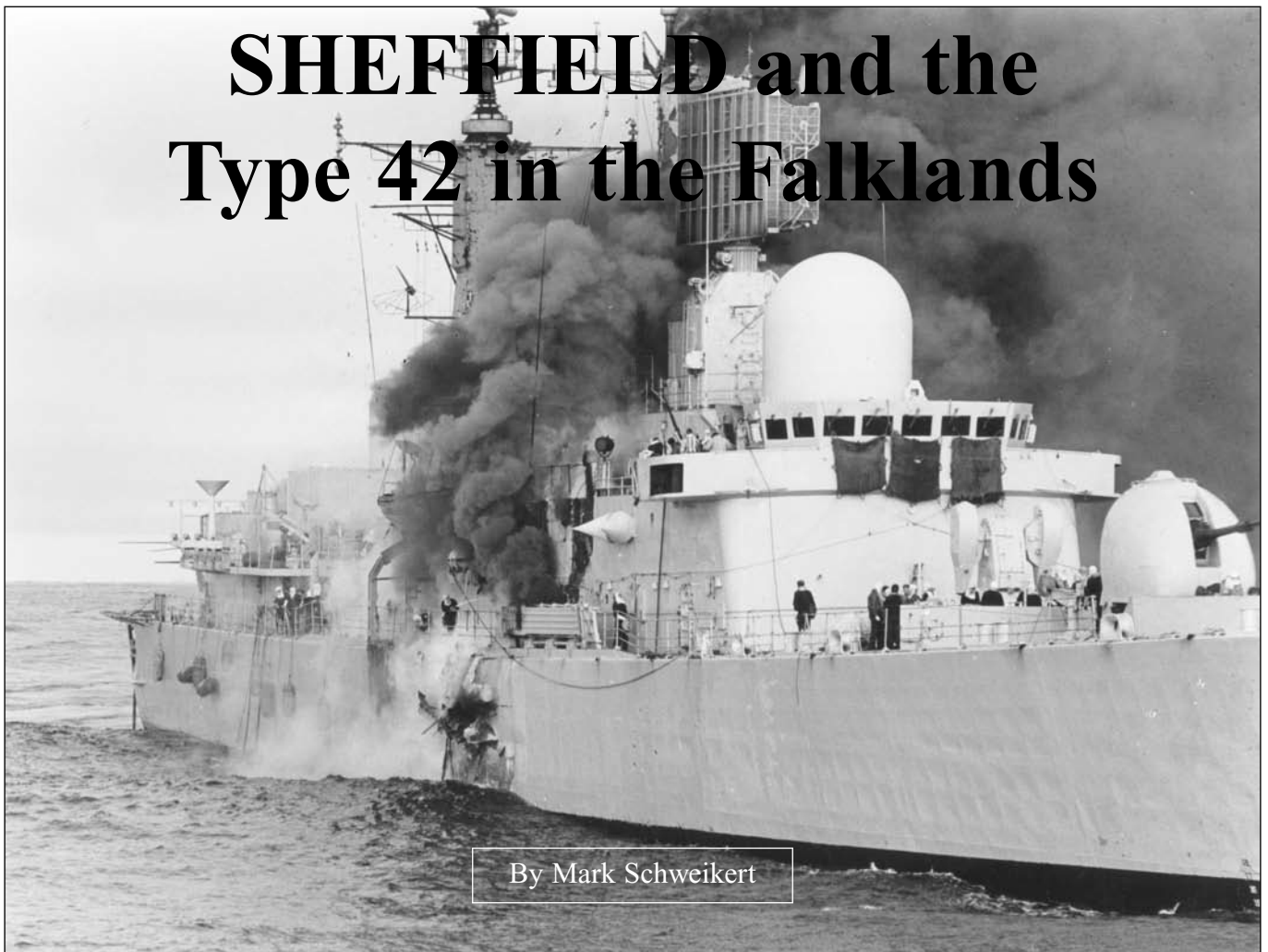


The Argentine aircraft carrier VEINTECINCO DE MAYO (25th of May).



The Argentine Allen M Sumner class destroyer HIPOLITO BOUCHARD.

# SHEFFIELD and the Type 42 in the Falklands



By Mark Schweikert

HMS SHEFFIELD. A large gash in the starboard side of the hull where the Exocet hit can be clearly seen. The image was taken while efforts were still under way to save her. (RN)

**One of the most famous (or infamous) warship sinkings of the last 60 years has been the attack on the RN Type 42 air defence destroyer HMS SHEFFIELD. Why has more to do with the media's portrayal than any aspect of the actual attack or ground breaking technology. Her sinking has given fuel to many anti-ship proponents who fail to understand the crucial role of the anti-air destroyer in maritime conflict. Mark Schweikert takes up the story.**

Part of the initial naval response to the Falklands conflict saw the RN deploy three of its Batch I Type 42s; SHEFFIELD, GLASGOW and COVENTRY, along with other fleet units. With the impending arrival of the RN in the South Atlantic, the Argentine Air Force assessed that the anti-aircraft Type 42 destroyer would be a major obstacle to attacking the more important aircraft carriers and amphibious assault ships. They identified these as the RN's centre of gravity. They believed that if they could take out the picket ships then the war could be won. Consequently, the Type 42 would become the main target.

The Type 42's main weapon is the Sea Dart anti-aircraft missile. Sea Dart is guided by homing in on reflected radar energy from the target generated by a powerful fire control radar on the ship, in this case one of two Type 909 illumination radars. Sea Dart has a range of approximately 40 nautical miles and a maximum speed of Mach 3.5.

Australia played a big part in Sea Dart development. Trials of the new British missile were conducted at Woomera in South Australia during 1965 – 1968 with Australian scientific help under a bi-lateral testing agreement. Another trial was conducted in 1975 to test it against sea-skimming missiles, against which, it performed well.

With the Argentines owning two Batch I Type 42 destroyers (ironically the only Type 42 export customer) they were able to use them to develop tactics to play to the class's weaknesses. They learned that flying ultra low, or with land behind the aircraft/missile, that the Batch I Type 42 was unlikely to be able to engage an attacking aircraft due to a lack of an MTI (Moving Target Indicator) function in its radar suite. MTI enables the radar processor to pick out the airborne target from the background returns known as clutter. No MTI in these circumstances meant the fire control computer could not get accurate data to fire a Sea Dart at the target.

One way that the Task Force commander tried to mitigate against the Type 42's weakness at low level interceptions was to place a Type 22 Sea Wolf armed frigate with the Type 42 to act as a 'goalkeeper'. The Type 22's Sea Wolf missile was specifically designed for short range, high speed, low level interceptions. The frigate's air search radar also had an MTI function which could be used close to land and data linked to the destroyer for Sea Dart interceptions (which worked successfully on two occasions). Alternatively, if Sea Dart was still unable to engage then Sea Wolf would form a second defensive layer for the destroyer. This trial combination of Type 42 and 22 classes, sometimes colloquial referred to as a



Two Argentine Air Force A-4 Skyhawks at very low level about to make a bombing run on the frigate HMS BROADSWORD. (RN)

Type 64, unfortunately had mixed results. It was also hampered by the fact that only two Type 22 frigates were available to the Task Force, which were tasked with close protection of the carriers HERMES and INVINCIBLE.

## SHEFFIELD

The first Type 42 casualty (and indeed the first RN casualty) of the war was HMS SHEFFIELD. She was part of a picket line of three anti-air destroyers 30 miles 'up threat' from the Task Force carriers on 4 May 1982 when two Super Etendards attacked using Exocet ASMs (Anti-Ship Missiles). The two aircraft were flying very low towards the ships and below the radar horizon due to the curvature of the earth. One popped up at 20 miles to use its search radar to locate the picket line and dropped back down to below the horizon. Both then popped up at 12 miles with each firing its Exocet.

Despite the attack being seen, and the radar picture data linked to the fleet from the destroyer GLASGOW, which also issued numerous warnings, SHEFFIELD was hit.

So how could a specialist anti-air destroyer fall victim to such an attack when it had proven some months earlier on exercise that it could deal with such a threat?

The commonly held view of SHEFFIELD's demise was her use during the attack of the ship's satellite communications (SATCOM) equipment. It was known that using the SATCOM interfered with the ship's radar warning receivers as the SATCOM operated on the same frequency band as the radar on a modern ASM. However, when the warning was received of an impending attack SHEFFIELD's SATCOM was turned off.

GLASGOW repeated her warnings of attack continuously as she could see the enemy aircraft on radar and had picked up numerous enemy search radar transmissions. She also fired a number of chaff rockets into the air to confuse the attackers. The Captain had also tried to get a fire control lock on the Super Etendards and then the Exocet to no avail given their low altitude.

At this point the fleet anti-air coordination officer in the carrier INVINCIBLE declared GLASGOW's warnings as 'spurious'. Part of his assessment included the fact that no one else held radar contact with the incoming Argentine Super Etendards nor had any indications of a Super Etendard's search radar being used. Also, there had already been a number of false alerts during that morning. SHEFFIELD's crew believed the 'spurious' claim from INVINCIBLE and continued at a reduced damage control state, reduced action stations, did not inform the Captain of the warning and did not fire chaff rockets.

At the time of the attack SHEFFIELD's Principle Anti-Air Warfare Officer and three of his cell of eight were out of the Operations Room. This affected the way SHEFFIELD reacted to GLASGOW's warnings. The other Warfare Officers in the Operations Room in SHEFFIELD were busy in prosecuting what was believed to be an enemy submarine contact. Both these events diverted attention away from the air picture, with devastating results. In fact after the missile hit, SHEFFIELD's crew believed they had been struck by a torpedo given the activity to locate a submarine. The torpedo theory was also conveyed to Fleet HQ in the UK. It was not for some hours after a reconstruction of events had taken place that it was realised a missile was responsible.

The Exocet that hit SHEFFIELD failed to detonate. Although the impact ignited unused rocket fuel in the missile starting an uncontrollable fire. The missile impact also breached the fire main. When the fire reached the Sea Dart missile magazine the Captain ordered abandon ship. SHEFFIELD sank five days later while being towed to South Georgia in a heavy sea.

## Other Type 42 Actions

The other two Type 42s sent to the South Atlantic also saw action and became casualties. While acting as an anti-aircraft missile trap and bombarding the airport off Stanley on 12 May HMS GLASGOW was hit by a 1,000lb bomb dropped from a Grupo 5 A-4B Skyhawk. The bomb passed through her midships at the water line without exploding. However, the internal damage effected her ability to provide anti-air cover. She was withdrawn early when reinforcements arrived.

On 25 May HMS COVENTRY sank within 30 minutes after three 1,000lb bombs dropped from two Grupo 5 A-4B Skyhawks exploded inside her while she was acting as a radar picket/missile trap north of West Falkland. Up until that point COVENTRY had shot down three to five aircraft during the war and was providing numerous successful fighter interceptions and early warning of air attack to the amphibious bridge head at nearby San Carlos. Her destruction was a planned strike operation by the Argentines given her effectiveness in that position.



The Type 22 frigate BROADSWORD. Only two Type 22 frigates were available to the Task Force. Their main role was to defend the carriers from Exocet attack given their accurate Sea Wolf missile system. (RN)

The initial three anti-air destroyers that were sent with the fleet to the South Atlantic were replaced by two Type 42 destroyers, CARDIFF and EXETER (an improved Batch II Type 42) and the sole Type 82 destroyer BRISTOL (which had the same armament and combat system as the Batch I Type 42).

As a Batch II Type 42, HMS EXETER had a much improved air search radar with an MTI function and a much improved combat system. This made the Argentine tactic of flying low no longer viable. Her ability to engage fast low flying targets was seen on 30 May during a combined attack by Navy Super Etendards, Exocet and Air Force A-4 Skyhawks.

With only one Exocet left the Argentines executed a bold tactic to maximise the effect of the Exocet. In a joint mission (a first for the air forces of Argentina), two Navy Super Etendards were joined by four Air Force A-4C Skyhawks to attack the British fleet east of Stanley. The Super Etendards used their search radars to locate the British fleet, fired the last remaining Exocet at it and then let the four A-4 Skyhawks follow it in while the Super Etendards headed for home. The Exocet acted as a pathfinder for the Skyhawks, which had no search radar. Unfortunately for the Argentines they came upon EXETER.

EXETER shot down two of the Skyhawks at wave top height. There is also strong evidence to suggest that she shot down Argentina's final Exocet with a Sea Dart missile (which was proved possible at Woomera in 1975). The other two Skyhawks dropped their bombs near a Type 21 frigate and flew home.

## Operations Analysis

Despite suffering the most dead and wounded of any one class of ship in the Falklands Conflict, the Type 42s had a remarkable influence on Argentine air operations. The RN task force commander, Rear Admiral 'Sandy' Woodward, wrote;

*'...we did not know...of one fundamental factor which was going to dominate the thinking of the Argentine aviators: Their high regard for the effectiveness of the British medium-range surface to air missile system, Sea Dart. And it caused them to decide against using the middle and upper air, to get below Sea Dart at all costs. This left them with only very low flying.'*

The Argentine tactic to counter Sea Dart, while partially successful, had a number of unexpected and crucial tactical consequences. Attacking aircraft dropped bombs from such a low level to avoid Sea Dart that the safe arming device on the bomb's fuse usually didn't have time to arm the bomb. Many bombs, while accurately delivered, failed to detonate and either passed through the ship being attacked, bounced over it or lodged inside. Approximately 15 ships were hit or narrowly



The Type 21 frigate HMS ARROW comes to the aid of HMS SHEFFIELD. (RN)



The frigate HMS YARMOUTH towing the abandoned SHEFFIELD to South Georgia. With a large amount of fire fighting water still present and a large hole in her side SHEFFIELD sank on route to South Georgia when water flooded in through the hole during a storm. (RN)

missed by bombs that failed to explode due to low-level bomb release. Had the Type 42s not been present, and weighing on the minds of the Argentine pilots, then bombs would have been dropped from a more appropriate height, with potentially devastating results. An example of this was seen at Bluff Cove when A-4 Skyhawks attacked and bombed the two landing ships SIR GALAHAD and SIR TRISTRAM. Without the presence of a Type 42 the Skyhawks were able to bomb from the correct height causing a terrible loss of life on the ships.

The other influence on enemy air operations the Type 42s had was that low flying meant no night flying. This would serve to act as a force multiplier to the small force of Sea Harriers as their maintenance could be conducted at night and their pilots rested.

As an aside, the other plus for the Sea Harriers was that their first encounter with Argentina's Mirages proved to the Argentines that they were totally outclassed. All air operations were then redirected to anti-ship with orders to avoid the Sea Harriers. While providing a positive effect for the Harriers it made the job of the Type 42s even harder.

