

CHAPTER 9

ANTI-SUBMARINE OPERATIONS IN 1943

WHILE the Australian squadrons of No. 9 Group and North-Western Area fought the enemy over the islands to the north, other Australian squadrons and an American naval patrol wing, which flew Catalina flying-boats from Crawley (near Perth) in Western Australia, were engaged in the task of protecting maritime trade on the Australian coast and the shipping supply line to New Guinea. This responsibility, shared with the Royal Australian Navy, had been given by General Kenney to R.A.A.F. Command. Air Vice-Marshal Bostock directed operations from his headquarters in Brisbane.¹

Australia was dependent on merchant vessels for vital overseas supplies and munitions. Aircraft patrols had therefore to be flown daily to give protection from Japanese submarines which cruised off the eastern seaboard, ready to strike at vessels moving in and out of Sydney, Brisbane and Melbourne or moving through the Coral Sea and Torres Strait to the forward battle areas. In 1942 a number of ships had been sunk by Japanese submarines, and others had been shelled and damaged. These attacks had caused loss of life and disruption to trade, but the effect of the enemy submarine campaign was by no means as serious as the effect of the Allied submarine campaign on Japanese merchant shipping. To the end of April 1943 Allied submarines had sunk 226 Japanese vessels of 500 tons and above. Of these, American submarines had sunk 217, Dutch six and British three.²

The enemy sent submarines to the Australian coast again early in 1943. Two Australian ships and one American were torpedoed and sunk in January and February; other vessels were damaged by torpedoes but managed to reach harbour. This renewed threat to shipping and the need at the same time to continue meeting the heavy operational needs of the New Guinea theatre placed a strain on Australian air and naval resources. So great was the need for aircraft to fly on anti-submarine patrols that Bostock was forced to press three reserve squadrons into service, using instructors and partly-trained aircrews from the operational training units.³ The reserve squadrons were equipped with Ansons which, though reliable, had a very limited range and carried a small bomb load.

¹ In March 1943 General MacArthur had set up the South-West Pacific Sea Frontier Force, charged with the responsibility (under the Commander, Allied Naval Forces) of giving naval protection to sea communications in the South-West Pacific. This organisation was commanded by Admiral Sir Guy Royle, Chief of the Australian Naval Staff. Royle's command and RAAF Command were jointly responsible for the protection of shipping. Air Vice-Marshal Jones, Chief of the Air Staff, had proposed to MacArthur in March that a similar organisation for the RAAF should be set up whereby he would take over responsibility for air force operations in defence of Australian territory when the main RAAF combat force moved forward towards Japan. MacArthur rejected the proposal without offering any reasons.

² Report by American Joint Army-Navy Assessment Committee, 1946.

³ The operational training units engaged were Nos. 1 (East Sale) and 3 (Rathmines). Although Nos. 11 and 20 (Catalina) Squadrons based at Cairns were engaged in offensive bombing and mining operations mainly north of Darwin, their primary mission was also the protection of sea communications from submarines.

In addition to coping with the submarine threat Bostock had to be ready to meet possible air attacks launched from Japanese carriers as well as the landings which were still considered possible.

For purposes of air defence Australia was divided into five areas: Eastern, Western, Southern, North-Eastern and North-Western. In April 1943, the commanders of these areas (excluding the North-Western which has been dealt with in earlier chapters) had the squadrons shown in the accompanying table at their disposal:

North-Eastern Area (Air Commodore A. H. Cobby)

- No. 7, general-reconnaissance bomber, equipped with Beauforts, based at Ross River, Qld.
- No. 9, fleet cooperation, equipped with Seagulls, based at Bowen, Qld.
- No. 11, general-reconnaissance bomber, equipped with Catalinas, based at Cairns, Qld.
- No. 20, general-reconnaissance bomber, equipped with Catalinas, based at Cairns, Qld.

Eastern Area (Air Vice-Marshal W. H. Anderson)

- No. 5, army cooperation, equipped with Wirraways, based at Kingaroy, Qld.
- No. 23, dive bomber, equipped with Wirraways, based at Lowood, Qld.
- No. 24, dive bomber, equipped with Wirraways, based at Bankstown, NSW.
- No. 32, general-reconnaissance bomber, equipped with Hudsons, based at Camden, NSW.
- No. 71, reconnaissance and submarine patrol, equipped with Ansons, based at Lowood, Qld.
- No. 73, reconnaissance and submarine patrol, equipped with Ansons, based at Nowra, NSW.
- No. 83, fighter, equipped with Wirraways, based at Strathpine, Qld.

Southern Area (Group Captain C. W. Pearce)

- No. 67, reconnaissance and submarine patrol, equipped with Ansons, based at Laverton, Vic.
- No. 86, fighter, equipped with Kittyhawks, based at Gawler, S.A.

Western Area⁴ (Air Commodore R. J. Brownell)

- No. 14, general-reconnaissance bomber, equipped with Beauforts, based at Pearce, WA.
- No. 25, dive bomber, equipped with Wirraways, based at Pearce, WA.
- No. 76, fighter, equipped with Kittyhawks, based at Exmouth Gulf, WA.
- No. 85, fighter, equipped with Boomerangs, based at Pearce, WA.

Thus more Australian operational squadrons were on duty in the south than in the front-line areas. The need for patrols to check submarine attacks on shipping and to guard against possible carrier-borne forays on the capital cities, prevented the Australian air force from maintaining a larger number of squadrons in New Guinea. The Fifth Air Force, on the other hand, freed of this responsibility and equipped with better aircraft, was able to maintain its whole force in the forward areas.

⁴ Western Area also had American Catalinas of Patrol Wing 10, United States Navy, available for anti-submarine and reconnaissance duty.

On 11th April 1943, an Anson aircraft from No. 67 Squadron, Laver-ton, piloted by Pilot Officer Sinclair⁵ with Sergeants Carey⁶ and Eatough⁷ as crew, was patrolling ahead of a convoy of vessels which were on their way from Melbourne to Sydney. At 2 p.m. Sinclair turned about a mile in front of the convoy and counted thirteen vessels. About ninety seconds later he turned again and saw only twelve, with a disturbed patch of water and a large cloud of brown smoke on the starboard line of the convoy. Sinclair flew back over the disturbance at about 1,000 feet and saw floating timber and petrol drums. Some minutes later he saw the sloop *Moresby*, one of the naval escorts, dropping depth-charges, and he there-fore circled the area, but without finding anything. On reaching the rear of the convoy *Moresby* signalled to him to "come over the wreck with me". Sinclair flew at fifty feet over the wreckage and after having seen six or seven men on a raft and one clinging to some wreckage he signalled "men in water" by Aldis lamp to the *Moresby*. The escort vessels picked up these survivors. The Anson crew failed to see anything except a large patch of oil on the water and a mast extending four feet out of the sea. The torpedoed vessel was the Yugoslav motor vessel *Rećina* (4,732 tons). Nine men were rescued but 32 were lost.

The captain of the Anson did not signal information back to the operations room at Southern Area about the sinking with the result that the staff there were not aware of it until one hour and 35 minutes later. The Anson captain was under strict instructions not to report the presence of an enemy submarine until he had actually seen one. The training methods then in use were too binding with the result that "captains have been scared to use their own initiative in respect of taking action and making reports by wireless".⁸

The naval authorities on 25th April informed Eastern Area Head-quarters that a submarine had torpedoed and sunk the Australian cargo ship *Kowarra* (2,125 tons) with a loss of twenty-four lives. The attack took place 160 miles north of Brisbane on 24th April. The torpedo had broken the vessel's back, the boilers had exploded, and she sank in 45 seconds. Two large submarines surfaced nearby about half an hour after the sinking.

