DEFENSE SITES

NICK STOLTE

At Camp Breckinridge, in Morganfield, Ky., unexploded 81mm mortars, found at a former range, are lined up before demolition.

Bombs Away

Former defense sites get safety cleanup

By Robin Roenker

THINK OF IT AS one of the world's most high-tech cleanup crews.

Team members involved with the U.S. Army Corps of Engineers Formerly Used Defense Sites (FUDS) program are charged with detecting and removing contaminants and munitions on retired military training or testing grounds across America. Their goal: removing potential hazards so the land can be safely allocated to other uses — from farms, parks and wildlife refuges to sites for new neighborhoods and more.

"The (Corps) has one of the largest environmental restoration and environmental compliance roles in the federal government," said Lara E. Beasley, the Corps' environmental division chief. "We provide solutions to the nation's toughest environmental challenges. We're known for that."

So whether it's detecting and removing some 1,500 pieces of unexploded ordnance at Camp Breckinridge, a former WWII training facility in western Kentucky that's now largely farmland, or cleaning up WWII-era landfill waste — including electronics equipment, fuel, lead and steel — at Fort Rousseau near Sitka, Alaska, to prevent

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contaminated soil from leaching into nearby waterways, Corps crews merge on-the-ground know-how with cutting-edge scientific advances to get the job done.

When it comes to removing munitions, archival records and maps of military land usage are paired with modern high-precision aerial photographs, LiDAR (light detection and ranging) technology and advanced geophysical classification capabilities — including electromagnetic induction (EMI) technology, which can detect and identify metal anomalies in the ground — to help teams identify precisely where remediation efforts are needed on designated FUDS sites.

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"The technology has come a long way," said Christopher Evans, chief of the Department of Defense environmental programs branch within the Corps' environmental division. "When I first started working at these sites looking for munitions, you had an instrument that beeped at every piece of metal. The advanced sensors that we are deploying now actually allow us to generate an electronic signature of the metallic items in the subsurface, compare them to a library of signatures for various unexploded ordnance items and make (an identifying) match."

To date, the FUDS program has invested roughly $7.8 billion to clean up approximately 3,700 project sites nationwide — some on land with defense ties dating as far back as the Revolutionary War.

Work is underway, or will start soon, at an additional 1,700 FUDS projects across the nation, where Corps teams will oversee building demolition, toxic and radioactive waste cleanup, and munitions and explosives removal as needed. "Our remaining cost to complete the rest of the cleanup is about $11.7 billion," said Beasley. "We look at the current and anticipated future land use for each site and work with stakeholders in the area to jointly determine what the best remedy is going to be."

AARON SHERMAN/USACE ALASKA DISTRICT

The Corps removes a contaminated landfill from a World War II military installation at Alaska's Fort Rousseau park.

THE CORPS HAS CLEANED UP

3,700

FORMER DEFENSE SITES

FUDS success stories abound. Last June, for example, the Corps completed a three-year effort to clean up land and waterways near Cape Poge, on Martha's Vineyard, Massachusetts, which had been used as a bombing practice site by the U.S. Navy in WWII. In addition to roughly 20,000 pieces of munition fragments, crews removed at least 2,000 MEC (munitions and explosives of concern) — so-called because they likely still had a charge intact — on land, plus roughly 1,700 explosives in nearby waterways. Divers also made the surprising find of portions of aircraft parts, likely from a downed Curtiss SB2C Helldiver that crashed during training in 1946.

USACE NEW ENGLAND DISTRICT

Crews excavate WWII explosives at a former bomb target near Cape Poge, Mass.

While removing the munitions hazards was a key goal, so too was preserving the integrity of ecosystems during the process, since portions of the site fell inside Cape Poge Wildlife Refuge. "Before we dug for any anomalies, we essentially did a biological survey to determine what plants and animals were occupying the area," said Carol Charette of the Corps' New England District, who served as the Cape Poge project manager. When they were done, they replanted the vegetation that had been there. "Our end goal was to have the whole site be as vegetated as it was before we even started," said Charette. "It was a very rewarding project."