

WORLD WAR II MARITIME HERITAGE TRAIL

BATTLE OF SAIPAN



TBM AVENGER ★
AICHI E13A1 ★
POSS. SUBCHASER ★
SHERMAN TANKS ★ ★ ★

PBM MARINER ★
JAPANESE FREIGHTER ★
DAIHATSU LANDING CRAFTS ★

KAWANISHI H8K ★
LVT (A)-4 ★

U.S. AIRCRAFT

Foreground: Map of WWII Maritime Heritage Trail wreck sites and PBM Mariner in flight
Background: TBM Avenger wreck site in Tanapag Lagoon



Grumman TBM Avenger

The Grumman TBM was a torpedo bomber developed initially for the U.S. Navy and Marine Corps. The nickname "Avenger" was given to the aircraft as a response to the Japanese attack on Pearl Harbor.

U.S. aircraft manufacturers Grumman and Vought competed for the contract to develop a torpedo bomber for the U.S. Navy, but Grumman's design proved lighter and faster. Additionally, it featured folding wings - an attribute attractive to the Navy because it could maximize storage space on aircraft carriers. The first round of TBF Avengers rolled off Grumman's assembly line in 1942. One year later, production was transferred to General Motors so that Grumman could focus on production of the carrier-based Hellcat fighter; it was at this time that the "TBF" designation was changed to "TBM." Thousands of TBM Avengers were produced by General Motors during WWII. The TBM entered service in 1942 and initially saw action during the Battle of Midway. The last TBM Avengers were retired from U.S. military service in 1962.

The Avenger was operated by three crew members: a pilot, turret gunner, and radio operator/bombardier/ventral gunner. Armament consisted of one nose-mounted .30 caliber machine gun, one .50 caliber machine gun mounted immediately adjacent to the turret gunner in a rear-facing electrically powered turret, and a single .30 caliber hand-fired machine gun mounted ventrally beneath the aircraft's tail. The latter weapon was operated by the radio operator/bombardier, who faced forward on a folding bench to operate the radio and sight in bombing runs, but would then stand up and bend forward into the ventral turret to fire the machine gun. Later models of the Avenger dispensed with the nose-mounted gun in favor of two wing-mounted .50 caliber machine guns. The updated weapons provided better forward firepower and improved the aircraft's strafing capabilities.



I remember the day the Americans started to bomb Saipan. I was playing with other children at our farm in Chalan Kiya. Then, all of a sudden out of nowhere, I heard a loud noise. Planes were flying over us dropping bombs all over the island. My family took shelter in the bokkongo, which is an underground shelter. Carolinian elder, Rosa Taman Maliti as told to grand nephew Cain Camacho Castro.

Visiting the Wreck

The wreck of the TBM Avenger is located just inside the barrier reef, near the northern edge of the main shipping channel at 15 14' 7.82" N, 145 41' 57.82" E (55P 0360319N, 1684791E) (WGS84). It is located in approximately 7-10ft (2.5-3m) of water, and easily accessible to both scuba divers and snorkelers. The surviving airframe lies upside down on the seabed and consists primarily of wing structure. The engine, propeller, and tail section are all missing but the landing gear struts are intact and fully extended. Debris associated with the aircraft can be found surrounding the wreck including part of the radial engine, a section of fuselage with attached observation port, and a turret ring. During extreme low tides, portions of the landing gear struts are exposed above the water, and have been used in the past as a mooring point for boats. Unfortunately, mooring activities have taken a toll on the landing gear structure, and could result in their complete collapse or removal if not discontinued. Please help preserve this wreck and refrain from mooring on or near the wreck structure.

The wreck has been nearly consumed by the surrounding reef, and is covered with a variety of corals and sponges on both its interior and exterior surfaces. Schools of herbivorous steephead parrotfish (*Chlorurus microrhinos*) and brown surgeonfish (*Acanthurus nigrofuscus*) can be seen grazing on algae. Small groups of sixbar wrasse (*Thalassoma hardwicke*) swim through the landing gear struts searching for small crustaceans and fish. Territorial jewel damselfish (*Plectroglyphidodon lacrymatus*) occupy holes among the wreckage. Juveniles of the species possess the iridescent blue spots that give this fish its common name.



Preserving Our Wrecks

Shipwrecks, aircraft wrecks and other underwater archaeological sites are protected like historical sites are on land. They are nonrenewable resources and although ships and planes continue to sink every day, there will never be another WWII aircraft wreck or submarine chaser wreck. These sites are important because they provide us with the details of history and represent the men and women who served during the conflict. All underwater sites including shipwrecks, aircraft wrecks and other vehicles are protected under CNMI Public Law 3-39. This law protects all archaeological sites on Commonwealth-owned or controlled lands and submerged bottomlands from unauthorized disturbance, excavation, or removal of artifacts. Historic wrecks located in Commonwealth waters are protected just as natural resources are protected, so that future generations may visit, learn from, and enjoy these unique examples of our underwater heritage.

Martin PBM Mariner

The Martin PBM Mariner was a U.S. flying boat involved in all major campaigns in the Pacific, including the Battle of Saipan, where they participated in attacks on Japanese submarines, freighters, and aircraft. The Mariner was dubbed the "Fighting Flying Boat" due to its service in heavily-armed reconnaissance missions. Often these aircraft are overshadowed by the famous Catalina seaplane; however, PBMs were the second most widely used U.S. flying boat in operation during WWII.

