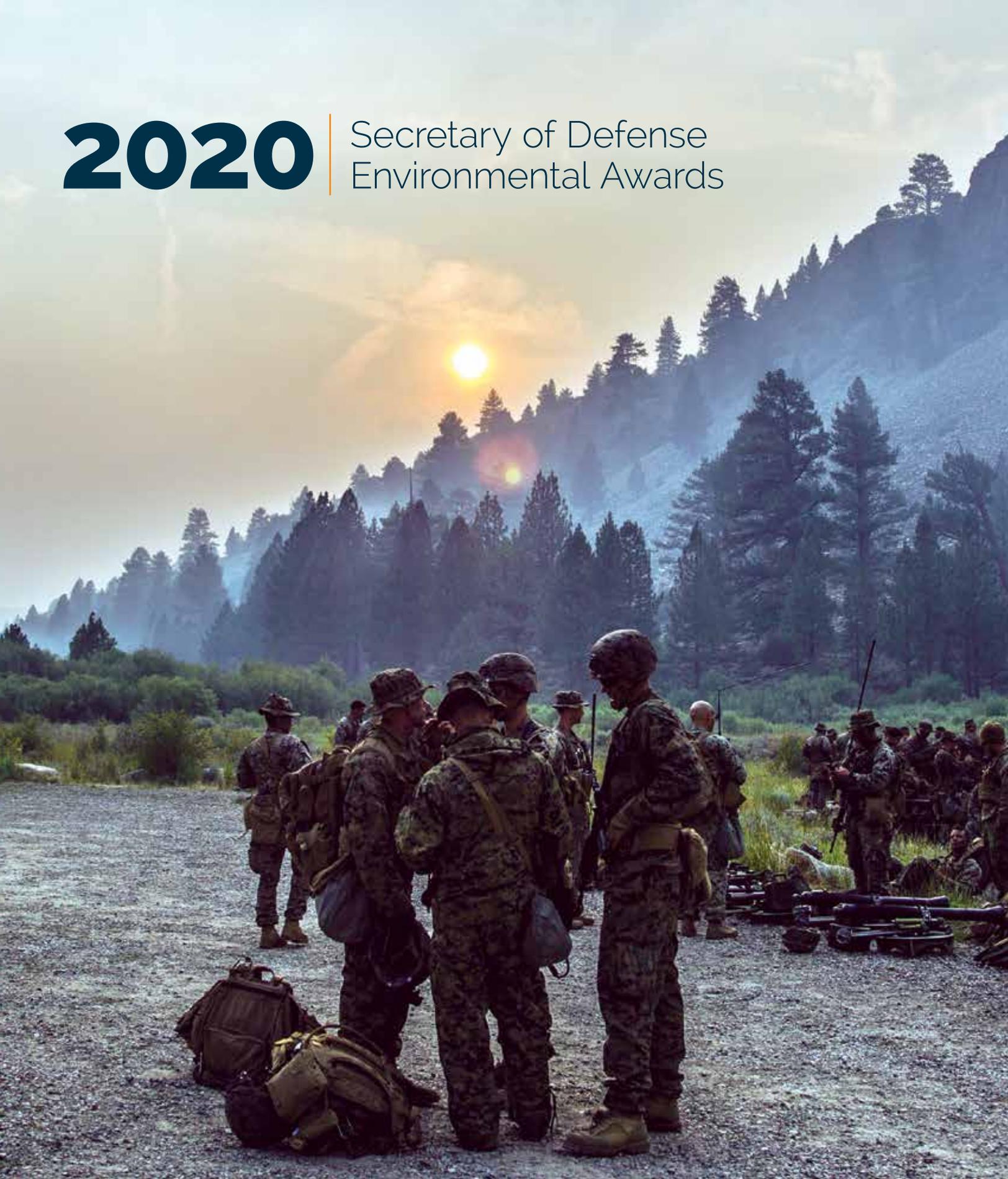


# 2020

## Secretary of Defense Environmental Awards



Front cover: Marines with India Company, 3rd Battalion, 5th Marine Regiment, 1st Marine Division, stage their gear after conducting a cliff assault operation during Mountain Training Exercise 4-18 at Mountain Warfare Training Center Bridgeport, California, July 30, 2018.

# FOREWORD



The Department of Defense's (DoD) mission is to provide the military forces needed to deter war and protect the security of our country. Delivering and sustaining secure and resilient capabilities to the warfighter and our international partners in an efficient and cost-effective manner helps the Department accomplish this mission. More specifically, the Acquisition and Sustainment office is pursuing several key priorities: 1) enable acquisition innovation; 2) build a safe, secure, and resilient defense industrial base; 3) ensure safe and resilient DoD installations; and 4) increase weapon system mission capability while reducing operating cost.

Strong environmental programs are vital to the Department's ability to successfully carry out its priorities. As outlined in the 2018 National Defense Strategy, the Department is reforming business practices for greater performance and affordability. The Recovery and Sustainment Partnership Initiative with the U.S. Department of the Interior exemplifies this strategy by better addressing mission and readiness impacts related to the Endangered Species Act and listed species management requirements on military installations and ranges. The Department is also promoting installation energy and water resilience by reducing cyber vulnerability of facility control systems and energy systems, implementing effective building standards to support resilience, and protecting mission capabilities through encroachment management. These activities safeguard military personnel and civilians, protect the environment, and support effective personal and institutional performance to enable the military mission.

In recognition of these efforts, the annual Secretary of Defense Environmental Awards recognize the Service members and civilians across DoD who made significant strides to conserve our Nation's natural and cultural resources; protect human health; prevent or eliminate pollution at the source; clean up hazardous substances, pollutants or contaminants, and munitions on DoD sites; and incorporate environmental requirements into weapon system acquisition. The 2020 awards honor installations, teams, and individuals for their noteworthy accomplishments occurring from October 1, 2017 through September 30, 2019 in the following categories: natural resources conservation, environmental quality, sustainability, environmental restoration, cultural resources management, and environmental excellence in weapon system acquisition.

Congratulations to the 2020 Secretary of Defense Environmental Awards winners. Your remarkable accomplishments and dynamic stewardship demonstrate the Department's commitment to environmental excellence and increasing military readiness.

A handwritten signature in black ink that reads "Ellen M. Lord".

Ellen M. Lord  
Under Secretary of Defense  
for Acquisition and Sustainment





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## ABOUT THE AWARDS

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### NATURAL RESOURCES CONSERVATION

Small Installation & Individual/Team

These awards recognize efforts to promote the conservation of natural resources, including the identification, protection, and restoration of biological resources and habitats; the sound long-term management and use of the land and its resources; support of the military readiness mission; and the promotion of a conservation ethic. Protecting sensitive plant and animal species on our installations and other DoD lands, particularly those listed as either threatened or endangered under the Endangered Species Act, ensures the preservation of these valuable environmental assets for current and future generations, and assures the availability of these resources to sustain military readiness.

### ENVIRONMENTAL QUALITY

Non-Industrial Installation & Individual/Team

These awards recognize efforts to ensure mission accomplishment and the protection of human health and the environment in the areas of environmental planning, waste management, and compliance with environmental laws and regulations (e.g., Clean Air Act, Clean Water Act, Resource Conservation and Recovery Act, Safe Drinking Water Act). Meeting or exceeding all environmental requirements not only enhances the protection of our environmental assets, but also sustains DoD's ability to effectively train and maintain readiness.

### SUSTAINABILITY

Industrial Installation

This award recognizes efforts to prevent or eliminate pollution at the source, including practices that increase efficiency and sustainability in the use of raw materials, energy, water, or other resources. The sustainability award also recognizes energy efficiency and renewable energy practices, greenhouse gas reduction efforts, procurement of sustainable goods and services, waste diversion, and efforts to plan for adaptation and resilience. Sustainable practices ensure that DoD protects valuable resources that are critical to mission success.

### ENVIRONMENTAL RESTORATION

Installation & Individual/Team

These awards recognize efforts to protect human health and the environment by cleaning up hazardous substances, pollutants or contaminants, and munitions in a timely, cost-efficient, and responsive manner. Restoring these sites impacted by past DoD activities protects military personnel, their families, and the public from potential human health, environmental, and safety hazards.

