

CAPTIVATING

The world watched as the Civil Air Patrol and others searched for Steve Fossett. The American adventurer vanished on Labor Day during a solo flight in Nevada, unleashing a flurry of fan and media interest from around the globe. Members of the Nevada CAP and seven other wings led the monthlong search, described as the largest in modern history.

Photo courtesy of Mary Frances Howard



Searching For Steve Fossett



Photo by Capt. Rebecca Meyer, Nevada Wing

By Steve Cox

Massive hunt
for world-
famous aviator
launched by
Civil Air Patrol

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The Civil Air Patrol's hunt for famed, record-setting aviator Steve Fossett, who vanished on Labor Day during a morning jaunt in Nevada, is the largest and perhaps most expensive in modern-day history.

Encompassing a 22,000-square-mile area in the heart of the nation's most treacherous region and involving Civil

Civil Air Patrol aircraft line the tarmac at the Minden-Tahoe Airport in Nevada, one of two mission bases used in the search for American adventurer Steven Fossett, who was reported missing Sept. 3 after he didn't return from a morning flight.

Air Patrol pilots from Nevada and seven other states, the Nevada National Guard, the Air Force Rescue Coordination Center, the U.S. Army, the state Departments of Emergency Management and Public Safety and ground crews organized by local authorities, the search for the wealthy adventurer is officially on hold, for now.

"The Civil Air Patrol joins the rest of the aviation world and admirers worldwide in its disappointment in not locating Steve Fossett," said CAP's Interim National Commander Brig. Gen. Amy S. Courter in announcing the search's suspension on Sept. 16. The decision followed intensive, technology-enhanced aerial searches from CAP's Cessnas and Gippsland GA8 Airvans, the Air Guard's C-130s and the Army's Black Hawks.

"This remarkable man showed us what grit and determination are all about. In his life, he chased and shattered world records, floating and flying farther and faster than anyone before," Courter said. "His adventures are many and his accomplishments profound. We regret those adventures may have come to an end."

Fossett, 63, took off Sept. 3 for a solo flight from the Flying M Ranch, a posh aviation playground about 70 miles southeast of Reno owned by his friend, hotel mogul Barron Hilton. Fossett didn't file a flight plan for the three-hour trip, and he never returned to the ranch.

Thousands of Civil Air Patrol, National Guard, Army and private searchers combed a vast swath of rugged mountains and high-desert terrain in western Nevada and parts of California looking for Fossett. They found no sign of him or the small, blue-and-white, single-engine Bellanca Citabria Super Decathlon he borrowed from Hilton.

The aerobatic plane is equipped with an older-model emergency locator transmitter, or ELT, but it apparently never activated. Fossett also didn't wear a wristwatch he owned that would have allowed him to signal his location in an emergency.

Since Fossett's disappearance, the National Transportation Safety Board, which investigates aviation accidents, has recommended that planes be equipped with more reliable digital transmitters.

The Civil Air Patrol, the all-volunteer auxiliary of the U.S. Air Force, was engaged in the hunt for Fossett almost immediately, as assigned by the Air Force Rescue Coordination Center. At the center's request, CAP members annually perform 90 percent of inland search and rescue missions in the continental United States. The Air Force credited CAP with saving 105 lives in fiscal year 2007.

The Civil Air Patrol-led effort in the search for Fossett was extraordinary.

At its peak, the search involved more than 45 aircraft, many of them from the Civil Air Patrol's fleet. CAP's pilots flew 629 flights totaling 1,774 flying hours. In all, more than 17,000 man-hours were invested in the mission, both in the air and on the ground.

"Although the search effort by the Civil Air Patrol has been officially suspended by the Air Force Rescue Coordination Center, should new information become available, CAP could be asked to assist once again with its considerable air assets," Courter said. "We are now waiting for new leads, and as they develop we will check them out."

Presumed dead

Those involved in the hunt for Fossett said they are not giving up, even though the National Transportation Safety Board, in its preliminary report about Fossett's disappearance, listed the presumed accident as a fatality.

Early in the search, Hilton hired a private aircraft company with imaging equipment to assist ground searchers. Some of those private efforts financed by Fossett's friends and family continue.

Fossett, who made millions as a commodities broker in Chicago, had survived many scrapes en route to setting 116 flying and sailing world records and accomplishing other feats. He also scaled some of the world's best-known peaks, including the Matterhorn in Switzerland, swam the English Channel and even completed the Iditarod sled-dog race in Alaska.

In 2002, he became the first person to fly a balloon

solo around the globe. Three years later, he became the first to fly an airplane alone nonstop around the world.

“My gut feeling is that he didn't survive the impact,” said Maj. Cynthia S. Ryan, public information officer for the Nevada Civil Air Patrol. She said if Fossett were alive but too injured to walk, he would have tried to signal searchers in some manner.

“He's not the kind of guy to just sit and wait for help to show up,” she said.

Many involved in the Nevada search, including Ryan, believe Fossett's small plane plummeted into one of the countless craggy, deep ravines that cut the state's landscape like claw marks, causing the wreckage to become scattered or highly fragmented and simply invisible to searchers.

“It's definitely an area where a person can get lost and not be found, as witnessed by this search,” said Capt. Bill Schroeder, a master-certified flight instructor and check pilot examiner for the Nevada Wing.

“A lot of it comes down to what is in view and possible,” said Lt. Col. John W. Desmarais Jr., deputy director of operations at CAP National Headquarters. “If (Steve Fossett) crashed

in an area where the wreckage is obscured from view or the wreckage blends into the background, it will be difficult, at best, to locate.”

