

CIVIL AIR PATROL

October–December 2015



volunteer

**Air Force Grant Helps
Disadvantaged Cadets
Attend Encampment**

**10 Years After Katrina
CAP Participants Revisit
Catastrophe on the Coast**



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October-December 2015

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Col. Rock Palermo is interviewed by a member of the news media during Civil Air Patrol's response to Hurricane Katrina. The hurricane, which grew to Category 5 strength in the Gulf of Mexico, slammed into the Louisiana, Mississippi and Alabama coastlines 10 years ago. Packing 125-mph winds and 20-foot storm surges, Katrina became the costliest natural disaster (an estimated \$125 billion in property damage) and one of the deadliest hurricanes (at least 1,833 lives lost) in U.S. history.

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ON OUR COVER

Daniel R. Sitterly, principal deputy assistant secretary of the U.S. Air Force for manpower and reserve affairs, visited the Virginia Wing Encampment at Fort Pickett to experience firsthand the benefits of CAP encampments. This summer a new Air Force grant expanded CAP encampment opportunities to more than 1,400 cadets across America. See story beginning on page 8. Photo by John Swain, CAP National Headquarters

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Kornegay, Lt. Col. David A. Miller, Lt. Col.
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GRAPHIC DESIGN
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Texas Wing Focuses on CPR, First Aid Techniques

Members of the Texas Wing's Randolph Composite Squadron received a thorough grounding in CPR and first aid courtesy of Maj. Brad



Rather, who drew on his expertise as a retired U.S. Army officer with service in the Army Nurse Corps and Army Medical Service Corps and as an Army physician assistant, as well as his current position as an emergency room physician assistant and instructor. The daylong training session alternated between classroom and outdoor space at Camp Bullis Military Training Reservation. The participants received hands-on practice taking vitals, controlling bleeding with trauma dressings and applying pressure dressings and tourniquets. Here Cadet Airman Basic Daniel Guillan works with Cadet Airman Jonathan Gandy to apply a splint used for treating sprains and fractures. "These are a lot of the same skills I taught my combat medics in the Army," Rather said. "Being a good medic isn't just about taking care of the trauma, it's knowing how to take care of the routine medical issues that can take soldiers (and cadets) away from their mission." Photo by 2nd Lt. Karla Friedrichs, Texas Wing

Washington Wing Cadets Tour Lewis-McChord



U.S. Air Force Airman 1st Class Aaron Bell, left, of the 62nd Operations Support Squadron at Joint Base Lewis-McChord, Washington, works with members of the Washington Wing's Green River

and South Sound composite squadrons during Civil Air Patrol members' tour of the base. Among those joining Bell are, from left, Cadet Staff Sgts. Farron Austin and Shane Pierson and Cadet Airman 1st Class Walter Yap, all members of the South Sound unit. This photo was selected as the winner of Civil Air Patrol's Military Appreciation Month Photo Contest for Facebook. Photo by 1st Lt. Jessica Jerwa, Washington Wing

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CAP's New Initiatives in General Aviation

Across the whole of its 70-plus year existence, Civil Air Patrol has been a fixture in the general aviation industry of this country. With over 550 aircraft based throughout the continental U.S., Hawaii and Puerto Rico, CAP's "footprint" at airports around the country is larger than many U.S. airlines! While not as well-known as we should be to the general public, CAP has always been known to members of general aviation. More than ever before, the aircraft and technology used by CAP flight crews represent the latest and best general aviation has to offer.

To better represent our position within general aviation, we have reached out to a number of aviation organizations in the past year. Meetings were conducted with the leaders of both the Aircraft Owners and Pilots Association (AOPA) and the Experimental Aircraft Association (EAA), and a number of exciting initiatives are in the works. Recently, I was pleased to recommend the senior vice president of AOPA, George Perry, to the secretary of the Air Force for inclusion in CAP's Board of Governors. The secretary of the Air Force agreed, and Perry is now the newest member of the board! He will bring a much-needed general aviation perspective to our governing body and give us a closer relationship with one of general aviation's

largest pilot organizations.

As with any aviation organization with a long history, over the years Civil Air Patrol has developed and redeveloped its flying rules and regulations. To better serve the needs of CAP flight crews and aircraft operations, a special team was recently



CAP's red-white-and-blue planes are a fixture at airports across America, making it well known to members of general aviation. National Commander Maj. Gen. Joe Vazquez, pictured here, wants to improve partnerships in the aviation industry. That's why he and other CAP leaders are reaching out to other aviation organizations to create greater public awareness nationwide. Photo by Susan Schneider, CAP National Headquarters

appointed to recommend changes to CAP's flying publications. The new emphasis is to make those regulations, manuals and other documents more consistent with existing federal regulations and to separate flying rules applicable to all CAP flying from special procedures that apply only to certain CAP missions. The goal is to simplify or reduce requirements where possible, making it easier for our aircrew members to gain and retain their qualifications, while also ensuring a comprehensive flying management program remains so that all CAP aircraft have properly trained and supported aircrews available to successfully fly the missions.

Lastly, the success of CAP aviation would not be possible without the support of our Air Force partners and the U.S. Congress. During the

2015 fiscal year, Civil Air Patrol was able to purchase 21 new Cessna 172 aircraft. Thanks to an agreement with Textron Aviation, CAP was further able to have gasoline-powered C-182 production restarted in Independence, Kansas, and has ordered another 17 new C-182s. And to top

off the year, the Air Force is giving CAP six turbo-charged C-182s in new condition that are surplus out of Afghanistan!

There is much more to Civil Air Patrol than its aviation program, but aviation remains the largest component of our organization. The support to the cadet and aerospace education missions would not be as strong without a healthy aviation program, and I can report that CAP is better than ever.



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CAP Focuses on Retention and Recruitment



Civil Air Patrol is a service organization, and that service comes from our members. Certainly we have cutting-edge assets such as glass-cockpit aircraft, cell phone and radar forensics, FLIR technology and such, but without our members, CAP would not exist.

Over the past few years, we have witnessed an unsettling trend. Our membership numbers, especially for cadets, are declining. Some of this can be attributed to shortfalls in recruitment, but there are problems with retention, too.

CAP is dedicated to stopping and reversing this trend. It was a hot topic at our summer national conference in Orlando, where the region and wing commanders generated customized strategic plans specifically designed to address local recruitment and retention needs. A new national recruitment officer, Lt. Col. Darin Ninness of the New Hampshire Wing, is helping spearhead this crucial initiative.

On the matter of retention, we know we must always help make our members feel welcome and engaged in our missions. One consideration commanders explored during the conference was the leaps in technology and advances in safety, which have affected the number and types of missions we now perform. We know that in order to fully use our expertise, we must continue to develop and strengthen our ties with other first responders, which will help ensure CAP is always a go-to resource for corporate missions at the local level.

Regarding recruitment, CAP is following the lead of Madison Avenue — marketing our organization through increased coverage in the news and social media channels and by taking our stories to air shows, shopping malls and civic events. In the case of cadet recruitment, we are finding great interest from both young people and their parents in the leadership skills CAP's



cadet program offers.

While CAP's work pursuing its core missions — emergency services, cadet programs and aerospace education — can be both engaging and rewarding, it is clear from our declining membership that we need to eliminate the roadblocks to member satisfaction by making it more appealing to join and easier to participate.

Would you like to become a part of our team, which is working to build CAP's future for today and tomorrow? For more information about CAP membership, visit www.capmembers.com.

Recruiting and retaining members — like the 2015 National Staff College participants pictured here — are critical to the future of Civil Air Patrol and its missions.

Photo by Susan Schneider, CAP National Headquarters





Air Force Encampment Grant

Touches Lives of Hundreds of Disadvantaged Cadets

By Kristi Carr

The highlight of the year for Civil Air Patrol cadets is attending CAP summer activities. Yet for some, family economics rule participation out. In the past, individuals — usually adult members — have stepped in to offer donations, but this year the U.S. Air Force came through with a significant grant, allowing more than 1,400 additional cadets to experience summer fun, CAP style.

One cadet's story

In Puerto Rico, almost two-thirds of the 98 cadets attending the Summer Leadership Academy were there on scholarships through the Cadet Encampment Assistance Program, or CEAP. “Our family is down economically right now,” one said. “The scholarship was really



Cadet Master Sgt. Bryan Trujillo works on robotics in this class, part of the Puerto Rico Wing's summer encampment. Photo by Lt. Col. Marie Ann Rivera, Puerto Rico Wing

helpful for encampment fees and uniform costs.”

This year's summer program, conducted in Mayaguez, held special appeal for this cadet. “I wanted to see if I was a good leader, and leadership skills were what this encampment was all about,” he said. “So when we saw the email about the scholarships, we quickly applied.”

Sounds as if his leadership initiative kicked in before he even got to the encampment!

Just as in the Air Force, physical fitness is stressed for cadets. Here, Cadet Airman Julian Riley from the California Wing's Escondido Cadet Squadron handles the overhead bars with a smile at the wing's summer encampment, which was held at the California Army National Guard's Camp San Luis Obispo.

Higher numbers, enhanced curriculum

"The Air Force grant has bumped up the reach of our summer activities by over 20 percent," said Curt LaFond, deputy director of cadet programs at CAP National Headquarters. Normally, summer attendance runs 5,000-6,000, but the Air Force grant helped drive up that number to around 7,200.

"This special funding came at a perfect time," LaFond said. "Just last year we revised the curriculum to emphasize the two topics most important to our Air Force partners: character and education in the STEM subjects of science, technology, engineering and mathematics."

CEAP assistance is available only to first-time encampment attendees participating in summer 2015 activities. Cadets applied online through CAP's eServices website.

"While there is still much more we can do to help cadets in financial need, this allowed some young Americans to experience aviation in a way they never would have if not for this initiative," said Daniel R. Sitterly, principal deputy assistant secretary of the Air Force for manpower and reserve affairs.

The power of encampment

The Puerto Rican cadet quoted above was impressed with the camp's organization. "I really like to do this type of activity because of the planning, which is key to a successful encampment," said encampment commander Lt. Col. Ismael J. Rodriguez. Once a CAP cadet himself, Rodriguez is now a civil engineer and logistics management specialist with the Puerto Rico Air National Guard. "We made sure the cadets in each of the six flights had a well-prepared training officer and that the senior and cadet staffs were always one step ahead."

This year marked the first time the Puerto Rico Wing used National Headquarters' new encampment guide to develop activities. Crammed into just one week, these

included obstacle course and laser tag competitions; tours of the radio telescope at Arecibo, the U.S. Coast Guard operations hangar, Ramey Air Force Base Museum and the 141st Air Control Squadron; orientation flights and flight simulations; classes in remote-controlled aircraft, astronomy and robotics; and physical challenges that included exercises, a mile marathon and a volleyball tournament. Cadets even constructed model bridges and catapults to put their STEM skills to the test.



Half a continent away the Louisiana and Arkansas wings conducted a combined encampment, where a little more than 10 percent of the participating cadets were scholarship recipients.

Held at Camp Minden National Guard Base, this encampment enjoys a strong relationship with nearby

Cadet Staff Sgt. Hannah Cheatham, with the Arkansas Wing's 42nd Composite Squadron, tackles the obstacle course during the Louisiana and Arkansas wings' joint encampment.

"This has been huge for CAP, the cadets, the families and, in years down the line, for America." – Curt LaFond, deputy director of cadet programs, CAP National Headquarters

Guidon bearer Cadet Master Sgt. Reagan Ullman, a member of the Louisiana Wing's Barksdale Composite Squadron, leads Delta Flight at the Louisiana/Arkansas Joint Encampment.



Barksdale Air Force Base, which offered the cadets tours of the facilities, even in normally restricted areas such as the control tower, a B-52 cockpit, a security forces facility and a spatial training area for pilots. The base also made classroom facilities available to the cadets, and base officers — including a two-star general — answered questions about military life.

"Some of the cadets arrived shy and lacking self-confidence," said Lt. Col. Victor Santana, the encampment commander, "but by the time the encampment is over, they have been transformed into highly motivated individuals. Some parents even report their cadets are more willing to help with chores when they return from encampment!"

A winning cycle

Lt. Col. Peggy Myrick, commander for the California Wing's encampment, where about a quarter of the cadets had scholarships, said, "We have found that if our cadets can attend an encampment fairly early in their cadet lives, then they will more likely stay in the program. Encampment tends to energize our cadets, and they then talk about their experiences with their friends, which, in turn, helps recruit new members."

"Cadet summer activities offer a rich experience for cadets, and with the funding from the Air Force, we can deliver this experience to so many more," LaFond said. "This has been huge for CAP, the cadets, the families and, in years down the line, for America." ▲

Note: The cadets featured in the photos were not scholarship recipients.

It's the big 2,000!

New Jersey cadet becomes the 2,000th Spaatz Award recipient

By Kristi Carr and Jennifer S. Kornegay

While most of us strive to be known by names rather than numbers, not so with Civil Air Patrol cadets.

They would love to be known by a number — if it's a Spaatz number.

In August, Cadet Col. Matthew Jackson reached a milestone for himself, for CAP and for the Gen. Carl A. Spaatz Association in a single stroke when he became Spaatz No. 2,000.

The rigorous road to become a Spaatz

Members of the Spaatz Association, initially drawn from the ranks of current CAP cadets, are identified with sequential numbers, but the Spaatz award is so select that it goes only to the top one-half of 1 percent of CAP cadets. According to the president of the Spaatz Association, Spaatz No. 290 retired U.S. Air Force Lt. Gen. Ted Bowlds, "Even though 2,000 is a big number, it's small in comparison to the numbers enrolled in CAP's cadet program. For only 2,000 to have achieved this award speaks to how prestigious and hard it is to earn."

The Spaatz award is named in honor of Gen. Carl "Tooey" Spaatz, the first chief of staff of the U.S. Air Force. Along with another pilot, he set an important



Cadet Lt. Col. Matthew Jackson, left, receives the Gen. Ira C. Eaker Award at the 2015 New Jersey Wing Basic Encampment graduation on Aug. 8. Presenting the award to Jackson is Northeast Region Vice Commander South Col. Joseph Sirois. Two days later, Jackson

learned he was the 2,000th recipient of the Gen. Carl A. Spaatz Award — CAP's highest cadet honor, which carries with it a promotion to cadet colonel.

Used since 1998, the wreaths and diamond Spaatz logo was developed by Matt Johnson, Spaatz No. 905.

A limited-edition Spaatz Association challenge coin is available in a "proof" nickel silver finish to Spaatz award recipients. Designed by the association's webmaster, one side of the coin features a likeness of Gen. Carl A. Spaatz based on a portrait by famed "Steve Canyon" comic artist Milton Caniff for the National Aviation Hall of Fame. The coin's reverse side displays the association's logo and includes space for engraving the Spaatz's number.



Gen. Carl A. "Tooe" Spaatz served the U.S. Air Force as its first chief of staff and later became CAP's first National Board chairman. His distinguished career has been memorialized by the Spaatz Association, which recognizes future leaders of America.

Photo courtesy of U.S. Air Force

flight endurance record in the early days of aviation, and during World War II he commanded the Allied air campaign, including the bombings of Hiroshima and Nagasaki. When he retired from the Air Force, Spaatz served as the first chairman of CAP's National Board.

