

From the Dictionary of American Naval Fighting Ships,
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WHALE

Whale: An extremely large, aquatic mammal which is fishlike in form. True air-breathing, warm-blooded mammals, whales are nearing extinction due to man's pursuit for oil and whalebone.

SSN-638

Displacement:

Surfaced: 3,860 t.

Submerged: 4,640 t.

Length: 292'3

Beam: 29'

Draft: 28'5

Speed:

Surfaced: 15+ k.

Submerged: 20+ k.

Complement: 107

Armament: 4 21 torpedo tubes; SUBROC

Class: STURGEON

The second WHALE (SSN-638)--a nuclear-powered attack submarine--was laid down on 27 May 1964 at Quincy, Mass., by the General Dynamics Corp., Quincy Division; launched on 14 October 1966; sponsored by Mrs. Russell B. Long, and commissioned on 12 October 1968, Comdr. William M. Wolff in command.

WHALE arrived in her first home port, Charleston, on 2 November and, after a week in port, put to sea for shakedown training which the nuclear attack submarine completed in November and December, along with a series of post-commissioning tests, trials, and qualifications. In January 1969, she began normal operations out of Charleston with type training along the southeastern coast of the United States.

On 18 March, she stood out of Charleston on her way to operations north to the Arctic Circle. She reached the North Pole on 6 April and surfaced there in commemoration of the 60th anniversary of Rear Admiral Robert E. Peary's arrival there. Following that event, she completed her mission under the polar ice cap and then headed south. After a visit to Faslane, Scotland, she voyaged home to Charleston, where she arrived on 9 May.

Following two months of local operations out of Charleston, WHALE sailed for Groton, Conn., and her post-shakedown repair period. After three months in the Electric Boat Division's yard, she started back to Charleston on 16 October. She arrived back in her home port on the 20th and conducted local operations for the remainder of the year.

During the first half of 1970, WHALE continued operations out of Charleston. In late January, she participated in tests with a Navy Underwater Demolition Team and, in February and March, took part in three major Fleet exercises. In April, she headed north for a brief tour of duty as training ship for the Prospective Commanding Officers' School at New London, Conn. She returned to Charleston at the end of the first week in May and spent the remainder of the month conducting acoustic trials.

WHALE departed Charleston on 27 July for an overseas deployment which she concluded in mid-September with visits to Faslane and Holy Loch in Scotland. While WHALE visited Scotland, the Jordanian crisis--precipitated by civil war between the Jordanian Government and the Palestinian Liberation Organization (PLO) and aggravated by the incursion into northern Jordan by Syrian tanks--necessitated a show of American strength in the eastern Mediterranean. Thus, WHALE received orders to join the 6th Fleet and did so near the end of September. She remained in the Mediterranean through October and into November. When the crisis abated, she headed for Charleston, arriving home on 18 November.

Three Fleet exercises and local operations out of

Charleston occupied the submarine during the first half of 1971. Late in July, she deployed once more for special operations in the Atlantic, concluding that cruise late in September at Bremerhaven, Germany. She returned to Charleston on 12 October and resumed local operations upon arrival. That routine continued until 20 March 1972, when she departed once again for another special operations cruise in the Atlantic. At the end of that voyage, WHALE made a brief call at Holy Loch before returning to Charleston on 9 June.

Almost two months after her return to the United States, WHALE left Charleston and headed north to Groton, Conn., her new home port. She entered the yard at the Electric Boat Division on 7 August for a 46 week overhaul and remained there undergoing repairs until 27 October 1973.

She completed post-overhaul shakedown and refresher training in November and December and began preparations for another deployment to the Mediterranean in response to the Middle Eastern crisis brought about by the Arab-Israeli War in October 1973. Late in January 1974, however, she received notification that her deployment had been delayed until May. During the interim, she conducted normal operations out of Groton--including submarine ASW exercises, type training, and a major fleet exercise, Operation "Safe Passage." On 3 May, she departed Groton en route to the Mediterranean Sea. Nine days later, she changed operational control from 2d Fleet to 6th Fleet.

While in the Mediterranean, WHALE participated in two NATO exercises, "International Week" and "Dale Falcon," with units of the Greek and Italian navies as well as several ASW exercises with other units of the 6th Fleet. She passed through the Strait of Gibraltar and changed operational control back to the Commander, Submarines, Atlantic Fleet, on 18 October. During the voyage home, WHALE participated in a Fleet ASW exercise which she completed on 28 October, two days before she reentered Groton.

