

TIGHAR TRACKS

THE JOURNAL OF THE INTERNATIONAL GROUP FOR HISTORIC AIRCRAFT RECOVERY





*... that they might escape the teeth of time and
the hands of mistaken zeal.*

— JOHN AUBREY
STONEHENGE MANUSCRIPTS
1660

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ABOUT TIGHAR

TIGHAR (pronounced “tiger”) is the acronym for The International Group for Historic Aircraft Recovery, a non-profit foundation dedicated to promoting responsible aviation archaeology and historic preservation. TIGHAR’s activities include:

- ❖ Compiling and verifying reports of rare and historic aircraft surviving in remote areas.
- ❖ Conducting investigations, recoveries, and educational missions in co-operation with museums and collections worldwide.
- ❖ Serving as a voice for integrity, responsibility, and professionalism in the field of aviation historic preservation.

TIGHAR maintains no collection of its own, nor does it engage in the restoration or buying and selling of artifacts. The foundation devotes its resources to the saving of endangered historic aircraft wherever they may be found, and to the education of the international public in the need to preserve the relics of the history of flight.

ON THE COVER

A new client, Major Alton G. Miller –
aka Glenn Miller.

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A NEW CLIENT

The disappearance of an aircraft carrying an heroic figure puts a question mark at the end of a famous life. Bringing an historic aviation mystery to conclusive closure through the discovery of human remains or aircraft wreckage is sometimes possible, sometimes not, but the first step is ferreting out the facts, and laying to rest the myths, to permit the best possible understanding of what happened.

TIGHAR has performed that service for transatlantic pioneers Charles Nungesser and François Coli, and aviation legends Amelia Earhart and Fred Noonan. Our science-based investigations carried out by highly-skilled archival researchers, data analysts, aviation experts, and forensic specialists make it possible for our archaeologists and expedition teams to pursue the discovery of physical evidence. Those efforts continue.



We're pleased to announce that TIGHAR has a new client – iconic band leader Glenn Miller who disappeared on a flight from England to France in December 1944. An airplane wreck snagged, and briefly raised, by a fisherman trawling in the English Channel might possibly be the aircraft in which Miller was lost. With the support of the TIGHAR membership we have started the process of assembling and reviewing the facts of the case to determine whether further research is warranted.

FROM GLENN MILLER TO MAJ. ALTON G. MILLER, USAAF

His music was the soundtrack of the Greatest Generation and remains popular to this day. Glenn Miller dominated the Big Band era with hits like “In the Mood,” “String of Pearls,” “Moonlight Serenade” and “Chattanooga Choo Choo” when he gave up a \$15,000 per week income in 1942 to join the war effort hoping, as he put it, “to be placed in charge of a modernized Army band.” He got his wish and from September of 1944 until his untimely death, Major Alton G. Miller’s Army Air Force Band gave 800 performances for troops stationed in England.

On December 15, 1944, Miller boarded a USAAF C-64 Norseman for a flight to Paris to coordinate relocating the band to the Continent. He was never seen again. An official inquiry concluded that the aircraft went down in the English Channel, possibly due to weather, but no wreckage or remains were ever found.

The unresolved death of any celebrity is fertile ground for conspiracy theories and Glenn Miller’s disappearance is no exception. He was a secret agent for the OSS, captured by Germans, tortured, and left to die in a Paris brothel; killed in

a drunken brawl; died of lung cancer in a French hospital; mistakenly shot by an airfield sentry; etc. Mercifully, so far, he has not been captured by the Japanese.

The best-known, and most commonly accepted, explanation for the Norseman’s loss is that it was a casualty of friendly fire. In 1984, former RAF navigator T. E. “Fred” Shaw recalled seeing a small aircraft knocked into the Channel by bombs jettisoned from RAF Lancasters returning from an aborted mission. Historian and author Roy Conyers Nesbit researched Shaw’s story and found it credible. His 2009 book *Missing Believed Killed* details his investigation. Roy Nesbit died in 2014.

Dennis Spragg is the author of *Glenn Miller Declassified* published in September of this year. Drawing on numerous sources and declassified documents, his book identifies significant problems with the friendly fire theory and makes a strong case for the Norseman having gone down due to icing. TIGHAR is in touch with Mr. Spragg who has agreed to assist in our investigation.

CATCH AND RELEASE

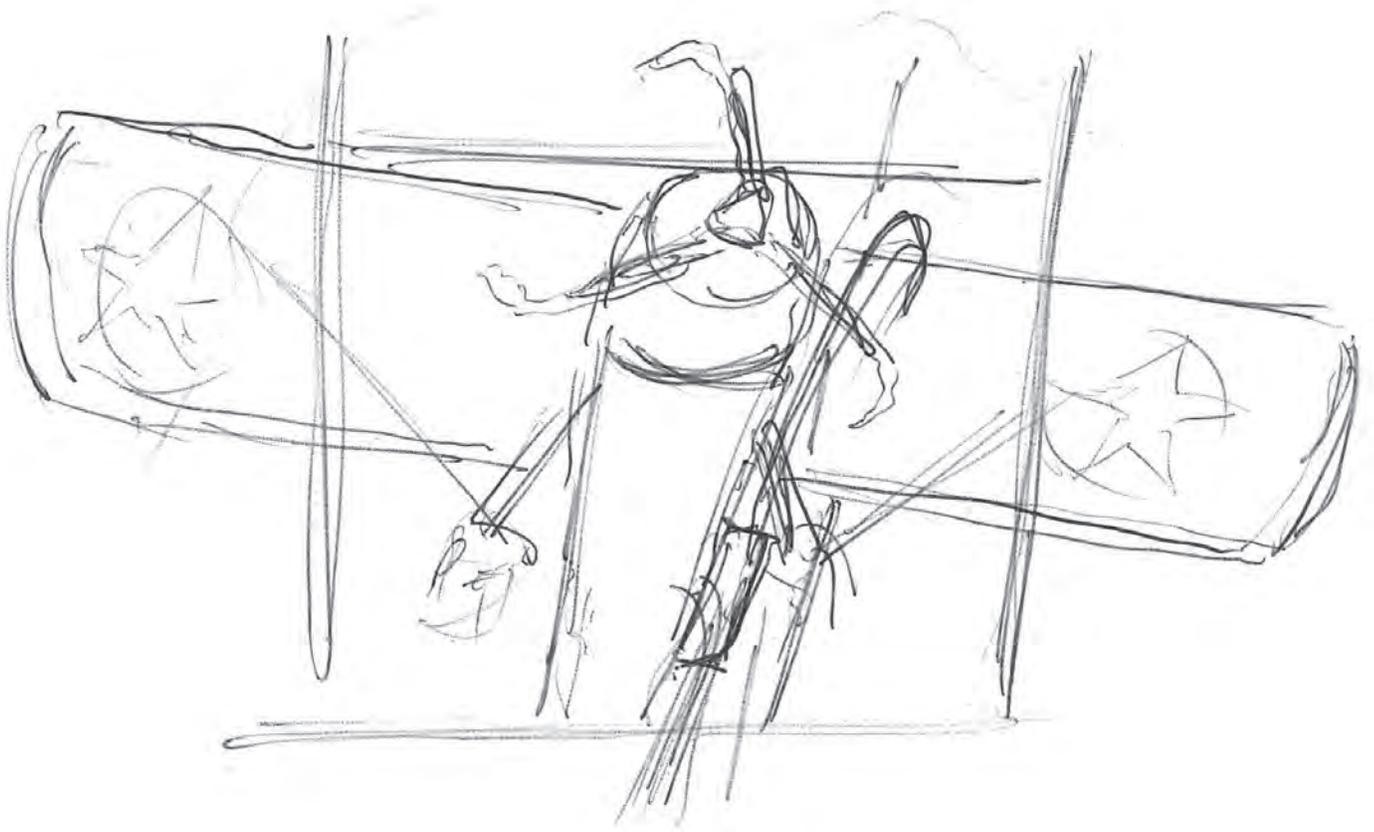
TIGHAR’s interest in the Glenn Miller disappearance stems from an incident reported to have occurred in June of either 1986 or ’87. A boat owned and captained by a man we’ll call “Mr. Fisher” was trawling for mullet and squid several miles off Portland Bill, a sliver of land protruding from the Dorset coast. At a depth of 130 feet on a smooth bottom, the net snagged on something that brought the trawler to a stop. The English Channel is littered with shipwrecks, many of which are charted and carefully avoided, but nothing was recorded in this area. Not wanting to tear up his net, Mr. Fisher judiciously tried to pull free and, after about an hour, the object broke loose. Pulling the net out of the water, he was amazed to see a small, mostly intact, aircraft dangling from the A-frame at the stern of the trawler.

