MISSING FLIGHT 19: AN ENIGNA

by Mary McGreevy

The one event in Broward County history that is probably best known to the nation as a whole is the disappearance of fourteen servicemen on training flight 19 from the Fort Lauderdale Naval Air Station on December 5, 1945. The lost flight and the massive search which followed triggered an avalanche of speculation as to the cause of the mishap and the fate of the lost fliers, and emerged as key elements in the legend of the "Devil's Triangle."

In this article, author Mary McGreevy summarizes a wide range of accounts of the flight's disappearance, from contemporary newspaper articles and naval reports to recent studies and conjectures. Her analysis places the event in its historical context, discusses probable causes of the tragedy, and recounts its enduring legacy, both as history and legend.

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The "Bermuda Triangle" or "Devil's Triangle" is a mythical geographic area located off the southeastern coast of the United States. It is noted for an apparent high incidence of unexplained losses of ships, boats, and aircraft.

The United States Coast Guard does not recognize the existence of the Bermuda Triangle as a geographic area of specific hazard to ships or planes. There has been nothing discovered in a review of the many aircraft and vessel losses in the "triangle" area over the years that would indicate that the casualties were the result of anything other than physical causes. No extraordinary factors have been identified.¹

During the last century and a half, however, more than forty ships and twenty airplanes have carried almost 1,000 human beings into this misty limbo of the lost. Until the late 1940s, each incident was considered merely a baffling individual event. But then the pattern became obvious to a number of observers: a remarkable number of vessels were vanishing under similar circumstances in a relatively small patch of ocean.²

Ever since the first seamen set sail thousands of years ago, the vast and capricious oceans have been the source of myth and mystery. When Christopher Columbus first reached the Sargasso Sea, midway across the Atlantic, his superstitious crew feared its thick yellow, brown, and green seaweed would trap them forever. Far more contemporary is the fear of the Bermuda Triangle, an amorphous area located somewhere southwest of Bermuda. In recent decades, scientists, journalists, and students of supernatural phenomena have speculated on the causes of its high rate of unexplained disappearances. Author Ivan T. Sanderson postulated that the Bermuda Triangle is one of a dozen areas called "vile vortices." Another infamous one is the "Devil's Sea" off the coast of Japan, where little-understood forces are said to cause ships to vanish without a trace. Even airplane pilots flying over these areas have reported malfunctioning gyros, dead radios,



The legend of the "Bermuda Triangle" or "Devil's Triangle," pictured here, was bolstered by the disappearance of Flight 19 from Fort Lauderdale.

visual anomalies, and inexplicable time warps.3

On Wednesday, December 5, 1945, the Fort Lauderdale Daily News warned that a sharp drop in temperature to about thirty-eight degrees might occur by 7:00 a.m. Thursday morning. The weather in the state was unsettled, with a freak squall reported in the south, while "snow flurries speckled" the north. The temperatures for the day included a low of sixty degrees and a high of seventy-two degrees in Miami with a rainfall of .34 inches, and about the same temperatures and rainfall in West Palm Beach. No reading was given for Fort Lauderdale on that date.⁵ Whether or not weather was a determining factor in the occurrence that brought forth the large, black-lettered headlines on the following day is not at first clear.
"FOURTEEN NAS AIRMEN MISSING: Search Launched For Lost Planes" announced the Daily News headlines on Thursday, December 6, the day after the planes disappeared. Staff writer Luke Warren reported that "Commander Howard S. Roberts, NAS Executive Officer, advanced the theory that the [missing] flight of five bombers was blown



off the course by strong winds, and [had] exhausted a five-hour fuel supply over the Ocean off the East Coast."6

Missing Flight 19 had taken off from United States Naval Air Station (NAS) Fort Lauderdale at about 2:10 on the afternoon of December 5. It consisted of five TBM Avenger torpedo bombers on an authorized, advanced navigational training flight. The prospective course was a triangular one over the North Atlantic involving the following navigational problem:

- 1. Depart NAS Fort Lauderdale, 23° 30' N. and 80° 7' W. and fly 091° course distance fifty-six miles to Hens and Chickens Shoals to conduct lowlevel bombing, and after bombing, continue on course 091° for sixty-seven miles.
- Fly course 346° for seventy-three miles.
- Fly course 241° for a distance of 120 miles, returning to NAS Fort Lauderdale.⁷

