

When you're looking for something, it's good to know what to look for. Aircraft in protected waters, such as this Douglas TBD-1 Devastator in Jaluit lagoon in the Marshall Islands, survive in remarkably good condition, but what does airplane wreckage look like after seventy-plus years in a high-energy coral reef environment?

(TIGHAR photo by W. Hoover.)

Lessons From a Buffalo

In July 2012, while TIGHAR was searching the reef at Nikumaroro for the wreckage of NR16020, a NOAA Maritime Heritage team at Midway Atoll was documenting and identifying aircraft wreckage discovered in May.

Just as Nikumaroro is now part of the Phoenix Islands Protected Area (PIPA), Midway is within the Papahānaumokuākea Marine National Monument. Both are UNESCO World Heritage Sites.



NOAA Maritime Heritage archaeologists documenting the propeller and engine from a Brewster F2A-3 "Buffalo." Open Boat Films/NOAA/Stephani Gordon.



Brewster F2A-3 of Marine Fighter Squadron VMF-221 at Midway Atoll, February 1942. From Profile Publications #217, The Brewster Buffalo.

Led by Kelly Gleason, Ph.D., Maritime Heritage Coordinator and Archaeologist, the NOAA team was able to identify the debris as components from a Brewster “Buffalo” fighter of Marine Fighter Squadron VMF-221 lost in an

accident on February 12, 1942. Most of the aircraft had been salvaged immediately after the accident, but the parts left behind and the official accident report tell a harrowing story.

Quite a Ride

The sun was already down as Marine 2nd Lt. Charles Somers returned to Midway from a routine two-hour patrol. A squall was pummeling the airfield with heavy rain and 40 knot winds as Somers lowered his wheels, lined up on the runway and began his landing approach. In the dark and the driving rain Charlie Somers got a bit too low and eight hundred feet from the runway threshold his propeller and landing gear snagged the ocean. The Buffalo pitched violently forward into eight feet of water, the nose striking the bottom as the aircraft flipped inverted. It must have been quite a ride. In the blink of an eye, Somers found himself upside-down underwater. Artifacts found by the NOAA team describe a desperate situation. The discovery of a shard of the thick bulletproof glass in front of the pilot suggests that the windshield shattered against the bottom. The control column was also found, so Somers may have had to detach it to scramble out of the cramped, inverted cockpit. Somehow he extricated himself and when the rescue party arrived they found a wet, undoubtedly embarrassed, and miraculously uninjured young Marine standing on the plane. None the worse for his dunking, Somers went on to a distinguished wartime career and retired as a Colonel.



From the wreckage found by the NOAA Maritime Heritage team it's apparent that the nose section of the aircraft – prop, engine, two cowling-mounted .50 cal machine guns and ammunition – was not recovered after the accident. Perhaps the weight was too much for the recovery gear available or maybe the nose was torn loose in the accident. In any case, what is remarkable is how little remains of what was once there.

- ◆ the light-weight aluminum cowlings are gone, apparently carried away by underwater forces.
- ◆ the prop has come off the crankshaft.
- ◆ most of the massive Wright R-1820 engine is missing.
- ◆ the guns, once together in the cowling, are more than ten meters apart.



The Midway site is not directly analogous to Nikumaroro. The Buffalo is in relatively shallow water (8 to 10 feet) on the reef flat far from the surf line at the reef edge. Although periodically subject to high-energy waves in storms, the site is well-protected compared to where the Earhart aircraft may have ended up. The available evidence suggests that the Electra was washed off the reef flat at Nikumaroro into the surf where it broke up and sank. If it came to rest in the relatively shallow water before the lip of the first cliff the wreckage was subject to forces far greater than anything the Buffalo experienced. It has often been said that “the engines have to be there” but based on the lessons of the Buffalo, that is not necessarily the case.

The good news is that the wreckage of the Buffalo is not difficult to see. There is little-to-no coral growth obscuring the shape of artifacts and the aluminum skin of the tail cone, which apparently tore loose as the plane flipped, looks remarkably pristine after more than 70 years in shallow salt water. One landing gear leg and wheel are present, ripped off

The WWII airfield on Eastern Island, Midway Atoll. The wreck site – although not shown for security reasons– is on the reef flat well inside the surf line.

The aluminum skin of the Buffalo's tail cone appears free of any significant coral growth or corrosion. NOAA/Cathy Green.

The tail cone was apparently torn loose as the aircraft flipped inverted. The tail wheel was found at the opposite end of the debris field. NOAA/Cathy Green.



in the crash, but the tire is gone. The rubber tail wheel, however, is there and shows little deterioration.

If the Buffalo is a reliable model, similar debris from the Electra in the shallow water off the reef edge at Nikumaroro should be read-

ily apparent to scuba divers, but repeated searches have found nothing. Assuming that TIGHAR's hypothesis is correct, if anything of the Electra survives it is probably somewhere in the deep water beyond the first cliff. ◆



Most of the engine is missing. NOAA/Bert Ho.



The Buffalo's Wright R-1820-40 Cyclone, was similar in construction to the Electra's smaller Pratt & Whitney R-1340 S3H1 Wasp engines.



The propeller shows the effects of striking the bottom during the crash. NOAA/Bert Ho.