With the middle and upper air denied to the Argentine Air Force its long range reconnaissance and strike assets were essentially sidelined. Their long range, high load carrying strike aircraft, the Canberra, would be unable to act in the anti-shipping role and be limited to use against land targets.

Their photo reconnaissance Learjet aircraft would also be restricted from operations over the islands. However, on 7 June



the Argentines pressed their luck and launched four photo reconnaissance Learjet aircraft to photograph the British positions in San Carlos. The lead aircraft of this group was shot down by HMS EXETER with a Sea Dart at over 40,000ft.

Canberra bombers also pressed their luck towards the end of the war making nightly bombing raids on British Army positions around the hills of Stanley. These missions achieved very little. On the night of 14 June the initial reason for the Canberra's absence was reinforced. On a bombing mission over Mount Kent a Canberra was shot down by a Sea Dart.

With Argentine air operations forced to low level this also had the effect of forcing them into the engagement zones of other air defence systems such as Sea Cat, Sea Wolf, Rapier, Blowpipe and guns of all calibres. These accounted for 44 aircraft which could otherwise have avoided these systems by using the middle to upper altitudes.

An interesting indirect influence that the Type 42 had on Argentine ground operations concerned its potential to interdict the land force's logistics supply line. Type 42 destroyer's placed close to Stanley airport for bombardment missions had the added effect of shutting the airport down, through the threat of Sea Dart to air traffic. The potential for this was first seen on 9 May when COVENTRY fired a Sea Dart at a C-130 approaching Stanley airfield, fortunately for the crew the missile missed but a second is thought to have claimed two A-4 Skyhawks acting as a fighter sweep by detonating between them.



The patched bomb hole damage to GLASGOW at the waterline. Fortunately the bomb did not explode but damaged enough internal systems that reduced her ability to provide air defence to the Task Force. (RN)

By placing a Type 42 within Sea Dart range of the airfield the task Force Commander was able to close the airport. Thus instead of the hundreds of transport flights into Stanley that might have been expected, there were only 33, collectively bringing in 434 tons of supplies. To an army of 11,000 cut off from home in the cold weather and already desperately short of supplies, 434 tons was totally insufficient to sustain it. As it was, logistics proved to be a fundamental factor in the land war. Although being outnumbered on the ground, better logistics ensured the balance remained tipped in favour of the British.

## Conclusion

During the Falklands Conflict the RN traded the Argentine air forces four warships for 117 aircraft. In strategic terms this was a complete victory, for the warships are required to provide any protection necessary for the vital assets to win the day, including getting in the way of the attack. To back up this point, the morning after the loss of SHEFFIELD the Chief of the UK Defence Staff, Admiral of the Fleet Sir Terrance Lewin, entered the office of the Naval Staff asking why everyone was so gloomy. They replied that SHEFFIELD had



HMS COVENTRY under attack. COVENTRY took three 1,000lb bombs with delayed fuses inside the hull. (RN)

been sunk. He said, "...there's no point in having these ships if you are not prepared to lose them."

Given the inherent handicaps on the Type 42 it will come as no surprise that of the 117 Argentine aircraft destroyed during the Falklands Conflict only eight were the direct result of the Type 42. On the figures alone, one could be forgiven for questioning the viability of the anti-aircraft destroyer concept, particularly given two were sunk by air action and another badly damaged. However, as the authors of the book *Air War Over the South Atlantic* state:

*"... to judge the effectiveness of an air defence system solely on the number of aircraft it shoots down is to miss the essential point. The primary purpose of air defences is to protect targets; if in the process of securing that aim enemy aircraft are shot down, that is a bonus."*

In that vein, the Type 42s certainly did protect the fleet with higher RN ship attrition rates being avoided due to their known presence and targeting by the Argentines.

Despite poor sea keeping abilities, no second defensive air defence layer and an inability to see aircraft backgrounded by land or engage them at low level the Type 42 was still able to produce a result greater than the sum of its parts, which in turn saved many of the Task Force's ships. It formed part of a layer of systems to the air defence of the Royal Navy Task Force. Those layers consisted of Sea Harriers, Sea Dart, Sea Wolf, Sea Cat, Rapier, Blowpipe and guns of all calibres. Although not fully networked, the constraints it placed on Argentine air operations helped win the air war in the South Atlantic.



A faint image of the last Exocet attack sortie from the window of an Argentine air-air refuelling C-130 Hercules. The ASM can be seen under the Super Etendard's Starboard wing. The smaller aircraft in the background are Argentine Air Force A-4C Skyhawks also refuelling. This Joint attack was launched on 30 May and was unsuccessful. Partly due to the attack running into the Batch II Type 42 destroyer HMS EXETER.

# Operation Corporate Anti-Air Destroyers



HMS SHEFFIELD.



HMS CARDIFF.



HMS COVENTRY.



HMS EXETER.



HMS GLASGOW.



HMS BRISTOL.

# Sea Harrier in Retrospect



By Commander David Hobbs MBE RN (Rtd)

Newly delivered FRS-1 Sea Harriers at the Royal Navy Air Station at Yeovilton in the UK. (RN 1980)

**The Sea Harrier entered service with the Royal Navy in September 1979 with the formation of 700 A Naval Air Squadron, the Intensive Flying Trials Unit, at RNAS Yeovilton. It has seen longer service than any previous RN fighter and its operational career has spanned a quarter of the 90 years since the Royal Navy first procured fighters to operate from ships at sea. Commander David Hobbs MBE RN, former Curator of the Fleet Air Arm Museum, and a former FAA pilot, takes a look at the Sea Harrier's record in peace and war.**

Admiralty interest in VTOL can be traced back to a specification for a "quick reaction" VTO fighter capable of intercepting Kamikaze attacks in 1945. Fairey responded with a turbo-jet powered "tail-sitter" which would have been boosted up rails attached to the flight deck and which would have recovered to the carrier "more or less" normally. The end of World War II took the urgency out of the project but some model flying was carried out at the Woomera Range in Australia. By the early 1950s, scientists at the Royal Aircraft Establishment (RAE) predicted that future supersonic fighters would have wings so small that vertical landing would be the only practical means of recovering to a carrier. Tentative plans for a VTOL carrier were drawn up as early as 1951.

Some naval interest was shown in the Hawker P1127 and prototypes operated from HMS ARK ROYAL in 1963 and HMS BULWARK in 1966. The Royal Navy did not take part in the Tripartite Evaluation Squadron which tested the semi-operational Hawker Kestrel FGA 1 in 1965 although the US Navy did participate. Political pressure was put on the Royal Navy to adopt the much bigger and heavier projected Hawker P1154 as a joint RAF Hunter and RN Sea Vixen replacement. The concept was ahead of its time and both Services eventually procured the F-4 Phantom from the USA when spiralling development costs and Treasury opposition led to the P1154's cancellation. Of interest, the two versions of the basic design were to have been named the Harrier and Sea Harrier.

RAF interest in a V/STOL close support aircraft survived the cancellation and a developed version of the original P1127

technology demonstrator went into service in 1969. It was given the name Harrier. The run-down of the Royal Navy's conventional carrier force after 1967 led to a re-appraisal of V/STOL aircraft and their potential for operations from small anti-submarine carriers. Surface to Air missiles in ships and shore based fighters were expected to constitute the Fleet's principal air defences but neither were effective against "shadowing" aircraft feeding information to enemy attack aircraft and submarines. The Sea Harrier was intended to counter this threat. It was also obvious to aviators in the naval staff that shooting down missiles launched from 'stand off' bombers was a very short-term solution to the air defence problem since bombers could continue unharmed and re-armed to keep 'shooting' at surface ships until they literally ran out of ammunition. A long range fighter could eliminate the 'shooter',



A P1127 Kestrel. The P1127 was the first 'jump jet'. Test and evaluation would later spur on development of the RN Sea Harrier and RAF GR series of Harrier.



A Sea Harrier FRS-1 in its Dark Sea Grey Falklands War paint scheme.

thus winning both tactical and strategic leverage. The US Navy's 'Forward Strategy' relied on the F-14 Tomcat's ability to take out the Soviet Naval Air Force's long range bombers as they tried to attack and thus win battle-space dominance.

## Into Service

The Sea Harrier differed from its shore based cousin by having a new forward fuselage housing a cockpit raised by 11 inches and a folding nose section which housed a Ferranti Blue Fox radar. Components liable to corrosion in the salt laden atmosphere at sea were replaced with less vulnerable materials. The aircraft was the first in British service with an integrated weapons system centred on a digital computer which fed primary information to the pilot through the Smith's HUD. Radar information was displayed on a TV screen to the right of the conventional instruments. Critical mission components included a 'state of the art' Navigation, Heading and Attitude Reference System (NAVHARS) and Weapon Aiming Computer (WAC). The space beneath the raised cockpit gave room for the 'black boxes' and the new canopy gave a better all round view for the pilot. The frequency agile Blue Fox was derived from the Sea Spray radar in the Lynx helicopter. It was limited in range, and like all pulse radars, clutter from sea returns or the land negated any effective 'look down/shoot down' capability. Principal armament was the new AIM-9L version of the Sidewinder AAM which gave the Sea Harrier a formidable air to air capability in clear air. Up to four missiles could be carried plus two podded Aden cannon, with 100 rounds per gun, and drop tanks. A single, oblique F95 camera gave a limited tactical reconnaissance capability and a variety of ground attack weapons including "iron bombs", unguided rockets and cluster bombs could be carried up to a total weight of 5,000 lb. The Sea Harrier was also 'wired' to carry the WE-177A 20 kiloton nuclear bomb and, from 1985, the Sea Eagle air to surface guided missile.

## Into Combat

The Sea Harrier will always be associated with the South Atlantic campaign to liberate the Falkland Islands. On 2 April 1982, the Commanding Officers of 800 and 801 Naval Air Squadron (NAS) were ordered to bring their units up to war strength and to prepare to embark. The Commanding Officer of 899 NAS was ordered to support them with aircraft, aircrew and maintenance personnel. Their carriers were both in Portsmouth, HERMES undergoing a maintenance period and INVINCIBLE giving Easter Leave. 800 NAS had five aircraft on strength and took on four aircraft from 899, two from storage at RAF St Athan and one from the Aeroplane and Armament Experimental Establishment (A & AEE) trials fleet at Boscombe Down. 801, also with five aircraft took three from 899 for service in the smaller carrier.

The squadrons embarked ready to sail with Task Force 317 on Monday 5 April, a magnificent achievement. Once at sea, the enhanced squadrons operated as two groups commanded by Lieutenant Commander Andy Auld RN in HERMES and Lieutenant Commander "Sharkey" Ward RN in INVINCIBLE. Lieutenant Commander Neil Thomas RN acted as Force Chief Tactical Instructor (CTI) and Lieutenant Commander Tony Ogilvy RN, the CO (designate) of 801 NAS became Force Air Warfare Instructor (AWI). This very experienced group led small but highly experienced and determined teams.

On the afternoon of 7 April, Lieutenant Commander Tim Gedge RN the former CO of 800 NAS was ordered to leave his 'desk' job and form a new Sea Harrier unit designated 809 NAS. This was to have as many aircraft and pilots as possible, taking most of the ground crew left behind by 899 NAS. They were to augment and provide attrition replacements for the deployed air groups. It proved possible to provide eight aircraft, of which five came from storage at RAF St Athan, two from the Sea Harrier Support Unit (SHSU) at RNAS Yeovilton and one from accelerated construction at British Aerospace Dunsfold. Of the seven extra pilots, one came from the Yeovilton simulator, two from exchange duty with the US Marine Corps, one from exchange duty with the Royal Australian Navy, one from exchange duty with the RAF and the balance was made up with two experienced Harrier pilots from RAF Germany.

Most of April was spent working up to operational efficiency and on 25 April, Tim Gedge landed on the VTOL landing pad built onto the MV *Atlantic Conveyor*, which had been converted into an aircraft support ship in Devonport Dockyard, to prove that it was viable. It was on 30 April that six of 809's aircraft left Yeovilton and flew to Banjul in Gambia, refuelling in flight several times from RAF Victor tankers. After an overnight stop, they flew on to Ascension Island. The remaining two aircraft followed them a day later. In early May, the Harrier GR-3s of 1 Squadron RAF commanded by Wing Commander Peter Squires RAF followed, the longest transit flight ever carried out by single engined, single seat RAF aircraft. They all embarked in *Atlantic Conveyor*, off Ascension on 6 May for passage to the Task Force with one Sea Harrier on deck alert to provide air defence against shadowers if necessary. A Victor tanker stayed nearby to refuel this fighter should it need to be launched. There are few achievements in modern warfare to equal the speed with which the Sea Harrier force and their RAF colleagues were put into a war footing. The 'seeds' of Joint Force Harrier were sown. All eight reinforcement Sea Harriers went to HERMES at first, four of them subsequently remaining with her air group and four transferring to INVINCIBLE.

It was clear from the outset that the Falklands could not be recovered if the enemy had air superiority. The Sea Harrier's first



The Sea Harriers sent to the Falklands after the war on HMS ILLUSTRIOUS were modified with double racks of AIM-9L Sidewinder and larger external fuel tanks. These improvements provided longer range and time on station as well as twice the fire power.



An improved FA-2 Sea Harrier in the hover. The FRS-1 Sea Harrier underwent an improvement to include the new Blue Vixen radar in the modified nose, which enabled the use of the AIM-120 AMRAAM.

task was, therefore, the air defence of the British Task Force. Until the arrival of 1 Squadron, they also had to carry out strikes on targets ashore. Against them, the Argentine Air Force had eleven Mirage III fighters, 46 Skyhawk attack aircraft, 34 Dagger fighter/bombers, six Canberra bombers and small numbers of Pucara, Macchi 339 and Learjet aircraft of less combat capability. The Argentine Navy had five Super Etendards and eleven Skyhawks. The latter could operate from the Argentine carrier 25 DE MAYO but following the loss of the cruiser GENERAL BELGRANO on 2 May, she returned to harbour and her aircraft had to operate from naval air stations ashore.

Argentine aircraft operated at extreme range albeit with support from Hercules air to air refuelling tankers but the British carriers were kept well to the east of the Falklands to minimise the risk of damage or loss which would have been critical to the campaign. Sea Harriers had to maintain Combat Air Patrols (CAP) over the Islands and sorely missed the Airborne Early Warning (AEW) capability that had been lost when 849 NAS with its Gannet AEW3 aircraft, was disbanded following the withdrawal of HMS ARK ROYAL in 1978. The first combat missions were flown on 1 May when Sea Harriers from HERMES attacked Port Stanley and Goose Green with top cover provided by aircraft from INVINCIBLE. That afternoon, a strike on the Task Force was intercepted by Sea Harriers which 'splashed' four aircraft, two of them Mirage fighters which had intended to clear a path for the attack aircraft. As a result, the remaining Mirage were held back to defend Argentina against possible air attack. The biggest day of air combat came on 21 May when 3 Commando Brigade landed at San Carlos. Waves of enemy aircraft bravely attacked warships in San Carlos Water, losing no less than ten to defending fighters during the day.