WHALE spent the next 11 months engaged in operations out of Groton. Various tests and evaluations occupied January and the first half of February 1975. Between then

and June, the submarine provided training services for various units of the Atlantic Fleet and for prospective commanding officers. WHALE also served as a training platform for midshipmen during indoctrination cruises held late in the summer. On 29 September, she stood out of Groton for another deployment with the 6th Fleet. During that cruise, she took part in a major 2d Fleet exercise, "Ocean Safari," and, after joining the 6th Fleet in the Mediterranean Sea, took part in a succession of unilateral, bilateral, and multilateral exercises with units of the navies of Greece, France, Italy, and the Netherlands. She completed her tour of duty with the 6th Fleet during the second week in March 1976 and arrived back in Groton on the 26th.

She resumed normal east coast operations until 9 September when she entered the Portsmouth (N.H.) Naval Shipyard for a refueling overhaul. That overhaul concluded on 7 July 1978. WHALE then spent the remainder of the year in refresher training for the purpose of obtaining certification throughout the full range of her weapons system.

Deactivated while still in commission on 28 April 1995, WHALE was placed in reserve, in commission, the following 1 October. She began the Navy's Nuclear Powered Ship and Submarine Recycling Program at Bremerton, Washington on 20 October and, upon completing it on 1 July 1996, she was stricken from the Naval Vessel Register and officially listed as scrapped.

I



Twin Christening

October 14, 1966



Quincy division of General Dynamics



General Dynamics has been awarded contracts for 18 ships since it acquired the Quincy division, including the three Apollo Instrumentation ships shown above.

The Quincy Division

The Quincy division was founded in 1884 as the Fore River Engine Company at East Braintree, Massachusetts, by Thomas A. Watson, Alexander Graham Bell's associate during the development of the telephone. Watson, then retired from the telephone business, had developed an interest in the small engine field.

In September 1898, naval ship construction began with the building of two torpedo boat destroyers. Shortly thereafter the yard was moved to a larger area on the Fore River waterfront, a part of the present Quincy division.

In 1901, the company's name was changed to the Fore River Ship and Engine Company, and two years later was reorganized as the Fore River Shipbuilding Company. During the next several years, the yard built 82 vessels, both naval and commercial, including a number of submarines.

Bethlehem Steel Corporation purchased the company in 1913 changing the name in 1917 to the Bethlehem Shipbuilding Corporation Ltd. During the next two years, the yard received contracts for 100 ships. In 1919, the peak World War I production year, 69 vessels were delivered and employment reached 26,000.

Construction of the old aircraft carrier Lexington, two cruisers and two heavy cruisers kept the yard operating in the lean years following World War I.

When World War II broke out, war contracts began pouring in and a new 16-way yard at Hingham was acquired in a large expansion program. That shipyard turned out 227 ships in 39 months, and employed 23,500 persons. The Quincy yard, with increased facilities and a workforce of 32,000 launched 98 ships, including five famous Essex-class aircraft carriers — Lexington, Wasp, Bunker Hill, Hancock and Philippine Sea.

Quincy entered the nuclear age on December 2, 1957, when the keel was laid for America's first nuclear-powered, guided missile cruiser, the Long Beach. Quincy also built the Bainbridge, the first nuclear-powered, guided missile frigate.

In 1962, Quincy launched the Manhattan. At 940 feet and 108,590 deadweight tons, the tanker was the largest commercial ship ever built in the U. S. at the time of her delivery.

On December 31, 1963, the shipyard was purchased by General Dynamics and became the Quincy Yard of its Electric Boat Division. Earlier this year it achieved status as a division of General Dynamics.

