

Missions for America  
*Semper vigilans!*  
*Semper volans!*



## The Coastwatcher

Publication of the Thames River Composite Squadron  
Connecticut Wing  
Civil Air Patrol

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### SCHEDULE OF COMING EVENTS

07 SEP-Wings Over Westerly  
07 SEP-Orientation Flights-TRCS at GON  
08 SEP-Orientation Flights-TRCS at GON  
10 SEP-TRCS Meeting  
15 SEP-Simsbury Fly-in  
17 SEP-TRCS Meeting  
21 SEP-CTWG pilots meeting at MMK  
21-22 SEP-CTWG Squadron Leadership Course  
24 SEP-TRCS Meeting  
28 SEP-Cadet Ball-USCG Academy  
05-06 SEP-CTWG Corporate Leadership Course  
09-10 OCT-CTWG Unit Commander's Course  
19 OCT-CTWG Field Trip-Intrepid Museum  
26-27 OCT-TLC Course-Camp Niantic

### ERRATUM

Maj Art Dammers points out that the *Enterprise* was replaced at the NASM by *Discovery*, not *Voyager*, as reported in the last *Coastwatcher*.



*The re-entry  
scorched  
Discovery  
at the  
NASM*

### CADET MEETING

*02 September, 2013*

*reported by*

*C/A1C Justin Ketcham*

Drill practice was cancelled due to heavy rain so cadets performed interior maintenance in the squadron trailer.

C/SMSGt Ray presented a lesson based upon material in Volume One of the *Leadership Manual*.

Lt Ray announced that O Flights are scheduled for Saturday and Sunday.

If enough cadets sign on, the Squadron will enter the CyberPatriot competition.

S/SMSGt Trotochaud made an oral presentation on the aviation history of the United States as part of his qualifying work for the Armstrong Award.

### SENIOR MEETING

*02 September, 2013*

Senior members worked on individual projects and administrative tasks.

## AEROSPACE CURRENT EVENTS

### *Recent Launches and Tests*

#### *SSAT-7*

The Indian communications satellite, SSAT-7, launched from French Guiana last week, has been successfully placed in a geosynchronous orbit.

A geosynchronous orbit is achieved when the satellite is at a height of about 22,000 miles and orbiting in the plane of the equator. At this height, its orbital speed is the same as that of the earth so that relative to the earth, it always remains over the same point. It will be slowly moved until it reaches latitude 0 degrees, longitude 74 degrees.

#### *Arrow Anti-Missile Detection System*

In collaboration with the United States, Israel ran a test of its new Arrow Anti-Missile System. An Israeli fighter over the Mediterranean west of Israel launched an AIM-7 Sparrow eastward. The radar system successfully detected and tracked the missile.



*Fox One  
Sparrow launched by USAF F-15  
(USAF Photo)*

The Sparrow, originally developed by the US Navy, has been the primary “beyond visual range air launched anti-aircraft missile used by the US and its allies for the last 50 years. It is a semi-active radar homing missile which requires that the aircraft which fires the missile keep the target

illuminated until the missile strikes. The Sparrow is now being replaced by the AIM-120 AMRAAM.

#### *Helicopter Crash Tests*

A retired USMC CH-46 Sea Knight helicopter, specially instrumented and outfitted with anthropomorphic dummies has been used to conduct a test which involves seat design, passenger restraints, and composite materials. The purpose of the test is to gain insight into methods which might lead to safer aircraft.

The Langley Impact Research Facility uses a special gantry, some 400 feet long by 240 feet high which was originally developed during the space program and called the Lunar Lander Research Facility. The system, could be used to reduce the effects of gravity on a suspended object to 1/6 that of the earth, simulating the lunar environment and allowing a safe venue to test fly the lunar lander.

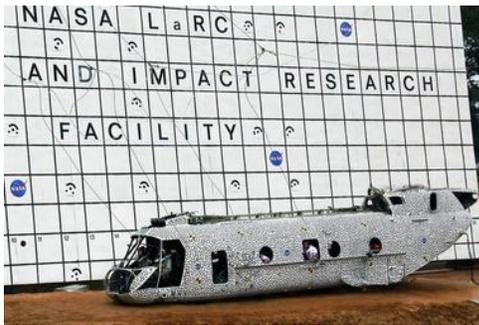


*Aerial View of the Impact Facility Gantry  
(NASA Photo)*

Rather than decommissioning the facility when it was no longer needed, it was converted into a crash test laboratory in which a variety of aircraft were dropped to test both crash-worthiness and develop better systems for crash survival.

The recent test, run by NASA, the Naval Air Warfare Center, the FAA, the US Army, and corporate interests, simulated a severe but survivable crash by dropping the fuselage from a height of 30 feet with some forward motion into a

bed of soil.



*NASA photos show the helicopter at impact.*



At one time, in New London, a Republic Seabee

was based by the railroad station. According to “legend” the pilot attempted a take-off under unfavorable loading and meteorological conditions. Heading south from the US Submarine Base, he managed to get aloft in ground effect but then had to fly under both the Gold Star Memorial highway bridge and the New York, New Haven, and Hartford railroad bridge.



