

# 2019 ANNUAL REPORT

## SUSTAINMENT AND RESILIENCY DIVISION



**A STEP AHEAD IN AN EVOLVING WORLD**



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# FROM THE DIRECTOR

On behalf of the United States Army Reserve (USAR) and the Army Reserve Installation Management Directorate (ARIMD), I am proud to present the 2019 Sustainment and Resiliency Division (SRD) Annual Report. It was seven years ago when the USAR launched Programs that focused on enhancing sustainability while driving the resilience and readiness of our Army Reserve Centers and USAR-funded Installations. Our energy, water, environmental and solid waste/recycling initiatives, combined with our engineering and logistics services, have continued to provide efficient and resilient facilities that bolster Army Reserve Soldier capabilities in an ever-changing environment.

Our programs realized significant results in 2019. Some of those achievements include:

- Decreasing energy use intensity (EUI) by 11.62% compared to a FY15 baseline.
- Decreasing potable water use intensity (WUI) by 28% compared to FY18.
- Increasing renewable energy–production since 2012 enough to power 7,000 U.S. houses for one year.
- Implementing innovative applications like rainwater harvesting systems to offset utility-provided water.
- Increasing the diversion of non-hazardous solid waste (NHSW) recycling from 8% in FY18 to 36% in FY19.

As the U.S. continues to make strides in technology, our peer adversaries are enhancing their capabilities to maliciously target the homeland, and as the 2018 National Defense Strategy states, “It is undeniable that the homeland is no longer a sanctuary.” Therefore, our modernization strategies must better enable us to train, mobilize and deploy while countering asymmetric threats through which our adversaries look to destroy our people, equipment, energy and water assets, and the industrial base. Our ability to overcome these threats is dependent on our ability to modernize while simultaneously supporting a Multi-Domain Operational (MDO) force capable of fighting and winning our Nation’s wars.

With these threats ever present, we must enhance resiliency at Army Reserve Centers and USAR-funded Installations to defend and protect against attacks and natural disasters. The USAR must continue to take strategic steps, nested within the Army Campaign Plan and other national strategies, to help ensure critical missions can be sustained in the future. The USAR Infrastructure Strategy and subsequent SRD initiatives that lie ahead will strengthen our standing as the most lethal and combat-ready Reserve force and, ultimately, help us remain **a step ahead in an evolving world.**

Thank you to the dedication of our teams at Army Reserve Centers, USAR-funded Installations, Readiness Divisions (RDs), and Mission Support Commands (MSCs). Our Programs would be unsuccessful without your hard work and profound commitment to support our Soldiers and the future of the USAR.

For more information on USAR SRD initiatives, please visit [www.usar.army.mil/Sustainability](http://www.usar.army.mil/Sustainability).



Daniel L. Cederman  
Colonel, GS  
Director, Army Reserve Installation  
Management Directorate

# WHO WE ARE

## OUR PURPOSE

SRD plans, programs and resources USAR-funded Installation services, establishing policies and guidance as they relate to sustainable and resilient facility operations.

## OUR VISION

State-of-the-art, sustainable and resilient facilities, lands and infrastructure that contribute to a capable, combat-ready and lethal Federal Reserve Force.

## SUSTAINABILITY PROGRAMS BRANCH

USAR Sustainability Programs Branch provides energy, water, environmental and solid waste solutions to harden USAR facilities to help ensure land, air and water resources are always available for the timely Soldier response. Through program initiatives, coupled with providing strategic planning services at the division level, the SRD strives to make the USAR more agile to changing conditions.

## SERVICES BRANCH

We enable our facilities to work—on any given day, in the face of any given challenge, we enable USAR facilities to operate effectively with the resources they need to achieve their mission. Through logistics and engineering funding, as well as infrastructure analytics to articulate requirements-driven decisions, our Services Branch is here to support a wide range of essential programs.

## RESILIENCE DRIVES READINESS

Resilience enables the USAR to anticipate, recover and adapt to changing conditions. Secure and reliable assets at USAR facilities are vital to perform its key mission and support global operations. SRD does its part to optimize trusted resources, be financially prudent and support USAR Soldiers so they can remain focused on mission activities.

## OUR COMMUNITIES

We believe we have a special duty to our communities to do things the right way. We also believe that Soldiers, Civilians and our communities have a personal responsibility to implement conservation and resilience efforts. Everyone is vulnerable to the risks that drive the USAR's focus on long-term sustainability. Whether natural disasters or cyberattacks, personal resilience is just as important as military resilience.

## IN OUR WORDS

“Resiliency means we’re going to have what we need to operate today and tomorrow. It means we’ll be able to operate in the face of any kind of challenge.”

“Sustainability is more than just the environment – it’s a way of thinking. How are we going to keep operating, keep people trained? It’s a mindset.”

