EXWC

EDGE Magazine

SPRING
2025

EXWC TEAMS UP WITH CAL POLY

to Harness the Power of the Ocean

ANTICIPATE - INNOVATE - ACCELERATE

NAVFAC EXWC

ISSUE #0009

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Cover Photo: California Polytechnic engineering students Alex Gray and Hunter Herring-Alderete check the power generation and loading statistics of an Expeditionary Ocean Power Generator (ExOPG) system, for a capstone project collaboration with EXWC to bring agile technology to the warfighter.

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ACCELERATE INNOVATION TO ENABLE FLEET LETHALITY AT SEA AND ASHORE

A MESSAGE FROM
Kail S. Macias
TECHNICAL DIRECTOR (SENIOR LEADER)

Welcome Team EXWC to the 2025 Spring Edition of the EXWC Edge!

We are off to a busy year, and I appreciate your continued focus on extraordinary projects and initiatives to bring innovative solutions to the warfighter.

You are the best of the best, dedicated individuals who are making a difference through complex problem solving and delivery of capabilities to ensure Fleet lethality.

Take a look inside the pages of this *EXWC Edge* magazine!

The engaging content includes a partnership with California Polytechnic State University in San Luis Obispo on a project to bring agile technology to the warfighter; support to innovative water resilience projects in Hawai'i; and a recent EXWC-hosted UAV symposium to discuss this top Navy priority. These articles are an excellent representation of utilizing both traditional and non-traditional tools to bring the best and brightest together to innovate and deliver solutions to the Fleet.

It is exciting content indeed!

But the most remarkable part is this magazine only covers a mere snapshot of the diverse, impactful and remarkable programs, projects and initiatives you do at EXWC in support of the warfighter across the Shore, Oceans and Expeditionary domains.

I am thrilled to see this magazine in print and look forward to sharing your fantastic work! Imagine all that 2025 will bring!

All the Best,

Kail S. Macias
Technical Director (Senior Leader)

EXWC Supports

WATER RESILIENCE PROJECTS IN HAWAI`I

through University of Hawai‘i Partnership

UH Mānoa Pacific Cooperative Studies Unit Senior Wildlife Technician Jessica Hawkins displays an oyster spat collector cage used in Pearl Harbor (Courtesy of University of Hawai‘i)

EXWC is supporting innovative water resilience projects in Hawai‘i, in partnership with the University of Hawai‘i, National Security Innovation Network (NSIN), and One World One Water through the Ho‘olana Water Resilience Prize Challenge.

The goal is for University of Hawai‘i (UH) researchers and students, and private/public partners with UH to develop innovative solutions to address the resiliency and sustainability of water resources in identified areas, according to EXWC Resilience Innovation Research Portfolio Manager Madeleine White.

“This is a fantastic initiative that works with the local community for solutions,” White said, adding, “The effort encourages innovative ideas that will benefit the Navy, the environment, and community alike, and supports the development of two projects that will have different but equally exciting benefits.”

The initiative, White noted, leverages an education partnership agreement between EXWC and UH and this positive collaboration could result in research and development agreements.

The UH Office of Innovation and Commercialization and National Security Innovation Network launched the pilot program in fall 2023 as part of their Innovation Challenge initiative. Two of 13 proposed water resilience solutions were selected for further development.

One project explores the potential of oyster aquaculture to improve Pearl Harbor’s water quality and ecosystems. The other employs analytical and machine learning image analysis to detect cloud immersion in Hawai‘i’s tropical cloud forests – the tropical or subtropical forests that are frequently covered in low-lying clouds and mist, creating a persistently wet environment.

The two prize challenge teams coordinated with EXWC throughout 2024, and plan to present research updates to government, industry and venture capital communities this year to determine further development and possible acquisition opportunities.

Restoring Natural Habitats of Pearl Harbor

A team from UH Hilo Pacific Aquaculture and Coastal Resources Center and its community partners are identifying opportunities for restoring pearl oysters to improve water quality at Pearl Harbor, also known as Wai Momi.

As suspension feeders, oyster bivalves ingest and filter out excess phytoplankton resulting from run-off from terrestrial sources like nitrogen and phosphorus. They also help settle sediment from erosion, helping to maintain water clarity.

“Wai Momi was once a majestic estuary, rich with biodiversity,” according to Rhiannon Tereari‘i Chandler-Īlao, UH Hilo aquaculture policy and extension specialist and former Waiwai Ola Waterkeepers Hawaiian Island executive director. “So much of its natural ecosystems have been transformed or lost; it’s hard to find even one pearl oyster in the harbor now. It’s no surprise that water quality is an issue.”

Navy Region Hawaii has been a vital partner in the project, White noted, with its support of the effort and in granting the team access to the site, which is located on Joint Base Pearl Harbor-Hickam.