Spaatz cadets are expected to follow Spaatz's example, serving as role models for junior cadets and later becoming leaders in their communities. To qualify to take the Spaatz exam, cadets must prove themselves as "servant-leaders" by succeeding in ever more challenging duty assignments. Candidates must also serve as sergeants, flight commanders and squadron cadet commanders or in similar roles.

After meeting these prerequisites, a cadet must pass two proctored written exams — a 60-question, multiple-choice exam on leadership, based on CAP textbooks and manuals, and a similarly structured exam on aerospace, based on selected chapters of *Aerospace: The Journey of Flight*.

To test for character, a written essay is required; evaluated at CAP's National Headquarters, the essay must address one of a list of moral leadership topics.

A further required component is physical fitness, assessed by a candidate's successful completion of a mile

run and various exercises.

Finally, candidates are scrutinized for various leadership qualities, including attitude, core values, communications skills, responsibility, interpersonal skills, critical thinking and delegation. The successful Spaatz candidate averages five years to progress through 16 achievements in the CAP Cadet Program.

Jackson must have had Spaatz on his mind as soon as he joined CAP in 2010, when he was just 12 years old. Now 17, he has commanded the cadets in the New Jersey Wing's Twin Pine Composite Squadron since 2014 and has participated in many CAP flying opportunities, including glider flight academy, as well as CAP's last two annual legislative days. Still looking to the future, he hopes his next stop will be the U.S. Air Force Academy.

He credits his cadet commander and senior members in his squadron who always pushed him and motivated him to be the best he could be, while he achieved and advanced in the cadet program. As his Spaatz exam loomed, he admitted to being both nervous and confident. He had studied hard.

"Being the 2,000th cadet to earn the Spaatz Award is a huge honor," said Jackson. "I feel that this award is a culmination of everything I have worked so hard for in the cadet program. However, this award does not mean that I have completed the program, for there are still many aspects I will continue to explore."

In good company

Regardless of where life takes him, Jackson will find himself in a rarified atmosphere due to his status as a Spaatz Association member.

Spaatz No. 1, presented in 1964, was awarded to Douglas C. Roach. Roach had a renowned career as a highly decorated U.S. Air Force pilot in the Vietnam

"Everything I have done was directly influenced by my CAP cadet training and specifically by the leadership opportunities that arose out of being a Spaatz recipient."
— Brig. Gen. Rich Anderson, Spaatz No. 193

War and went on to fly with the famous Thunderbirds. When he retired from the Air Force, he continued in public service as a congressional aide who served both sides of the aisle prior to his death in 2013.

Other notable Spaatzes include U.S. Air Force Col. Eric Boe, a distinguished graduate of the Air Force Academy and NASA astronaut who was a space shuttle pilot, and Kevin Redman, who went on to work at NASA and worked on optics for the Hubble Telescope. Other Spaatzes have made their marks outside of aviation and aerospace, as doctors, writers, even actors.

As Rich Anderson, former Spaatz Association president and Spaatz recipient No. 193, explained, joining the ranks of other Spaatz recipients can have life-changing effects. "I earned the award in 1972, and the training that led to it resulted in a degree of discipline that has impacted my life in many positive ways," he said.

Anderson went on to serve in the Air Force for 30 years, retiring as a colonel six years ago. He now represents Northern Virginia in that state's legislature. A

brigadier general in Civil Air Patrol, Anderson was also CAP's national commander from 1993-1996. "Everything I have done was directly influenced by my CAP cadet training and specifically by the leadership opportunities that arose out of being a Spaatz recipient," he said.

Curt LaFond, CAP's deputy director of cadet programs and Spaatz No. 1,030, knows firsthand what being a Spaatz recipient takes and what its recipients are ready, willing and able to give back to their communities and their country. "What the Spaatz award really represents is a young person's ongoing commitment to service and excellence, a commitment to a journey," he said.

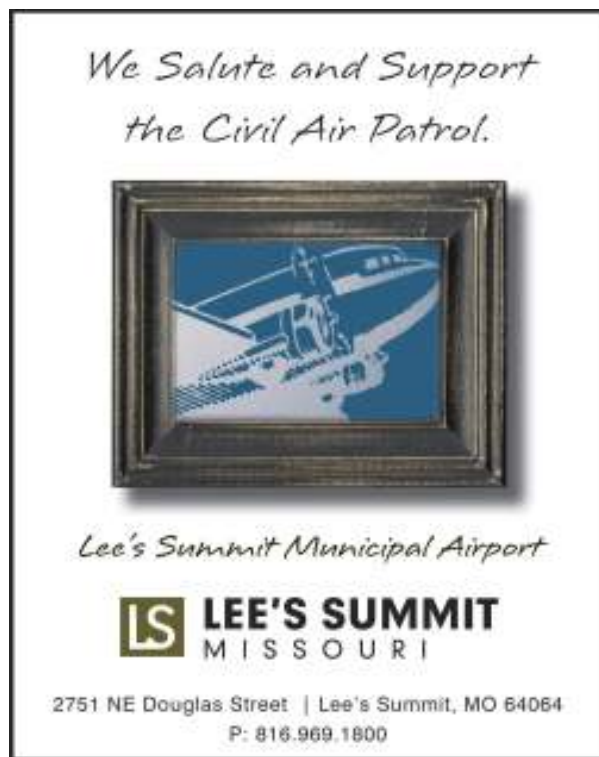
Bowlds stressed that there are common threads binding Spaatz recipients. "I can see the elements of what it takes to earn the Spaatz award whenever I meet fellow recipients," he said. "You can see those traits in them and see how they have shaped their lives, what they've tried to do and how they've done it. The entire program leaves a fingerprint on those individuals that never truly goes away." ▲




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Robotics Writing

Maryland Wing's St. Mary's Composite Squadron cadets program the Robotic Arm Edge to write on paper. Photo courtesy of Scott Cummings



Delivering STEM Education Where It's Needed

By Ginny Smith

A squadron grows so rapidly it doubles in size in just a little more than a year.

▲
A cadet decides to become an unmanned aerial systems pilot.

▲
A student who may struggle in a traditional class setting is the first to answer questions about a flight simulator and helps his classmates grasp the concepts.

▲
Some students with learning needs perform as well as or better than their classmates with no special needs.

▲
An entire community comes together and learns about aerospace education and Civil Air Patrol.

Those are just a few examples of the impact of hundreds of hands-on rockets, robotic arms, flight simulators, telescopes and model/remote-control aircraft delivered into the hands of more than 140,000 cadets and students by CAP's STEM Kit Program, a \$1 million investment in the country's youth and future, since the program's beginnings in early 2013.

STEM (Science, Technology, Engineering and Mathematics) is the focus of stakeholders from the White House to the schoolhouse. A gap exists between America's STEM education interest and the need for a growing STEM workforce. According to the U.S. Department of Education, only 16 percent of U.S. high school seniors are proficient in math and interested in a STEM career. The department also predicts stronger growth in many STEM jobs than in other occupations.

To help educate and inspire the nation's future workforce, the free STEM Kit Program is one of several hands-on, inquiry-based programs CAP aerospace education provides for youth in pre-K through high school and beyond.

"The goal was to promote STEM by providing STEM Kits to CAP squadrons, aerospace education teacher members and Air Force Junior ROTC detachments," said Dr. Jeff Montgomery, deputy director of aerospace education at CAP National Headquarters, who oversees the STEM Kit program. "In the fall of 2012, CAP received \$250,000 from the National Defense Education Program managed by the Air Force STEM Outreach Office to promote STEM."

That financial support continued into fiscal year 2014, with Civil Air Patrol also providing funds to keep the program going and free to members, Montgomery said.

The five kits are Flight Simulator, Model and Remote Control Aircraft, Robotics, Rocketry and Astronomy. "CAP is fortunate to have many talented volunteers experienced in STEM-related careers," Montgomery said. "These volunteers played a very important role in helping decide how best to promote STEM and helped in the selection process of each kit and its components."

The Five Kits

Astronomy — A portable Celestron telescope, a CD with planetarium software, a CAP Astronomy Activity Booklet

Flight Simulator — Microsoft Flight Simulator as a Training Aid booklet with companion CD, yoke and rudder pedals, flight simulator software

Model and Remote Control Aircraft — Flyzone Calypso remote-controlled airplane, Skystreak and Cub (balsa) aircraft; Real Flight Simulator computer program, two DVDs, CAP MARC booklets

Robotics — OWI Robotics Robotic Arm Edge, USB programmable software, instructional DVD, CAP Robotics book

Rocketry — Estes Alpha III rockets, motors, launch pads, controller, CAP Model Rocketry book, instructional DVD

Each applicant receives enough of these materials and completion certificates to accommodate the number of participants in his squadron or class.

Hands-on Approach Fosters Student Interest

The resulting kits feature components participants can use to build, fly, program and more. "Educators have long known that students learn far more and retain it longer when they are actually doing an activity rather than just reading or hearing about it," Montgomery said. "Therefore, we always try to emphasize hands-on activities whenever possible in aerospace education."

The program's hands-on nature draws enthusiastic praise from AE leaders, CAP educator members and youth. Capt. Gositha Dewage, aerospace education officer for Florida Wing Group 2 and also for the Ormond Beach Composite Squadron, said the experiential nature of STEM Kits makes them more engaging for squadron members. "Most of the time, cadets don't like lecturing," said Dewage, whose squadron has received the Rocketry and Model Aircraft/RC kits. "They like hands-on activities."

The cadets agree. Cadet Chief Master Sgt. Matthew Dye of the Ormond Beach squadron, who has been in Civil Air Patrol for 5½ years, touts the benefits of studying STEM beyond what's available in a book or lecture. He believes the STEM Kit program has enhanced the squadron's aerospace lessons on such topics as propellants and aerodynamics. "It's been a great learning experience," Dye said. "It's something really great that has come to CAP."

Cadet Chief Master Sgt. Devon Giles, another Ormond Beach member, enjoyed the teamwork the Rocketry STEM Kit fostered as cadets helped each other build, paint and launch their rockets. “You put all this work into building the rocket, and you take it out to the launch site, and you get to watch it shoot way up into the air,” Giles said. And so the learning continued from the squadron room to the launch site. “You got to understand it by physically doing it.”

Maj. Bonnie Hinck-Baldatti, AEO for the Florida Wing’s Homestead Air Reserve Base Composite Squadron, has used the Rocketry and Model Aircraft/RC STEM Kits with her unit and agrees that hands-on lessons are more engaging for cadets. For instance, they can learn mathematic calculations based on the flight of their rockets. “You have to think like the kids,” Hinck-Baldatti said. “If you’re not having fun, they’re not having fun.” And with the fun comes learning. “From the teaching standpoint, you can throw a lot of science and math into the project,” she said.

Educator members have encountered the same high level of student engagement using STEM Kits in their classrooms. Chris Grace, assistant principal of Brawley Middle School in Mooresville, North Carolina, has used the Flight Simulator kit with an enrichment class of sixth-, seventh- and eighth-graders in the school’s WIN program (What Individuals Need). The kit provided new experiences to his students.

“Maybe one of the kids that we had in the classes had ever done something like this,” he said. The simulator also provides a somewhat realistic impression for the kids of how a flier handles the throttle and other controls, said Grace, also a private pilot.

“It appeals to the kids that need something more than the traditional classroom,” he said. “I can’t help but think of a few of our more challenging students.” Some of these students have become leaders in the Flight Simulator class.

What Grace likes even more than the hands-on aspect is the discovery component of the Flight Simulator kit. When he introduces the lesson, he lets the students experiment and discover on their own with limited instruction, and they begin to teach themselves. “I think discovery learning in general is the best thing that you

can do for kids,” he said.

Andy Field, an eighth-grade STEM teacher at Oxford Middle School in Oxford, Mississippi, has used the Robotics kit in his classes, where students represent mixed academic achievement levels and include children with severe autism and English language learners. The lessons’ experiential aspect is an equalizer for those who may have language challenges, he said. Sometimes, those who struggle with language may even perform better than other learners.

Robotics is a subject that demands students see and not simply read, Field said. “You can’t read ‘how a robot is better than a human or worse than a human.’” Instead, students must see how it’s better or worse. By programming robotic arms, students learn “robots aren’t smart at all — they are only as smart as the people putting the commands in,” he said.

And one unexpected bonus of the Robotics kit for Field arose from the task of assembling the robotic arm. “Many had never used a screwdriver, read assembly instructions or thought about how gears work,” he said. This kit gave the students the chance to do that.

STEM Kits Help Squadrons Reach Out, Grow

Lt. Col. Franklin Porath, aerospace education officer for both the Raritan Valley Composite Squadron and New Jersey Wing Group 223, understands the draw STEM Kits have outside Civil Air Patrol. Porath has used all five of the kits and describes them as “tactile, fun and instructive.” As such, he said, the kits bring “a flurry of activity and excitement whenever they are brought out beyond the confines of a regular meeting and become a part of external activities.”

For instance, the Raritan Valley cadets have taken the robotic arm to schools for competitions and have set up a booth at an airport open house, where they demonstrated the flight simulator and handed out CAP literature. “The best public relations that CAP cadets have is by word of mouth, and when word of mouth got around, the Raritan Valley squadron saw a spurt of new young people attracted to the meetings,” Porath said. His unit almost doubled in membership from 35 members to more than 60 in about 14 months, and he credits the

Raritan Valley Composite Squadron
cadets align the Astronomy STEM
Kit Celestron telescope. Photo by 1st

Lt. Michael Case, New Jersey Wing



Ormond Beach
Composite Squadron
hosted a Model Rocketry
event for the local
community where they
launched rockets made
using their Rocketry
STEM Kit. More than 200
people from the local
community who attended
learned about Civil Air
Patrol. Photo by 2nd Lt. Hayley N.

Dye, Florida Wing



STEM Kit program and other CAP aerospace education initiatives for the increase.

“This has brought kids in, and it gives them intensely interesting things to do, and they just gobble it up,” he said. “And they bring their friends in.”

Dewage, the AEO in Ormond Beach, also has used the STEM Kits for community outreach. He and his squadron hosted a Model Rocketry Day with the Northeast Florida Association of Rocketry at Clegg Sod Farm near Bunnell. The squadron invited local Boy Scout troops and the entire community to come watch the

cadets launch rockets. More than 200 people turned out for the event and were able to see what Civil Air Patrol is all about, Dewage said. “Sometimes they have never seen a rocket launch,” he added. And so the program is both a recruiting tool and a community service.

Tracy Jenner, an elementary teacher at Yankeetown School in Yankeetown, Florida, used her Astronomy STEM Kit for outreach to her students’ families. The Astronomy kit was the hit of a science night at school attended by the children, their parents and their grandparents. “The parents had as much of a blast as the kids,”



St. Mary's Composite Squadron participated in a local community event celebrating military children and drew attention with its display of the Flight Simulator, Model and Remote Control Aircraft and Robotics STEM kits. Photo courtesy of Mike Wilson, New Jersey Wing

Jenner said. "That was an enormous hit."

In Mississippi, more than a dozen of Field's eighth-graders have expressed interest in joining Civil Air Patrol as cadets. He predicts some will pursue membership.