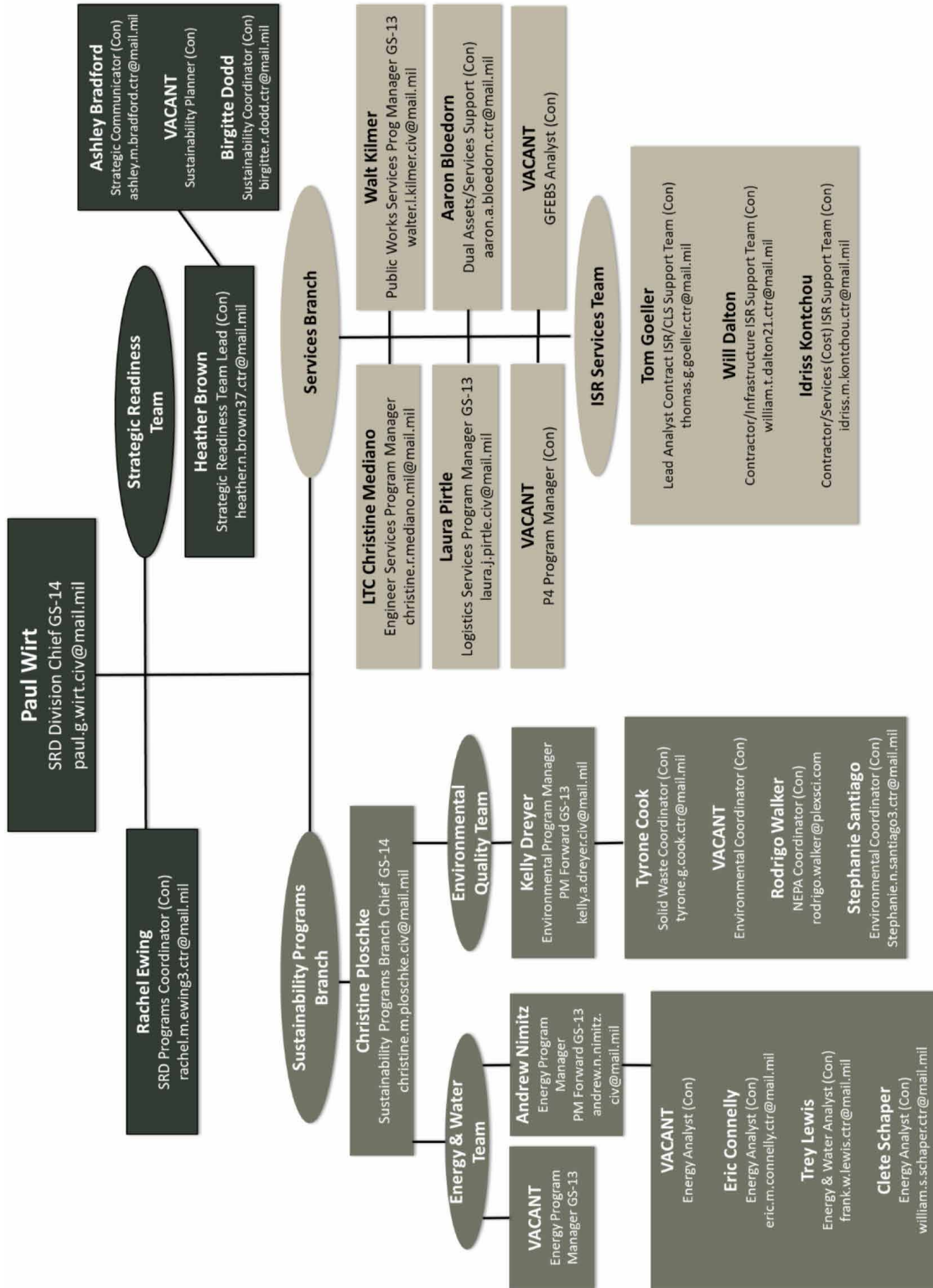
“I think resiliency more than anything is staying the course, accomplishing the mission that you’re set out to do. Being very strong in the face of adversity.”

“Resiliency is having plans with contingencies. It’s toughening up through training and infrastructure so we can withstand the unexpected.”

# OUR ORGANIZATION

Have a question? Don't be stranger. Please use the organization chart below to identify the appropriate point of contact. We look forward to hearing from you.

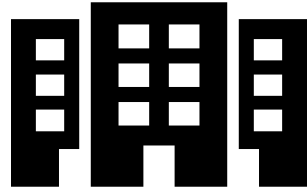
## SUSTAINMENT AND RESILIENCY DIVISION



# 2019 FACTS AND FIGURES

189,500

SOLDIERS



42M SQ. FT.  
FACILITIES



CIVILIANS

11,000



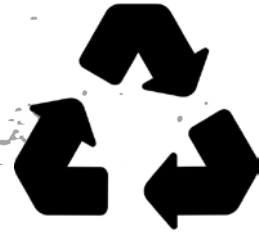
46%

DECREASE IN POTABLE  
WATER USE INTENSITY  
(FY13 BASELINE)



11.62%

DECREASE IN ENERGY  
USE INTENSITY  
(FY15 BASELINE)



33K+

TONS OF TOTAL WASTE  
DIVERTED FROM  
LANDFILLS

**\$70+ MILLION**  
LOGISTICS SERVICES

**AMMO** RETAIL SUPPLY

LAUNDRY AND DRY CLEANING

ARMY FOOD SERVICE RELIGIOUS

LEGAL SUPPORT

SERVICES SAFETY

CEMETERIES UNACCOMPANIED HOUSING

**\$330+ MILLION**

FACILITIES ENGINEERING SERVICES  
MUNICIPAL SERVICES  
FIRE AND EMERGENCY SERVICES  
SUSTAINMENT RESTORATION MODERNIZATION

**785 ARMY RESERVE LOCATIONS**

452,638 ACRES OF ARMY LAND (FY18)

90 ENDANGERED/THREATENED SPECIES ON 20 USAR SITES

10,504 ACRES OF WETLANDS

1,344 ARCHAEOLOGICAL SITES

# STRATEGIC PLANS THAT LAST

The future of the USAR continued to strengthen its alignment with a culture focused on warfighting readiness and resilience. In 2019, the Strategic Readiness Team (SRT) remained committed to serving the field to achieve these goals through the facilitation of the Integrated Strategic and Sustainability Planning (ISSP) process.

## The ISSP Process

The ISSP process is a long-term, holistic strategic planning process created and used by the Army to develop strategic plans that support current and future mission requirements worldwide. ISSP enhances traditional strategic planning because it focuses on: a longer planning horizon; increasing stakeholder engagement; creating a culture of sustainability; developing measurable short-term action plans; establishing governance and identifying resources; and integrating other required plans by Army and USAR Headquarters such as Real Property Master Plans.

## RDs

In October 2019, over 65 Military and Civilian representatives from all four RDs and several Functional Commands collaborated at Fort Snelling, Minnesota. With help from SRT ISSP facilitators, four Lines of Effort (LOE) were identified to focus on in the next 15 years—Human Resource Services, Infrastructure, Operations and Logistics. The participants separated into four breakout groups over two of the four days to determine what the future end state, or optimum future force, looked like for each of these LOEs. The breakout groups developed and reached consensus on 17 supporting long-term objectives, as well as 48 short-term objectives needed to reach the drafted end states. On the final day of the session, representatives from all the RDs partnered together to brief RD Commanding Generals (CGs) on their joint plan with the opportunity for the CGs to provide feedback.