“This is a testament to the unforgiving terrain comprising the search area,” said Lt. Col. E.J. Smith, the

Nevada Wing search leader who served as the primary incident commander for 17 days of the mission. “We've executed this to the very best of our trained ability and have come up with nothing.”

How the search unfolded

“Since Mr. Fossett did not file a flight plan, CAP defined an area of possibility for the search for his airplane based on the amount of fuel on board, and wind and weather conditions at the time of the flight,” said Col. Dion DeCamp, CAP's Nevada Wing commander.

“That created a huge area,” he said,

“so we focused on those areas that made the most sense — like radar tracks, which were analyzed for aircraft matching the Fossett aircraft's profile. There were several, and those areas were searched repeatedly.”

Hikers who thought they saw Fossett's plane gave CAP additional leads in the early stages of the search, as did information gleaned from interviews with friends and people who had been with Fossett at the Flying M Ranch.

“Those leads have been thoroughly searched as well,” said DeCamp, as CAP initially scaled back the search on Sept. 16. “The search areas were plotted on a map and thoroughly documented, including weather conditions at the time of flight.

“Additional attention was focused on radar drop-off points,” he said, “which could mean a crash or, in mountainous terrain, simply that the radar could not see the aircraft because it was operating at low altitude and was blocked by the mountains.”

CAP renewed the search on the weekend of Sept. 29-30, concentrating on “high probability sites” identified by a dozen Federal Aviation Administration, Air Force, Navy, NTSB and CAP experts.

From the start of the weekend operation, aircrews



Photo by Lt. Col. John C. Jay, California Wing

Capt. Jon Stokes of the Riverside Senior Squadron, California Wing, goes through a pre-flight inspection of his aircraft before taking to the skies from Bishop Air Force Base, one of two CAP mission posts used for the Fossett search.



Nevada Wing Commander Col. Dion DeCamp, shown here in front of a Civil Air Patrol Gipsyland GA8 Airvan, noted that after initial passes through the 22,000-square-mile search zone for Steve Fossett, CAP narrowed the search by focusing on areas of high probability.

searched repeatedly at different times of day and light angles so they could better see into the steep mountain ravines in the area. Ground search teams on foot and horseback and in all-terrain vehicles simultaneously combed the same target areas.

“He was not visible from the air, or we were not in the right place at the right time,” said Schroeder, a member of the Blackhawk Composite Squadron in South Lake Tahoe.

“We didn’t find anything,” said Courter. “We don’t have any conclusive information to follow or to say there was a crash and he survived. We’ve exhausted all leads at this time.”

A monumental response

“This is probably the largest search CAP has done — ever,” said Schroeder. “I’ve never been involved in anything as large as this.”

Schroeder is among hundreds of volunteers from the CAP ranks who participated in the Fossett search. CAP conducts about 3,000 search and rescue missions annually, many involving electronic searches for ELTs. “There are typically several hundred missing person or aircraft searches that we support annually,” said Desmarais. “Most are resolved in just a few days.”

Members from CAP’s California, Utah, Idaho, Oregon, Colorado, New Mexico and Texas Wings pitched in for the Fossett search.

“We’ve just had a tremendous response from folks in the Nevada Wing,” Schroeder said. “We’ve had a lot of help.”

Schroeder, a search and rescue pilot, said the treacherous winds in the region prevented flight on some days.

“Usually winds come from the west,” he said. “They accelerate at the ridgetops of the mountains. What you

end up with is extreme turbulence and strong downdrafts on the eastern side of the mountains.”

The aircrews performed valiantly despite the adverse conditions, according to Schroeder. “During the search we had some ridgetop winds that were exceeding 80 mph,” he said. “The winds prohibited searching on those days as it was too turbulent to fly.”

On most days, each crew flew two three-hour sorties a day. In the end, they were tired, he said, adding that he occasionally took a break from flying and worked on the ground.

“I did everything from weather reports to taking in information from others who thought they might know where Steve Fossett was,” said Schroeder. “We had people calling in from all over the world.”

High-tech help

The Civil Air Patrol called in aircraft from California and Utah equipped with cutting-edge ARCHER (Airborne Real-Time Cueing Hyperspectral Enhanced Reconnaissance) technology.

ARCHER gives aircrews the ability to find unique objects on the ground, like parts of a plane, using specially equipped on-board computers and hyperspectral sensor technology capable of seeing much more detail than the human eye.

“We were able to pitch in and take the lead on this,” said Maj. Sam Seneviratne, commander of the Clover Field Composite Squadron, based at the Santa Monica (Calif.) Airport. The squadron’s premiere ARCHER

Photo by Lt. Col. John C. Jay, California Wing



Lt. Col. Denise Edwards, right, of the San Fernando Senior Squadron, California Wing, briefs members of a Fossett mission aircrew shortly before takeoff. Crew members included Maj. Craig Gallagher of the California Wing and Capt. Jon Stokes and Sr. Mbr. Rene Caldera, both of the Riverside Senior Squadron.

team was on-site at the Bishop, Calif., and Minden, Nev., mission bases for more than 800 hours, analyzing data collected from their flights in the search area.

“To find five targets, we looked at over 30,000 images,” Seneviratne said.

Those five targets included old crash sites, some dating from the 1960s and 1970s. Nevada law enforcement officials plan to inspect the wreckage sites more closely.

Internet users also participated, volunteering to peer at newly released satellite images of the area. The amateur army of online searchers were welcome, even though mission bases were inundated with Google-generated “finds” that turned out to be junked cars or abandoned appliances.

“They didn’t know what they were looking for,” said Ryan of the virtual search effort, which quickly dwindled to just an occasional lead for searchers to check out.

“The Google searches are not quite ready for prime time,” she said.

