

Cape Porpoise Mariner Searches for Earhart Plane

by Anita Matson

An 80-year-old mystery has captured the attention of a Cape Porpoise resident who believes that not only can it be solved but also that he might hold the key to the answer.

On June 1, 1937, Amelia Earhart and her navigator Fred Noonan took off from Miami in a twin-engine Lockheed Electra 10E to begin a 29,000-mile trip she hoped would set a distance record for a woman circumnavigating the earth at the equator.

On June 29, Earhart and Noonan set out from Lae, New Guinea; they had completed 22,000 miles of their trip already. Their objective was to reach Howland Island, a dot in the vast Pacific only a mile and a half long and a half-mile wide. The U.S. Coast Guard cutter *Itasca*, their radio contact, was stationed just offshore.

On the morning of July 3, as the pair neared Howland Island, communication with the *Itasca* became spotty. At 8:45 AM, Earhart reported, "We are running north and south." Nothing further was heard from her.

A massive search was undertaken. To this day, her disappearance remains one of the most intriguing and enduring mysteries of the 20th century.



Amelia Earhart with her plane, an Electra, which disappeared in the Pacific Ocean on July 3, 1937, with Earhart and her navigator on board. David Jourdan, of Cape Porpoise, has led several expeditions to find her plane and solve the mystery of its disappearance.

This is where David Jourdan of Cape Porpoise steps in. In 1986, he started *Nauticos*, which engaged in deep-sea recoveries, ocean exploration and technology.

In 1997, Jourdan was introduced to the search for Amelia Earhart when his path crossed that of Elgen Long. Long, a World War II veteran, became fascinated with Earhart's disappearance because he had flown many missions over the same waters during the war. (He, too, was a record setter, having flown solo around the world over the Poles in 1971.)

Long and his wife Marie had collected historical information and concluded that Earhart and Noonan ran out of gas and crashed within 52 miles of Howland. Their work spanning 25 years of research culminated in their book, *Amelia Earhart: The Mystery Solved*.

"WGBH Nova in Boston was planning a program based on the Long's research and in the process of validating their ideas came to me because of my company's work in deep-sea exploration," says Jourdan. "I became very impressed with the Longs' research

and analysis and thought I could find the plane."

In February 2002, Jourdan, Elgen Long and their team set out from Hawaii on the research vessel *Davidson*.

Jourdan says, "Howland Island, a U.S. territory, is very remote, near the intersection of the equator and the international date-line. It takes about a week to get there by ship."

Using a deep-ocean side-scan sonar, *NOMAD*, which was towed at the

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end of a 10,000-meter steel-armored fiber-optic cable, the team was able to survey a one-mile wide swath of the ocean floor. "From February to April," Jourdan says, "we covered about 600 square miles, about the area of Rhode Island."

In 2006, his second expedition on the Mt. Mitchell was funded by an educational foundation at a cost of \$2.8 million and took 49 days. Jourdan says, "We covered about the same amount of territory, so we now have explored an area twice the size of Rhode Island."

Ten years later, in late 2016, Jourdan was able to secure financing for a third expedition. The source of the funds was retired Google executive Alan Eustace, with whom Jourdan developed a friendship after assisting in Eustace's successful manned stratospheric balloon launch (see sidebar).

In mid-February, Jourdan boarded the Singapore-registered *Mermaid Vigilance*, a multipurpose vessel used primarily to support offshore oil drilling rig. The crew numbered 16, and the Nauticos team added 20 members, including Eustace who was on board to participate in the exploration.

A major development in equipment over the preceding ten years significantly increased the capabilities and reach of the mission. This voyage was equipped with a REMUS 6000, operated by the Woods Hole Oceanographic Institution. The Autonomous Underwater Vehicle (AUV), which weighs 1900 pounds and is 12 1/2 feet long, represents the latest in advanced deep-water search technology.

Unlike the towed sonar used in 2006, which was tethered to the surface vessel by a massive cable, AUVs swim freely. REMUS can dive to a depth of nearly 20,000 feet and can stay down almost a full day before it must return to the surface for fresh batteries.

Before a dive, called a sortie, the vehicle is given a mission plan by its operators specifying a search pattern and what sensors to use. Once in the water, REMUS is on its own and must navigate, follow terrain and avoid obstacles autonomously. If something goes wrong, it must sense the problem and take action to return safely to the surface without human intervention.

During the month and a half at sea, Jourdan estimates they mapped an additional 700 square nautical miles. "The ocean floor

covered in all the work undertaken in this area covers an area the size of Connecticut. These were sections of the ocean that had never been mapped before, and we shared information with NOAA that included a marine sanctuary under its auspices," says Jourdan.

