



SAR 70

The 6th February 2011 marks the 70th Anniversary of the formation of what is now the Royal Air Force Search and Rescue Force.

6 February 1941 – 6 February 2011

'Seventy Years of RAF Search and Rescue'

WORLD WAR TWO

On December 18 1939, a group of 24 British Vickers Wellington medium bombers were frustrated by low clouds and fog in their mission to bomb Wilhelmshaven, and they turned for home. The formation attracted the energetic attention of Luftwaffe pilots flying Messerschmitt 109 and 110 fighter aircraft and more than half of the Wellingtons went down in the North Sea. The German air sea rescue service, Seenotdienst, sent rescue boats based at Hornum to work with Heinkel 59 float planes to save some twenty British airmen from the icy water. This was the first multiple air-sea rescue operation.

During the first two years of war, the British had no coordinated air-sea rescue (ASR) units, just 28 marine craft launches and no dedicated aircraft. Inaugurated as the Marine Craft Section just eleven days after the Royal Air Force itself was founded, the Marine Craft Section initially provided back-up for the flying boats. The ditching of a British aircraft in the Channel or the North Sea usually doomed its crew, only one out of five would survive. Fighter Command borrowed 12 Lysander aircraft from the British Army to use as spotter planes for ASR.

BATTLE OF BRITAIN

Early Allied rescues of downed airmen were ad hoc affairs involving a search by operational aircraft from the crews own unit and then attempting to divert any surface craft in the vicinity to the aircrew in distress. New Zealand pilot, Flt Lt RF Aitken even borrowed a Walrus flying boat from the Fleet Air Arm and saved 35 airmen over the summer of 1940.

One of the most important lessons learnt from the Battle of Britain was that the RAF could not afford to lose pilots who ditched to the sea. British fighters such the Spitfire and the Hurricane did not carry inflatable rafts, only lifejackets which were little help against the cold. During the early stages of the battle 220 aircrew were killed or missing in the Channel close to our shores. Air Vice Marshal Sir Keith Park commanding the South East Fighter Group from RAF Uxbridge even ordered his controllers not to vector aircraft over the sea 'as too many were getting drowned.'

In 1940, the Seenotdienst added bases in Denmark, Holland and France. The Heinkel He59s were painted white in June, with red crosses to indicate emergency services. A few French seaplanes were also modified for rescue and attached to the organization. In response to the heavy toll of German air action against Great Britain, Adolf Galland recommended that German pilots in trouble over the ocean make an emergency water landing in their aircraft instead of bailing out and parachuting down as the aircraft each carried an inflatable rubber raft which would help the airmen avoid hypothermia from continued immersion in the cold water, and increase the time available for rescue.

In July 1940, a white-painted Heinkel 59 operating near Deal, Kent was shot down and the crew taken captive because it was sharing the air with 12 Messerschmitt 109 fighters and because the British were wary of Luftwaffe aircraft dropping spies and saboteurs. Significantly, the German pilot's log showed that he had noted the position and direction of British convoys. British officials determined that this constituted military reconnaissance, not rescue work. The Air Ministry issued Bulletin 1254 indicating that all enemy air-sea rescue aircraft were to be

destroyed if encountered.

CHURCHILL

Winston Churchill later wrote "We did not recognise this means of rescuing enemy pilots who had been shot down in action, in order that they might come and bomb our civil population again." Germany protested this order on the grounds that rescue aircraft were part of the Geneva Convention agreement stipulating that belligerents must respect each other's "mobile sanitary formations" such as field ambulances and hospital ships.

Churchill argued that rescue aircraft were not anticipated by the treaty, and were not covered. British attacks on He59s increased. The Seenotdienst as a result, ordered the rescue aircraft armed as well as painted in the camouflage scheme of their area of operation and rescue flights were to be protected by fighter aircraft when possible.