Other non-tech leads, some of them a little strange, also were submitted, according to Desmarais. “We have received tons of inputs from a variety of sources. Some are credible; some just aren’t. Psychics, dreamers and all sorts of variations of those have come forward.”

The cost of the private search by Fossett’s friends has not been disclosed, but Gary Derks, operations director for the Nevada Office of Emergency Management, said costs to various government agencies involved in the hunt total nearly \$1.4 million.

“It’s in the range of \$250,000, just for CAP,” said Ryan. “But when you consider the hours and the effort, that’s a huge bargain.”

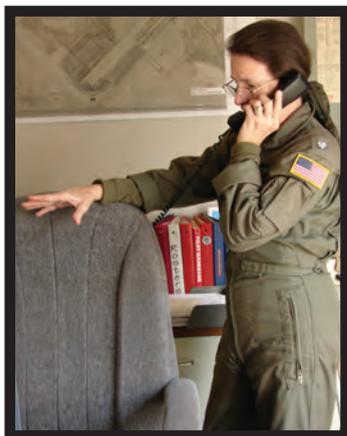


Photo by 1st Lt. Teresa Schroeder, Nevada Wing

Nevada Wing Lt. Col. E.J. Smith confers with a member during the search for Steve Fossett. Smith served as the mission’s primary incident commander.

Now it’s up to chance

Despite all the technology and manpower used in the Fossett search, the person who finds the missing aviator quite possibly won’t even be looking for him.

With hunting season opening or about to open within the search zone, hunters may provide the next clues. Another possibility is prospectors, who have many small mines in the wastelands of the search zone.

In the meantime, winter is coming on, and snow is already falling in the higher elevations of Nevada and California. That doesn’t leave much time for searching for Fossett or his plane. A big storm could blanket the wreckage, making it undetectable until spring.

Ryan is convinced the wreckage will be discovered one day, by a hunter, a prospector or perhaps a hiker.

“It will probably be found in the next two or three years,” she said. “It will be found eventually.” ▲

The Associated Press, ABC News, the San Francisco Chronicle, the New York Times and General Aviation News contributed to this report.

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Search Thrusts CAP Into International Spotlight

By Steve Cox

A seasoned Civil Air Patrol spokeswoman with a flair for a good sound bite is now a household name of sorts, thanks to national and international media inquiries over missing aviator and adventurer Steve Fossett.

Maj. Cynthia S. Ryan, public information officer for CAP's Nevada Wing, was on call — literally — for weeks, personally responding to hundreds of requests for interviews. The Fossett mission attracted intense media interest from all over the world, with Ryan and the Civil Air Patrol at the forefront in on-camera interviews and front-page stories.

"I haven't had too much time to think about it," said Ryan, who has a knack for providing sound bites.

"Write advertising copy for as many years as I have, and you, too, will be able to pull that punchy headline out at a moment's notice," she said.

Consider some of her responses to questions about the Fossett search:

- "It's a very large haystack, and an airplane is a very small needle. No doubt about that."
- "Once again you had your hopes raised and dashed just as we have."
- "It certainly isn't the Bermuda Triangle for lost aircraft. But it can be a

very challenging place for a pilot."

- "We can't always guarantee the right results that everyone would like. But I do guarantee results."

Ryan served as PIO in Nevada from 1994 until 2002, when she was diagnosed with advanced breast cancer. She took off more than a year for treatment.

Lt. Col. E.J. Smith, primary incident commander and search leader for the Nevada Wing, dropped by Ryan's house on the evening of Sept. 3, the day Fossett vanished, to ask for her help.

"She said we had an 'actual' in progress and would need media support," said Ryan. "Then she said, 'They're looking for Steve Fossett.'"

"That's when my PIO/MIO world turned upside down," Ryan said.

"She was the right person for this job," said Smith.

Trying to push down "a rising tsunami of anxiety," Ryan left for the mission base at the Minden-Tahoe Airport at 6 a.m. the next



Photo by 1st Lt. Teresa Schroeder, Nevada Wing

Maj. Cynthia S. Ryan of the Nevada Wing served as CAP's public information officer for the Steve Fossett search. She was the primary mission spokeswoman at news conferences covered by media worldwide.

day.

“It was a total leap of faith,” she said. “I took a laptop loaded with files of previous mission press releases as templates, a well-charged phone and Bluetooth, clipboard with legal pad, my trusty mechanical pencil, a camera and a hastily constructed sense of self-confidence based only on the legacy of past success and some darn good training. I was ‘winging it,’ but as a well-tested PIO/MIO.”

Inquiries quickly poured into the wing command center as news got out that Fossett was missing.

“Overnight we had 16 to 17 TV trucks outside the airport,” said Smith.

To date, CAP has been mentioned in more than 7,200 print and broadcast media stories.

“We didn’t expect all that attention at first,” said Capt. Bill Schroeder, another member of the Nevada Wing who was actively involved both in the air and on the ground during the hunt for Fossett.

“Before long, this was an international search,” he said.

International interest in the story came from the BBC, *London Times*, ITN England, Paris Television Channel 1, Japanese Newswire Service, Russian News Service, Canadian Broadcasting, Canadian Press and the



CNN correspondent Miles O’Brien, who reports extensively on civil aviation issues, gets into his Cirrus during a fly-over of the Nevada terrain as part of CNN’s coverage of the Fossett search. Maj. Cynthia S. Ryan of the Nevada Wing rode with O’Brien during one of his reports.

Sydney Morning Herald. National media coverage included CNN, Fox, MSNBC, ABC, CBS, NBC, the *New York Times*, *Washington Post*, *San Francisco Chronicle*, *USA Today*, *Time*, *People* and hundreds of local network affiliates, newspapers and magazines throughout the United States.

