



Erne in 1943 warpaint, returning from patrol. She has four single Oerlikons, the quarterdeck pom-pom and the familiar Radar Type 272 on a tall and somewhat fragile-looking pylon (Imperial War Museum).

# 'Black Swan' class sloops

PART 1: THE SHIPS

By Peter Hodges

ALTHOUGH the title of this two-part article specifies the 'Black Swan' class, it will, in fact, embrace earlier and later ships, all of which fall within the broad category of Escort Sloops. Four classes—'Bittern', 'Egret', 'Black Swan', and 'Modified Black Swan'—will be considered. Part 2 (following the usual pattern of this Naval series) will be concerned with conversion details and include scale drawings.

## The 'Bittern' and 'Egret' classes

By the mid-1930s, the large number of escort and patrol vessels dating from the naval building programme of the First World War had been gradually whittled away, and were replaced by newly-constructed ships, whose size and capabilities improved, class by class, until, with the 'Bittern' class, they had reached almost destroyer proportions, though without their speed. The 'Bitterns' were a somewhat hybrid trio. They were designed to mount four single 4.7 inch guns, destroyer-fashion, on a 265 foot waterline and were capable of about 18 knots.

The first was laid down as the 'Name Ship' but during building, it was decided to complete her as an Admiralty Yacht, and she was re-named *Enchantress*. Her after armament was suppressed; extra accommodation was worked in, and she was finished in a Victorian colour scheme of black hull, white upperworks and buff funnel.

The next ship, *Stork*, was completed as an unarmed survey vessel and the Ship Name Committee finally caught up with themselves by naming the last of the three *Bittern*. By this time the main armament had been completely revised to become three twin 4 inch HA (which were better suited to escort ship requirements), and the class designation became somewhat muddled, for the completed 'Bittern' looked nothing like the original class concept.

At the outbreak of war, *Enchantress* and *Bittern* were hastily recalled to active service. The Admiralty Yacht, retaining her existing forward single 4.7s, had the additional after accommodation removed, shipped a single 3 inch HA in 'X' position, and went through the war as an escort, while *Stork* was fitted out with three twin 4 inch to conform with *Bittern*. Later, *Stork* lost her

'B' mounting—perhaps to give better access to her 'Split Hedgehog'; and, as a matter of interest, it was *Enchantress* which carried the prototype of this weapon.

The 'Egret' class followed, and again comprised three ships, all launched in 1938. They were a few feet longer than the 'Bitterns', had slightly more powerful two-shaft geared turbines, and a nominal maximum speed of just over 19 knots. The comparatively new Rangefinder Director/Fuze-Keeping Clock/Admiralty Fire Control Clock set-up was available, linked to the twin 4 inch, and the armament pendulum swung heavily in favour of this calibre. The 'Egrets' had four of these mountings in the conventional A-B-X-Y positions, backed up—rather weakly—by a centreline quad .5 inch Vickers. The armament was thus somewhat unbalanced and, fairly early in the war, 'X' 4 inch was replaced by a quad 2 pounder pom-pom to improve close range defence. A little later, the Vickers was removed. Single Oerlikons were added on a gundeck at the break of the fo'c'sle deck and on the bridge wings. Finally, these four 20 mm guns were replaced by single 40 mm Bofors. Note particularly that it was 'X' mounting which was removed in favour of the pom-pom, and not 'Y'. Of this class, only *Pelican* survived the war, and her distinctive layout will be shown in Part 2.

## The original 'Black Swan' class

The 'Black Swan' class proper came next, but only the name ship and *Flamingo* were afloat at the outbreak of war in 1939. As soon as this conflict started, the building programme of the 'Black Swan' class slowed down because the ships were in competition with many others for technical equipment and especially turbine blades. The marked shortage of the latter was largely instrumental for the switch to reciprocating-engined escorts, as has been recounted in previous articles.

The first four ships for the RN were built to the original design, but the position of the quad pom-pom was transposed from the subsequent arrangement in *Pelican*. The 2 pounder was now sited on the quarterdeck with a 4 inch in 'X' position super-firing over it. A quad 0.5 inch Vickers was mounted abaft the searchlight platform, as before.



Black Swan in 1945. She has twin Oerlikons in the bridge wings, 'sided' single Oerlikons on a gundeck at the break of the fo'c'sle deck and a quad pom-pom on the quarterdeck. Notice the absence of a close range gundeck immediately abaft the funnel (Imperial War Museum).

The first two ships for the RIN conformed to this layout except that in their case, the quad was omitted from the quarterdeck, possibly to reduce the maintenance load on the ship's staff. This group of six vessels were recognisable from their successors by the absence of a close range gundeck immediately abaft the funnel.