Porath, the AEO in New Jersey, has been a member of CAP since the 1960s and was named Aerospace Education Officer of the Year for the wing and Northeast Region in 2014. He called the STEM Kit program "the best recruiting and retention tool that I've seen in years." In addition to growing membership numbers, the kits help advance cadets through the organization.

Dewage is a U.S. citizen from Sri Lanka, where he had no access to the kinds of materials included in the free STEM Kits he has received. "I didn't have anything like this," he said. "I didn't have an RC plane. I didn't have a rocket."

Cadets in all CAP units want to earn the organization's rocketry badge, but funding often isn't available to progress to the second (Titan) stage using single-stage rockets. Dewage and Hinck-Baldatti both credited the kit's Alpha III rockets for helping offset some of the cost in completing the rocketry program.

In addition to helping develop cadets within the squadron, the STEM Kits open career fields for after high school. The Ormond Beach squadron's Dye, a recent

high school graduate, has been accepted into the delayed entry program for the U.S. Air Force with plans to attend college later. Using the Remote Control kit has fostered his goal to be an unmanned aerial systems pilot in the Air Force.

Giles, another recent high school graduate, was accepted to attend Embry-Riddle Aeronautical University and was inspired by the Rocketry kit to pursue an interest in aerospace and rocketry. He wants to join the Air Force as an officer and become a fighter pilot.

Just as the kit program advances the cadet experience and career plans, the program also inspires the career plans of younger children in schools around the country. Elementary school teacher Jenner credits the STEM Kit program and the curriculum she receives as a CAP K-6 Aerospace Connections in Education (ACE) Program educator with helping her young students begin to think about their future. "The real career connections are coming as low as third grade for some," she said.

Field, the Mississippi educator, recalls one of his eighth-grade STEM class students had a discipline issue when she was in seventh grade. This year, "STEM has been her thing," he said. "She asked me the other day if she needed to take physical science next year in order to major in mechanical engineering."

As Principal Grace puts it, "We're preparing kids for life beyond the walls of that classroom." ▲

WHAT'S NEXT?

It's that preparation for the future that helps make the program a tremendous success, so much of a success that Civil Air Patrol will be adding four new kits in the coming months, said Dr. Jeff Montgomery, deputy director of aerospace education at CAP National Headquarters.

- Intermediate Rocket Kit • Computer Programming Kit
- Quad Copter Kit • Weather Station Kit

"We have reached thousands of cadets and students

who now realize the excitement that surrounds AE-related and STEM-related education and have introduced them to the myriad of career opportunities that await them in these much-needed career fields," Montgomery said. "With that in mind, we are expanding the STEM Kit choices covering additional areas of career opportunities, knowing that the learning from these kits potentially translates in the future into helping America close the gap between needs and qualified applicants in the STEM workforce."

Watch for details at ae.capmembers.com.

Survivor!

Small plane crashes in Washington

By Kristi Carr



Twigs in her hair and clothes, scratches and burns on her body, Autumn Veatch emerged from the woods in Washington's rugged North Cascades Mountains two days after the small plane in which she was a passenger had crashed. She was the sole survivor. Numerous first responders — including Civil Air Patrol — had been trying to find the crash site after the red-and-white Beech A-35 failed to show up at its destination at Lynden Airport on a July Saturday.

News of Autumn Veatch's survival prompted Okanogan County Sheriff Frank Rogers to say, "She's like a super hero, just amazing us with what she went through, especially at 16." Her story made national headlines, drawing the attention of CNN and other major media outlets, as seen here in these CNN clips from YouTube and Twitter.

Veatch's ordeal

Veatch was concluding a visit with her mother in Montana when her step-grandparents offered to fly her home to Washington, where she lives with her father.

Not long after crossing into Washington, the small plane encountered bad weather and found itself surrounded by white clouds that blocked visibility. Veatch reported her grandfather lost all visual awareness of the terrain; then suddenly there was light and trees and the crash.

The plane started to burn and Veatch said she tried in vain to pull her grandparents, Leland and Sharon Bowman, from the wreckage. She spent the next several hours at the crash site, hoping to be found.

Finally she realized she would need to take action. Recalling hours spent with her father watching reality survival shows on television, Veatch knew to find water and follow it to civilization. The terrain was unforgiving, though, and to follow a stream she had to tackle waterfalls several feet high, sometimes slipping into the frigid water.

During her trek, she was aware of planes flying overhead, but the trees were so dense she remained undetected.

After two grueling days hiking without food or potable water, she was cold, dehydrated and exhausted, but her follow-the-water tactic paid off when she at last found herself at a trailhead near a highway. A passing driver gave her a lift to a convenience store in Mazama, Washington, where an employee, also an EMT, gave her a Gatorade and a phone to call 911.

Within minutes, paramedics arrived to whisk her off to Three Rivers Hospital in nearby Brewster. There, Dr. James Wallace noted her main



Lt. Col. Steven W. Bass and CAP Incident Commander Maj. Ralph Black conduct a morning briefing inside the Bellingham Composite Squadron headquarters at the Bellingham International Airport, which served as the mission base.

Photo by 1st Lt. Jessica Jerwa, Washington Wing



Capt. John Haug of Civil Air Patrol prepares to leave the Bellingham airport in one of three CAP planes to search for a private plane that never reached Lynden, Washington. Sixteen-year-old Autumn Veatch survived a small-plane crash that killed her step-grandparents in the rugged mountains of north-central Washington State and then hiked through thick forest to safety in what CAP Lt. Col. Jeffrey Lustick called “a miracle.” Photo by Philip A.

Dwyer/The Bellingham Herald via AP

medical problem was severe dehydration, though she also had burns, cuts and bruises, along with temporary damage to her muscles. “She needed medical care for sure,” he said. “It’s hard to say how much longer someone could have been out there.”

Now safe, Veatch allowed, “This really gave me a newfound respect for life.”

Others, however, have great respect for her. Her

father, David Veatch, said, “She’s just an amazing kid. There’s more to her than she knows. Maybe now she’ll understand what I see.” And CAP Lt. Col. Jeffrey Lustick commented, “To have a survivor come through this is...it’s just a miracle.” Okanogan County Sheriff Frank Rogers added, “She’s like a super hero, just amazing us with what she went through, especially at 16.”

Finding the airplane

Air support for the search included CAP airplanes and also Snohomish County and U.S. Navy helicopters. Though asked to send out planes immediately to try to find a signal from the missing plane’s emergency locator transmitter, Maj Ralph Black, CAP’s incident commander, initially declined due to poor weather conditions. But at first light the next day, CAP aircrews launched their first sorties for the mission while other members supported radio communications with a Yakima-based mobile communications team.

“Our search planes arrived at the last radar coordinates,” said Black, “but nothing was there. Then we got cell phone forensics, which moved our search considerably further west. By midday, we were running both ELT and grid searches based on data provided by CAP’s cell phone forensics team.”

Still the aircrews detected no transmitting signal and saw no wreckage on the ground.

Extensive media coverage generated calls from various witnesses who thought they had seen the airplane. Black heard from two private pilots who live in the Mazama area with what proved to be his best lead yet. Both told him they’d been monitoring the severe weather from their back porches and spotted what they thought might be the doomed plane, still in the air at that point. This information caused Black to move the search further south. That same afternoon, Veatch emerged from the woods.

More specific search directions

“We had the opportunity to interview Veatch,” said Black. “She told us she’d heard us overhead, and that was

when I knew we had the right search area; we were flying the correct grids.”

By searching for features she mentioned and then correlating possible matches and marking them, three search and sub-sectors were identified during the interview and plotted on Google Earth. Convinced now they knew where the crash site was contained, the search was narrowed to three valleys labeled A, B and C.

Snohomish County flew a sortie over B and C in a Super Huey UH-1+ with Washington State Department of Transportation observers on board and over A in a Black Hawk. CAP provided the high bird, a plane that flies above the search planes to relay information between aircrews and the mission base.

As they were flying over one of the valleys, searchers were advised to direct their aircraft to the southern part of the search area.

And there it was — the wreckage, still smoldering.

DOT observer Sharleen Hill saw part of the airplane in the pine trees near the valley floor. The crew was alerted and vectored back to the area, where Hill spotted a white and red piece of metal. As the crew of seven circled back, they were able to see the crash site. It was obvious a post-crash fire had destroyed most of the aircraft.

The next day a ground search-and-rescue team from the Skagit County Sheriff’s Office located the plane’s scattered wreckage and the badly burned remains of two people. Initial findings showed the pair died quickly from blunt trauma sustained in the crash and not from the resulting fire.

CAP also had a ground team in the area, but because it included cadets Black made the decision not to send them to the site, based on the suspected condition of the victims. CAP pilots flew 22 search-and-rescue flights for this mission, plus 22 relocation flights to move aircraft to needed locations and transport personnel.

As the search effort grew, the number of CAP volunteers assigned to the mission increased



to 48 senior members and six cadets from nine Washington State units — Bellingham, Green River, McChord, Paine Field, Peninsula, Seattle, Skagit, Spokane and Yakima composite squadrons.

Media interest

This incredible tale of survival generated extensive media coverage.

With support from Lt. Col. Jeffrey Lustick, a Pacific

These three search sub-sectors were identified during an interview with Autumn Veatch after she was found alive. The sub-sectors were plotted on Google Earth and used in efforts to locate the plane crash that claimed the lives of her step-grandparents. Photo by Tom Peterson, WSDOT Aviation Emergency Services



The wreckage of the missing Beech A-35 carrying Autumn Veatch and her step-grandparents was discovered in these pine trees near a valley floor of the North Cascades Mountains in north-central Washington. The red circle indicates where wreckage from the aircraft was found. Photo by Tom

Peterson, WSDOT Aviation Emergency Services

Region legal officer who lives in the area, 1st Lt. Jessica Jerwa, the Washington Wing's public affairs officer, served as the mission's public information officer and coordinated responses to numerous broadcast and print journalists.

But Jerwa's most memorable moment might have been the report she delivered to Veatch's father to tell him his daughter had been found alive. "I have a 16-year-old son, so I can't imagine the anguish he was going through," she said. "Being the one to tell him that we'd received word she was alive was a gift!"

Stories of the survivor and the search aired interna-

tionally on CNN's Newsroom and Anderson Cooper 360; nationally on NBC and CBS; locally on Seattle stations KOMO (ABC), KIRO (CBS), KING (NBC) and KCPQ (FOX), plus KHQ (NBC) in Spokane and KCFW (NBC) in Montana. Numerous print media — including the *Washington Post*, the *Guardian UK* and the *Seattle Times* — filed related reports. Jerwa and Lustick also gave multiple phone interviews to Northwest Public Radio, the *Belfast Herald* (Ireland), CBC (Canada), BBC Radio 5 and Bellingham radio stations 790 KGMI and 92.9 KISM. ▲

PUTTING A PAO TO THE TEST

This mission, with a crashed plane and a teen who was able to walk away, had, in a sense, a second survivor — Washington Wing Public Affairs Officer 1st Lt. Jessica Jerwa. Beginning just hours after the plane was reported missing, Jerwa stepped out of mission base to be confronted by eight satellite dishes and hordes of reporters, all scrambling for access and the latest sound bites for the next news cycle.



The public information officer for the plane search, 1st Lt. Jessica Jerwa, prepares for a Skype interview with Pamela Brown for "CNN Newsroom." Photo by Lt.

Col. Jeffrey Lustick, Washington Wing

Jerwa joined CAP only 2½ years ago, prompted by her son telling her he wanted to be a military pilot. "My progression to become the Washington Wing public affairs officer seems like it went very quickly, but I definitely feel like my varied background prepared me for this role a long time ago," she said.

Her first real job, as director of public affairs for four radio stations, happened when she was just 17. From there, she progressed to jobs as a radio disc jockey, then as an executive assistant to a

college director, a paralegal and later as an administrator of Microsoft SharePoint for a global software company. "I've always kept a busy schedule outside the normal 9 to 5. I've promoted bands, comic book authors and, now, Civil Air Patrol," she said.

Jerwa was ready for the explosive media interest, in part because she has taken advantage of free Federal Emergency Management Administration courses, which are required for progression in the CAP public affairs officer and public information officer specialty tracks. In fact, a FEMA public information officer course she took just three months before the Bellingham mission provided her, she said, with some of the best advice in regard to public information officers and media contacts:

"First, if you're not on Twitter, get on it. This is where you will find the greatest success to engage with the media," she said. "Second, don't wait until you need the media to form a relationship with them."

Thanks to this second bit of advice, Jerwa said she has gathered a fairly substantial media database for major news outlets in the Seattle metropolitan area as well as for network news on national and international levels.

When it came to this particular mission, Jerwa noted, "I think the single best decision I made was before the news coverage was truly in full swing. When Pacific Region legal officer Lt. Col. Jeffrey Lustick stopped by to see if we needed assistance with public information



Members of the Super Huey UH-1+ aircrew pose for a photo during a recent re-enactment filming with CNN. From left are Deputy Bill Quistorf, Snohomish County Sheriff's Office, aircraft commander; Steve Cox, Snohomish County SAR, crew chief; Tom Peterson, WSDOT Aviation Emergency Services program manager/incident commander; Dave Zulinke, helicopter rescue technician, Everett Mountain Rescue; Jessica Small, CNN; Miles McDonough, Everett Mountain Rescue, paramedic; Sharleen Hill, observer, WSDOT Aviation Emergency Services; and Deputy Steve Klett, Snohomish County Sheriff's Office, pilot.

duties, I knew his extensive CAP experience and his profession as an attorney would make him the perfect on-camera spokesperson. This also freed me to work with our incident commander, the WSDOT's public information officer, CAP National Headquarters and 1st Air Force while also managing Lustick's as well as my on-camera schedule, handling incoming phone interviews and emails and logging in incoming contacts."

Even with Lustick's help, however, Jerwa faced challenges with the sheer number of media contacts generated by the mission. "But my FEMA course prepared me for it!" she declared. She tasked cadets to make sure all arriving media were escorted to a separate media room in an adjacent building to keep them out of mission base. She further insisted that she or Lustick be made aware of who was in the media room.

"Another challenge I anticipated and one which was extremely important for me to avoid was any question about who could release information to the press," Jerwa said. "Knowing that we were tasked by WSDOT, I had to make it clear that CAP would not be responsible for the release of information.

"Information I received from the field had to be cleared in advance with WSDOT, which was then responsible for issuing news releases. Typically that



CAP's deputy public information officer for the incident, Lt. Col. Jeffrey Lustick, addresses camera crews during a press briefing. Photo by 1st Lt. Jessica Jerwa, Washington Wing

process involved members of CAP and WSDOT personnel huddled around a speaker phone, scribbling notes and approving talking points. At the conclusion of the call, WSDOT's public information officer typed up the release and sent it back for approval by the incident commander, and Lustick and I would start feeding the press with the latest approved sound bites."

Even after the mission concluded, Jerwa's work did not. She and others returned the following week with a camera crew to reset the base and fly over the search area to accommodate a CNN documentary. ▲



Making It Easier for CAP mission pilots to train

As both a seasoned Civil Air Patrol mission pilot and the organization's national commander, Maj. Gen. Joe Vazquez is overseeing the rollout of a program that will help pilots, CAP and, ultimately, the customers CAP serves.