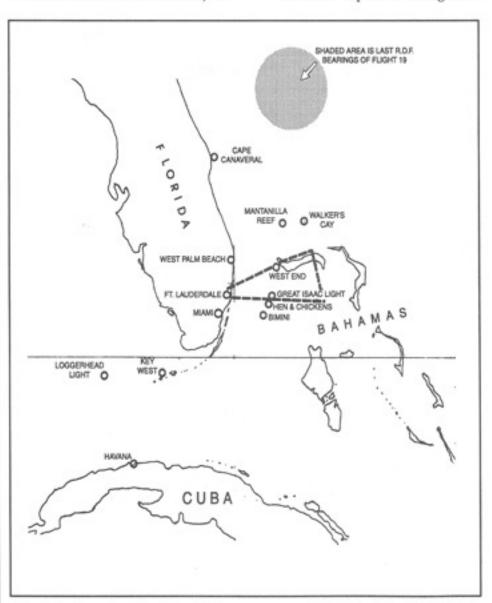
Estimated time of arrival was approximately 4:10 p.m. — a two-hour mission.

A triangular course is the easiest for either an airplane to fly on a training mission or for a sailboat to race. It is also the most frequently used course — three legs, two turns. and home - and considered hard to fail. Yet this Flight 19, under the experienced command of flight instructor and leader Lieutenant Charles C. Taylor, along with experienced and advanced student pilots, made a spectacular failure, one that would not be forgotten in the subsequent years. Compared to the simplicity of the mission, the complete disappearance of all five planes without a trace and without a known cause was so unbelievable that an aura of mystery and incompleteness shrouded the incident. Adding to the incredulity of the situation was the disappearance of one of the "rescue" planes, a Martin Mariner, one of two search planes that left Banana River Naval Air Station. During the extensive search and for nearly fifty years afterwards, no trace of debris or certain report of the fates of these six aircraft has been found or determined.

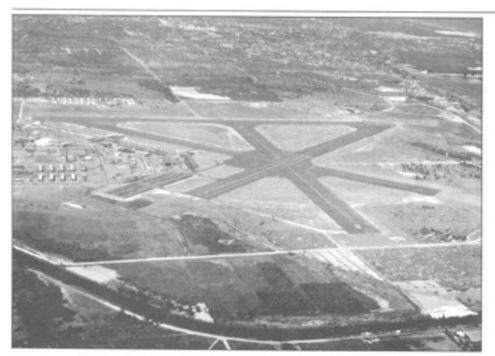
The mysterious disappearance of these six planes has fired the fuels of legend, myth, and superstition, and become a major element in the legend of the Bermuda Triangle. Sea captains, pilots, and crews are known for their superstitions and awe of the mysterious, though to a lesser extent in the age of flight recorders, more precise weather forecasting, and information on airstrip conditions.

The mystery soon captured the attention of the public as well, and was heightened by various accounts, some true and others more imaginative, of surrounding events. According to Lawrence Kusche, who has written much about the incident, one reason for the legend about the incident of the disappearing planes is that the U.S. Navy issued orders for all vessels crossing the area to continue to watch for debris and survivors, and that "the order is still in effect to this very day!" As Kusche points out, this statement almost makes it seem as if the Navy still has hopes of finding something after all these years. Such is not the case. As standard procedure, part of the announcement of the termination of every search includes the phrase that travelers in the area should remain on the alert. The statement is, therefore, itself part of the order cancelling the search.8

Another aspect of strangeness



Map showing the trianing flight course on which the 'lost flight' disappeared, and the flight's last approximate bearings (courtesy of John Evans).