Sea Harriers flew 2,000 operational sorties in the South Atlantic Campaign and destroyed 22 enemy aircraft for no loss in air combat although two were lost to anti-aircraft or missile fire and four were lost in operational flying accidents. Argentinean pilots became reluctant to engage them in combat and nicknamed the dark painted aircraft of the HERMES group the "Black Death".

Key to the aircraft's success was the high quality of the air and ground crews, many of whom had years of experience with more conventional carrier aircraft such as the Buccaneer and Phantom. The Sea Harrier was a small fighter with a 'clean' engine that did not betray its presence with a smoke trail. These were distinct advantages in the sort of 'close-in' fighting that the weapon system committed the pilot to. Another big advantage proved to be the ability to hover alongside the carrier's centre of pitch in rough seas and chose the best moment to land. The amount of deck movement in the Southern Ocean would have limited the ability of conventional aircraft to operate from ships of HERMES' size. The lack of

AEW severely degraded the Task Force's ability to provide an 'air picture'. This, in turn, limited the fighter direction teams in their ability to position Sea Harriers to counter raids coming in at low level. This shortcoming was rapidly overcome by the modification of Sea King helicopters into the Airborne Warning and Control role in the UK although they arrived in theatre just too late to take part in the fighting.

The last Royal Navy Falkland Sea Harrier pilot, Commodore Bill Covington has just retired from the Service. In early 1982 he was on exchange duty with the USMC flying AV-8As with VMA 513 at MCAS Yuma. He was flown home to join 809 NAS. After the epic flight to Ascension and transit in *Atlantic Conveyor*, he joined the Hermes air group and remembers the sense of dedication he found on board. "There were aircraft and people everywhere and a great determination to deliver air superiority to the best of everyone's ability". He remembers the Sea Harriers' integrated weapons system working well in clear air and thought that the general lack of cloud was fortunate. Like the author he was a former AEW Gannet pilot and he stressed the difficulties caused by the lack of organic AEW in the Task Force.

## Later Wars

After 1982 Sea Harriers engaged in operations over Bosnia, Iraq and Kosovo. They were embarked in ARK ROYAL in the Eastern Mediterranean during the Gulf War in 1991 and in ILLUSTRIOUS during the start of allied operations in Afghanistan in 2001. Hot weather operations in the Middle East proved less favourable to Sea Harrier operations than the cold South Atlantic. The ability to hover before landing with unused weapons was degraded by high temperatures, especially in the Northern Persian Gulf in summer.

## Sea Harrier Upgrade

The major shortcoming of the Sea Harrier FRS-1 was its inability to fight 'beyond visual range' or in cloud. Work on an improved version began after the South Atlantic Campaign but became protracted by minimal funding. The improved aircraft was to have been designated the FRS-2 but removal of the strike role after the end of the Cold War led to it being re-designated the F/A-2 in May 1994. Mark 2 aircraft came from both new construction and the conversion of Mark 1s.

Principal changes included the installation of the Blue Vixen multi-mode, pulse-doppler radar and an improved weapons control system to accommodate the AIM-120 Advanced Medium Range Air to Air Missile (AMRAAM). These give the pilot true 'look down/shoot down' and 'track while scan' capabilities which enabled him to take the fight to



The Joint Force Harrier concept in practice. RN Sea Harriers and RAF GR-7 Harriers on the deck of HMS ILLUSTRIOUS. The RAF aircraft have more powerful engines and can thus operate in areas of high temperature that the Sea Harrier cannot. They are also more upgradeable than the Sea Harrier. (RN)



A Sea Harrier pilot checks his AIM-120 AMRAAM before take off. With the addition of the Blue Vixen radar and AMRAAM the Sea Harrier was, for a while, the best air superiority fighter in Europe.

the enemy beyond visual range. Hands on Throttle and Stick (HOTAS) technology and a new 'glass' cockpit instrument and information display system completed the upgrade. A 13.75" (35mm) stretch in the rear fuselage had to be fitted to accommodate the new weapons system avionics suite and cooling equipment. Up to four AMRAAMs could be carried, mixed with AIM-9L, guns and bombs. It was intended to be a 'swing' aircraft capable of fighter or attack missions but the lack of a laser designator limited its usefulness in the latter role. The inclusion of Harrier GR-7s with their better ground attack capability in 'Joint Force Harrier' limited the F/A-2 largely to air superiority missions although it is surprising that the Navy did not consider using the US Joint Direct Attack Munition (JDAM), which needs no laser designation and is uninhibited by sand or clouds, on the type. The F/A-2 was something of an anomaly with what was arguably the best weapon system outside the USA fitted in an airframe designed 40 years earlier and unable to take full advantage of it.

## Strategic Defence Review (SDR) and Joint Force Harrier

The vision of a Joint Force, capable of operating from an aircraft carrier or ashore without the need for extensive deck landing experience in the former case was not new. It was the basis of British attempts to procure the P1154 in 1961 and led to a number of detachments by RAF Harriers to HM Ships EAGLE and ARK ROYAL. The Falklands Conflict showed what could be achieved by a tactical fighter force with different but complementary capabilities working together as a team.

After 1 April 2000, RN and RAF Sea Harrier and Harrier squadrons operated on a functional rather than a single service basis. 'Joint Force Harrier' formed part of RAF Strike Command, serving at first as part of 3 Group, then as part of 1 Group where it remains with all other UK fast-jet assets in 2006. For a period, 3 Group was commanded by a Rear Admiral emphasising the joint nature of the new force structure.

The RN had sought for some years to replace the Sea Harrier with the F-35 Joint Strike Fighter (JSF), known within the UK Ministry of Defence as the Future Joint Combat Aircraft or FJCA. With the creation of the joint force, it was logical to procure the F-35 in larger numbers to succeed both types. At first both the Harrier GR-7 and the Sea Harrier F/A-2 were planned to run on until replacement by the FJCA in 2012. To assist the process, Sea Harriers were to move from RNAS Yeovilton to co-locate with RAF aircraft at Cottesmore and Wittering (COTT/WITT) in 2003 but an alternative plan was revealed in 2002 which has now been implemented. The concept of co-location was to create an environment where the two Services would work effectively as an integrated force. A study team was formed in 2001, tasked with examining how best to migrate from the current capability of the Joint Force to the era of the FJCA and the future carrier (CVF). It was asked to provide a series of options which had to be coherent, deliverable and designed to ensure that Joint Force Harrier retained a credible expeditionary capability until FJCA enters service. In addition, the Team was to take full account of key SDR conclusions germane to carrier operations. The most significant of these was:



A new RAF GR-9 Harrier. The GR-9 will be flown from the two remaining Invincible class aircraft carriers by RN and RAF pilots in a joint squadron until the arrival of the F-35 JSF. The GR-9 is unable to perform the air superiority role due to a lack of radar and beyond visual range air-air missiles.

“The Invincible class carriers were designed for Cold War anti-submarine operations with helicopters and a limited air defence capability provided by a small number of embarked Sea Harriers. This is no longer the main requirement. The emphasis now is on increased offensive air power”.

The study drew extensive advice from front line commands of the RN and RAF, Industry, Integrated Project Teams (IPTs) and from within the MOD. Their principal findings were:

- Both F/A-2 and GR-7 needed significant investment to maintain a credible capability until their planned ‘out of service’ dates.
- An offensive attack capability through to FJCA and CVF was unanimously considered to be of overriding importance.
- The F/A-2s embarked capability in hot climates was critically limited for a substantial proportion of the year by ‘poor’ engine performance.
- The ability to operate world wide by day and night was required to ensure a robust expeditionary capability.
- It was possible to move to a force comprising nothing but Harrier GR-7 or an improved GR-9 aircraft whilst maintaining a credible expeditionary capability until the introduction of FJCA and CVF into operational service. It was accepted that this would exacerbate the acknowledged ‘capability gap’ in the air defence of the fleet until the introduction into service of a significant number of Type 45 ‘Daring’ class destroyers equipped with the Principal Anti-Air Missile System (PAAMS) and later on, the FJCA.
- Migration to the Harrier GR-9 as the only aircraft type in Joint Force Harrier would offer a credible expeditionary capability. This would include the ability to employ smart/precision bombs and the brimstone anti-armour weapon and an ‘open architecture’ computer system. The GR-7 was, therefore, to be upgraded to GR-9 standard to make use of these weapons.

In summary, the Study Team took some harsh decisions and elected to recommend a pragmatic way forward that put the maximum amount of human and financial resources into a strike capability leading into the FJCA and CVF, now expected to enter service “in about ten years time”. In the interval, an all GR-9 force was stated to be the most economical option since there were approximately three times as many Harrier as Sea Harrier airframes. BAE Systems gave it as their opinion at the time that the GR-7/9 was capable of accepting the up-rated Pegasus 107 engine whereas the F/A-2 would need costly and technically difficult modifications to receive it. Experience has

shown that most, if not all of these modifications including a new rear fuselage/tailplane assembly do have to be applied to the GR-9. This was a lesson learnt by the US Marine Corps when it up-graded the engines in its AV-8B fleet and should have been more obvious to the UK planners. In hindsight, the lack of BAE Systems’ support for overseas sales of the ‘surplus’ Sea Harriers has revealed an unwillingness to support a type that only existed in small numbers while capacity had to be found to support Typhoon, Hawk and Gripen customers and this may have influenced the advice to concentrate on the larger Harrier fleet. That said, the Harrier will give UK expeditionary forces a credible strike capability in the short term future whereas the Sea Harrier would only have had a marginal capability by the end of the decade without an extensive and costly software improvement programme.

The Sea Harrier has given good service and has proved a far better fighter than even its staunchest supporter would have imagined in 1981. There is a capability gap since it left service but the Royal Navy has accepted this and does not wish to mortgage its potential future capability by paying for Sea Harrier upgrades rather than creating the new CVF battle force.

When the UK gets the future carrier and a version of the F-35 to operate from the deck, it will be a huge step forward in military capability and ‘Joint Force Harrier’ is seen by many of those in it as the way forward for the twenty first century even if it does resemble the Royal Flying Corps (RFC) of 1912 so closely in its composition! It would be naive not to take notice of past disappointments and the reasons for them, however, and there must be concerns about moving away from the concept of naval aviation which has delivered so much, often with poor material, over the past seven decades. To work effectively, the joint force must rely not just on the Royal Navy but also on complete RAF commitment to the UK’s versatile maritime force. ‘Jointery’ has had its problems in the past but maybe, just maybe, it is a concept for which the time has come.

As Australia looks to the future of its fast jet strike fighter capability, it would do well to watch developments in the UK which has forged its own, unique, way forward. The joint approach has the potential to solve the political impasse which has, in the past, blocked the procurement of versatile aircraft carriers capable of underpinning the maritime strategy in both the UK and Australia. The process of creating the definitive Joint Force Harrier is complete with the re-commissioning of 801 Naval Air Squadron as a Harrier GR-9 unit recently. The ‘road ahead’ will not be absolutely clear, however, until the CVF is ordered and a final decision taken on which version of the F-35 to procure. Hopefully this will happen soon.



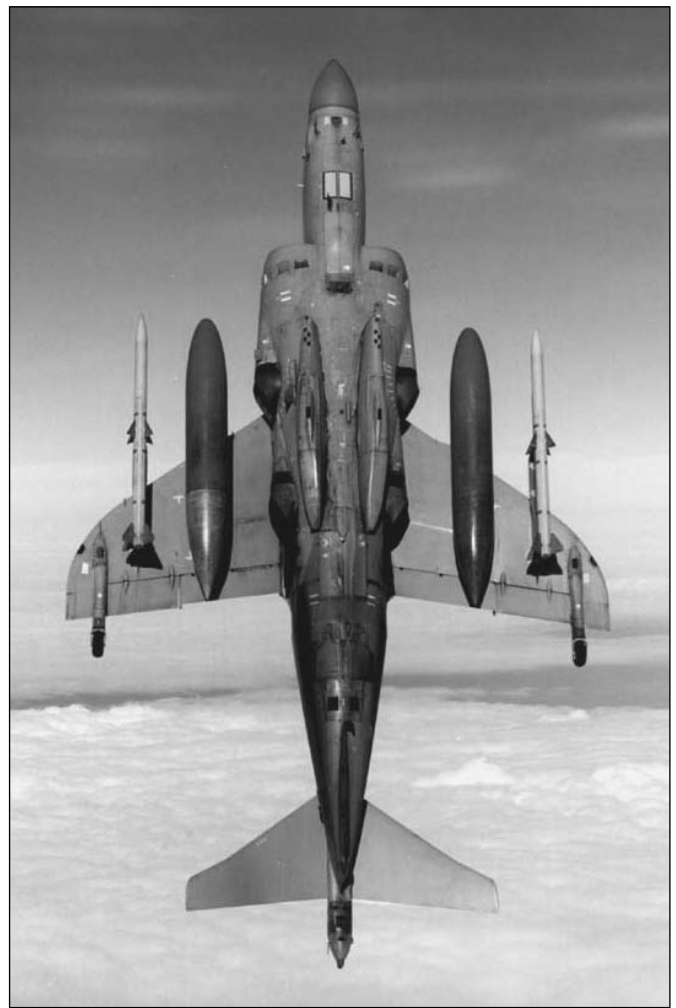
“Sabres to Ploughshares”. This once mighty Sea Harrier FA-2 now stands watch over drinkers in a Pub’s Beer Garden.