In October 1940, yellow-painted Sea Rescue Floats code-named 'Lobster Pots' were placed by the Germans in waters where air emergencies were likely. The highly visible buoy-type floats held emergency equipment including food, water, blankets and dry clothing, and they attracted distressed airmen from both sides of the war. The British equivalent code-named 'Cuckoos' were rumoured to have had some design features from Churchill himself. A model float is on display to this day at the SARF HQ at RAF Valley. Both German and British rescue units checked the floats from time to time, picking up any airmen they found, though enemy airmen were immediately made prisoner of war. In British waters moored navigational buoys were fitted with a hatch where crews would find rations, a first aid box and a flag to hoist to indicate it was occupied. Sixteen larger floats containing food, clothing, a cooking stove, bunks and blankets for six men were provided around the South East coastline.

DIRECTORATE OF AIR SEA RESCUE IS FORMED

As a result of an emergency meeting chaired by Air Marshal Sir Arthur 'Bomber' Harris to discuss the shortcomings of rescue provision and acting on the instructions from the Chief of the Air Staff (CAS) Air Chief Marshal Sir Charles Portal, the Directorate of Air Sea Rescue was formed. The Directorate took up its duties at HQ Coastal Command on 6th February 1941.

With a keen interest in Sea Rescue, the Station Commander at RAF St Eval in Cornwall, Group Captain Lewis George Le Blount Croke RAF was appointed Director of Sea Rescue with Captain C L Howe R.N. as his deputy. They were responsible for the co-ordination of all sea rescue operations for aircraft and crews, providing ancillary equipment to be dropped by aircraft at the scene of distress and provide marine craft, moored buoys and similar aids to rescue. The organisation copied much from the successful efforts of the German Seenotdienst which first employed the use of yellow dinghies, skull caps and flotation jackets.

The Directorate had four main problems to solve; how to teach aircrew to ditch and abandon a plane, how to maintain the life of the aircrew, how to locate them and then bring them safely home. A fifth problem was how to improve the design of aircraft so it could be successfully ditched and the crew could make a safe exit. The introduction of water tight lower hatches, auxiliary floatation gear and stowage of pneumatic dinghies became the norm in aircraft design. Aircrew were trained in ditching and dingy drills for different aircraft types and how to use equipment that could be dropped to them in the sea.

AIRBORNE LIFEBOAT

The first airborne lifeboat was a 32-foot (10m) reinforced wooden canoe-shaped boat designed in 1943 by Uffa Fox to be dropped by Avro Lancaster heavy bombers for the rescue of aircrew downed in the English Channel. The Mark I lifeboat's descent to the water was slowed by parachutes. The 'Thornaby Bag' (consisting of a parachute pack with floatation pads taken from a life jacket) containing food, drink and first aid equipment could also be dropped to survivors and later the 'Bircham Barrel' made from a watertight cardboard bomb tail container which could be carried and dropped from standard bomb racks. 'Lindholme Gear' has been used with modifications up to the present day and consists of a 7-8 man inflatable dinghy together with 4 supply packs, all linked by a floating rope helping survivors easily seize the apparatus.

Every RAF station had an Air Sea Rescue (ASR) Officer appointed who was responsible for all aspects of rescue on his unit. Even homing pigeons were placed aboard multi-seater aircraft if

the crew had no time to send a May Day (M'Aidez) or S.O.S. before ditching.

By May 1941 the number of Lysanders with Fighter Command had increased to 18 with 2 placed at each coastal fighter station. By October, that had increased to 36 with 9 Walrus flying boats and two squadrons of Hudsons with Coastal Command. In 1942 ASR consisted of six squadrons of 85 aircraft and by the busiest time for ASR in June 1944, it had 81/2 squadrons of 169 aircraft including, Ansons, Warwicks, Spifires, and Defiants.

AIRCRAFTSMAN SHAW

Various marine craft were used to recover crews from the sea, RNLI lifeboats, Royal Navy motor launches, torpedo recovery and barrage balloon boats. The RAF Marine Craft Branch which formed in 1918 had high speed RAF Sea Plane tenders which were further developed between the wars at RAF Mount Batten; involving the enigmatic Aircraftsman Thomas Edward Shaw, better known as Colonel T E Lawrence of Arabia. The work culminated in the 100 series High Speed Launch used extensively through the war years.