On November 21, 2019, as part of the Effects Coordination Board, the four RD CGs requested a more in-depth review of the LOEs and long- and short-term objectives drafted by the RDs at the October Fort Snelling session. Following a detailed review and minor amendments, the RD CGs, including Major General Mark W. Palzer (99th RD, Joint Base McGuire-Dix-Lakehurst, New Jersey), Major General Jody J. Daniels (88th RD, Fort McCoy, Wisconsin), Major General Kenneth D. Jones (81st RD, Fort Jackson, South Carolina), and Major General Alberto C. Rosende (63rd RD, Mountain View, California), unanimously agreed to move forward with the RD strategic plan which includes four LOEs, 17 long term objectives, and an increase to 52 short-term objectives. Looking ahead into 2020, with the help of ISSP facilitators, the RDs will continue engaging in the strategic planning process by developing Action Plans that will ultimately support the overarching LOEs.

## USAR-funded Installations

Over the past two years, ISSP was successfully conducted at two USAR-funded Installations—Fort Buchanan, Puerto Rico, and Fort Hunter Liggett/Parks Reserve Forces Training Area (RFTA), California. Both locations are executing Action Plans and updating their reporting as they work into 2020. Additional USAR-funded Installations are seeing the value in ISSP. Devens RFTA, Massachusetts, had their initial site visit in December of 2019. They'll complete the next steps in the process by summer 2020.



# OUR STAKEHOLDERS

## USAR Senior Sustainability Council (SSC)

The SRD leverages engagement from the USAR SSC, which guides the implementation of our objectives and promotes the integration of sustainable and resilient processes into all functional areas of the enterprise. The SSC fosters and encourages the use of innovative technologies and tools for sustainable practices, and it develops and monitors the progress of programs, plans and activities intended to achieve the USAR's sustainability and resiliency goals and objectives. The council is a tiered council, comprised of stakeholders at all levels of the enterprise—from senior leaders to program managers.

### STRATEGIC LEVEL—SSC

- Chaired by the USAR Director of Resource Management and the Deputy Commanding General.
- Members include USAR senior staff and Commanders from USAR-funded Installations, RDs, MSCs and Geographical and Functional Commands.



### OPERATIONAL LEVEL—ADVISORY AND STEERING BOARD

- Co-chaired by Army Reserve Staff-Fort Belvoir ARIMD Director and Army Reserve Staff-Fort Bragg ARIMD Director.
- Members include directors of public works (DPWs) and deputy DPWs.



### TACTICAL LEVEL—SENIOR WORKING GROUPS

- Chaired by the Chief of the USAR Sustainability Programs Branch.
- Members include environmental, energy, water and solid waste program managers and their support staff.

“ Support and engagement at **ALL LEVELS** are key to ensuring the USAR and our facilities remain viable and ready to complete the mission not only now, but into fighting the wars of the future. Our **RESILIENCY** is critical to Army operations. ”

Paul Wirt, SRD Chief



# ENERGY AND WATER PROGRAM



## GOALS

The USAR Energy and Water Program focuses on mitigating risks posed by energy and water interruptions. Our priority is to ensure available, reliable, and quality power and water to continuously sustain critical missions. Our water and energy initiatives are united in effort—enabling the USAR to execute a holistic energy and water security-focused strategy that enhances readiness and resilience while improving the operational capability of Soldiers.

Our Energy and Water Program focuses on four key areas:

1. **Promoting and increasing resilience and security:** Meeting Army Directive 2017-07, Installation Energy and Water Security Policy, to “prioritize energy and water security requirements to ensure available, reliable power and water to continuously sustain critical missions...” and “reduce risk to critical missions by providing the necessary energy and water for a minimum of 14 days.”
2. **Promoting and increasing efficiency and conservation:** Implementing smart conservation measures to decrease energy and water use intensities across Army Reserve Centers, RDs, and USAR-funded Installations.
3. **Leveraging alternative and renewable sources:** Meeting the Energy Policy Act (EPACT) of 2005 goal of 7.5% total energy from renewables through the application of innovative resources and the 2007 National Defense Authorization Act (2007 NDAA) renewable energy goal that 25% of all energy consumed is from renewable supply sources.
4. **Building a social program foundation:** Increasing awareness around USAR Energy and Water Program initiatives and developing USAR-funded Installation Energy and Water Plans (IEWPs) to proactively identify areas of optimization.

## 2019 HIGHLIGHTS

### IEWPs

Headquarters Department of Army (HQDA) guidance has prioritized completing IEWPs for all USAR-funded Installations and RDs by FY22. IEWPs are crucial for identifying and implementing energy and water security projects at USAR's critical facilities to help ensure mission success during times of disruption. Last year, numerous sites began the planning process including Fort Buchanan, the 81st RD and 1st MSC, Puerto Rico sites. Additional work was completed at the 9th MSC, 63rd RD and Fort McCoy, Wisconsin. In FY20 the USAR will complete IEWPs for Fort Buchanan, Fort Hunter Liggett/Parks RFTA and Fort McCoy.

### Enterprise Building Control System (EBCS)

In FY15, ARIMD formed a working group to develop an EBCS to provide remote monitoring, troubleshooting, control and optimization of USAR facilities. Once fully implemented, the EBCS will empower staff to efficiently manage geographically disbursed USAR facilities from a standardized platform. In FY19, EBCS efforts included adding 42 new buildings to the system, completing upgrade of the enterprise server, migrating all 37 phase one buildings to the new server, and issuing a performance work statement to conduct site readiness assessment for EBCS integration for 260 additional buildings.

Looking ahead ARIMD plans to demonstrate a real-time building health report including preventative maintenance features and a “Resilience Dashboard” as part of the EBCS. By monitoring on-site resiliency assets (e.g. generator status, fuel storage, photovoltaic generation, battery status, etc.) the dashboard will assess the “readiness” condition of a critical facility. The EBCS will include over 400 buildings when fully realized.

