



Silent Victory – World War II

The success of the 1930's *Salmon* class inspired the development of the superb 1,500 ton Fleet Boat. Designed with food, fuel, and weapons sufficient for long range independent patrols, Fleet Boats enabled a shift in doctrine from coastal defense to open ocean attacks on enemy warships and convoys critical to enemy logistical support. Following the Japanese surprise attack on Pearl Harbor, President Roosevelt declared unrestricted air and naval warfare against Japan on 8 December 1941. Since much of the U.S. Battle Fleet had been damaged or destroyed during the attack, U.S. submarines became America's primary offensive weapon in the Pacific Theater.



USS Gato, the first of 77 ships of the class, logged 12 war patrols during WWII and sank 24 ships.

U.S. submarines operated in Japanese-controlled waters from the beginning of World War II. Unfortunately, defective torpedoes, ineffective tactics, and inexperienced captains and crews hindered early submarine operations. Submariners resolved these problems, and ultimately played a key role in stemming the tide of Japanese advancement. Operating from Pearl Harbor and Australian bases at Fremantle and Brisbane, and employing the new, reliable *Gato*, *Balao*, and *Tench* class submarines, the Submarine Force began taking a mounting toll on Japan's merchant marine ships and warships. Leveraging a new technology, radar, and an intelligence breakthrough (code name *Magic*) which enabled deciphering encrypted Japanese communications, U.S. submariners intercepted and prosecuted Japanese ships in the vast Pacific. By late 1943, U.S. submariners, employing aggressive daytime submerged and nighttime surface attack tactics, were destroying large numbers of enemy ships throughout the Pacific and in Japanese controlled home waters.



Japanese carrier *Unryu* sunk by USS *Redfish* in 1944.

At the end of the war, U.S. submarines had scored the most complete victory in the war. Comprising just 1.6 percent of the U.S. Navy, U.S. submarines sank 30 percent of the Japanese Imperial Navy including eight aircraft carriers, one battleship, and eleven cruisers. More importantly, the Submarine Force sank 2,400 merchant ships totaling 4.9 million tons. Having destroyed 60 percent of the Japanese merchant marine, the Submarine Force imposed a veritable stranglehold on Japan, choking off its economy. In the final months of the war, American submarines had difficulty finding targets because there were virtually no enemy ships left to sink. The *SILENT VICTORY* was complete.

The *SILENT VICTORY* came with a heavy price. During World War II, the U.S. Submarine Force suffered the highest loss rate of the U.S. armed forces. Of the 16,000 U.S. men serving in submarines during the war, 375 officer, 3,131 enlisted men, and 52 submarines were lost.



For more information select: Submarine Centennial at www.navy.mil

Details on the war against the Japanese Transportation System

U.S. submarine attacks in conjunction with strikes from U.S. aircraft and surface ships devastated Japan's economic and military power - reducing the import of key raw materials and impeding the supply of Japanese forces in the Pacific. The import of 16 key industrial commodities fell from 20 million tons in 1941 to 2.7 million tons in the first 6 months of 1945. By 1944, oil imports fell so low that the Japanese Navy loaded crude oil barrels on battleships to import home. At the same time Japan experimented with producing gasoline from potatoes and pine needles.

Key Imported Materials Reaching Japan During World War II

Tons per month	Oil*	Bauxite	Iron Ore	Rubber (1/42)	Coal	Sugar (3/42)	Lumber	Cotton/Wools
Dec 1941	363,000	146,711	272,533	8,347**	1,556,271	53,547**	114,477	14,756
June 1945	0	1,800	1,040	0	220,552	0	1,237	1,000

*Oil imports for 1st quarter 1942, 2nd quarter 1945; **Figures are for months indicated rather than December 1941
 Chart data from Parillo, Michael; The Japanese Merchant Marine in World War II; Naval Institute Press; Annapolis, MD; 1993

Japanese attempts to stop marauding U.S. submarines resulted in important changes in their industrial priorities. The Japanese Navy used just 14 percent of its construction budget for escorts and transports in 1941, but the percentage shot up to 54.3 percent in 1944. The need for escorts to combat U.S. submarines was so great, that after 1943, with nearly 2 years left in the war, the Japanese Navy started construction on no ship bigger than a destroyer!

General Characteristics, *Salmon* Class

Builders: Electric Boat Co., CT; Portsmouth Naval Shipyard (NSY), NH; Mare Island NSY, CA
Power Plant: Four diesels, two shafts
Length: 308 feet (93.9 meters)
Beam: 26 feet (7.9 meters)
Displacement: 1,435 tons surfaced, 2,198 tons submerged (1458/2233 metric tons)
Speed: 21 knots (39 kph)
Crew: 5 Officers, 50 Enlisted
Armament: Eight 21-inch (533 millimeter) torpedo tubes (four bow, four stern)
 One 3-inch deck gun
Date Deployed: 15 December 1937 (*USS Snapper*)

General Characteristics, *Gato* Class

Builders: Electric Boat Co., CT; Portsmouth NSY, NH; Mare Island NSY, CA; Manitowoc Shipbuilding Co., WI.
Power Plant: Four diesels, two shafts
Length: 312 feet (95.1 meters)
Beam: 27 feet (8.2 meters)
Displacement: 1,475 tons surfaced, 2,415 tons submerged (1499/2454 metric tons)
Speed: 20 knots (37 kph)
Crew: 6 Officers, 54 Enlisted
Armament: Ten 21-inch (533 millimeter) torpedo tubes (six bow, four stern)
 One 3-, 4-, or 5-inch deck gun
 One anti-aircraft gun on the bridge
Date Deployed: 31 December 1941 (*USS Gato*)

General Characteristics, *Balao* Class

Builders: Electric Boat Co., CT; Portsmouth NSY, NH; Mare Island NSY, CA; Boston NSY, MA; Manitowoc Shipbuilding Co., WI; Cramp Shipbuilding Co., NJ
Power Plant: Four diesels, two shafts
Length: 311.7 feet (95 meters)
Beam: 27 feet (8.2 meters)
Displacement: 1,525 tons surfaced, 2,415 tons submerged (1549/2454 metric tons)
Speed: 20 knots (37 kph)
Crew: 6 Officers, 60 Enlisted
Armament: Ten 21-inch (533 millimeter) torpedo tubes (six bow, four stern)
 One 3-, 4-, or 5-inch deck gun
 One anti-aircraft gun on bridge
Date Deployed: 4 February 1943 (*USS Balao*)

General Characteristics, *Tench* Class

Builders: Portsmouth NSY, NH; Cramp Shipbuilding Co., PA
Power Plant: Four diesels, two shafts
Length: 311.8 feet (95 meters)
Beam: 27.1 feet (8 meters)
Displacement: 1,570 tons surfaced; 2,415 tons submerged (1595/2454 metric tons)
Speed: 20 knots (37 kph)
Crew: 6 Officers, 60 Enlisted
Armament: Ten 21-inch (533 millimeter) torpedo tubes (six bow, four stern)
 One 3-, 4-, or 5-inch deck gun
 One anti-aircraft gun on bridge
Date Deployed: 6 October 1944 (*USS Tench*)