# Sea Harriers of the 1982 Falklands Conflict

<b>HERMES AIR GROUP</b>	5 April 1982
XZ 492	coded (1)23
XZ 459	coded (1)25
XZ 460	coded (1)26
XZ 496	coded (1)27
XZ 500	coded (1)30
XZ 455	coded (7)12
XZ 457	coded (7)14
XZ 494	coded (7)16
ZA 191	coded (7)18
XZ 450	coded 50
ZA 192	coded 92
ZA 193	coded 93

<b>INVINCIBLE AIR GROUP</b>	5 April 1982
XZ 493	coded 001
XZ 495	coded 003
ZA 175	coded 004
XZ 498	coded 005
XZ 451	coded 006
XZ 452	coded 007
XZ 456	coded 008
XZ 453	coded 009

<b>809 NAVAL AIR SQUADRON</b>	on formation
XZ 458	ZA 176
XZ 491	ZA 177
XZ 499	ZA 190
ZA 174	ZA 194



<b>WHAT HAPPENED TO FALKLANDS SEA HARRIERS</b>	
Serial Number	How they were lost
XZ 492	10 December 1996 - Ditched into the Mediterranean alongside ILLUSTRIOUS whilst landing
XZ 457	20 October 1995 - ECU failure, explosion and fire at Yeovilton near 22 threshold
XZ 460	9 May 1990 - Flew into sea off Sardinia
XZ 496	16 March 1984 - ECU failure on finals to ILLUSTRIOUS, off Norway
XZ 500	14 June 1983 - Inverted spin on test flight from ILLUSTRIOUS. Crashed into the Bay of Biscay
ZA 191	4 October 1989 - Hit superstructure of ARK ROYAL during flyby
ZA 192	23 May 1982 - Exploded after take off from HERMES
ZA 193	28 May 1992 - Ditched near INVINCIBLE after losing forward pitch nozzle control
XZ 450	4 May 1982 - Shot down over Goose Green, East Falkland
XZ 455	13 February 1996 - Ditched in Adriatic on approach to ILLUSTRIOUS with a control nozzle problem
XZ 493	15 December 1994 - Lost yaw control. Ditched alongside INVINCIBLE in Adriatic
XZ 495	5 January 1994 - Crashed into Bristol Channel after ECU failure
XZ 498	16 April 1994 - Shot down by SAM 7 over Gorazde, Bosnia
XZ 451	1 December 1989 - Ditched in sea off Sardinia following control restriction
XZ 452	6 May 1982 - Lost at sea off Falkland Islands (collided with XZ 453?)
XZ 456	1 June 1982 - Shot down by Roland missile of East Falkland
XZ 453	6 May 1953 - Lost at sea off Falkland Islands (collided with XZ 452?)
XZ 458	1 December 1984 - Bird strike at Fort William, Scotland while operating from ILLUSTRIOUS
XZ 491	16 April 1986 - Ditched off Benbecula having run out of fuel operating from ARK ROYAL
ZA 174	29 May 1982 - Slid off the deck of INVINCIBLE when ship rolled
ZA 177	21 January 1983 - Failed to recover from an inverted spin. Crashed near Dorchester
ZA 190	15 October 1987 - ECU failure after bird strike in Irish Sea operating from ARK ROYAL
ZA 194	20 October 1983 - Crashed near Dorchester after control restriction



### SURVIVORS OF FALKLANDS

Serial Number	History	Current location
XZ 459	800 Naval Air Squadron in the Falklands coded 25. Converted to F/A 2.	In 2001 was with 800 NAS coded as 126/N.
XZ 494	800 Naval Air Squadron in the Falklands coded 16, then to 801 Naval Air Squadron as 008 while in the South Atlantic. Converted to F/A 2.	Last noted at St Athan.
XZ 499	800 Naval Air Squadron in the South Atlantic coded 99. 8 June 1982 claimed to have shot down A4B C-204. Converted to F/A 2.	Noted on 18 February 2002 with 801 NAS coded as 003/L
ZA 175	801 Naval Air Squadron in the South Atlantic coded 004. 21 May 1982 shot down Dagger C-407. Converted to F/A 2.	Noted on 27 February 2002 with 899 NAS coded as 717.
ZA 176	800 Naval Air Squadron in the South Atlantic coded 76. Converted to F/A 2.	Noted on 29 January 2002 with 800 NAS coded as 126.

### KILLS BY SEA HARRIERS DURING THE FALKLANDS

Aircraft	Date	Pilot	Shot down	Weapon
XZ 451	1 May 1982	Lt Curtis	Canberra B110	Sidewinder
	21 May 1982	Lt Cdr Ward	Pucara A-511	Guns
	1 June 1982	Lt Cdr Ward	C-130 Hercules TC-63	Sidewinder/Guns
XZ 452	1 May 1982	Flt Lt Barton	Mirage III EA I-015	Sidewinder
XZ 453	1 May 1982	Lt Thomas	Mirage III EA I-019	Damaged by Sidewinder, shot down by Arg AAA?
XZ 455	1 May 1982	Flt Lt Penfold	Dagger C-433	Sidewinder
	21 May 1982	Lt Cdr Frederiksen	Dagger C-409	Sidewinder
XZ 457	21 May 1982	Lt Morrell	Skyhawk A4Q A-307	Sidewinder
	21 May 1982	Lt Morrell	Skyhawk A4Q A-312	Guns
	24 May 1982	Lt Cdr Auld	Dagger C-419	Sidewinder
	24 May 1982	Lt Cdr Auld	Dagger C-430	Sidewinder
XZ 492	21 May 1982	Lt Cdr Thomas	Skyhawk A4C	Sidewinder
XZ 496	21 May 1982	Lt Cdr Blisset	Skyhawk A4C	Sidewinder
XZ 499	8 June 1982	Lt Smith	Skyhawk A4C C-204	Sidewinder
XZ 500	21 May 1982	Flt Lt Leeming	Skyhawk A4Q A-314	Guns
ZA 175	21 May 1982	Lt Cdr Ward	Dagger C-407	Sidewinder
ZA 177	8 June 1982	Flt Lt Morgan	Skyhawk A4B C-226	Sidewinder
	8 June 1982	Flt Lt Morgan	Skyhawk A4B C-228	Sidewinder
ZA 190	21 May 1982	Lt Thomas	Dagger C-404	Sidewinder
	21 May 1982	Lt Thomas	Dagger C-403	Sidewinder
ZA 191	23 May 1982	Flt Lt Leeming	A109A AE-377	Guns
ZA 192	23 May 1982	Flt Lt Morgan	Puma AE 503	Crashed evading Sea Harrier
ZA 193	24 May 1982	Lt Smith	Dagger C-410	Sidewinder
ZA 194	23 May 1982	Lt Hale	Dagger C-437	Sidewinder

# Flash Traffic

## Further results on Christmas islands remains

Further examination of shrapnel removed from the skull of remains recovered from Christmas Island, which are believed to be those of a sailor from the ill-fated HMAS SYDNEY II, found the metal displayed characteristics of German hardening technology at the time of the ship's sinking in 1941 (see *THE NAVY* Vol 69 No.1, p11).

Subsequent to earlier ballistics analysis, which established that the metal fragment was a piece of shrapnel, the Australian War Memorial has conducted further metallurgical analysis.

The largely corroded shrapnel fragment was found to contain within it a small piece of very hard, non-corroded metal. The latest findings show that the metal contains a significant presence of the elements silicon and manganese typical of German hardening technology of the time.

While Germany supplied munitions to Japan prior to the Second World War, these munitions contained nickel and silicon.

The AWM report noted that Japanese manufactured armour piercing projectiles contained nickel in the early years of World War II, and when nickel became difficult to obtain, significant amounts of copper were used in the alloy mix.

As the fragment does not contain either nickel or copper, the AWM has assessed that the fragment is unlikely to have come from a Japanese manufactured projectile.

In addition to the AWM analysis, a specialist forensic pathologist has been conducting a detailed examination of the skeletal remains.

Upon removal of the shrapnel and close examination of the wound, it was found that the shrapnel struck the front of the skull and lodged in the left forehead. In addition to this injury, the pathologist identified a second major skull injury, with bone loss on the left side of the skull, above and behind the left earhole, which is also believed to have occurred around the time of death.

The analysis also identified multiple rib fractures, but it is unknown whether these occurred around the time of death or long after death with the settling of the grave. No other shrapnel or projectiles have been found elsewhere in the remains.

Analysis also conducted on small items recovered with the remains, including a press stud and a small piece of fabric were found to be consistent with clothing worn by sailors at the time of the SYDNEY sinking.

Further work is continuing with the identification process, including dental and anthropological analyses and the full findings are expected soon. As with any undertaking of this type, the likelihood of positively identifying the remains is considered low.

## AE1 may be found?

The RAN has concluded a search for the submarine HMAS AE1, which was lost near Rabaul with its entire crew in September 1914.

The RAN survey vessel, HMAS BENALLA, searched for the submarine during a routine survey operation in waters off New Britain in Papua New Guinea over the period 26 to 28 February 2007. During a wide search, of an area of interest, BENALLA discovered what has been assessed as a large man-made object on the sea floor.

The object is approximately 25 to 30 metres long and four metres high.

In order to protect the site from unauthorised activity, no further details will be released about its position.

The search was conducted using a towed side scan sonar, as well as hull-

mounted survey equipment. The search area was provided to the Navy by the leader of Project AE1, Commander John Foster, RAN (Rtd) who has conducted over 30 years of research into the loss of AE1. Commander Foster was onboard BENALLA during the search.

It would seem that it is far too early to speculate about what the object detected by HMAS BENALLA is and further investigation using a remotely operated vehicle with imaging capabilities would be necessary to make a positive identification.

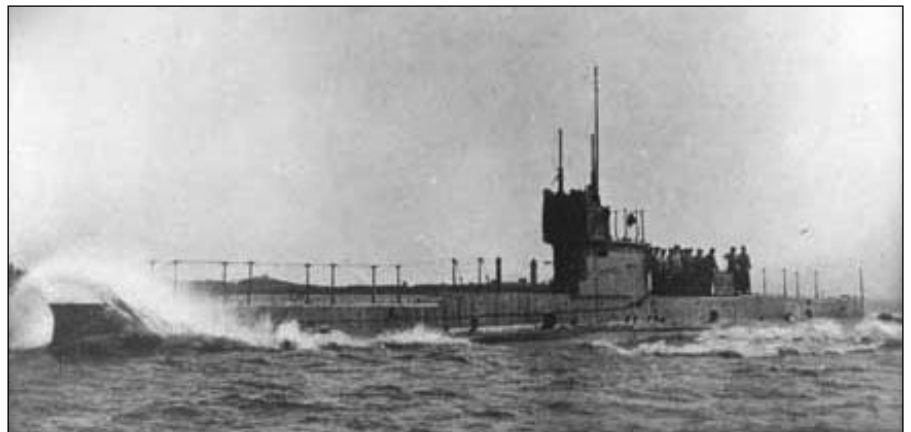
Locating the AE1 will help solve one of the country's most enduring naval mysteries. It would also provide some closure to the descendants of the 35 crew members who tragically lost their lives while serving the nation.

## RAN goes Agusta

Junior Aircrew from the Navy's Fleet Air Arm will soon be flying three Agusta Westland A-109E Multi-Engine helicopters that will be operated from the Naval Air Station at HMAS ALBATROSS, Nowra, NSW.

Following an in-depth tender and negotiation process, Mr Michael Ward (Raytheon Australia) and CDRE Peter Jones (Commander Australian Naval Systems Command) signed a four-year \$24 million contract at the Fleet Air Arm Museum on 8 December 2006 to deliver a 'Turn Key' style operation beginning shortly.

The aircraft have been sourced from overseas. Two were acquired via Agusta Westland Italy, which were previously operated by the Swedish Airforce, and the third from a civil operator in France.



The RAN submarine HMAS AE1 on the surface. (RAN)

All three aircraft will be modified and repainted in military colours prior to acceptance by the RAN.

The A-109E 'Power' is a single pilot all-weather helicopter, fitted with modern avionics and a full utility fit for general rescue operations. It will be capable of conducting both day and night operations in multi-role tasks.

The RAN's 'Power Flight' will provide junior qualified aircrew, graduating from the AS-350 Squirrel, with consolidation flying and skill enhancement opportunities prior to transition to operation conversion on the Seahawk and Sea King helicopters.



An Agusta Westland A-109E helicopter. Pictured is one of the A-109s being operated by the Swedish Airforce.

## ADELAIDE to be sunk off NSW

The Minister for Defence, Brendan Nelson, has announced that New South Wales will be gifted the frigate HMAS ADELAIDE for sinking as a dive wreck.

The New South Wales Government has indicated that the preferred location for HMAS ADELAIDE is off the New South Wales Central Coast, near Terrigal.

ADELAIDE will decommission late in 2007 at her home port in Rockingham, Western Australia with handover to the New South Wales Government expected in early to mid 2008.

In addition to the warship, the Government will contribute up to \$3 million in funding toward the costs of preparing the ship for sinking.

ADELAIDE was built in the United States and commissioned in the RAN on 15 November 1980 and is the second ship to carry this name. The first was a light cruiser that served from 1922 to 1945. ADELAIDE was the first guided

missile frigate to be home ported in Western Australia.

Tourism projects which have previously used former RAN warships to establish dive wrecks have reportedly accrued annual revenues ranging from \$2.4 million to \$23 million to the significant benefit of local communities.

## Austal wins second LCS order

The option for a second General Dynamics/Austal Littoral Combat Ship (LCS) for the US Navy has been confirmed.

Based on the 127 metre advanced Austal trimaran seaframe, which forms the platform for the ship's operational and combat systems, the new vessel will be built alongside INDEPENDANCE that is currently in an advanced stage of construction at Austal's Mobile, Alabama, US shipyard.

Recent US Navy reports have speculated on an expanded acquisition strategy, from four to a possible 17, for the Flight 0 fleet of LCSs that also includes an alternate monohull ship design. Commenting in September, Assistant Secretary of the US Navy (Research, Development, and Acquisition), Dr Delores Etter, told Reuters, "The US Navy hopes to finalise its acquisition strategy for a new class of shore-hugging combat ships by mid-December."

"The US Navy has not yet announced whether it will choose one or both designs for full production of some 55 ships over the next decade – or who would build them."

## HMS INTREPID to be recycled in the UK

The former RN assault ship HMS INTREPID, a key part of the fleet that led the campaign to retake the Falkland Islands 25 years ago, is to be recycled at a British facility.

The 12,000 tonne vessel, which has been moored in Portsmouth since she left service in 1999, has been replaced

in service by the much larger, more capable and better-equipped assault ship HMS ALBION.

Leavesley International has been selected as preferred bidder for the task of recycling HMS INTREPID and will now apply for the necessary licences and approvals. When the company has secured these permissions the UK MoD expects to be in a position to place a contract for the task.

The preferred bidder status has been awarded by the MoD's Disposal Services Agency (DSA), following an open competition with strict requirements regarding environmentally friendly dismantling. Leavesley's recycling plan includes re-use of engineered components, reuse of materials, predominantly steel, and a limited sale of 'souvenir' elements.

UK Defence Minister Lord Drayson said: "The MoD is determined to act responsibly when it comes to the disposal of ex Royal Navy vessels. Tender documentation for this task was specifically designed to ensure that only responsible companies that will act within all UK and EU laws and environmental regulations would be considered.

"Any future competition for the recycling of a former Royal Navy vessel will be run in the same way, to prevent uncontrolled and unregulated recycling of Royal Navy vessels in other parts of the world."

HMS INTREPID was launched in 1964, shortly after sister ship HMS FEARLESS. Both vessels were designed to support Royal Marine Commandos on amphibious operations by transporting and landing troops and equipment. Their flight decks supported most helicopters and even Harrier jets during the Falklands Conflict of 1982, in which both ships played a key role. Both then continued in service until HMS INTREPID was placed in reserve in 1991. HMS ALBION and HMS BULWARK have replaced them.