Ryan participated in press conferences twice a day during the first week of the search, and she was eager to do it, particularly for some of the more nationally and internationally known media interests.

“We don’t often get this kind of a world platform to speak from, so it was ultimately worth it to square the jaw and do it,” she said. ▲

The Search at a Glance

Sept. 3: Famed aviator and adventurer Steve Fossett is reported missing by a friend after he fails to return from a morning solo flight. Friends at the Flying M Ranch search frantically for him, but to no avail.

Sept. 4: The state of Nevada asks the Air Force Rescue Coordination Center to have Civil Air Patrol assist with the search for Fossett. CAP launches an aerial and ground search to join efforts with the Nevada National Guard, the U.S. Army, the state Department of Public Safety and other crews organized by local authorities.

Sept. 16: CAP officially scales back the search for Fossett, following thorough grid searches of a 22,000 square-mile area of Nevada and California.

Sept. 29-30: The Fossett search is renewed, concentrating on areas identified as Fossett’s possible flight path. The areas were selected from high-tech analyses of radar and satellite images.

Oct. 3: CAP officially suspends the search, with Interim National Commander Brig. Gen. Amy S. Courter saying all leads have been exhausted. CAP planes, however, are prepared to take to the skies again to follow any new, credible leads, she says.

Steve Fossett

A modern-day explorer known for his adventurous spirit

By Steve Cox

American adventurer Steve Fossett, missing since a solo flight on Labor Day in Nevada's high desert, is a celebrated aviator known throughout the world as a modern-day explorer.

Fossett, 63, who made millions as a commodities broker in Chicago, certainly enjoyed a lifetime of daring achievements, most of them high in the sky. He holds 116 records in five different sports — from flying to sailing. He is best known internationally for his ballooning exploits.

In 2002, he became the first person to circumnavigate the globe solo in a balloon, piloting *The Spirit of Freedom* around the world in 13 days.

The triumphant trip made in *The Spirit of Freedom* came on Fossett's sixth attempt, showing the grit and determination that made him famous.

On his fourth attempt to circle the globe in 1998, Fossett had to be rescued after his balloon crashed into the Coral Sea about 500 miles off Australia's coast. The balloon plunged 29,000 feet after it was struck by hail and lightning. He floated in rough seas for several days before emergency crews found him.

Fossett survived many scrapes en route to setting his world records and accomplishing other feats. He also scaled some of the world's best-known peaks, including the Matterhorn in Switzerland; swam the English Channel; and even completed the Iditarod sled-dog race in Alaska.

In 2005, Fossett added to his fame by becoming the first person to fly an airplane alone nonstop around the world. Piloting the GlobalFlyer, Fossett completed the trip in roughly 80 hours.

At the time of his disappearance, Fossett was preparing to break the world's land speed record of 766.6 mph. He hoped to reach 800 mph in a turbo-powered racer, the Sonic Arrow. ▲

AP Photo/Steve Holland



Steve Fossett flies his balloon *Solo Spirit* over the east coast of Australia near Port Macquarie north of Sydney as he attempts to make the first solo flight around the world in 2001. That flight failed, but another one in 2002 was successful. Aboard *The Spirit of Freedom*, he smiles before his successful launch on a solo around-the-world balloon mission in Northam, Australia. The flight was Fossett's sixth attempt at setting the record.



AP Photo/Rob Griffith



Virgin Atlantic founder Sir Richard Branson, right, sprays champagne on pilot Steve Fossett at the Salina Municipal Airport in Salina, Kan., after Fossett touched down aboard the GlobalFlyer, becoming the first person to fly around the world solo without stopping or refueling. Branson financed the around-the-world project, which occurred in March 2005.



Steve Fossett, back, and his co-pilot Einar Enevoldson get ready to attempt to break the glider world altitude record of 49,009 feet at the California City Municipal Airport in California City, Calif., on March 14, 2003.



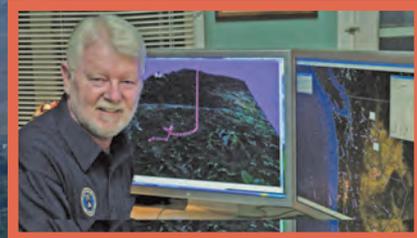
Steve Fossett, the first person to fly solo around the world in a hot air balloon, speaks during his induction into the National Aviation Hall of Fame in Dayton, Ohio, in July 2007.



Steve Fossett, front, and the crew of the 125-foot catamaran PlayStation, celebrate at Mayflower Marina in Plymouth, England, on Oct. 10, 2001, after breaking the trans-Atlantic sailing record.

CAP radar sleuth

talks about Fossett search



Q: 2nd Lt. Paul “Guy” Loughridge’s radar expertise has assisted the Air Force and the Civil Air Patrol in finding downed pilots for more than a decade.

“New advances in technology and radar data have made the process much quicker and more effective than before,” said Loughridge, a member of CAP’s Colorado Wing.

The Air Force Rescue Coordination Center and Civil Air Patrol have been involved in thousands of searches for missing aircraft, and only 18 of those missions are unsolved. Loughridge has been involved in more than 200, in which he made 72 radar “finds” and contributed to the rescue of 24 people.

The Steve Fossett search, however, has been difficult, primarily due to rugged and remote terrain in Nevada and California.

“The expansiveness of the high desert is a huge factor,” said Loughridge. “Exactly where Steve’s aircraft flew remains a mystery.”