By Kristi Carr

With a fleet of more than 550 powered aircraft, Civil Air Patrol is able to provide a variety of missions — including search and rescue, aerial photography and firespotting. To prepare for these missions, CAP is enhancing its proficiency training for its mission pilots and other aircrew members

Like each of CAP's 1,900 mission pilots, Vazquez often refers to his aircraft checklist. Photos by Susan Schneider, CAP National Headquarters

His observations

Over the years there has been a shift in the types of planes available to private pilots, Vazquez said.

“General aviation in today’s climate is much different than it used to be,” he said. “In previous years, private pilots routinely flew airplanes with more than 200 horsepower and burning more than 12 gallons of fuel per hour.

“The trend recently, however, has been for pilots to fly smaller, more fuel-efficient aircraft. Pilots typically now rent light sport airplanes that have engines under 100 horsepower and burn 3-4 gallons of fuel per hour.”

For CAP pilots, this has meant less and less time in the cockpits of planes with higher-horsepower engines, like those in CAP’s fleet — mostly Cessna 172s and 182s with a horsepower of 180 or 230. Yet they are still expected to jump into those higher-horsepower planes when CAP duty calls.

“Even with my obligations as national commander, I have maintained my status as a local flight instructor and check pilot examiner with the Virginia Wing and in CAP’s Middle East Region,” Vazquez said. “In my own observations as well as in discussions with other flight instructors, I have found a shrinking level of proficiency training in high-performance airplanes outside of direct CAP flying.

“Our pilots, already volunteering their valuable time, cannot be expected to spend so much of their own money for enhanced training while CAP’s requirements in the emergency response arena demands that they have it.”

Better funding

To help CAP pilots gain more flying practice in higher-powered aircraft at less personal expense, CAP will be providing some funds for proficiency training. Vazquez said CAP is working to secure even more

funding for the future in order to offer financial assistance to not only those already qualified as mission pilots but also those working to qualify. Operating a CAP plane costs about \$120 per hour, he said, and pilots working to qualify to fly CAP missions currently must bear about 70 percent of their training costs.

To get the necessary funding, Vazquez and CAP’s director of operations, John Desmarais, traveled to Langley Air Force Base, Virginia, earlier this year to meet with the operations staff of Air Combat Command. ACC has jurisdiction over 1st Air Force, which sends CAP on about 75 percent of its daily mission flights.

“With CAP’s budget coming through ACC, we were there to determine a way to include pilot proficiency training as a fully funded activity,” Vazquez said. “We are



Maj. Gen. Joe Vazquez, CAP’s national commander, has been a mission pilot since 1986. His missions range from search and rescue to disaster relief flights, including the 1993 Missouri flood and various hurricanes, as well as F-16 fighter intercept flights.

working toward full funding for all CAP mission pilots in the next few years, a move which could save each of them as much as \$5,000 per year.”

Enhanced training

At the same time more funding is becoming available to offset pilot training costs, Civil Air Patrol is working with CAP-USAF to update the organization’s proficiency profiles — the training maneuvers specific to Air Force missions assigned to CAP — to meet current mission needs.

Already, pilots qualifying to fly CAP missions must have about six hours of flight training spread out over several missions, in addition to several flights as a scanner. They must also take several tests on the ground and, in the air, pass a mission check ride with a CAP mission check pilot. In addition, they need to be qualified in the make and model plane they fly for CAP, which requires an annual check ride.

Better service for members, customers

“These changes to CAP mission pilot training are the result of the pilots in the field asking for help and CAP leadership listening and responding,” Desmarais said.

“Our goal is to support our pilots, helping them go above and beyond the minimum required by the Federal Aviation Administration so they are very comfortable at the controls and more than ready to fly CAP missions.”

CAP has more than 1,900 mission pilots across its 52 wings, and they fly an average of 48 hours each year on missions. Typical missions, as assigned by the Air Force, include search and rescue, aerial photography, transportation of officials and materiel, firespotting and wildlife surveys.

Training enhancements are a step in the right direction, but mission pilots would like to see additional items addressed in the future. Maj. Mike Wormington, director of operations for the Virginia Wing, suggested CAP also must focus on the more fundamental issue of the scope of training, considering the shift the organization is experiencing from predominantly search and rescue to aerial photography missions. “And we’ve got the best person possible as national commander to get it going,” he said. ▲

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Dynamic Duo

Do It Again Cell Phone Forensics Help Find Former White House Chef

By Markeshia Ricks

They don't wear capes or leap tall buildings in a single bound,

but the dynamic duo of Civil Air Patrol volunteers who make up the organization's National Cell Phone Forensics Team have gained a widespread reputation as the go-to guys when a search and rescue mission hits a wall.

That's what happened in June when Walter Scheib, a former White House

executive chef who shaped the cuisines of Presidents Bill Clinton and George W. Bush, went missing during a solo hike in the mountains of Taos, New Mexico.

Scheib was hiking on the Yerba Canyon trail June 13, and three days later he was reported missing by a family member. New Mexico State Police embarked on a search driven by clues from his personal laptop, an eyewitness

The chef to President George W. Bush, Walter Scheib, greets chefs from around the world at the Chesapeake Bay Maritime Museum in St. Michaels, Maryland, on July 27, 2004. Approximately 30 chefs congregated for a light lunch prepared by local restaurants and to tour the area. Photo by Matt Houston, AP





Col. Brian Ready, commander of the Arizona Wing, makes up one-half of Civil Air Patrol's Cell Phone Forensics Team, which plays a vital role in the organization's modern-day search and rescue efforts.

In a ceremony at the U.S. Capitol in Washington, D.C., in 2010, then-Capt. Justin Ogden, center, received the national Public Benefit Flying Distinguished Volunteer Award from representatives of the award's sponsors.



account of having seen him and even his cell phone.

But when they still couldn't find him after three days of searching, they turned to Col. Brian Ready and Maj. Justin Ogden.

As CAP's National Cell Phone Forensics Team, the two put together bits and pieces of cell phone data to create a picture of where a missing person might be, taking the same approach others use to assemble 1,000-piece jigsaw puzzles — piece by piece. Their expertise contributed to more than half the 52 saves Civil Air Patrol has been credited with in the past year.

When Scheib went missing and couldn't be found, it was New Mexico's Search and Rescue Resource Officer Bob Rodgers who suggested it was time to call in Ready and Ogden.

Rodgers said CAP is renowned

for its search and rescue capabilities in the state. Volunteers from the New Mexico Wing were already helping look for Scheib.

But when he couldn't be found after searching difficult terrain that extended 4 miles at 4,000 feet in elevation, Rodgers knew some technical help was needed.

The area being searched "was very steep, very treacherous," Rodgers said. "There was a lot of snow on the mountain by the time we got to the top and my searchers, both the four-legged and the two-legged kind, were exhausted."

Ready and Ogden got the call late June 18, and by midnight they had pulled together recommendations that would change the search's direction.

"They had found his vehicle but didn't know where he was going," Ogden said.

By analyzing the missing man's

phone data, the pair were able to develop a timeline that estimated when Scheib reached the location where his car was found near the Yerba Canyon Trailhead; other times when he might have reached certain high points on the mountain; and times when he was likely descending the trail.

They then plotted those points on a map "to paint a shape" of areas Scheib had likely traveled. They also used Google Earth imagery to give searchers a sense of what the area Scheib was hiking looked like, which gave them a better sense of where they might want to concentrate their search.

That information turned out to be crucial in helping local officials determine the usefulness of information received from someone who had reportedly seen Scheib elsewhere after his phone data put him near

the trail.

It can sometimes be hard to convince officials who know an area, or who have committed to searching an area based on information they've gathered, to consider shifting their focus, especially if new information doesn't match what they already have, Ready said.

"The assumption was that he was on this one trail, and based on that information and what they got from other sources and where the trail goes, that he was in a particular area that they had been searching," he said.

But he and Ogden used Google Earth images to estimate when Scheib might have walked particular areas on the trail. That gave searchers a better sense of his possible path.

The information provided by the forensics team proved critical in helping searchers find Scheib, who had died after drowning in what officials called "a mountain drainage flowing with surface runoff" about 25 yards away from the Yerba Canyon hiking trail. His location was hidden from view by vegetation and a steep decline.

Scheib is likely the highest-profile missing person Ready and Ogden have been tapped to use their expertise to find. The search received the same care and quick attention the team provides whenever they are called on for help.

Ready said search and rescue is like looking for a needle in multiple haystacks, and the information he and Ogden provide keeps people from searching in the wrong haystacks.

Their information turned out to be crucial because Scheib had been on a trail that goes in several different directions. Without their findings, searchers might have had to explore every possible route, which would have taken much longer.

"The relationship I have with Civil Air Patrol is outstanding," Rodgers said. "They are usually one of my first early calls for a mission, and to this day they've never turned me down. I honestly believe the entire New Mexico Wing is one outstanding resource to the citizens of New Mexico."

Ogden, a CAP member since joining as a cadet in June 1993, said he sees the work he and Ready do as another opportunity to give back to the community and also to the organization that has had so much influence on their lives.

"It's rewarding," he said. "We're both longtime volunteers. We didn't

just join to do the cell phone stuff. We have a history with the organization and it is another way to contribute to the organization. I'm thrilled to be able to give back."

While Scheib's story didn't end in a save, Ready said he finds value in the fact that it provided a timely resolution for Scheib's family and friends.

"Before this technology and the radar technology, these searches would have gone on for months," he said. "We resolve these searches very quickly now. In cases like this, we're providing closure for families who need to know what happened to their loved one so that they can move on.

The forensics mission "justifies what CAP is all about — service before self," Ready said. "That's our core value, and we have a great team that does great work that has an impact nationwide." ▲



"The relationship I have with Civil Air Patrol is outstanding. They are usually one of my first early calls for a mission, and to this day they've never turned me down.

I honestly believe the entire New Mexico Wing is one outstanding resource to the citizens of New Mexico."

— Bob Rodgers, New Mexico search and rescue resource officer

A satellite image of Hurricane Katrina, showing a massive, swirling storm system over the Gulf of Mexico. The eye of the hurricane is clearly visible in the center, surrounded by dense, white cloud bands. The surrounding ocean is a deep blue, and the landmasses are visible in shades of green and brown.

KATRINA

Ten Years Later

By Russell Slater

THE NAME KATRINA has been a popular girls' name going back for centuries. In many ancient cultures, Katrina (and its variations) means "pure." But for many residents of the Gulf Coast, the name conjures memories of pure terror and utter devastation caused by one of the worst natural disasters to date in the United States. For those who endured Hurricane Katrina or observed the unprecedented damage on television, the events of late August 2005 will be forever etched in their psyches.

A satellite image of Hurricane Katrina taken on Aug. 29, 2005, the day it hit the Gulf Coast, shows the massive size of the storm, which grew to a Category 5 hurricane in the Gulf of Mexico before it made landfall. It became the costliest natural disaster (an estimated \$125 billion in property damage) and one of the deadliest hurricanes (at least 1,833 lives lost) in U.S. history.

Catastrophic Crises

Hurricane Katrina made landfall in Florida on Aug. 25, 2005. From there, the storm weakened and moved out into the warm waters of the Gulf of Mexico, where it gained strength before slamming into the coastal areas of Alabama, Mississippi and southeastern Louisiana on Aug. 29. At its peak, the Category 5 major hurricane brought 125 mph winds that ruined businesses and homes alike.

Livelihoods and local economies were virtually wiped out overnight. Entire neighborhoods found themselves submerged in the tremendous flooding that followed. The storm surge was gauged at 12-14 feet in some locations. In some cases, the water reached inland areas 6-12 miles from the shore. In total, Katrina caused an estimated \$125 billion in property damage, and 1,833 people died during the hurricane and subsequent flooding.

The most significant number of fatalities occurred in and around New Orleans. The city known for its unique cuisine, cultural offerings and Mardi Gras celebrations was transformed into a post-apocalyptic setting. Nearly 80 percent of the city was flooded after the failure of the levee system. Those who hadn't been evacuated faced dangerous conditions and other situations in the absence of government services and

access to basic goods and means of communication. They waited along with their fellow coastal residents for help they prayed would come.

CAP Mobilized

Civil Air Patrol, true to form, was among the first to deploy manpower and resources amid the confusion and uncertainty. Relief efforts were initiated Aug. 24, the day before Katrina's initial landfall. More than 1,800 CAP volunteers from all corners of the country answered the call for assistance and participated in disaster recovery operations. Their mobilization was both extensive and rapid.

Shoulder-to-shoulder with FEMA employees, local and state officials, military personnel and nongovernmental groups, CAP members worked around the clock to bring relief to the beleaguered citizenry. With 17 wings involved in the operations, members

distinguished themselves by implementing their training with speed and professionalism.

Lt. Col. Amos Plante, Louisiana Wing chief of staff, remembers that the storm was anticipated and when it hit, it hit hard. "After the levees were breeched in New Orleans, the horror seen on the news was caused by flooding, not necessarily by high winds," Plante said. "The damage was widespread. The lower-income neighborhoods were hurt bad, and many couldn't afford to reconstruct."

Plante hunkered down near Covington, north of Lake Pontchartrain. "Where I was staying, we saw primarily wind damage — large trees down and a little bit of water damage. Others were not so lucky.

"We (CAP) were lucky. Most of our planes were in the northern part of the state for emergency services training exercises. The complete fleet was still intact and available."



First Army Lt. Gen. Russel Honoré briefs Civil Air Patrol Col. Rock Palermo, right, and others involved in the massive response to Hurricane Katrina. The disaster relief effort was officially called Joint Task Force Katrina and Honoré, now retired, served as commander. Palermo, then a member of the Louisiana Wing, led operations for some of the first CAP flights in New Orleans.

Civil Air Patrol pilot 1st Lt. Bryan Hebert, right, sits in the cockpit of a CAP plane with Mississippi Department of Transportation engineers Keith Carr and Mike Cresap.

Like a Rock

Col. Rock Palermo, a member of CAP since 1996, was one of dozens involved in the response at the local level. Now part of the National Headquarters Squadron, Palermo at the time was a Louisiana Wing member and a Lake Charles resident.

“Our Lake Charles aircraft was one of a handful of CAP aircraft equipped with a Satellite-transmitted Digital Imaging System (SDIS), which enabled us to send near-real-time still imagery over the internet using the Web Management Information Reporting System (WMIRS),” Palermo said. From his position in the right front seat of a CAP plane, he prioritized target areas to be photographed and relayed actionable information using alternative means of communication, as standard radios were down.

“Our unique position in southwest Louisiana, on the opposite side of the state from Katrina’s landfall in New Orleans, enabled our aircraft to come in behind the storm and be one of the first fixed-wing aircraft in the operations area,” Palermo recalled.

“Upon our arrival, the only other aircraft we saw were U.S. Coast Guard helicopters performing rooftop rescues and Army National Guard helicopters doing similar rescues on overpasses.”

“Our first task was to identify

locations where large numbers of people were stranded so that the Army National Guard helicopters could land and effectuate rescues. This task then developed into photographing these locations and sending them via SDIS/WMIRS to the state Emergency Operations Center in Baton Rouge.”

