

FUDS Property: Dolly Sods/West Virginia Maneuver Area (G03WV0013)

Location: Davis/Elkins, WV

Project Description: Former Maneuver Training Area in the mountains of West Virginia

Nature of Success: The Huntington District of the U.S. Army Corps of Engineers partners with ERDC TEC on a GIS-Based Aerial Photographic Analysis of the former West Virginia Maneuver Area.

Description of Success Story:

The USACE Topographical Engineering Center (TEC) has been contracted by USACE Huntington District to provide GIS-Based Historical Photographic Analysis on the West Virginia Maneuver Area (WVMA). This work will be strongly utilized for the preparation of the Preliminary Assessment (PA) currently being developed for the WVMA. The PA consists of conducting historical research on the property to determine what environmental impacts could possibly have resulted from the Department of Defense's use of the tracts that made up the WVMA. TEC is currently in the process of acquiring the necessary 1945-era aerial photography on the WVMA Main Impact Area and utilizing GIS-based technologies to analyze the photographs. This interpretation will be used to determine whether there are DoD-related impacts to the Main Impact Area. These impacts could include, but are not limited to, craters, ground scars, structures, mounded areas, vehicle tracks, and trails. This image interpretation is done by utilizing single-optical and stereoscopic viewing, at various magnifications, to identify the various features. Once the image is magnified visible signatures are recognizable in the photography. These signatures include size, shapes, shadows, tones, and patterns. The final product that will be produced by TEC will include a report containing the aerial photographs with interpreted areas highlighted, a GIS database containing all digital aerial photography, interpretations, and historical documentation, and an overall topographic map of the Impact Area with all of the interpreted areas highlighted.

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Nature of Success: The Huntington District of the U.S. Army Corps of Engineers partnered with West Virginia University in developing environmental forensics approach to identifying location of UXO. Coordinated sampling efforts and sharing information with US Forest Service (Monongahela National Forest), US Fish and Wildlife Service (Canaan Valley National Wildlife Refuge) and Canaan Valley Institute.

Description of Success Story:

The U.S. Army Corps of Engineers, Huntington District, entered a research agreement with West Virginia University (WVU) and other stakeholders in FY 07/08 to conduct environmental forensics sampling at the former West Virginia Maneuver Area to try to determine possible unexploded ordnance (UXO) locations. The scope of the research initially was to develop environmental forensic capabilities at WVU to identify concentrations of contaminants from UXO in the Dolly Sods Wilderness Area and surrounding areas with known impact areas. The sampling used surface and ground water, soil, and biological sampling to identify UXO contaminates and decomposition products. The results of the sampling will be combined with GIS and transport models to delineate possible concentrations of ordnance within the impact areas.

Two rounds of sampling were conducted on 25-29 June 2007 in the Dolly Sods Wilderness Area and 22-23 August 2007 in the Canaan Valley National Wildlife Refuge, Dolly Sods Wilderness and Canaan Valley Institute properties. During these sampling events, WVU faculty and students, Walt Zange, a USACE UXO Safety Specialist from Huntsville, AL UXO Center of Expertise, and Nick McHenry and Richard Meadows, USACE Huntington District employees, participated. The UXO safety specialist was present to ensure team safety by ensuring the sampling locations were clear of any possible UXO prior to sampling. (While onsite, Mr. Walt Zange, UXO Safety Specialist, did locate a 60-mm mortar within 20-feet of a proposed sampling location. Once at a point where contact could be made, Nick McHenry reported the mortar find to the Forest Service hotline and the mortar was safely detonated by Fort Meade EOD officials within 36 hours.) Areas of UXO finds from the 1997-98 trail clearance and recent UXO/rocket find locations were used in order to determine sampling locations. Due to the rocky soil located in the impact area, sampling methods were altered and WVU determined it was necessary to incorporate the Multi Increment Sampling Method in their sampling. Results from these sampling events will be available in December following analytical analysis of the sampled media. The completed sampling results and GIS input will produce insight into whether the sampled media contain munitions constituents and soil characteristics of the Dolly Sods area. This information could prove extremely beneficial in locating UXO in Dolly Sods in the future.