Loughridge and other radar experts from various military and federal agencies participated in an in-depth review of Fossett radar

data. Comparing known information about the mission to the radar data, their findings prompted close-up looks for the famed aviator in some of the higher-probability areas of the 22,000-square-mile search zone. Unfortunately, air and ground searches proved futile.

Loughridge remains hopeful Fossett and his plane will be found some day. “We’ve suspended missions before and found them later on,” he said.

Recently, Loughridge took time to respond to *Civil Air Patrol Volunteer* questions about the Fossett search:

Q: How difficult was the search because of terrain issues?

A: The Flying M Ranch, from which Fossett departed, is nestled low in a desert valley. The mountainous terrain near the ranch shielded the aircraft’s departure from nearby radar sensors, which created a radar hole around the ranch. To detect the aircraft in the radar data, radar analysts were

forced to observe all radar targets, even those that are distant from the ranch. The most important piece of information for the analysts was the departure time and the intended route of flight.

Q: How do radar analysts isolate a possible track?

A: They play back the radar data and observe all nearby radar targets. Analysts routinely play back radar data recordings that contain tens of millions of radar targets. Each target is represented as a “ping” or a reflection returned from an aircraft. Not only do the radar sites see aircraft, they also see birds, cars and weather. And, since it was Labor Day weekend, many other aircraft were also flying in the area. There is a lot of noise in the data, and it is a time-consuming job to trim it down. It takes a skilled human eye and years of training and experience to sort out everything in radar data.

2nd Lt. Guy Loughridge, inset, the Civil Air Patrol's top radar expert, works at his home in Colorado. Loughridge and others from the Federal Aviation Administration, National Transportation Safety Board, Air Force and Navy analyzed the radar data from Sept. 3, the day Steve Fossett left the airstrip at the Flying M Ranch. He never returned, which prompted a massive search over mountainous, high-desert regions in western Nevada and California.

Q: How are isolated radar tracks eliminated from consideration during a search?

A: When a track is identified, radar analysts first look at the time the target was created. Targets that are much too early and prior to the aircraft's departure are thrown away. Next, the speed of the track and

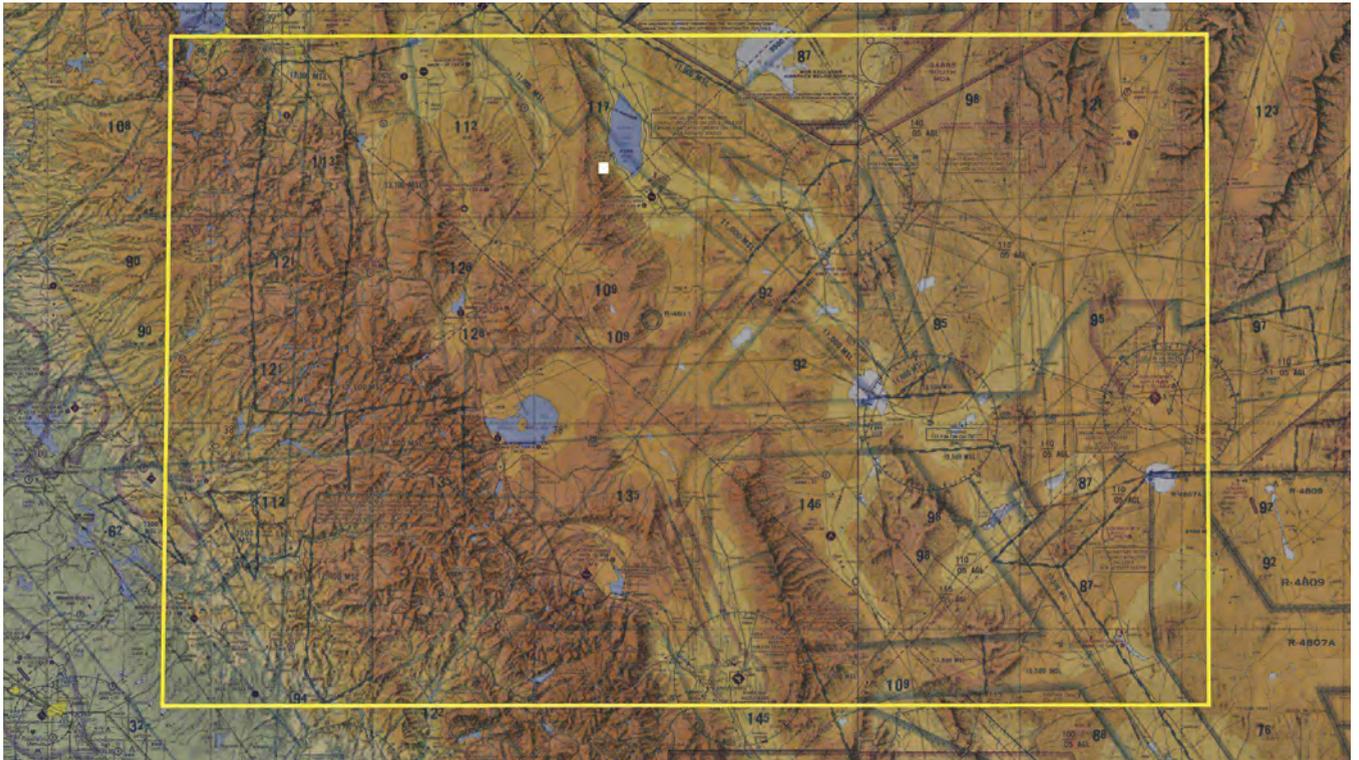
altitude are reviewed. Obviously, aircraft at 35,000 feet are discarded. The speed is less obvious, because analysts can only see an aircraft's ground speed. Head winds and tail winds also can affect the flight. On Fossett's aircraft, speeds below 60 knots and above 150 knots are likely unrelated. This elimination process continues and the final results are hits, or radar targets.