Aerial view of Naval Air Station Fort Lauderdale, looking northeast (courtesy of John Evans).

surrounding the loss of the planes and their crews was the feeling of foreboding felt by crewmen before the take-off. Two of the men had asked to be relieved of the duty that afternoon; one of these was Lieutenant Taylor himself. According to Lieutenant Arthur A. Curtis, aviation training officer at NAS Fort Lauderdale, Taylor had asked him at about 1:15 p.m. to find a replacement for the 2:00 p.m. training exercise. Curtis replied that there was no replacement pilot available. Thus Taylor lost his life on a flight he had wanted to avoid. Curtis also reported nothing unusual about Taylor's behavior; he had not been ill or inebriated, for example. It has been surmised that some apprehension or anxiety may have dictated his last-minute request. Posterity can only guess what was in his mind.9

Not so was the case of the second man, Marine Corporal Allen Kosner. When it came time for a preflight briefing, Kosner managed to get himself excused easily because he had completed his required flight time for that month. When he visited the site of the NAS base some twenty-four years later, he said, "For some strange reason that I can't explain, I decided not to go on the flight that day." Kosner was one of the crew of two men assigned to each of the five planes, and his plane, the Avenger captained by Marine Lieutenant Forrest Gerber, was missing one crew member. The number of men in Flight 19 then numbered fourteen.

On Thursday, December 6, 1945, the lead article in the Fort Lauderdale Daily News reported that "hundreds" of air and surface craft were involved in the search for the missing planes. Another headline on the same page announced, "Units of Navy, Army, Coast Guard Scour Sea for Lost NAS Aircraft." The search was directed from Coast Guard Headquarters of the Seventh Naval District in Miami. Was this the greatest air and sea search in this area's history, as the article reported?11 The search extended approximately 200 to 300 miles east into the Atlantic and more than 400 miles from north to south. In a letter of November 18. 1960, Lieutenant Commander Edmund L. Castillo, Department of the Navy, wrote that the search was "extensive;" however, the exact determination of its size could not be made:

The search area was in the area adjacent to 28° 59' N latitude and 80° 25' W longitude. The search is described as one of the most thorough and extensive

By Friday, December 14, 1945, the search had been abandoned and memorial services were announced for the following Thursday in the Naval Air Station auditorium. Father John J. O'Looney of St. Anthony's Catholic Church in Fort Lauderdale and Chaplain Courage of the Naval Air Station officiated. Fourteen American flags symbolizing the loss of fourteen men from the base decorated the room, the NAS flag was flown at half mast, and all work at the field was halted during the services. 13

From the newspapers for the rest of December 1945, it is clear that many plans were made for a festive. post-war Christmas. But the city of Fort Lauderdale always remained close to the base, and the incident cast a pall over plans for a joyful holiday season. Personnel at the base were especially affected by the loss of so many of their members, and added to this cause of dismay was fear of crowded travel conditions which threatened to detain servicemen who wished to travel north for Christmas. The Fort Lauderdale Daily News attempted to assist by asking civilians traveling north to offer rides to men from the base. In addition, the newspaper's lead Christmas editorial cajoled readers to forget war and plan a good time with families who had fathers returning from military service. Not all servicemen were home. however. Some of the men at the Fort Lauderdale Naval Air Station had not been home for over three years, and many families had members missing who would never return. There were reasons not to forget the war and its allied tragedies such as the missing Flight 19. The bereaved sought to celebrate the honors and distinctions of the men who were gone, and to preserve their memories for the future.

Such a positive remembrance



Monument to the missing men of Flight 19 at Fort Lauderdale-Hollywood International Airport, on the site of the Naval Air Station (photo by Mary McGreevy).

certainly came to pass for the men lost on Flight 19, largely as a result of the efforts of Allan McElhiney, president of the NAS Fort Lauderdale Historical Association. "We try to remember as many as we can," he is quoted as saying in a newspaper article reporting a December 1992 ceremony at the Fort Lauderdale-Hollywood International Airport, former site of the Naval Air Station. The occasion was the tenth ceremony honoring the fourteen vanished fliers, now referred to as "The Lost Patrol."14 At that time, forty-seven years after the event, a memorial was dedicated to the missing men, and plans were made to honor them on December 5 each year. The 1993 ceremony included a military parade and honor guard and addresses by naval officers and civilian dignitaries.15

For many people, however, the flight is remembered chiefly for the mystery which surrounds it. Many books and articles have been written about the tragedy, but little additional factual information has been

added. In fact, all that is really known comes from the transcripts of the planes' radio transmissions, and even these are not clear and lead to conjecture and controversy. The Navy's investigation of the incident took several months and resulted in a 400-page report, which did not place all radio transmissions together in a meaningful order, according to Larry Kusche, who tries to do this in his book The Bermuda Triangle Mystery Solved.16 There is also a brief report on the incident available from the Information Service of the United States Navy. Putting these two sources of information together, we find a probable sequence of events. The Navy report states:

A radio message intercepted at about 4:00 pm was the first indication that Flight 19 was lost. This message, believed to be between the leader on Flight 19 and another pilot in the same flight, indicated that the planes were lost and that they were experiencing malfunction of their compasses.¹⁷

This radio message was transmitted on radio frequency 4805 around 3:40 p.m. to Captain Edward J. Powers, Jr., a Marine student pilot who was undergoing advanced navigation training. Powers was in plane FT-36, and Taylor was calling from FT-28. According to the testimony of Lieutenant Robert F. Cox, a flight instructor at NAS Fort Lauderdale who was flying south of the field at the time, "The party calling asked 'Powers' what his compass read a number of times, and finally said, 'I don't know where we are. We must have got lost after that last turn.' "18

Cox reported that at approximately 3:45 p.m., he called Operation Radio Fort Lauderdale and notified them that either a boat or some planes were lost. He then tried to contact Taylor on the radio:

I said, 'MT-28, this is FT-74, what is your trouble?' MT-28 came back, 'Both my compasses are out and I am trying to find Fort Lauderdale, Florida. I am over land, but it's broken. I'm sure I'm in the Keys, but I don't know how far down and I don't know how to get to Fort Lauderdale.'

I said, 'MT-28, this is FT-74, put the sun on your port wing if you are in the Keys and fly up the coast until you get to Miami, then Fort Lauderdale is 20 miles further, your first port after Miami. The air station is directly on your left from the port . . .'

I then received a call from Fort Lauderdale asking if it was FT-28 or MT-28, and after calling MT-28 again I learned that it was FT-28 and relayed this message to Fort Lauderdale.¹⁹

There was no way for FT-28 to be in the Keys. Taylor had completed the first leg of his flight, and was on the second when he felt that the squadron was off-course and took over to fly to the correct position, but then discovered that he did not know where he was, as both his compasses were not working. There was not enough time for him to have reached the Keys by 3:45 p.m. Taylor in FT-28 requested Cox to ask Miami to pick up the flight on their radar, and af-



Lieutenant Robert F. Cox (U.S. Navy photograph).

ter picking them up, radio back their location. Cox asked Taylor to turn on his ZBX gear, which tells which direction to return to base. Taylor did not comment on this instruction. and Cox heard his radio transmission beginning to fade. When he could no longer reach Taylor, Cox, who was about forty miles below Fort Lauderdale, returned to base. At the subsequent investigation, he told Navy officials that he now believed that Taylor was probably over Bimini or other islands in the Bahamas when he radioed, and that the growing faintness of the transmissions indicated he was possibly traveling north-farther and farther from Fort Lauderdale, Miami. or the Keys.

When the Navy investigators questioned Cox as to the condition of the weather, he replied, "The sea was very rough. It was covered with white caps and long white streamers. The visibility was very good in all directions, except directly west."20

Port Everglades radio operators were able to communicate with Taylor, who informed them at about 4:45 p.m., "We are heading 030° [northnortheast] for 45 minutes, then we will fly north to make sure we are not over the Gulf of Mexico." Port Everglades then asked Dinner Key seaplane base at Miami if they could get a bearing on Taylor in FT-28. Their reply was in the negative.

Lieutenant Commander Donald J. Poole, flight officer at NAS Fort Lauderdale, learned of the lost flight at about 4:30 p.m. He believed at the time that Taylor was indeed over the Keys, but had not gone beyond the first leg of the navigation exercise. Poole ordered Port Everglades, which was still in contact with Taylor, to instruct FT-28 to fly west, toward the sun. He heard the order given and repeated by Port Everglades, but there was no answer. At about 5:00 p.m., he heard two unidentified students remarking that if they could just fly west they would probably get home. They did not break with Taylor, however, and fly west on their own.