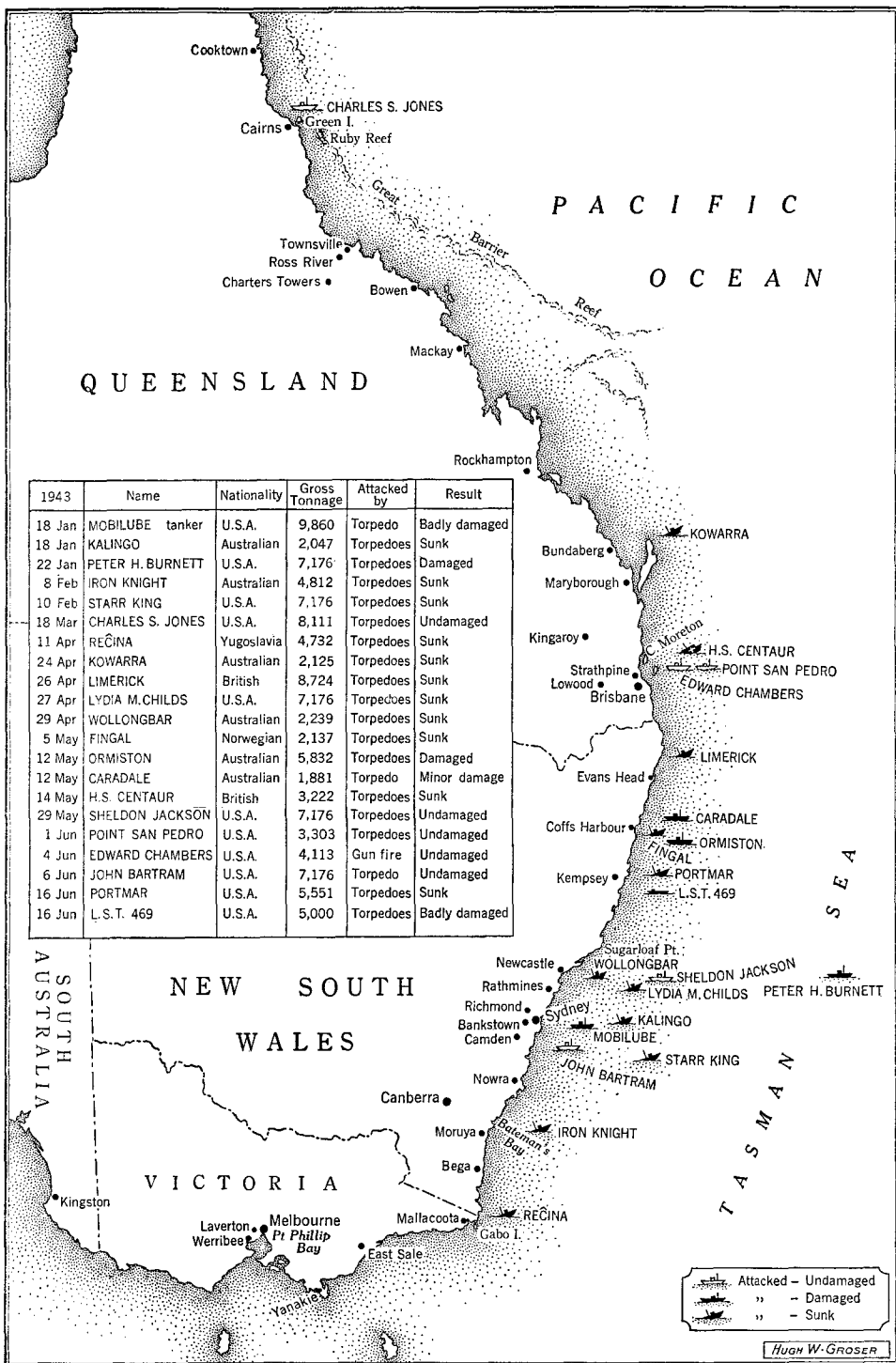
Some thirty hours later a third vessel was torpedoed 270 miles away north-east of Evans Head. This was the *Limerick* (8,724 tons), a British ship, which was in a convoy escorted by destroyers. Two men were killed and the surviving members of the crew rescued by H.M.A.S. *Colac*. Four Anson aircraft from Bundaberg and three from Lowood searched the area for the survivors but without result. Area commanders increased the

⁵ F-Lt D. R. Sinclair, 407809. 435 Sqn USAAF; 67, 23 and 21 Sqns. Grazier; of "Poolamacca" Stn, NSW; b. Crystal Brook, SA, 26 Oct 1917.

⁶ W-O T. K. Carey, 8140. 4, 11, 67 and 9 Sqns, 5 Commn Unit. Clerk; of Wool Bay, SA; b. Cummins, SA, 3 Apr 1915.

⁷ W-O C. L. Eatough, 12282. 71 Sqn; 13 (B) Sqn USAAF; 67 and 15 Sqns. Copy holder; of Valley, Qld; b. Brisbane, 17 Dec 1920.

⁸ Letter, Gp Capt C. W. Pearce, T/AOC, Southern Area, to RAAF Command and Air Board, 23 April 1943.



Japanese submarine operations, 1943.

number of patrols flown by aircraft in search of submarines but no signs of enemy activity were seen, except the debris from the sunken ships.

On 27th April at 6.55 p.m. an American ship, the *Lydia M. Childs* (7,176 tons), was torpedoed off the coast of New South Wales, about 90 miles east of Newcastle, while on passage from the United States with a cargo destined for the Middle East. The ship sank in eight minutes, all the crew having taken to the boats. An hour later a Catalina on patrol from Rathmines saw and shadowed an object which it believed to be a submarine. Soon afterwards the crew sent a signal to Eastern Area headquarters stating that they had seen a submarine. The Catalina made three bombing runs over the submarine but the bombs failed to release (it was discovered later that this was due to the master switch not being properly home) and the submarine submerged. Searches for the torpedoed vessel and survivors were carried out by aircraft and naval vessels next day. Ansons, Hudsons and Beauforts operating from Camden saw wreckage and two life-boats containing nineteen men who were picked up by a corvette which the aircraft diverted to them.

Bostock's staff considered that at least three and possibly four enemy submarines were now operating off the eastern coast. The Japanese campaign against shipping had accounted for four merchant ships in the space of three weeks in spite of constant patrols by aircraft and naval escort.

All possible reconnaissance aircraft were pressed into service along the coast. On 27th April, six Hudson aircraft from No. 1 Operational Training Unit left East Sale for Camden where they came under the control of No. 32 Squadron. On arrival they were bombed up, refuelled and sent immediately to provide a night cover for two convoys. One of the Hudson pilots (Flying Officer Rule) next day located a submarine about 150 miles north-east of Sydney. By the time he dropped flares, however, he could see nothing and the indication of the submarine on his radar equipment also disappeared.

On 29th April at 10.36 a.m. the crew of a Fairey Battle on a travel flight over the sea off Newcastle saw an explosion on a ship twelve miles away. The aircraft turned in the direction of the explosion and came on wreckage, boats, rafts and five survivors. About 200 yards away the aircraft crew could see a periscope and the wake of a submarine which had just torpedoed the vessel. It was visible for four minutes after which the submarine slowly submerged and was not seen again. The aircraft then directed a launch to the scene, remaining until it arrived to pick up the survivors. The vessel was the 2,239-ton *Wollongbar*, the fifth submarine victim in less than a month.