*The old bascule railroad bridge, just south of the highway bridge.*

The polka dot design on the fuselage enables the engineers to observe distortion of the airframe in detail. Cameras running at 500 frames/second and accelerometers running some 350 channels of data allow crumpling of the metal or composite materials to be recorded in great detail by observing the change in relative positions of dots.

## **AEROSPACE HISTORY**

### *AVIATION ON THE THAMES RIVER*

The aviation history of the Thames River in New London cannot compare to that which has occurred on London's Thames River. One must go a long way to match the feat of Maj Christopher Draper, D.S.C, who, in 1930, using a DeHavilland Puss Moth, planned a flight under all 14 of London's bridges over the Thames. Bad weather intervened and he only flew under two of them. In 1953, on the fifth of May, he improved his performance flying under 15 of the 18 bridges over the Thames.

The railroad bridge, a bascule design, has since been replaced by a vertical lift bridge but the original structure is part of the aviation history of our Thames River. In 1914, one of its engineers was a young George Kenny, MIT drop-out, who, eventually rose to the rank of General, USAF.

Kenny commanded the air forces in the South Pacific Theatre under Douglas MacArthur. His penchant for invention and novel tactics included skip bombing of Japanese shipping and the installation of additional forward pointing fifty calibre machine guns in the noses of North American B-25 Mitchells and Douglas A-20 Havocs. After the war, he became the first commander of the Strategic Air Command and retired as commander of the Air University.

For some time, the USCG based at least one amphibian at the Academy, most likely a Grumman JRF-3 Goose

Then of course there is the eccentric multi-millionaire Howard Hughes. Hughes got his first

airplane ride on the Thames. In the fall of 1920, Howard's father took him to New London to see the annual Yale-Harvard boat races. Howard Senior, a Crimson alumnus, promised to buy for Howard Junior, whom he called Sonny, anything should Harvard triumph over the Bulldogs. As luck would have it, Harvard won the varsity race and Sonny asked for five dollars.

Howard headed for a Curtiss seaplane operated by the Piper-Hudson Seaplane Service. Howard, dubious about the safety of the contraption, joined Sonny and Capt. Horace Hudson for a ten minute jaunt aloft. Upon landing, Howard Senior felt ill and Sonny realized he had discovered a lifetime calling.

But the earliest aviation enterprise on The Thames originated in 1908. Edson Fessenden Gallaudet was a scion of the Gallaudet family prominent in education of the deaf. He held a B.A. From Yale where he was a member of Skull and Bones and the class of 1893 and earned a Johns Hopkins doctorate in electrical engineering in 1898. For the next 12 years, he was employed by a number of industrial concerns and also taught physics at Yale. His aeronautical experiments displeased the Yale faculty and their displeasure contributed to his departure from Yale's ivy covered walls.

As early as 1898, he built a kite using the wing-warping technique for control but it was ten years later, when he formed the Gallaudet Engineering Company at the confluence of the Yantic and Shetucket Rivers in Norwich and constructed his first airplane in 1909. During this time, Gallaudet also attended the Wright School and received US Pilot's License #32.

Gallaudet Airplane No. 1 was a single float monoplane. The aircraft had a 125 horsepower engine which drove two propellers, one mounted in the nose and one mounted in the tail. The aircraft was a turkey and never rose more than a few inches off the Thames.

In 1912, Gallaudet produced the A-1 Bullet, powered by a 100 horsepower Gnome rotary engine drive a tail mounted propeller. Said to be

one of the fastest aircraft in the world, the Bullet crashed at Hempstead Plains, injuring Gallaudet. In 1915, the US Navy contracted with Gallaudet for a D-1. The plane resembled a convention bi-winged seaplane with a central float and auxiliary floats mounted on each wing. However it employed a radical propeller mounting, the Gallaudet Drive. The propeller was mounted mid fuselage partially enclosed by a ring which also supported the aft portion of the fuselage and tail. Power was supplied by a pair of Duesenberg engines each developing 150 horsepower.

Early tests were conducted on the Thames and in mid October, 1916, a series of flights were conducted for US Navy observers. One flight went down the Thames and over the Sound.



*Gallaudet D-1 with buildings in background which might be still in existence on the west bank of the Shetucket River. (Rick Bjorklund Collection)*

The company was experiencing financial difficulties caused by repeated engine problems and delays in the program and was handicapped by a too small factory building. The company moved to larger quarters in East Greenwich, Rhode Island but the plant move and poor weather led Gallaudet to ask the Navy if they could move the trials to Pensacola. Thus ended the Gallaudet presence on the Thames.

Eventually Reuben Fleet took over the Gallaudet firm and incorporated into his new company, Consolidated Aircraft which morphed in Consolidated-Vultee, and Convair. General Dynamics purchased Convair but GD became part of what is now the Fort Worth Division of

Lockheed-Martin.