The RAF HSL was one of the first vessels in action during 'Operation Dynamo' the Dunkirk evacuation and 14 RAF launches were in action at Dieppe, three of which were destroyed by enemy action. The HSLs rescued 181 personnel from 35 gliders and a Dakota tug from the Channel during Operation 'Market Garden' to capture the Nijmegen and Arnhem Bridges.

One ASR boat was the very first vessel to return to the continent on D-Day to land a covert commando unit. There were fourteen successful ditchings by paratroop dropping Dakotas during the first 24 hours of the operation and 163 aircrew, 58 others and 2 Germans were picked up by the ASR Service alone.

Launches also supported operations in the Middle East, Malta and Italy and also in the Far East, India, Burma, Malaya and Ceylon. The launches also carried out clandestine operations in Greece, Turkey and occupied Europe.

During the war years alone over 8,000 lives were saved by the crews of the high speed rescue launches who faced enemy action and all weathers to uphold their pledge of "The Sea Shall Not Have Them".

The number of airmen rescued, once the directorate had formed, steadily increased through the war reaching its busiest period during the D-Day month of June 1944 - when around 400 rescues were recorded.

Figures vary but by the end of the 2nd World War, over 13,000 lives had been saved from the seas around Great Britain, of that total, 5,721 were aircrew, 4,665 non-aircrew and the figure also includes 277 enemy airmen.

The most highly decorated ASR pilot was Sergeant, later to become Flight Lieutenant Tom Fletcher who saved more people than any other airman in World War Two. He was recommended for the Victoria Cross after battling enemy fire and strong winds to pull a stricken Spitfire pilot to safety from a mine-filled part of the English Channel in 1942. Tom was awarded a Distinguished Flying Medal - and had a Bar added to it for saving German sailors adrift in the dark.

The Directorate of Air Sea Rescue was the predecessor to what is now the Search and Rescue Force (SARF) of the Royal Air Force.

MOUNTAIN RESCUE

Another branch of the SARF is The RAF Mountain Rescue Service (MRS) whose origins also go back to the Second World War. An RAF medical officer, Flight Lieutenant George Graham, is credited with creating the first organized team at RAF Llandwrog in North Wales in 1943 for which he was awarded the MBE; he was then posted to India and helped rescue a Royal Canadian Air Force (RCAF) navigator whose aircraft crashed during supply dropping to Wingate's Chindits in Burma, the rescue involved Grahams first and only parachute jump behind enemy lines, followed by a long carryout into China. He was awarded the DSO for his part in the rescue.

POSTWAR DEVELOPMENTS

In 1948 the RAF element of the combined service formed into the RAF Marine Branch and with

the increase in commercial flying, fulfilled the UK's obligations to provide a search and rescue (SAR) service. From 1918 to 1986 the Marine Branch of the Royal Air Force supplied waterborne support, rescue facilities and services for the Royal Air Force throughout the world. Post-war, amongst other duties, the branch was involved in secret submarine location work, surveys and anti-terrorist patrols. By 1986 the more versatile helicopter had taken over the rescue work and finally the branch was privatized its few remaining maritime activities being taken over by civilian contractors.

Helicopters have taken a primary role in air-sea rescue since their introduction. They can fly in rougher weather than fixed-wing aircraft, and they can deliver injured passengers directly to hospitals or other emergency facilities. Helicopters can hover above the scene of an accident while fixed-wing aircraft must circle, or for seaplanes, land and taxi toward the accident. Helicopters can save those stranded among rocks and reefs, where seaplanes are unable to go. Landing facilities for helicopters can be much smaller and cruder than for fixed-wing aircraft. Additionally, the same helicopter that is capable of air-sea rescue can take part in a wide variety of other operations including those on land.