### CULTURAL RESOURCES MANAGEMENT

Large Installation

This award recognizes efforts to promote effective cultural resources management through proactive stewardship of DoD's extensive and rich heritage assets, including archaeological sites, cultural items, the historic built environment, and cultural landscapes. Through dynamic cultural resources management programs that partner with installation stakeholders, such as master planning, public works, and range management, DoD identifies and evaluates cultural resources that impact training, testing, and operational capabilities. The award also showcases successful partnerships with American Indian and Alaska Native tribes, Native Hawaiian Organizations, states, and other historic preservation stakeholders to protect cultural resources in a manner that sustains mission readiness as responsible stewards of our collective heritage.

### ENVIRONMENTAL EXCELLENCE IN WEAPON SYSTEM ACQUISITION

Large Program

This award recognizes efforts to incorporate environment, safety, and occupational health requirements into a large (Acquisition Category I) weapon system acquisition program's system engineering, contracting, and decision-making processes. Adhering to these requirements enhances DoD's acquisition process by ensuring that weapon system programs prioritize the safety of personnel and protection of the environment.

# FORT CUSTER TRAINING CENTER, MICHIGAN ARMY NATIONAL GUARD

*Natural Resources Conservation, Small Installation Award*



Fort Custer Training Center (FCTC) is located in southwestern Michigan less than 20 miles east of Kalamazoo. The installation was originally built in 1917 as Camp Custer for military training during World War I. In 1940, Camp Custer was designated Fort Custer and became a permanent military training base. During World War II, more than 300,000 troops trained at Fort Custer. In 1968, the Michigan Department of Military and Veterans Affairs assumed control of FCTC. The installation encompasses 7,500 acres and its personnel enhance and protect lands that support small arms, bivouac, and land navigation training, as well as specialized convoy reaction and improvised explosive device training. FCTC supports valuable, globally rare natural communities that require holistic, landscape level management. The installation has become a national leader in the development and implementation of a climate preparedness plan and continues to expand its sustainable energy resources, validate the efficacy of its prescribed fire regime, innovate in forestry practices, and foster a robust network of interagency partners to support region-wide conservation while protecting the Michigan Army National Guard's mission.

- FCTC was the first installation to implement its own customized climate adaptation plan into its Integrated Natural Resource Management Plan and operations. The installation began implementing its climate adaptation plan in fiscal year (FY) 2018 after representing the Army in the DoD Climate Change Preparedness Pilot in 2013. Natural Resources Conservation (NRC) staff belong to the Michigan Climate Coalition, which coordinates management goals with other public land stewards, and they joined the Northern Institute of Applied Climate Science and the Great Lakes Integrated Science Assessment to process climate data, update management goals, and translate data into accessible materials for the broader military and civilian communities.
- The installation's NRC staff partnered with researchers to determine the best fire application regimes to control for invasive species, promote native species growth, and support wildlife. This helped FCTC fill the data gap between prescribed fire management and validated species outcomes. For example, FCTC personnel conduct prescribed burns in partnership with the Kalamazoo Nature Center, which limits FCTC's costs and staffing requirements. In FY 2018, FCTC

executed a prescribed fire on an 800-acre prairie fen area during warmer, drier conditions than usual. By tracking the data, staff demonstrated that these conditions were ideal for achieving the desired habitat effects; the fire reduced invasive shrubbery by 60%, and native species, such as orchids, began thriving.

- FCTC adopted a Restoration Forestry concept to support natural communities and integrate climate projections into forestry and timber harvesting. Traditional timber harvesting targets segments of forest for clearing, and involves skidders, heavy vehicles that pull cut trees out of a forest, and tree dragging. These traditional methods often create conditions conducive to invasive plants and erosion. FCTC is in the process of implementing a more selective harvesting protocol where they remove selected trees with a mechanized harvester, which functions like an excavator with a saw, uprooting and cutting a tree to length in place to minimize landscape disturbance. FCTC's climate adaptation plan allowed staff to identify a 110-acre parcel of commercial timber that could be clear-cut and restored as prairie habitat.



*Fort Custer supports several high-quality prairie fens. These rare ecosystems harbor high levels of biodiversity and numerous rare species. In 2019, monitoring to evaluate the effectiveness of stewardship activities was implemented by Michigan Natural Features Inventory and Michigan Aerospace Corporation. The monitoring platform includes using drones and machine learning to automate the detection of invasive species.*



*Environmental staff and contractors conduct a prescribed burn in an area planted with native prairie species. The controlled burn was done to push back woody invasive species and to stimulate growth in the native prairie plants. Prairie plantings in the cantonment area help to reduce the need to mow, thereby reducing carbon emissions and mitigating a changing climate.*

# CONSERVATION-TRAINING ENHANCEMENT TEAM, CAMP RIPLEY, MINNESOTA ARMY NATIONAL GUARD

*Natural Resources Conservation, Individual/Team Award*



The Conservation-Training Enhancement Team is located on the Minnesota Army National Guard's Camp Ripley, a 53,000-acre regional training center near Little Falls, Minnesota. Camp Ripley's location was selected in 1929 by Minnesota's Adjutant General, Ellard Walsh, who sought a suitable replacement for Camp Lakeview, a 200-acre training camp on Lake Pepin. Camp Ripley trains units from all active and reserve components of the military. Foreign units from Canada, Great Britain, Norway, and the Netherlands also conduct training exercises at Camp Ripley on a regular basis. The installation is known for its extensive Winter Warfare Course and has been designated the Primary Winter Training Site in the United States. Camp Ripley's Conservation-Training Enhancement Team includes staff from three departments: Environmental and Natural Resources, Integrated Training Area Management (ITAM), and Department of Public Works. Together, this team advances the shared goals of conservation and training promotion by working across their directorates and identifying areas where their resources can employ land management priorities. Their work has helped Camp Ripley remain at the forefront of conservation practices while sustaining more than 365,000 annual man-days of training.

- The Conservation-Training Enhancement Team implemented a new forestry management plan for the installation's 28,000 acres of forests, which defines short-term (10-year) management goals based on natural resources and military training objectives. The team developed a geographic information system viewer for forestry practices that includes layers for military training, wildlife, threatened and endangered species habitat, sensitive habitats, and past and proposed forest management activities.
- The Conservation-Training Enhancement Team repaired more than 500 acres of maneuver damage and maintained more than 1,000 acres of grasslands used for military training in FY 2018 and FY 2019. The team completed this work with seed collected on the installation, allowing personnel to confirm the biological integrity of seed sourcing while rehabilitating these sites. These habitat improvements directly benefit species like Blanding's turtle and pollinators such as the monarch butterfly and native bee populations.
- The team developed an annual interagency agreement with St. Cloud State University for three summer internships. Trained and licensed interns treated invasive vegetation such as common tansy, spotted knapweed, and buckthorn by applying herbicide over 900 acres in priority areas identified by Environmental and ITAM Team members. Staff targeted these invasive plant species because they negatively impact military training requirements and native plant species.
- The team partnered with The Nature Conservancy to obtain a \$150,000 landscape stewardship grant from the U.S. Forest Service to apply prescribed fire on more than 4,000 acres within the Camp Ripley landscape. In all, the team manages approximately 14,000 acres of the installation with prescribed fire each year.
- The Conservation-Training Enhancement Team is monitoring eight black bears with radio telemetry collars, and personnel have implemented a new monitoring initiative for Blanding's turtle hatchlings by using transmitters to track their movement and generate data on habitat use, survival rates, distances travelled, and more. The team also manages a golden eagle tracking program to facilitate training around eagle presence and demonstrate how these management strategies continue to support eagle habitat needs.



