

MILITARY



Air Anti-Submarine Warfare

There are 40 countries operating over 400 total submarines today, which approximately are assessed to be -- 75 percent of those are assessed to be modern submarines. That poses a very challenging threat for the Navy, such that the CNO created Task Force ASW. That threat is daunting in American war plans and it required a response.

Patrol aircraft don't just respond to submarines, they also respond to surface threats. Increasingly in the global war on terrorism the Navy finds an important need to track vessels, be aware of the content of vessels, and pursue them. And the mission that's probably significantly increased the demand on P-3s is this surveillance and being able to do surveillance work in the littoral. So it's a multi-spectrum mission to both prosecute the surface threats, the undersea submarine threat, as well as contribute to the battle-space picture, including over-land surveillance and visibility.

The primary role of Naval Aviation in WW I was anti-submarine warfare. From the outbreak of the Great War, it was soon understood that a submarine, although when submerged invisible to an observer or "look-out" on the deck of a warship or other vessel, was clearly visible, and may be readily located by an aeronaut from a sufficient altitude. The conditions are similar to those frequently noticed when fish in a river are seen clearly from a bridge, but are invisible from the river-bank. The torpedo-boat or destroyer when operating against the submarine is at a considerable disadvantage, inasmuch as when the latter is submerged the only visible sign of its presence is its periscope - a pole of a few inches in diameter, projecting some few feet out of the water. Soon operations directed against the submarines of an enemy involved the employment of aircraft, at least as a means of reconnaissance. It was an important fact that in this particular service the enemy (the submarine) had no power of striking back at the airplane.

The first recorded attack on an enemy submarine by a U.S. Naval Aviator was made by Ens. John F. McNamara on March 25, 1918, while serving at the Royal Navy Air Station, Portland, England. During the Great War the US Naval Air Force, Foreign Service, executed 30 attacks against enemy submarines, of which ten were considered to have been at least partially successful; it dropped 100 tons of high explosives on enemy objectives, and it had to its credit a total of 22,000 flights in the course of which it patrolled more than 800,000 nautical miles of submarine-infested areas. In point of fact, it did immeasurably

Further Reading

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more than this, for these figures are very far from being a just or fair method of appraising the value of aircraft in naval warfare.

Air ASW efforts began in earnest during World War II to counter the dangerous submarine threat. The devastation and terror experienced earlier during World War I dramatically prioritized the requirement for effective ASW forces; including aircraft. The duelists, the aircraft and the submarine, have been locked into an intense chess match ever since World War II. With each new tactical or technological innovation for Air ASW, the submarine threat counters with either a new procedure or system. The three distinct historic phases of Air ASW include the World War II years, the Cold War period, and the Post-Cold War era.

Post-Cold War ASW operations continued however with a new submarine threat. Many Third World nations began purchasing some of the latest designs in diesel submarine technology. Rapid advances in battery technology and alternate energy producing systems have extended the submerged endurance of a diesel submarine operating on batteries. Additionally, new designs and materials have been used to quiet noisy submarine sources as well as defeat active sonar systems. Also, these newer submarines now operate in the much noisier and difficult shallow waters along the coast (littoral waters). These modernized diesel submarines can be used to insert military personnel, lay deadly minefields, launch devastating cruise and guided missile, threaten vital shipping lanes, and of course, attack ships and submarines.

Passive acoustic detection of these increasingly quiet submarines has been limited and forced Air ASW aircrews to counter with improved active sonar systems as the Navy entered the 21st century. Nevertheless, the Air ASW challenges ahead continue to be met by the US Navy's frontline ASW aircraft; the P-3C Updates II and III, the SH-60B/F and the SH-2G.

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