While Earhart's plane was not found, Jourdan says, "I think it is still very possible. The ocean has the right conditions that favor preservation. There are no tides or currents to move it, no silt, and no dredging can get that deep. The temperature of the water is at or near the freezing point. I don't expect the aluminum construction of the plane to rust like steel, so the plane should look like new."

Jourdan still hopes to find funding to launch another expedition. "I know what to do. There is still more area to search. Statistics point to the wreckage being within a 6000-square-mile area and sitting at a depth of 17,000 feet," says Jourdan. He sees the mission as an ocean exploration venture with scientific and educational opportunities – not just a search for the plane.

"For me, this is an ambition, not an obsession. As a scientist, I think it's an achievable goal. It's an honest endeavor, and I believe that the plane can be found," says Jourdan.

David Jourdan, Intrepid Explorer



Dave Jourdan, second from left, is pictured above with other members of the Explorer's Club holding expedition display flag #114, first flown in 1944 in Alaska. Other members pictured are, from left, Bill Mills, Alan Eustace and Elgen Long. photo by Marika Lorraine

by Anita Matson

"Not many people have had the privilege of working on a project 20,000 feet below sea level and more than 120,000 feet above," says David Jourdan of Cape Porpoise and one of the world's experts in undersea exploration.

A Fellow of the Explorers Club, Jourdan is an expert in the exploration of undersea environmental data and has supported many scientific, archaeological and military programs. He has written about diverse technical topics including underwater navigation, oceanographic survey, remote sensing, underwater vehicles, ocean exploration and ocean renewable energy.

Jourdan is a graduate of the U.S. Naval Academy at Annapolis, Maryland, and Johns Hopkins University and an ocean engineer. He was on five Atlantic patrols as a Navy submariner on the *USS Kamehameha* during the Cold War.

Nauticos, the company he started in 1986, was devoted to the exploration of the deep ocean, engaging in deep-sea recoveries, ocean exploration and technology. Its team found, at 10,000 feet, the deepest ancient (300 B.C.) shipwreck in the Mediterranean and also salvaged the Israeli submarine *Dakar*, which disappeared in 1968 with 69 Israelis on board. In 1999, Nauticos brought up the four-ton bridge fin, now a memorial in Haifa.

In the Atlantic, the Nauticos team discovered the Japanese aircraft carrier *Kaga* and the Japanese World War II submarine *I-52*, both at depths exceeding 17,000 feet. Jourdan also managed ocean operations for *The Discovery Channel* during

the live broadcast from the wreck of the *Titanic* in 1998.

"The exploration of space is also certainly fascinating to me," says Jourdan. He is a member of the Sea-Space Symposium, a group of ocean and space professionals joined by the idea that there is a shared interest in technologies and exploration in both deep sea and deep space – a common passion although in different directions.

Through that group, he became involved with Paragon Space Development, a world leader in designing and manufacturing life support systems in Tucson, Arizona (www.paragonsdc.com).

"A few years ago I took on a project with them involving manned stratospheric balloon launches," says Jourdan. "The project ended October 2015 with a record-breaking space jump. We lofted a 'stratonaut' into near-space and sent him to 136,000 feet."

The "stratonaut" was Google executive Alan Eustace. He was sent up using a balloon. Reaching the apex of the ascent, he unclipped from the balloon, going into free fall for 123,000 feet and reaching speeds in excess of 822 mph, breaking the sound barrier, and then parachuting back to earth. Eustace became the financial backer for Jourdan's latest trip to the Pacific.

Jourdan has written three books: *The Search for the Japanese Fleet*; *Never Forgotten: The Search and Discovery of Isra-*

el's Lost Submarine Dakar; and *The Deep Sea Quest for Amelia Earhart*.

Currently he is working on a fourth book about the sinking and discovery of the WW II Japanese submarine *I-52*, which was carrying cargo, including gold, to Germany in 1944. He is also hoping to finalize a joint expedition to map the entire Battle of Midway site and, of course, return to search for Amelia Earhart.

For more information about Jourdan, his books and projects, visit www.nauticos.com.



Jourdan partnered with Paragon Space Development to help develop a self-contained spacesuit and recovery system that would allow manned exploration of the stratosphere above 100,000 feet.



photo by Jeff Morris

The research vessel *Mermaid Vigilance* during search operations in the central Pacific.



photo by David Jourdan

The Remus autonomous underwater vehicle operated by the Woods Hole Oceanographic Institution is readied for deployment to search the sea floor 18,000 feet below.