Mr. Fisher is an aviation fan and a member of an RC model airplane flying club, so he was fascinated by his unexpected catch. The wreck hung there for upwards of two hours while he tried to decide whether to haul it in for scrap, try to save the nets, or cut it loose. Hauling up wrecks, especially

wrecks that may have bodies, is considered bad luck and the deck crew was getting more than a bit antsy, so the lines were cut and the plane returned to the deep, but not before Mr. Fisher made note of the boat’s position.

He thought nothing more of the incident until 2014 when the Glenn Miller mystery re-surfaced in the British press. A wartime plane spotter’s notebook brought to the popular Antiques Road Show television program was discovered to include a notation of a Norseman aircraft passing overhead on December 15, 1944. The plane carrying Miller is alleged to have been the only Norseman aloft that day and the time of the sighting seemed to match. Reading about this new information, Mr. Fisher wondered if there was any chance the wreck he pulled up might be the Miller aircraft. A friend in the RC model flying club worked as a volunteer at a major UK air museum and he arranged for Mr. Fisher to tell his story to a senior museum official.

The museum official listened with skepticism and queried Mr. Fisher about the details of what he had seen, as best he could remember. The



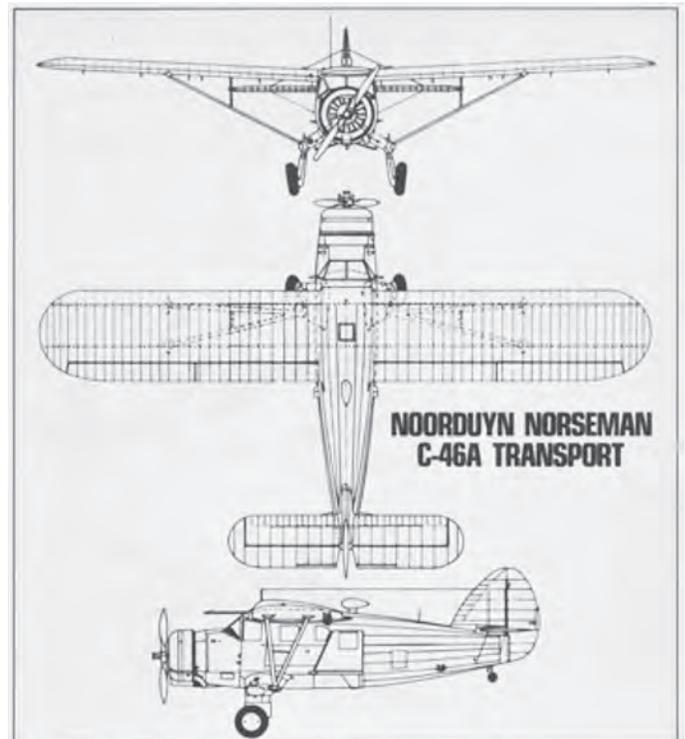
incident pre-dated the era of smart phones and there was no camera aboard the boat, so there are no photos of the wreck, but the official helped Mr. Fisher make a sketch of the wreck as it appeared hanging off the stern of the trawler, carefully avoiding “leading the witness.”

The sketch depicts a high-wing, strut-braced monoplane with fixed landing gear. The radial engine has a three bladed propeller with bent tips. Mr. Fisher remembered the color as silver with the remnants of white stars on the underside of the wing. There is a door on the port side with what Mr. Fisher interpreted as “parachute cords” streaming out.

The museum official who interviewed Mr. Fisher passed the story to his old friend TIGHAR Executive Director Ric Gillespie. “I just thought if anyone on the planet would be ‘properly’ interested in all of the correct ways and for all the correct reasons, then it should go to and start with you.” Ric is the first to acknowledge that it is the membership of TIGHAR, not its leadership, that makes the organization a powerhouse of aviation historical research. The first step was to find out if members of TIGHAR were willing to support a preliminary investigation of the Glenn Miller disappearance. The answer was a resounding, “Yes.” Responding to a TIGHAR News survey, over a hundred members

pledged donations of dollars and expertise for an initial look at the case.

Accordingly, TIGHAR researchers have begun to assemble and evaluate the known facts and balance them against the reported wreck sighting.



There were several light aircraft types in service in England during WWII but only the C-64 Norseman had a door on the port side.



C-64A 35116, delivered to the USAAF on February 27, 1943, had a two-bladed propeller.

All Norseman were powered by a P&W R-1340 – the same engine that powered Earhart’s Model 10E Electra – but some had two-blade and some had three-blade props.



C-64A 470531, delivered to the USAAF on February 9, 1945 had a three-bladed propeller.

Some C-64s serving in England in 1944 were painted green and gray. Others were silver.

The C-64A in which Glenn Miller was lost was 470285, assigned to the 35th Depot Repair Squadron at Abbots Ripton, Cambridgeshire on July 14, 1944. The aircraft pictured on page 7, 470258, was only 27 serial numbers earlier.

No American aircraft serving in England in 1944 had white stars on the underside of both wings, so that memory must be in error. Whatever the “cords” were, they were probably not parachute static lines which were used only by airborne troops jumping from large transports. However, if the sketch is an accurate representation of what



C-64A 35347, delivered to the 8th Air Force in England on February 12, 1944, was painted green and gray with black and white "invasion stripes" under the national insignia.



C-64A 470258 was assigned to the 8th Air Force, 1st Bombardment Wing 92nd Bomb Group, on June 15, 1944. It was silver with the 92nd group marking painted on the top of the vertical stabilizer

Mr. Fisher saw, he caught a Noordyun Norseman. Whether it might reasonably be the Miller aircraft is another question.

We've agreed to keep the name of the fisherman and the museum official confidential to protect them from unwanted media attention. For obvious reasons, we're not releasing the specific wreck location. If our initial review of the case indicates that there is no reasonable chance that the wreck Mr. Fisher saw was the Miller Norseman, we'll write a report and leave it at that.