On 1st May at 10 a.m. a Catalina on a travel flight from Brisbane to Rathmines saw a submarine. But the Catalina carried no bombs, and could not, therefore, make an attack. That night another Catalina from Rathmines was sent up on anti-submarine patrol in waters through which a convoy was to pass. At 9 p.m. the Catalina found the convoy and its radar equipment picked up an indication from a distance of fourteen miles showing a vessel on a converging course. The captain "homed" on

this indication and from a height of 1,000 feet in poor visibility he and other members of the crew saw what they believed to be a submarine. The captain then dropped depth-charges which missed and his target opened fire on him with machine-guns. He reported later that the machine-gun fire was fairly accurate and continued after his attack but no damage was done to the *Catalina*. He considered that the submarine was converging on the convoy which, but for his attack, would have been endangered. However, the *Catalina* had not in fact attacked a submarine at all, but an American tanker *City Service Boston* carrying a cargo of fuel and diesel oil from Los Angeles. It was undamaged and reached Brisbane where an Australian naval staff officer boarded it and interviewed Captain T. Bartolomeo, the master. Bartolomeo described how an aircraft circled wide around the ship and then attacked dropping a bomb fifty yards from the starboard beam. The ship's crew then opened fire on the aircraft with 20-mm cannon and .5-inch machine-guns. An hour and a half before this attack the *City Service Boston* had been following a zig-zag course to avoid a submarine moving on a north-easterly course towards New Caledonia. Bartolomeo reported that this submarine was in sight for twenty minutes, but made no attempt to attack his ship.⁹

Such mistakes were easy to make. Porpoises, whales, sharks and even paravanes trailing behind ships had been objects of suspicion and sometimes of bombing attacks. Aircraft made several attacks on American submarines, fortunately without sinking any, although some were damaged. Very few of the hundreds of airmen engaged in patrolling had ever seen a submarine. They had the difficult and frustrating task of flying thousands upon thousands of miles without seeing the slightest sign of enemy activity. The task of finding a periscope in the broad stretches of the ocean in all sorts of weather was almost impossible. If one was seen, the crew would have only a fleeting glimpse before the submarine dived. Yet the patrols had to be maintained. The presence of patrolling aircraft was likely to force the enemy submarines to remain submerged during the day, although they did not prevent some torpedo attacks being made in daylight hours. One favourable factor was that the convoy routes for shipping were along the coast, close to the R.A.A.F's airfields. Aircraft, therefore, could spend the greater part of their flying time patrolling over the actual convoy route.

These arduous patrolling operations were not kept up every day without considerable cost in lives and equipment. A number of crews and their machines disappeared without trace when at sea. Beaufort aircraft, particularly in 1942 and 1943, were being lost frequently, especially from No. 1 Operational Training Unit at East Sale. A judicial inquiry had been held into statements that materials used in the manufacture of the machines were not adequately tested. Air Vice-Marshal Jones, at a meeting of the Advisory War Council early in May 1943, said that a court

⁹ Some days later the *City Service Boston* ran aground and her back was broken. An Australian army rescue party saved 60 members of the crew. Eight men of the rescue party were washed off the rocks. Five were rescued but three lost their lives.

of inquiry into the causes of accidents to Beaufort aircraft had found that the accidents could not be attributed to any one particular cause.

Late in April, more Hudsons and Catalinas were added to the patrol force. On 5th May no fewer than 46 aircraft patrolled off the eastern coast from Thursday Island in the north to Port Phillip Bay in the south, compared with 29 on 4th April. The aircraft engaged were:

	Sorties flown on 4th April	Sorties flown on 5th May
Beauforts	5	7
Ansons	19	20
Hudsons	3	9
Vought Sikorsky	2	5
Catalinas	—	5
	—	—
	29	46

In spite of this increase there were not sufficient aircraft to combat Japanese submarines, but the threat to Australian sea communications was still not considered sufficiently dangerous to justify the release of any aircraft from operations in New Guinea.

Early in May, the Advisory War Council discussed the loss of merchant ships. Admiral Royle, the Chief of the Naval Staff, who was present told members that four naval escorts would now be allotted to each convoy. This was the maximum protection that could be provided with existing naval resources. The decision to provide four escorts and to reduce the number of convoys by about 50 per cent had been taken after representations had been made by the Shipping Control Board. To this extent the Japanese submarine effort had succeeded; double convoys would mean delays in the sailings of ships.

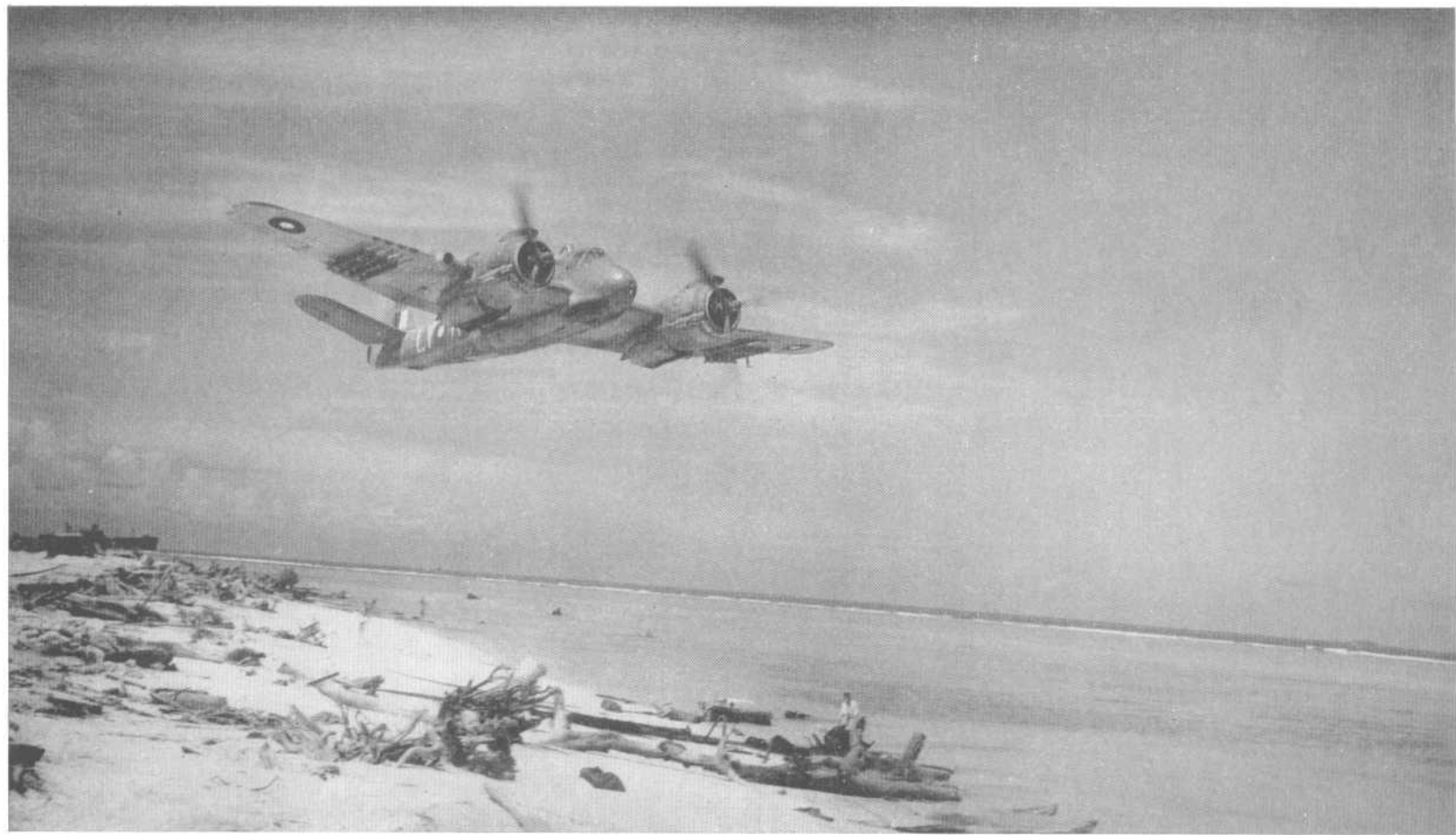
From dawn on 5th May, Ansons of No. 71 Squadron operating from Coff's Harbour carried out patrols over a convoy escorted by an American destroyer. At 1.35 in the afternoon, the Norwegian ship *Fingal* (2,137 tons) was struck by two torpedoes from a Japanese submarine. An Anson in which Sergeant Gillmore¹ was pilot, Flying Officer Sharrad,² navigator, and Sergeant Hall,³ wireless air gunner, was over the convoy at the time of the attack. Immediately the torpedoes struck, Gillmore turned his aircraft in the direction of the ship. Hall saw the wakes of two torpedoes. He told the pilot and the pilot turned the aircraft up the wakes but could not find the submarine. Twelve members of the ship's crew had been lost and three injured.