Q: How do mountains directly affect the radar tracks?

A: Tracks often come in broken pieces, because the radar sites will see an aircraft for a short period and then the track will vanish below radar coverage or behind a mountain. Due to the mountainous terrain with the Steve Fossett search, analysts might see a track

near Tehachapi, Calif., for example, that is more than 180 nautical miles away. First, they look at the time, and tracks that are simply too early are ignored. Then, efforts are made to reverse the track and follow it to its origin. This is not very difficult to do, but when mountains get in the way, the tracks are shattered into pieces. So, tracks cannot always be reversed. This was the case with Steve Fossett. The short track segments simply could not be related back to the Flying M Ranch.

This map captures approximately one-third of the Steve Fossett search area. The tiny white square in the center top of the image represents the size of a typical canyon. The width of the large yellow rectangle is 150 nautical miles. The search area was 22,500 times larger than the canyon.



Q: Could Fossett's plane fly for many hours and remain undetected by radar?

A: That is a possibility, but most of the analysts believe this is highly unlikely. At some point, if Fossett traveled far enough from the Flying M, he should have been detected by radar. If his plane stayed low and in areas with no radar coverage due to the mountains, then he would not have been detected.

Q: How is a search conducted once the radar data has been analyzed?

A: With all of the radar analysis, the real "finding" is always done with human eyes, and it is generally done from aircraft. Sometimes technology helps, too. Ultimately, however, the search rests with the people flying in the search aircraft and searching on foot.

Q: What about possible sightings in the Fossett search?

A: When there is a reported

sighting, local law enforcement, SAR personnel and other experts investigate these new clues. Many "witnesses" were interviewed and their leads were used to help search for Fossett. Even the unusual search leads produced with the help of Google Earth were individually checked. One image from Google Earth was investigated and it turned out to be one of the search aircraft. The satellite photographed it during the ongoing search.

Q: How do we know we have fully reviewed all of the radar data?

A: On most incidents the track of the aircraft is quite obvious, but that was not the case with the Steve Fossett search, primarily because the mountainous terrain dramatically limited what the radar sites could see. Due to the complexity of the terrain and the sheer size of the search area, nearly a dozen radar analysis experts were asked to review the radar data. Experts from the



This is a real crash photo from another search years ago. Do you see the airplane? The smoke is your clue. Now look at the base of the smoke. Airplanes no longer look like airplanes after they crash. The only clue to the searchers was the smoke; otherwise, the human eye would likely not detect this crash site.

FAA, National Transportation Safety Board, Navy, Air Force, CAP and others all put their eyes on the data. So, multiple people using many approaches and software tools all looked for one thing — any track that could be related to Fossett. Every viable track was sent to the incident management team. These tracks were clues and each one was investigated. ▲

From sites atop mountain peaks, radar can sweep many miles of territory. However, mountains can block aircraft from detection.

Terrain Tells the Story

Steve Fossett left the Flying M Ranch in a Bellanca Citabria Super Decathlon, a high-wing, single-engine aircraft designed for flight training but also capable of performing aerobatic maneuvers. The plane was borrowed from Fossett's friend, hotel mogul Barron Hilton.

The mountains and vegetation in the search zone made detection very difficult and dangerous. Search aircraft flew very close to the ground. Notice the difference between the valley floor and the mountains. The mountains are treacherous, with deep canyons and vegetation that make complete visibility virtually impossible.



Photo by 2nd Lt. Guy Loughridge, Colorado Wing



ABOUT THE BELLANCA CITABRIA SUPER DECATHLON

Gross Weight: 1,800 pounds
Length: 22 feet, 11 inches
Height: 7 feet, 8 inches
Maximum speed: 155 mph
Range: 563 miles

Photo by Maj. Alice Mansell, California Wing



Photo by Maj. Alice Mansell, California Wing

RadAR Rainmaker

Loughridge Honored With National Award

By Neil Probst

A gift for saving lives was born out of tragedy.

For Colorado resident Guy Loughridge, a 1994 wild-fire in his home state was too much to bear. The blaze claimed 14 firefighters.

A search-and-rescue incident commander, Loughridge had never lost a soul during hundreds of search and rescue missions he'd led. He set out to keep this record intact by tapping into computer skills honed at Lewis and Clark College in Portland, Ore. The result — mapping software that can track people and plot GPS (global positioning system) data — later was refined to show aircraft tracks and geographic features, like mountains.

The results of his radar tracking analysis technology have been remarkable.

Working from his home computer on a completely volunteer basis, Loughridge receives radar tracking assignments from high-level state, federal and military agencies seeking his assistance to find lost aircraft and

people. Now a CAP second lieutenant, Loughridge has assisted in some 200 search-and-rescues using his mapping technology and, in the process, he has helped save 24 lives. One of his most recent assignments was the SAR for renowned adventurer Steve Fossett.

Loughridge is always careful to point out that his role is to assist with the SAR process. Many other search-and-rescue teams — “ground pounders” who search on foot, aircrews who conduct aerial reconnaissance and numerous other emergency services providers — have an incredible amount of work to complete once Loughridge pinpoints a probable crash site. Also, as in the Fossett search, Loughridge often works with other radar experts.

For his efforts, he was recently honored as a Distinguished Volunteer during the 2007 Public Benefit Flying Award ceremony held in Washington, D.C. The honor followed his receipt earlier this year of CAP's Exceptional Service Award.

“These two events were beyond anything I could have expected. I was staggered by the recognition,” said Loughridge.

