2023 Secretary of Defense

Environmental Awards

Sustainability Team
366th Environmental Management Team, Mountain Home Air Force Base

Introduction

Mountain Home Air Force Base (MHAFB), located on the desolate Snake River Plain 50 miles southeast of Boise, ID, is home to the 366th Fighter Wing (366 FW). A premiere Air Combat Command (ACC) installation, the 366 FW, is built on a team of resilient and innovative Airmen with the objective to "prepare mission-ready Gunfighters to fight and win today's war and the next." With the impressive firepower of the F-15 Strike Eagle aircraft, the 366 FW is home to 3,610 active duty members, 450 civilians, 440 contractors, and 3,500 family members. The base is comprised of 1,610 facilities, including military family housing, and provides a $760M annual total economic impact in Idaho. Supporting infrastructure includes a system of on-base drinking water wells, a wastewater treatment plant, and the only self-sustaining recycling center in the ACC. Ten years ago, MHAFB proactively recognized the need for, and commitment to sustain, diversifying energy supply to reduce the demand of on-grid reliance and partnered with a regional energy company that generates 49% of its power from renewable sources (hydroelectric, solar, and wind) 10% above national average. MHAFB is leading by example.

In 1942, MHAFB was constructed and operated as an Army Air Base, tasked to train combat fighter pilots. Since its inception, the base continues to provide critical combat training for the Department of the Air Force (DAF) and other military services, as well as local, regional, and multinational partners. While visiting the Gunfighters in 2018, General James Mattis, former Secretary of

Defense (2017-2019), stated that, "[t]he Mountain Home Range Complex is a National Treasure." Unique to the base is the un-encroached access to 95,000 square nautical miles of restricted military operational airspace, and 135,000 acres of joint-use lands for military training, public agricultural grazing, hunting, hiking, and as an access point to world-renowned white-water rafting. Within the Mountain Home Range Complex (MHRC), the 366 FW's comprehensive management practices ensures installation sustainability and mission objectives while protecting non-renewable natural and cultural resources for future generations.

MHAFB Environmental Management Team
The Mountain Home AFB Environment Management Team resides within the 366th Civil Engineer Squadron, under the Installation Management Flight. Pictured left to right: MSgt Daniel Hamden, Environmental Superintendent; Ms. Paula Jo Brown, Chief Installation Management Flight; Mr. Hodge Echeverria, Biological Scientist; Mr. Glenn Sansone, Material Handler; Ms. Katie Gomez, Physical Scientist; Mr. Mike Wussow, Environmental Protection Specialist; Ms. Sheri Robertson, Chief Environmental; Mr. Eddie Jackson, Physical Scientist; Ms. Beth Burgess, Archaeologist; Mr. Cory Mikita, Biological Scientist; Mr. Michael McDaniels, Physical Scientist; and Capt. Ronald Diaz-Cataldo, Installation Management Flight Deputy.

Background

MHAFB activities are regulated by the U.S. Environmental Protection Agency, Idaho Department of Environmental Quality (IDEQ), Idaho Department of Water Resources (IDWR), U.S. Fish & Wildlife Services (FWS), Bureau of Land Management, and Idaho State Historic Preservation Office. The 366 FW Environmental Management Team (Team) also accomplishes its unique mission in conformance with DAF Instructions and the Environmental Management System (EMS). This lean 10-person Team, with over 190 years of combined experience, is dedicated to environmental stewardship and mission resilience through continually optimizing processes, reducing environmental risks, and preventing pollution. As an interdisciplinary team, the Team specializes in hazardous materials (HAZMAT), hazardous waste, petroleum, oil and lubricants storage tanks, natural and cultural resources, air and water quality, solid waste, recycling, and the National Environmental Policy Act while successfully supporting the Department of Defense (DoD) and installation combat training missions, and warfighters, both at home and contingency locations. In addition, the Team interfaces with regulatory agencies on behalf of the installation and implements practices defined in Executive Orders (EO) focusing on climate change and renewable energy. The entire Team expertly achieves goals through the planning, programming, budgeting, and the execution of $32.6M in Environmental Quality (EQ) funds annually. With over 60% of the Team consisting of retired military members, the Team provides valuable "boots on the ground" experience and has fostered invaluable relationships with active service men and women. These relationships have ensured the installation meets its sustainability goals while empowering innovative and resilient Gunfighters, who comprise the Nation's most lethal and agile combat wing!