Wild West Up There

The air above New Orleans grew increasingly congested as time went on, and effective means of communication were hampered by a lack of control towers or any general coordination of aviation assets. “We used air-to-air communication to communicate with other Coast Guard and National Guard aircraft in the area. There was no air traffic control. The only ‘control’ was a Coast Guard aircraft with the call sign ‘Omaha 44,’



which would give a transponder squawk code but would not provide any advisories,” Palermo said.

“The air traffic in the area increased each day, and by the second day it was nothing I had ever seen before, except in military films.

The aircrew had to be very vigilant in collision avoidance and traffic management,” he said.

First Lt. Scott Hunsaker of the Lake Charles Composite Squadron remembers that day well; he functioned as the photographer and SDIS operator. “We were all busy looking out for other aircraft,” Hunsaker said.

“Our mission over New Orleans started in Lake Charles at first light. Our first glimpse of damage came as we flew over the edge of the city at Kenner, Louisiana. I had family and work connections in the area, so I knew what it was supposed to look like, and it was bad.

“This was the first bit of the New Orleans metro area that we came to. The destruction was obvious and the scene was surreal. I think the scope of the damage took a few minutes to sink in,” he said.

In the aftermath of Hurricane Katrina, tens of thousands of people were evacuated to other parts of the country. Here, CAP senior members and cadets manned gurneys for evacuees, many of whom had to be treated for medical emergencies.

One of the crew’s tasks was to photograph the city’s levees, as reports from the day said some of them had failed. “The 9th Ward was basically just water and rooftops. There were active rescues occurring just below us. There were helicopters



A helicopter conducts rescue operations on a partially submerged interstate.

Photo by 1st Lt. Scott Hunsaker, Louisiana Wing

all around, and towers to avoid,” Hunsaker said. “I remember one of us saying it was like the ‘Wild West’ up there. It had us on edge the entire time over the city.”

Fuel Up

During the first day of operations, Palermo and his crew were in need of fuel, but options for locations to gas up were limited. “There was a local unit that had aviation gasoline at the Naval Air Station in Belle Chase, which is just several miles south of New Orleans. NAS Belle Chase had a dry runway and appeared to be operational. New Orleans Lakefront Airport was entirely underwater and New Orleans International Airport was heavily damaged and not operational, so we landed at NAS Belle Chase,” Palermo said.

“The base commander asked to speak with us. He had not had detailed reports of what it looked like beyond his base at that time. I remember telling him that his runway was in the best shape of any around, and that he was going to be busy with all of the disaster relief aircraft coming in to help in the coming weeks. In fact, NAS Belle Chase was the main disaster recovery base for large-scale air operations.”

Hunsaker added, “We refueled and went back out to survey specific areas such as the Pontchartrain causeway, the I-10 Twin Span Bridge and the North Shore communities. We took close-up photos of the cars on the bridges to look for people, but did not find anyone. We also took a few passes downtown.

“Our day ended back at Lake Charles Regional Airport just in



During Civil Air Patrol’s response to Hurricane Katrina, CAP aircrews were asked to provide photos of critical infrastructure along the Gulf Coast. CAP’s hyperspectral imaging system helped fulfill this need in the region long after the hurricane had passed.

time for our squadron meeting, where we were able to brief our fellow CAP members about the situation. Many of us had flown other missions, but that first sortie was one of the most memorable flights I have ever had in CAP.”

“There are two pictures that remain vividly on the opening days of CAP’s involvement in the aftermath of Katrina,” recalled Col. Thomas W. “Doc” Barnard, current commander of the Louisiana Wing: “First, the unbelievable number of aircraft confined over metropolitan New Orleans — and no midair collisions. The second was a sortie to report on the damage to three small towns in St. Bernard Parish. Upon arrival, there was only one surviving city water tower. The rest of the entire landscape was merely an extension of the Gulf of Mexico.”

Home Damaged

While Palermo focused on tasks like handling radio communications and photographing key areas of interest around New Orleans, includ-

the distribution of food, water, ice, fuel and generators from his hometown of Lake Charles. Initially slotted for the role of operations section chief, he went on to take over the duties of deputy director because of his previous experience in emergency management.

Unbeknownst to Palermo, Rita’s powerful winds brought down a large oak tree that landed on his home. Not one to be deterred by such news, he carried on with his CAP duties. Despite damage to his own personal property, Palermo understood the need to serve a greater good during such a critical time.

Horror and Hope in the Hospitality State

As Katrina bore down on the Gulf Coast of Mississippi, Col. John Wilkes, then-commander of the Mississippi Wing, didn’t have to decide whether to evacuate or not; the decision was already made. “I needed to be in our headquarters and command center at Jackson’s Hawkins Field,” Wilkes remem-

and mauled almost the entire state of Mississippi,” Wilkes said. “Complete chaos followed.”

With communications with the coast virtually nonexistent, Wilkes decided to fly to Stennis International Airport in Kiln to assess conditions. “There was a military helicopter on the tarmac that looked like it was floating because the entire tarmac was completely covered with water,” he said.

“The water level had receded just enough so that the slightly elevated runway was barely above sea level, so I landed. I thought it must be similar to landing on an aircraft carrier.”

During the trying days following the storm, with hot temperatures, impassable roads and no electricity, concerns for safety extended to the Mississippi Wing members themselves. “Even though we were geared to help everyone, we were especially concerned for our own members,” Wilkes said. “The Mississippi Wing is like a big family.”

Two CAP members, a married couple, had not been heard from.

“The destruction was obvious and the scene was surreal.” – 1st Lt. Scott Hunsaker

ing schools and hospitals, and then transmitting them to officials on the ground, little did he know that another hurricane would follow on the heels of Katrina only weeks later.

This time, the damage hit closer to home — literally.

After Hurricane Rita blew through Sept. 24, Palermo worked for another three weeks coordinating

bered. He, his wife and dog headed north toward their destination.

“All of the highways were clogged with bumper-to-bumper, stop-and-go traffic.” Drawing from his experience flying all over the state, Wilkes opted for less-traveled back roads and thus bypassed the bottlenecks that choked normal routes.

“The hurricane came through

They were residents of the Diamond-head community, a low-lying area hard hit by the storm surge. Wilkes led a ground team to search for them. “We talked the military guard into letting us into the area. We had to go on foot and literally climb over debris and watch out for poisonous snakes,” he said.

After checking for signs of life at



The Six Flags New Orleans theme park, formerly known as Jazzland, was battered by Katrina. Since abandoned, it is now owned by the city of New Orleans.

Photo by 1st Lt. Scott Hunsaker, Louisiana Wing

This aerial image taken by CAP aircrews shows the devastation Katrina wrought to an industrial park and a neighborhood near the Mississippi Gulf Coast. The damage was extensive and widespread, from Bay St. Louis east to Pascagoula.



homes along their route, the team finally reached their destination, where they found the members' home covered by debris that would require the assistance of heavy machinery to move. Recalling that they owned a restored Stinson airplane, Wilkes directed his team to search for the craft in the hangar behind the home. When they found the hangar

empty, all involved hoped it was a sign the missing members had evacuated by air.

Back out in the street, though, they observed the Stinson standing on its nose — plastered up against a utility pole. The CAP contingent feared the worse; however, their fears were put to rest when they learned the couple had safely made it out of

town ahead of the storm.

“The Mississippi Wing proudly had zero fatalities or injuries from the storm,” Wilkes said. “In my estimation, the members of the Mississippi Wing had their finest hour.”

Looking Forward

“Since Hurricane Katrina, CAP has worked very hard to expand its

capabilities and support our customers at the federal, state and local level,” said John Desmarais, director of operations at CAP National Headquarters. Those capabilities have been tested only a few times since 2005, namely after the devastation caused by Hurricane Ike in Texas in 2008 as well as Hurricane Sandy, which pummeled the East Coast in 2012.

As with Katrina, CAP’s ability to capture aerial photos continues to be important in assessing overall damage. “Collecting airborne imagery has truly become a primary operational mission for

CAP. In 2014, CAP reached the point where it has handheld camera equipment fielded nationwide for its entire fleet,” Desmarais said.

“We continue to work with the Federal Emergency Management Agency, the National Government Association, National Geospatial-Intelligence Agency, National Oceanic and Atmospheric Administration and other partners on a regular basis to develop and field new tools to meet mission needs. We’ll soon be fielding 140-plus Garmin VIRB wing-mounted camera kits to meet the latest aerial photography needs of our customers.”

With an eye toward streamlining relief efforts, CAP now has a seat at FEMA’s National Response Coordination Center in Washington, D.C.,

along with a staff of volunteers to fill it during critical events. By bringing together representatives of different agencies, the coordination center can respond quickly to emerging needs during large-scale crises.

“CAP has also established volun-

now qualified and engaged in operational missions,” Desmarais said.

Thanks to the unwavering service of CAP members, first responders, the military and a multitude of other government and private groups, a suffering population



In the aftermath of Katrina, dozens of Civil Air Patrol members, like this unidentified cadet, spent hundreds of man-hours canvassing neighborhoods that had been hit hard by the hurricane.

teer liaison positions with each FEMA region to ensure that CAP is represented at ongoing events,” Desmarais said. “By maintaining ongoing local relationships, we’re better positioned to support and understand mission needs as they develop.”

We Are Ready

Unlike many human-caused disasters, there is little defense against nature’s wrath. The key to alleviating the immediate human suffering in the wake of such occurrences is the speed of the response. Traumatized residents’ foremost concerns are the need for medical assistance, food, water and the restoration of law and order.

“Although CAP has about the same number of members as we had during Katrina, about 2,000 more are

received reassurance that they were not alone. From furnishing logistical support and providing photographic assessments to knocking on the doors of those in need, CAP proved to be a key element in the post-hurricane relief efforts.

Overall, CAP surveyed 4,266 homes, made contact with 8,524 citizens, flew 1,848 hours, took more than 2,000 time-sensitive aerial images, delivered 30,000 pounds of relief supplies and provided 35,495 hours of assistance.

Desmarais remains confident. “We know it is just a matter of time before there will be another major hurricane or group of hurricanes, a major earthquake or some other disaster that will require a large-scale response. We are ready for it.” ▲

'There was so much water'

Members in Texas, Oklahoma respond to flooding

By Jennifer S. Kornegay

Dozens of lives lost and millions of dollars in property damage

In May and early June, while adverse weather plagued several areas in the South and Southwest, the skies over Texas and Oklahoma opened up and dropped massive amounts of water on the two states, with the torrential rains breaking several meteorological records. The deluge that fell in Texas was enough to cover the entire Lone Star State 8 inches deep, and in both states the resulting severe flooding destroyed millions of dollars of property and took 31 lives.

As officials in the states worked to determine the damage and rescue those in harm's way, they turned to Civil Air Patrol to lend a hand.

In Texas, Task Force 1, a Federal Emergency Management Agency Urban Search and Rescue Team, deployed once the Brazos River broke free of its banks. Team members were scattered over about 10 miles doing surveys. "Their radios weren't able to communicate across that distance," said Lt. Col. Rick Woolfolk, one of the Texas Wing incident commanders on the mission. "They asked us to put a plane in the air with a repeater and the Task Force 1 antenna so they could effectively communicate."

The Texas Wing responded quickly, launching seven planes that would fly for about four hours, refuel and then go up again in support of the task force's work. The repeaters greatly improved the team's line-of-sight communications abilities. "We did this successfully for several days," Woolfolk said.

And that was only the beginning of CAP's efforts to aid Texas in its time of need. "We were next tasked by



the state and FEMA to take aerial photos that were analyzed to help identify levees that might be weakening and to pinpoint other infrastructure damage," Woolfolk said. "We also took photos of the floodwaters so state operations would know where they were and where they were going. There was so much water."

Maj. Steve Robertson, Texas Wing emergency services director and area commander for the missions, said. "The flooding, particularly in the south Texas Hill Country around San Marcos, was catastrophic. Homes were washed away, people washed away. The flooding impacted the entire length of the state, from the Red River near the Oklahoma border all the way down to the Gulf of Mexico. It was one of the worst weather events I've seen."

Maj. Steve Robertson, back right, took Weather Channel reporter Dave Malkoff, center, and his video crew up on a short flight. Malkoff highlighted CAP's work in Texas during one of his reports on the flooding.



Second Lt. Greg Stenberg, left, mission observer; Maj. Dan Fleming, right, mission pilot; and Maj. Leonard Russell, aerial photographer, conduct a sortie, one of more than 100 flights made by CAP aircrews in response to the flooding. Stenberg and Russell belong to the West Houston S.A.B.R.E. Senior Squadron; Fleming is a member of the Thunderbird Composite Squadron.

This photo taken by a Texas Wing aerial photographer shows the extent of the flooding and the oil pollution it caused when floodwaters rushed over derricks and wells.



Texas Wing in National News Spotlight

News outlets around the country covered the flooding in Texas and Oklahoma, and The Weather Channel took a few minutes to spotlight the Texas Wing's work in support of the state's assessment and relief efforts. Weather Channel reporter Dave Malkoff and his crew rode with Maj. Steve Robertson on a short sortie, and the resulting report gave viewers a glimpse of CAP members' dedication to the organization's mission and to their communities.

"Malkoff was really impressed, and I think that shows in his report," Robertson said.

Robertson and his crew flew Malkoff over two

reservoirs the U.S. Army Corps of Engineers was concerned about. "They were worried about the dams at Lake Ray Roberts and Lake Lewisville," Robertson said. "We also flew along the Trinity River to give him a good idea of the extent of the flooding."

The Weather Channel report, though short, greatly benefited CAP by providing expansive national coverage and by piquing the interest of other media outlets. "We had other media calling us to find out more, and all of the coverage showed the nation who we are and how we are helping folks, not just in Texas but all over the country," Robertson said.

Multiple rivers were involved, and CAP planes flew the river structures in San Antonio and the San Marcos area as well as from the Trinity River north of Dallas to Lake Livingston, near Houston — a 200-mile stretch that splits into two sections. These flights provided the state operations center with thousands of high-resolution, geotagged images. The photos showing extensive damage in the Houston area were taken by FEMA directly to President Barack Obama and resulted in the state receiving presidential disaster status.

The response was a major undertaking. The sheer number of missions flown resulted in staffing and equipment issues. “The water caused so much damage, especially in rural areas that don’t have the capacity to deal with something like this,” Robertson said. “We were doing five to 10 flights a day, every day, for weeks on end. Some members simply could not be available the entire time, and those that were, were getting worn out, as were our planes.” With some planes needing maintenance in the middle of the missions, the wing was forced to bring in planes from areas farther away, only adding to the flying time.

Over six weeks 105 sorties were flown, representing 264 hours of disaster relief support. About 272 Texas Wing members participated in the missions, both in the air and on the ground, where participants made phone calls, downloaded the images captured by the planes and assisted the American Red Cross.

Some of the members were also dealing with threats and damages to their own homes and businesses. “One member, who was working in Task Force 1’s joint air command station, called me one morning at 4 a.m. to tell me he might be a little late that day,” Robertson said. The floodwaters had made it into his home. “He dealt with it, and then still showed up. That tells you something.”