A week later on 12th May, the *Ormiston* (5,832 tons) was torpedoed in the afternoon while in convoy with both naval and air escort; however, the vessel reached Coff's Harbour under its own steam at a reduced speed and down at the bow end. As soon as the *Ormiston* was attacked messages

¹ F-O G. J. Gillmore, 413569; 71 Sqn. Audit clerk; of Fairfield, NSW; b. Drummoyne, NSW, 15 Jun 1923.

² F-Lt M. A. Sharrad, 416716. 71, 11 and 42 Sqns. District clerk; of Kimba, SA; b. Pinnaroo, SA, 9 Aug 1911.

³ F-O J. L. Hall, 412950. 71, 100 and 36 Sqns. Insurance agent; of Murrurundi, NSW; b. Willow Tree, NSW, 21 Jan 1919.



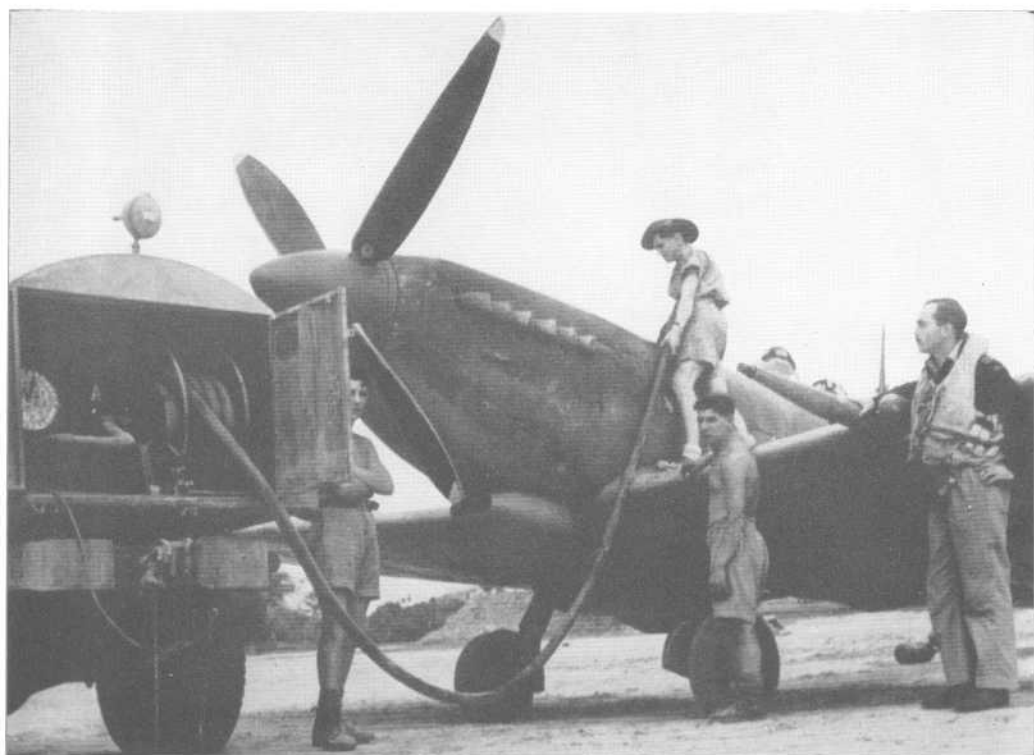
A Beaufighter of No. 30 Squadron taking off from Noemfoor on 10th November 1944 to attack "targets of opportunity".
The eight rockets with which it is armed were particularly effective for water-line attacks against shipping.

(R.A.A.F.)



(R.A.A.F.)

Hurricanes were used widely in the Burma campaign. Primarily fighters, they were also adapted as fighter-bombers, in which role they performed varied tasks. Here a Hurri-bomber, in March 1944, is attacking a bridge on the Tiddim Road which has already been hit by a previous aircraft.



(R.A.A.F.)

F-O D. E. F. Garvan of No. 136 Squadron R.A.F., looks on while a ground crew refuel his Spitfire on a Burma airfield in 1944.

were sent to Eastern Area, which immediately increased the air cover, two more Ansons being sent out. There were no casualties in the *Ormiston* and the ship later continued its passage to Sydney at a reduced speed. It was discovered later that the *Caradale* (1,881 tons) had also been attacked by the submarine which torpedoed the *Ormiston*. A torpedo had struck this ship while it was in the convoy, but it had not exploded. At the time, the captain did not report any damage, but later the *Caradale* was found to be making water in No. 3 hold. However, she reached Sydney safely.

An Anson from No. 71 Squadron in which Flying Officer Crewes⁴ was pilot, Flying Officer Keith,⁵ navigator, and Sergeant Billington,⁶ wireless air gunner, took off at 10.40 a.m. on 15th May and flew out to sea to provide an anti-submarine patrol for a convoy of vessels. Nothing untoward happened and at about 1.40 p.m. the Anson left the convoy to return to Lowood. However, at 2 p.m. the crew of the Anson were astonished to see "a ship's life-boat containing 30 live persons". The captain of the Anson immediately signalled one of the vessels in the near-by convoy: "Rescue survivors in water ahead." They appeared to be survivors from a ship but no sinking had been reported in the area. The Anson circled twice and dropped a smoke flare near a remote group of survivors. Petrol shortage then forced it to return to Lowood, where it landed at 3.45 p.m.

Meanwhile, the men and a woman had been taken aboard the American destroyer *Mugford*, and told the story of the sinking of the Australian hospital ship *Centaur*, a disaster which cost 268 lives. On Friday, 14th May, she had been steaming north at a speed of 12 knots when, at 4 a.m., twenty miles north-east of Cape Moreton, there was an explosion on the port side. The ship burst into flames and sank within two minutes. There was no time to send a message or even to launch life-boats. At the time, the ship was illuminated and marked in accordance with the international law governing hospital ships.

At 9 a.m. visibility had fallen and two aircraft which passed over the survivors at this time missed seeing them. Later two more aircraft and two ships passed by without seeing them. Several of the survivors said that, at dawn next morning, a Japanese submarine surfaced near them and remained about twenty minutes. It was about 300 feet long, and had one gun forward of the conning tower.⁷ The survivors sighted a fifth aircraft on Saturday morning. Then at 2 p.m. they were seen by the Anson of No. 71 Squadron, thirty-four hours after the sinking.

Immediately the story of the disaster was known ashore, naval vessels and aircraft were sent out to search for more survivors and hunt down

⁴ F-Lt O. K. Crewes, 414831. 71 and 43 Sqns. Traveller; of Five Dock, NSW; b. Sydney, 24 May 1915.

⁵ F-Lt J. W. Keith, 414240. 71, 20 and 11 Sqns. Clerk; of Hill End, Qld; b. Brisbane, 1 Jan 1923.