*The Conservation-Training Enhancement Team works to achieve the Environmental office's goal of mature forest growth for native plant communities in a manner that supports mature interior forest wildlife.*



*The team established a golden eagle tracking program several years ago. A third eagle, Gyllen, was transmitted in February 2019 after the transmitters on the first two eagles, Ripley and Victor, reached end-of-life. This program uses and shares distances traveled over time, habitat use, management strategies, and more.*

# MARINE CORPS AIR STATION MIRAMAR, CALIFORNIA

## *Environmental Quality, Non-Industrial Installation Award*



Marine Corps Air Station (MCAS) Miramar is in San Diego, California, and encompasses 23,065 acres of marine terrace and undeveloped coastal foothill. MCAS Miramar provides air station facilities and property, services, material support, and training venues for the 3rd Marine Aircraft Wing and other tenants. With more than 15,000 civilians, service members, and their families working and living on Station, and over 260 helicopters and fixed-wing aircraft assigned to the installation, MCAS Miramar is the largest Air Station in the Marine Corps. The Air Station plays an important role in the San Diego community as an economic engine and ambassador of the military mission. The MCAS Miramar Environmental Management Department (EMD) supports the installation and its tenants through its comprehensive compliance, pollution prevention, conservation, planning, training, and management activities.

- The MCAS Miramar EMD initiated an innovative project to remove per- and polyfluoroalkyl substances (PFAS) from 320,000 gallons of wastewater impacted by aqueous film forming foam (AFFF). The trailer-mounted system successfully remediated PFAS concentrations to levels below the U.S. Environmental Protection Agency's (EPA) health advisory level and the regional screening levels. This project also reduced the wastewater disposal costs by more than \$5/gallon, saving the Marine Corps more than \$1 million in disposal costs.
- Recognizing that environmental compliance is key to maintaining environmental quality, MCAS Miramar staff improved the installation's Environmental Compliance Evaluation program. They implemented a rigorous, risk-based inspection schedule, creating a new compliance communication tool to improve leadership's understanding of compliance findings and their potential impact to missions, and initiated a new "action items" list for unit Environmental Compliance Coordinators to better identify facility, personnel, and environmental requirements and tailor corrective and preventive actions.
- To prepare for the onboarding of F-35 aircraft squadrons, personnel prepared and oversaw 103 categorical exclusion documents, 84 multi-use categorical exclusion consultations, and 43 design reviews while supporting ambitious F-35 military infrastructure construction. Planning efforts included 11 military construction projects for which staff evaluated consequences individually and cumulatively with ongoing and planned projects, such as implementation of the new station energy security microgrid, ongoing vernal pool mitigation planning and integrated natural resources management plan implementation, and a new U.S. Army Reserve Center currently under construction.
- MCAS Miramar provides important habitat corridors and linkages to adjoining conserved open spaces. The installation is also home to 11 federally listed threatened and endangered species, thousands of acres of regionally sensitive habitat, and the largest remnant of vernal pool habitat in Southern California. In FY 2018, EMD staff worked closely with the U.S. Fish and Wildlife Service and the U.S. Army Corps of Engineers to address mitigation requirements from military construction for rare vernal pool wetland habitat.
- Staff reviewed and adjusted hazardous waste disposal contracts in FY 2018, resulting in an annual savings of \$96,000. The installation's Qualified Recycling Program also generated more than \$240,000 in revenue in FY 2018 and FY 2019, which Miramar applied to the operating costs of the program and to morale, welfare, and recreation programs for active duty personnel.



MCAS Miramar EMD staff employ their mobile trailer-mounted treatment system to remove PFAS contaminants from AFFF-impacted wastewater. Water is processed through the system vessels of organoclay, granular activated carbon, ion-exchange resin media, and colloidal scavenger resin. After sampling, staff discharge the wastewater to the sanitary sewer.



EMD employees Mr. Erick Orsorio and Mr. Luis Romero help MCAS Miramar personnel during a hazardous waste collection event. MCAS Miramar also extends waste disposal and recycling services to installation employees during its annual collection event, encouraging Marines, Sailors, and civilians to properly dispose of waste year round.

# ENVIRONMENTAL INFORMATION MANAGEMENT SYSTEM TEAM, U.S. FLEET FORCES COMMAND, VIRGINIA

*Environmental Quality, Individual/Team Award*



The Environmental Information Management System (EIMS) Team, composed of DoD civilians and Science Applications International Corporation contractors, supports the U.S. Fleet Forces Command (USFFC) and U.S. Pacific Fleet information technology mission requirements for Fleet environmental, natural resources, range sustainment, and operational energy programs. EIMS is an information management system that provides multiple integrated tools, capabilities, and data through a single Navy-owned, USFFC-managed access point. EIMS supports the Fleets by modeling and automating typical project administrative functions, hosting authoritative Fleet geospatial and tabular data and documents, protecting Navy data in a secure environment, providing authorized users with 24/7 access to necessary data and capabilities, and hosting applications critical to Fleet training and range sustainment.

- The EIMS Team facilitated the management, production, and timely delivery of eight environmental impact statements that included thousands of pages, involved dozens of stakeholders, and adhered to very tight timelines, saving the Navy time and money while generating high-quality documents. This effort enabled the Fleet leadership to make informed decisions about environmental impacts for testing and training at sea.
- EIMS Team members developed the Navy's first publicly available environmental planning project website and helped migrate it into the DoD Public Web for wider use. This progression provides the Navy environmental community with its first National Environmental Policy Act-compliant project website with a well-vetted, templated structure that can be easily replicated for subsequent environmental planning projects.
- The EIMS Team programmed hand-held tablets to model the end-to-end USFFC operational range clearance process that includes routine clearance, processing, and disposal of range debris and spent munitions on Atlantic Fleet air-to-ground bombing ranges. The tablets simplify clearance event planning, tie photos of unexploded ordnance (UXO) to global positioning system coordinates, and track range debris from collection to sorting, processing, and disposal, including online transfer forms. At the end of each day, the team electronically transfers their data from the tablets into operational range clearance (ORC) databases for storage, analysis, and reporting. The tablets replace clipboards and paper transfer forms, facilitating more expeditious and effective range clearance, analysis, and reporting.
- The team launched the Protective Measures Assessment Protocol (PMAP) in 2004 to provide Fleet units training at sea with general protective measures to mitigate risk to marine resources in training areas. The EIMS Team prepared six new versions of PMAP in FY 2018 and FY 2019 to incorporate permit revisions from training and testing environmental impact statements, including the geospatial data and associated protective measures covering vast new marine expanses. PMAP enables Navy ships, submarines, and aircraft to train and test at-sea in compliance with its permits, reducing the risk of regulatory enjoyment and litigative injunction.



*The Science Applications International Corporation Technical Service Center (TSC) of the EIMS Team. From left to right: Mark Lawrence, Task Order Manager; David Wiggins, Developer; Sara Campbell, Technical Writer/Training Specialist; Christopher Preslar, System Administrator; Prayer Singleton, Help Desk Administrator/User Liaison; and Tod Hollis, Team Lead/Developer. TSC members not pictured: Joshua Lapp, Maurice Compton, Joe Maciera, and Beatrice Canter. The TSC is responsible for developing, sustaining, and upgrading the capabilities and data of EIMS and associated applications.*

*U.S. Navy photo courtesy of Sara Campbell.*



*Mr. Joshua Lapp, the EIMS lead developer, middle, demonstrates the functions of an ORC field data collection tablet to Daniel Sierra, the EIMS Project Lead, left, and Tom Young, Senior UXO Supervisor, right, during the testing at Rodman Bombing Range. The tablets model and automate ORC processes, replacing paper data collection, and leading to significant increases in process efficiency and data accuracy. U.S. Navy photo courtesy of Sara Campbell.*

# NAVAL BASE KITSAP, WASHINGTON

## *Sustainability, Industrial Installation Award*



Naval Base (NAVBASE) Kitsap, located near Seattle, Washington, is the largest naval installation in the Commander, Navy Region Northwest, and is the third largest installation in the Navy. Formed in 2004, NAVBASE Kitsap hosts 70 tenant commands on 9,704 acres and employs nearly 17,000 civil service staff, 16,200 military personnel, and 9,500 contractors. NAVBASE Kitsap provides critical and unique infrastructure to support a nuclear-licensed shipyard, Marine Corps Security Force Battalion Bangor consisting of 1,200 individuals, and the largest U.S. Coast Guard Maritime Force Protection Unit (MFPU) in the nation. The MFPU is tasked with protecting U.S. Navy ballistic missile submarines while transiting U.S. territorial waters. NAVBASE Kitsap also provides the largest Navy underground fuel storage facility in the continental U.S., a heavyweight and lightweight torpedo facility, and unmanned underwater vehicle research and testing facilities.