In neighboring Oklahoma, strong straight-line winds and several tornadoes blew through in early May, wreaking havoc along the way and causing the Oklahoma Department of Emergency Management to reach out to CAP.

The first job was damage assessment, said Lt. Col. David L. Roberts Jr., Oklahoma Wing vice commander and incident com-

mander for the missions. “They requested aerial photos of the area, and we also did some damage assessment on the ground with teams going block by block and taking photos of houses,” he said. Members completed nine air and eight ground missions in three days.

The images let the state know the best places to put up shelters and who needed assistance, and they also

helped FEMA back up its request for presidential disaster assistance.

And then came the rains. Within a week of the earlier storms, Tropical Storm Bill blew through Texas and Oklahoma, dumping more water on areas of both states and pushing the Red River in Oklahoma past flood stage. Oklahoma got as much as 15 inches in less than two weeks. Once again, state officials turned to CAP.

“They needed flood-damage assessment,” Roberts said. “We set to work, but we needed extra help. We had crews from Kansas, Missouri and Arkansas pitch in.”

The Texas Wing, still reeling from the flooding that had saturated its own state, also helped in the Red River area near the Texas-Oklahoma border. “We flew about a 55-mile stretch taking photos of damage,” Woolfolk said. “I’ve never seen the

“One of the great things during all of this was the willingness and cooperation we saw and had with the other wings. Those folks were fantastic. They kept calling and asking, ‘How can we help and what can we do?’ It really shows what CAP is all about.” — Lt. Col. David L. Roberts Jr.

Red River so high.”

Over three weeks, members from all five CAP wings shot some 8,000 geotagged photos and uploaded them for FEMA and the state to use. When more rain came in early July, the Oklahoma Wing flew sorties and shot an additional 2,000 photos in the Oklahoma City area alone.

The combined missions totaled 50 flights, resulted in over 10,000

images and involved 100 members.

None of the Oklahoma members working on the missions were seriously affected by the storms personally. “That helped; it meant all of our focus could be on helping those who had been affected,” Roberts said.

The members did give a lot of time and energy during the missions, proving again that CAP’s volunteers take their work seriously. “Most of our members were on the entire time,” Roberts said. “We used a few flight crews over and over for several weeks, but that is what we do.”

Roberts also praised the members from neighboring wings who stepped up to help out. “One of the great things during all of this was the willingness and cooperation we saw and had with the other wings,” he said. “Those folks were fantastic. They kept calling and asking, ‘How can we help and what can we do?’ It really shows what CAP is all about.” ▲



CAP members are hard at work at the Texas Wing Incident Command Post in Denton. Photo by Maj. Steve

Robertson, Texas Wing

A Tropical Depression in

Missouri Wing prepared for worst when Bill comes calling

By Lt. Col. David A. Miller

June in Missouri often means severe weather, and this year was no exception as the remnants of Tropical Storm Bill pummeled the southwestern section of the state. The weather system added unwanted precipitation to rivers and streams already overflowing from previous weeks of rain.

The second named storm of the 2015 Atlantic hurricane season, Tropical Storm Bill was quickly downgraded to a tropical depression one day after making landfall at Matagorda Island, Texas. But it continued to produce heavy and sustained rainfall over much of Texas, Oklahoma and the central U.S. from Missouri to Ohio. The system remained organized and continued slowly eastward, eventually drenching Washington, D.C., and the East Coast.

Hardest hit was the Springfield, Missouri, area where the James River rose to a new record flood level of 22.2 feet, topping the previous record of 22 feet set in 1909. (Flood stage is 12 feet.) With flash flood warnings across the state from Springfield to St. Louis and continued rain, Missouri Gov. Jay Nixon declared a state of emergency.

A 100-year flood is one of the emergencies the volunteer members of the Missouri Wing train for.

Responding quickly to a request from the Stone County Emergency Management Agency to document the extent of the James River flooding, an aircrew from the Table Rock Lake Composite Squadron — pilot Col. Gene Hartman, observer Capt. Bob Redfield and aerial photographer Maj. Lanna Fletcher — obtained 110 aerial still photographs during one flight above the cresting river.

One of the wing’s newest squadrons, the Branson-based Table Rock Lake unit is often called on to respond to natural emergencies such as tornadoes and severe winter weather, in addition to spring flooding. With a growing





membership of senior members and cadets alike, the squadron has several aircrews and ground teams ready to respond when needed.

Relationships established and nurtured over the years with state agencies — such as the State Emergency Management Agency, the Department of Transportation and the Department of Natural Resources, as well as the Missouri National Guard — have allowed the Missouri Wing to perform additional missions for the communities it serves while remaining a cost-effective resource for these agencies.

“The photos from this mission are being used by Stone County Emergency Services for future mitigation and response planning. Only by having high-quality photos can you really understand the magnitude of this type of flash flooding,” said Tom Martin, Stone County Emergency Management director. “We are very appreciative and thankful to be able to get this flooding event

documented by Civil Air Patrol with such quality and detail.”

Aerial photography training courses across the state have paid off for these disaster response missions, as the Missouri Wing is called on more frequently to document the extent of damage to infrastructure and property from above. In one recent instance, a Missouri aircrew discovered a previously unknown tornado path after a particularly strong spring storm that generated several other twisters.

But even real-world missions also serve as training missions, and this was no exception. Although only one sortie was eventually flown, the request from Stone County set in motion a well-practiced response by mission staff.

“Due to the continued training and excellent response of our citizen volunteers, we were able to approve Stone County’s request within 35 minutes and had an aircrew preparing their flight within an hour,” said

Maj. Austin Worcester, Missouri Wing director of emergency services and incident commander for the mission.

The Missouri Wing is prepared even for a tropical depression in the Midwest. ▲

Aerial photographs taken by the Missouri Wing show the extent of flooding along the James River after the remnants of Tropical Storm Bill moved through the southeastern section of the state. The river rose to a new record flood level of 22.2 feet, topping the previous record of 22 feet set in 1909. Photo by Maj. Lanna Fletcher, Missouri Wing

Inset: An aircrew from the Missouri Wing’s Table Rock Lake Composite Squadron — from left, observer Capt. Bob Redfield, aerial photographer Maj. Lanna Fletcher and pilot Col. Gene Hartman — obtained 110 aerial photographs during one flight above the cresting James River. Photo courtesy of Tom Martin, Stone County EMA

POWER UP!

Cadets take flight in summer academy

By Maj. Mary Story and Kristi Carr



Being in the cockpit was what it was all about for Cadet Maj. Gracelyne Allred and Cadet 2nd Lt. Danielle Brackett. Allred belongs to the Pennsylvania Wing's Selingsgrove Cadet Squadron, while Brackett is a member of the New Hampshire Wing's Seacoast Composite Squadron.

Photos by Maj. Warren King, Maine Wing

“Get out there and do it!”

admonished Cadet 1st Lt. Jordan Avalos, echoing the sentiments of the well-known Nike advertisement. Avalos, a member of the Maine Wing's 35th Composite Squadron, was talking about flying — not as a passenger but as the pilot. He was one of 18 Civil Air Patrol cadets attending the Northeast Region's Powered Flight Academy, conducted this summer at Maine's Bangor Air National Guard Base. For him, it was a significant step in realizing his goal of flying for the U.S. Air Force.

Cream of the crop

Of all the summer programs offered to CAP cadets, powered flight is the one that tops the list for most. Though this one was held in the Northeast Region, cadets from any CAP wings were eligible to apply. Some came from as far away as Georgia and Indiana.

“These cadets are highly motivated, top-notch and some of the best from across the country,” said Col. William Moran, the academy's director and former commander of the New Hampshire Wing. “I would estimate that probably three-fourths of them want to become pilots.”

The goal of the academy is to provide the cadets with the first 10 hours of flight instruction, culminating with a solo flight. Of the 18 participants 15 did solo, while the other three had supervised solos, with an instructor aboard to intervene or coach as necessary.

To receive their private pilots' certificates, the cadets will have to add at least another 30 hours on their own, but Moran noted a variety of options exist to accumulate the additional time closer to home.

A juggling act

Despite their desire, the cadets had to admit flying a plane is harder than it looks, requiring them to manage safety issues and radio communications while also handling the plane's controls.

Not many get the privilege of flying a brand new state-of-the-art plane, but these two cadets did. Cadet Chief Master Sgt. Brendan McKeogh and Cadet 1st Lt. Todd Hearn flank one of the academy's flight instructors, Lt. Col. Tony Vallillo. The two are New Hampshire Wing members; Hearn is in the Highlander Cadet Squadron and McKeogh belongs to the Manchester Composite Squadron.



Their classroom time followed Federal Aviation Administration specifications, with instruction in aerodynamics, navigation, airspace dimensions, communications, emergency procedures and aircraft flight systems, including flight instruments, engine system, fuel system and weight and balance calculations, to name a few.

But it was time in the air participants were really after. The first to solo was Cadet Maj. Gracelyne Allred, a member of the Pennsylvania Wing's Selinsgrove Cadet Squadron.

"Soloing was awesome!" Allred said. "It's so peaceful up there by yourself, and you feel truly independent. At the academy, I learned so much and was exposed to some different techniques than I knew before, making me a better-rounded pilot."

She went on to say, "The academy gave me valuable experience for a low cost when compared to the standard instruction rate. Most of all, it helped me achieve my current goal of receiving my pilot's license before

graduating high school and being a step closer to becoming a helicopter pilot for the U.S. Coast Guard.

"But the academy was awesome not just because of the instruction, but also because of the people you meet. The flight instructors were some of the best," she said.

"The academy is an extremely serious training environment," Moran acknowledged. "When the instructor makes the call that a cadet is ready to solo, it is a very serious responsibility."

Getting ready

Airplanes, 10 in all, were flown in from across New England to provide the training vehicles for the academy, now in its seventh year.

Two New Hampshire Wing cadets — Cadet 1st Lt. Todd Hearn from the Highlander Cadet Squadron and Cadet Chief Master Sgt. Brendan McKeogh from the Manchester Composite Squadron — each soloed in a 2015 Cessna 172 G-1000 that Col. Dan Leclair, commander of the

Northeast Region, and Maj. Warren King, maintenance officer for the Maine Wing, had only recently brought back from the Cessna factory in Kansas.

Fourteen instructors rotated in and out of the academy's daily schedule. One, Lt. Col. Tony Vallillo of the Maryland Wing, was treated to a salute from cadets, who lined the runway as he was departing from Dewitt Field in Old Town, Maine. Rumor has it that his price for teaching at the academy each year is eight handmade blueberry pies.

As for Moran, he has been associated with the academy for five years. He's a member of the Granite Flight of the New Hampshire Order of Daedalians, a fraternal and professional order of American military pilots. He helped secure scholarships from the Order for five of the cadets at this year's academy.

"This is just a great field to be in, helping the cadets conquer such an accomplished skill as piloting," Moran said. ▲



1

Friendships & Fun Soar In International Air Cadet Exchange

By Markeshia Ricks

Australian Air Force Cadet Cam Marsh was looking for a travel adventure when he applied to the 2015 International Air Cadet Exchange.

And an adventure is what the 17-year-old from Brisbane got in the U.S. with the Oklahoma Wing of Civil Air Patrol.

Marsh spent about 10 days learning more about aviation and aerospace while also becoming acquainted with American culture thanks to trips to museums and even a baseball game and a hot air balloon ride.

“The best activity by far was the morning of flying,” Marsh said. “Being able to be in control of an aircraft — which was completely new to me — was amazing.”

Lt. Col. Beverly Scoggins, IACE director for Civil Air Patrol, said creating amazing educational opportunities for aviation-minded young people and helping them develop lifelong bonds of friendship and service is the name of the game for the exchange program.

“It’s a lot of fun, but it’s also an education,” Scoggins said. “This is an opportunity for the cadets to see different aerospace and military facilities. They get to see things, not like a tourist, but like a local.”

For Turkish Air Force Academy Cadet Osman Öztürk having a local experience meant not only going gliding but also experiencing summertime in the American South, including whitewater rafting.

“Tennessee was wonderful, but so hot, and [the] humidity was [intense],” he said. “We saw 106 degrees in Nashville when we were gliding.”

He said his most memorable activity was whitewater rafting in Ocoee, Tennessee.

“It was my first time rafting,” said the 20-year-old from Istanbul. “The water was really cold. It was very fun and exciting. It took about two hours. I enjoyed it very much.”

IACE has been in existence for more than 60 years and counts not only the United States, Australia and Turkey among the countries that participate but also Belgium, Canada, China, France, Ghana, Hong Kong, Israel, Japan, the Netherlands, New Zealand, the Republic of Korea, Switzerland and the United Kingdom.

Scoggins said while international cadets were being introduced to American aviation and culture, Civil Air Patrol cadets were encountering similar experiences

in their host countries.

Forty-seven CAP cadets were hosted in Australia, New Zealand, Hong Kong, China, the Republic of Korea, Canada, Belgium, the Netherlands, Israel and the UK. The California, Florida, Michigan, New Hampshire, New Mexico, Oklahoma, Tennessee and Texas wings hosted 44 IACE cadets.

“Our group that went to the UK went almost a week early to be a part of the big British Air Show,” Scoggins said. “They’ve all gone gliding and some have gone up in helicopters. They’re in military aircraft all over the world.”

And during it all, they’re building friendships that last long after the summer is over, Scoggins said.

She should know.

A longtime Civil Air Patrol member, Scoggins first participated in IACE as an escort. She enjoyed it so much that her husband applied and was chosen to be an escort, too. Escorts are senior CAP members who serve as mentors to IACE cadets while they’re in their exchange countries. This year 11 CAP members served as escorts.

Eventually, she asked the program’s director for opportunities to be more involved.

“Twenty-five years later, I’m running the program,” she said. “I would not trade it for anything,” she said, adding, “I have amazing friends, and they are literally all

over the world.”

She also keeps in touch with the many cadets she’s worked with over the years, and they stay in contact with her and the cadets with whom they spent their summer, sometimes



2



4

holding reunions.

Marsh said he came away from his IACE experience with a better sense of how spread out other countries are compared to his own.

“This lesson will stick with me throughout my entire life with different travels and interactions as well as the remainder of my cadet career,” he said.

“I learned the importance of solidarity and friendship,” Öztürk said.

“I learned about a lot of different cultures from all over the world. Thank you for your labor and hospitality. We are grateful for everything.” ▲



3

1 The California Wing’s Los Alamitos Glider Training Squadron 41 gave IACE cadets some “stick time” over Southern California. Photo by Maj. Kenneth Sturgill, California Wing

2 The “Bee Liners,” a C-17 squadron stationed at Travis Air Force Base, California, offer a close look at a Boeing C-17 as part of a base tour coordinated for IACE participants by the California Wing’s Travis Composite Squadron 22.

Photo by Maj. Kenneth Sturgill, California Wing

3 Lt. Col. Gamila Mherian of the California Wing briefs Turkish cadets in Washington, D.C., as they start the 2015 International Air Cadet Exchange. Photo by

Lt. Col. Charles West, California Wing

4 Visiting international contingents from the Netherlands and United Kingdom pose in front of the White House. Photo by Lt. Col. Charles West, California Wing

WITH AN
Angel's **Thunder**
By Lt. Col. Lori Raska



The Angel Thunder ground teams were composed of specialists who were mountain- and desert-certified at both the state and national levels.