USS WHALE



Mrs. Russell B. Long
Sponsor



Lt. Cmdr. W. M. Wolff, Jr., USN
Prospective Commanding Officer

Program

NATIONAL ANTHEM *First Naval District Band*

INVOCATION *Lt. Cmdr. P. F. Brudzynski, (ChC), USN*

WELCOME AND INTRODUCTIONS *Robert V. Laney*
General Manager
Quincy Division
General Dynamics

REMARKS *Roger Lewis*
President
General Dynamics

ADDRESS *The Honorable John A. Volpe*
Governor of Massachusetts

INTRODUCTION OF SPONSORS *Mr. Lewis*

CHRISTENING - WHALE *Mrs. Russell B. Long*

CHRISTENING - SUNFISH *Mrs. Robert C. Byrd*

USS SUNFISH



Mrs. Robert C. Byrd
Sponsor



Lt. Cmdr. B. G. Balderston, USN
Prospective Commanding Officer

USS Whale

The nuclear attack submarine Whale is named for a submarine that served with distinction in World War II.

Launched on March 14, 1942 at the Mare Island, California, Naval Shipyard, Whale sailed off to battle a little less than seven months later. All told, she was to make 11 successful patrols and by war's end she sank nine ships totaling 57,716 tons.

On special missions she rescued 15 downed Allied airmen during invasions of Pacific islands.

Whale was a tough ship. She was once so badly battered by depth charges that she spent two months in repair at Pearl Harbor. On another occasion a typhoon caused extensive damage to her, but it failed to prevent the submarine from torpedoing an enemy vessel.

Following the war Whale was decommissioned and placed in the U. S. Atlantic Reserve Fleet. In 1960 she was stricken from Navy records.

The keel for Whale's nuclear namesake was laid May 27, 1964. Whale, 292 feet long and displacing 4,100 tons, is scheduled to become operational next year.

USS Sunfish

Sunfish is named for a battle veteran of World War II which was launched May 2, 1942 at the Mare Island, California, Naval Shipyard. A Fleet Type vessel – the class that bore the brunt of undersea war in the Pacific – Sunfish was 311 feet long and displaced 1,500 tons.

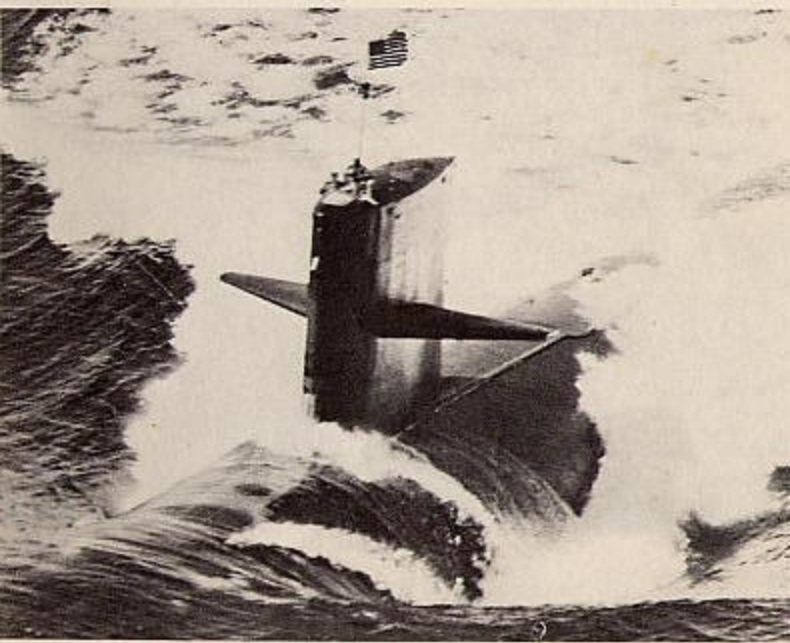
Sunfish made her first war patrol before the end of 1942. It was uneventful, the only one of 11 to be so. She sank her first ship on the second patrol. Fifteen more were to follow for a score of 59,815 tons.

For her ninth and eleventh war patrols Sunfish was awarded the Navy Unit Commendation, one of the few submarines so cited during the war.

The submarine's distinguished but brief career came to an end at the close of 1945 when she was decommissioned and placed in reserve. The name Sunfish was stricken from Navy records five years later.

On January 15, 1965 the keel was laid for the nuclear attack submarine Sunfish. A sister of Whale, Sunfish is 292 feet long and displaces 4,100 tons. She is scheduled to become operational next year.

Welcome Aboard



**THE ATTACK SUBMARINE
USS WHALE (SSN 638)**

HISTORY OF USS WHALE (SSN 638)

USS WHALE (SSN 638) was named in commemoration of the submarine USS WHALE (SS 239), one of the first fleet-type submarines of World War II. The old WHALE participated in eleven successful war patrols, sank 57,716 tons of enemy shipping, and rescued fifteen aviators from the sea.