The disposal competition required HMS INTREPID to be recycled within a nation from the OECD (Organisation for Economic Co-operation and Development) required a detailed Ship Recycling Plan, and called for a substantial financial bond to be held by MoD until the ship has been recycled.

## Falklands Conflict repair ship gets new lease of life

A naval repair ship that first saw service in the Falklands Conflict gets a new lease of life under a refit contract announced by the UK's MoD on 11 December 2006.

The 10,000 tonne Royal Fleet Auxiliary RFA DILIGENCE will be equipped for service through to the middle of the next decade following a year-long £16 million overhaul by Northwestern Shiprepairers and Shipbuilders Limited (NSSL) at Birkenhead on Merseyside.

The ship, which first saw naval service as the MV *Stena Inspector* on charter to the MoD as a battle damage repair ship in the 1982 conflict in the South Atlantic, is to have her accommodation, galley and propulsion areas renewed and upgraded.

Award of the contract follows a competition involving other UK shipyards. The proposal produced by NSSL was judged the best and is expected to sustain over 100 jobs during the life of the contract.

Defence Procurement Minister Lord Drayson said: "RFA DILIGENCE plays an invaluable role supporting both the RN and the forces of our allies on operations. This overhaul will equip her for many years' further service with the MOD."

As well as her extensive service off the Falkland Islands, RFA DILIGENCE has served all over the world, including supporting operations in the Gulf in 1991 and 2003, and, most recently, duties in support of the Iraqi Navy and off West Africa.

The ship forms part of the Royal Fleet Auxiliary, a civilian-crewed organisation that supports the Royal Navy at sea, with the food, fuel, ammunition and spares it needs in order to maintain operations away from its home ports and the Army and RAF as necessary.

## Super Hornet news

The Boeing Company has delivered the 11th F/A-18E Super Hornet Block II to US Naval Air Station (NAS) Oceana, while Australia will buy 24 Block II F model Super Hornets to replace the F-111. The Super Hornet is equipped with



An F/A-18F Super Hornet with four large fuel tanks and a buddy refuelling pod on the centreline. Australia will get 24 Block II Super Hornets by 2010 to replace the F-111. (USN)

the ground breaking APG-79 Active Electronically Scanned Array (AESA) radar.

"The AESA-equipped radar on the Super Hornet Block II provides greater range and the ability to track many more targets," said Bob Feldmann, Boeing F/A-18 Programs vice president. "The ability to maximise sensors, such as the AESA, was part of the initial design and vision for the Super Hornet."

The APG-79 AESA is the next-generation agile beam radar for the Super Hornet Block II. More lethal, reliable and affordable than its predecessors, the AESA provides the Super Hornet with precision strike support and enhanced situational awareness. In air-to-air engagements, the radar allows targets to be engaged at very long ranges and offers reduced aircrew workload via its resource manager. The system also offers high resolution ground mapping at long standoff ranges for air-to-surface tracking, with an interleaved mode capability and a five fold increase in system reliability.

AESA completed developmental testing in June 2006 and is currently completing an operational evaluation that began in July 2006.

## RN launches DAUNTLESS

The Royal Navy's newest warship, the Type 45 destroyer HMS DAUNTLESS, was launched on the Clyde on 23 Jan 2007 by Lady Burnell-Nugent, wife of the Commander In Chief of the Fleet.

HMS DAUNTLESS is the second of the new Type 45 class of anti-air warfare destroyers for the RN. The Type 45s are some of the most powerful destroyers ever built for the Royal Navy.

Armed Forces Minister, Adam Ingram said: "We are currently investing in the biggest naval shipbuilding program in decades, and the launch today of HMS DAUNTLESS shows the world class ships we are proud to be delivering for the Royal Navy. This is an important milestone in the multi-billion pound Type 45 destroyer program, a project that will give the Royal Navy a class of one of the most advanced destroyers anywhere in the world.

For the crew of DAUNTLESS added comforts include, i-pod charging points, computer access, 5-Channel recreational audio, and larger berths. The ship also has her own hospital facilities.

## First MiG-29K for Indian Navy takes off

The first fighter aircraft designed and developed in Russia after the break-up of the Soviet Union – the MiG-29K/KUB for the Indian Navy (IN) – took off on its inaugural flight at the Zhukovskiy test centre on 22 Jan 2007.

The first flight of the ship borne fighter, on order from the IN for its new carrier INS VIKRAMADITYA, took off on a cold winter morning with the tell-tale black smoke and flew a flawless 20-minute test flight.

India will receive the first aircraft in June this year as part of the 16 fighter jet deal. The deal provides an option for an extra 30 aircraft to be procured later.

With the delivery of the first aircraft in June, the IN will begin test flights to determine that all requirements have been met. The first batch of six new MiG-29K/KUB fighters will be based in Goa.

Features of the aircraft include a fully digitised 'glass' cockpit, a multi-mode radar and increased range due to more in internal fuel capacity. The aircraft, the first bought by the IN since the Sea Harriers, will also be capable



A Russian Navy MiG-29K during a test flight with arrestor hook down.

conducting air-air re-fuelling. The contract with MiG will ensure that the IN gets the entire spectrum of services, including a full mission simulator.

While the IN will be getting 12 MiG-29K single-seater aircraft and 4 MiG-29KUB two-seater trainer aircraft, officials say that all of them will have full operational capabilities. The trainer version will be 95 per cent similar to the single seater but with a slightly reduced operational range.

## **Triton in Aussie service**

Australia's latest border protection weapon against illegal foreign fishing is now fully operational.

ACV *Triton* is currently on a 12-month program of anti-illegal fishing patrols off Australia's northern coastline.

With its ability to travel at speeds of up to 20 knots, operate at sea for extended periods, and carry up to 28 armed Customs officers, *Triton* represents a major boost to Australia's border security capabilities.

*Triton* will be armed with two .50 calibre machine guns and equipped with two, high-speed tenders for boarding operations.

*Triton* will also have the capacity to hold up to 30 illegal foreign fishermen,

but these people will only stay on board for short periods until they can be transferred ashore for processing and potential prosecution.

It will augment enforcement activities undertaken by Customs and navy patrol boats and other assets that the new Border Protection Command has available to it when tackling the problem of illegal foreign fishing.

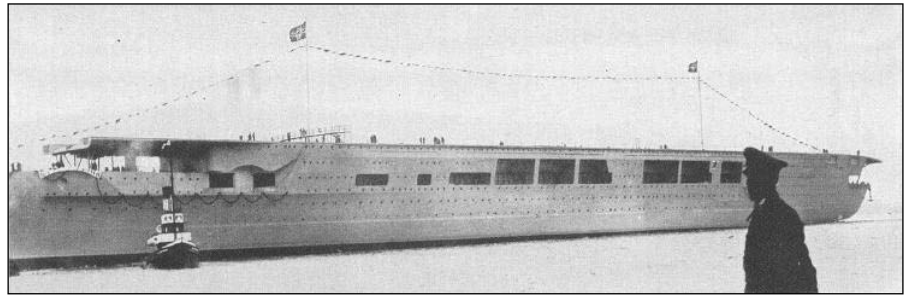
## **Hitler's aircraft carrier found**

Polish divers have discovered the rusting wreckage of Nazi Germany's only aircraft carrier, the GRAF ZEPPELIN, solving one of the most enduring maritime riddles of the Second World War.

For more than half a century the location of the huge vessel was kept secret by the Soviet authorities. Even the opening of the Moscow archives in the 1990s failed to produce a precise bearing. The once-proud ship was simply one of dozens of wrecks that littered the bed of the Baltic Sea near the Bay of Gdansk.

"We were carrying out soundings for possible oil exploration," Krzysztof Grabowski, of the Petrobaltic exploration group, said. "Then we stumbled across a vessel that was over 260 metres (850ft) long at a depth of 250 metres."

Divers confirmed late last year that it was the German ship, though who owns her and what – if anything – will happen to her remains unclear.



At 262 metres, the GRAF ZEPPELIN was comparable to the biggest of the US carriers that played such a significant role in the Pacific.



Australia's latest border protection weapon against illegal foreign fishing is the ACV *Triton*. Originally built to investigate trimaran warship designs for the RN, the vessel will now ply Australian waters till 2008.

When the GRAF ZEPPELIN was launched in 1938, Adolf Hitler raised his right arm in salute to a warship that was supposed to help Germany to become master of the northern seas. But, when fleeing German troops scuttled her in April 1945, she had never seen service – a casualty of infighting within the Nazi elite and the changing tide of war.

The GRAF ZEPPELIN was scuttled in shallow water near Szczecin but proved easy for the Red Army to recover her after marching into the Polish port. According to an agreement with the Allies, German and Japanese warships should have been sunk in deep water or destroyed. The Russians repaired the ship, then used her to carry looted factory equipment back to the Soviet Union. In August 1947 Allied spies observed her being towed back to the Polish Baltic coast and then used for target practice at Leba by Soviet dive bombers. It appeared that the Russians were preparing for possible action against US aircraft carriers.

The GRAF ZEPPELIN sank a second time, and remained undetected until now.

Lukasz Orlicki, a Polish maritime historian, said: "It is difficult to say why the Russians have always been so stubbornly reluctant to talk about the location of the wreck. Perhaps it was the usual obsession with secrecy, or perhaps there was some kind of suspect cargo."

At 262 metres, the GRAF ZEPPELIN was comparable to the biggest of the US carriers that played such a significant role in the Pacific.



Nazi Germany's only aircraft carrier, the GRAF ZEPPELIN, on launching day.

## New SSN contract awarded

French Defence Procurement Agency DGA has announced that it has awarded the Barracuda SSN contract to the DCN group and partner Areva-TA. The contract calls for the delivery of six new-generation nuclear-powered attack submarines, or SSNs, and through-life support services during their first years of operational service.

The programme has been split into an initial contract (tranche ferme), followed by six options (tranches conditionnelles). The contracts cover design, development, production and through-life support. The initial contract

is worth over 1 billion euros out of a projected total of 8 billion over 20 years. The first Barracuda SSN is scheduled for delivery in 2016. The group's contribution will be led by DCN Cherbourg supported by Lorient, Indret, Ruelle, Toulon and Saint-Tropez along with industrial partners in several regions of France.

Within the DCN/Areva TA programme consortium, DCN will act as the submarine prime contractor, including responsibilities as overall architect, platform and propulsion system prime contractor, systems integrator, nuclear safety studies coordinator and through-life support prime contractor while Areva TA will act as prime contractor for the nuclear powerplant.

The Barracuda programme will meet the French Navy's operational mission needs by providing replacements for six current-generation Rubis-class SSNs. In addition to anti-surface and anti-submarine capabilities, the Barracuda will accommodate intelligence gathering and the deployment of special forces and carry MDCN cruise missiles providing a land strike capability. The payload of 20 tube-launched weapons will comprise a mix of future heavyweight torpedoes, cruise missiles and SM-39 Exocet anti-ship missiles.

The hybrid steam-electric propulsion technology proposed by DCN for the Barracuda programme will use a reactor core offering a lifetime of ten years.

This system uses a single steam drum with increased propulsion mode redundancy to ensure economical core depletion, a high tactical speed and improved safety.

The design also features an X-shaped combination of diving planes/control surfaces for improved underwater control.

Nuclear safety has been a top priority since the start of the Barracuda design phase and will remain so. A preliminary nuclear safety report was submitted and reviewed before the decision was taken to proceed with the design phase. This is the first time that such a preliminary report has been produced in France before launching the design of a nuclear-powered warship. With a view to the continuous improvement of nuclear safety, the report is based on general nuclear safety targets that are more ambitious than for previous nuclear-powered ships and on the application of a new, more demanding methodology as regards the demonstration requirements.

High priority has also been given to using civil standard and to meeting the associated certification requirements in all areas.

These innovations will make the Barracuda safe, discreet and shock resistant. It will also comply with the French Navy's reduced crewing requirements.

Displacement: 4,765 tons;  
Length overall: 99m;  
Speed, submerged: > 25 knots;  
Nuclear powerplant: derivative of K15 plant powering current SSBNs and CVN CHARLES DE GAULLE;  
Propulsion: hybrid steam-electric;  
Weapons: cruise missiles, next-generation heavyweight torpedoes, SM39 anti-ship missiles, mines, etc;  
Accommodation: 60 crew + 15 passengers.



A French Rubis class SSN on the surface with the French aircraft carrier CHARLES DE GAULLE in the background. The Rubis class will be replaced with another SSN design known as the Barracuda class. (John Mortimer)

# Observations

By Geoff Evans

## Defence Management Under Scrutiny

As noted by *Observations* in the October-December 2006 edition of *THE NAVY*, the Minister for Defence had recently announced a Review of Defence management practices. The Minister's statement named Ms Elizabeth Proust, a distinguished businesswoman whose career included senior Victorian Government and Melbourne City Council appointments, as chairman of the Review Panel.

Subsequently, the writer received details of the Review Panel's membership, the Terms of Reference and an invitation to appear before the panel (regrettably declined for a number of reasons and instead submitted 'impressions' of Defence arrangements gained from a long association with the Navy). The Minister's announcement also referred to the appointment of a permanent Defence Business Improvement Board of eight members – four external appointments and four from within Defence – to tackle management efficiency.

The panel headed by Ms Proust also included Vice Admiral Chris Ritchie, Navy Chief 2002-2005; Mr John Azarias, a Senior Partner in the accountancy firm Deloitte Australia and Dr Alan Kallir, an experienced management consultant.

The panel was charged with examining and assessing organisational efficiency and effectiveness in the Defence organisation, and make recommendations with particular regard to:

- (a) decision making and business process, having regard to best practice in organisations of comparable size and complexity;
- (b) the appropriateness and need for military personnel in non-operational or executive positions in the organisation and efficacy of Defence preparation for senior postings;
- (c) structure, processes and procedures for managing information and providing timely and accurate information to stakeholders;
- (d) the adequacy of the information management systems which support business processes and reporting requirements.

The Review was also required to provide "direction on the role and work programme of the Defence Business Improvement Board".

There were however, qualifications; these included a reference to reforms underway in the Defence Materiel Organisation (DMO) which the Review would note, together with the role of the Defence Procurement Advisory Board, but "the Review should not seek to specifically address business processes in DMO". The ADF operational chain of command was also not to be considered.

Given the challenges facing all conventional defence forces at the present time – endless technological developments leading to material costs, personnel shortages and not least the diversion of national resources to combat the threat posed by terrorism – it is not surprising that governments should seek to reduce costs in areas such as administration and management; in this regard Ms Proust's Review Panel will no doubt make a worthwhile contribution.