The U.S. Navy designated Catalina seaplanes as patrol bombers, and were in need of a heavily armed flying boat for the purposes of bombing naval shore installations as well as locating and attacking enemy warships. Consequently, they invited proposals for a twin-engine aircraft that could meet these needs. The Martin Company was granted the development contract to produce a single prototype, and in 1939 they created a three-eighths scale model of the design to test its projected performance. After several modifications to the original design, the first service-ready PBM-1 was delivered in 1941. During its long career, the Mariner served many different roles for the U.S. Navy. According to Shanline, "PBM Martin Mariners served the U.S. Navy as a long-range patrol bomber and was used in reconnaissance and for a variety of purposes, ranging from cargo transport to ferrying troops. One of its very important functions was to rescue airmen who were downed in the ocean, or survivors of surface vessels in trouble."



Mariners were used for search, patrol, reconnaissance and rescue missions during and after the Battle of Saipan. During the battle, Mariners operated in the sea outside Tanapag Lagoon, a situation that made them vulnerable to rough waters and resulted in damage to one aircraft. Their similarities to Japanese military aircraft also had dire consequences, as two were shot down by U.S. forces as a result of mistaken identity. Following the U.S. victory in Saipan, Mariner crews utilized the Japanese-built seaplane base to operate their aircraft. This base provided protection from rough seas and was an ideal alternative to operating in the open ocean. Mariners provided support for "mop-up" operations patrolling the lagoon as a component of anti-submarine screening and also assisted in rescues of downed B-29 crews.

References

- Allward, M., 1981, *An Illustrated History of Seaplanes & Flying Boats*. Moorland Publishing.
- Bell, S., 2010, *I Can Ex-Plane: A Study of Site Formation of Submerged Aircraft in Saipan*. MA Thesis, Flinders University, Department of Archaeology.
- Drendel, L., 2001, *Walk Around TBF/TBM Avenger*. Squadron/Signal Publications.
- Hoffman, C., 1950, *Saipan: The Beginning of the End*. Washington, D.C. Historical Division, Marine Corps Monograph, Vol. 6.
- Hoffman, R., 2004, *The Fighting Flying Boat: A History of the Martin PBM Mariner*. Naval Institute Press.
- McKinnon, J. and T. Carrell, 2011, *Saipan WWII Invasion Beaches Underwater Heritage Trail*. Ships of Exploration and Discovery Research, Inc.
- Pacific STAR Center for Young Writers, 2004, *We Drank Our Tears: Memories of the Battles for Saipan and Tinian as Told by Our Elders*. Pacific STAR Center for Young Writers, Saipan Commonwealth for the Northern Mariana Islands.
- Shanline, R., 1985, *The Dependable PBM Martin Mariner*. *Aerospace Historian*.

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Visiting the Wreck

The Mariner wreck is located in Tanapag Lagoon, approximately 600m south-southeast of Managaha Island at 15 14' 10.95"N, 145 43' 0.64"E (55P 0362194N, 1684876E) (WGS84). Its airframe is upside down on the seabed in approximately 3.5ft (7m) of water. Interestingly, the site was only positively identified by researchers in 2009, even though its location has been known to local divers for several years. One of the characteristics that contributed to the Mariner's identification was its dihedral (angled) wing, a section of which can be observed sitting proud of the seabed. The wreck is widely scattered and the exposed wing section is perhaps its most recognizable feature. The disarticulated and dispersed nature of the site suggests the Mariner suffered a catastrophic wrecking event, although no specific archival information has yet been discovered that illustrates the circumstances surrounding its loss.

A portion of the aircraft's tail is located aft of the wing section and retains articulated framing of one of the tail fins. One of the gun turrets and its mount is located adjacent to the tail section and was yet another feature that aided identification of the site. A large steel anchor and chain are positioned forward of the surviving wing, but it is presently unclear whether it is directly associated with the Mariner. A large portion of the cockpit is also located forward of the wing and still retains some of the gears and levers associated with the aircraft's operation. Archaeologists were informed that a radio and other electronic instruments bearing U.S. military markings were present at the site prior to 1984, but these items likely have been looted.



Unfortunately, the site has been subjected to boat and diver visitation impacts in the form of anchor damage and movement and looting of artifacts. The anchor damage is most prominent on the aircraft's fragile aluminum wing section. Munitions and other small objects have been moved from their original positions and placed in piles on the site. It is important to remember when visiting these sites that moving or looting artifacts is not only against the law, but robs the public of valuable information about the aircraft's history and wrecking event.

The site is surrounded by small patch reefs that are home to a variety of fish species and invertebrates. Large recesses in the wing section provide shelter for more cryptic species. Schools of juvenile bluestripe snapper (*Lutjanus kasmira*) can be observed sheltering beneath the exposed wing section, along with soldierfish (*Myripristis* spp.) and squirrelfish (*Neoniphon* spp.). The relatively large eyes of soldierfish and squirrelfish are indicative of their nocturnal habits - both species move out from under cover during the night and feed on invertebrates and small fish.