Shortly after 5:00 p.m., Port Everglades heard from Taylor again, ordering his men to "Change course to 090° [east] for ten minutes." Fi-

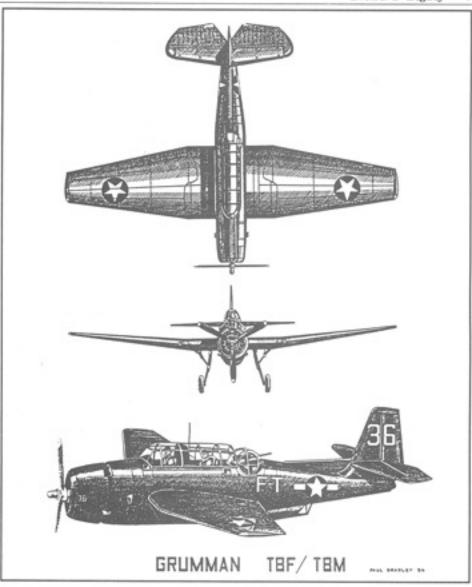


Diagram of the TBF/TBM Avenger torpedo bomber (drawing by Paul Bradley).

nally, at about 5:15, Taylor reported to Port Everglades that Flight 19 was heading west. Then FT-28 told all the planes to join up and continue in formation. If any one plane had to ditch, he instructed, they would all ditch together. After sunset at approximately 5:30 p.m., Lieutenant Commander Poole instructed all stations from Key West to Melbourne to turn on their field lights, beacons, and search lights. Boca Raton Army Air Base reported nothing on their short-range radar screen. However, the ComGulf Sea Frontier Evaluation Center in Miami, using directional bearings sent by stations from New Jersey to Texas, relayed an approximate position for FT-28 - "within a

100-mile radius of 29° 15' North and 79° 00' West" — an area east of New Smyrna Beach, Florida, and north of the Bahamas.

According to the testimony of Commander Claude C. Newman, who was in charge of Port Everglades, the port had been out of communication with FT-28 and the other planes when they received information on the approximate fix. There was no attempt on their (or anyone else's) part to relay the fix information to the airplanes or transmit it blindly (without contact from the aircraft). The last transmission of the flight recorded was from Ensign Joseph T. Bossi, a student pilot, who was trying to call Taylor, but received

no answer to his FT-3 calling FT-28. Then the radio operator at the Miami station tried, to no avail, to reach Taylor, "FT-28, this is NSO [Miami], NSO, NSO. How do you read me, over." This call was repeated several times, but stopped at approximately 8:00, the time at which the Avengers' fuel supply would definitely have run out.²²

Over the years the controversy regarding the cause of the disappearance of the planes centered on three principal areas: weather or special forces not completely understood, pilot error by Taylor as the officer in charge of the flight, and mechanical problems with the Avenger or with its equipment. The first of these problem areas was favored by Charles Berlitz, who wrote the famous book The Bermuda Triangle and produced the ensuing movie. Berlitz wrote that:

... stresses exist in the atmosphere that can be roughly compared with tidal waves, especially if a plane heads into them at a high rate of speed... this "wind shear" factor is an important element in air losses and in its intensified form of CAT (clear air turbulence) it can be compared to the seiche (underwater landslide) waves that unexpectedly occur in an otherwise calm sea.²³

Berlitz also reports that with "electromagnetism and the malfunction of instruments reoccurring in the Triangle mysteries," there may be a special character of the area at longitude 80° West, where true north and magnetic north have no demarkation of variance. He reported that there have been theories of antigravity warps where gravity and normal magnetism do not function in familiar ways.24 According to Ivan Sanderson, the Bermuda Triangle and some other areas have unusual vortices or places where the forces of nature are variant to usual expectancies and may be a factor in air and sea loss.25

Fort Lauderdale writer Richard Winer, who wrote the book *The* Devil's Triangle, believes that unusually strong winds were the primary cause of the disappearance of Flight 19:

Just before they were due to have sighted land, by their reckoning, they encountered a cold front containing a heavy cloud cover and strong northeasterly winds. The winds, unbeknown to the fliers, had set them at some distance to the south of their course and considerably reduced their speed over the surface. As they passed through the front and emerged from the clouds, they saw land passing behind them and a great expanse of shallow water extending to the west as far as the eye could see. Assuming they had just passed over the southern tip of the Florida mainland . . . 26

Other students of the mystery have considered this scenario highly unlikely because the final approximate position for the flight was so far north - 29° 15' North and 79° 00' West - east of New Smyrna Beach and north of the Bahamas. Also, since he had begun the second leg of the "problem," there appears to have been no time for Taylor to have been at the southern tip of the peninsula or over the Keys. Even if he had made a southwest turn for the second leg of the triangle when he should have made a northeast turn, it is doubtful that strong northeast winds could have blown him so far south.

