SSN 678 Archerfish [Sturgeon Class] - 1994 DDS

United States



Type: SSN - Nuclear Powered Attack Submarine
Max Depth: -400 m
Max Speed: 30 kt
Commissioned: 1994
Length: 92.1 m
Beam: 9.7 m
Draft: 8.8 m
Crew: 107
Displacement: 4460 t
Displacement Full: 4960 t
Propulsion: 1x General Electric S5G Nuclear Reactor

Sensors / EW:
- AN/WLR-9A - (AN/BLR-14, Sonar Warning Receiver) Acoustic Intercept (Active Sonar Warning), Acoustic Intercept & Torpedo Warning, Max range: 27.8 km
- AN/WLQ-4 Sea Nymph - (Sturgeon) ESM, SIGINT (ELINT & COMINT) w/ OTH Targeting, Max range: 926 km
- AN/TB-16B - (1990, 2600ft Fat-Line) TASS, Passive-Only Towed Array Sonar System, TASS, Passive-Only Fat Line Towed Array Sonar System, Max range: 129.6 km
- AN/BQS-14 - (1990, 2600ft Fat-Line) Hull Sonar, Active-Only, Hull Sonar, Active-Only Under-Ice Navigation and Mine & Obstacle Avoidance, Max range: 0.4 km
- AN/BPS-14 - (1990, 2600ft Fat-Line) Radar, Radar, Surface Search, Short-Range, Max range: 74.1 km
- AN/BQQ-5D(V)1 [BQS-13] - (1990, Los Angeles, Accot w TB-16B & TB-23, AN/BQS-15, AN/WLR-9) Hull Sonar, Active/Passive, Hull Sonar, Active/Passive Search & Track, Max range: 74.1 km
- AN/BRD-6 - (1990, Los Angeles, Accot w TB-16B & TB-23, AN/BQS-15, AN/WLR-9) ESM, HF/DF, Max range: 926 km
- AN/TB-23/BQ - (1990, 4000ft Thin Line, Narwhal & Los Angeles Only) TASS, Passive-Only Towed Array Sonar System, TASS, Passive-Only Thin Line Towed Array Sonar System, Max range: 129.6 km
- Generic Submarine Periscope, LLTV - (1980s/1990s, Gen 2, 1.5x/4x Zoom) Visual, LLTV, Surveillance & Navigation Camera, Max range: 41.7 km
- Generic Submarine Periscope, Optical - (1980s, 1.5x/8x Zoom) Visual, Visual, Surveillance Periscope, Max range: 41.7 km

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Weapons / Loadouts:
- SEAL Commando - (Surface & Submarine) Troops.
- Mk48 Mod 5 ADCAP - (1991) Torpedo. Surface Max: 38.9 km. Subsurface Max: 38.9 km.
- UGM-109C Tomahawk Blk III TLAM - (1994, TT) Guided Weapon. Land Max: 1666.8 km.
- UGM-109C Tomahawk Blk II TLAM - (1987-1998, TT) Guided Weapon. Land Max: 2500.2 km.
- UGM-109D Tomahawk Blk II TLAM - (1989-1998, TT) Guided Weapon. Land Max: 2500.2 km.

- UGM-84D Harpoon IC - (1986) Guided Weapon. Surface Max: 138.9 km.
- ADC Mk2 Mod 0 Torpedo Decoy - (1979, 3-inch) Decoy (Expendable). Subsurface Max: 1.9 km.

OVERVIEW: The Sturgeon-class (colloquially in naval circles, known as the 637-class) was a class of nuclear-powered fast attack submarines (SSN) in service with the United States Navy from the 1960s until 2004. They were the "work horses" of the submarine attack fleet throughout much of the Cold War.

DETAILS: The Sturgeons were essentially lengthened and improved variants of the Thresher/Permit class that directly preceded them. The biggest difference was the much larger sail, which permitted the return of intelligence gathering masts to U.S. nuclear submarines. The fairwater planes mounted on the sail could rotate 90 degrees, allowing the submarine to surface through thin ice. Because the S5W reactor was used, the same as in the Skipjacks and Thresher/Permits, and the displacement was increased, the Sturgeons' top speed was 26 knots (48 km/h), 2 knots slower than the Thresher/Permits. The last nine Sturgeons were lengthened 10 feet (3 m) to provide more space for intelligence-gathering equipment and to facilitate the use of dry deck shelters.

ARMAMENTS: They were equipped to carry the Harpoon missile, the Tomahawk cruise missile, the UUM-44 SUBROC, the MK37 SLMM and MK 60 CAPTOR mines, and the MK-48 and ADCAP torpedoes. Torpedo tubes were located amidships to accommodate the bow-mounted sonar. The bow covering the sonar sphere was made from steel or glass reinforced plastic (GRP), both varieties having been produced both booted and not booted. Booted domes are covered with a half-inch layer of rubber. The GRP domes improved the bow sonar sphere performance; though for intelligence gathering missions, the towed-array sonar was normally used as it was a much more sensitive array.

SERVICE: The boats were phased out in the 1990s and early 21st century, as their successors, the Los Angeles, followed by the Seawolf and Virginia-class boats, entered service.

SPECIFICATION: Length 292 ft, Beam 32 ft, Displacement 4780 tons, Speed (FAS Estimate) 25 kts, Depth Test (FAS Estimate) 1300 ft.

VARIANTS: Beginning with Archerfish, units of this class had a 10-foot (3 meter) longer hull, giving them more living and working space than previous submarines. Parche received an additional 100-foot (30 meter) hull extension containing cable tapping equipment that brought her total length to 401 feet (122 m). A number of the long hull Sturgeon-class SSNs, including Parche, Rivers, and Russell were involved in top-secret reconnaissance missions, including cable tap operations in the Barents and Okhotsk seas.

A total of seven boats were modified to carry the SEAL Dry Deck Shelter (DDS). The DDS is a submersible launch hangar with a hyperbaric chamber attached to the ship's weapon shipping hatch. DDS-equipped boats were tasked with the covert insertion of special forces troops.

SHIPS BUILT: [SHORT HULL] Sturgeon (SSN-637), Whale (SSN-638), Tautog (SSN-639), Grayling (SSN-646), Pogy (SSN-647), Aspro (SSN-648), Sunfish, (SSN-649), Pargo (SSN-650), Queenfish (SSN-651), Puffer (SSN-652), Ray (SSN-653), Sand Lance (SSN-660), Lapon (SSN-661), Gurnard (SSN-662), Hammerhead (SSN-663), Sea Devil (SSN-664), Guitarro (SSN-665), Hawkbill (SSN-666), Bergall (SSN-667), Spadefish (SSN-668), Seahorse (SSN-669), Finback (SSN-670), Pintado (SSN-672), Flying Fish (SSN-673), Trepang (SSN-674), Bluefish (SSN-675), Billfish (SSN-676), Drum (SSN-677) ##### [LONG HULL] Archerfish (SSN-678) (DDS), Silversides (SSN-679) (DDS), William H. Bates (SSN-680) (ex-Redfish) (DDS), Batfish (SSN-681) (DDS), Tunny (SSN-682) (DDS), Parche (SSN-683) (R&D), Cavalla (SSN-684) (DDS), L. Mendel Rivers (SSN-686) (DDS), Richard B. Russell (SSN-687).

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SOURCE: [SCO] Wikipedia http://en.wikipedia.org, FAS Military Analysis Network http://fas.org/man/dod-101/sys/ship/index.html