The keel for the present WHALE was laid on 27 May 1964, at the Quincy Division of General Dynamics Corporation, Quincy, Massachusetts. She was launched on 14 October 1966, and commissioned on 12 October 1968. Her sponsor was Mrs. Russell B. Long wife of Senator Long of Louisiana. Her first commanding officer was CDR William M. WOLFE, Jr., USN.

WHALE's first homeport was Charleston, South Carolina, arriving there in November 1968. After successfully shooting her first SUBROC missile in January 1969, she participated in the Arctic exercise SUBICEX 1-69. WHALE surfaced at the North Pole on 6 April 1969, 60 years to the day and hour after Admiral Perry had arrived there. The ship was awarded the Navy Unit Commendation for this operation.

In January 1970, CDR Thomas MAYBERRY, Jr., USN, relieved as Commanding Officer. During February 1970, the ship conducted a Summer 1970 deployment for which she was awarded the Meritorious Unit Commendation. WHALE was deployed to the Mediterranean Sea to support the US SIXTH Fleet during the Jordanian Conflict. She was awarded a second Meritorious Unit Commendation for the operation.

WHALE again deployed in the Summer of 1971, concluding with a port visit to Bremerhaven, Germany. The ship was awarded a third Meritorious Unit Commendation for this 1971 deployment. She returned to Charleston but again deployed in the Spring of 1972, concluding with a port visit to Holy Loch, Scotland, in May 1972.

CDR Guy H. CURTISS III, USN, relieved as Commanding Officer in July 1972, after which the ship changed homeport to Groton, Connecticut. WHALE entered the Electric Boat Division of General Dynamics Corporation, Groton, Connecticut, in August 1972, for a non-refueling overhaul. During her first cycle of operation, WHALE remained at sea approximately 46 percent of the time, the highest average of any Atlantic Fleet submarine.

In October 1973, WHALE completed its overhaul and commenced post overhaul shakedown and refresher training. She then was certified to shoot MK 48 torpedoes.

In May 1974, WHALE commenced a six month deployment to the Mediterranean Sea, concluding with port visits to Naples and La Spezia, Italy. WHALE received her fourth Meritorious Unit Commendation during this deployment. Upon return to Groton, WHALE received the Submarine Squadron TWO Battle Efficiency "E" Award for fiscal year 1974. In February 1975, WHALE conducted her fourth successful operation test of the SUBROC missile system. During May and June WHALE provided services to the Naval Base Guantanamo Bay, Cuba, and successfully demonstrated the capability of the SSN 637 Class Submarine to conduct UDT operations before returning to Groton in July 1975.

CDR Linton F. BROOKS, USN, relieved as Commanding Officer in July 1975, after which the ship commenced preparations for the forthcoming deployment. WHALE was again presented the Submarine Squadron TWO Battle Efficiency "E" for fiscal year 1975.

In September 1975, WHALE commenced a six month Winter deployment to the Mediterranean Sea, participating in various U.S. and NATO exercises during the deployment.

WHALE returned from deployment in March 1976 and in June conducted MK 48 recertification and visited Fort Lauderdale, Florida.

WHALE conducted a 22 month refueling overhaul in Portsmouth Naval Shipyard during September 1976-July 1978. In August 1978 CDR Clayton K. MORSE assumed command and the ship commenced a period of post overhaul weapons and sonar system Certifications.

During the fall of 1978, WHALE became certified to carry the Harpoon missile and completed MK 48 Torpedo Recertification. During April-September 1979 she conducted a five month deployment to the Mediterranean, contributing significantly to the readiness of the U.S. SIXTH Fleet. From October 1979 through June 1980 WHALE participated in six different SUBLANT, LANTFLEET, and or NATO exercises, making extensive contributions to ASW tactical development. During this period she visited Port Canaveral, Florida, Bermuda, and Halifax, Nova Scotia. In July through September 1980 WHALE underwent the first Selected Restricted Availability to be conducted at a remote site from the shipyard. In October 1980 she was awarded the Supply "E" for outstanding achievement in Supply operations during the previous fiscal year.

HISTORY OF WHALE (SS 239)

The present USS WHALE (SSN 638) is named in commemoration of the submarine WHALE (SS 239), one of the first fleet-type diesel submarines of World War II.