Although the weather report indicated northeast winds, the prevailing winds in the area when it is not the season of trades, winds can change direction easily, especially in the case of squalls or sudden storms. This phenomena may also have confused Taylor. The strong trade winds blow in January, February, March, and April, and then become weaker and more uncertain. The skies are not so clear and beautiful as they are in the later months of summer, when hurricanes "cook up" off the coast of Africa and often blow toward Florida from the Lesser and Greater Antilles in the Caribbean. As in the hurricane season, December is a month of unsettled winds and squalls or storms. In any sudden squall with strong winds, Flight 19 could have been blown in any direction. To assume that the prevailing northeast winds necessarily blew them to the south would therefore be an error. Neither author Winer nor Flight Officer Poole relied solely on this assumption, but they did take Taylor at his word and believed that he was flying where he said he was - far south of his course, either over the Keys or at the southmost tip of the Florida mainland. The mistake and, as it proved, a disastrous one was apparently made by Taylor, who thought he had taken a wrong turn and believed that he was far to the south of his navigation-problem course. The malfunction of his compasses was probably the greatest cause of Taylor's confusion. The error in reporting his position was magnified when Poole, flight officer at the base, believed the flight to be to the south and did not send up a ready plane because he had no definite confirmation of the off-course position. Poole's decision was also influenced by reports of bad weather.

If, in fact, Flight 19 was on course and over the Bahamas when Taylor reported they were lost and possibly in the Keys, the rescue effort was a lost cause almost from its inception. As time elapsed, the small aviation formation would have gone much too far north to have enough fuel supply to return to base, and eventually would not have enough even to make a landfall anywhere on the Florida coast on a westerly return

turn.

The Navy Board of Investigation's report was received in the Judge Advocate General's Office in Washington, D.C., after the first of the new year, 1946. It held "the loss of the fourteen men in Flight 19 and, indirectly, the thirteen men in the search plane . . . [attributable] to errors on the part of Lieutenant Charles Carroll Taylor, flight instructor, ex-combat pilot, U.S. Naval Reserve. It had found the "primary reason for the disappearance of Flight 19 was the confusion of the flight leader as to his location, his failure to take into account the strong winds which apparently carried him farther



Lieutenant Charles Carroll Taylor (from *The Disappearance of Flight 19* by Larry Kusche, reproduced with the permission of the author).

east than he realized, and his failure to utilize radio aids which were available to him."27 Thus, much of the controversy surrounding Flight 19 has focused on the background, personality, and actions of Charles C. Taylor.

In 1947, after extensive efforts on the part of Taylor's mother. Katherine Taylor, and her sister, Mary Carroll, who lived with her, the letters, papers, and reports of the incident were turned over to a young lawyer, who was also an ex-Navy pilot and a friend of the late Charles Taylor. This lawyer, William L. P. Burke, had high hopes for the Board of Corrections of Naval Records to change the outcome of the investigation. After appearing before the board and presenting his evidence in October 1947, he was granted the exoneration he had requested for Taylor. The board concluded that the disappearance of Flight 19 had occurred "for causes or reasons unknown."28

Besides the malfunction of the compasses and a possible encounter with strong winds or a sudden storm, there may have been another cause for Lieutenant Taylor's confusion about his position. Jeff Warren, publisher of Moonscope, a newsletter about the moon, believes that the extreme southern-appearing position of the sun and moon that occurred in December 1945 may have "fooled" the doomed pilot and his fellow airmen. Due to the low azimuths of both, the sun and the moon would have appeared to be farther and farther south as the day wore on, further confusing navigation unless one understood this phenomenon.39 In a discussion panel presented by the Fort Lauderdale Historical Society on December 6, 1993, Warren reminded his audience that Taylor had no clear landmarks or easily identifiable body of land to reassure him about his position. Furthermore, anyone who has flown over the Bahamas has noticed the many shallows, sandbars, and