CAP 2nd Lt. Guy Loughridge, center, is flanked by Rol Murrow, left, chairman and CEO of the Air Care Alliance, and Jonathan Gaffney, president and CEO of the National Aeronautic Association, who presented Loughridge the Distinguished Volunteer Award during the 2007 Public Benefit Flying Award ceremonies held in the Capitol's LBJ Room in Washington, D.C., on Sept. 17.

Photo by Bob McComas, National Aeronautic Association



DEFINING MOMENT

For his very first radar analysis mission, the Air Force asked Loughridge to help find an A-10 pilot's jet after it crashed into a Colorado mountain in April 1997. About a week later, on a different mission, Loughridge used the radar software to make his first find. A single-engine aircraft had crashed in Colorado, and the Air Force again called for Loughridge's assistance.

"I was able to track that airplane to a place where the pilot was going to cross the Continental Divide, and I could definitively see he had hit the top of the mountain," said Loughridge.

"The Air Force said I got them to a few hundred feet vertically and a thousand feet horizontally from the crash," he said.

Soon after, Loughridge said the Federal Aviation Administration and the National Transportation Safety Board began regularly requesting his assistance.

Now, Loughridge conducts radar analysis for 20 to 30 missions a year.

In 2000, Loughridge joined CAP, which led to his relationship with the Air Force Rescue Coordination Center, which also tasks him regularly.

SAVING LIVES

Of the 200 search-and-rescue missions Loughridge has worked with mapping technology, only five remain unsolved.

He also has been credited with 72 "radar finds," which occur when a crash site location provided by Loughridge is so accurate that rescue teams find the site within an area comparable to a few city blocks.

But statistics don't matter to Loughridge. He savors real-life successes. Like the time in August 2006

when a Cirrus crashed in Colorado with a father and daughter inside. Working with the Western Air Defense Sector and two Colorado counties, Loughridge and other radar analysts plotted radar data and emergency locator transmitter (ELT) signal information onto maps, and the radar expertise guided rescuers to the thankful pair.

Or the time a PA-28 pilot flying over rugged Idaho mountains called mayday in the middle of the night

after the airplane's engine failed.

Loughridge created several three-dimensional graphics and search area predictions, and the airplane and pilot, still alive, were found inside the microscopic search area he defined.

In 2005, Loughridge helped with the rescue of

two glider pilots who crash-landed in California's San Gabriel Mountains near Los Angeles.

Superimposing a three-dimensional map of Southern California on his computer screen, Loughridge followed the glider's path and discovered the aircraft had come to rest on a mountaintop. He relayed the information to ground searchers, who found the pilots alive after they'd spent a night in sub-freezing temperatures.

For Loughridge, the real joy is here, in the rescue, which reunites families and extends lives.

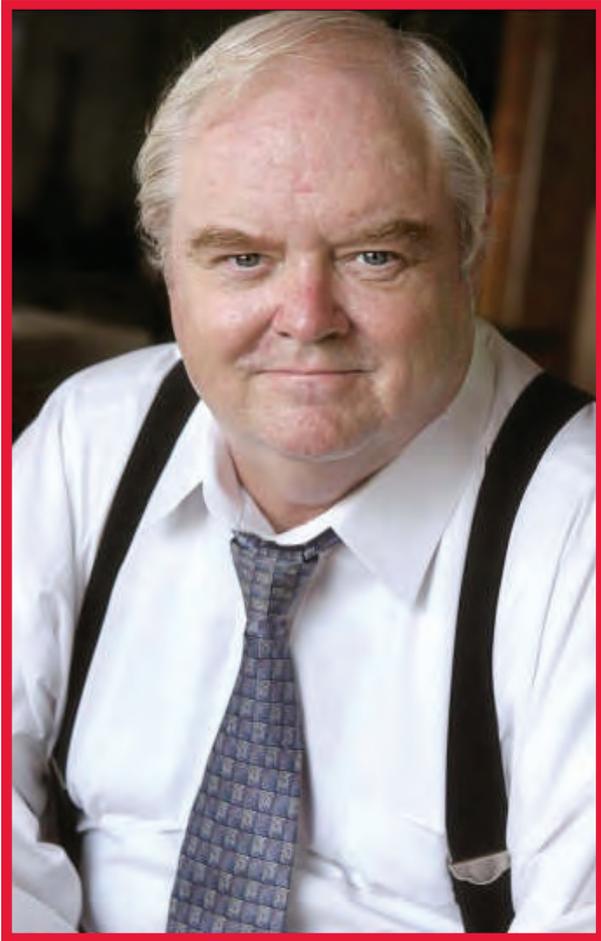
"When a crash site is found, my emotions change. There is always relief, even though we may only have brought certainty and finality to the families.

"My tears, however, always come when I hear there is a survivor," said Loughridge. "I can barely remain still. I pace back and forth and I can barely focus, more from the emotion than the tears. I look at the real miracle that we in CAP have brought to the family. Somebody is coming home." ▲

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— 2nd Lt. Guy Loughridge



BEHIND THE SCENES

By Donna Harris

Civil Air Patrol Capt. Robert Noble, an actor, commonly shares CAP duties with a lawyer, an investment banker, a scientist, a judge, a corporate CEO and a magazine editor as a member of the Clover Field Composite Squadron in Santa Monica, Calif. The Clover Field squadron was one of dozens of units from eight states involved in the search for Steve Fossett.

*Volunteers
provide
supporting
cast for CAP's
Fossett search*

Robert Noble isn't really a doctor. He just plays one on TV. An actor by trade, Noble's portrayals run the gamut from composer Johann Sebastian Bach to Bubba, city inspector to Santa Claus. His roles are varied and diverse, just like the company he keeps.