The keel for the SS 239 was laid on 28 June 1941 at the Navy Yard, Mare Island, California. She joined the Navy on 1 June 1942, with LCDR J. B. AZER, USN, as her first commanding officer.

In October 1942, WHALE departed Pearl Harbor on her first war patrol to plant mines in the Kii Suido, the eastern entrance to the Inland Sea of Japan. Three minefields were planted successfully, and WHALE spent several days in these dangerous waters attacking targets of opportunity and obtaining periscope photographs of military installations along the coast, at times raising her scope only 500 yards offshore. In leaving the area, WHALE encountered a Chidori patrol craft and received her first severe depth-charging, which flooded the inductions, opened sea valves and sent her plunging toward the bottom with a 20° up angle. After several hours the enemy was evaded and WHALE headed home.

By January 1943 the damage received on the first patrol was repaired and WHALE departed Pearl Harbor for her second patrol, off the Marshall Islands. During this patrol a freighter and two troopships were sunk and a tanker was damaged. Four freighters were sunk and a seaplane tender damaged by WHALE on her third and fourth patrols off Saipan, Marianas Islands. In August 1943 WHALE conducted her fifth patrol, again in the Marianas area, and sank the 7149-ton aircraft ferry MARUTO MARU.

WHALE sailed for her sixth patrol in the forward area, off the Bonin Islands. Night attacks on a convoy netted WHALE two more freighters. On her seventh, eighth and ninth patrols, SS 239 continued to inflict heavy damage on the Japanese Merchant fleet. On completion of her tenth patrol, a photo reconnaissance of Okinawa was conducted in preparation for the forthcoming invasion, and WHALE was then routed to the Navy Yard at Mare Island for her second major overhaul.

WHALE completed overhaul in the spring of 1945 and after a training workup departed Guam in July to conduct lifeguard services off Japan in support of carrier and B-29 strikes against the Japanese home islands. Fifteen aviators were rescued and WHALE was still at sea when the war ended.

A few days later she departed for New York, by way of Saipan and Pearl Harbor, with the enviable record of eleven successful war patrols and 57,716 tons of Japanese shipping sunk.

In January 1947 WHALE was placed out of commission in the Atlantic Reserve Fleet, berthed at the Submarine Base, New London. On 1 March 1960 she was struck from the Navy list and sold for scrap.



**COMMANDER CLAYTON K. MORSE, USN
COMMANDING OFFICER
USS WHALE (SSN 638)**

THE COMMANDING OFFICER

Growing up in a service family, Commander MORSE traveled extensively although his principal childhood home was Corvallis, Oregon. He attended high school in Webster Groves, Missouri. After completing one year at the University of Oregon, he entered the United States Naval Academy, from which he graduated in 1963 with a Bachelor of Science Degree.

Following nuclear power training and basic submarine school, Commander MORSE served on USS TENCH (SS 417), where he qualified in submarines in April 1966. Subsequently, he was assigned to USS WHALE (SSN 638) on which he served during the new construction and shakedown periods; he also participated in the ship's under ice operation at the North Pole in April 1969. As Engineer Officer of USS PUFFER (SSN 652) in Pearl Harbor from 1970-1973, Commander MORSE took part in two deployments to the Western Pacific. In 1973-1974 he was a tactics and fire control system instructor at Naval Submarine School. He then became Executive Officer of USS GREENLING (SSN 614) and participated in one Mediterranean deployment.

Commander MORSE has been awarded the Navy Commendation Medal for service while on PUFFER and the Navy Achievement Medal with two gold stars for service on PUFFER, at Naval Submarine School, and on GREENLING. He received the degree of Master of Business Administration from the University of New Haven in June 1978.

Commander MORSE is married to the former Jane Anderson of Marblehead, Massachusetts, and has two children Sarah and Benjamin. They reside in Waterford, Connecticut.