If nothing disqualifying turns up and it looks like interviews and archival research in England are warranted, we'll put together a research trip for next summer and welcome the participation of Sponsor Team Members. We would begin planning for a discovery/recovery expedition only if there appeared to be a reasonable chance of success.

To continue the initial review we need your contributions to the Glenn Miller Research Fund. We'll be sending out TIGHARNews updates as the research progresses. ❖

WHAT'S PAST IS PROLOGUE

*We all were sea-swallowed, though some cast again
And by that destiny, to perform an act
Whereof what's past is prologue...*

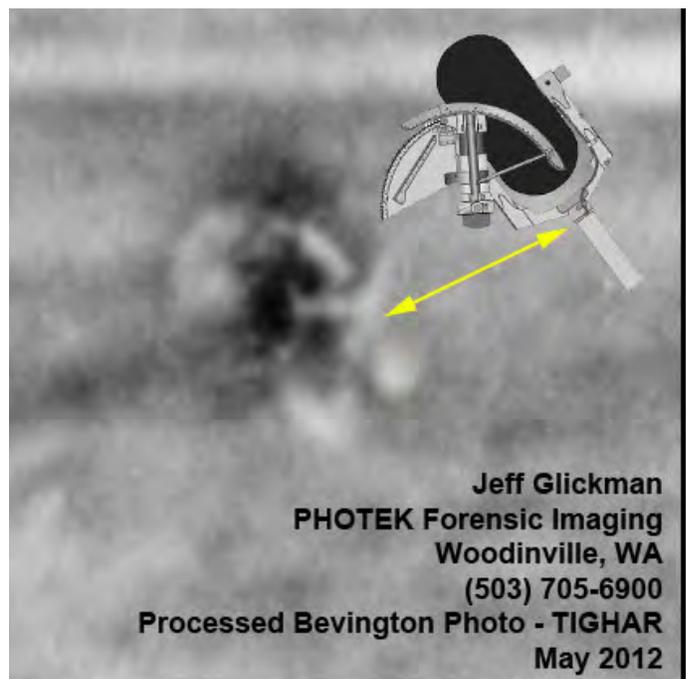
*The Tempest, Act 2, Scene 1
William Shakespeare*



On March 20, 1937 Amelia Earhart attempted to take off from Luke Field, Hawai'i for the second leg of her world flight attempt. She lost control and the Lockheed Electra ground looped, collapsing the landing gear. In the crash, the right main landing gear assembly separated, came apart, and was left behind as the aircraft slid backward on its belly.

In October 1937, as the Royal Colony Ship *Nimanoa* stood to sea after a three-day visit to Gardner Island, Colonial Service Cadet Officer Eric Bevington snapped one last picture of the atoll and the shipwreck that dominated its western shoreline. The small British expedition was evaluating the islands of the uninhabited Phoenix Group for possible future settlement. Gardner had been the first stop. It was bigger than expected and judged to be an acceptable site for a village and coconut plantation.

Unbeknownst to Bevington, his photo of the shoreline captured something sticking up out of the water on the island's fringing reef. First noticed by TIGHAR forensic imaging expert Jeff Glickman in 2010 during a routine review of historical photos, the object appears to be man-made. As detailed in "The Object Formerly Known as Nessie" (*TIGHAR Tracks*, Vol. 29 #1, February 2013), Glickman's analysis concluded that the sizes and shapes of various parts of what became known as the Bevington Object, are consistent with Lockheed Electra landing gear components. In 2011, three photo analysts at the U.S. State Department Bureau of Intelligence and Research Imagery Center reached the same conclusion. The implications are staggering. If the Bevington Object is really the wreckage of Lockheed Electra landing gear, it can only be from Amelia Earhart's NR16020 – but to most people, the image, smaller than a grain of sand in the original photo, is just a blurry blob. Accepting it as landing gear wreckage requires trusting the expertise and judgment of trained photogrammetrists.



Jeff Glickman
PHOTEK Forensic Imaging
Woodinville, WA
(503) 705-6900
Processed Bevington Photo - TIGHAR
May 2012

TIGHAR researcher Greg Daspit turned the question around. Jeff Glickman and the State Dept. photo analysts looked at the image and asked, “What does the thing on the reef look like?” They concluded, “It looks like Electra landing gear wreckage.” Greg asked, “If we put Electra landing gear wreckage on the reef and look at it from the same angle, at the time of day, does it look like the thing in the photo?”

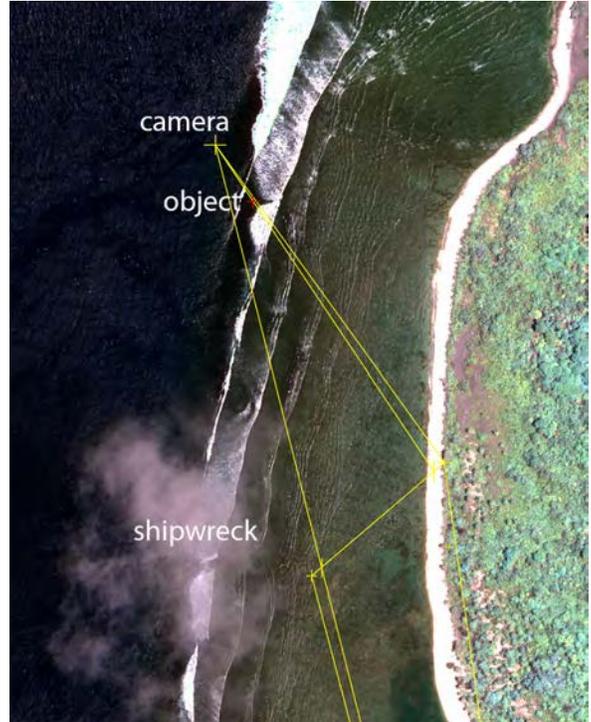
Piling Electra landing gear parts on the reef was not a realistic option, but Greg is adept at using AutoCAD (Computer Aided Design) to create 3D illustrations of structures. He reasoned that it should be possible to do a virtual test of the hypothesis that the Bevington Object is Electra landing gear wreckage.



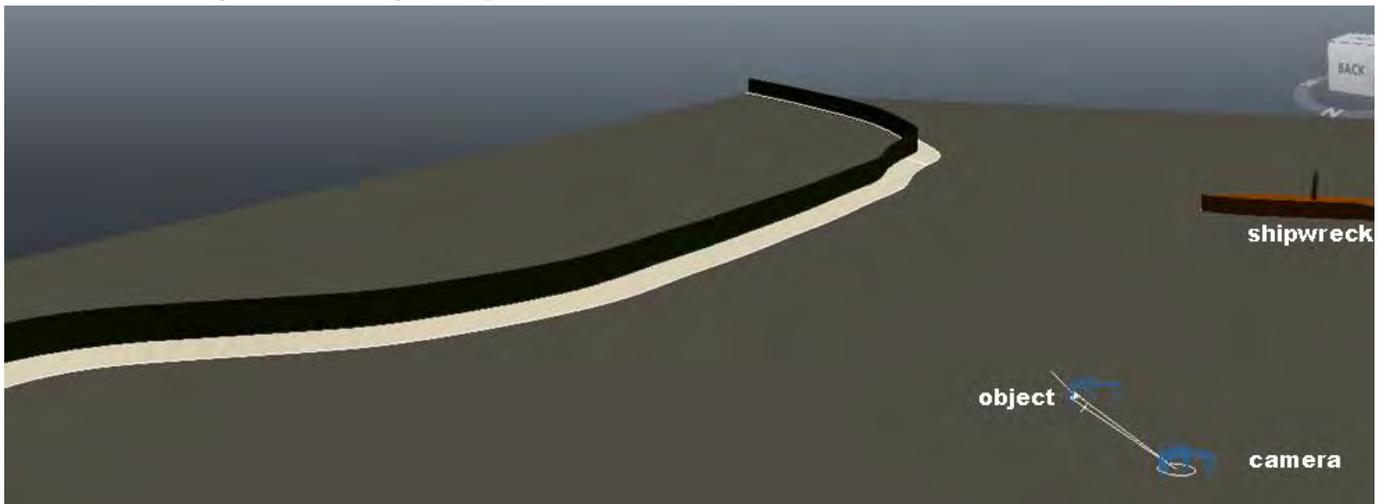
Starboard gear – outboard view.