If however, the Government was really serious about assessing the nation's defence arrangements, it would examine the whole organisation rather than numerous reviews and

inquiries into different parts of the organisation – DMO and the chain of command included.

The Review headed by Ms Proust is expected to report to the Minister for Defence on schedule and at about the same time this edition of *THE NAVY* is published.

## More Nuclear-Powered Ships for the USN?

In an article in the United States Naval Institute's February 2007 issue of *PROCEEDINGS*, the author Norman Polmar\* discusses current proposals in Congress and elsewhere to again build nuclear-powered-destroyer/cruiser-type ships rather than conventionally powered ships of this type. An objective is to reduce the USN's dependence on imported oil, one of the reasons nearly fifty years ago to build nuclear powered cruisers and destroyers, nine being built between 1961 and 1980 and all now decommissioned, the last in 1998. This writer recalls the visits of LONG BEACH and TRUXTON to Melbourne and the stir they caused at the time!

The ship in mind for the new program is a cruiser being considered to follow the current new generation, conventionally powered, DDG-1000 destroyer program (reported in previous issues of *THE NAVY*). The cruiser, designated CG(X), is planned to be conventionally powered but as it is not expected to be ordered before 2011. Nuclear advocates suggest there is probably time to redesign the ship to provide for nuclear propulsion. The author suggests it might be feasible if the US Navy adopted an existing submarine power plant or provided half of that of a carrier.

Author Polmar believes however, the odds are against the construction of nuclear-powered cruisers in the immediate future, cost being the main impediment. There are other issues:

- The engineering personnel of nuclear ships are significantly more expensive to recruit, train, and retain than for conventionally propelled-surface ships.
- Nuclear surface ship availability is less than conventional ships, i.e, they spend more time in shipyards.
- Nuclear ship accessibility to ports is difficult, including certain US ports as well as foreign.
- Nuclear ship disposal costs are considerable.

The article includes references to the well-known Admiral Rickover's 1960s plans for a force of nuclear strike cruisers to escort the carriers – four per carrier, 48 to 60 in all; 1974 legislation supporting nuclear powered surface combatants provide the following US oil consumption figures – Department of Defence 300,000 barrels per day of which 8% went to the sea forces compared to 73% air and 15% to ground usage.

The article concludes "... while nuclear propelled surface ships are certainly desirable in many operational scenarios, the current forecast for shipbuilding funds and several other factors sharply reduce their feasibility. And while oil consumption is a significant factor in naval operations, more efficient or different types of propulsion for military aircraft and ground vehicles would provide a much better return on investment".

(\* Norman Polmar is the author of "*Ships and Aircraft of the U.S. Fleet*" and is a regular contributor to the *PROCEEDINGS*)



# NAVY LEAGUE INTELLIGENCE DOSSIER

## Secrets of the Falklands Conflict

*Compiled By League Intelligence Analyst Mark Schweikert*

Through recent open source reporting, many previously TOP SECRET actions and issues relating to the Falklands Conflict are now in the public domain. The following *NAVY LEAGUE INTELLIGENCE DOSSIER* has been compiled with information from authors such as Martin Middlebrook and The Official Histories of the Falklands Conflict by Professor Sir Lawrence Freedman.

### British Secrets US Help



President Reagan (left) with Queen Elizabeth II after a morning ride in the lead up to battle in the Falklands. President Reagan threw his support behind the British after the US tried, unsuccessfully, to broker a peace deal between its two allies, Britain and Argentina.

Despite the enthusiastic support provided to the British by the US Reagan Administration during the Falklands conflict, support was actually something that was debated in the US Government and not automatically forthcoming.

Some in the administration, particularly the State Department, believed the British had no chance of success and that supporting them would harm the US standing in Latin America. Latino support was crucial given communist insurgent activity and the fragility of anti-communist governments. Resisting Soviet influence in the region was seen as a prime US foreign policy goal.

The then US Secretary of Defense, Casper Weinberger, instead, initiated his own policy of total support for the British. Which put him at odds with the US Secretary of State, Alexander Haig. Although also wishing to support anti-Communist governments in South America he felt that Argentina was already moving towards the Soviets given the large grain deal they had recently brokered. There was also evidence that Moscow was providing intelligence on RN movements to the Argentines.

Secretary Weinberger issued a Memo to Pentagon Staffs stating that existing UK requests for military equipment, and other requests for equipment or other types of support, short of actual participation, should be granted immediately. Discussions were also held with Pentagon staff about the provision of an aircraft carrier if needed, namely the USS CORAL SEA. His determined stance to support the UK goes some way to explaining the honorary Knighthood that was awarded to him after the conflict.

President Reagan also, after diplomacy efforts failed, threw his full support behind the British. Support provided by the US included weapons, fuel, satellite imagery, satellite communications, weather forecasts and intelligence.

### Chilean Help

Up until recently the involvement of Chile in the conflict has been an unknown but widely conjectured subject. Former UK Prime Minister, Baroness Margaret Thatcher, alluded to Chilean assistance during the conflict when pleading the case for the then Chilean Dictator Augusto Pinochet after his arrest in London.

However, Chile's assistance to the UK was purely selfish. The UK and Chile both had territorial disputes with Argentina. The Chileans believed that if the British defeated Argentina that the Argentines would think twice about any more forcible territorial repossessions, particularly of Chilean territory. They also needed weapons and spares from the British which had been embargoed due to human rights violations.

So Chile decided to support the British in private but remain neutral in public, given that it needed to be seen supporting the South American brotherhood.



Chile's first act of assistance related to the delayed transfer of the fleet replenishment tanker RFA TIDEPOOL. The Chileans not only agreed to delay her transfer to their navy but also allowed the British to purchase a full load of fuel for the replenishment ship as it had already entered Chilean waters when the conflict began. TIDEPOOL went on to support the South Georgia campaign and supported the Task Force throughout the conflict.

Chile's clandestine support to the UK Task Force came in two forms. Chile allowed the UK to base an RAF Nimrod Maritime Patrol Aircraft and a supporting Victor air-air refuelling tanker on Chilean soil early in the conflict. The Nimrod would conduct reconnaissance for the Argentine fleet and direct the RN's SSN's in for the kill. The Nimrod and supporting tanker were based on the Island of San Felix some 1,900 miles from the Chilean coast. The Nimrod and tanker would fly into a Chilean air base at night, refuel and then proceed on the extended mission into the South Atlantic given the air-air refuelling capability.

The Nimrod operation generated three sorties and produced very little. It was withdrawn when questions started to be asked in the UK about Chilean assistance.

Of greater benefit was the installation of a long range air search radar on the southern border with Argentina with a satellite link to the UK, and thus to the Task Force. This gave the Task Force advanced warning of air attack by detecting the planes taking off. In return for the radar's placement and use, the Chileans were able to keep it at the conclusion of the conflict for a significantly reduced price.

As payment for its help, Chile gained access to more Hunter fighter bombers, Canberra bombers, the air search radar and a number of other weapons and spares that had been under an embargo due to Chile's appalling Human Rights reputation.

**NZ Help**

While it appears that none of the UK's traditional Commonwealth partners directly assisted the British in the Falklands Conflict, NZ did, indirectly. After a dinner at No.10 Downing St in London between NZ Prime Minister Mr Muldoon and UK PM Margaret Thatcher the RNZN frigate CANTERBURY was dispatched to the Persian Gulf. Her role was to take over the UK's standing patrol of the Persian Gulf releasing the Type 42 destroyer HMS CARDIFF for duty in the Falklands. This was particularly important given the Type 42s anti-air role in the conflict. CARDIFF was able to join HMS BRISTOL and HMS EXETER off Gibraltar and sailed for the Falklands.

**Australian Help**

As mentioned, traditional Commonwealth partners seemed to abandon the UK over the Falklands issue. While diplomatic support was provided on the floor of the UN this was usually as far as it went. Although when the 30 year rule is reached on the release of cabinet documents etc, it may reveal more.

In Australia's case its publicised actions in relation to the conflict were slightly embarrassing. All RAN exchange officers on RN ships that were part of the Task Force were removed and posted to other ships. Some of these officers were holding important positions and their last minute

reposting had the potential to affect the combat proficiency of that ship. Some in the RN still remember to this day with a certain amount of anger the Australian Government's actions on the eve of battle.

The only other Australian action was the Government's decision not to press the UK for the sale of the RN aircraft carrier HMS INVINCIBLE. However, this only helped the RN after the conflict with INVINCIBLE able to relieve other carriers on Falklands guard duties during the 1980s.

**Operation Mikado**

The main threat to the entire UK operation in the South Atlantic would be an Exocet attack on one of the carriers. Rear Admiral Woodward said; "Lose INVINCIBLE and the operation is severely jeopardised. Lose HERMES and the operation is over."

Consequently, planning commenced to negate the further use of Exocet, rather than wait for more attacks. Although intelligence provided by France indicated that only five Exocets were delivered to Argentina, leaving only three after the attack on SHEFFIELD, it was known that Argentina was vigorously searching the 'black market' for more. Peru was also known to be helping the Argentines acquire more air launched Exocet.



A RN Sea King helicopter. A Sea King like this took an SAS reconnaissance team to Argentina. The aircraft and was later destroyed with the aircrew surrendering to Chilean authorities with the cover story that bad weather put them off course from the Task Force.

Back in the UK various plans were discussed at the Strategic level on how to negate the Exocet threat. Proposals included, a Vulcan Bomber raid, a Sea Harrier strike from the carriers, a Commando assault from a submarine off the coast, a battalion sized Parachute drop on the airfield and an Israeli style Entebbe raid on the air base by the SAS. Surprisingly the latter was seen as the most plausible and Operation Mikado was born.

Mikado called for a C-130 Hercules transport aircraft to land at the air base supporting Exocet operations, hopefully with the element of surprise, disembark the 55 members of B Squadron 22nd SAS who would then form into three groups. The first group would destroy the Super Etendards, the second the missile magazine and the third would go to the officer's mess and eliminate the pilots. They would then reboard the aircraft and fly home. Alternatively, if the aircraft was damaged or destroyed, conduct a fighting withdrawal over 50 miles of frozen, windswept, peat bog into Chile. The operation was timed to coincide with another SAS raid on the Argentine airstrip on Pebble Island near the proposed British landing site of San Carlos. Both raids were designed to reduce the threat to the landing ships at the amphibious bridgehead.

The first step of Mikado was a detailed reconnaissance of Argentine airbases to locate the Super Etendards and their Exocet holdings. British intelligence had previously concentrated on the Soviets and thus had limited data on Argentina or its air bases. The naval air base at Rio Grande was considered to be the best option for a reconnaissance mission given its proximity to the Falklands.

On the night of 17/18 May the carrier INVINCIBLE and her Type 22 Sea Wolf armed goalkeeper frigate BROADSWORD made a high speed dash to the western side of the Falkland Islands. From there the carrier launched an SAS reconnaissance mission by Sea King helicopter to Rio Grande naval air base. On approaching the Argentine coast the helicopter was detected by an Argentine destroyer on radar picket. Despite this, the mission went ahead. The Sea King had been flying in bad weather for sometime. When it eventually put down the crew discovered they were 50 miles from the airbase. At this point the mission was abandoned and the Sea King destroyed, with the flight crew surrendering to Chilean authorities, minus the SAS contingent who were repatriated by British Embassy Staff after the conflict.

Unfortunately for the British, the Argentine's had anticipated Mikado. New long-range air search radars had been installed to warn of approaching aircraft. Numerous anti-aircraft guns were deployed around the airfield. The 1st Marine Brigade with one mechanised battalion and two motorised battalions were aggressively patrolling the air base's perimeter. Mine fields had been sown in and around the airfield. Two destroyers, HIPOLITO BOUCHARD and DIEDRA BUENA, were patrolling off the coast to warn of approaching British aircraft and to provide a barrier to submarines. The Super Etendards were also moved into the nearby town under the cover of darkness each night and hidden in car parks and people's garages.

With this information Mikado was put on hold. But had it taken place without the necessary reconnaissance, as some were pushing for due to time, it would have been a catastrophic failure with the potential to have claimed more lives than the remaining three Exocets.

## Nuclear Weapons

With the accelerated deployment of warships already at sea to join the Falklands Task Force, some deployed carrying nuclear weapons. Four ships in total deployed to the South



The Type 22 frigate HMS BROADSWORD acting as goalkeeper to the carrier HMS HERMES during the conflict. HM Ships HERMES, INVINCIBLE, BROADSWORD and BRILLIANT were carrying nuclear weapons in the form of ASW depth bombs. When it was realised in the UK that 65% of the UK's total nuclear depth bomb inventory was headed for the South Atlantic they were removed and returned to the UK on the first available support ship. (RN)

Atlantic carrying the MC 600 nuclear depth bomb (a derivative of the WE.177). Given the RN's ASW role in NATO, the nuclear depth bomb was carried to counter the mass of Soviet submarines expected to surge into the North Atlantic if the Cold War escalated.

Due to its large blast area the nuclear depth bomb is able to destroy a submarine in situations where the submarine cannot be precisely located, is too deep, too fast or presents an immediate danger that needs to be destroyed quickly when time does not permit precise location.

The frigates HMS BROADSWORD and BRILLIANT along with the carriers INVINCIBLE and HERMES were carrying nuclear depth bombs in the South Atlantic.

Although no nuclear option was considered for the conflict the Task Force Commander requested that the weapons remain in the Task Force in case of Soviet intervention. The senior leadership flatly refused the request and all nuclear depth bombs (which actually totalled 65% of the RN's entire inventory) were offloaded onto a replenishment ship that was bound for the UK.

After the war the Soviets claimed that the destroyer SHEFFIELD was deliberately scuttled between the Falklands and South Georgia due to the presence of nuclear weapons. They also claimed that the destroyer COVENTRY was also carrying nuclear weapons as evidenced by the diving activity on her wreck after the war. However, the Official Histories of the conflict (published recently) shed light on this topic. Neither SHEFFIELD nor COVENTRY were carrying nuclear weapons. The diving activity on COVENTRY's wreck concerned the recovery of classified documents and equipment, given the depth being easily accessible to divers.

## Argentine Secrets Black Market Arms Trading



An AM-39 Exocet ASM under the wing of a Super Etendard. Argentina tried to buy Exocets on the Black Market but were unsuccessful.

Given the accelerated timetable of Argentina's invasion of the Falklands it had no time to build up ammunition, equipment or acquire new weapons and systems it might need to take on the first world military forces of the British. Or in case of embargo by many of the world's arms supplies due to their invasion. So during the conflict Argentina secretly expended some effort to 'catch up' using the international arms Black Market and through diplomatic approaches to individual countries.