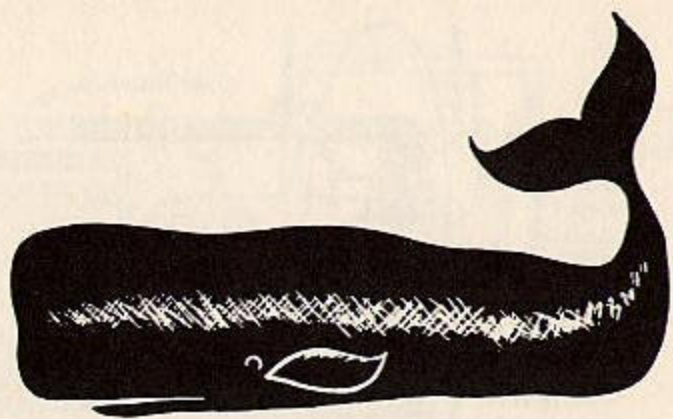
USS WHALE (SSN 638)

BUILT BY

GENERAL DYNAMICS CORPORATION QUINCY DIVISION

Keel laid 27 May 1964
Launched 14 October 1966
Sponsored by Mrs. Russell Long
Length 292 feet
Beam 32 feet
Displacement surfaced 4060 tons
Speed Over 20 knots
Diving depth Over 400 feet
Assignment Submarine Development Squadron Twelve,
Groton, Connecticut





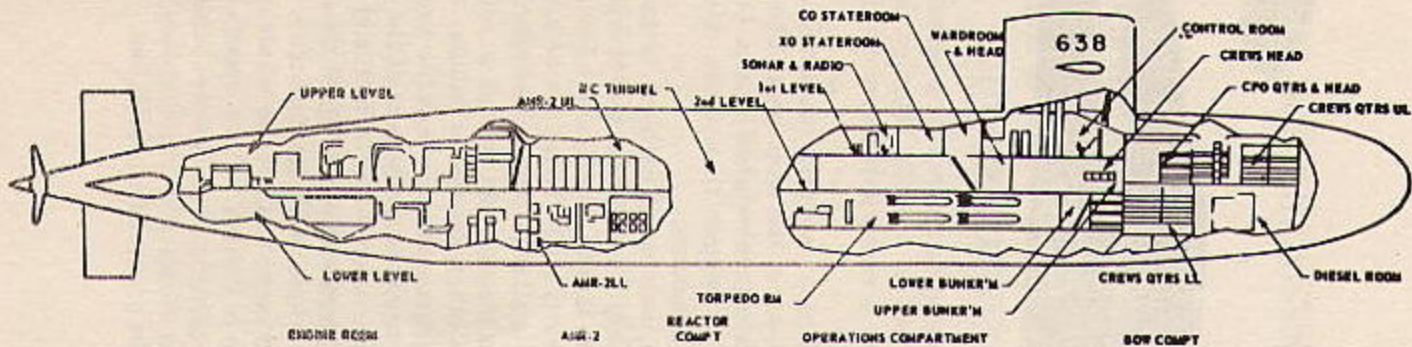
WHALES

WHALE is an appropriate name for a submarine since the modern submarine has a smooth rounded hull with few appendages, giving it a remarkable resemblance to a large whale.

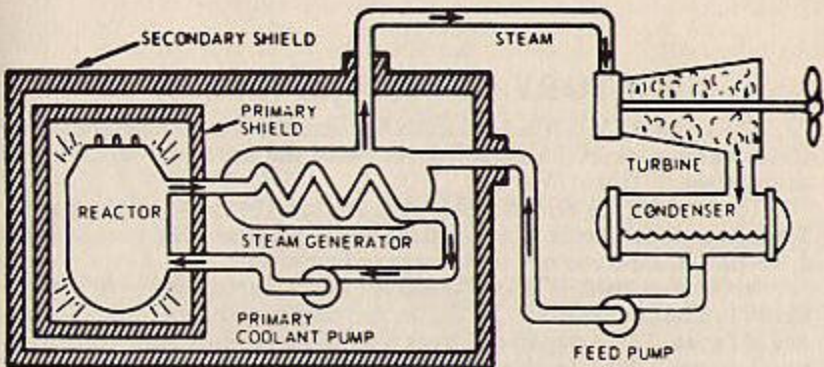
Whales are cetaceans (aquatic mammals) and are the largest creatures the world has ever seen. The largest of the dinosaurs is estimated to have weighed 50 tons, but a blue whale may scale 160 tons — bigger than three dinosaurs or the equivalent of 20 bull elephants.