Starboard gear – inboard view.



The first step was to build an accurate AutoCAD model of the Electra landing gear. Greg used Lockheed engineering drawing “40650 Gear Assembly” as his main source, checking his work against photos of Earhart’s



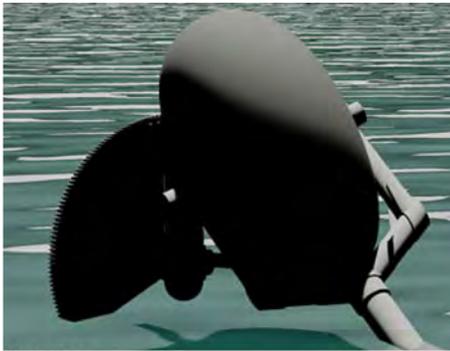
aircraft and other early Electras. With the components of the landing gear accurately modeled, Greg then arranged them in the way suggested by the photo. To place the assembled wreckage on the reef he used the location and angle of view established by Jeff Glickman. Greg went a step further and calculated the approximate height of the camera above the sea surface to make sure he was viewing the wreckage as if seen from the deck of Nimanoa.

Critical to the new analysis was the question of lighting. In the Bevington Photo, some parts of the object are dark and some are light. If the object is landing gear wreckage, the dark parts are the tire and shadows. The light parts are reflective metal in sunlight. AutoCAD has the ability to calculate and render sun shadows for 3D objects for any time and location on the earth. Was the play of light and

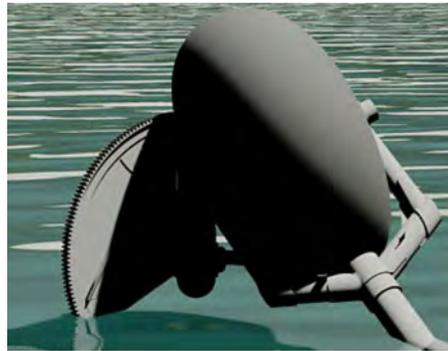
shadow on the object consistent with the hypothetical components at the time of day the photo was taken?

According to Bevington's diary, the only time when he was in a position to take the photo was when the ship was leaving the island in the early afternoon on the final day of the expedition's three-day visit. Greg had AutoCad run a series of images showing the changes in lighting on this object in fifteen-minute increments from 11:00 a.m. to 2:30 p.m. There was a problem. At no time did the areas of light and shadow match the photograph. In particular, the tire always cast a shadow on the worm gear which appears to be in full sunlight in the photo. Something was wrong.

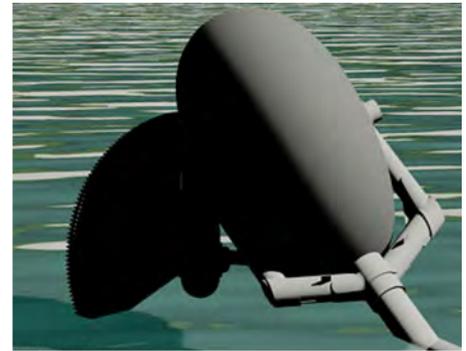
A close examination of photos of the landing gear assembly that was ripped from the airplane during the crash in Hawai'i offered a solution to the mystery. In that accident, the shaft pulled out of the sleeve of the shock strut and the worm gear tore through the tire. Greg had modeled the tire fully inflated but, if it was ruptured in the Gardener Island event the same way it was in the Luke Field event, the worm gear would be in full sunlight at 1:00 p.m.



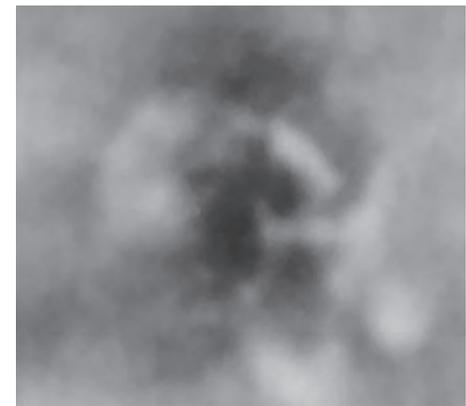
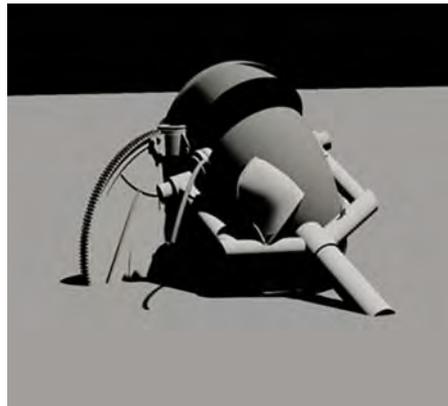
11:00 AM



1:00 PM



2:30 PM

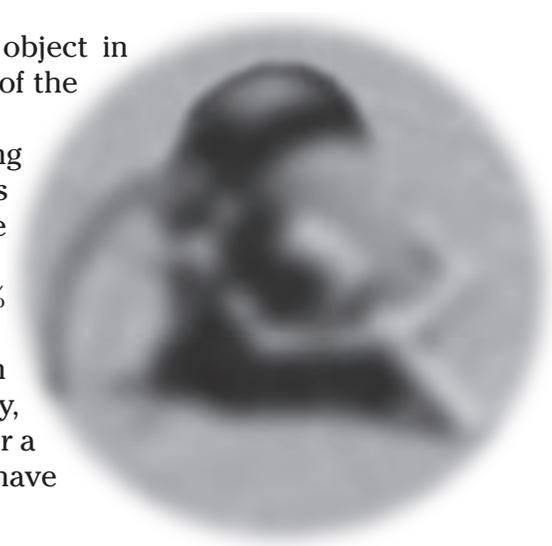


Jeff Glickman took Greg's analysis a step further. The object in Bevington's photo is a fuzzy blob and Greg's reconstruction of the landing gear is a crisp image. Do they show the same thing?

We can't sharpen the historical photo without introducing information that isn't really there, but we can degrade Greg's reconstruction. Jeff asked, "If we had a bad photo of the landing gear, would it look like the fuzzy blob?"

To find out, he subjected Greg's AutoCAD image to 20% Gaussian monochromatic noise, and 5.6 pixel Gaussian blur.