Accomplishments

The Team's significant accomplishments in fiscal year 2021-2022 (FY21-22) were: 1) overcoming immediate water challenges through base wastewater reuse program, saving 178M gallons of water; 2) fostering

partnerships, ensured base short-term energy resilience while seeking long-term $25M geothermal project; 3) utilizing best management practices diverting 32K tons of solid waste, decreasing $1.1M in management and disposal fees; 4) resolving base Fire Training Complex (FTC) per- and polyfluoroalkyl substance (PFAS) containing soil concerns, saving $900K in disposal costs; 5) battling invasive vegetation, reducing wildfire fuel-loads by 20%, restoring critical faunal habitat through collaborative partnerships, saving $135K in contractor costs; and 6) implementing base-wide xeriscaping to reduce water demand while providing base residents quality living and recreational space. During this award period, the Team overcame significant challenges such as increased operational and training tempo, decreased EQ funding, minimal manning, and threatened natural resources. Through a collective creative approach and innovative adaptability, this Team has persevered, balancing sustainability with the 366 FW training capabilities.

Livable Communities, Master Planning, and Green Buildings

Throughout the accomplishment period, the Team holistically approached the challenge of promoting base resilience while effectively mitigating critical impacts to the installation's sustainability. By collaborating with local and state partners, MHAFB resolved crucial infrastructure impediments through enacting inventive water and power practices and promoting pragmatic operational procedures.

MHAFB owns five drinking water wells drawing from the regional aquifer. The aquifer is declining at a staggering rate of two feet per year, thus mining the aquifer. Within FY21-22, three of the drinking water wells were taken offline due to degraded water quality (high nitrates and PFAS). Mitigation measures were immediately employed to reduce aquifer demand, to include utilizing 89M gallons of reuse water from the base Wastewater Treatment Plant for irrigation use and aquifer recharge. Paralleling immediate measures, MHAFB engaged with IDWR, IDEQ, and the local community to secure a 14-mile water pipeline, connecting the installation to the Snake River. Upon completion, this $79M water pipeline project will support a 3.5M gallons-a-day water treatment plant which will further reduce aquifer withdrawal while ensuring base sustainability and mission resiliency.

As a leading combat wing, the 366 FW recognizes the necessity of energy resilience and independence from grid reliance. As such, MHAFB has partnered with local utilities establishing a program which would ensure installation electric needs are met in case of a catastrophic power grid failure or disruption. This innovative hydroelectric resiliency plan successfully diverted 13 megawatts, validating a $415K concept in the first demonstration of its kind in the DAF. Due to MHAFB's remote location, the Team has actively assessed alternative energy sources, including geothermal energy. Geothermal potential was validated through explorative boring indicating a renewable energy source is contained 6,000 feet below the installation. The Team completed an Environmental Assessment for the construction and operation of a geothermal power plant resulting in a Finding of No Significant Impact. MHAFB was selected as a candidate for a $25M geothermal power pilot program in FY22. This program will prime the base for an estimated $3.5M annual cost savings and reduce carbon dioxide emissions by 54,000 tons. Previous environmental work conducted by the 366 FW laid the groundwork for prototype thermal energy removing dependency of utility companies to self-contained resilience based on renewable resources.

Partnering with base Bioenvironmental, Engineering, and Public Health personnel, the Team tackled an on-going hazardous

waste/human health concern within the aircraft corrosion control section. By identifying improper bead-blast unit practices and correcting a process deficiency by installing a "clean and dirty" workspace along with an "air shower," the Team eliminated dangerous hexavalent chromium exposure to more than 60 Airmen. The redesigned system provides workers a place to change clothing, preventing families from secondary exposure while securing a healthy and safe workplace.

Bead-Blast Unit
The Environmental Management Team partnered with base agencies to eliminate human health safety risk. By redesigning the aircraft corrosion control process, Airmen and their families are no longer exposed to dangerous chemicals.

Material Management

The sustainability mindset fostered by the Team has led to great success regarding material management. Each year, 150 personnel strengthen their firefighting capabilities by training at the MHAFB FTC. This complex reutilizes 70% of unusable Jet-A fuel, saving the installation $1M annually. To improve the facility and further enhance training capabilities, the Team has partnered with engineers to redesign the FTC and develop a regional training center for interagency, state, and local fire departments. This program expands training opportunities for hundreds of DoD firefighters, including local community partners throughout the Western region. The larger, redesigned $2M FTC improves training needs and utilizes all spent fuel produced by the installation, eliminating disposal fees. The Team worked closely with IDEQ to properly characterize FTC soils amid the redesign process. The base received DAF approval to encapsulate 600 cubic yards of PFAS containing soils, saving $900K of taxpayers' dollars.

