Center News

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Applications Open for Scientific Leadership Award

Calling all STEM students! AERC is currently accepting rolling applications for its Fellowship and Workforce Development Program. The Arctic Domain Awareness Center (ADAC) is also accepting applications for its Arctic Summer Internship Program. Both programs provide financial support, career experiences, and new opportunities for the next generation of environmental scientists, researchers and leaders. Fellowships are open to full-time undergraduate and graduate students who are pursuing degrees in STEM fields at UAA and other American universities.

The Scientific Leadership Award program is funded by the US Department of Homeland Security (DHS), Science and Technology Directorate, Office of University Programs. DHS funding supports fellowships at both AERC and ADAC. To submit an application, please visit: **uaa.alaska.edu/aerc**.

UAA student Anna Wen at the AERC fish weir in Eagle River. Wen participated in ADAC's 2023 Arctic Summer Internship Program.

Army Corps Awards Records Management to AERC

AERC recently acquired a new management project spanning Alaska and the Pacific Air Forces major command. The vast region is home to hundreds of Formerly Used Defense Sites (FUDS), from the tropical outpost of Johnston Atoll to the Arctic community of Fort Yukon. The Army Corps of Engineers has

Fort Glenn, on Umnak Island, is one of more than 500 FUDS across Alaska. (Courtesy photo: US Army Corps of Engineers, Alaska District)

pursued environmental remediation at these FUDS for decades, removing munitions, extracting contaminated soils, and restoring areas to their natural state. Each project requires plenty of communication and coordination, and all records are required to be kept for 50 years. The result is a lot of documentation.

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About the Applied Environmental Research Center

The UAA AERC provides public and private organizations with University of Alaska environmental expertise and research capabilities for optimal land management and conservation efforts. The Center provides the best research, data, and analytical tools for public land use and overall resource management.

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AERC updates

Leanne Lusk accepts new role at UAA

Leanne Lusk, CAPT, USCG (Ret) is the new Director of Federal Research Projects at UAA. She continues her distinguished career after recently completing more than two decades of military service in the US Coast Guard.

In her new role, Lusk will assist both the Arctic Domain Awareness Center (ADAC) and the AERC, enhancing the efforts and reputation of both research centers. She'll support the work of AERC by building new partnerships, launching new projects and initiatives, and utilizing her Arctic and Alaska expertise and involvement with the Department of Homeland Security. She joined UAA and the AERC team in November.

Caitlin Kollander receives promotion

Caitlin Kollander was recently promoted from Research Technician to Senior Research and Grant Technician. Kollander first joined AERC in 2019 as a summer participant, assisting on tricolored blackbird surveys in California and little brown bat surveys in Anchorage. She joined the full-time research staff in early 2023 and was promoted this September.

Kollander participating in forestry work this fall.

In her new role, Kollander will assist with crafting proposals for grant applications so that AERC can expand its range of projects. In addition, Caitlin will remain a part of the research staff and continue overseeing the Center's bat projects on Joint Base Elmendorf-Richardson. She will remain central to AERC's ongoing partnerships with the US Coast Guard, and facilitating the Arctic Summer Internship Program in Utqiaġvik.

Caitlin is from Anchorage, and has a bachelor's degree in Biological Sciences and Natural Sciences and a master's degree in Biological Sciences, all from UAA.

Records Management

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AERC recently acquired the contract to help keep those environmental records straight. Staff are digitizing 16 shrink-wrapped pallets of reports, maps, CDs, and photographs. Every last page will be scanned into the Air Force Civil Engineer Center's administrative records system, a public, searchable database of military records. The process is an important step in recognizing the ongoing environmental work of the Army Corps. While many FUDS are at distant outposts or small tropical islands, others are located in communities on the Alaska mainland. Bethel, Kotzebue, Nome, and King Salmon all have FUDS documents included in the digitization project. By scanning literal tons of records, AERC is improving coordination across departments and facilitating access to information that continues to affect Alaska and the Pacific today.