The first peace-time air-sea rescue squadron exclusively using helicopters was No 275 Squadron re-organized in 1953 at RAF Linton-on-Ouse and these provided cover over the North Sea. The unit painted their Bristol Sycamore aircraft all yellow, with lettering on the side reading 'RESCUE', a paint scheme that has continued to the present day.

In 1956 No 22 Squadron reformed at RAF St Mawgan and RAF Thorney Island operating the Westland Whirlwind HAR2 which then became the RAF's standard SAR helicopter. After more than a decade of service, the Westland Whirlwinds were replaced by the more-capable Westland Wessex which offered enhanced safety and power through its twin-engine power plant.

SEA KING

In 1978 the first Sea Kings arrived and became the sole type to perform UK SAR helicopter duties with the SARF after the Wessex was retired in the early 1990s. The Sea King was originally made with a water-resistant hull which allowed them to settle directly onto the water for long enough to effect a rescue. Such amphibious helicopters came to the fore in the 1960s but have been largely replaced by helicopters unable to land on water, due to high aircraft development costs but the Sea King still retains its original boat-like design. The Sea King brought a step-change in capability being equipped with 2 Rolls Royce Gnome engines and a sophisticated radar and navigation suite.

It has received several capability enhancements and can operate in poor weather, at night and has a range of around 275 nautical miles. It is fitted with a Multi-Sensor System (MSS) which links the aircraft's digital radar with a thermal-emissivity and conventional/low-light TV camera. MSS gives the Sea King an extraordinary search capability and its 245 foot winch enables the Winchman/Paramedic to reach and extract casualties from otherwise inaccessible locations.

PRESENT DAY

22 and 202 Squadron of the SARF maintain a 24 hour SAR service, providing one-half of the UK's SAR helicopter capability from six detached Flights operating from 6 geographically-disparate locations. Remaining cover is provided by the Royal Navy and Maritime and Coastguard Agency.

The Aeronautical Rescue Centre (ARCC) at RAF Kinloss controls all aerial rescue resources. The UK's Search and Rescue Region (SRR) is vast, extending over 1.1 million square miles of land and sea. The ARCC watches over an area extending from the Faeroes in the North, the English Channel in the South, about halfway across the Atlantic Ocean and halfway across the North Sea. The ARCC is permanently manned by experienced personnel, the majority of whom have served on maritime patrol aircraft or SAR helicopters. It has direct data and voice links with rescue assets in the UK and Europe. Detailed maps and charts are combined with an intimate knowledge of UK topography to enable controllers to match resources to tasks quickly and coordinate the rescue operation.

Until March 2010, a specially equipped Nimrod maritime patrol aircraft, based at RAF Kinloss in Scotland, was on standby to act as an on-scene co-ordinator for helicopters or ships involved

in the rescue operation. Since the withdrawal of the Nimrod, other assets including Type 23 Frigates, Merlin helicopters and a Hercules C-130 aircraft have been used in this role.

The RAF SAR Force's HQ and training elements of 203 (R) Squadron Sea King Operational Conversion Unit, the Thales Sea King simulator and SARTU are located at RAF Valley.

Two Royal Air Force Sea King helicopters of No.1564 Flight on detached duty continue to provide cover for the Falkland Islands and Griffin helicopters of 84 Squadron based at RAF Akrotiri support the UK military in the eastern Mediterranean.

Since being introduced as the RAF's SAR platform some 30 years ago, the Sea Kings and their crews have saved tens of thousands of lives and will continue to do so 24 hours every day until they are withdrawn from service. With so many lives saved the bravery honours awarded to RAF SAR range from six George Medals, over fifty Air Force Crosses and Medals, and over ninety Queens Commendations for Bravery or Valuable Service in the Air (QCB/VA).

The latest award being a QCBA awarded to Winchman Sgt Keith Best of C Flight, 22 Squadron based at RAF Valley for his Sea King crews efforts in rescuing 27 people from the rising floodwaters of Cockermouth in November 2009. Keith also received a Sun Military Award for his actions during that night.

FS Andy Carnall

SARF HQ

Media & Comms