⁶ W-O C. S. Billington, 411674. 71, 11 and 42 Sqns. Carriage builder; of Strathfield, NSW; b. Hurstville, NSW, 19 Jun 1918. Killed in action 14 Oct 1944.

⁷ Most of the survivors were suffering from shock and exposure at this time. It is possible therefore that they were mistaken. There is no way of establishing whether the submarine did surface in this area because all four submarines engaged on the eastern coast at this time were subsequently lost.

the submarine responsible for the attack. An Anson from Lowood found an upturned life-boat next day. Over an area of two miles radius the crew saw four pontoons and ten rafts but no sign of life. The Anson directed a destroyer to the scene but no survivors were found.

The story of the disaster was told to the public on 20th May. Newspapers carried banner headlines on their front pages and editorials condemned the attack. General MacArthur spoke of the enemy's "limitless savagery" and Mr Curtin announced that an immediate and strong protest was being addressed to the Japanese Government.

There was also public criticism of the conduct of anti-submarine operations. On 29th May an article in *Smith's Weekly* asked why it took thirty-six hours to discover the tragedy and the survivors. The article declared: "Circumstances surrounding the loss of the hospital ship *Centaur* on May 14 reflect no credit upon Australian naval and air administration . . . losses on the coast recently have been heavy. They have got to be stopped."

At the next Advisory War Council meeting, on 3rd June, Mr Hughes spoke of "deficiencies in present methods" of anti-submarine warfare. Sir Earle Page asked whether more extensive use could be made of aircraft stationed at airfields along the east coast for the protection of convoys, and asked why aircraft had not gone to the aid of the convoy in which *Ormiston* was torpedoed. In reply Admiral Royle said that the aircraft operated ahead of the convoy in order to keep enemy submarines down and so prevent them getting into a position to attack the convoy. Aircraft could not normally be seen by crews of ships, but arrangements were being made for this to be done in future. Earlier he had assured the council that good progress was being made in fitting aircraft with air-to-surface vessel radar equipment, and escort vessels with detection apparatus.

In order to increase the patrol force available, aircraft on travel flights were ordered to fly over coastal shipping routes as far as possible. Bostock directed the training organisations to keep their crews fully informed of current intelligence. Training aircraft were to carry weapons and keep a sharp lookout for enemy submarines. Bostock signalled Air Force headquarters on 16th May urging that every effort be made immediately to provide one additional general reconnaissance reserve squadron for Eastern Area. This squadron was to remain active until No. 13 Squadron, then at Canberra, could be re-equipped and become effective, or until the situation changed.

In May Admiral Royle, as commander of the recently-constituted South-West Pacific Sea Frontier Force, decided to set up within this force a committee on submarine warfare, to be known as the "Anti-Submarine Warfare Division" of the force. Royle asked that a representative of R.A.A.F. Command be appointed to this committee. Bostock sent this request on to Air Vice-Marshal Jones, and he appointed Wing Commander Courtney,⁸ who had had a distinguished record in anti-submarine warfare

⁸ Gp Capt E. B. Courtney, MVO. 143; 10 Sqn. Comd 75 Wing 1943-44. Regular air force officer of Glen Iris, Vic; b. Malvern, Vic. 14 Nov 1914.

with Coastal Command in the United Kingdom. Courtney, however, was not under Bostock's control, but an officer of Air Force headquarters, under the Chief of the Air Staff. General Kenney therefore made a direct request to Jones on 21st June that it was "essential that a suitably qualified officer should represent Allied Air Forces in Anti-Submarine Division deliberations". He said: "The danger of the present arrangement is clearly illustrated by your signal of the 19th June which indicates that denial of direct representation on the Anti-Submarine Division has already resulted in deplorable delay in the transmission of important information to the A.O.C. R.A.A.F. Command." However, Jones declined to grant this request and a final request made by Kenney a month later. The clash of views on this question was an example of the difficulties which arose because there was a division between operational and administrative responsibility in the higher command of the R.A.A.F.

The anti-submarine division of the Sea Frontier Force was staffed by representatives of the navy and air forces, both Australian and American, and its purpose was to coordinate and improve all methods of anti-submarine warfare. However, the key to the situation was the provision of more aircraft, and more escort vessels rather than the appointment of committees, and sufficient aircraft were simply not to be had without withdrawing them from New Guinea.

On 22nd May Mr Curtin personally took up with the Minister for Air, Mr Drakeford, the question of providing more aircraft for anti-submarine patrols. He pointed out that of 303 Beaufort aircraft delivered to the R.A.A.F., by 8th May 1943 fifty-one had been lost and only 121 of those remaining were fit for service. Mr Curtin said: "In the nineteen weeks period from 2 Jan to 8 May, the average unserviceability was 52 per cent and although this ratio is exceeded slightly by both Hudsons and Catalinas among other operational types, the Beaufort has had the most consistently high unserviceability rate of any operational type. It is perhaps impossible that the Beaufort ratio should be reduced to the Spitfire ratio of 22 per cent, but a reduction to even 40 per cent would mean, at present, an addition of 26 aircraft each week."

Vessels, aircraft and radar stations ashore continued to have further contacts with possible enemy submarines during the remainder of May but there were no further sinkings. On 18th May the radar station on Fitzroy Island, 15 miles east of Cairns, obtained a contact and reported being jammed while trying to send a message. On 28th May a Beaufort from Bundaberg reported seeing a submarine which dived before an attack could be made.

The intensity of the daily patrolling and searching carried out by R.A.A.F. aircraft in this period can be gauged from the daily situation report for 4th June reproduced below.

On 4th June, some 20 miles east of Cape Moreton, an American motor vessel, the *Edward Chambers* (4,113 tons), saw a submarine about 12,000 yards away. The *Edward Chambers* fired twelve rounds at the submarine,

MOST SECRET.
SITREP NO. 841.
1700K/3—0500K/4 JUNE.
PAGE NO. 8.

ROUTINE SEARCHES AND PATROLS.

MISSION	TASK NO.	AIRCRAFT	RESULTS
A.O.R. DARWIN. Coast patrol—DARWIN—CAPE FORD—DALY RIVER. Patrol Area "Z" Outer A/S Patrol on Force "HG"	BAT-95 HUG-26 HUG-27	1 Vengeance 4 Hudsons 1 Hudson	Negative. Negative. Convoy not located.
A.O.R. TOWNSVILLE. Patrol Area "N" Patrol Area "P" a.m. Patrol Area "P" p.m. Fighter cover for MERAUKE	HOR-28 HOR-29 HOR-30 HOR-73	1 B'fort 1 B'fort 1 B'fort 12 Boomerangs	Negative. Negative. Negative. Negative.
5TH AIR FORCE. Shipping Escort	WAR-30	1 B'fort	Negative.
A.O.R. SYDNEY. Outer A/S Patrol Force "VZ" Outer A/S Patrol Force "C" p.m. Patrol Blue Route Outer A/S Patrol Force "XV" a.m. Search plotted area Outer A/S Patrol Force "VZ" Outer A/S Patrol Force "XY" p.m. Patrol Area E. BRISBANE Outer A/S Patrol Force "XU" Outer A/S Patrol Force "C" a.m. Outer A/S Patrol Force "WU" Locate and guide ship	BUN-46 CAM-17 CAM-73 CH-6 CH-7 LOW-28 LOW-29 LOW-30 LOW-31 NOW-35 RAT-43 RAT-75	3 B'forts 1 B'fort 1 B'fort 2 B'forts 2 Ansons 2 Ansons 3 Ansons 4 Ansons 2 B'forts 2 Ansons 2 VS. 2 VS.	Negative. Negative. Negative. Negative. Negative. Negative. Negative. Negative. Negative. Negative. Negative. Negative. Completed.
A.O.R. MELBOURNE. Inner A/S Patrol Force "UX" Square Patrol Force "UX" Square Patrol Force "D"	LAV-15 LAV-16 LAV-17	6 Ansons 2 Ansons 2 Ansons	Negative. Negative. Negative.
A.O.R. PERTH. Patrol Sector "A" W. of GERALDTON Patrol Sectors 2 and 3 NNE EXMOUTH GULF Patrol Sector "B" NW of PEARCE Patrol Inner Shipping Lane PEARCE—ALBANY Patrol Outer Shipping Lane ALBANY—PEARCE Shipping Escort	CRA-15 CRA-16 PEA-18 PEA-19 PEA-20 PEA-21	1 Catalina 2 Catalinas 1 B'fort 1 B'fort 1 B'fort 2 B'forts	Negative. Not reported. Negative. Negative. Negative. Negative.