The next group was of seven repeat 'Black Swans'. Five were for the RN (all had bird names beginning with 'W') and a second pair were added for the RIN. By this time, war experience had shown that the quad 0.5 inch Vickers was totally inadequate, and it was omitted from the revised weapon layout. Three twin 4 inch HA were shipped in 'A', 'B' and 'X' positions, a close range gundeck was built athwartships abaft the funnels. Close range gun positions were designed into the bridge wings; the intention being to fit further close range weapons on the quarterdeck, from which the quad pom-pom was again omitted.

The last of this class was the RIN *Godavari*, launched at Thornycroft's Southampton yard in January 1943, by which time several of the 'Modified Black Swans' were already in the water. The building programme of the second group 'Black Swans' and the first of their modified successors, ran in parallel and from

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HMS Enchantress, completed as an Admiralty Yacht, was altered during her building. Designed to mount four 4.7 inch guns, she commissioned with three, but quickly lost No 3, which was sited just forward of her pole mainmast (Wright and Logan).

an appearance point of view, at least, it was very difficult to tell the one from the other.

The pre-war ships had a tripod foremast and were built with a tall tripod main as well. This arrangement, common to all warships, was necessary to conform with the International Regulations regarding lights. All powered vessels over 150 feet in length were obliged to show a white light on each mast, the after light being at least 15 feet higher than its partner. Since the foremast in a warship crossed yards at a height sufficient to make flag signals clearly visible from them, it followed that a warship also had to carry an unnecessarily tall mainmast, solely to conform to the Regulations. This so severely restricted the 'sky arcs' of the after weapons that, during the war, the mainmasts were at first reduced in height and finally dispensed with altogether. The main radio 'roof' aerial, previously slung between the fore topyard and the main topyard was then led to the familiar low-set 'goalpost' frame, or an equivalent stump mast.

Most of the early ships had their tripod foremasts replaced by the stronger lattice structure to carry additional radar, and the later units were so equipped from building; but *Pelican* retained her original mast until she was scrapped.

When the Surface Warning Radar Type 272 was fitted throughout the Fleet, those ships with a tripod foremast had a lattice pylon built just forward of 'X' 4 inch, to carry the aerial 'lantern'.

All the allied classes had a good deal in common in their general appearance. The fo'c'sle was short, with a horizontal windlass style cable-holder separated from 'A' gun by a conventional breakwater. In some ships, particularly the Indian vessels, the breakwater was continued to the splinter shield along the edge of the gundeck. A blast screen protected 'A' gun's crew from the effect of 'B' gun immediately above it. Aft the second twin 4 inch there was a small crew's shelter. In RN ships the MF D/F aerial projected above it but in the RIN this aerial, rather unusually, was carried on a foremast platform. Next came a small four-square bridge, with sponsors for close range guns on each side and a Mk III (later Mk IIIW) R/F Director on its after end. From the bow to the bridge rear, there was a marked flattening of the ship's side at the deck-edge giving a faint 'knuckle' appearance.

The mast was fitted behind the bridge, followed by the rather small funnel, slightly raked, but with a top parallel to the waterline. It was pretty well dead amidships, giving the ships—with their short fo'c'sle and almost straight stem—a rather ungainly appearance. This area of the upper deck functioned as the boat-deck. There were many variations in the allocation of boats but a fairly typical arrangement was a whaler in screw-jack davits abreast the funnel on each side, a motor cutter further aft on the starboard side, balanced by a 16 foot motor dinghy to port (both in radial davits) and a 14 foot dinghy stowed on the deck under one of the larger boats. In this general area, there were four



The name-ship of the 'Egret' class exhibits the same characteristics as Bittern but has the fourth 4 inch mounting on the quarterdeck. Notice the searchlight and machine gun platforms in this 1938 photograph (Wright and Logan).

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mercantile-style ventilators from the machinery spaces below. The initial design had included a centreline searchlight platform and a centreline position for the quad Vickers, fitted in that order, abaft the funnel, but both these were removed from the early units and excluded from building in later vessels.

Beyond the boatdeck, the fo'c'sle deck broke downwards to the quarterdeck with 'X' gun on an extension. A semi-circular bulge increased the width of the gundeck in way of the mounting to provide space for the loading numbers of the gun's crew. The quarterdeck had the usual DC throwers and overstem rails terminating in a 'V' shaped transom. Depending on the actual class there may or may not have been a weapon of some kind in 'Y' position. From the model-maker's point of view, the very early ships are of special interest in that they had wooden decks and 'Black Swan', at least, retained hers throughout her lifetime.