Greg asked, "If we put Electra landing gear wreckage on the reef and look at it from the same angle, at the time of day, does it look like the thing in the photo?" Not only is the answer a resounding "yes," but the landing gear on the reef appears to have come apart exactly as it did in the Luke Field accident. ❖



The Embedded Object

Is this the smoking gun we've been looking for? Maybe, maybe not – but right now it looks like the best “maybe” we've ever had. If it is what it appears to be, it's a uniquely identifiable piece of the Electra that broke off when the airplane was washed into the ocean. It became embedded in the coral and is still right where it came to rest in 1937. That's a smoking gun by anyone's definition.

On July 16, 2015 the Niku VIII dive team, working its way southward along Nikumaroro's western reef, came upon a metal object firmly embedded in the coral at a depth of 25 feet not far from the spot where what appears to be the wreckage of an Electra landing gear assembly is seen in an October 1937 photo. Logically, this would be where the plane was washed off the reef surface into the ocean.



The object embedded in the reef is 58 cm (23 inches) long and 15 cm (6 inches) wide at its widest point. The original shape of the structure is distorted by encrustations and it is difficult to tell what is metal and what is coral, but it appears to be a bar-like structure. The embedded end is larger and has protrusions. Video of the object, viewable on Youtube at <https://youtu.be/iUzNLVhOYug>, shows that it sticks out of the reef at an angle. There may be more structure under the coral on the embedded end.

An underwater metal detector confirmed that the object is metal. When the divers scratched away some of the surface encrustation with a knife, a shiny surface was exposed which, within a few seconds, turned black. When dug into with a knife, the material was somewhat soft. The divers judged the embedded object to be probably iron or steel and most likely a piece of *Norwich City* debris. It was photographed and videoed, and its approximate location was recorded by taking a GPS reading on the surface. For obvious security reasons we're not releasing those coordinates.

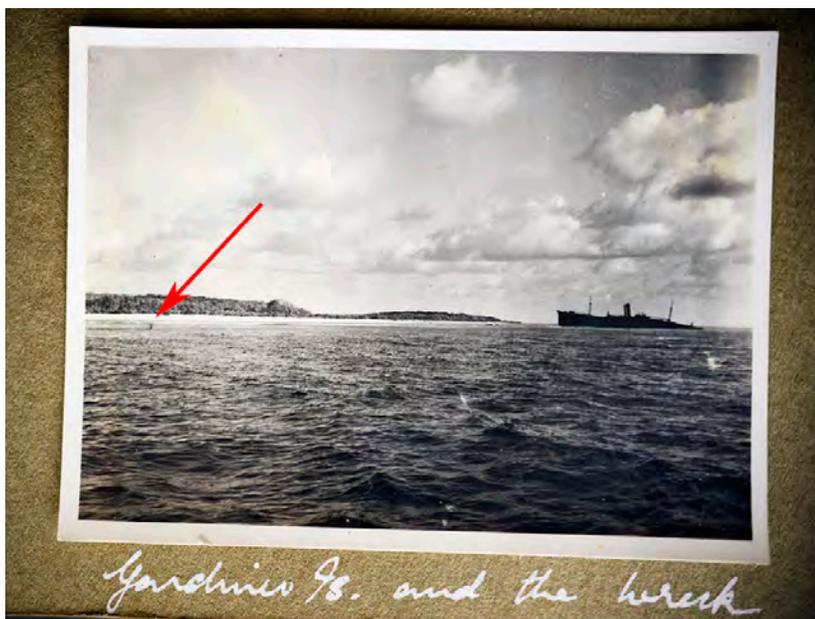


Photo taken by British Colonial Service officer Eric Bevington on October 15, 1937.

POST-EXPEDITION RESEARCH

Subsequent research often disqualifies artifacts initially thought to be exciting, while some discoveries that were initially dismissed as unimportant later become of great interest. The shoe parts we found in 1991 are an example of the former. The embedded object is an example of the latter.

After examining the entire northwest reef edge at SCUBA depth (down to 130 feet), the embedded object seems to be too far north to be wreckage from the ship. It also has a different appearance than the submerged *Norwich City* debris we've encountered further south.

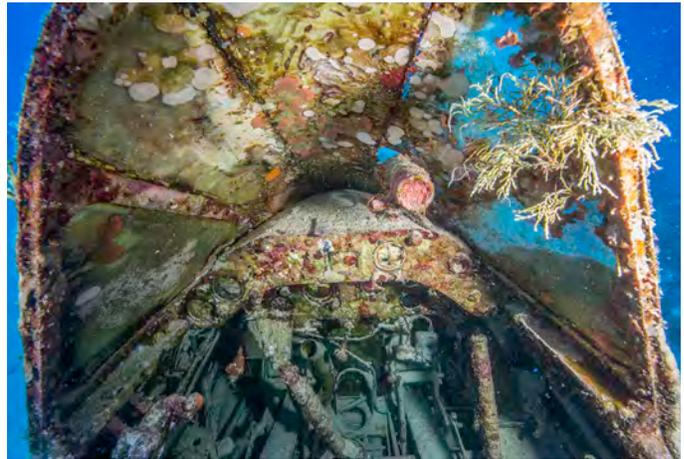


This piece of known Norwich City debris is in shallow water near the shipwreck on the reef. The surface and edges are relatively free of marine growth, unlike the photo of the imbedded object below. Photo above by TIGHAR member Keith Gordon. Photo below by TIGHAR member Steve Genkins.



A key question is what kind of metal the embedded object is made of. A magnet would have revealed whether or not it is ferrous (iron or steel), but the divers didn't have one with them. The pink and yellow marine growth on the object provides

a clue. Marine biologists say that the pink material growing on the object is probably an encrusting calcareous algae. The yellow areas are probably a type of boring sponge. Calcareous algae (aka "hard algae") are benthic (bottom-dwelling) and planktonic (drifting) algae whose thalli (growth structures) contain biochemically precipitated calcium carbonate (CaCO_3) as skeletal material. They are calcifying members of the Chlorophyta (green algae), Rhodophyta (red algae), and Phaeophyta (brown algae) groups. Some red algae are known to grow on submerged aluminum.

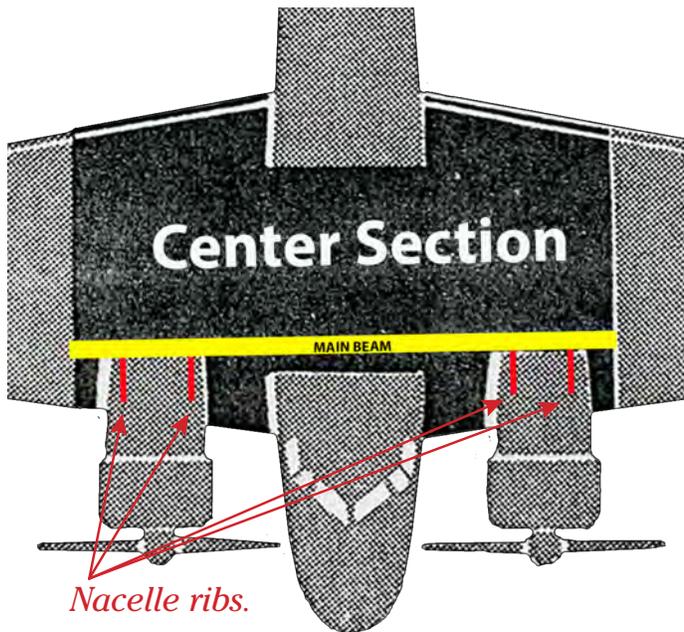


A Douglas TBD Devastator torpedo bomber in Jaluit lagoon in the Marshall Islands, lost February 1942, exhibits red/pink growth on aluminum components. Woods Hole Oceanographic Institution.