- As an environmental steward of the local community, NAVBASE Kitsap improved the quality of the water surrounding the installation by implementing several innovative conservation projects. Staff removed beaver dam associated debris from a culvert along NAVBASE Kitsap's railroad, providing access to over five acres of upstream habitat to endangered species. Staff at NAVBASE Kitsap also initiated a pilot program using oyster shells to lower elevated zinc levels in stormwater runoff; preliminary analytical results demonstrate a 75% reduction in zinc concentrations.
- NAVBASE Kitsap maintained a robust program of environmental review, analysis, and consultation to minimize environmental impacts and incorporate sustainable practices into project design and construction. In FY 2018 and FY 2019, staff reviewed over 1,000 construction and repair projects for compliance with air; stormwater; wastewater; drinking water; natural, cultural, and archeological resources; oil and hazardous substance; hazardous waste; National Environmental Policy Act; and hazardous materials regulations. To support NAVBASE Kitsap's environmental goals, all contractors are required to maximize material recycling, minimize hazardous material use, and use more environmentally friendly materials during project construction whenever practical.
- NAVBASE Kitsap reduced the amount of petroleum-based fuel used in the installation's fleet of non-military vehicles by using alternative fuels and electricity. Personnel used E-85, an ethanol fuel blend, and biodiesel to divert a total of 172,831 and 171,484 gallons from fossil fuels in FY 2018 and FY 2019, respectively. The installation's vehicle inventory also includes 113 electric vehicles, or 11% of the local fleet.
- To promote energy efficiency, NAVBASE Kitsap staff improved street and parking lighting by installing 5,495 high efficiency light-emitting diode lightbulbs. The new lighting provides improved efficiency and durability, reducing both energy consumption and material cost for replacement. Annual savings in energy consumption and material cost will amount to 5,588,528 kilowatts and \$336,931.
- NAVBASE Kitsap personnel continued to drive success in their Ship-to-Shore Hazardous Material Management Program and significantly reduced the generation of hazardous waste from naval vessels. Staff installed hazardous material lockers along the piers, making material reuse between ship and shore more accessible. This program yielded significant savings in the reduction of acquisition and disposal costs estimated to be \$1,701,057 for FY 2018 and FY 2019.



*Chris Jorgensen and Kelsey Hall, two environmental engineers within NAVBASE Kitsap's Environmental Division, deploy crates of oyster shells. Zinc concentrations in the stormwater system of NAVBASE Kitsap Keyport are effectively lowered by deploying the oyster shells.*



*NAVBASE Kitsap's Wildlife Biologist, Julia Stockton, inspects a culvert that was recently cleared of a beaver dam and debris. The unobstructed culvert provides access to critical habitat for many aquatic species including endangered salmon.*

# CAMP EDWARDS, JOINT BASE CAPE COD, MASSACHUSETTS ARMY NATIONAL GUARD

*Environmental Restoration, Installation Award*



Camp Edwards, located in Mashpee, Massachusetts, on the peninsula of Cape Cod, encompasses 15,000 acres of the 22,000-acre Joint Base Cape Cod. Camp Edwards contains the largest training area in the northeastern United States, hosting the Massachusetts Army National Guard (MAARNG), the 26th Maneuver Enhancement Brigade, and the 126th Aviation Regiment 3rd Battalion. The training area consists of undeveloped land in the northern portion of the base and is home to maneuvering and patrol training areas; small arms ranges; helicopter landing zones; nuclear, biological, and chemical training bunkers; and an extensive road network used for convoy and driver training. Camp Edwards sits on top of the sole source aquifer for Cape Cod. The MAARNG is improving and increasing military training and readiness through the successful restoration efforts of the Impact Area Groundwater Study Program (IAGWSP). The Program's largest and final removal and restoration action is to remove 90% of the UXO and reduce unnecessary digs by 70% from the most heavily-used (per square foot) impact area within the U.S. Army.

- The installation adopted cutting edge electromagnetic induction sensor technology, known as the "metal mapper," to reduce the cost of source cleanup, enhance accuracy, and minimize the number of items requiring excavation. Camp Edwards decreased UXO costs by up to 70%, and the installation is the only location worldwide to put the metal mapper technology into operation on an industrial scale.
- The installation continues to treat groundwater contamination with 17 systems on site, processing over four million gallons of groundwater every day. Staff are nearly finished removing the contamination source, and are now focusing on preventative measures by targeting UXO and munitions before the components of those items deteriorate and leach into groundwater or create a new source of contamination. To date, the installation has treated over 1.2 billion gallons of groundwater.
- In FY 2019, Camp Edwards began using light detection and ranging scans of the restoration parcel during the UXO remediation process, which allows the project team to see depressions, divots, and holes in the ground that may indicate munitions impact. The geometry of the depressions can predict the type and density of the munitions that created the surface anomalies.
- Camp Edwards has removed all lead-contaminated soil on its small arms ranges to a level allowing for unrestricted use. Staff have finished removing spent rounds from the surface and excavating berms on all ranges. The installation constructed new berms to reopen those ranges for use in FY 2019. The training site was the first in the National Guard to introduce enhanced-performance rounds made of pure copper, which provides a more desirable metal for recycling and a markedly improved return-on-investment over lead.
- The installation recycles all scrap metal debris recovered during UXO removal actions. This has resulted in Camp Edwards recycling more than 500 tons of scrap in FY 2018 and FY 2019. Recycling proceeds offset costs associated with the project, and recycling eliminates an additional project waste stream.
- The installation's Environmental and Readiness Center is a dedicated community outreach resource that also provides the expertise and materials necessary to comply with all Environmental Performance Standards. This ensures compatible, realistic training while protecting the installation's natural and cultural resources. There are multiple levels of training site engagement with the community and municipalities, and program staff meet with these stakeholders regularly.



*A very large anomaly, a T60 tank, buried in one of the testing ranges in Camp Edwards' Central Impact Area. Soldiers recovered the tank using an M88 recovery vehicle.*



*The IAGWSP staging area before staff perform the second and final safety certification that is required for each piece of munitions scrap to be recycled.*

# VIEQUES ENVIRONMENTAL RESTORATION TEAM, PUERTO RICO

*Environmental Restoration, Individual/Team Award*



Vieques Naval Installation is a former Atlantic Fleet Weapons Training Area in Vieques, Puerto Rico, now listed on the National Priorities List for cleanup under the Comprehensive Environmental Response, Compensation, and Liability Act. The former installation spans 23,000 acres with another 12,000 acres of surrounding waters. Environmental restoration in Vieques remains the highest priority and costliest project in the Navy's Munitions Response Program, largely due to unique challenges associated with UXO, environmental contaminants, and ecologically and culturally sensitive resources. The Vieques Environmental Restoration Team includes representatives from Naval Facilities Engineering Command Atlantic, the EPA, Puerto Rico Department of Natural and Environmental Resources, National Marine Fisheries Service, National Oceanic and Atmospheric Administration, U.S. Department of the Interior, and U.S. Fish and Wildlife Service. The team works to develop and implement innovative approaches to safely and cost-effectively achieve the collective cleanup objectives of all stakeholders, including opening areas for public recreation and granting access to culturally significant sites.

- Following the devastation in Puerto Rico from Hurricane Maria in September 2017, the Vieques Environmental Restoration Team immediately responded to ensure public safety. Personnel inspected areas where munitions may have become exposed, disseminated munitions safety information, established satellite telecommunications, distributed emergency supplies, helped the community remove debris, and repaired mission-critical roads, fences, safety signs, and infrastructure. These efforts allowed the team to resume full environmental restoration cleanup activities in December 2017, less than three months after the hurricane, despite continued island-wide outages of most services and supplies.
- To address a significant public concern, the Vieques Environmental Restoration Team coordinated with the EPA and the Navy's Radiological Affairs Support Office to use highly sensitive radiological instruments to find and remove previously undetected depleted uranium (DU) projectiles in a former training area. The instrument readings and soil sample results, including samples collected by the EPA, demonstrated that the DU removals successfully remediated all potential radiological risk.
- The team temporarily deployed a water-filled cofferdam to isolate and dewater a munitions removal area. This innovative approach allowed UXO technicians to successfully remove munitions in a terrestrial setting without the need for UXO divers. The cofferdam exposed many large, heavy, encrusted munitions that the technicians safely removed using a remote excavator. These procedures accelerated the cleanup effort while increasing the safety of the operation.
- The Vieques Environmental Restoration Team deployed UXO and scientific divers to locate and photograph hundreds of underwater munitions around the island. Personnel compared post-Hurricane Maria munitions locations to historical locations recorded during underwater investigations prior to the hurricane. This analysis indicated that Hurricane Maria did not cause widespread lateral movement of munitions, and most munitions remained in place. This information has major implications for the management and cleanup of underwater munitions across the entire DoD Military Munitions Response Program because it indicates that significant natural events are not expected to impact the long-term management of underwater sites.