During the war all had active careers and *Black Swan's* in particular embraced the early Norwegian campaign through to the Korean war. There, she was Leader of the 3rd Frigate Flotilla, with *Alacrity*, *Amethyst*, *Hart* and *Alert*—though the last named was, in fact, the C-in-C's Dispatch Ship and was rarely in company. Despite her age, *Black Swan* still had the edge on her younger sisters for speed and ten years after her launch could still wind up to 19 knots.

### The modified 'Black Swan' class

This class comprised a planned 29 ships, including yet another pair for the RIN but the cessation of hostilities overtook their building programme. Five were cancelled, and several of the

*Continued on next page*

### Class Lists (In Order of Launch)

Ship	Launch	Pennant No.
<b>'Bittern' Class</b>		
Enchantress (ex-Bittern)	Dec 34	L56
Stork	Apr 36	L81
Bittern	July 37	L07
<b>'Egret' Class</b>		
Egret	May 38	L75
Auckland (ex-Heron)	June 38	L61
Pelican	Sept 38	L86
<b>'Black Swan' Class (EXCEPT *)</b>		
Flamingo	Apr 39	L18
Black Swan	July 39	L57
Erne	Aug 40	U03
Sutlej (RIN)	Oct 40	U95
Jumna (RIN)	Nov 40	U21
Ibis	Nov 40	U99
Woodpecker	June 42	U08
Cygnets *	July 42	U38
Wren	Aug 42	U28
Whimbrel	Aug 42	U29
Chanticleer *	Sept 42	U05
Kite *	Oct 42	U87
Wild Goose	Oct 42	U45
Starling *	Oct 42	U66
Crane *	Nov 42	U23
Narbada (RIN)	Nov 42	U40
Woodcock	Nov 42	U90
Pheasant *	Dec 42	U49
Godavari (RIN)	Jan 43	U52
<b>Modified Black Swan (AND * ABOVE)</b>		
Redpole	Feb 43	U69
Magpie	Mar 43	U82
Kistna	Apr 43	U46
Amethyst	May 43	U16
Cauvery	June 43	U10
Hart	July 43	U58
Lapwing	July 43	U62
Lark	Aug 43	U11
Hind	Sept 43	U39
Mermaid	Nov 43	U30
Peacock	Dec 43	U96
Modeste	Jan 44	U42
Nereide	Jan 44	U64
Alacrity	Sept 44	U60
Opossum	Nov 44	U33
Actaeon	July 45	U07
Snipe	Dec 45	U20
Sparrow	Feb 46	U71

- NOTES (i) Flag L changed to U in 1940.  
(ii) Flag U changed to F in 1948, when ships were re-categorised as frigates.  
(iii) Pre-war pendant numbers were not worn on ship's side.  
(iv) In the 1948 revision, most ships retained their original number, but some were prefixed by an extra digit: eg, Crane F123, Amethyst F116, Cauvery F110.

## 'Black Swan' class—continued

final run were not accepted into service until well after the end of the war.

There was a further fractional increase in overall dimensions, but the all-up equipment weight had also increased to give them a standard displacement of 1,350 tons, 100 tons in excess of the 'Black Swans'. To compensate, their engine power was increased by 700 SHP to 4,300, for a nominal 20 knots, but they rarely exceeded 18 at sea.

The extra displacement of the 'Modifieds' resulted from their having the three 4 inch mountings adapted for Remote Power Control; their first-fitting lattice foremasts; and their heavier close range armament. To increase their stability as gun platforms in a seaway, this group had Denny-Brown ship stabilisers. These took the form of fins which could be extended by powerful hydraulic rams and projected from the ship's side at bilge-keel level, roughly abreast the bridge. The stabiliser fins rotated about their axes, rather like aircraft ailerons, and were controlled by a master gyroscope with a power follow-up. Working at opposite angles, they tended to lift one side of the ship and depress the other as she rolled and were remarkably effective in some, but not all, sea conditions. The system also had a manual control on the bridge by which the fin angle could be altered at will, so that it was actually possible to 'roll' the ship when she was under way in dead-calm water. To the uninitiated observer this was a most startling sight and caused much unkind comment on the seaworthiness of the particular vessel. However, this criticism was completely misplaced for they were excellent little craft in every way and much liked by those who served in them.

Although otherwise of near-identical profile to that of their earlier sisters, the ships of this final class were best recognised by the large close range gundeck abaft the funnel, for although their designed armament was to have included six power-operated twin Oerlikon mountings, by the time the late arrivals were in service, the heavier calibre 40 mm weapons had become available.



Woodcock was the last of the RN 'Black Swan' class, proper, but was virtually identical by outward appearance to the 'Modified' type. In 1943, when this shot was taken, she was painted in the Western Approaches white/light blue scheme designed by Peter Scott. She is well armed with single Oerlikons (stowed vertically) on the bridge wings, a sided pair of twin Oerlikons on the quarterdeck and two twin Bofors 'Hazemeyer' mountings on the substantial gundeck abaft the funnel, that so characterised the later ships (Imperial War Museum).