Further suggesting that the embedded object is aluminum, submerged coral-covered aluminum alloy with a high percentage of magnesium is reported to behave the way the embedded object responded to scraping – a shiny surface that quickly turns black. Based on its shape, if it is aluminum it is probably a casting.

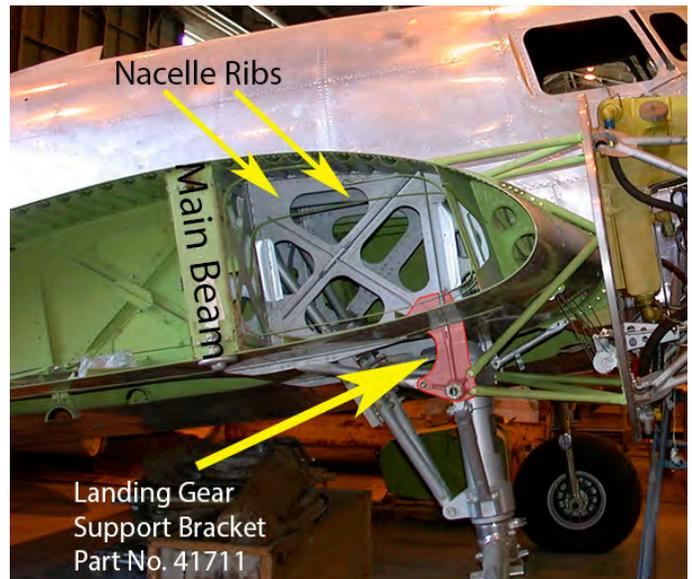
If the embedded object is cast aluminum it is almost certainly not a piece of debris from *Norwich City*. The object does appear to be wreckage – a broken piece of something – but if it's not ship wreckage, what got wrecked? Given its location just offshore the spot where the Earhart *Electra* is thought to have been washed over the reef edge, it is reasonable to ask whether the embedded object bears any resemblance to cast aluminum components on NR16020. It does.





The core of the Electra design is an area of heavy structure known as the Center Section. The passenger cabin, cockpit and nose section, empennage (tail section), and outer wing panels are lightly built structures attached to the strong Center Section. At the heart of the Center Section is the Main Beam that runs from engine to engine. Extending forward from the Main Beam are four nacelle ribs.

The nacelle ribs connect everything forward of the wing – landing gear, engine mounts, engines – to the Main Beam. The whole airplane is supported on the ground, and pulled forward through the air, via the nacelle ribs. They are immensely strong longitudinally (forward and back) but relatively weak laterally (side to side).



The Electra's retractable landing gear swings like a trapeze from cast aluminum support brackets riveted to the nacelle ribs. The photo above shows c/n 1130, a Model 10A, under restoration at the National Museum of Naval Aviation in 2004. The outboard landing gear support bracket – Lockheed Part No. 471711 – is highlighted.

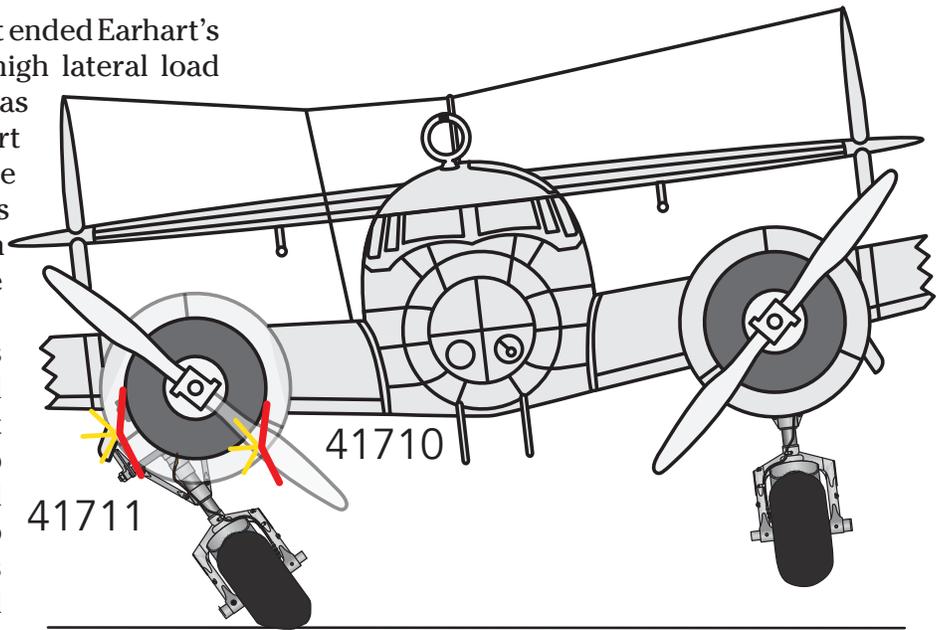


This photo shows the reverse side of Part No. 471711. It is made of cast 220 T4 aluminum alloy with a magnesium content of 10%.



The ground loop in Hawai'i that ended Earhart's first world flight attempt put a high lateral load on the landing gear which was transmitted through the support brackets to the nacelle ribs. The forward part of the nacelle ribs failed allowing the right main landing gear trapeze to disengage from the attach brackets.

As the aircraft fell on its starboard wing, the left hand nacelle ribs also failed and the left gear collapsed. The nacelle rib failures are detailed in Lockheed Report No. 490 "Nacelle Rib Splices," dated April 15, 1937. As the aircraft spun around 180° and slid backward on its belly, the right main gear assembly was left behind on the tarmac.



If the wreckage in the 1937 Bevington Photo is a main landing gear assembly that separated from the aircraft as it was washed over the reef edge, the aircraft must have suffered damage similar to that which resulted in the separation of the gear in the earlier accident. The embedded object could be a fractured Electra nacelle rib and landing gear support bracket.

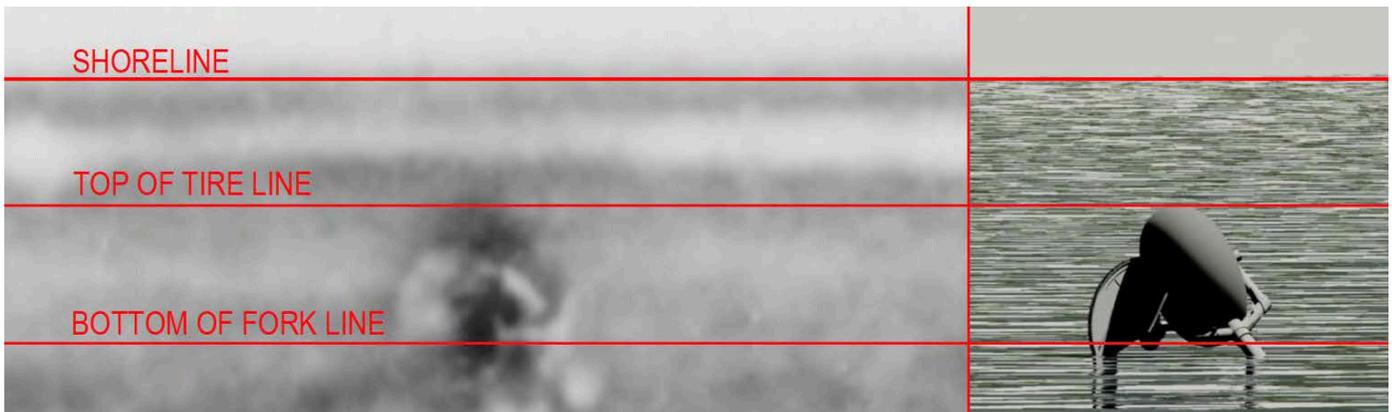


HYPOTHESIS

The following is a working hypothesis based upon the available evidence and observed phenomena.