Engage with AERC at a Conference this Winter

As fieldwork season winds down, conference season kicks into gear. Our team members will represent AERC at several conferences in Anchorage this winter. We look forward to conversations with our colleagues and collaborators at the following events:

Alaska Marine Science Symposium

Jan. 29 – Feb. 2 at Hotel Captain Cook

Visit the poster sessions to learn more about our work.

Alaska Forum on the Environment

Feb. 5 – 9 at Dena'ina Center

Stop by our table to connect and collaborate.

Arctic Encounter Symposium

April 10 – 12 at Dena'ina Center

AERC staff at the 2023 Alaska Forum on the Environment. Credit: Photo Emporium, Matt Waliszek

Managing the Urban Forest

The snow is piling up in Anchorage, meaning it's time to hang up the chainsaws and end another forestry season on Joint Base Elmendorf-Richardson (JBER).

AERC manages the urban forest on Anchorage's military base. It's one of four active forestry projects on JBER. 7,500 acres – nearly 10% of the base – are managed as urban forest, and the project keeps the crew busy during the six-month summer season.

Signage marks an AERC work site.

AERC's efforts help JBER to extend its record of environmental accolades. The joint base has been named a Tree City USA by the National Arbor Day Foundation every year since 1995. That's one of the longest streaks in the state, but the distinction isn't possible without a hefty hand from land managers. Each season, AERC research technicians spread across the military base to count trees by type and record any immediate concerns, like dead, dying, or invasive trees. The research team can log nearly 3,000 trees in a season, assessing the health and species of each individual.


AERC Forester Jacob Hart on JBER this October.

JBER divides its urban forest landscape into five distinct areas, which AERC inventories on a rotating five-year schedule. These plots include everything from tree-lined neighborhoods and community parks to immense, scattered tracks of undisturbed woodlands. This summer, AERC staff focused on Zone 4, which includes trees around JBER's hospital, commissary, Cottonwood Park, and Veterans Affairs Center, as well as an area north of the Elmendorf runway. In total, the team surveyed 2,808 trees and shrubs and added 2,511 data points to the Zone 4 inventory this field season. In addition, they used chainsaws to remove dead and dangerous trees from predetermined areas.

By monitoring the urban forest year after year, AERC researchers continue to keep JBER's residents safe and its trees in top form. When the Arbor Day Foundation announces its Tree City USA winners this spring, JBER aims to receive the honors for a 29th year in a row.

Staff Spotlight: Cameron Wilson

Every day is different at AERC. One morning, you're wading through a creek removing invasive plants. The next, you're designing and welding a fish weir in the UAA engineering building. That variety and problem-solving is a great fit for Project Manager Cameron Wilson, who previously spent five years as a field engineer before joining AERC in 2020.

Cameron first connected with AERC while finishing his master's degree in civil engineering at UAA. His graduate project involved designing and fabricating wireless water monitors for the home, which he installed in several communities across Alaska's Interior and western coast. That experience in remote logistics prepared him well for the work of AERC.

As a research technician, Cameron took the lead on coastal projects and tracked the rate and risks of erosion in Naknek, Kodiak, Utqiaġvik, and the Big Island of Hawaii. In addition, his engineering skills benefit a range of AERC efforts. He recently surveyed wetlands for a new project in Hawaii. The fish weir he designed remains a key part of the Eagle River salmon survey each summer.

In 2021, Cameron was promoted to project manager. In this role, he now helps coordinate AERC's team of technicians and summer participants as they study the bats, plants, and salmon of Anchorage. He creates a daily schedule throughout the fieldwork season, dispatching as many as 18 team members (including himself) to project locations across Joint Base Elmendorf-Richardson. Throughout the year, he also provides AERC clients with regular project updates and final reports.