Given the perceived effectiveness of the Exocet ASM, Argentina naturally tried to acquire more. Its efforts though

were unsuccessful. This was due to two factors. The first was a special UK MI6 team set up to pose as buyers of Exocet. The team would essentially outbid the Argentines in case any came onto the Black Market. During the conflict, Argentina and the MI6 team did not acquire any, but did receive a firm offer from an American arms dealer with several missiles.

The second factor involved France's assistance in banning Exocet exports. Peru was sympathetic to Argentina's cause and placed pressure on France for the delivery of a number of AM-39 air-launched Exocet it had ordered before the conflict. Intelligence sources believed they would end up in Argentina. The French however, had secretly agreed with London not to export any Exocet to any country during the Conflict. The Peruvians had a ship waiting in a French Port to take delivery of the Exocet missiles and later offered to send a cargo aircraft to pick them up. Fortunately, French stalling tactics were able to keep their customer sufficiently engaged while adhering to the agreement with London. As it was, Peru supplied spares and Mirage jet fighters to Argentina.

Israel is also said to have sold military equipment to Argentina. Most of the sales involved smaller weapons and parts for existing systems through third parties. The British Government complained to Israel who declared they had sold nothing to Argentina. On arriving in Stanley, British troops found numerous examples of Israeli made equipment.

During the war, Libya emerged as a major arms supplier to Argentina. Up to ten direct flights of a Boeing 707 full of weapons were made between Libya and Argentina during the conflict. It is thought these weapons consisted of R-550 air-air missiles, shoulder launched anti-aircraft missiles (SAM-7), AT-3 anti-tank weapons and spares for Mirage fighters as well as external fuel tanks for the Mirage jets.



An Argentine Mirage III taking off. Peru and Libya secretly supplied parts and weapons for the Mirage to Argentina during the war.

### Pucará Launched Anti-Ship Torpedo

Due to the inability to acquire more Exocet ASMs the Argentine Air Force began to study the possibility of adapting some of its aircraft for the anti-ship role using different weapons. With dumb bombs in supply the Air Force looked for more novel approaches that provided a degree of accuracy, standoff and effectiveness.

During the study it was discovered that Argentine retained a large supply of small WW II anti-ship torpedos that could be dropped from aircraft. The weapon in question was the US built Mk-13 torpedo, which had been withdrawn from service by the Argentinean Navy.

The Mk-13 was built between 1943-1945 and had a top speed of 30kts and a range of 5kms. The Argentinean Navy employed it for many years, launching it from the

Consolidated PBY-5A Catalina. The aircraft chosen to secretly test the option of resurrecting the Mk-13 was the Argentine made turbo prop IA-58 Pucará.

Captive flight testing of the weapon on the Pucará's centreline pylon began on 21 May. The first launch of a Mk-13 took place on 22 May, the torpedo having been a practice round and not equipped with an explosive warhead.

Rough calculations involved having the aircraft establish a 20 degree dive at a speed of 300 knots and at a height of approximately 300ft. This however, was too fast and the first test resulted in the destruction of the torpedo when it impacted the water. The same happened the next day when the parameters were changed to a 45deg dive with a speed of 250 knots and a height of 600ft.

It became evident that there was something missing from the torpedo to be effectively deployed from an aircraft with the performance of the Pucará.



Three images of the test aircraft evaluating the Mk-13 torpedo. The torpedo can be seen on the centreline pylon. It was never used.

Lacking the torpedo's operational manuals, the only information available was that it should enter the water at an angle of approximately 20 degrees, with the launch aircraft travelling at 90kts. With a less acute angle, but at high speed, the torpedo would bounce when hitting the water, thus damaging the internal and propulsion mechanisms. If the angle was greater there was a risk that it would spear into the seabed.

After consulting retired service personal with experience on the Mk-13, a nose-mounted aerodynamic brake was installed on the torpedo, and a biplane stabilizer installed in the tail end. These additions would be destroyed when the torpedo hit the water. The modifications were much like the Japanese Navy's modifications to its air launched torpedoes for its attack in the shallow waters of Pearl Harbor.

After these modifications were undertaken, the first successful launch took place on 24 May. These took place while the Pucará was flying straight and level flight at a height of 45ft, at 200 knots.

A total of seven practice runs were conducted before a successful live round was tested on 10 June.

The last successful test before the deployment of the weapon was conducted on 14 June. However, the operation was then cancelled due to the surrender of Argentinean troops on the Falklands.

### Special Forces Raid on Gibraltar

During the conflict, a well-equipped Argentine underwater sabotage team slipped secretly into Spain and made its way towards Gibraltar. Its aim was to blow up vital ammunition and fuel dumps and sink the RN guard ship, namely HMS ARAIDNE.

Acting on a tip off from French and British intelligence sources, the Spanish authorities arrested the team of four men in the town of San Roque some five miles from Gibraltar.



The RN Gibraltar guard ship HMS ARAIDNE was one of the targets of a failed Argentine Special Forces raid on Gibraltar.

After a few days of questioning, Madrid ordered the four to be deported back to Buenos Aires. Their hire car is reported to have contained two small inflatable boats and eight limpet mines.

The team of four were to approach Gibraltar by water from the La Lineá docks. The idea behind the Special Forces strike was two fold. It would send a message to the British authorities and public that the conflict could be escalated. It was also designed to have a logistics effect on the Task Force as much of its fuel and ammunition was coming from the storage facilities of the Admiralty magazine at Gibraltar.

### The Runway at Stanley



An aerial photo of the runway at Stanley after a Vulcan bomber raid. A string of craters can be seen to the lower right of the runway. Although long enough to accommodate Super Etendards the Argentines decided against basing any of their more valuable aircraft at Stanley due to their vulnerability to Commandos and naval gunfire.

Post conflict analysis by many historians has at times stated that the Argentine's main strategic failure was that it did not lengthen the runway at Stanley for its Super Etendard strike aircraft. This, it is claimed, would have increased their reach and ability to keep the RN Task Force away from the islands by providing an unsinkable aircraft carrier capability to the Super Etendards.

Examination of secret Argentine air operations planning to deal with the RN had considered the runway at Stanley. The Argentines even went so far as to test the Super Etendard to see if it could land and take off from the Stanley runway. At its airbase in Rio Grande the length of the runway at Stanley was measured out and lines placed on its main runway representing Stanley's length. It was found that a Super Etendard could land and take off with a full fuel load and one Exocet ASM. However, it could not do this in wet weather.

The Argentines rejected the option of basing Super Etendards on the Falklands as it felt these very valuable aircraft would be too vulnerable to Commando strikes from the sea as the runway is located along the Falklands coastline. This was later proved to be a prudent decision given the SAS raid on Pebble Island knocking a large number of Pucará attack aircraft.

# The Falkland Islands Today

By Dr Roger Thornhill

**The Falkland Islands that cost the British 255 lives in the 1982 conflict is a different place today than when invaded by Argentina. Economic self-sufficiency and growth are making the Falklands an attractive place for investment and tourism.**

Since the war in 1982 the Falkland Islands have enjoyed remarkable growth and economic development, despite being an economic liability to the UK Government before the war. The Islands have their own Government services and an elected Legislature with a Governor appointed by the Queen.

The services provided by the Falkland Islands Government (FIG) have been broadened and improved over the years so that modern education and healthcare are available to all Falklands citizens.

Some of the programmes the FIG is currently planning include:

- Up to 20% of power generation from wind turbines by mid 2007.
- Further development of fisheries.
- A continuation of the search for offshore Oil.
- The diversification of the agricultural sector based on the natural environment, absence of disease and approved production methods.
- Development of export markets.
- Tourism development and growth; and,
- Continued improvement in internal communications.

Politically, the FIG Legislature and Her Majesty's Government (HMG) remain committed to developing their partnership founded on self-determination, internal self-government and British sovereignty.

The FIG and people hope for peaceful co-existence between Argentina and the Falkland Islands, but without diluting or adapting the position on sovereignty. However, for as long as there is a perceived threat from Argentina, a military presence on the Islands will be maintained on a scale sufficient to deter aggression and provide a holding capability pending reinforcement from the UK.

The FIG is content for relations between Britain and Argentina to strengthen, on the basis that improved relations work to benefit the region and help co-operation in areas of mutual interest. Offshore resources – fish and potential Oil – are the most obvious examples where co-operation is desirable, and where a framework of consultation has been built up over the years.



'Welcome to the Falklands' the sign near the public jetty at Stanley that greets over 40,000 tourists each year.



A modern cruise ship at Port William. A familiar sight in Stanley Harbour (Port William).

## Fisheries

On 28 November 1990, following a meeting in Madrid to discuss conservation concerns, Argentine and British delegations adopted a Joint Statement which resulted in the creation of The South Atlantic Fisheries Commission (SAFC). One of its primary aims is to find ways of improving conservation of migratory and straddling stocks.

The creation of the Falklands Outer Conservation Zone (FOCZ) was announced at the same meeting. This borders the Falkland Islands Interim Conservation and Management Zone (FICZ) set up in 1986, extending the fishing zone to a maximum of 200 miles from the coastal baselines, a fisheries licensing system was also established by FIG.

By mid-2005 there had been 27 meetings of the SAFC and 23 meetings of its scientific sub-committee (SSC). Much useful joint scientific work involving British, Argentine and Falklands scientists has been done in the SSC. Fisheries data has been routinely exchanged and there have been joint assessments of shared stocks. There has been a programme of joint research cruises with Falkland and Argentine research vessels operating with joint scientific teams in both zones. Since late 2005 a number of SAFC meetings have been suspended due to Argentine insistence on linking fisheries conservation to talks on sovereignty. This is not acceptable to the UK Government nor to the FIG.

The fisheries agreement heralded new financial independence for the Falkland Islands and moved the economy away from its reliance on wool. Each year 250,000 - 300,000 tonnes of fish, principally *Illex* squid, are taken for export.

## Defence

Since the Argentine invasion, the Islands have been defended by garrisoned forces from the UK, who also make use of the training grounds the Islands provide. The garrison is based at Mount Pleasant, 35 miles from Stanley. It usually consists of four-six Tornado air defence fighters, a VC-10 air-air refueller, two RAF Sea Kings for Search and Rescue duties, a C-130 Hercules and one – two CH-47 Chinook helicopters.



A VC-10 air-air refueller and three RAF air defence Tornado fighters somewhere over the Falklands. The fighters are Falkland's defenders, which is indicated by the red cross on the tailplane. The same red cross was worn by RAF fighter aircraft defending the island of Malta during WW II. The Tornados are fitted with AIM-120 AMRAAM and AIM-132 ASRAAM. Four to six are permanently based in the Falklands at the Mount Pleasant complex.

The RN usually has a frigate or destroyer in the vicinity of the islands for six – eight months of each year as well as the ice patrol ship ENDURANCE.

Land force elements usually consist of a company sized light infantry force, several Rapier air defence units and other supporting units as required. The force really only has a trip wire/speed hump capability to allow rapid reinforcement from the UK in the event of a surprise attack.

Local support is provided by the Falkland Islands Defence Force, whose history dates back to 1892. Funded by the FIG, the Defence Force is recognised as a skilled and effective Territorial Army unit (equivalent to the Australian Army Reserve), not only forming an integral part of the Islands' defence operation, but also carrying out search and rescue operations. The force is usually the same size as a light infantry company and over its life has provided troops to the UK during WW I and WW II.

## Economy

In 1975, the Falkland Islands economy was in serious decline. The then British Foreign Secretary, James Callaghan, asked Lord Shackleton to assemble a team to conduct an economic survey and make recommendations.

The result was the 'Economic Survey of the Falkland Islands' (The Shackleton Report), published in 1976, which provided a comprehensive blueprint for the Islands economic development. However, implementation did not occur in earnest until after the conflict in 1982, when Lord Shackleton was asked to update his report. He recommended that HMG should:

- Set up a development agency;
- transfer farm ownership to local owner-occupiers;
- progress development in agriculture, fisheries, tourism, infrastructure;
- change government structure to provide local impetus to change; and
- allocate development funds amounting to £35m.

These points were taken up and developed together with several other recommendations, such as the appointment of a Chief Executive to the FIG.

Two aid packages were provided by HMG to help drive economic expansion:

- Allocation of aid funds (£15m) for the reconstruction of infrastructure.
- Allocation of funds (£31m) for development.

An international airport and military installations were also built at Mount Pleasant using contractors, materials and labour from the UK. This has assisted with air travel and facilitated defence of the islands. Its presence also injects funds into the local economy.

Until 1987 sheep farming was the main economic activity and wool exports the principal source of income. During the 90s a number of Australian Marino sheep were imported to improve the local breeding stock. With the drop in the international wool market, new initiatives are being developed to diversify the Islands agricultural base. These include: an experimental reindeer herd, tourism, local knitwear, the harvesting and export of sphagnum moss, peat compost production and land improvement through the use of calcified seaweed. A European Union (EU) standard abattoir has recently been built and has received EU approval. Falkland Islands meat, which is of a high quality, is now being exported from the Islands.

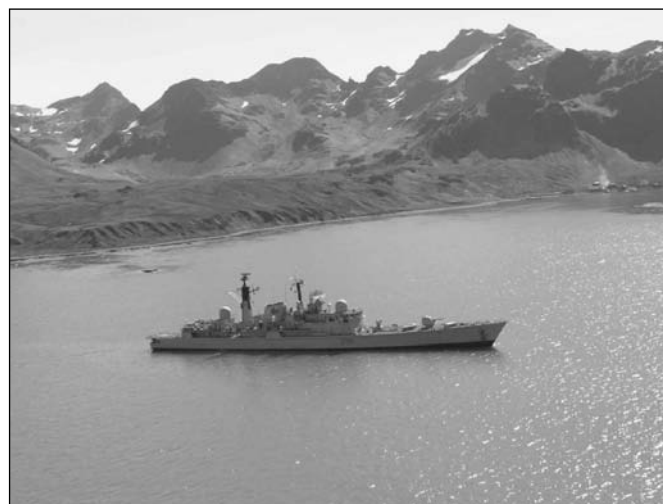
The Falkland Islands are now economically self-sufficient in all areas except defence – the cost of which amounts to some 0.5% of the total UK defence budget.

GDP has risen from about £5 million in 1980 to approximately £70 million in 2002. Revenue from the fishery is the main income source for the Government.

## Population

The 2001 Census records a resident population of 2,379 people. This figure excludes the 1,700-plus military and civilians based at Mount Pleasant Military Complex, and a further 112 residents temporarily absent on the night of the Census. The population is youthful, with 79% aged 55 years and under (1,892) and over 94% claims either British birth or descent. Many Islanders can trace their origins back over 150 years to the early days of settlement.

The capital, Stanley, has 1,989 residents, an increase of some 21.6% on the 1996 Census figures. The East Falkland population (excluding Stanley and Mount Pleasant) stands at 208, West Falkland at 144, and the outlying islands at 38 people. The population continues to grow year on year.



