



## THE SUNDERLAND FLYING BOAT

The Sunderland is located in the Battle of Britain Hall. You can walk through this aeroplane and there is also a display of photographs along the walls showing images of the Sunderland.

### *Sunderland*

- The Sunderland was developed from a civilian flying boat which was operated by Imperial Airways. They were built by the Short Company for military use and the first Sunderland entered RAF service in 1938.
- In total 749 Sunderlands were built and then served throughout the Second World War. The design of the aircraft was so good that it was used in front line service with the RAF for over 20 years, the last Sunderland being retired in 1959. It was the last flying boat to be used by the RAF.
- After finishing their service with the RAF, the Sunderland flying boat continued to be used for civilian services right up until the 1970's.

### *Roles*

- Their main task was to hunt and destroy enemy U-Boats and it was important to try and attack these U-Boats whilst they were still on the surface. The Sunderland's depth charges didn't go very deep and would cause most damage if the U-Boat was near the surface.
- The Sunderland was very much a multi-purpose aircraft and also undertook search and rescue duties, maritime patrol, reconnaissance (collecting information and photographs), evacuating troops from war zones and bringing home prisoners of war. Although they were useful for search and rescue the Sunderland did have one problem. Most of the time they couldn't actually pick up any survivors they found in the sea! They needed sheltered and calm water to land safely; the open sea was too dangerous, especially if the weather was bad.
- Sunderlands were not fighter planes but sometimes they did have to fend for themselves and escape enemy planes. They were vulnerable to enemy fighters because they were slow and out of the range of allied fighters who could have protected them. They were very tough planes and could fight off 5 or more enemy fighter aircraft. They also tended to fly close to the water to stop any attacks from below. Later models of the Sunderland were fitted with more guns and armament than the original design and the Germans even had a nickname for them, 'the flying porcupine' because of its strong protective armour. You can see the two gun turrets on our Sunderland, one at the tail and one in the nose.

### *After the War*

- Sunderlands were not just used during the Second World War. They played an important role in the Berlin Airlift in the winter of 1948-49 carrying supplies into the city, landing on Lake Havel near Berlin. One of their jobs was to carry in large amounts of salt. They were given this job because spending a lot of time in salty sea water they already had protection against salt corrosion that would have damaged a lot of other planes.
- They also took part in the Korean War where they flew 900 sorties which was a total of 13,350 hours.

Observation

Have a closer look at the plane both inside and out and explore the photographs on the walls of the hall, as they will complement the information given here.

(For example, you will be able to see the Sunderland in flight, on water, with its landing gear attached, troops being evacuated and the crew eating in the galley etc).

Activity

***By looking at the outside, how can you tell that this is a flying boat?  
Discuss how a flying boat differs from a normal aeroplane.***

The plane has 4 engines, mounted on the wings. Notice the wings are quite high up to keep the engines away from the water spray so they won't be damaged. Under the tips of the wings are stabilizing floats to keep the plane balanced when it is on the water and during take off and landing.

***What was it like inside a Sunderland?***

Sunderlands had a maximum crew of 13 men. Crews sometimes lived on their Sunderland between flights; in fact when the plane was moored 2 members of the crew had to be aboard. In gales it was the pilot that had to be aboard because the engines had to be switched on to turn the aircraft in the water if the strong winds were blowing it around. Sunderland crews flew long missions of up to 13 hours and, because of this, these planes had more facilities on than other large planes of the war era.

The front part of the fuselage (the body of the plane) is split into two decks.

**The upper deck has:**

- A cockpit for 2 pilots.
- Stations for the flight engineer, the wireless operator and the navigator.
- A compartment for flares and positions for the gunners.

**The lower deck has:**

- A bomb room. Both bombs and depth charges (these exploded under water, to inflict maximum damage to U-boats) were stored here on moveable racks, which moved out under the wings to be dropped. (You can see this easily on our Sunderland).
- A bomb aiming position in the nose under the gun turret.
- A galley with Primus stoves and an oven.
- Two bunks for off duty crew members.
- A flush toilet, wash basin and a shaving mirror.

Follow  
Up  
Activity

***What would it be like to live in such cramped quarters?  
Write a diary entry describing how you feel about living on the Sunderland whilst waiting for your next flight.***

***How do you repair and load a plane that is constantly at sea?***

Sunderlands were only brought onto land for major repair work; everything else was done on water.

The plane had an anchor and was moored like a boat. Whilst the plane was moored any supplies and ammunition could be brought aboard by boat. You can see two crew members on our Sunderland using a 'grabbit' hook to catch the mooring line to secure the plane. This would be a difficult and dangerous task in the dark or in bad weather.

On the wing you can see another airman checking the engines. This type of routine repair would be done whilst the plane was afloat and like mooring would have to be done whatever the weather.

Major repairs meant fitting beaching wheels to bring the Sunderland onto land. Legs with wheels were fitted under the front edge of the wing on both sides of the plane and another wheel was attached to the tail end. (The tail trolley is on display under the tail of our Sunderland). These legs had to be floated out to the aircraft and once the wheels were fitted the Sunderland was pulled up tail first onto land. (You can see this happening in a couple of the photographs on the wall).