

Corps looks into Bat Bombs

World War II Reveals Unusual History

By Lara Beasley, USACE Geologist

Most people may know about the testing of the first nuclear weapons in New Mexico, but how many people know about bat bombs?

In the aftermath of the attack on Pearl Harbor, the War Department was willing to investigate many “out of the box” ideas for retaliating against the Japanese. So when in January 1942, a dental surgeon named Lytle S. Adams wrote to President Franklin D. Roosevelt about his recent trip to the Carlsbad Caverns, a very unusual idea was given approval.

Dr. Adams’ idea was to place small incendiary bombs inside bats and release them over Japanese cities. Because much of the construction in Japan was wood and paper, the bats were to fly under the eaves of buildings, the bombs would then explode setting the buildings on fire. The intent of releasing several hundred to thousands of the bats over the Japanese cities was to cause widespread fires that could devastate their economy with limited loss of life.

In May 1943, approximately 3,500 bats were collected at Carlsbad Caverns and flown to Muroc Lake, California. While hibernating, the bats were fitted with dummy, or inert, bombs and dropped from a B-25 flying at 5,000 feet. The test was less than successful as the bats were so deeply hibernating that many did not fully awaken and died when they hit the ground.

At the time, testing was then transferred to an auxiliary airfield near Carlsbad, New Mexico. According to **Army Chemical Weapons Service Capt. Wiley W. Carr, the tests were carried out as follows:

“Bats were taken from the refrigeration truck in a hibernated state in lots of approximately fifty. They were taken individually by a biologist, and about a one-half inch of loose chest skin was pinched away from the flesh. While this operation was being done, another group was preparing the incendiaries.”

“One operator injected the solution in the delay (mechanism), another sealed the hole with wax, and another placed the surgical clip that was fastened to the incendiary by a short string... The incendiary was then handed to a trained helper

who fastened it to the chest of the bat. The bats were then loaded into a cardboard container fitted with a parachute to slowdown their descent and to release the bats when dropped from a plane.”

“As the Army continued to refine the bat-plus-bomb concept, many more tests with both live and dummy (inert) bombs were released near Carlsbad.”

The Army concluded testing on May 29, 1943. In his final report, Capt. Carr wrote:

“The bats used at Carlsbad weighed an average of nine grams...they could carry eleven grams without any trouble and eighteen grams satisfactorily, but twenty-two grams appeared to be excessive. The ones released with twenty-two-gram dummies didn’t fly very far, and three returned in a few minutes to the building where we were working.”

“One flew underneath, one landed on the roof, and one attached itself to the wall. The ones with eleven-gram dummies flew out of sight. The next day an examination of the grounds around a ranch house about two miles away from the point of release disclosed two dummies inside the porch, one beside the house, and one inside the barn.”

Capt. Carr’s report abruptly stated that:

“Testing was concluded...when a fire destroyed a large portion of the test material.”

He neglected to give details on the incident, which involved a door left ajar, bats fitted with incendiaries escaping, and setting fire to all of the structures at the auxiliary field, including a general’s car.

In August 1943, the Army concluded testing and transferred the project to the Navy and became known as Project X-Ray. The Navy then moved it’s testing to Hondo Army Airfield in Texas and shortly handed the project off to the Marine Corps. Testing by the Marine Corps, conducted in Utah, was concluded in August 1944 when Fleet Admiral Ernest J. King, Chief of Naval Operations, was informed that the bats would not be combat-ready until mid-1945.

While conducting meetings in Carlsbad for the Formerly Used Defense Site Program in March, the topic of the bat bombs resurfaced. Representatives from the New Mexico Environment Department expressed concerns about the potential safety hazard posed if any of the live bat bombs failed to operate as intended.

“The bombs were so small that if they were to go off it would be similar to setting a book of matches on fire,” David Holladay, Albuquerque District’s Ordnance and Explosives Safety Specialist. “Because of the weight of the bomb, the bats could not fly very far...the likelihood of them going very far from the drop point with a live bomb and the bomb not activating is very small.”

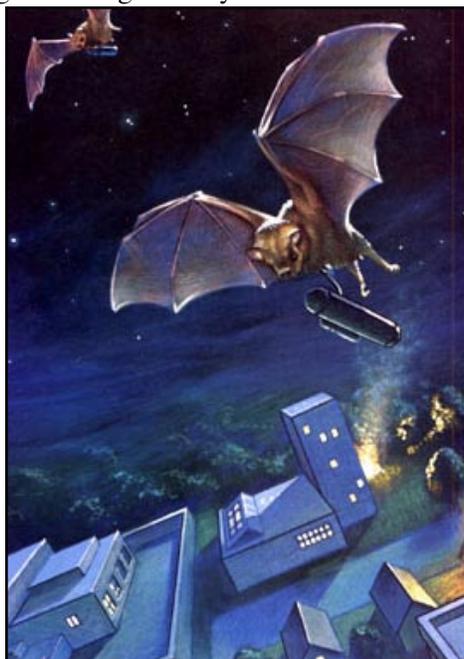


Illustration courtesy of U.S. Air Force

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Awards & Decorations

Member of Regulatory is District Employee of the Year

Jean Manger, senior project manager for Regulatory Branch, was selected as the 2006 Albuquerque District Member of the Year.