# ENERGY AND WATER PROGRAM

## Conserving Energy

In FY19, the USAR achieved an 11.62% decrease in EUI compared to the FY15 baseline and a 0.8% decrease in EUI compared to FY18. In FY19, six of ten combined RDs and USAR-funded Installations saw a decrease in EUI, with 4 of the 10 showing a double-digit decrease. Energy consumption in FY19 decreased 13% compared to FY18 and 6.7% compared to the FY15 baseline.

## Decreasing Potable Water Use with Water Infrastructure Improvements

The USAR has decreased potable water use intensity (WUI) by 28% compared to FY18. Potable water consumption decreased by 28% compared to FY18. WUI decreased by 46% compared to a FY13 baseline.

Fort Buchanan has developed a successful water management program through sound engineering analysis and prioritized project implementation to address water waste and infrastructure reliability. This program was launched with a detailed water balance analysis that estimated water use by major end-use and determined large system losses totaling 30% of the installation's total water supply. The results of this water balance analysis led to Fort Buchanan conducting a detailed hydraulic modeling study, which identified the distribution system was losing large quantities of water and the infrastructure had reached its useful life. Fort Buchanan then developed a phased replacement of the distribution system, prioritizing the most problematic areas of the system. The top two areas have been replaced and the third and final phase will be completed by April 2020. Because of these efforts, Fort Buchanan's water use dramatically dropped in FY19, decreasing by 48% from the peak in FY17 thereby improving the site's water resilience and ensuring safe and reliable delivery of potable water to mission critical facilities.

In addition, Fort Buchanan installed a potable rainwater harvesting system at their Welcome Center, at four additional buildings and have three more under design. These systems enable Fort Buchanan to provide on-site water to help offset off-site utility-provided potable water and help ensure that water can be provided during times of utility disruption.

## Targeting Water Conservation with Geospatial Data

In our efforts to identify targets of opportunities, the USAR uses geospatial data analysis and monthly water utility data to evaluate sites that experience higher water rates, fall within vulnerable watersheds and have the potential for alternative water sources.

## Comprehensive Energy, Water and Waste Evaluations (CEWWEs)

CEWWEs program takes a comprehensive water approach, investigating all water equipment for efficiency improvements such as plumbing fixtures, vehicle wash and irrigation. In FY19, CEWWEs identified potential water savings totaling 17,720 kgal annually. CEWWEs performed from FY14 through FY19 had an average of 23% water savings per evaluation and an overall USAR water savings of 9%.

## Renewable and Alternative Energy

In FY19, the USAR continued pursuit of renewable energy projects, producing 38,342 Million British Thermal Units of renewable energy. For the 2007 NDAA renewable



# ENERGY AND WATER PROGRAM

energy goal, the USAR is at 3.2%, and is at 5.9% for the EPACK 2005 goal. High performers include Fort Hunter Liggett which produced 21.97% of its electric needs from renewable energy. The 9th MSC, Honolulu, Hawaii, produced more than 10% of their electricity from similar sources. Leading the RDs in renewable energy production is the 63rd RD with 6.3%. Future renewable energy project development will be directed toward enhancing the resiliency of critical facilities.

## Status Tool for Environmental Programs (STEP) Energy

In FY19, USAR developed STEP Energy, which is a web-based, enterprise project planning tool for the Energy and Utilities Modernization Program (QTM). The STEP Energy tool will enable USAR to identify and validate energy and water requirements at its facilities down to the building level; effectively bundle requirements into projects to maximize planning, funding and execution; track projects' execution progress; and provide data analytics to report to HQDA, Department of Defense (DoD) and Congress.

## Energy Action Month

Every October marks Energy Action Month, an Army-wide awareness campaign designed to: educate Soldiers, Civilians and Families about energy resiliency, security, efficiency and conservation; enhance their understanding of Army energy initiatives; encourage their participation in these efforts; and share our energy success stories with our peers and the general public. The USAR participated with educational outreach events at the Office of the Chief Army Reserve, Fort Belvoir, Virginia, and at Fort Buchanan. SRD's Chief of Sustainability Programs Branch, Christine Ploschke, was the expert speaker for a USAR radio media tour—conducting 12 interviews with nationwide stations to over 11 million total listeners (radio and online).

## Energy and Water Program Awards

USAR-funded Installations, RDs, Army Reserve Centers and Civilians were recognized in 2019 for their Energy and Water Program achievements. Recognitions included:

- Department of Energy, Federal Energy Management Program Award, presented to Maria (Angie) Lopez at Fort Buchanan (pictured below).
- Secretary of the Army Energy and Water Management Award Program, presented to Fort Hunter Liggett.
- Texas Water Development Board Rain Catcher Award, presented to the Grand Prairie Armed Forces Reserve Complex, 63rd RD.
- Fox McCarthy Georgia Water Wise Award from the Georgia Association of Water Professionals, presented to the Harry Milton Kandel Army Reserve Center, 81st RD.



# ENVIRONMENTAL PROGRAM



## GOALS

The USAR Environmental Program champions environmental stewardship through legal compliance. It enables senior leaders to make the best possible decisions in support of USAR missions while bolstering the ecosystems upon which military training and operations depend.

Our Environmental Program focuses on four key areas:

1. **Conserve natural and cultural resources:** Support the long-term mission through effective management of our natural and cultural resources.
2. **Ensure compliance:** Comply with all applicable environmental laws, regulations and policies to ensure mission capability.
3. **Prevent pollution:** Use processes, materials or products that avoid, reduce or control pollution in a cost-effective manner.
4. **Strengthen an integrated environmental quality foundation:** Regularly evaluate and continuously improve environmental management processes to optimize support to USAR priorities.