Noble recently found himself in a scene with a lawyer, an investment banker, a scientist, a judge, a corporate CEO and even a magazine editor.

Any role is possible for a good actor, right?

But in Noble's case, they weren't actors. They were real people, with real jobs and a common goal.

Noble, a captain with the Civil Air Patrol, was one of 100 volunteers who worked diligently to find millionaire aviator Steve Fossett when his borrowed single-engine Bellanca Citabria Super Decathlon disappeared in

early September.

Since joining the Civil Air Patrol after 9/11, Noble has made friends with people from all walks of life, he said. "It's as unlikely a bunch of people as you'd ever want to meet," he said.

The heart of the volunteer

He believes most CAP volunteers have an unseen force driving them.

"We have these unique skills and, as cliché as it may sound, we have to do something with them and we have to give them back," he said. "Whatever someone's talents are, they can be of use."

When he joined the Fossett search, Noble didn't care if he flew search planes or poured coffee, as long as he was contributing to the mission. "I told the incident commander, 'Tell me what I can do. I don't care if it's emptying trash cans. Let me be useful somewhere. I don't care where,'" he said.

Noble flew High Bird as a transport mission pilot, but spent the majority of his time involved with communications and base operations.

Though Fossett was never found, Noble feels the mission was a success because motivated, trained strangers came together for several weeks and worked together like a well-oiled machine. "These people did the job," he

said. "I was proud to be associated with them, and I will never forget them," he said.



Photo by Capt. Bill Adams, Colorado Wing

Lt. Col. George Mixon, Colorado Wing vice commander, operated ARCHER during CAP's search for Fossett. He also escorted fellow Colorado Wing member 2nd Lt. Guy Loughridge to Nevada for a meeting with radar experts.

Noble's friends in Civil Air Patrol are also his friends outside of CAP, he said.

Like Maj. Sam Seneviratne, an investment banker and ARCHER operator.

Seneviratne, a member of the Civil Air Patrol for 3 1/2 years, commands the California Wing's Clover Field Composite Squadron.

"The Civil Air Patrol is full of well-meaning, good-hearted people," Seneviratne said.

The Fossett mission reminded volunteers how important their individual contributions can be, he said.

"We are completely diverse in who we are as people," he said. "The glue that binds us together is the fact that we are all patriots. We stand for serving our country and our fellow citizens."

Search centered in Nevada

Initially, more than 60 Nevada Wing members and six aircraft were involved in the search effort. This expanded to include more than 100 CAP volunteers and 25 aircraft over the course of the search.

"I was a Colorado pilot, flying a Utah aircraft, from a Nevada mission base, with a California High Bird coordinating the Nevada- and California-based search aircraft."

—Lt. Col. Bob Beabout, Colorado Wing

“Our membership is drawn from people of all walks of life and with different talents. They come to CAP principally through a love of flying, through a desire to serve their communities in some fashion or for the cadet program activities,” said Lt. Col. E.J. Smith, Nevada Wing search leader.

Many members have flight training, but membership is not limited to that profession at all, she said. “There are many pilots, of course. But there are also law enforcement backgrounds, attorneys, teachers, financial analysts, parents, former military members, entrepreneurs and business and government employees,” she said.

While the members have diverse professional and educational backgrounds, their goals are similar. “As a general rule, CAP members are well-educated and well-trained,” she said. “We are all drawn to the service-as-volunteers aspect of the organization. We believe in our mission, and all come together to fulfill it with a lot of dedication.”

A well-laid search plan

Lt. Col. Bob Beabout of the Colorado Wing was impressed with the Nevada Wing’s mission coordination.

“I thought the mission was handled very professionally,” said Beabout, a retired military pilot and airline captain. “I was at Minden, Nev., and was impressed by the Nevada Wing keeping things short and simple, thus avoiding confusion.”

He said crews from various wings and regions operated together from different bases, yet stayed coordinated. “I was a Colorado pilot, flying a Utah aircraft, from a Nevada mission base, with a California High Bird coordinating the Nevada- and California-based search aircraft,” he said.

Lt. Col. John Desmarais Jr., deputy director of operations at CAP National Headquarters, said a mission like

Fossett’s requires people with various skills and abilities. “They come together as a team to make it happen, but it’s all about individuals bringing together their talents to do what’s right to help people in need.”

He said volunteers document every aspect of the search, including monitoring equipment, providing meals and tracking other volunteers.

“The rescue mission activities at the incident base are just as important as the people looking out of the airplane, scanning the ground for the target,” he said.

Lt. Col. George Mixon, vice commander of the Colorado Wing, is a retired Army veterinarian, yet for the Fossett mission Mixon operated the ARCHER system and escorted a radar expert to a meeting in Nevada.

Mixon joined CAP to “meet new people, do new things and contribute back to my community.”

Participating in this mission gave him that

opportunity. “I have experienced adventure I normally would never have had the chance to,” he said. “We tried our best to find him and lots of us risked our own life to do so.”

Second Lt. David Kuntz of the New Mexico Wing has similar thoughts.

Though typically a mission pilot, Kuntz was an ARCHER operator for the Fossett mission. His day job is as a mechanical engineer working for the U.S. Department of Energy.

“CAP has provided me with the opportunity to help our community and country in ways that otherwise would not be possible. The people I work and fly with compose an extremely dedicated and capable group of individuals. It is a privilege to fly with each and every one of them,” he said ▲



Maj. Sam Seneviratne commands the California Wing's Clover Field Composite Squadron, which devoted more than 800 hours in support of the Steve Fossett mission.

Photo by Lt. Col. John C. Jay, California Wing