Arizona Wing at work on the ground, in the air during joint service, multinational, interagency search and rescue and disaster relief exercise

Helicopter blades roared overhead as Montana Army National Guard CH-47 helicopters descended on the Camp Navajo Military Training complex near Flagstaff, Arizona. The choppers had just flown 180 miles from Phoenix across mountainous terrain, carrying task force members of Civil Air Patrol's Arizona Wing Ground Team to lead the "boots on the ground" efforts in Operation Angel Thunder — the largest search and rescue and disaster relief exercise in the world.

The Angel Thunder ground teams were composed of specialists who were mountain- and desert-certified at both the state and national levels. Arizona Wing K-9 search and rescue team specialists were also involved in the simulated rescue of multiple lost victims in the mountain wilderness.

In addition to ground team activities, members of Glendale Composite Squadron 388 provided high-bird radio relay capabilities using an on-board radio repeater, while members of Deer Valley Composite Squadron 302 provided GIIEP (Geospatial Information Interoperability Exploitation-Portable) video imaging at the designated disaster site. The images were downloaded directly to the joint-agency incident command post and incident management team, which the Arizona Wing established

at Camp Navajo in conjunction with the Coconino County Sheriff's Office.

The exercise continued for 48 hours amid periodic real-world thunderstorm and dust storm conditions. It included multiple search and rescue, disaster relief and mass casualty scenarios. Participants worked alongside U.S., German, Dutch, British and Israeli Air Force search and rescue specialists as well as U.S. Air Force Pararescue and regional sheriff and public safety rescue teams. In addition, various other military officers and visiting dignitaries from numerous nations took part in the exercises.

To support the long-range mountain communications, a five-person CAP liaison team was deployed along with several state partners to the incident command post at Camp Navajo. The liaison team was reinforced by a Forward Area Support Team (FAST) with Phoenix-area CAP personnel as well as a team from Prescott Composite Squadron 206, which was composed of radio operators, mission staff assistants and a public information officer.

From there the radio team redeployed deep into the mountainous region to provide both forward-tactical and long-range high frequency radio support for all the agencies participating in the exercise within the same region. Said Sgt. Aaron Dick, Coconino County Sheriff's Office search and rescue coordinator (and former CAP cadet), "The opportunity to work together in the Angel Thunder exercise strengthened our relationship and increased the familiarity between our organizations, which enhances our ability to work together on real-world incidents. CAP is always a professional and reliable group to work with."

The training marked the Arizona Wing's third straight year participating in the international exercise. It was the first time the wing's two new K-9 teams were employed in a large-scale search and rescue event.

To culminate the exercise, a major mass casualty disaster incident was simulated, involving triage and treatment disaster relief operations as well as continued search and rescue operations. Fourteen different military aircraft, including German Air Force CH-53s, U.S. Army CH-47s and U.S. Air Force HH-60 heavy rescue heli-

CAP's Arizona Wing Ground Team members, along with members of the German Air Force rescue team, arrive via helicopter at the Camp Navajo Military Training complex near Flagstaff, Arizona. The activity was part of Operation Angel Thunder, the largest search and rescue and disaster relief exercise in the world.



copters, flew the simulated patients and rescue forces to a casualty collection point in Winslow and then on to designated casualty receiving locations in Phoenix, Tucson and Flagstaff.

In total, 85 members from nine CAP squadrons throughout Arizona participated in the exercise. The Arizona Wing contributed to making the Angel Thunder exercise a valuable part of the readiness capabilities of the Department of Defense. It's now a part of the U.S. Air Force Red Flag (Top Gun) series of realistic operational exercises.

In the words of Brett Hartnett, Angel Thunder exercise director, "The Arizona Wing of Civil Air Patrol once again provided critical support to Angel Thunder — a unique capability — acting as exercise enablers. They provided a force for the combined, joint-interagency participants to interact with — contributing valuable training and experience. CAP has provided extremely cost-effective training of considerable value to Angel Thunder over the years and has done so safely and effectively while integrating into a major military exercise." ▲



An MX-15 sensor ball like this, which provides infrared and electro-optical capabilities, is attached underneath a wing of Civil Air Patrol's first two Surrogate Unmanned Aircraft System planes. A recent modification by the Air Force Research Laboratory placed the ball inside the belly of Surrogate UAS No. 3, thus enhancing its use in air-land integration combat training.

Thanks to the Air Force Research Laboratory, Civil Air Patrol now has a better way to help train U.S. and allied warfighters before they deploy to combat zones overseas.

AFRL's Directed Energy Directorate at Kirtland Air Force Base, New Mexico, recently modified a CAP Cessna T206H to be used for military training exercises. The Surrogate UAS plane is the latest of three such aircraft in the CAP fleet to be equipped with intelligence, surveillance and reconnaissance sensors that provide the capability to mimic unmanned aerial vehicles in the Air Force inventory.

Training troops for deployment abroad is the primary focus of CAP's Surrogate UAS program. It's part of CAP's increasing contributions to homeland security efforts nationwide. As the official auxiliary of the Air Force, CAP performs about 85 percent of continental U.S. inland search and rescue missions, as tasked by the Air Force Rescue Coordination Center, which credits CAP with saving an average of 70 lives each year. But its members also perform homeland security, disaster relief and drug interdiction missions at the request of federal, state and local agencies.

The Air Force Research Laboratory has been part of Surrogate UAS since its inception in 2008, and the lab recently completed and delivered the third aircraft to CAP, program manager J.P. Sena said.

"No. 3 is a redesign of the first two, which had a wing-mounted turret," Sena said. "We designed the Cessna 206T with a retractable turret stowed in the belly of the aircraft that allows for longer flight times by reducing drag when the turret is not in operation. The operator station was also designed with ergonomics in

By Steve Cox

Civil Air Patrol's Surrogate Unmanned Aircraft System

Redesigned mock unmanned aircraft vehicle ramping up effectiveness of CAP's newest homeland security program

mind to allow for more leg room, ease of controls, central location for all the equipment and a plethora of capabilities for the sensor operator.”

All three of CAP’s Surrogate UAS planes are equipped with MX-15 sensor balls to provide infrared and electro-optical capabilities similar to the remotely piloted aircraft in the Air Force inventory. This latest modification makes it even easier to use the planes in training exercises where the Air Force and its allied air forces engage in air-land integration combat training.

The Surrogate UAS program is executed through an agreement between Civil Air Patrol, 1st Air Force and Air Combat Command in support of all U.S. Department of Defense services as well as allied partner nations to participate in 21 exercises annually.

- Ten exercises are supported at Green Flag West through the 549th Combat Training Squadron at Nellis Air Force Base, Nevada, for training conducted at Fort Irwin, California.
- Another 10 exercises are supported at Green Flag East through the 548th Combat Training Squadron at Barksdale Air Force Base, Louisiana, for training conducted at Fort Polk, Louisiana.
- Emerald Warrior, an Air Force Special Operations Command exercise, is supported in Apalachicola along the coast of Florida.

“With the use of the Surrogate UAS planes during Green Flag exercises, troops training for deployment get experience with what they will

see overseas while the government can keep the high-value assets overseas to continue to complete missions,” Sena said. “Our government saves millions by keeping the assets in theater and completing training using the Surrogate Unmanned Aircraft System.”

Civil Air Patrol’s operational costs are significantly less than the former contractor used for the exercises, said John Desmarais, CAP’s director of operations.

“It used to cost Air Combat Command approximately \$200,000 an exercise for five days of contractor supported flying,” Desmarais said. “It now costs approximately \$65,000 an exercise for seven to 10 days of CAP support, and not only



does CAP provide more days on site, it is also able to adjust to warfighter needs faster and without contract-negotiated changes to better meet their needs to make training more realistic.”

Joint National Training Center, Air Combat Command and Air Force Special Operations Command funding is used to provide the infra-

structure, operations and maintenance and staffing needed to support the Surrogate UAS program; CAP provides the planes for the program.

Joint funding was used to modify the three planes being used:

- The first, a Cessna 182Q, was delivered in the fall of 2009 to begin operations at Green Flag East that October.
- The second, another Cessna 182Q, was delivered in the spring of 2010 to begin operations at Green Flag West that July. This plane has since been moved to Green Flag East with delivery of the third Surrogate UAS Cessna.
- That plane, a new Cessna T206H, was delivered this January and is now supporting Green Flag West

Intelligence, surveillance and reconnaissance sensors were added to the Cessna T206H so it can mimic an MX-15 aboard remotely piloted aircraft. Air Force Research Laboratory’s Directed Energy Directorate at Kirtland Air Force Base modified the Civil Air Patrol plane for use in military training exercises.



Tom Shubert, second from right, director of U.S. Air Force Auxiliary Programs at the Pentagon, representing the Office of the Deputy Assistant Secretary of the Air Force for Reserve Affairs, is briefed on Civil Air Patrol's Surrogate UAS program. The briefing occurred during CAP's 2014 National Conference in Las Vegas and also included a tour of CAP's Green Flag West headquarters.

Photo by Susan Schneider, CAP National Headquarters

operations.

In addition to employing them for military training, CAP has used the first two Cessnas in relief efforts for disasters such as Hurricane Sandy in 2012.

"Assets assigned to the Surrogate UAS program can also be used to support other Defense Support to Civil Authorities missions like disaster relief and search and rescue operations with the approval of the 1st Air Force commander," Desmarais said. "That is certainly a viable option for the future, but our primary focus remains on providing effective training for U.S. troops."

The Surrogate UAS program has matured and expanded over the years to meet warfighter needs.

"The original Surrogate UAS program was only expected to be a

stopgap measure that was supposed to end in 2012 with the return of remotely piloted aircraft from overseas," Desmarais said. "The needs for RPAs have been steadily increasing worldwide, though, and ACC headquarters has indicated to CAP that this program will likely continue at least through fiscal year 2019, and likely beyond that."

Realistic training of the warfighters and of the CAP members preparing them is key.

"All after-action reports by the Air Force have been extremely positive about CAP's support and the high level of training received by the military ground personnel,"

Desmarais said.

A new agreement among ACC, 1st Air Force and CAP is in the final stages of development to codify the Surrogate UAS program's long-term stance and needs.

In the beginning, the Surrogate UAS program was staffed entirely by a small cadre of CAP volunteers with prior military combat experience. They received updated training from ACC personnel in the latest Tactics, Techniques and Procedures. As the program matured, CAP formed two squadrons at the national level to bring in more experienced personnel from across the country and integrate traditional CAP members with little to no combat experience.

"These squadrons are now being moved into the normal CAP wing

operations structure, and TTPs are being refined and taught with ACC assistance in a formal school program held twice annually along with on-the-job training at GFE and GFW," Desmarais said.

"There are more than 70 active members supporting the Surrogate UAS program, and we anticipate adding many more now that CAP has a third aircraft and the program is becoming more locally based."

Flying in support of the Surrogate UAS program is consistently high.

- In fiscal year 2010, CAP flew 689 hours for Surrogate UAS operations.
- In fiscal year 2014, CAP flew 1,204 hours.
- So far this fiscal year, CAP has flown 871 hours for Surrogate UAS operations and still has two exercises to complete and new participant training to support.

The recent aircraft modification will boost those numbers as well.

"The capabilities of the Enhanced Surrogate UAS will far exceed the previous two and I'm sure will be used in countless other ways to support the CAP mission, as well as the U.S. government," Sena said.

Desmarais agrees with Sena's assessment.

"The Civil Air Patrol Surrogate UAS program provides outstanding support to U.S. and allied warfighters from around the world, and we anticipate doing so for the foreseeable future." ▲

Jeanne Dailey of the Air Force Research Laboratory contributed to this report.

Helps Keep Blood Flowing

By Markeshia Ricks

Nobody is exactly sure when Civil Air Patrol started ferrying blood across the state of Kansas for the American Red Cross.

“We’ve been doing it at least since I’ve been in the Kansas Wing,” said Lt. Col. Mark Lahan of the Flint Hills Composite Squadron, who joined CAP as a cadet in 1981 and became a senior member in 2005.

Maj. David St. John said members of the Kansas Wing have been performing the mission for as long as he’s been in CAP, too. He joined back in 1983, but he said it’s possible that it could go back to the 1970s.

What the volunteers who participate in the mission can be certain of is they have logged thousands of miles over the years taking blood wherever it’s needed in the state.

“Days, nights weekends, holidays,” St. John said. “You call, we haul.”

At its core the mission is simple and maybe not as glamorous as some of CAP’s higher-profile missions, such as search and rescue and disaster relief. But the members take just as much pride in doing it.

The Kansas Wing doesn’t fly this mission, instead using Civil Air Patrol corporate ground vehicles to get the job done.



Here’s the way it works:

The Red Cross calls the wing’s alert officer, requesting transport for blood or other time-sensitive medical materials such as blood samples. The alert officer/incident commander reaches out to volunteer drivers and coordinates routes and handoff locations if multiple drivers are involved.

Lahan said the missions are usually small and worked by a few people. And sometimes it’s just one person.

St. John, one of the mission’s most dedicated volunteers, recalled a volunteer who once drove an 18-hour round trip transport from Wichita to St. Francis and back. St. Francis is in extreme northwestern

Lt. Col. Mark Lahan, left, Maj. Linette Lahan and Col. Tim Hansen are all members of the Flint Hills Composite Squadron in Junction City, Kansas. All three, if needed, drive to transport supplies — including blood — for the American Red Cross. In the background are two of the CAP vehicles the wing uses for transport.





"The Red Cross is enormously grateful to Civil Air Patrol and its volunteers. They are dedicated to making sure blood gets to where it's needed, when it's needed." – Jan Hale, external communications manager, Central Plains and Southwest Blood Services Regions

Kansas; Wichita lies in the state's south-central portion.

"We've had some runs that were kind of exciting," St. John said. "The longest blood run I've ever been on involved myself, another Civil Air Patrol officer and a Ford Bronco."

The mission — a delivery to Hays and the Garden City area during a blizzard in the early 1990s — "was 17 hours, 585 miles, and of that 585 miles, 400 were in four-wheel drive," he recalled. "The conditions were bad enough that we put it in four-wheel drive and left it there until after we got home that night."

St. John, a member of the Emerald City Composite Squadron, carries out blood runs for the Red Cross so frequently that one of the wing's vehicles is permanently parked at his home so he can be ready for a mission at any time.

Over the years he's participated in other kinds of missions, including search and rescue, but the blood run is the one he conducts the most.

Why does he do it?

"A guy has to do something for his country and his community," St. John said. "I can and have been doing this, so I keep doing it."

So far this year, the Wichita-assigned vehicle has been involved in 33 missions entailing 158 vehicle hours and over 6,632 miles.

The mileage total is "basically East Coast to West Coast and back, with a little left over," St. John said. "I think we'll hit 10,000 miles by the end of the year."

The primary blood center in the state is in Wichita, near the Oklahoma border.

Jan Hale, external communications manager for the Central Plains and Southwest Blood Services Regions, said she's not sure when the partnership with the Kansas Wing started either, but she does know the American

Red Cross is grateful it exists.