The Center has experienced significant growth since Cameron joined nearly four years ago. "I definitely feel like I was on the ground floor, just because of the potential that AERC has," he said. As the portfolio of projects continues to grow, he'll remain an integral part of coordinating and completing the Center's environmental efforts across Alaska and the Pacific.


Wilson surveying at Bellows Air Force Station.

Message from the Director

Welcome to the winter edition of our newsletter. These shorter days and colder nights provide time for reflection. This was our 10th year of active research at the Applied Environmental Research Center (AERC), and we deeply appreciate all the partners and agencies who have trusted us with their projects over the past decade.

Our research technicians are finishing this year's projects and already preparing for the next field season. We had ten projects running simultaneously on Joint Base Elmendorf-Richardson alone this summer, including the Urban Forestry work detailed in this newsletter. In addition, our team continued its efforts in the Pacific Air Forces region. Notably, this spring we completed a six-year dune restoration project at Bellows Air Force Station, where invasive ironwood trees were removed and replaced with an estimated 15,000 plants adapted to the Hawaiian Islands. Based on our success, we're proud to announce that AERC was awarded a second invasive species cooperative agreement at Bellows. Our team of research technicians are monitoring and removing invasive weeds from a critical wetland at the military installation. You can read more about our newest projects in this issue of the newsletter.

Of course, we couldn't do this work without our team. 2023 was a banner year for AERC, as we expanded our ranks in research, communication, and project management. As our staff continues to grow, so does our impact. I'm grateful to lead this team and I look forward to even more successes in the new year. To each person who has been a part of our journey, whether near or far, I extend warmest wishes for a holiday season filled with joy, gratitude, and an abundance of blessing. Your support has been the cornerstone of our achievements. We hope you'll follow along as we continue our mission to apply environmental, natural, and cultural resource data for optimal management of our public lands. From our team to yours, a heartfelt thank you, and the happiest of holidays!

Warm regards,

Jeff Libby,

Director,

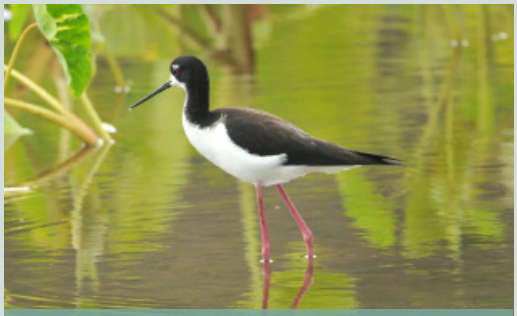
UAA AERC

AERC staff measure salmon on Sixmile Creek at Joint Base Elmendorf-Richardson.

AERC Adds New Wetlands Restoration Project in Oahu

AERC recently added a new project to its growing list of active programs, renewing its research relationship with military installations in Hawaii.

The center will lead wetland restoration efforts at Bellows Air Force Station, a military installation 10 miles east of Honolulu. The wetter windward coast of Oahu is home to range of endangered birds that rely on wetlands for their habitat, including the Hawaiian stilt (ae'o in Hawaiian), Hawaiian coot ('alae ke'okeo), Hawaiian duck (koloa), and Hawaiian common moorhen (alae 'ula), all of which, as their names suggest, exist only on the islands.



The ae'o is one of four endangered bird species that will benefit from the new AERC wetland restoration project on Oahu.

AERC is relocating two research technicians to Oahu to oversee the project, which requires active management of the wetlands to stave off invasive species. The research team will remove target species by hand to reduce the use of pesticides, then restore the wetland with Hawaiian plants that evolved within the island's unique ecosystem. AERC staff will grow plants in a designated nursery on the military station to ensure seedlings are readily available to stabilize the wetlands. The project continues a longstanding relationship between AERC and Hawaii's military installations. AERC researchers previously completed archaeology surveys, restored coastal dunes, designed interpretive signage, monitored endangered snails, and recorded oral histories on military lands across the Hawaiian Islands.

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