## 2019 HIGHLIGHTS

### Conservation Partner Award

Fort McCoy was the recipient of the US Fish and Wildlife Service (USFWS) 15th Annual Military Conservation Partner Award in 2019. This award recognizes significant natural resource management achievements by military Installations, particularly the conservation of important wildlife and their habitats through cooperative work with the USFWS and other partners, all while achieving success in accomplishing their military mission. In addition to this award, Fort McCoy also received the Tree City USA Award for the 30th year in a row from The National Arbor Day Foundation.

### Discovery of State Species of Concern Snakes

In 2019, the 88th RD conducted a snake survey at the Milwaukee Silver Spring Local Training Area/Army Reserve Center, a 126.5 acre facility located in Milwaukee, Wisconsin. The facility is mostly open fields with a developed area, a few stands of hardwood trees, a creek and small wet areas interspersed throughout the property. The survey resulted in the verified presence of five snake species, with the Butler's gartersnake (*Thamnophis butleri*) being the most prevalent. Other species captured included the common gartersnake (*Thamnophis sirtalis*), the plains garter snake (*Thamnophis radix*), the northern ribbon snake (*Thamnophis sauritus septentrionalis*), and the northern red-bellied snake (*Storeria occipitomaculata*). Both the Butler's gartersnake and the common gartersnake are listed as Species of Special Concern in Wisconsin, though not listed as threatened or endangered. The northern ribbon snake is not listed, though considered rare. The presence and military activities of the 88th RD is providing a home and habitat for these snake populations to exist in an otherwise fairly urban area of Milwaukee.



# ENVIRONMENTAL PROGRAM

## Using Fire for Conservation

Devens RFTA signed a new Integrated Natural Resource Management Plan (INRMP) in 2019 with the USFWS New England Field Office and the Massachusetts Division of Fisheries and Wildlife (DFW). As part of implementing the newly signed INRMP, Devens RFTA started a prescribed burning program and successfully burned the Turner Drop Zone to improve habitat conditions for the State Listed Grasshopper Sparrow.

According to DFW's Natural Heritage and Endangered Species Program, open fields with limited shrubbery and ground litter are necessary to support the species. By removing this through fire, land managers hope to create a better habitat for the sparrow, which could improve their population.



## USAR ENVIRONMENTAL UNIVERSE

785 USAR locations

5 USAR-funded Installations, 4 RDs and 1 MSC

452,638 Acres of USAR land

11 INRMPS

90 Endangered/threatened species on 20 USAR sites

1,344 Archaeological sites

10,504 Acres of wetlands

149 Buildings subject to National Historic Preservation Act (3,603 not yet evaluated)

3 Native American sacred sites on 3 USAR sites

9 Integrated Cultural Resources Management Plans

410 Environmental permits (includes all minor and other permits)

591,000 Pounds of hazardous waste generated at 700+ individual locations

2 RD external Environmental Performance Assessment Systems (EPASs) at 66 individual locations

Internal EPASs at 715 individual locations

69 Environmental cleanup sites (active)

137 Environmental Condition of Property reports initiated

28 Environmental assessments initiated

1,300 Records of Environmental Consideration completed (approx.)



# SOLID WASTE PROGRAM



## GOALS

The USAR remains committed to providing Soldiers, Civilians and their Families with clean, waste-conscious facilities and USAR-funded Installations. We depend on everyone in our Community to each play a part in helping the USAR meet waste diversion goals. These efforts not only provide cost avoidance but generate revenue opportunities that can be reinvested into USAR projects—furthering our resilience and mission readiness.

**Our Solid Waste Program focuses on four key areas:**

1. **Supporting Sustainable Procurement:** Ensuring all new contracts, modifications and purchases for products and services meet Federal sustainable procurement requirements.
2. **Promoting Reduction and Diversion:** Creating a culture of waste minimization that practices source reduction, reuse, repurposing, donation, recycling and recovery.
3. **Increasing Recycling:** Continuing to improve waste and recycling services provided, implementing recycling programs and practices that ensures all material is recycled/composted (where feasible) and ensuring reporting is complete and accurate.
4. **Building an Integrated Solid Waste Management Program Foundation:** Addressing overall Solid Waste Program management and program resources to include adequate manpower, funding and execution of enterprise priorities.

## 2019 HIGHLIGHTS

### Outreach and Awareness

America Recycles Day was observed on November 15, 2019. On this day each year, the USAR reflects on our commitment to recycling and the challenges which impede our waste diversion and reduction efforts. The 2019 USAR message focused on contamination and how improving personal recycling practices can support America's increased need to process recyclables on the home front. Soldiers, Civilians and Families were encouraged to reduce recycling contamination by employing simple habits:

- Empty liquids and remove food residue or other debris before recycling the item. Rinse, if necessary.
- Place your recyclable items into the correct recycle bin.
- Check the label on the bin and only deposit those items accepted at your location.
- Place garbage and other non-recyclables in proper trash receptacles.
- Recycle plastic bags and plastic film (e.g., produce bags, dry cleaning bags, and packaging wrap) separately by dropping them off at specially labeled bins found at your local supermarket or participating retail store.

Along with America Recycles Day, the USAR Solid Waste Program actively participates in additional observances such as Earth Day (April) and Pollution Prevention Month (September). In addition, we develop outreach materials to be used in the field. For example, in FY19, this included a recycling awareness poster as well as recycling bin and wall signage to communicate materials recycled at various USAR locations.

### Federal Recognition

The Environmental Protection Agency (EPA) Federal Green Challenge (FGC) Awards program challenges federal agencies throughout the United States to lead by example in reducing the government's environmental impact. It also furthers the goals of the President's Executive Order Regarding Efficient Federal Operations. In the area of waste management, FGC provides recognition to agencies who achieve a significant reduction in tons of materials generated; increase in tons of materials recycled; and/or increase in tons of material composted.

# SOLID WASTE PROGRAM

Three USAR Commands received 2019 EPA FGC Regional Awards for their FY18 diversion efforts:

- Fort Buchanan recycled and diverted 5,219 tons of material from landfills.
- 99th RD sites recycled and diverted approximately 5,149 tons of material from landfills.
- 9th MSC sites recycled and diverted approximately 13 tons of material from landfills.