*Immediately following Hurricane Maria, Vieques Environmental Restoration Team members volunteered to support emergency response in the community, including clearing debris and fallen trees from public areas and delivering munitions safety information along with much-needed supplies to Vieques residents. Pictured: Jose Ramos Jr. (standing), USA Environmental, UXO Technician III; and Juan Melendez (operating backhoe), USA Environmental, Deforester II.*



*Innovative use of a temporary, water-filled cofferdam significantly enhanced the safety and efficiency of operations to remove munitions located just offshore. The cofferdam allowed the site to be dewatered, such that UXO technicians successfully removed munitions without the need for UXO divers, thus accelerating the cleanup while increasing the safety of the operation.*

# NAVAL AIR WEAPONS STATION CHINA LAKE, CALIFORNIA

*Cultural Resources Management, Large Installation Award*



Naval Air Weapons Station (NAWS) China Lake spans 1.2 million acres in the California Mojave Desert. At least 95% of NAWS China Lake's land holdings, or over one million acres, remain undisturbed. The installation was established as a Naval Ordnance Test Station on November 8, 1943, as a partnership between the Navy and California Institute of Technology to test and evaluate rockets and other aviation ordnance. The Navy conducts 85% of its research, development, acquisition, test, and evaluation programs at NAWS China Lake. The installation also hosts a Seabee School, Explosive Ordnance Disposal Training Command, and energy production facilities that operate as public/private ventures. NAWS China Lake is home to the largest collections and concentrations of Native American rock art in the Western Hemisphere and numerous well-preserved prehistoric, ethno historic, and historic sites that represent the human experience in North America from over 10,000 years ago to the Age of Rockets.

- The NAWS China Lake Cultural Resources (CR) Program completed earthquake damage assessment, recovery, and renovation efforts on the installation's Curation Facility, where over 80% of Navy Region Southwest's historic artifacts are contained, following earthquakes on July 4 and 5, 2019, the largest in the State of California in the last 20 years. The installation's CR Program personnel renovated the NAWS China Lake Curation Facility after the earthquakes to include steel reinforced replacement shelving to keep artifacts stable and in place for curation.
- The CR Program worked with a nonprofit organization, Friends of China Lake Archaeology, to create the curation facility and help the curator organize and maintain artifacts and records collections housed at the facility. Installation staff helped consolidate two of the Navy's largest archaeological collections from San Nicolas Island and NAWS China Lake into one facility with one curator, meeting Federal standards and providing cost savings.
- Installation personnel rapidly reviewed eight military construction projects totaling over \$5 billion in less than three weeks. Staff also helped Regional Headquarters initiate State Historic Preservation Officer consultations on 11 eligible buildings in the Salt Wells Historic District for three military construction projects. CR Program staff oversaw the completion of appropriate maintenance and repair in accordance with the Secretary of the Interior's Standards, including using cost effective measures from a detailed economic analysis.
- To ensure the Navy could satisfy requirements in the San Nicholas Island Native American Graves Protection and Repatriation Act (NAGPRA) consultation, a curator cataloged collections and created preliminary lists of artifact types necessary for the NAGPRA summary process. The Department of the Navy and Tribe stakeholders established trust through this culturally-sensitive approach where consultative relationships did not previously exist. At the culmination of a three-year joint planning effort, CR Program personnel facilitated a NAGPRA repatriation event starting at NAWS China Lake and ending at San Nicolas Island.



*The condition of NAWS China Lake's Curation Facility after the earthquakes of July 4 and 5, 2019. Staff took this photograph during the assessment phase of the earthquake recovery.*



*The NAWS China Lake Curation Facility after damage assessment, recovery, and renovation efforts following the earthquakes of July 4 and 5, 2019. Steel reinforced replacement shelving units keep artifacts stable and in place for curation.*

# F-35 JOINT PROGRAM OFFICE, WRIGHT PATTERSON AIR FORCE BASE, OHIO

*Environmental Excellence in Weapon System Acquisition, Large Program Award*



Wright Patterson Air Force Base is located just outside of Dayton, Ohio, and is hosted by the 88th Air Base Wing and the Air Force Materiel Command. The base boasts a total of 27,406 military, civilian, and contract employees and a resident population of 1,821 people. The F-35 Lightning II Program is a DoD Acquisition Category I-D Program, under direction of a Program Executive Officer and managed by the F-35 Lightning II Joint Program Office. The F-35 Joint Strike Fighter Program includes three variants: F-35A conventional takeoff and landing variant; F-35B short takeoff/vertical landing variant; and F-35C carrier variant. The F-35 Joint Strike Fighter aircraft will replace aging inventories of A-10s, F-16s, F/A-18s, AV-8B Harriers, Harrier GR7s, and Sea Harriers. The F-35 Environment, Safety and Occupational Health (ESOH) Team is responsible for integrating ESOH into F-35 aircraft systems engineering processes and acquisition strategy.

- The F-35 ESOH Team has monitored the usage of cadmium, a human carcinogen and regulated hazardous material, since the early development and production phases of the F-35 aircraft. The team recently tested and successfully implemented a new zinc-nickel plating alternative that will prevent corrosion on aircraft components and completely remove cadmium plating from F-35 aircraft production.
- The F-35 Program Acoustics Team led two major acoustic measurement efforts to help certify F-35 operations in hardened aircraft shelters. Stakeholders collected and analyzed data for the F-35 acoustic environment to model community noise around installations in compliance with the National Environmental Policy Act. The team also determined maintainer and cockpit pilot noise exposure levels and provided recommendations on hearing protection options for all current users of F-35 aircraft.
- Hexavalent chromium is a heavy metal and known human carcinogen used in various forms of primers, adhesives, sealants, and plating for protection against wear and corrosion. The F-35 ESOH Team has eliminated hexavalent chromium plating from all F-35 external coatings and is on track to eliminate all remaining hexavalent chromium uses, including fuel tank and support equipment primers and coatings.
- The F-35 ESOH Team implemented a facility-wide lighting upgrade project at an F-35 assembly facility in Texas, saving \$1 million annually over the last two years. Visible light emitted has increased by 50%, power loads decreased by 63%, and transformer deck loads decreased by 20%, resulting in brighter work lighting and more efficient electricity use.
- The F-35 ESOH Team installed thermal energy storage tanks that hold two million gallons of water, equivalent to 32,000 ton-hours of cooling or four megawatts of refrigeration demand. This upgrade optimized chiller efficiency and realized a 6% reduction in energy demand. Replacing two chillers with more energy efficient models resulted in a reduction of 4.8 million gallons of condenser water per year.
- The F-35 ESOH Team implemented a low volatile organic compound (VOC) internal aircraft coating, eliminating 21 tons of VOCs and reducing total emissions at a production facility in California. This approach saved \$1.8 million per year in operating costs, realized additional permit cost offsets otherwise required by California regulations, and eliminated the need for an \$18 million acquisition of expensive VOC mitigation equipment.



(photo right) F-35 Acoustics Team members, including AFRL and Naval Air Systems Command (NAVAIR), analyze the F-35 acoustic environment. Analyses help the team understand, communicate, and mitigate noise exposure in the community, in the cockpit, on the flight line, onboard aircraft carriers, and in hardened aircraft shelters. Personnel depicted: F-35 Support Technician.