The sperm whale, used as our emblem, is the best-known of the whale species. Moby Dick was a sperm whale. The adult males are 65-70 feet in length, black, and have a narrow lower jaw with 44 large conical teeth. There are no upper teeth. The sperm whale is found in all seas except the Arctic and Antarctic, but principally in the tropics, and travels in schools of 400 or more. In contrast to other species of whale, which feed by straining colonies of crustaceans through the mouth, the sperm whale feeds on giant squid at the bottom of the sea. The squid grows to enormous dimensions (over 30 feet) and terrific battles often occur between sperm whales and squid, the squid inflicting long gashes in the whale with its tentacles. However, the superior strength and large teeth of the whale usually prevail.

The sperm whale is limited to slow speeds of less than 12 knots on the surface, spouting 30 or 40 times before diving. Once submerged the sperm whale may reach speeds in excess of 20 knots, diving to depths greater than 6000 feet.



SHIP'S DIAGRAM



THE POWER PLANT

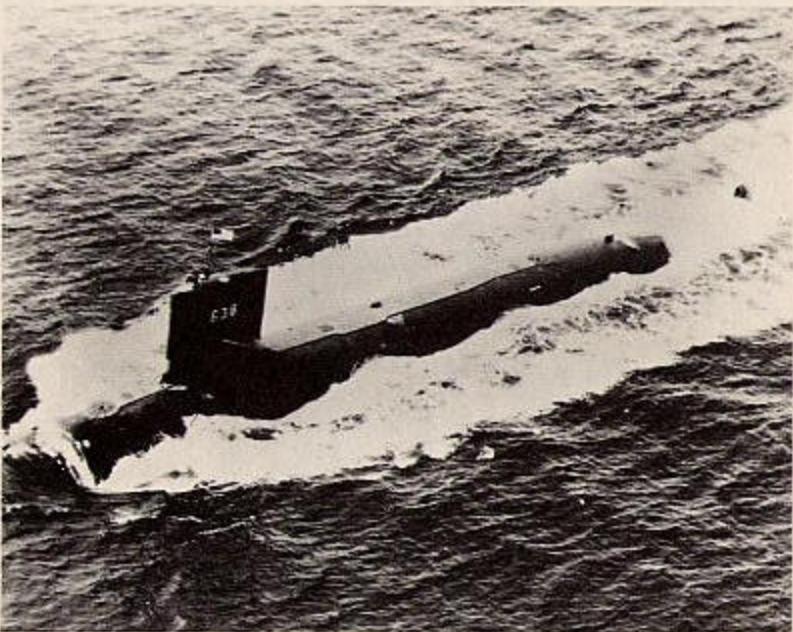
WHALE is powered by a nuclear power plant which consists of a nuclear reactor with its associated circulating water, steam cycles, and auxiliary machinery.

The primary system is a circulating water cycle and consists of the reactor, identical port and starboard loops of piping, primary coolant pumps, and the tubes of the steam generators. Heat is produced in the reactor by nuclear fission and is transferred to the circulating primary coolant water which is pressurized to prevent boiling. This water is then pumped through the steam generator tubes, where it transfers its heat to the shell, or the secondary side of the steam generators, where it boils water to form steam. It is then pumped back to the reactor by the primary coolant pumps where it is heated for the next cycle.

The secondary system is the steam-producing cycle and is made up of the shell side of the steam generators, turbines, condensers, and steam generator feed pumps. It is completely isolated from the primary system since the primary water goes through the tubes of the steam generator while the water which is boiling to make steam is on the shell side of the steam generator. Steam rises from the steam generators and then flows to the engine room, where it drives the ship service turbogenerators, which supply the ship with electricity, and the main propulsion turbines, which drive the propeller. After passing through the turbines, the steam is condensed and the water is fed back to the steam generators by the feed pumps. There is no step in the generation of this power, which requires the presence of air or oxygen. This fact alone allows the ship to operate completely divorced from the earth's atmosphere for extended periods of time.



USS WHALE AT SEA



SHIP'S MISSION

USS WHALE (SSN 638) is a fast-attack nuclear submarine of the SSN 637 Class. Her primary mission is to seek out and destroy enemy ships of any type. She is equipped with the most advanced sonar and fire control system.

The USS WHALE has been specially designed to operate quietly and indefinitely at high speeds while completely submerged. This gives her great advantage in offensive and defensive action.

USS WHALE



SSN 638