## Reusing with Purpose

Army Reserve Centers and USAR-funded Installations alike found incredible ways to divert waste and repurpose materials in 2019. Fort McCoy collected 18,000 rail road ties and 400 tons of rail from a railroad rehabilitation project. The 25,000 pounds of the railroad ties were reused by the Installation as barricades during training exercises. The remaining material will be sold through the Installation's Qualified Recycling Program (QRP).

Fort McCoy is also home to the ReUse-It Store—receiving turn-ins that help the Installation meet reduction goals while protecting government property. The store re-issued 3,600 items worth \$43,423, clearly demonstrating conservation of government resources. These useful materials assisted many military units so they did not have to make costly purchases as items were immediately on-hand. Additionally, it reduced the amount of waste that would have required disposal. The ReUse-It Store not only saved money, it provided more training dollars for our Soldiers and mission support.

In the spring of 2019, Fort Buchanan entered into a memorandum of understanding with PR Textiles, LLC, to create a textile collection program. PR Textiles provided four collection bins that were strategically placed in high-traffic areas near two main Installation entrances. Clothing donated in new condition is reused locally, while other material is shipped to the United States to manufacture rags with post-consumer recycled content.

## Diverting Waste and Avoiding Local Landfills

The USAR strives to meet the DoD non-hazardous solid waste (NHSW) diversion goal of 50% and the non-hazardous construction and demolition (C&D) waste diversion goal of 60%. In FY19, the USAR continued to show growth in our commitment to recycling. The USAR NHSW diversion rate increased by 8% from FY18 to a total of 36% diverted from landfills. The USAR exceeded the DoD C&D goal with an 88% diversion rate. In total, the USAR recycled 33,470 tons of waste in FY19.

Four Commands met or exceeded the 50% DoD NHSW diversion goal in FY19: Fort McCoy diverted 63%; Devens RFTA diverted 50%; the 9th MSC diverted 54%; and Fort Buchanan diverted 72%. In addition, Devens RFTA and the 99th RD utilized community Waste to Energy (WTE) options in lieu of landfill disposal for all or some NHSW processing. This totaled approximately 640 tons of NHSW going through WTE rather than directly to landfills.



# SOLID WASTE PROGRAM

In 2017, as part of a DoD Environmental Security Technology Certification Program WTE project, a “Pathfinder” Gasifier System (installed and operated by Sierra Energy) was commissioned at Fort Hunter Liggett to demonstrate its capability as a cost effective, environmentally beneficial way to reduce waste and achieve energy resiliency and security, by converting various forms of waste into renewable energy. In FY19, Fort Hunter Liggett and ARIMD began working towards establishing an enhanced-use lease with Sierra Energy. This agreement will enable Sierra Energy to continue operating the Pathfinder Gasifier System and serve as a cost-effective solution for diverting NHSW.



## QRPs

All Army (Active, Guard and Reserve Components) activities and Installations are required to recycle. In accordance with 10 U.S.C. 2577, implemented through DoD and Army policies, such as DoD Instruction 4715.23 Integrated Recycling and Solid Waste Management, Executive Order 13834 Efficient Federal Operations, and AR 420-1 Army Facilities Management, activities and Installations shall have a local recycling program or participate in a regional program. Where cost effective, activities and Installations should establish a QRP in order to retain the proceeds from the sale of recyclable materials.

There are currently two USAR-funded Installations with QRPs—Fort Hunter Liggett and Fort McCoy. The revenue generated from recycling at these locations in FY19 totaled \$95,329.42. The recycling revenue from the QRPs:

- Help offset QRP overhead expenses.
- Contribute to the purchase of new machinery like the brass ordnance deformer at Fort McCoy, enabling expended brass to be processed and ready for sale.
- Fund projects like mobile internet access for wireless devices at the Fort Hunter Liggett Cybrary, which provides services and resources for research, study, professional development, and recreational reading.



# ENGINEERING SERVICES



## GOALS

Engineering Services funds essential services at USAR-funded Installations and RDs, as well as centrally-managed programs to help our facilities remain operational and safe. From fire and emergency services, to building maintenance, restoration and demolition, Engineering Services ensures USAR infrastructure is effectively managed.

### FY19 Funding Breakdown

- **Sub Activity Group (SAG) 131 Base Operations Funding (\$119.4M)**
  - **USAR-funded Installations: \$47.6M**
    - Facility Engineering Services
    - Municipal Services
    - Fire and Emergency Services
  - **RDs and 9th MSC: \$66.9M**
    - Facility Engineering Services
    - Municipal Services
    - Fire and Emergency Services
  - **Centrally-Managed Funds: \$4.9M**
    - Facility Engineering Services
- **Sustainment Restoration Modernization and Demolition Funding SAG 132 (\$263.9M)**
  - **USAR-funded Installations: \$62.7M**
    - Real Property Maintenance
    - Facilities Reduction Program
  - **RDs and 9th MSC: \$165.5M**
    - Real Property Maintenance
    - Facilities Reduction Program
  - **Centrally-Managed Funds: \$35.7M**
    - National Roofing Program (NRP)
    - Demolition
    - BUILDER Sustainment Management System (SMS)

## 2019 HIGHLIGHTS

### NRP Executes over \$20M in Roof Placements

The NRP launched in 2007 as a lifecycle replacement plan to more effectively identify and replace damaged roofs to protect USAR infrastructures. The program is centrally-managed, enabling it to provide cost-effective and reliable contract roof replacements at USAR sites nationwide. In 2007, 56% of USAR roofs were identified as needing repairs or total replacements. Since its inception to 2019, that number has decreased to 34% of inventory needing to be repaired or replaced. In 2019, SRD executed over \$20 million in the NRP which included the replacement of roofs on 42 buildings at 20 sites. The NRP has invested \$179 million in the last 12 years identifying and replacing USAR roofs.

### BUILDER SMS Implementation

Since FY17, the USAR, along with all military services, has been hard at work executing the migration to using BUILDER SMS software to assess the condition of facilities to better forecast building infrastructure maintenance. The endeavor is a massive undertaking that was mandated by the Office of the Secretary of Defense (OSD)—with the implementation of condition assessments completed for 100% of facilities by September 2021.