(photo left) F-35 ESOH Team members include F-35 partner services, Foreign Military Sales (FMS) military services, Pratt & Whitney (P&W), Northrop Grumman (NGC), BAE Systems, and other contractor support. Pictured from left to right: Mike Arthur, FMS ESOH; Allan Aubert, NAVAIR Acoustics; Elaine VandeKerckhove, P&W Hazardous Materials Manager; Richard McKinley, Air Force Research Laboratory (AFRL) Acoustics; Sari Atchue, ESOH Coordinator; Dr. Alan Wall, AFRL Acoustics; James Wilt, Joint Program Office ESOH Lead; Hilary Gallagher, AFRL Hearing Protection & Communication; Gary Gregory, U.S. Navy ESOH; Benjamin Thrasher, U.S. Air Force (USAF) ESOH; and Scott Fetter, Lockheed Martin (LM) Environment, Safety, and Health (ESH) Lead. Other core members not pictured: Robert Roy, Air Vehicle Environmental Lead; Kristen Semrud, NAVAIR Acoustics; Brendan Sweeney, ESOH Coordinator; John Casana, ESOH Coordinator; Julia Lynn, ESOH Coordinator; Nick Yandell, ESOH Analyst; Flint Webb, U.S. Navy Air Quality & Emissions; Ghazi Hourani, U.S. Navy Industrial Hygienist; Mark Conlon, U.S. Navy Industrial Hygienist; Dr. Christin Duran, AFRL Industrial Hygienist; David Blair, USAF Pollution Prevention; Teresa Finke, USAF Pollution Prevention; Rusty Barfield, LM ESH Field Operations Support; Dr. Kristin Butterworth, LM Support Equipment ESH; Megan Brooks, LM Materials and Processes ESH; Rick Shanks, P&W Green Engine Program; Jenna Heffernan, P&W Registration, Evaluation, Authorization, and Restriction of Chemicals Support; Glen Abad, NGC Materials and Processes; and George Jung, NGC ESH.

# HONORABLE MENTIONS

## NATURAL RESOURCES CONSERVATION

Small Installation

- Naval Weapons Station Seal Beach, Detachment Fallbrook, California
- Marine Corps Base Hawaii
- Hurlburt Field, Florida

## NATURAL RESOURCES CONSERVATION

Individual/Team

- Natural Resources Common Tern Nesting Team, Naval Station Great Lakes, Illinois
- Resource Enforcement/Compliance Section, Marine Corps Base Camp Pendleton, California
- Natural Resources Team, Vandenberg Air Force Base, California
- Installation Management, Defense Supply Center Columbus, Ohio

## ENVIRONMENTAL QUALITY

Non-Industrial Installation

- U.S. Army Garrison Fort Leonard Wood, Missouri
- Naval Air Station Whiting Field, Florida
- Defense Logistics Agency Installation Management, Fort Belvoir, Virginia

## ENVIRONMENTAL QUALITY

Individual/Team

- Compliance Team, Louisiana Army National Guard
- He Xu-Sadri, Marine Corps Base Hawaii
- Environmental Quality Team, Vandenberg Air Force Base, California

## SUSTAINABILITY

Industrial Installation

- Surface Equipment Maintenance Facility 14, Indiana Army National Guard

## ENVIRONMENTAL RESTORATION

Installation

- Naval Weapons Station Yorktown, Virginia
- Defense Supply Center Richmond, Virginia

## ENVIRONMENTAL RESTORATION

Individual/Team

- Formerly Used Defense Site Team, Fort Rousseau, U.S. Army Corps of Engineers, Alaska District
- Environmental Restoration Team, Hill Air Force Base, Utah

## CULTURAL RESOURCES MANAGEMENT

Large Installation

- U.S. Army Garrison Fort Leonard Wood, Missouri
- Marine Corps Base Camp Smedley D. Butler, Okinawa, Japan
- Eglin Air Force Base, Florida

# JUDGES

Volunteers from private industries, state and federal agencies, academia, and non-governmental organizations served as judges for the 2020 Secretary of Defense Environmental Awards.

**Stephen O. Andersen, Ph.D.**

Director of Research, Institute for Governance and Sustainable Development

**Melanie L. Berkemeyer, AIA, LEED AP**

Design Manager, Bureau of Overseas Buildings Operations, U.S. Department of State

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Superintendent, De Soto National Memorial, National Park Service

**Robert Dale Brown, Ph.D.**

Dean (Ret), College of Natural Resources, North Carolina State University

**Kathleen Callister**

Manager, Resources Management Division, Upper Colorado Basin, Bureau of Reclamation

**Brian Clapp**

Environmental Protection Specialist, Office of Chemical Safety and Pollution Prevention, U.S. Environmental Protection Agency

**Daniel B. Delahaye**

Federal Preservation Officer, United States Postal Service

**Meri-Margaret Deoudes, CFRE**

President and Chief Executive Officer, National Environmental Education Foundation

**Jeffrey L. Durbin**

Section 106 Compliance Officer, National Park Service, U.S. Department of the Interior

**Kristin Leahy Fontenot**

Director, Office of Environmental Planning and Historic Preservation, Federal Emergency Management Agency, U.S. Department of Homeland Security

**Sherry A. Frear, RLA**

Historic Preservation Specialist/Historic Landscape Architect, U.S. General Services Administration

**Kevin Andrew Funk**

Senior Procurement Analyst, Federal Acquisition Policy Division, Office of Government-wide Policy, U.S. General Services Administration

**Christopher Geiger, PE, CEng, CISSP**

Enterprise Risk and Sustainability Director, Lockheed Martin

**Sally Gestautas**

Global Substances Program Manager, Raytheon Company

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Senior Analyst (Principal), Office of the Chief Financial Officer, U.S. Environmental Protection Agency

**Christina Guthrie**

Lead Environmental Protection Specialist, U.S. Environmental Protection Agency

**Carolyn Hanson**

Deputy Executive Director, Environmental Council of the States

**Christine Harada**

President, i(x) investments

**Philip L. Hoffman**

Unmanned Maritime Systems Research and Development Coordinator, Office of Ocean Exploration and Research, National Oceanic and Atmospheric Administration Office of Oceanic and Atmospheric Research

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**Rachel Jacobson**

Special Counsel, WilmerHale

**Gilbert Edward Jones, II**

Unit Chief, National Security Branch, Federal Bureau of Investigation

**Emily Joseph**

Assistant Office Director for Operations, Office of Restoration and Damage Assessment, U.S. Department of the Interior

**Katharine R. Kerr**

Program Analyst, Advisory Council on Historic Preservation

**Jarrad Kosa**

National Sikes Act Coordinator, Fish and Aquatic Conservation, U.S. Fish and Wildlife Service

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**Michael T. Lesnick, Ph.D.**

Senior Partner, Meridian Institute

**David Levine**

President, American Sustainable Business Council

**Dot Lofstrom, P.G.**

Division Chief (Ret), California Department of Toxic Substances Control

# JUDGES

**Matthew Gordon McKinzie, Ph.D.**

Senior Scientist, Climate and Clean Energy Program, Natural Resources Defense Council

**J. Wayne Miller, Ph.D.**

Adjunct Professor, University of California, Riverside

**Michael P. Murphy**

Environmental Specialist (Ret), Virginia Department of Environmental Quality

**Michael J. Penders, Esq.**

President, Environmental Security International

**Teresa R. Pohlman, LEED AP, Ph.D.**

Executive Director, Sustainability and Environmental Programs, U.S. Department of Homeland Security

**Russell V. Randle**

Principal, Miles & Stockbridge

**Charles Reyes**

Associate Director, Association of State and Territorial Solid Waste Management Officials

**Patricia Catherwood Reyes**

Director, Interstate Technology Regulatory Council, Environmental Council of the States

**Yann Risz**

Managing Director, Aligned Incentives

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High-Performance Building Advisor, U.S. General Services Administration

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**Cherilyn E. Widell**

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**Calvin F. Williams**

Assistant Administrator for Strategic Infrastructure, National Aeronautics and Space Administration

**Andrew Wynne**

Sustainability and Pollution Prevention Coordinator, Region VII, U.S. Environmental Protection Agency