Fire Training Complex
MHAFB FTC trains 150 firefighters annually. By working with engineers and Idaho Environmental Quality to manage PFAS-contaminated soils, a $2M redesign was achieved. This improved the facility and further enhanced training capabilities for the 366th Fighter Wing firefighters as well as, interagency, state, and local departments.

Within the award period, the Team partnered with Youngstown Air Reserve Station (ARS), Ohio to support collective mission requirements. As an effort to meet both flight crew training and natural resources rehabilitation objectives, Youngstown ARS applied aerial herbicide covering 6,000 acres across MHRC, eliminating $135K to source a contractor to provide the same service while providing ARS training. During the project, 2,000 gallons of herbicide were not used and was scheduled for disposal; however, the Team diligently worked with base entomology who reutilized remaining herbicide yielding $30K in cost savings and avoiding unnecessary waste.

The 366 FW's material management efforts have not gone unnoticed. In FY22, state regulators visited MHAFB to complete a Resource Conservation and Recovery Act inspection. During this time, IDEQ visited eight on-base units, inspected 29 hazardous waste accumulation points, and reviewed the installations material management programs.

Inspectors were impressed by the implemented HAZMAT management processes and stated the base had an "excellent program with zero discrepancies" underscoring the 366 FW's dedication to regulatory compliance.

Recycling and Waste Diversion Program

MHAFB operates the only self-sustaining Qualified Recycling Program (QRP) in ACC. As a large solid waste generator, the QRP recycles metals, paper, cardboard, toner, pallets, plastics, and other spent materials (e.g., antifreeze, used oil). During the award period, the QRP maintained a yearly budget of $111K yet earned $370K from recycled commodities, allowing the program to invest the revenue into the program covering operations, maintenance, and salary costs for two full-time employees, saving taxpayers approximately $395K in operating costs annually. The remaining revenue goes towards MHAFB's Morale Welfare and Recreation program. On average, 50% of gained revenue benefits the program, providing essential funding that supports the 366 FW Airmen and their families.

The Team maintains a strong, dedicated waste diversion program. Throughout FY21-22, the 366 FW implemented a one-day "Stand Down for Clean-Up" event. This base-wide effort gathered 18,000 lbs of recyclable material and revived 5 acres of unusable recreational grounds. Additional long-term initiatives include diverting 32,400 tons of landfill waste, reusing 18,000 cubic yards of construction project soils, and repurposing 2,000 gallons of herbicide to reduce invasive vegetation; saving $1.7M in disposal costs. By increasing preventive maintenance efforts on wash rack sump pits and oil water separators, the base has reduced the amount of waste generated in FY21 from 59,000 lbs in 2019 to 19,000 lbs, a substantial 60% decrease!

As a motivated standard, the Team continues to seek new ways to improve adaptive reuse processes. The QRP purchased an $86K ordnance deformer to demilitarize expended small arms casings. Income from this commodity has increased revenue by $33K annually. Amid COVID-19, the installation kept its momentum by recycling 21,600 lbs of pallets and 1,300 lbs of expended toner cartridges, yielding a $2.3K financial gain. These recycling efforts continue to increase with over 1,500 tons of additional recycled commodities from FY21-22, a cost-savings of $50K in waste and landfill fees. In FY21, MHAFB invested 25 tons of scrap paper products to a local business making recycled toilet tissue, relieving the local community's toilet paper supply chain. Further, the Teams waste diversion efforts supplied the base community with 52.8 tons of free mulched wood, a $10K base savings in disposal fees. By diversifying operation techniques, the QRP ensures sustainability while providing invaluable revenue back to the MHAFB community and reducing installation operational and maintenance costs keeping us mission ready.

Procurement of Sustainable Goods and Services

Every member of the 366 FW, and those performing services on the installation, are responsible for ensuring MHAFB accomplishes its mission while meeting environmental obligations. By broadening performance goals and refining management practices, the installation reduces costs and environmental risks while increasing efficiencies. The Team works in tandem with the base Contracting Office, implementing processes that support installation projects. Recognizing a deficiency in project procurement oversight, the Team authored an Environmental Specification (ES), creating a tool that emphasizes green procurement, meeting mission objectives, and statutory mandates. For this award period, the ES tool was applied to 43 projects. Throughout the entire "design-to-execution" phase, the Team was fully integrated with both contracting officers and contractors, supporting the