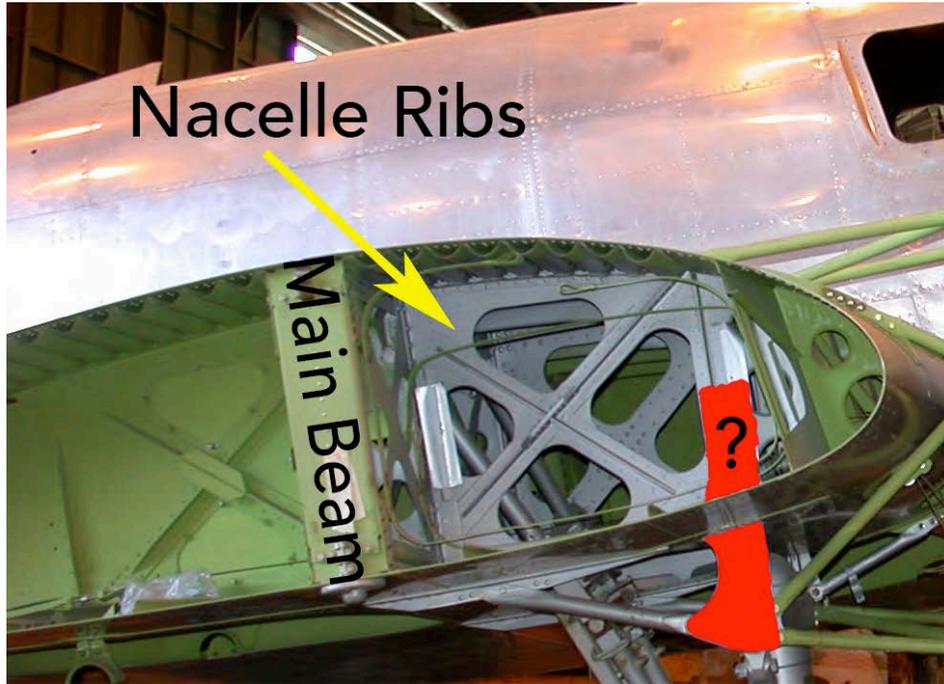


When the Earhart Electra was washed off the reef, one of the wheels dropped into a groove at the reef edge preventing the plane from weathervaning with the surf. The twisting side-load on the landing gear caused the nacelle ribs to fail much as they did in the Hawai'i groundloop allowing the gear assembly to detach from the support brackets.



We see the wreckage of that landing gear assembly in the October 1937 Bevington Photo.





The object embedded in the reef could be one of the cast aluminum landing gear attach brackets attached to a broken section of a nacelle rib.

Unless further research turns up some disqualifying factor, the only way to test the hypothesis is to recover the object. We've never before had an opportunity like this. It's not a suspicious looking sonar return or remote video image. It's a hands-on artifact. We've found some intriguing aircraft parts in the abandoned village but anything found in the village, by definition, was brought there from somewhere else. This artifact is embedded in the reef at its original location.

During last summer's Betchart/TIGHAR/National Geographic expedition, divers were unable to re-locate the embedded object despite repeated attempts. We don't know why. It certainly hasn't gone anywhere. Finding and recovering the object will be a primary mission of the Niku X expedition. 🗺️



Site: 8BY1817 (Aircraft Crash)

In describing the work performed by Contract Services director Gary Quigg in “The Invisible TIGHAR” (June 2017 issue of *TIGHAR Tracks*), we wrote:

“Sometimes, as in the case of a recently completed investigation of the 1955 crash of an Air Force jet, we’re prohibited from sharing the results of this important and often fascinating work. We’ll tell you about it if and when we can.”



We’re pleased to report that we have now received permission to make Gary’s report available. His work is an excellent example of how meticulous research can reveal the human drama and tragedy hidden in a sparse scattering of debris.

EVALUATION AND ASSESSMENT OF SIGNIFICANCE

ARCHAEOLOGICAL SITE: 8BY1817 (AIRCRAFT CRASH)

ABSTRACT (EXCERPT)

From February 21-25, 2017 TIGHAR archaeologist Gary Francis Quigg, M.A., R.P.A., conducted an assessment of significance and evaluation of archaeological site 8BY1817 on Tyndall Air Force Base (AFB) to assess the eligibility of the site for the National Register of Historic Places (NRHP). ... Methodology employed on site included visual examination, artifact analysis, text notes, and detailed measurements, as well as digital photography and video taping.

The February 2017 fieldwork confirmed 8BY1817 as a 1950s aircraft crash site with less than 5% of the subject aircraft remaining on site. Subsequent archival research determined 8BY1817 is the crash site of Lockheed T-33A-1-LO Serial Number 49-9995A which occurred on September 14, 1955 in which two United States Air Force (USAF) officers were killed. ... TIGHAR recommends the site as Not Eligible for inclusion in the NRHP due to loss of integrity resulting in an inability to convey significance under the applied criteria.

OPINION

TIGHAR offers the following opinion. This accident was an unfortunate case of a pilot encountering a situation that was beyond his current capabilities and experience. In retrospect, it was entirely predictable and preventable. A visual night approach in intermittent instrument conditions requires rapid transitioning between focusing “on the gauges” and outside the aircraft while maintaining correct airspeed, rate of descent, and navigation. Some fault also lies with the aircraft traffic controller who should have guided the pilot through a full ground controlled instrument approach that would not have required the low level, low speed turn that resulted in the crash of T-33A #49-9995A.

The full report is now on the TIGHAR website in the Contract Services section. Only specific references to the crash site location have been redacted.

VOYAGE TO THE BOTTOM OF THE SEA

On October 27, 2017 more than fifty TIGHAR volunteers took a voyage to the bottom of the sea off Nikumaroro via a real-time high-definition video feed from a state-of-the-art ROV deployed from R/V (research vessel) *Falkor*.

The Schmidt Ocean Institute was conducting a survey of the deep corals of the Phoenix Islands and, thanks to long-time TIGHAR friend and colleague Randi Rotjan, Ph.D., Chief Scientist of the Phoenix Islands Protected Area Conservation Trust, the dive at Niku was carried out in TIGHAR's search area off the west end of the atoll.

ROV SuBastian was sampling, not searching, but there was a chance it could stumble across aircraft wreckage – so while the marine biologists aboard R/V *Falkor* studied sea creatures, TIGHAR members kept an eye out for man-made objects. No airplane debris was immediately apparent but it was amazing to sit at our home computers and watch live events more than a thousand meters (3,280 feet) underwater on the far side of the world.