# PAST WINNERS

## Natural Resources Conservation

2019 Eglin Air Force Base, Florida  
2018 Hawaii Army National Guard  
2018 Natural Resources Conservation Team, Naval Base Ventura County, California  
2017 Camp Ripley, Minnesota Army National Guard  
2016 Camp Dawson Army Training Site, West Virginia Army National Guard  
2016 Fort McCoy Natural Resources Branch, Wisconsin  
2015 Camp Blanding Joint Training Center, Florida Army National Guard, Florida  
2014 Marine Corps Base Hawaii  
2014 Eglin Air Force Base, Natural Resources Team, Florida  
2013 Naval Base Coronado, California  
2012 U.S. Army Garrison – Hawaii, Oahu Army Natural Resource Program Team  
2012 Marine Corps Base Hawaii  
2011 Eglin Air Force Base, Florida  
2010 Fort Custer Training Center, Michigan Army National Guard  
2010 Mr. Stephen M. Seiber, Eglin Air Force Base, Florida  
2009 Camp Ripley Maneuver and Training Center, Minnesota  
2008 Naval Weapons Station, Seal Beach, California  
2008 Fort Indiantown Gap Training Center, Pennsylvania Army National Guard  
2007 Arnold Air Force Base, Tennessee  
2006 Minnesota Army National Guard Natural Resources Conservation Team, Camp Ripley  
2006 Marine Corps Base Hawaii  
2005 Fort Drum, New York  
2004 Columbus Air Force Base, Mississippi  
2003 U.S. Army Intelligence Center and Fort Huachuca, Arizona  
2002 U.S. Army Transportation Center, Fort Eustis & Fort Story, Virginia  
2001 Naval Weapons Station Charleston, South Carolina  
2000 U.S. Army Training Center & Fort Jackson, South Carolina  
2000 Hawaii Army National Guard  
1999 Camp Ripley, Army National Guard, Minnesota  
1999 U.S. Army Garrison, Fort Belvoir, Virginia  
1998 Fort Stewart/Hunter Army Airfield, Georgia  
1998 Naval Submarine Base Kings Bay, Georgia  
1997 Marine Corps Base Camp Pendleton, California  
1997 Naval Surface Warfare Center, Indian Head, Maryland  
1996 Tyndall Air Force Base, Florida  
1996 Marine Corps Base Hawaii  
1995 Naval Air Warfare Center, Patuxent River, Maryland  
1994 Eglin Air Force Base, Florida  
1993 Twin Cities Army Ammunition Plant, Minnesota  
1992 Marine Corps Base Camp Lejeune, North Carolina  
1991 Fort Belvoir, Virginia  
1990 Fort Sill, Oklahoma  
1989 F.E. Warren Air Force Base, Wyoming  
1988 Goldwater Air Force Range, Arizona  
1987 New Boston Air Force Station, New York

1986 Beale Air Force Base, California  
1985 Robins Air Force Base, Georgia  
1984 Fort Huachuca, Arizona  
1983 Indian Island Annex, Keyport, Naval Engineering Station, Washington  
1982 Fort McCoy, Wisconsin  
1981 Tobyhanna Army Depot, Pennsylvania  
1980 Fort Huachuca, Arizona  
1979 Naval Air Station Chase Field, Texas  
1978 Fort Sill, Oklahoma  
1977 Griffiss Air Force Base, New York  
1976 Marine Corps Base Camp Lejeune, North Carolina  
1975 Barksdale Air Force Base, Louisiana  
1974 Fort Campbell, Kentucky  
1973 Marine Corps Base Camp Lejeune, North Carolina  
1972 Marine Corps Base Camp Pendleton, California  
1971 Tyndall Air Force Base, Florida  
1970 Camp Pickett, Virginia  
1969 Marine Corps Base Camp Lejeune, North Carolina  
1968 Red River Army Depot, Texas  
1967 Fort Rucker, Alabama  
1966 Naval Weapons Station Yorktown, Virginia  
1965 Tyndall Air Force Base, Florida  
1964 Eglin Air Force Base, Florida  
1963 Fort Knox, Kentucky

## Environmental Quality

2019 Wisconsin Army National Guard  
2019 Marine Corps Base Camp Smedley D. Butler, Okinawa, Japan  
2018 Fort Hood, Texas  
2018 Mr. Frederick A. Javier, 1<sup>st</sup> Special Operations Civil Engineer Squadron, Hurlburt Field, Florida  
2017 Marine Corps Logistics Base Barstow, California  
2017 U.S. Army Garrison Bavaria, Germany  
2016 Marine Corps Air Ground Combat Center Twentynine Palms, California  
2016 Eglin Air Force Base Environmental Quality Team, Florida  
2015 Robins Air Force Base, Georgia  
2015 Marine Corps Base Camp Smedley D. Butler, Japan  
2014 Fort Hood, Texas  
2014 Environmental Quality Team, Minnesota Army National Guard  
2013 78th Civil Engineer Group, Robins Air Force Base, Georgia  
2013 Marine Corps Base Camp Smedley D. Butler, Japan  
2012 Fort Hood, Texas  
2012 Fort Hood Recycle Team, Texas, and Naval Supply Fleet Logistics Center, Pearl Harbor, Hawaii (tie)  
2011 U.S. Army Garrison Grafenwoehr, Germany  
2011 Defense Supply Center, Richmond, Virginia  
2010 Marine Corps Base Hawaii  
2010 Mr. Awani M. Almasri, Naval Facilities Engineering Command Europe Africa Southwest Asia  
2009 Environmental Management Division, Hill Air Force Base, Utah  
2009 United States Army Garrison Bamberg, Germany  
2008 Naval Air Engineering Station Lakehurst, New Jersey

2008 Hill Air Force Base, Utah  
2007 Tinker Air Force Base, Oklahoma  
2007 Marine Corps Base Camp Smedley D. Butler, Japan  
2006 Team Dyess, Dyess Air Force Base, Texas  
2006 Fort Campbell, Kentucky  
2005 Naval Air Depot Cherry Point, North Carolina  
2005 Misawa Air Base, Japan  
2004 U.S. Naval Support Activity Bahrain  
2003 Tinker Air Force Base, Oklahoma  
2003 Marine Corps Base Camp Smedley D. Butler, Okinawa, Japan  
2002 Air Armament Center, Eglin Air Force Base, Florida  
2001 Pearl Harbor Naval Shipyard and Intermediate Maintenance Facility, Hawaii  
2001 Marine Corps Base Camp Butler, Okinawa, Japan  
2000 Patrick Air Force Base, Florida  
2000 Marine Corps Base Hawaii  
1999 Indian Head Division, Naval Surface Warfare Center, Maryland  
1999 Luke Air Force Base, Arizona  
1998 Naval Aviation Depot North Island, California  
1998 Fort Sill, Oklahoma  
1997 Naval Surface Warfare Center, Indian Head, Maryland  
1997 Luke Air Force Base, Arizona  
1996 Eglin Air Force Base, Florida  
1996 USAF Hurlburt Field, Florida  
1995 Robins Air Force Base, Georgia  
1994 Fort Campbell, Kentucky  
1993 Hill Air Force Base, Utah  
1992 Naval Air Station Patuxent River, Maryland  
1991 Tinker Air Force Base, Oklahoma  
1990 McChord Air Force Base, Washington  
1989 Tooele Army Depot, Utah  
1989 Vandenberg Air Force Base, California  
1987 Pine Bluff Arsenal, Arkansas  
1986 Fort Lewis, Washington  
1985 Marine Corps Air Station Kaneohe Bay, Hawaii  
1984 Luke Air Force Base, Arizona  
1983 Fort McClellan, Alabama  
1982 Hill Air Force Base, Utah  
1981 Marine Corps Base Camp Lejeune, North Carolina  
1980 McClellan Air Force Base, California  
1979 Fort Sill, Oklahoma  
1978 Marine Corps Base Camp Pendleton, California  
1977 Marine Corps Air Station Kaneohe Bay, Hawaii  
1976 Naval Air Training Center Patuxent River, Maryland  
1975 Eglin Air Force Base, Florida  
1974 Fort Sill, Oklahoma

## Sustainability (formerly Pollution Prevention)

2019 Marine Corps Air Station Miramar, California  
2019 East Campus Reclaimed Water Team, National Security Agency, Fort Meade, Maryland  
2018 Marine Corps Logistics Base Barstow, California  
2017 Eglin Air Force Base, Florida  
2017 Mr. Jeffery D. Schone, Luke Air Force Base, Arizona