which replied with nine rounds, but no torpedoes were fired. After five minutes the submarine submerged, having failed to hit the ship. Three Beauforts of No. 32 Squadron from Camden, operating from dusk on 4th June to dawn on 5th June, and five Ansons of No. 71 Squadron from Lowood on a creeping-line-ahead search all next day failed to find this submarine. Again on 14th June a Beaufort operating out of Coff's Harbour at night sighted a wake which appeared to be caused by a vessel moving north and also registered a response from its air-to-surface vessel equipment. Both the wake and the radar response disappeared within a minute.

At 5.15 in the afternoon, two days later, a submarine fired torpedoes at vessels in a convoy 60 miles south-east of Coff's Harbour. One of the torpedoes hit the ship *Portmar*. Petrol on board exploded and the ship immediately caught fire both fore and aft. Ammunition then exploded and the vessel sank in seven minutes. One member of the crew and a passenger were lost. During the day the convoy of which the *Portmar* was a member had been covered by an anti-submarine patrol of four Ansons of No. 71 Squadron, but none of these aircraft saw the enemy submarine. The last Anson to cover the convoy was due to return to base, and was flying ahead along the convoy's track, when the crew saw a fire on one of the ships 18 miles behind. The captain returned to the convoy, found the *Portmar* ablaze and sinking, and radioed to base: "Ship on fire cause unknown." Shortage of petrol then forced the Anson to return to base. Soon after the attack on the *Portmar* the American naval *LST.469* in the same convoy was struck by a torpedo. There were a number of fatal casualties on board, but the vessel remained afloat and H.M.A.S. *Deloraine*, after removing the survivors, towed *LST.469* towards Coff's Harbour, until the tow was taken over by a naval tug which successfully hauled her to Sydney.

That night three Beauforts (two from Bundaberg and one from Coff's Harbour) searched the area thoroughly without finding the enemy submarine. The first Beaufort led the convoy out of the area in which the attack was made. The hunt for the submarine continued next day with Anson aircraft but without avail. On 18th June, however, one of three Beauforts operating out of Coff's Harbour recorded responses on its radar and just after midnight saw a submarine on the surface. The captain (Pilot Officer Harrison⁹) made a direct attack, dropping a stick of three depth-charges (250-lb torpex). The crew did not see the explosion. The submarine dived to conning-tower depth and a fourth depth-charge was dropped half a submarine length ahead of it. Both attacks were made from 30 to 50 feet after a shallow dive. After the second attack the submarine came to the surface and appeared to be trailing oil. In spite of the semi-darkness the crew reported seeing fuel oil extending two miles long and about a quarter of a mile wide. Harrison continued to shadow the submarine, dropping flares to attract surface vessels and the relieving

⁹ F-O A. L. Harrison, 408190. 7, 32 and 100 Sqns, 530 Sqn USAAF. Orchardist; of Cradoc, Tas; b. Cradoc, 29 Aug 1915. Killed in action 29 Oct 1944.

aircraft. There was now quite a good chance that either an aircraft or a naval escort might destroy the submarine. The relieving Beaufort (captained by Flying Officer Cushway¹⁰) saw one of the flares and found the submarine on the surface some thirty minutes later. The submarine was now moving at from 10 to 12 knots. Cushway dived to the attack and released a stick of four depth-charges from 200 feet, but they overshot the submarine by about 40 feet. Cushway flew over a corvette escorting the convoy and tried to attract its attention to the submarine. Failing to do this he flew back to the submarine and machine-gunned it, hoping also to attract the corvette by this means. This failed and Cushway made a second gunnery attack. The submarine returned his fire but without scoring any hits. A third Beaufort, sent out after Cushway's machine had returned to base, was unable to find the submarine. A naval vessel later obtained a sample of the oil seen by the airmen and established that it was not from a submarine but was burnt oil, probably from the sunken *Portmar*.

The following day a great effort was made to find and destroy the submarine. A large area of sea was continuously searched by twelve Ansons, and reserves of strike aircraft including two Vengeances of No. 23 Squadron and four from No. 24 were ready with engines already warmed to attack as soon as the submarine was found, but it was not seen again. The submarine was not sunk but No. 32 Squadron was credited with damaging it. A good opportunity of sinking this submarine had been lost when communications between the Beauforts and naval escorts broke down.

Japanese submarine attacks on the eastern coast diminished during July but the R.A.A.F. remained alert and continued to maintain extensive patrol operations to protect shipping. In that month boisterous and foggy weather tended to nullify the efforts of the air force in keeping watch, but at the same time heavy seas and bad visibility afforded the convoys additional protection from the submarines.

To improve the efficiency of the air effort against the submarines, Air Vice-Marshal Anderson, commanding Eastern Area, asked permission of R.A.A.F. Command to make a change of policy in the anti-submarine warfare methods. He asked that, where it was considered essential to give a complete twenty-four hour coverage over vital areas in which submarines were known to be operating, the policy should be to do this rather than to escort convoys in less dangerous areas. R.A.A.F. Command agreed to this policy "where the position of a submarine was established beyond all doubt . . . after consultation with the appropriate naval authorities".

In July Air Vice-Marshal Cole, who toured R.A.A.F. areas on an inspection, made a similar suggestion. He pointed out that an "offensive policy against submarines is essential in lieu of the present defensive protection of convoys which, in the light of the shortage of aircraft, is uneconomical. Whilst enemy submarines operating off the Australian coast

¹⁰ F-Lt D. L. G. Cushway, 26847. 32 and 40 Sqns. Bar steward; of Adelaide; b. Kensington, SA, 8 Nov 1917.

are so few, if a submarine is sighted it must be harried till destroyed.”¹ In reply, Bostock pointed out that the need for “an offensive policy against submarines was well known. The matter had been exhaustively discussed with the Anti-Submarine Division of the Sea Frontier Force.” “However,” he said, “it is just the shortage of aircraft which forces us to the present defensive role.”

While these discussions continued, the submarine menace had been rapidly lessening. The *Portmar* was the last sinking off the east coast in 1943. The Japanese had withdrawn their submarines from the Australian coast and operated them for a time round the Solomon Islands. It was perhaps fortunate for Australia that the Japanese called off this submarine campaign when they did, because with the dearth of aircraft and trained crews, and the great area of ocean that had to be covered, continued attacks on merchant shipping might have had serious results, especially if Japan had increased the submarine force beyond the four that were engaged at this time.²

The R.A.A.F. and the R.A.N. had failed to sink any of the enemy submarines which operated off the Australian coast in 1943. Nevertheless their activities greatly hampered the enemy, forcing the submarines to stay submerged for long periods and thereby reducing their mobility. The existence of air and naval protection was essential also for keeping up the morale of the merchant seamen. Its existence undoubtedly prevented the high losses that would have followed had the submarines had unrestrained access to Allied shipping.