The Type 42 Batch 3 destroyer HMS GLOUCESTER in Grytviken Harbour in South Georgia. The RN deploys a different warship to the Falklands every year.



An aerial shot of the massive Mount Pleasant Complex which serves as the Falklands military garrison and international airport.

At the 2001 Census, the number of dwellings in the Falkland Islands stood at 1,073, a rise of 26% on the 1996 Census. Of these, 851 were located in Stanley.

There has been a significant change in the fuel used for household heating and cooking with very few houses now using peat. Kerosene has become the main heating fuel, followed by diesel. LPG gas is firmly established as a cooking fuel as well.

Over 70 farms have access to 24 hour electrical power using wind turbines, and it is planned to have a Wind Farm for Stanley in place by mid 2007, providing 20% of the capital's electricity. Trials of wind power in the past have proven successful but unsustainable as the wind is so strong and constant that wind turbines have broken down after three-four years of use.

Since 1996, the number of households with computers has more than doubled. Over half of all households now have computers, most with internet access. The television remains the most common household appliance.

Numbering well over 1,000, the four-wheel drive is the Islands' predominant vehicle.

## Tourism

Tourism is an important source of revenue to the Falkland Islands. Tourism is an industry which is now predominantly private sector owned and controlled. Central to the tourism strategy is sustainable development, preserving and protecting the Islands' character, building on the Islands' natural strengths – the abundant wildlife, flora, clean air, open skies, space and remote location.

The number of visitors to the Islands has grown considerably in recent years, not least due to the increasing number of cruise ships touring the region. During the

2005/2006 season there were in the region of 45,000 day visitors from cruise ships, mainly from the USA, UK and Germany. Land based tourism continues to grow.

The air link operated by LAN is opening up opportunities for trade and tourism development. A number of tour operators who specialise in holidays to Chile are expanding their programmes to include 'add on' packages to the Falkland Islands. Trade with Chile is growing steadily with building materials, livestock, fresh fruit and vegetables and wines being imported to the Islands.

## Minerals

Exploration for oil offshore of the Falkland Islands is at a very early stage and no commercial discoveries have been made yet. In 1998 six wells were drilled to the north of the Islands resulting in a wealth of geological data. These first wells proved the presence of a very rich organic source rock that could generate up to 60 billion barrels of oil, bringing oil to the surface in one well and natural gas in another.

Strict environmental legislation regarding offshore surveying and drilling activities is in place. Licensed areas are well away from the coastline and companies are required to prepare environmental impact assessments and oil spill plans when planning drilling activities. In order to safeguard the fishery, seismic surveys are restricted to specific times of the year. Oil companies operating offshore have also been able to collect new oceanographic and wildlife data, enhancing knowledge of the area.

As a result of rising oil prices, the Falkland Islands have become a more attractive frontier area for exploration, with a number of new companies being licensed to explore for oil in 2004.



The British memorial to the Falklands conflict with Government House in the background.

It is expected that oil companies will drill more exploration wells in the North Falkland Basin in 2007, following an 800 sq km 3D seismic survey completed by Desire Petroleum. A 2D survey is being carried out in the southern licensed blocks by Falkland Oil and Gas Limited (FOGL) and Borders and Southern Petroleum. Good results are being produced during early interpretation of these data. Drilling could begin in the southern basin as early as this year. If a commercial discovery is made in the next decade, extraction is likely to use floating production vessels known as FPSOs. Oil is taken directly from the FPSO by shuttle tanker to refineries around the world. There would be no requirement to bring oil ashore, thus keeping impact on the Islands to a minimum.

## Current Issues

On 14 July 1999, Britain and Argentina signed an agreement, witnessed by two Falkland Islands Councillors, resulting in a range of measures:

- Enhanced co-operation between the Falkland Islands and Argentina on fisheries conservation and a co-ordinated programme to tackle poaching.
- The entry of Argentine citizens with an Argentine passport to the Islands, ending the ban introduced in 1982. Although this ban did not include Argentine next of kin, who have been able to visit the Islands since 1991.

- A memorial to Argentine servicemen who lost their lives in 1982, to be erected in the Argentine Cemetery in the Islands. The memorial has been erected at the cemetery in Darwin. Constructed in Argentina, it was shipped to the Islands in February 2004.
- Co-operation between the UK and Argentine Governments on the clearing of landmines.

In November 2003, Argentina withdrew permission for charter flights, which service the cruise ship industry, to overfly their airspace from Santiago in Chile. Whilst not covered in the 1999 Joint Statement, these flights have been operating for the last ten years. The suspension of charter flights came without warning. The UK Foreign and Commonwealth Office have made it clear to the Argentines that whilst they are prepared to discuss building on existing flight arrangements, this can only take place against the backdrop of charter operations resuming as normal. Any agreement on flights must be acceptable to the Falkland Islanders, who are not prepared to accept a scheduled service from Argentina by a sole Argentine operator. Regrettably, despite considerable efforts, it has not yet been possible to reach an agreement on this issue.

## Argentina & the Sovereignty Question

The Argentine Government continues to claim sovereignty to the Falkland Islands and enshrined the claim in its Constitution in 1994, thus committing future governments to pursue it.

The British and FIG reject the Argentine claim, which lacks both legal and historical substance. Attempts to find a 'solution', whether by Argentina or by third parties, are based on the false premise that there is an unresolved problem and that the views of the Falkland Islanders are irrelevant.

Sovereignty will be a continuing source of tension between the three parties but is not expected to lead to a state of conflict. Argentina has stated that it believed the 1982 conflict was a mistake and one that flew in the face of decades of friendly relations between Argentina and the UK.



The Argentine memorial to the Malvinas (Falklands) conflict in Argentina. A memorial has also been set up on the Falklands at the settlement of Darwin.



# HATCH, MATCH & DISPATCH

## Hatch

### WOLLONGONG and CHILDERS named

The Naming Ceremony for the tenth and eleventh Armidale class patrol boats was held on Saturday, 17 February at the Austal shipyard in Henderson, Western Australia. Fourteen patrol boats in total are to be delivered to the RAN.

The ceremony was attended by senior figures from the RAN, Department of Defence, Government and industry including Senator Concetta Fierravanti-Wells, as representative for the Minister of Defence, Honourable Francis Logan representing the Premier of WA and Chief of the Royal Australian Navy, Vice Admiral Russ Shalders.

Speaking at the ceremony, Austal's Executive Chairman, John Rothwell, commented on the progress of the project to date: "My congratulations go to the Austal Project Team who have achieved tight milestones and high standards in the continued on-time delivery of the Armidale class patrol boat fleet."

The town of WOLLONGONG has previously been represented by two former Navy vessels, namely a Bathurst Class Australian Minesweeper (Corvette) launched in 1941 and a Fremantle class patrol boat launched in 1981, the direct predecessor of the current Armidale class patrol boat.

The name CHILDERS represents two locations in the Australian states of Queensland and Victoria. The original HMVS CHILDERS, a First Class Torpedo Boat, was built in the United Kingdom in 1883. The vessel was named after Lord Childers, a prominent British Statesman, and cost the State of Victoria, 10,000 pounds. Following service in both the Commonwealth and Royal Australian Navies she was decommissioned in 1916.

The vessel CHILDERS was launched in Fremantle in August of 1883 followed by the launch of WOLLONGONG on 5 July 1941.

Both new vessels will be handed over to the Royal Australian Navy in the coming weeks.

## Match

### Eighth Armidale patrol boat BROOME commissions

Armidale class patrol boat, HMAS BROOME became the latest Australian patrol boat to join the RAN's operational Fleet following a traditional commissioning ceremony in the city of Broome on 10 Feb.

Mrs. Anne Zilko, the eldest daughter of CMDR (Ret) Bill Ritchie (one of the surviving crew of HMAS BROOME I), was the Commissioning Lady.

The ceremony was attended by the Federal Member for Kalgoorlie The Hon. Mr Barry Haase MP, the Chief of Navy Vice Admiral Russ Shalders AO, CSC, RAN and the Fleet Commander, Rear Admiral Davyd Thomas AM, CSC, RAN.

Admiral Thomas said, "I am delighted to welcome HMAS BROOME into the Royal Australian Navy fleet. The ship harnesses cutting edge technology, improved habitability and provides the Navy with a very capable ship to undertake surveillance and response tasks."

"The Armidale class vessels substantially improve the Royal Australian Navy's capability to intercept and apprehend vessels suspected of illegal fishing and quarantine, customs or immigration offences.

"I am confident BROOME will serve Australia with distinction for many years to come," said Commanding Officer, Lieutenant James Harper RAN.



(from L to R) Chief of Navy Vice Admiral Russ Shalders, Naming Lady for WOLLONGONG Kylie Heron, His Worship the Mayor of the City of Wollongong Alex Darling and Senator Concetta Fierravanti-Wells as representative for the Minister of Defence. In the background NUSHIPS WOLLONGONG and CHILDERS. (Austal)

# STATEMENT of POLICY

Navy League of Australia

The strategic background to Australia's security has changed in recent decades and in some respects become more uncertain. The League believes it is essential that Australia develops the capability to defend itself, paying particular attention to maritime defence. Australia is, of geographical necessity, a maritime nation whose prosperity strength and safety depend to a great extent on the security of the surrounding ocean and island areas, and on seaborne trade.

The Navy League:

- Believes Australia can be defended against attack by other than a super or major maritime power and that the prime requirement of our defence is an evident ability to control the sea and air space around us and to contribute to defending essential lines of sea and air communication to our allies.
- Supports the ANZUS Treaty and the future reintegration of New Zealand as a full partner.
- Urges a close relationship with the nearer ASEAN countries, PNG and the Island States of the South Pacific.
- Advocates the acquisition of the most modern armaments, surveillance systems and sensors to ensure that the ADF maintains some technological advantages over forces in our general area.
- Supports the acquisition of unmanned aircraft such as the GLOBAL HAWK and UCAVs.
- Believes there must be a significant deterrent element in the ADF capable of powerful retaliation at considerable distances from Australia.
- Believes the ADF must have the capability to protect essential shipping at considerable distances from Australia, as well as in coastal waters.
- Supports the concept of a strong modern Air Force and highly mobile Army, capable of island and jungle warfare as well as the defence of Northern Australia and with the requisite skills and equipment to play its part in combating terrorism.
- Advocates that a proportion of the projected new fighters for the ADF be of the STOVL version to enable operation from suitable ships and minor airfields to support overseas deployments.
- Supports the development of amphibious forces to ensure the security of our offshore territories and to enable assistance to be provided by sea as well as by air to friendly island states in our area and to allies.
- Endorses the control of Coastal Surveillance by the defence force and the development of the capability for patrol and surveillance of the ocean areas all around the Australian coast and island territories, including the Southern Ocean.
- Advocates measures to foster a build-up of Australian-owned shipping to ensure the carriage of essential cargoes in war.

As to the RAN, the League:

- Supports the concept of a Navy capable of effective action off both East and West coasts simultaneously and advocates a gradual build up of the Fleet and its afloat support ships to ensure that, in conjunction

with the RAAF, this can be achieved against any force which could be deployed in our general area.

- Is concerned that the offensive and defensive capability of the RAN has decreased markedly in recent decades and that with the paying-off of the DDGs, the Fleet lacks area air defence and has a reduced capability for support of ground forces.
- Advocates the very early acquisition of the projected Air Warfare Destroyers.
- Advocates the acquisition of long-range precision weapons and the capability of applying long-range precision fire to increase the present limited power projection, support and deterrent capability of the RAN.
- Advocates the acquisition at an early date of integrated air power in the fleet to ensure that ADF deployments can be fully defended and supported from the sea.
- Advocates that all Australian warships should be equipped with some form of defence against missiles.
- Advocates the future build up of submarine strength to at least 8 vessels.
- Advocates that in any future submarine construction program all forms of propulsion be examined with a view to selecting the most advantageous operationally.
- Supports the maintenance and continuing development of a balanced fleet including a mine-countermeasures force, a hydrographic/oceanographic element, a patrol boat force capable of operating in severe sea states, and adequate afloat support vessels.
- Supports the development of defence industry supported by strong research and design organisations capable of constructing and supporting all needed types of warships and support vessels.
- Advocates the retention in a Reserve Fleet of Naval vessels of potential value in defence emergency.
- Supports the maintenance of a strong Naval Reserve to help crew vessels and aircraft in reserve, or taken up for service, and for specialised tasks in time of defence emergency.
- Supports the maintenance of a strong Australian Navy Cadets organisation.

The League:

- Calls for a bipartisan political approach to national defence with a commitment to a steady long-term build-up in our national defence capability including the required industrial infrastructure.
- While recognising budgetary constraints, believes that, given leadership by successive governments, Australia can defend itself in the longer term within acceptable financial, economic and manpower parameters.

The Spanish ALVARO DE BAZAN arriving in Sydney. If the Gibbs & Cox Evolved AWD (Air Warfare Destroyer) design (see *THE NAVY* Vol 68 No.4) is deemed too risky or costly then this Spanish design will be chosen as the new SEA 4000 destroyer for the RAN. (Chris Sattler)



The Dutch warship TROMP leaving Sydney Harbour. TROMP uses a different radar and combat suite to the proposed RAN SEA 4000 destroyer. Rather than using a phased array radar for air search and mechanical fire control radars for target illumination, it uses a large 3-dimensional rotational radar (located above the helicopter hanger) for air search and a phased array for target illumination. This system allows for more simultaneous engagements. (Chris Sattler)





# The Navy League of Australia 2007 Maritime Essay Competition

The Navy League of Australia is holding a maritime essay competition during the first half of 2007 and invites entries on either of the following topics:

*20th Century Naval History*  
*Modern Maritime Warfare*

A first, second and third prize will be awarded in each of two categories: *Professional*, which covers Journalists, Defence Officials, Academics, Naval personnel and previous contributors to *THE NAVY*; and *Non-Professional* for those not falling into the *Professional* category.

The prizes are:

- *Professional* category: \$1,000, \$500 and \$250.
- *Non-Professional* category: \$500, \$200 and \$150.

Essays should be 2,000-3,000 words in length and will be judged on content and structure.

The deadline for entries is 30 June 2007, with the prize-winners announced in the October 2007 issue of *THE NAVY*.

Essays should be submitted in Microsoft Word format either on disk and posted to: Navy League Essay Competition, GPO Box 1719, SYDNEY NSW 2001; or emailed to [editorthenavy@hotmail.com](mailto:editorthenavy@hotmail.com)

Submissions should include the writer's name, address, telephone and email contacts, along with the nominated entry category.

*THE NAVY reserves the right to reprint all essays in the magazine,  
together with the right to edit them as considered appropriate for publication.*