366 FW Commander's Environmental Commitment Statement. By implementing review processes for HAZMAT products, Contractor Scope of Works, Service Performance Work Statements, and the Government Purchase Card program, the Team is committed to procurement sustainability. Through using refined management practices, ensuring Green Procurement regulatory compliance (EO 13693 and Federal Acquisition Regulation), and a robust EMS program, the 366 FW continues to lead by example such as purchasing 100% recycled copy paper. Within this award period, by emphasizing digital media use, MHAFB substantially cut paper use by 50%. The Team proactively purchased an electric Utility Terrain Vehicle to complete installation compliance inspections thereby, reducing emissions and fuel consumption. Between FY21-22, MHAFB upgraded eight facilities to Energy Star LED lighting saving 550,000 kilowatt hours, reducing $84K in expenditures to the utility company and reducing universal waste by 6,000 lbs. The Team's educational outreach program participates in annual "America Recycles Day" and "Earth Day" events that provide information and tool kits for success to base residents, encouraging waste, water, and energy minimization, the 366 FW continues improving to achieve its long-term mission sustainability.

Sustainable Landscaping

MHAFB recognizes that water is the lifeline to sustaining the installation and the training mission. Alternative landscaping practices, such as xeriscape design, were implemented by MHAFB to create a natural system, using native vegetation that can withstand and adapt to a changing environment. Not only has the installation successfully reduced the amount of applied water and maximized the use of natural precipitation, but also has reaped the benefits of decreasing landscape maintenance costs, air emissions, and fugitive dust. MHAFB transformed 218 acres of community space from irrigated land to desert landscaping, saving 2.4M gallons of water. Future conservation measures include transforming an additional 159 acres, further reducing high water demands.

During this award period, the Team focused efforts to reduce the vegetation surrounding its National Historic Landmark (NHL) eligible Cold War Alert Complex, located adjacent to the active runway system and Bird Aircraft Strike Hazard (BASH) concern. The surrounding vegetation supports rodent and bird habitats. To reduce BASH and facility damage by rodent activity, the Team developed and implemented a collaborative zero-scaping project. The Team removed 1.5 acres of overgrown vegetation and replaced the area with 50 tons of stockpile gravel and sand, saving the installation $9.6K in material costs while restoring the properties original 1950's landscaping. Through innovative thinking, the Team removed flight safety concerns, protected NHL eligible property, and reduced water demand by eliminating unnecessary and damaging vegetation. By incorporating preservation methods and mission, environmental is supporting Airmen readiness.

National Historic Landmark Devegetation Project
Reducing BASH mishaps and water usage, vegetation was removed from the semi-subterrain National Historic Landmark Cold War Alert Facility. A prime example of successful zero-scaping.

Education, Outreach, and Partnering

Understanding that sustainability cannot be accomplished without an all-inclusive

approach, the Team is committed to education, outreach, and partnership. In FY21–22, the Team took every opportunity to connect with Airmen, local communities, and other agencies to ensure stewardship goals were reached by eliminating highly invasive vegetation through collaborative methods including increased targeted grazing, establishing fire tolerant flora, and re-establishing sage brush groves. By partnering with local ranchers, universities, tribes, FWS, and Youngstown ARS, the Team continues to safeguard critical habitat for the Greater Sage Grouse and Slick-Spot Peppergrass and protect 4,000 cultural resource sites including the largest known concentration of Paleolithic archaeological sites in the American Northwest.

Aerial Spray Mission
Annual aerial spray mission over Saylor Creek Training Range to reduce fire fuel-loads, saving $135K in contractor cost while accomplishing Youngstown, OH Air Reserve Station's training requirement. Win, Win!

Furthermore, unique to MHAFB, the 366 FW is the caretaker for a 103-acre National Register Cold War Alert Facility. Within this award period, the Secretary of Interior elevated the property to potential NHL status, the first Cold War property to be consider as an NHL. As a means of preservation, the Team advocates for adaptive reuse practices for this facility, leading multiple tours to educate students, Airmen, and DAF leadership on viable reuse of the 34,000-square foot semi-subterrain building. Through creative stewardship, the Team has successfully balanced mission and the management of valuable non-renewable environmental resources.

The Team utilizes a forward leaning approach, ensuring regulatory compliance while reducing and preventing environmental contaminants. During this award period, 640 Airmen were trained on the installation HAZMAT authorization process, achieving the goal of incorporating green products and reducing hazardous waste. In this training 1,880 Airmen were briefed on natural and cultural resources protection, 234 facility managers received solid waste disposal and annual recycled material training, and 3,600 base newcomers (to include civilian, active duty and their dependents) attended the 366 FW "Right Start" program where they gained a greater understanding of the installation EMS, recycling opportunities, and environmental commitments. By continuing to seek outreach and educational venues, the 366 FW is poised to achieve its resiliency and sustainability goals, ensuring mission readiness, lethality, and survivability.