"The Red Cross is enormously grateful to Civil Air Patrol and its volunteers," Hale said. "They are dedicated to making sure blood gets to where it's needed, when it's needed."

Hale said CAP volunteers often deliver the Red Cross' standing orders to hospitals where the same amount of blood is regularly ordered and delivered.

But CAP volunteers also perform "stat" deliveries, which occur when a hospital is treating a patient in an emergency situation stemming from a complicated birth or an automobile accident, requiring additional blood.

Lahan said he gets a sense of fulfillment from knowing he's doing something that helps save lives.

CAP's ability to respond quickly is vital and potentially lifesaving, and the fact its volunteers are willing to make the runs in even the most inclement weather means they'll forever have the gratitude of the Red Cross, Hale said.

"We are so indebted to the CAP volunteers for their continuing loyalty to the Red Cross and the patients we serve," she said. "These dedicated volunteers are willing to accept a mission in rain, shine, sleet or snow. 'Thank you' doesn't seem enough for that level of commitment — that level of willingness to help save a life." ▲

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How do you put a collar on a bobcat? Very carefully! This bobcat was sedated and blindfolded by wildlife researchers to assure safety for both the humans and the animal as the cat is being outfitted with a transmitting collar. The bobcat will be released when he wakes up.

The **Wild Side** of CAP

*Tallying wildlife in
western South Dakota*

By Kristi Carr

As the Civil Air Patrol Cessna 182 skims over the stunning South Dakota landscape below, the pilot and his passenger don't expect to see the object of their search.

Unlike other more mainstream CAP missions, this is only a search — no rescue involved. This is a wildlife survey.

The what

Brandon Tycz is a regular passenger on the Cessna, which is outfitted on both wing struts with special antennae for radio telemetry. A graduate assistant at South Dakota State University in Brookings, he is in the midst of a study of bobcats, part of a requirement for attaining his master's degree in natural resource management. The purpose of the project, which has an expected completion date of May 2016, is to obtain estimates of the bobcats' population parameters, including the population size, survival rates and reasons for mortality. Tycz's study will yield additional information on the state's bobcats for use by the South Dakota Department of Game, Fish and Parks in managing the cats in the state.

The study covers the counties of Butte, Meade, Pennington and Perkins in west central South Dakota, where Tycz focuses on major waterways and drainage areas along the Cheyenne and Belle Fourche rivers, prime habitat for bobcats. Terrain there can be steep and rugged with thick cedar draws and a variety of deciduous trees. Some bobcats, however, prefer flatter landscape covered with sagebrush and perhaps dotted with Badlands formations.

Tycz spends almost every day trapping bobcats. Once he has captured one, he calls a biologist from Game, Fish and Parks to bring immobilization drugs and to administer the dose. It takes five to seven minutes for the bobcat to fall asleep, he said.

At this point, he activates a VHF collar that emits a radio signal and fits it around the bobcat's neck. Each collar has a unique frequency, which Tycz can track on a receiver. It's important to note that the beeps can only be heard through the receiver; the



Wildlife researcher Brandon Tycz prepares to release one of the bobcats outfitted with a transmitting collar. The collar will be used to monitor the bobcat and his movements in western South Dakota.

bobcat cannot hear them. To date, 40 cats have been fitted with these collars.

The how

Once the bobcats have been collared, CAP enters the picture. Tycz takes to the air with CAP multiple times throughout the year to determine the home range for the bobcats, possible travel to new areas, their survival rates and specific causes of mortality.

Typically, he directs the pilot to their last location. He can usually pick up a signal from around 5 miles away. The antennae on the struts of the CAP plane capture the signal and direct it to Tycz's receiver.

"When I am near the collar, I will hear a 'beep' or a 'chirp,'" he said. "When the bobcat is alive, the collar will 'beep' at 80 beats per minute. If the collar lies still for at least eight hours, the collar will change to 120 beats per minute, and I will need to investigate to see if the bobcat has died or slipped the collar."

"In addition to bobcats, the South Dakota Wing assists SDSU and SDGFP in locating white-tailed deer, mule deer, bighorn sheep, mountain lions, mountain goats and elk," said Maj. Craig Goodrich, commander of the Rushmore Composite Squadron and sometimes a pilot for wildlife surveys.

"Our speed averages 120 mph, but our altitude depends on many factors," Goodrich said. "For a weak collar, we need to fly lower for the best reception. If we think the animal is in a steep ravine, a higher altitude is often best. We often fly over rolling hills — agricultural grazing land — but some animals prefer the higher elevations and ruggedness of the most remote areas of the Black Hills.

"The majority of the animals we follow are in the Black Hills, but the bobcats are mostly in areas north and east of there," he said. "The minimum altitude CAP



Tycz, right, holds a radio collar, which will be secured on a bobcat and send a signal to the aircraft antennas, visible here attached to the plane's strut. Lt. Col. Gary Hewett, left, is one of the CAP pilots who fly wildlife survey missions for the South Dakota Wing. Photo by Lt. Col. Jerry Densmore, South Dakota Wing

normally flies is 1,000 feet above ground level, and we like to be higher than that when we can, especially over rugged terrain.”

Though the wildlife survey missions’ purpose is to collect data, they still pose their challenges. With flights lasting up to five hours, staying hydrated can be difficult, Goodrich said. Turbulent air coupled with frequent turns has led him to pull out the airsick bags for more than one researcher.

The why

Wildlife surveys don’t fall neatly under CAP’s major missions of emergency services, aerospace education or cadet training, so why conduct them? Said Col. John Seten, commander of the South Dakota Wing, “Civil Air Patrol’s overriding objective is one of service. Wildlife surveys are a way we can cooperate with other state entities — agencies where we may benefit from established relationships as we pursue our other missions. Serving the state is also important because the state provides CAP with funding through its military budget. And

besides, our aircraft and volunteer personnel are ideally suited for this work.”

Goodrich added, “With our customers assuming the tab for our fuel as well as an established maintenance cost per hour for the aircraft we use, flying the surveys is a cost-effective way for us to keep our pilots sharp and proficient.”

Weather permitting, the South Dakota Wing flies wildlife surveys every month.

Happy customers

Tycz said, “For me to be efficient in locating these bobcats across the landscape, I need to be in a fixed-wing aircraft. CAP provides that service.”

“CAP has been very dependable,” agreed John Kanta, regional wildlife manager with Game, Fish and Parks. “We can count on CAP to provide aerial service for wildlife telemetry work while maintaining the safety of our staff.” ▲

Maj. Bruce Kipp, public affairs officer for the South Dakota Wing, contributed to this story.

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ACHIEVEMENTS



Gill Robb Wilson Award

Highest award for senior members, presented to those who complete Level V of the Civil Air Patrol Senior Member Training Program. (Only about 5 percent of CAP senior members achieve this award.) The senior members listed below received their awards in May, June and July.

Lt. Col. Lyle D. Melton	AR
Maj. Robert W. Harris	CA
Maj. Michael Patrick Swift	CA
Maj. Shane E. Terpstra	CA
Lt. Col. Thomas W. Eggers	CO
Lt. Col. William M. Waite	CO
Maj. Adrian Cuarta	FL
Lt. Col. Joyce A. Nader	FL
Maj. Joel M. Shreenan	GA
Lt. Col. Robert L. Moore	KS
Col. James F. Huggins	KY
Maj. Cheryl Fieltz-Scarborough	MER
Maj. Mark E. Bell	MI
Maj. Lang Yang	MI
Maj. Donald W. Raleigh	MN
Sr. Master Sgt. Michael A. Mudry	MO
Lt. Col. Robert M. Stusse	MO
Lt. Col. Edith S. Street	MS
Lt. Col. John (III) Fleming Reutemann	MT
Maj. Dennis R. Bissell	NC
Lt. Col. Shelley J. Gonzales	NC
Maj. Francis C. Parker	NC
Lt. Col. Joseph A. Weinfeld	NC
Maj. Diane T. Lambert	NH
Maj. Dennis D. Gordon	NV
Lt. Col. Steve C. Knight	NV
Lt. Col. Jay R. Roberts	NV
Lt. Col. Elizabeth A. R. Tattersall	NV
Maj. Paul R. Thorne	NV
Maj. Victor A. Hammond	OH
Maj. Steve E. Jones	OH
Lt. Col. Paul A. Palmisciano	OH
Maj. Christopher A. Vecchi	OH
Sr. Member Richard S. Embree	OK
Maj. Francis S. McHale	OK
Lt. Col. Theresa E. Longley	OR
Lt. Col. William Nick Ham	PCR
Maj. Richard G. Ouellette	PCR
Lt. Col. Rodney A. DeWeese	SD
Maj. David G. Small	SD
Lt. Col. Darlene J. Ferris	SER
Lt. Col. Albert Van Lengen	SER
Maj. Kevin S. Divers	TN
Maj. Edward R. Woerle	TN
Lt. Col. Eli A. Aaron	TX
Lt. Col. Norman J. King	TX
Maj. Jason R. Hess	UT
Lt. Col. John J. Hoffmann	WI
Col. Paul G. McCroskey	WV
Maj. Ivan M. Scarbrough	WV



Paul E. Garber Award

Second-highest award for senior members, presented to those who complete Level IV of the CAP Senior Member Training Program. The senior members listed below received their awards in May, June and July.

Maj. Scott S. Peters	AL
Lt. Col. Henry E. Decker	AR
Maj. Sharon L. Gempler	AR
Capt. Jean-Marie Nixon	AZ
Maj. Zachary A. Hamill	CA
Maj. Paul M. Hanley	CA
Maj. John P. MacKenzie	CA
Lt. Col. Michael Prusak	CA
Maj. Jacoba M. Sena	CA
Lt. Col. Michael S. Fay	CO
Maj. Ryan S. Glass	CO
Maj. Stefanie S. Hudgins	CO
Maj. Heather L. Murphy	CT
Lt. Col. Jacquelin J. McLeod	DC
Capt. Samuel L. Chiodo	FL
Capt. Leonor S. Croteau	FL
Maj. Regenna Kistner	FL
Lt. Col. Ralph Kugel	FL
Maj. Joyce E. Lampasona	FL
Maj. Jaime Lichi	FL
Maj. Alex Rodriguez	FL
Maj. Jeffrey L. Garrett	GA
Lt. Col. Joanne E. Janchus	GA
1st Lt. Roy S. Barden	HI
Maj. Marlene F. Johnson	HI
Maj. Charlie Rodriguez	HI
Lt. Col. John Michael McDermott	IA
Lt. Col. William L. Rubel	IA
Maj. Robert M. Dempsey	IL
Maj. Joshua N. Shields	IL
Maj. Gary E. Sprigg	IL
Maj. Andrew J. Welch	IL
Maj. John D. Wright	IN
Capt. Robert D. Crockett	KS
Maj. Neil W. Taylor	KS
Maj. Sammy N. Williams	KS
Lt. Col. George H. Stinson	KY
Lt. Col. Jude G. Poirrier	LA
Maj. Thomas E. McKean	MD
Maj. Dana P. Thorpe	MD
Lt. Col. Joseph R. Winter	MD
Lt. Col. Brian D. Smickle	ME
Maj. Alexander D. Craig	MI
Maj. Michael B. Sandstrom	MI
Maj. Marcel A. Kobberdahl	MN
Maj. Richard D. Sevenbergen	MN
Maj. Shawn Warneke	MN
Maj. Jo A. Kelly	MS
Capt. Shaun J. Kelly	MS
Capt. Jason G. Cheek	NC
Lt. Col. Conrad W. Peterson	NCR
Maj. William R. Fitzpatrick	NM
Capt. Jane Lingenfeiler	NM



Gen. Carl A. Spatz Award

Highest award for cadets, presented to those who complete all phases of the CAP Cadet Program and the Spatz award examination. (Only about one-half of 1 percent of CAP cadets achieve this award.) The cadets listed below received their awards in May, June and July.

Klara G. Olcott	AZ
Jean M. Pendergrass	CA
Isaac M. McDermott	OH
Riley B. Mitchum	OK
Nicholas A. Cavacini	PA
Tyler C. Hoover	SC
Maj. Lloyd J. Voights	NM
Capt. Sadiq Q. Patankar	NV
Maj. Michael S. Shalmy	NV
Maj. Edward F. Miraglia	NY
Maj. Jennifer A. Hicks	OH
Maj. William M. Macek	OH
Maj. Christopher A. Vecchi	OH
Lt. Col. Jim R. Emory	OK
Capt. Donnel Lee Lang	OR
Maj. Alisha M. Christian	RMR
Maj. Michael D. Albertson	SC
Maj. Corey A. Hamilton	SER
Lt. Col. Iain F. Jackson	TN
Lt. Col. David A. Stoner	TN
Lt. Col. Joe N. Wheeler	TN
Maj. Rodney D. Wilson	TN
Maj. Michael A. Anderson	TX
Maj. David L. Augustine	TX
1st Lt. Steven P. Blanchard	TX
Capt. Johnathan G. Foster	TX
Maj. Warren L. Allen	UT
Maj. Allyn J. Merrell	UT
Maj. Steven T. Rogers	UT
Lt. Col. James R. Stewart	UT
Maj. David J. Fish	WI
Maj. Ronald P. Marto	WI
Maj. Pierce M. Sherrill	WI



Gen. Ira C. Eaker Award

Second-highest award for cadets, presented to those who complete all Phase IV requirements of the CAP Cadet Program. The cadets listed below received their awards in May, June and July.

Nathan D. Wills	AL
Klara G. Olcott	AZ
David M. Burke	CA
William E. Irons IV	CA
Thomas J. Lindley	CA
Thomas M. Pendergrass	CA
Jean M. Pendergrass	CA
Christina D. Archer	CO
Noah A. Gibbs	CO
Anna L. Gilmer	CO
Brendan K. Todd	CO
Nathaniel A. Todd	CO
Kaleb J. Todd	CO
Diego F. Alva	FL
Luis A. Berrios	FL
David C. Brown	FL
Kyle L. Hayes	FL
Angel A. Pena	FL
Matthew J. Cooper	GA
Hannah L. Imel	IN
Justin M. Kantor	KY
Heath W. Hilton	LA
Matthew Pourteau	LA
Michael K. Peter	MD
John Chandonais	MI
Andrew R. Carter	MN
Zophia E. Raleigh	MN
Gideon E. Wiff	MN
Caleb J. Couture	NC
Danielle E. Bullock	NC
Wesley J. Notter	NH
David M. Acampora	NJ
Matthew C. Jackson	NJ
Brandon M. Powell	NY
Nathaniel Tartter	NY
Joel Winkler	NY
Daniel S. Luddeke	OH
Kyle Adams	PA
Brittany N. Clegg	PA
Juan Merced	PR
Jordan N. Torres	PR
Chase S. Boni	RI
Joshua Brinegar	TN
Warren D. Friedrichs	TX
Jean P. Furter	TX
Alexandra Telschow	TX
Katy E. Welch	TX
Rosalyn C. Carlisi	UT
Josiah P. Day	VA
Michael A. Stokes	VA
Rachel E. Sydow	VA
Benjamin Lam	WA
Anthony J. Spoto	WA
Moritz Wienke	WA
Brent Miller	WY

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