In the early part of the war Japanese submarines had attacked Allied naval vessels with some success. They had assisted in the destruction of two large American carriers and had sunk several cruisers and destroyers. Allied counter-measures disposed of many Japanese submarines, and many more were later used to carry food and equipment to isolated Japanese bases, thereby reducing the force available for use against Allied shipping. Commander Nakajima said after the war: “The exact use of submarines was the point of much discussion at headquarters, but we were forced to let them be used for supply because of the shortage of warships and supply ships of all kinds.” On the other hand, the American submarine attack on Japan was most effective. The Japanese themselves were greatly surprised with the efficiency and extensive use of American submarines which did great damage to their shipping and eventually severed their supply lines.

On 29th July, a Catalina aircraft of No. 20 Squadron delivered an attack on the American submarine *Tuna*, believing it to be an enemy vessel. The Catalina was captained by Squadron Leader Stokes, commanding officer of the squadron; but his action was blameless because the submarine, being in an area of unrestricted bombing, failed to identify

¹ See J. Herington, *Air War Against Germany and Italy 1939-1943*, Vol III, Chapter 16, in this series, for a discussion of a similar problem in the Atlantic.

² These four were all “I” class submarines. *I 178* was sunk off San Cristobal on 25 Aug 1943 by a US destroyer. US destroyers and destroyer escorts sank *I 180* off Kodiak on 26 Apr 1944, and *I 174* south of Truk on 29 Apr 1944. *I 177* was destroyed off Angaur on 19 Nov 1944.

itself to him. Stokes had picked up a radar indication of the submarine about 56 miles north-north-west of Woodlark Island. He dropped a flare near the *Tuna* which began to submerge rapidly. Stokes dropped depth-charges and as the Catalina came in on a second run to attack with 250-lb general-purpose bombs the *Tuna* came to the surface and belatedly flashed a signal identifying itself as a friendly vessel. The signal came only just in time to prevent the second attack. The first attack caused damage which forced the submarine to return to base. Stokes later reported other instances in which submarines had failed to carry out correct procedure to identify themselves and to report their movements accurately.³

In the emergency conditions caused by the enemy submarines, Air Commodore Cobby in North-Eastern Area decided to use Vengeances for convoy-escort duties, although these aircraft were not well suited to this type of work because the crew of two had to employ most of their time navigating and flying, and could not search the sea thoroughly. Also their range, like that of the Ansons, was too short. Occasionally they failed even to find the convoy which they were to cover.

The extensive anti-submarine patrolling in 1943 continued to cause loss of life and equipment as numbers of aircraft disappeared without trace. On 4th August a Vengeance of No. 12 Squadron on patrol for a convoy made a forced landing at Ruby Reef. A Catalina from No. 20 Squadron which had been sent to patrol the sea area west of Bougainville was diverted to Ruby Reef shortly after take-off. It landed successfully and, after picking up the crew of the Vengeance and returning them to Cairns, it continued with its mission. On 15th August a Walrus aircraft of No. 9 Squadron, on a clearing search for a convoy, made a forced landing near Green Island. The crew escaped in a dinghy and were picked up later by a naval boat which also towed the Walrus to Cairns. Two days later a Catalina crashed into the sea while on a test flight. Two of the crew were rescued from the sea by a crashboat, but the remainder were lost.

No. 11 Squadron was sent down from Cairns to Rathmines in August to take part in the anti-submarine operations. Catalina aircraft were the most suitable for anti-submarine work and the use of this squadron eased the burden placed upon the reserve squadrons. Another Catalina squadron (No. 43) had now been formed and had begun operations. Tired crews from Nos. 20 and 43 were to be sent south to the comparatively lighter duty of patrolling the Tasman Sea, and to enjoy leave in the capital cities on the east coast, when they could be relieved from flying duty.

In Western Australia, the Beauforts of No. 14 Squadron, and American Catalinas, flew hundreds of patrols in 1943. No. 14 Squadron flew a daily patrol from Pearce round the coast via Cape Leeuwin to Albany in the far south, while a second aircraft flew in the opposite direction from Albany to Pearce. Other Beauforts patrolled northwards from Gerald-

³ There was a touch of heartlessness in a request which came some days later from 20 Sqn asking that the submarine captain be asked the extent of damage and the effectiveness of the Catalina attack. No reply seems to have been received from the captain of the submarine!

ton to Exmouth Gulf. Throughout the year this squadron saw no enemy activity at all. But the long periods of patrol duty were relieved to some extent by the crews carrying out the task of reporting the position of the ships that moved in and out of Fremantle and around the south-west corner of the State to-and-from the east.

On 9th September a Beaufort of this squadron, captained by Flying Officer Aitken,⁴ took off from Busselton on a clearing search seaward from D'Entrecasteaux Point to Rottneest Island. At 2 p.m. Aitken's wireless operator signalled that they had sighted the motor vessel *Nordnes*, after which nothing more was seen or heard of the aircraft. The captain of the *Nordnes* reported later in Fremantle that when the aircraft passed over it was apparently behaving normally. An exhaustive search made by aircraft of Nos. 14, 25 (R.A.A.F.) and 52 (United States Navy) Squadrons failed to find any trace of the machine or its crew, and on 11th September the search was abandoned. On 24th October another Beaufort of this squadron was lost when it crashed near Northampton killing six men. Two others escaped by making parachute descents.

In October, Admiral Royle reported to the Advisory War Council that there had been no submarine activity off the Australian coast since 16th June, but activity off the Solomon Islands and New Guinea had increased.

Indeed, at the beginning of 1943 the Japanese were threatening the security of Australia, but by the end of the year they had been thrown back in every Pacific war theatre and Allied forces were being assembled for further blows. Rabaul had been so heavily bombarded from the air that it was difficult for the Japanese to maintain it as a base from which submarines could operate against shipping off the eastern coast of Australia.

By November there was still no sign of submarine attacks and Royle therefore proposed to the Government that naval escorts should be discontinued for convoys between Australian ports south of Brisbane. This was desirable not only because the danger of attacks had diminished but because there was an increased demand for escort vessels to convoy shipping between Milne Bay and Finschhafen. The cessation of convoys would also result in a 20 per cent increase in trade. After discussion the Council agreed to the abolition of escorts for convoys, but only south of Newcastle.

On 8th December, therefore, orders to this effect were issued. R.A.A.F. Command followed this action by issuing an order stating there was to be no close air escort of shipping during daylight hours south of Newcastle, but the area to the north was declared "a standing area of probability" and close escort would be given in daylight. Though shipping south of Newcastle would therefore not be given close air escort, air and surface patrols were to be maintained off local points such as Gabo,

⁴ F-O A. M. Aitken, 415570; 14 Sqn. Accountant; of Armadale, WA; b. Narrogin, WA, 9 Jan 1920. Killed on air operations 9 Sep 1943.

Sydney and Newcastle. In addition air and surface striking forces were to be available when required.

Seamen in Melbourne refused to take their ships to sea when told that naval escorting of convoys was to stop, and a total of twenty-eight ships were held up. As a result, R.A.A.F. Command instructed Eastern Area and Southern Area to "assist in any way you can in putting aircraft in the air over shipping routes as a temporary measure to avoid the possible strikes which the navy fear . . . this is only an interim measure until such time as the navy advise that the seamen are satisfied that the shipping is still being watched over by the air forces". On 21st December Mr Curtin ordered the men to return to their ships and when they failed to report for duty, 300 were dismissed.