The USAR initiated a contract with the United States Army Corps of Engineers (USACE) Mobile District in 2017 to conduct assessments of all of USAR facilities. In FY19, the USAR remained on track to meet the OSD mandate, completing assessments on 1,410 buildings totaling over 11 million square feet and contracting for the FY20 assessment of an additional 709 buildings totaling over 9.4 million square feet. Looking ahead, BUILDER SMS data will better predict and anticipate future maintenance requirements and in return, articulate the funding needed to restore and modernize USAR facilities.

# LOGISTICS SERVICES



## GOALS

Logistics Services manages a myriad of essential program funding across Army Reserve Centers, RDs and USAR-funded Installations. From Army food service and ammo programs, to cemeteries and asset management, Logistics Services ensures USAR programs are appropriately funded to support Soldiers and maintain the mission.

### FY19 Funding Breakdown

- **Logistics Services (\$39M+):**
  - **USAR-funded Installations: \$31.43M**
    - Laundry and Dry Cleaning
    - Ammo, Retail Supply, Central Issue and Asset Management
    - Installation Materiel Maintenance
    - Installation Transportation Office and Non-Tactical Vehicles (NTV)
    - Army Food Service
  - **RDs: \$7.99M**
    - Laundry and Dry Cleaning
    - Asset Management
    - Installation Materiel Maintenance (Administrative Support)
    - NTVs
    - Army Food Service (Equipment Replacement)
- **Cemeteries (\$2.6M)**
  - Six cemeteries (four divested in FY19) located at:
    - Fort Lawton, Washington
    - Vancouver Barracks, Washington
    - Fort Douglas, Utah
    - Fort Missoula, Minnesota
    - Fort Sheridan, Illinois
    - Devens RFTA, Massachusetts

## 2019 HIGHLIGHTS

### Annual Logistics Program Objective Memorandum (POM) Workshop

The success of building POM requirements would not be possible without the USAR logistics community conducting its Annual Logistics POM Workshop. Over 30 logistics management analysts representing all RDs and USAR-funded Installations met at Fort Snelling from 14-17 August. A wide spectrum of logistics topics were discussed—ensuring collaboration and consistency across the entire USAR. External agencies were also in attendance to provide support and included the Army Materiel Command, Army Sustainment Command and 404th Army Field Support Brigade.

Workshop accomplishments include:

- Successfully developing the requirements for POM 21-25.
- Cross collaboration on continuing challenges at each location and development of strategies to address those challenges.
- Identification of duplicate efforts at locations where there is a cohabitation of an RD and a USAR-funded Installation.
- A comprehensive review of the ARIMD Annual Funding Guidance for FY20 to generate necessary changes.

### Reducing NTV Costs

In FY19, the USAR continued its efforts to reduce Army-owned NTV maintenance costs. In accordance with Army Regulation 58-1, Management, Acquisition, and Use of Motor Vehicles, great progress was made turning in vehicles from USAR-funded Installations and replacing them with General Services Administration (GSA) leased vehicles before the FY21 deadline.

# LOGISTICS SERVICES

Exceptional progress has been made at the 88th RD. In each of the last three FYs, the 88th RD has met or exceeded its divestiture goals for Army-owned NTVs. The command currently has 18 remaining Army-owned NTVs in the fleet:

- Five of these vehicles will be processed in FY20 for turn-in.
- Five vehicles are being prepared for turn-in with no replacement.
- Seven vehicles are identified for conversion to GSA lease in the FY20 GSA Replacement Cycle.
- The last 88th RD Army-owned NTV will be converted to a GSA lease during the FY21 GSA Replacement Cycle.



## Divesting Military Cemeteries

Did you know the USAR was responsible for the management, maintenance and upkeep of 6 of the total 10 U.S. military cemeteries across the nation? The cemeteries were transferred into the care of the Army under the Base Realignment and Closure Act of 1986. After recent inspections were conducted by the Veterans Administration-National Cemetery Administration, it was agreed they would take ownership of all military cemeteries across the U.S.

During FY19, the USAR successfully divested 4 of 6 cemeteries:

- Devens RFTA Cemetery, Devens, Massachusetts (Installation Management Command [IMCOM]; pending divestiture)
- Fort Douglas Cemetery, Salt Lake City, Utah (88th RD, divested)
- Fort Lawton Cemetery, Seattle, Washington (88th RD, divested)
- Fort Missoula Cemetery, Missoula, Montana (88th RD, divested)
- Fort Sheridan Cemetery, Chicago, Illinois (IMCOM, divested)
- Vancouver Barracks Cemetery, Vancouver, Washington (88th RD, pending divestiture)

## Bear River Conservation Efforts

Fort Douglas Cemetery in Salt Lake City, Utah is unique in its early use of non-traditional markers and monuments. Over the years, time, weather, pollution and inconsistent maintenance has taken its toll on historic monuments and headstones. In FY19, the 88th RD initiated consultation with the Shoshone Tribe and the Utah State Historic Preservation Office to apply conservation treatments and repair select historic monuments and headstones. After work began, the interior of the monument was revealed to be unstable rubble with eroding mortar that did not safely or adequately support the surrounding obelisk. After additional consultation, the sandstone monument was carefully documented, disassembled and temporarily placed at the Fort Douglas Museum along with two artifacts (a bottle and chisel) that were found inside the monument. The monument's new interior foundation is currently being designed for construction and reassembly is planned in spring 2020.

# INSTALLATION STATUS REPORT



## GOALS

When it comes to services and infrastructure requirements, it's SRD's responsibility to provide USAR leadership with data that enables them to make well-informed funding decisions. This data is collected and analyzed through a web-based system called Installation Status Report (ISR), the Army's database of record for the quality, functional ability and mission capability of services and infrastructure. ISR provides holistic visibility (energy and water security, renewable energy, training and ranges, etc.) and accessibility to facility, sustainable management and service assessment data. Thanks to ISR, the USAR can better assess condition and mission capability of USAR-funded Installation assets and identify the funding necessary to improve facilities.