Typical examples of the many variations will be tabulated in Part 2.

Ships which were completed after the war sometimes found themselves rather under-gunned in the close range sense but underwent a hasty revision when the Korean war broke out in 1950. HMS *Alacrity*, for example, was commissioned with single Oerlikons abreast the bridge and a pair of twins abaft the funnel, leaving a wide, clear quarterdeck, useful for ceremonial or recreational purposes. Soon after the Korean trouble started, she was refitted in Singapore, emerging with single Bofors in place of the twin Oerlikons, a second pair of similar mounts on the quarterdeck, extended depth charge rails and 'parbuckle' stowages alongside her four DC throwers.

Meanwhile, three ships were refitting and modernising in the UK, destined in due course to relieve the 3rd Flotilla in the Far East. These three, *Opossum*, *Modeste*, and *Crane*, ended up almost as floating gun batteries, for in addition to their three



**Top:** Only ship of the 'Bittern' class to be completed as an escort sloop was *Bittern* herself. To reduce the need for stays and shrouds she was given a tripod mainmast, but still had a pole foremast in 1938 (Wright and Logan).

**Above:** By contrast, white-painted HMS *Fleetwood* was the last of the 'Grimbsby' class from which the later escort sloop classes were developed. Here, in 1938, she is specially armed with two twin 4 inch HA mountings and the prototype Rangefinder Director (Wright and Logan).

powered twin 4 inch, they had single powered Bofors abreast the bridge, a pair of twin Mk 5 Bofors abaft the funnel, a further pair of singles on the quarterdeck, making eight Bofors in all, as well as the full outfit of depth charges and a 'Split Hedgehog' on 'B' gundeck. They were quite well off for radar, too. The lattice mast carried Type 293 for gunnery direction, Type 291 for early warning, and the IFF 'candelabra'. Those who retained their 'Hazemeyers' also had the Type 282 sets linked to the control of those mountings.

After the Second World War, the classes served all over the globe. *Nereide* and *Actaeon* spent a long time in South African waters, another flotilla ran in the Mediterranean, and others were stationed in the Persian Gulf, as well as those in the Far East, to which reference has already been made. Mostly, they performed their duties unobtrusively, but some achieved fame for one reason or another. HMS *Starling* was the command of that legendary U-Boat killer, the late Captain Walker (who had previously commanded *Stork*). *Magpie* was the first command of HRH the Duke of Edinburgh, when he was a serving officer; and most readers will have heard of the adventures of *Amethyst* on the Yangtze, in 1949.

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## Western Approaches Command

36th Escort Group (Sept 1941)	Class
Stork	'Bittern'
Deptford	'Grimbsby'
Rhododendron	
Marigold	
Convolvulus	'Flower'
Penstemon	
Gardenia	
Sapphire	
Vetch	
2nd Support Group (April 1943)	
Starling	
Wild Goose	'Black Swan' and
Wren	'Modified Black Swan'
Woodpecker	
Magpie	
Nairana	Escort Carriers
Activity	
2nd Support Group (May 1944)	
Starling	
Wild Goose	
Wren	
Loch Killin	'Loch'
Loch Fada	
Dominica	US-built 'Colony'
Special Fast Group (for troopship convoys, etc)	
Wolverine	
Keppel	Converted destroyers
Malcolm	

As far as the ship names are concerned, it seems that the early intention had been to call them after what might broadly be described as 'aquatic' birds, and this was certainly followed with the first of the 'Black Swans'. Thereafter all manner of bird-names were adopted, intermingled with animals and others. Why this was done is not clear, since there were, after all, very many attractive names from which to choose. Three more bird-names were, in fact, earmarked, *Partridge*, *Waterhen*, and *Wryneck*, but these ships, together with *Nonsuch* and *Nymphe*, were surplus to post-war requirements and were cancelled in 1945.

Ships transferred to West Germany adopted names only too well remembered by the Royal Navy—a choice which caused

very mixed feelings at home and a number of letters to the press. The RIN (as it then was) chose the names of Indian rivers for their six sloops, and subsequently followed the same theme in their post-war AA frigates. On partition, two ships were transferred to the newly-created Royal Pakistan Navy and were re-named *Jhelum* and *Sind*.

Finally, it is perhaps of interest to look at the composition of typical Escort Groups in the North Atlantic during World War 2 in the table given on page 130.

The photographs this month illustrate examples of the earlier ships: in Part 2 they will show post-war survivors of the first vessels discussed and the 'Modified Black Swan' class, generally.