Mr W. Bird, secretary of the Victorian Branch of the Seamen's Union, said the seamen feared a repetition of sinkings if convoy escorts were dropped. He invited the naval authorities to talk to the seamen in Melbourne explaining the new position at sea. This was done, and on 25th December it was announced that the merchant seamen had returned to their ships. The hold-up was given publicity in the newspapers but no reference could be made to the men's grievance, namely the suspension of convoy escorts, since this information would have aided the enemy.

As a result of the reduction of daily aircraft patrols the pressure on R.A.A.F. resources was considerably reduced. This reduction released crews for duty in the north.

R.A.A.F. Command was responsible not only for protecting merchant shipping from submarine attacks but for guarding the major Australian cities and industrial centres such as Newcastle from air attacks which the enemy might launch from aircraft carriers or from aircraft-carrying cruisers which the enemy was known to have.

It was not likely that enemy naval vessels could penetrate far towards the Australian coast without being discovered either by patrolling aircraft or by radar. Nevertheless, if one succeeded and launched an air attack without warning, it is doubtful whether the obsolete aircraft available and the untried fighter-defence organisation would be able to cope adequately with it. This, however, was a risk that had to be taken.

The real fighter defence of the vital southern areas depended on the rapid movement southward of squadrons in New Guinea through the chain of operational bases placed around the coast. These squadrons could, on arrival, use the fighter defence organisation, radar and information network built up and maintained by the R.A.A.F. area commands.

The R.A.A.F. had made the air-defence system operated in Great Britain its model. The country was divided into areas each with fixed fighter-control units. By February 1943 there were eight fixed and three mobile units. The organisation was in existence but, except in North-Western Area, the fighter aircraft available in April 1943 were few and mostly obsolete in design. They included Kittyhawk, Airacobra, Buffalo and Boomerang aircraft. Area commanders frequently asked for more and

better aircraft but had to accept what could be spared from the front-line. By the time more up-to-date fighters were available, the danger had diminished.

Fighter defence depended greatly on radar equipment for advance information on raiding aircraft. In 1942 radar equipment had not been satisfactory because its range had been too short. It gave sufficient warning to ground defences but not enough to allow fighters to gain height to reach the enemy before bombs were dropped. By 1943 it had improved. It was considered in 1942 that 90 stations were needed to give a full radar cover for Australia, but by early 1943 there were still only 27 radar stations operating on the mainland, leaving many gaps through which enemy aircraft could pass without being detected. There were only three stations in the whole of Western Australia. As late as 1944 the Cape Leveque station on the north-west coast when working at its maximum efficiency could obtain "plots" of only 60 miles to seaward. The nearest fighter aircraft (Boomerangs of No. 85 Squadron) were based at Broome, 89 miles away. "Thus with an enemy aircraft approaching at over 200 miles an hour, fighter interception is impossible."⁵

In some of the remote areas of Australia radar stations were established and maintained only after great difficulties had been overcome. Construction of camps was often held up by lack of necessary materials. A month after the work had begun on a radar station on Bathurst Island the men were still awaiting the arrival of iron, cement, nails and tools. At this station, technical equipment was late arriving and these difficulties were added to by the extreme heat and humidity, and the fact that equipment had to be hauled up a sandy 200-foot slope. When construction was finished technical breakdowns were frequent and few units carried spare parts. Apart from the physical difficulties the men found life on a radar station monotonous and lonely. Mail and comforts arrived only occasionally. Because they were so isolated the men tended to lose interest in their appearance and surroundings.

Each fighter sector needed 310 men to work it and manpower was becoming scarce by 1943. Air Commodore McCauley, Deputy Chief of the Air Staff, pointed out in February 1943 that "with the air force approaching the 100,000 mark in strength, and the general scarcity of manpower, it was difficult to justify the numbers held down in Fighter Sector Headquarters".⁶ It was proposed that the fighter defence organisation south of the Tropic of Capricorn should be reduced in strength. However, Air Vice-Marshal Bostock disagreed because of the danger from "sporadic carrier-borne attacks against our very vulnerable national targets adjacent to the big centres of population in the south . . . one carrier in a surprise attack could, if successful, cause enormous damage to our war production and on this ground alone ordinary defence security dictates that the fighter defence organisation must instantly be available at

⁵ Air Commodore R. J. Brownell, AOC, Western Area, to AOC, RAAF Command.

⁶ The actual strength on 17th February was 118,568, including 15,598 overseas.

maximum efficiency even if the actual fighters are below adequate number".

A certain amount of pruning was done, however, releasing 250 men. This was achieved by reducing the organisation which had been capable of coping with several raids at once, to one which could handle one raid only. Savings of manpower were also effected in housekeeping staff. The units were kept fully manned during the daylight hours only. All duties were under constant review and members of the Women's Auxiliary Australian Air Force and older men were given duties which were at first only handled by men trained as aircrew. Fighter-control work was not liked by pilots and there was often an undercurrent of "lack of enthusiasm among those assigned to this duty".⁷

Effective defence called for well-manned airfields, as well as fighter aircraft. There were sufficient of these by 1943 and there were a number of airfields used for training and other purposes which could be quickly brought into use for operations in an emergency.

Late in 1942 the American Navy had asked that an airfield be built and a fighter squadron provided to protect a submarine base to be established at Exmouth Gulf. The main submarine base for operations in the Indian Ocean and the Netherlands East Indies was at Fremantle, but another was wanted farther north at Exmouth Gulf. A site was selected for the airfield at Yanrey and the War Cabinet approved its construction. Before the airfield was built, however, it was decided to move to Potshot (later named Learmonth). No. 76 (Kittyhawk) Squadron, commanded by Squadron Leader Truscott, moved to near-by Onslow in February and to Potshot in March when the airfield was completed. In April, however, this squadron was ordered to move to Bankstown prior to returning to New Guinea and a flight of No. 85 Squadron equipped with Boomerang fighters replaced it.

The fighter defence of the submarine base received its first test when the area was raided by Japanese aircraft in May. Two aircraft came over the area between 10.55 and 11.50 p.m. on the night of the 20th. The incoming raiders were detected by the two radar stations (Nos. 314 and 310), and, at 10.40 p.m., two Boomerangs were ordered into the air to intercept, but they failed to find the enemy aircraft, which dropped a bomb harmlessly into Exmouth Gulf. The following night two enemy aircraft reconnoitred Exmouth Gulf again by moonlight. They dropped nine bombs in the gulf area without causing any damage. Again two Boomerangs of No. 85 Squadron were sent up to intercept. The pilot of one (Flying Officer Wettenhall⁸) saw two exhaust flames about 3,000

⁷ In September 1942, Bostock had expressed to RAAF Headquarters his "grave concern" about the state of Fighter-Sector Headquarters. He said: "The standard of the commanders is admittedly low, for a number of reasons, chiefly poor material, hurried training, lack of opportunity for further training and above all, experience by which to measure the efficiency of their sector . . . many adverse circumstances are responsible for this state of affairs and all the blame must not be laid upon Sector Commanders."

⁸ F-Lt L. Wettenhall, 400109. 24, 25, 79 and 85 Sqns. Solicitor; of Malvern, Vic; b. Malvern, 28 Jul 1915. Killed in action 31 Dec 1943.

feet below. He dived towards them, but, after following for some time, had to return to base because of petrol shortage.

Soon after these night raids the American naval authorities decided to abandon Exmouth Gulf as a submarine base and withdraw their installations to Fremantle. The base gave no protection to submarines from the cyclonic weather which develops during part of the year. However, Western Area retained their R.A.A.F. establishments at Learmonth and Yanrey for use as a staging base to the north and for seaward reconnaissance. The last alarm during 1943 in Western Area came on 24th September when an "air raid warning yellow" was issued. The "all clear" was sounded later, however, when it was found that a flock of birds had been mistaken for a hostile aircraft!