A selection committee with representatives from all of the Divisions within the District, the Employee Advisory Committee, and Mid-Level Management diligently reviewed all of the nominations before making the final selection.

Dave Dutton, Abiquiu Lake Project Manager, Linda Anderson, Contracting, April Sanders, Operations, and Barbara Bernal, Resources Management, were also nominated. Manger is responsible for reviewing 404 permit applications, coordinating with applicants and applicable interested

agencies and individuals, responding to violations of the program, and mentors other regulatory project managers. Manger has played a key role in the success of several high profile projects of significant public and congressional interest.

As the District Member of the Year, Manger received a Commander's Coin, her name recorded on the plaque in the front lobby, and a reserved parking space in front of the building for the year.

Thanks, Jean, and all the nominees for your outstanding work and contributions to the Albuquerque District! 🏆

Headlee earns Division nomination

By Karen Downey, Lead Park Ranger John Martin Reservoir

Don Headlee, Park Ranger at John Martin Reservoir, Colorado, won the South Pacific Division nomination for the Department of the Army's Hiram M. Chittenden Award for Interpretive Excellence, 2006.

The nomination is in recognition of his outstanding service to the Albuquerque District through his unwavering and dedicated support of the interpretive program at John Martin Reservoir and Dam.

During the past year, Headlee has worn many hats, and donned many different personas in a successful effort to bring to life the Lewis and Clark Expedition, the Zebulon M. Pike Expedition, and the Santa Fe Trail.

From Albuquerque, New Mexico, throughout Colorado, and as far away as Kansas City,

Missouri, he has tirelessly represented the U.S. Army Corps of Engineers to educate the young and the old in schools, civic group meetings, and special events.

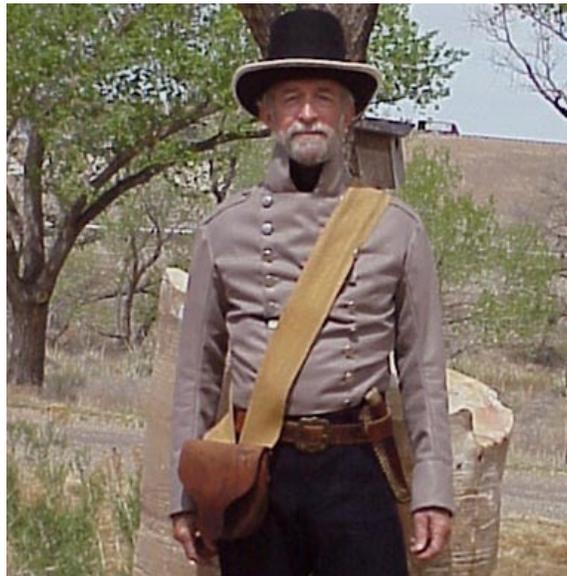


Photo by Karen Downey, USACE John Martin Reservoir

His innovative teaching techniques not only reflected the history of our nation, but also instructed youngsters on career paths, water safety, environmental science, cultural and prehistoric finds. He is a retired teacher, but he has never stopped teaching. He is the very essence of what a U.S. Army Corps of Engineers Park Ranger should be as he has represented himself, as well as the Corps, with dignity and pride.

The award is in honor of Hiram M. Chittenden, a former Corps district commander who championed the 1910 development of the Lake Washington Ship Canal and Locks, eventually named for him in 1956. 🏆

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Education of the public in the FUDS program is one of the most powerful tools available to Albuquerque District FUDS Program Manager, Monique Ostermann.

"When someone asks us a question about the risks associated with any DoD activity, especially regarding ordnance, we need to be very clear in how we explain what occurred at that site

and what the residual risk may be," said Ostermann. "Much of the work we do in FUDS is for activity done 60 or more years ago, but that doesn't mean there is no risk at all."

"That being said, the risk from residual bat bombs is extremely low, but that doesn't mean we shouldn't educate the public about it," she said. Not only is it important from a safety education

standpoint, it is also a really interesting anecdote about New Mexico's role in World War II. 🏆

** Reference: Couffer, Jack, *Bat Bomb: World War II's Other Secret Weapon*. Austin: University of Texas Press. 1992.