# PAST WINNERS

- 2016 Marine Corps Support Facility Blount Island, Florida
- 2015 Marine Corps Air Ground Combat Center Twentynine Palms, California
- 2015 Minnesota Army National Guard Sustainability Team, Minnesota
- 2014 Naval Weapons Station Seal Beach, California
- 2013 673d Air Base Wing, Joint Base Elmendorf-Richardson, Alaska
- 2013 Ms. Dorenda Coleman, Arizona Army National Guard
- 2012 Scranton Army Ammunition Plant, Pennsylvania
- 2011 Joint Base Lewis-McChord, Washington
- 2011 The Exchange Corporate Sustainability Program, Army and Air Force Exchange Service, Texas
- 2010 Fleet Readiness Center Southwest, California
- 2009 Naval Air Station Whidbey Island, Washington
- 2009 14<sup>th</sup> Civil Engineer Squadron Pollution Prevention Team, Columbus Air Force Base, Mississippi
- 2008 Robins Air Force Base, Georgia
- 2007 Marine Corps Base, Hawaii
- 2007 Pollution Prevention Afloat Team Naval Sea Systems Command, Washington, DC
- 2006 Tinker Air Force Base, Oklahoma
- 2005 Commander, Navy Region Mid-Atlantic, Norfolk, Virginia
- 2004 Robins Air Force Base, Georgia
- 2003 Naval Air Station Whidbey Island, Washington
- 2002 Warner Robins Air Logistics Center, Robins Air Force Base, Georgia
- 2001 U.S. Army Transportation Center and Fort Eustis, Virginia
- 2000 Radford Army Ammunition Plant, Virginia
- 2000 HQ III Corps and Fort Hood, Texas
- 1999 Robins Air Force Base, Georgia
- 1999 Marine Corps Base Hawaii
- 1998 Robins Air Force Base, Georgia
- 1998 Fort Carson and Pinon Canyon Maneuver Site, Colorado
- 1997 Corpus Christi Army Depot, Texas
- 1997 Fort Lewis, Washington
- 1996 Robins Air Force Base, Georgia
- 1996 Dyess Air Force Base, Texas
- 1995 Kelly Air Force Base, Texas
- 1995 Naval Construction Battalion Center, Port Hueneme, California
- 1994 Tinker Air Force Base, Oklahoma
- 1993 Navy Aviation Depot, Florida

## Environmental Restoration

- 2019 Naval Base Ventura County, California
- 2018 Vandenberg Air Force Base, California
- 2018 Vieques Environmental Restoration Team, Puerto Rico
- 2017 Travis Air Force Base, California
- 2016 Beale Air Force Base, California
- 2016 Vieques Environmental Restoration Program Team, Puerto Rico
- 2015 Marine Corps Base Camp Lejeune, North Carolina
- 2014 Marine Corps Installation East, Marine Corps Base Camp Lejeune, North Carolina
- 2014 Naval Air Station Cecil Field Base Realignment and Closure Cleanup Team, Florida

- 2013 U.S. Army Garrison Aberdeen Proving Ground, Directorate of Public Works, Maryland
- 2012 Former Mare Island Naval Shipyard, California
- 2012 75th Civil Engineering Group, Hill Air Force Base, Utah
- 2011 Cape Canaveral Air Force Station, Florida
- 2010 Hill Air Force Base, Utah
- 2010 Ms. Regina Dixon Butler, Patrick Air Force Base, Florida
- 2009 Defense Depot, Memphis, Tennessee
- 2008 Seymour Johnson Air Force Base, North Carolina
- 2008 Marine Corps Air Station Cherry Point Partnering Team, North Carolina
- 2007 Dover Air Force Base, Delaware
- 2006 Fort Lewis, Washington
- 2006 Pyramid Lake Torpedo and Bombing Range Remediation Project, U.S. Army Corps of Engineers, Sacramento District
- 2005 Naval Facilities Engineering Command Pacific, Hawaii, and Keesler Air Force Base, Mississippi (tie)
- 2004 Tinker Air Force Base, Oklahoma
- 2003 Hill Air Force Base, Utah
- 2002 F.E. Warren Air Force Base, Wyoming
- 2001 Offutt Air Force Base, Nebraska
- 2000 Elmendorf Air Force Base, Alaska
- 1999 Naval Air Engineering Station Lakehurst, New Jersey
- 1998 Riverbank Army Ammunition Plant, California
- 1997 Naval Air Station North Island, San Diego, California
- 1996 Naval Air Station Cecil Field, Florida
- 1995 Naval Air Station Whidbey Island, Washington

## Cultural Resources Management

- 2019 Washington Army National Guard
- 2019 Ms. Rita McCarty, Mississippi Army National Guard
- 2018 Camp Ripley, Minnesota Army National Guard
- 2017 Commander, Fleet Activities, Yokosuka, Japan
- 2017 Cultural Resources Management Team, Alabama Army National Guard
- 2016 White Sands Missile Range, New Mexico
- 2015 U.S. Army Garrison Picatinny Arsenal, New Jersey
- 2015 Dr. Paul R. Green, U.S. Air Force Civil Engineer Center, Virginia
- 2014 Fort Wainwright, Alaska
- 2013 Marine Corps Air Station Beaufort, South Carolina
- 2013 Ms. June Noelani Cleghorn, Marine Corps Base Hawaii
- 2012 30th Space Wing, Vandenberg Air Force Base, California
- 2011 88th Air Base Wing Civil Engineering Directorate, Environmental Branch, Wright-Patterson Air Force Base, Ohio
- 2011 Cultural Resources Management Team, Eglin Air Force Base, Florida
- 2010 Camp Guernsey, Wyoming Army National Guard
- 2009 Vandenberg Air Force Base, California
- 2009 Fort Drum Cultural Resources Team, Fort Drum, New York
- 2008 Redstone Arsenal, Alabama
- 2007 Mr. Gary M. O'Donnell,

- Hickam Air Force Base, Hawaii
- 2007 Fort Drum, New York
- 2006 Naval Air Weapons Station China Lake, California
- 2005 Marine Corps Recruit Depot Parris Island, South Carolina, and 15th Airlift Wing, Hickam Air Force Base, Hawaii (tie)
- 2004 Marine Air Ground Task Force Training Command, Twentynine Palms, California
- 2003 Texas Army National Guard Cultural Resources Management Office, Texas
- 2002 Commander Navy Region Mid-Atlantic, Hampton Roads, Virginia
- 2001 U.S. Army Air Defense Artillery Center and Fort Bliss, Texas
- 2000 Fort Riley, Kansas
- 1999 Vandenberg Air Force Base, California
- 1998 Fort Hood, Texas
- 1996 Fort Carson and Pinon Canyon Maneuver Site, Colorado

## Environmental Excellence in Weapon System Acquisition

- 2019 Tagnite Technical Working Group, U.S. Army Research Laboratory, Aberdeen Proving Ground, Maryland
- 2018 Combat Rescue Helicopter Program Environment, Safety and Occupational Health Team, Wright Patterson Air Force Base, Ohio
- 2017 Chromium-Free Wash Primer Replacement Team, U.S. Army Research Laboratory, Aberdeen Proving Ground, Maryland
- 2016 KC-46 Program Environment, Safety, and Occupational Health Team, Wright-Patterson Air Force Base, Ohio
- 2015 Halon Extinguisher Replacement Program for Aviation Weapon Systems Integrated Product Team, Redstone Arsenal, Alabama
- 2014 Air Force Life Cycle Management Center F-35 Environmental, Safety and Occupational Health Support Team, Wright-Patterson Air Force Base, Ohio
- 2013 Counterfeit Refrigerant Impact Team, Tank Automotive Research, Development and Engineering Center, Michigan
- 2012 Stryker Brigade Combat Team – Warren, Michigan
- 2011 Sustainable Painting Operations for the Total Army, Aberdeen Proving Ground, Maryland
- 2010 Aeronautical Systems Center Environmental and Occupational Health Team, Wright-Patterson Air Force Base, Ohio
- 2008 Fairchild Air Base, Washington
- 2006 C-17 Pollution Prevention Integrated Product Team, Wright-Patterson Air Force Base, Ohio

## Special Recognition Environmental Management Systems Implementation

- 2006 Defense Logistics Agency Environmental Management Systems Team



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