View of NAS Fort Lauderdale, 1945, with hangar and tower at center left. Lieutenant Taylor's plane, FT-28, is marked with an arrow. The number "28"

appears upside-down since the plane's wings are folded (courtesy of John Evans).

small bodies of land that are impossible to identify unless one is extremely familiar with the territory or is over a large, easily-identifiable land mass such as Andros or New Providence island.³⁰

This was not the case with Lieutenant Taylor, who had recently been sent to Fort Lauderdale from Miami, where he had been stationed approximately eight months. In 1942 and 1943, however, Taylor had served almost one year in the Keys, from which he had written his mother that he had:

... a lot of practice in navigation. As I am considered a senior pilot in the squadron, I always lead a junior pilot on these convoys. I do all the navigation, and he just follows me around. As yet, I have never gotten lost.³¹

During his stay in the Keys, Taylor accumulated roughly 1,000 hours of flight time, becoming very familiar with that area. This fact has led inquirers to speculate whether, on December 5, 1945, he found it more comforting to believe that a navigational error had taken him back to the Keys instead of over the unknown seas and shallow waters of the Bahamas.32 In his confusion, had he momentarily forgotten about Fort Lauderdale when he gave Lieutenant Cox the call letters for Miami, MT, rather than FT? Human beings are creatures of habit, and familiar surroundings reassure us; under the pressure of the situation such a mental slip would have been easy for Taylor, whose most recent experience had been in Miami and who had considerable experience in the Keys.

Speculations aside, most of Taylor's experience had been in the Pacific, first aboard the carrier Hancock, where he had received considerable training, and later based at Guam. 33 He acquired considerable combat experience, and has been described as a fearless pilot and a competent navigator, although a review of his service discloses that he was forced to ditch his aircraft three times—twice because he was lost. Had he been a regular at NAS Fort Lauderdale from the beginning of his

war experience, Taylor might have become more familiar with the region's weather and wind conditions, and he might have learned about the anomaly of the sun position in December or even surmised the tandem situation with the small sliver of moon that month. As it was, the truth could have confused him. As moon authority Warren stated, "If the Avenger pilots used the sun or the moon to navigate, in most scenarios they never would have reached land."34

Whatever the cause of Taylor's confusion, he must have foreseen a potential "ditch" — putting down his aircraft and probably those of the four other pilots and their crews. He would not know where he was ditching or what coordinates to radio back

to base. The fact that he had already been a "three-time loser," having ditched planes three times in the Pacific, may have created a factor of anxiety in addition to the confusion and terror about his location. The burden of this responsibility and decision for fourteen men may have been almost impossible to face, landing a heavy aircraft in troubled and stormy waters, far from land, far from any familiar place, as was probably the case sometime after 8:00 on the night of December 5, 1945.





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- 5. Ibid., December 6, 1945.
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- Naval Aviation News, June 1973, 11.
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- 9. Ibid., 120-21.
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- 17. U.S. Navy Information Department, "The

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- 19. Ibid., 104.
- 20. Ibid., 106.
- 21. Ibid., 107.
- 22. Ibid., 107-14.
- Charles Berlitz, The Bermuda Triangle (New York: Avon Books, 1974), 111-12.
- 24. Ibid., 112-13.
- 25. "Realm of Unfathomed Mysteries," 37.
- Winer, Devil's Triangle, 20.
- Larry Kusche, The Disappearance of Flight 19 (New York: Harper & Row, 1980), 94-95.
- 28. Ibid., 124-31.
- 29. Azimuth is a navigational term used to measure the position of an object relative to the north or south points on the horizon.
- 30. Panel, "The Lost Flight: The Disappearance of Flight 19," Fort Lauderdale Historical Society, Fort Lauderdale, December 6, 1993. See also Jeff Warren, "How the Sun and the Moon Tricked the Avenger Pilots" in Moonscope, December 1, 1993. Similar comments were made by Warren in his panel presentation and in the article.
- Kusche, Disappearance of Flight 19, 126-27.
- 32. Ibid., 127.
- 33. Ibid., 21-40.
- Warren, "How the Sun and Moon Tricked the Avenger Pilots."