The entire ten and a half hour mission is viewable at <https://www.youtube.com/watch?v=bfcE2BWAYNE&t=24s>

R/V *Falkor* also collected multi-beam sonar imagery of the sea bottom topography (bathymetry) at Nikumaroro at resolutions higher than we were able to get during our 2012 expedition. We'll be reviewing those data as soon as they are available. ❖

SuBastian encountered this unusually large Dumbo Octopus (Grimpoteuthis) at a depth of 1,031 meters. Screenshot from SuBastian Dive 081 –Nikumaroro.



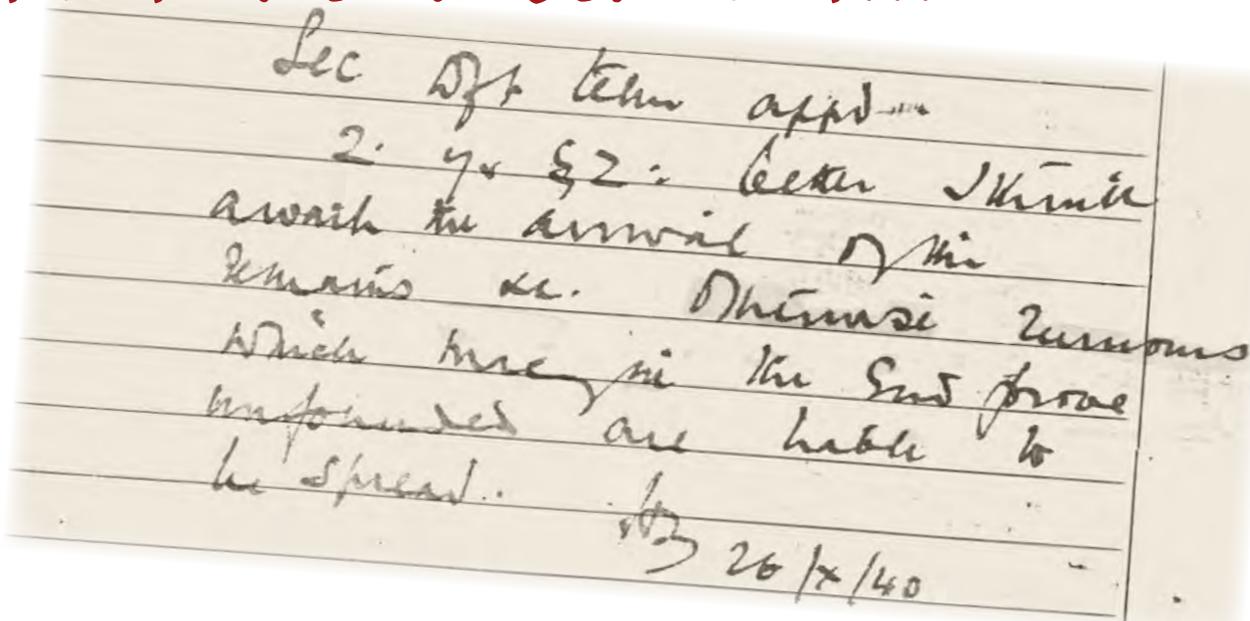
R/V Falkor's track at Nikumaroro. October 27, 2017. Image courtesy Schmidt Ocean Institute.



Remote Operated Vehicle SuBastian. Photo courtesy Schmidt Ocean Institute.



As a service to Scholars...



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... and the rest of us, we have completed an extensive overhaul and expansion of the “Bones Chronology,” Research Document #12, in the Archive section of the TIGHAR website.

Lost to history until discovered in the Kiribati National Archives in 1997, and the Western Pacific High Commission Archives in 1998, the files detailing the British investigation of the bones and associated objects found on Gardner Island (now Nikumaroro) in 1940 are possibly the most important documents ever uncovered in the search for an answer to the Earhart riddle. As such, we felt that it is essential they be made publicly available not only as transcripts but as interactive images of the original documents and easy-to-read facsimiles. Researchers can now examine each document in Gerald Gallagher’s file “Discovery of Human Remains on Gardner Island” and each document and notation (“minute entry”) in the WPHC file “Skeleton, Human – finding of, on Gardner Island” as a combined chronology or as separate chronologies (Gallagher’s file contains messages that were never seen by the WPHC).

The new format makes it easier to track not only who knew what and when, but to appreciate the nuances of an investigation that reach a tragically flawed conclusion. ❖

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In The 80th Year...

The year 2017 marked the 80th anniversary of the disappearance of Amelia Earhart and Fred Noonan – and it was a busy one.

In March and April the \$3,000,000 Eustace Earhart Discovery Expedition searched 725 square miles of ocean bottom northwest of Howland Island. Nothing related to the Earhart aircraft was found. This was the fifth fruitless multi-million dollar sea-floor search for the Electra in the waters near Howland.



In June and July, TIGHAR's Niku IX expedition, conducted in cooperation with Betchart Expeditions, the National Geographic Society, and the Institute for Canine Forensics, used four forensic dog teams to confirm the specific location at the Seven Site where the castaway died. Efforts to locate bones that could be tested for DNA were not successful.

On July 9th the History Channel aired a much-hyped two-hour special titled "Amelia Earhart, The Lost Evidence." The centerpiece of the show was a photograph said to show Amelia Earhart and Fred Noonan in Japanese custody. TIGHAR was instrumental in debunking the photo even before a Japanese historian discovered the image in a Japanese travel book published two years before Earhart disappeared. The History Channel pulled the show and promised an investigation and report.



In October, TIGHAR circulated a 500 signature petition demanding that the History Channel either produce the promised report or broadcast an apology. The History channel did not respond.

Throughout 2017, TIGHAR worked closely with anthropologist Richard Jantz, Ph.D., forensic imaging specialist Jeff Glickman, the Smithsonian National Air & Space Museum, and Purdue University to collect forensic data on Amelia Earhart's physique for comparison to the measurements made of the castaway bones in 1941. Dr. Jantz's peer-reviewed paper "Amelia Earhart and the Nikumaroro Bones: A 1941 Analysis vs. Modern Quantitative Techniques" will be published in the *Journal of Forensic Anthropology* in January.



Meanwhile, the research and writing of TIGHAR's forthcoming book on the Earhart Electra is moving forward as fast as time and funding permit. Contributions to the TIGHAR Literary Guild will help bring the book to publication as soon as possible.



Year-End Business

We send out receipts for donations via email. Each receipt has the date of the gift, the amount, and what portion of it is tax-deductible. If you are missing any receipts, or would like to have a single report of your contributions to TIGHAR in 2017, please email us at info@tighar.org and we'll get it out to you.

Any time you need information about your membership, a project, or an order, do not hesitate to call us. We keep standard business hours, Eastern U.S. time.

Thanks for all your support this year!



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IN THE MOOD?

If you're in the mood, join our American patrol, put on your string of pearls, grab your little brown jug, and hop on board the Chattanooga Choo Choo to Tuxedo Junction where you can help TIGHAR explore the fate of Maj. Glenn Miller.

Phase One of our investigation is well underway and we're already finding that, as is so often the case, the "accepted" and most popular explanations for Miller's disappearance don't hold up to scholarly scrutiny. Whether research in England or an eventual recovery expedition is warranted is yet to be determined, but to continue our work we need your support.

Please contribute what you can to TIGHAR's Glenn Miller Research Fund.



Donate to the Glenn Miller Research Fund



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Writing Up A Storm

FINDING AMELIA the true story of the Earhart Electra



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Thanks for your help.