**ISR focuses on five key areas:**

- 1. Conducting training:** Provide outstanding remote and on-site training and support to all users at USAR-reporting organizations.
- 2. Obtaining accurate data:** Ensure USAR Reporting Organizations are accurately capturing precise information and comments, while the ISR team assists in the quality control/quality assurance process.
- 3. Providing decision-supportable information:** Enable leadership to effectively justify requirements and funding using ISR Data.
- 4. Keeping leadership informed:** Identify division and Installation concerns and/or issues that may hinder service, mission and infrastructure success.
- 5. Managing USAR ISR Change Management Program:** Work with ISR Users to submit proposed updates to ISR system to better represent USAR efforts. Additionally, the ISR team serves as a liaison between the USAR reporting organizations and Deputy Chief of Staff (DCS), G9 Installation staff, as it relates to the ISR database.

## 2019 HIGHLIGHTS

### Annual ISR Centralized Training

The ISR team hosted and facilitated logistics planning for the USAR ISR Centralized Training at Fort Benjamin Harrison, Indiana. DCS G-9 ISR team members performed the training for all three ISR Components: ISR-Services (Cost and Performance), ISR-Infrastructure, and ISR-Mission Capacity. The purpose of the ISR training is for the reporting organization to receive ISR user training and system updates from the DCS G9 staff. The trainees were given the "train-the-trainer" tools to provide training for personnel within their ISR reporting organizations. Over 75 students attended the training, consisting mostly of ISR managers, analysts, inspectors and evaluators from the USAR ISR reporting organizations with additional attendees from ARIMD and the Army National Guard.

### On-site ISR Training

FY19 was a busy year for the ISR team as on-site training was provided at the following locations:

- 63rd RD (California)
- Operation & Maintenance Workshop (Texas)
- Logistics Workshop (Minnesota)
- Waste Management Workshop (Colorado)
- Service Leads (United States Army Reserve Command Headquarters, Fort Bragg, North Carolina)

The ISR team provided additional support at conferences, such as presenting ISR assessments at the Senior Commander/Garrison Commanders Conference. Additionally, the team participated in the USAR Operational Inspection Program, inspecting the ISR process and procedures for the 99th RD.

# INSTALLATION STATUS REPORT

## **BUILDER SMS Implementation Support**

Along with SRD Engineering Services, the ISR team has actively supported the implementation efforts for BUILDER SMS. Throughout 2019, the ISR team has participated in numerous BUILDER trainings and summits, as well as BUILDER Implementation meetings. The team provided ISR system expertise and spoke on behalf of the USAR reporting organizations. Additionally, the team worked to correct the BUILDER Facility Condition Index prior to full implementation.

## **Trends Analysis**

To better meet the needs of ARIMD and USAR Leadership, the ISR team executes projects that enhances reporting while providing insight into current and future initiatives. The team developed two different trend charts to help graphically show trend lines and recognize patterns of change. These charts were developed for:

- **Funding:** to provide a comprehensive picture of how funding was spent for each Management Decision Package (MDEP) within ISR for FY19.
- **Data entry:** to get a comprehensive picture of how data has been entered in ISR over the past seven years. This was developed to forecast future potential issues with USAR facility assets.

## **Commander's Portfolio**

Supporting USAR leadership with accurate and actionable data is a priority for the ISR team. In FY19, the team developed a Portfolio for the Commander showing the quarterly results of ISR Certification. The Portfolio gives the Commander immediate access to ISR results and can be used for organization visits and briefings. The report shows the USAR Overview with a breakdown of all Major Service Areas at the headquarters Level, as well as each organization's Readiness Summary. This is followed by a complete trend listing of all Services to include the quarterly MDEP funding.

## **Inspection Assets Dashboard**

In FY19, the ISR team developed a dashboard tool to aid USAR reporting organizations to track infrastructure inspections. Thanks to the dashboard, a high-level overview provides better visibility and tracking for asset inspections that must be completed annually to keep RDs and USAR-funded Installations in compliance.

# RESILIENCE AND SUSTAINABILITY TRAINING

SRD successfully planned and executed the Army Reserve Mission Resilience and Sustainability (ARMRS) Training on 30 April-2 May at Fort Carson, Colorado. More than 150 subject matter experts in the areas of energy, water, solid waste, environmental quality and real estate were in attendance from across the USAR.

The training opened with a plenary session hosted by ARIMD Deputy Director, Mr. Freddy Poole, and honored guests including:

- Mr. Jordan Gillis, Principal Deputy Assistant Secretary of the Army for Installations, Energy and Environment
- Colonel Brian Wortinger, Garrison Commander, Fort Carson
- Ms. Antonia Giardina, USACE Environmental Division Deputy Chief

Ms. Christine Ploschke, ARIMD Sustainability Programs Branch Chief, closed the plenary. Following the plenary, six tracks were facilitated concurrently including:

- Energy and Water Security
- Solid Waste
- Environmental Quality (EQ)—Environmental Performance Assessment System
- EQ—Natural Resources
- EQ—Environmental in Support of Real Estate
- Real Estate

An applied learning approach was taken throughout each track whereby sessions within the track built upon each other and used classroom, hands-on and field learning. In addition, the ARMRS Training enabled strategic integration across all USAR-funded Installations, RDs and MSCs to ensure mission resilience.

The training concluded with a closing plenary in which a representative from each track addressed all attendees and discussed: new ideas, knowledge or ways of thinking; challenges and opportunities their track attendees identified; and how their programs directly support mission resilience and sustainability.

Because of the geographically-dispersed structure of the USAR, the ability to conduct face-to-face training enabled highly-effective collaboration through key topic discussions and breakout sessions. In addition, attendees were provided first-hand insight from senior leaders from HQDA and the USAR. Bringing all parties, Soldiers, Civilians and contractors, together in one location at one time ensured clear messaging across all programs, fostered comradery, and provided professional development growth throughout the USAR.





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## **SUSTAINMENT AND RESILIENCY DIVISION**

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