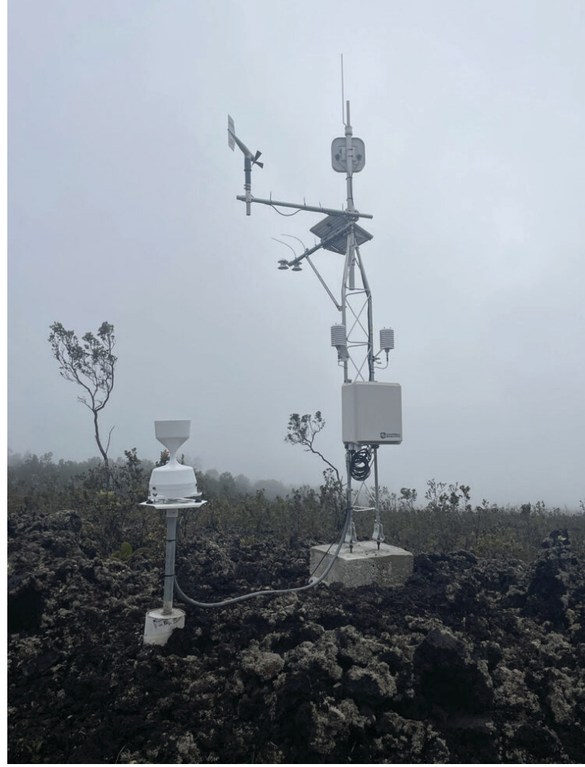
“We are pleased to be a part of this initiative with UH Hilo and EXWC,” Rear Adm. Stephen Barnett, Commander, Navy Region Hawaii said. “Any project that has the potential to reinvigorate the natural ecosystem of Pearl Harbor is certainly worth exploring.”

Detecting Cloud Immersion Through Machine-Learning Analysis

Between 800 – 3,500 meters in elevation, tropical montane cloud forests are tropical ecosystems characterized by frequent ground-level cloud immersion or fog. Cloud droplets collecting on vegetation is an important source of water in these forests. However, unlike rainfall, the phenomenon of fog meteorology and its interaction with vegetation is still misunderstood and understudied.

A team from the UH Mānoa Water Resources Research Center is working on using machine learning to detect fog and estimate cloud water content from camera images. This low-cost, image-based solution aims to capture near real-time cloud immersion data and enhance researchers’ understanding of fog and its impact on montane regions in Hawai‘i.

This image-based approach uses cameras as cloud immersion sensors, where contrast, luminance, visible detail, and colorfulness are detected and used to identify cloud moisture content.



Instruments at the Hawai‘i Mesonet climate station provide cloud and fog immersion data to researchers. (Courtesy of University of Hawai‘i)

“By using cameras as a low-cost approach for estimating the availability of cloud water in tropical montane cloud forests, we hope to better monitor spatial and temporal cloud immersion patterns across diverse geographies and ecosystems,” Dylan Giardina, who is part of the team’s research staff, said. ◆

FOR MORE INFORMATION

University of Hawai`i website:

https://www.hawaii.edu/

Acknowledgement

Thank you to the University of Hawai`i for its contributions to this article.

Experts Discuss Collaboration Needs at

UNMANNED SYSTEMS FORUM

hosted at EXWC HQ

The 3rd annual Naval Base Ventura County (NBVC) Unmanned Systems Forum held in September brought together a wide range of experts to discuss current and future plans for unmanned vessels and collaboration on enabling unmanned capabilities.

The event, hosted by NAVFAC EXWC and organized by Naval Surface Warfare Center, Port Hueneme Division (NSWC PHD), featured discussions on near- and long-term plans for unmanned vehicle (UxV) priorities across all domains – air, surface, and undersea.

In opening remarks, EXWC Technical Director Kail Macias focused on the Chief of Naval Operations (CNO) Navigation Plan, that was released the day prior, reiterating the Navy's priorities in unmanned systems.

"When we start talking about 2027, it means we need things in process now," Macias said. "We've already seen some great things come together in terms of how we can support this technology."

The forum provided a valuable venue for leadership to strategize on current and upcoming unmanned systems needs, according to organizers. Participants included NBVC and local warfare center leadership, fleet stakeholders and program office sponsors.

"The event advanced EXWC's situational awareness of upcoming fleet unmanned systems, and for the broader community to understand how EXWC can support the unmanned systems mission," according to Jean Pan, PhD, EXWC's Aircraft Reporting Custodian.

Pan noted all EXWC technical departments – Oceans, Shore, and Expeditionary – have equity in the unmanned systems space. She explained that could be for Research, Development, Test & Evaluation (RDT&E) of unmanned systems, such as for pile inspections; integrating unmanned systems to support NAVFAC needs like using unmanned aircraft systems for inspection projects or environmental cleanup; or finding infrastructure solutions and support equipment to address unmanned systems' needs, like for peculiar support equipment.

"NAVFAC EXWC is particularly interested in understanding how the facilities and infrastructure needs for unmanned systems may differ from current systems so we can work to proactively meet the upcoming needs of the fleet," Pan added.

The one-day forum concluded with a moderated talk with EXWC's Chief Technology Officer Cody Reese about upcoming needs and how to best support the fleet, followed by tours of the wharf facilities for the Navy's new Extra Large Unmanned Undersea Vehicle (XLUUV) and NSWC PHD's unmanned systems operating center.

NBVC is the key fleet support hub for unmanned systems and is uniquely co-located with three warfare Centers: NAVFAC EXWC, NSWC PHD, and the Naval Air Warfare Center Weapons Division. ◆

"NAVFAC EXWC is particularly interested in understanding how the facilities and infrastructure needs for unmanned systems may differ from current systems so we can work to proactively meet the upcoming needs of the fleet,"

- Jean Pan, PhD, EXWC's Aircraft Reporting Custodian

Participants pose for a group photo at the 3rd annual Unmanned Systems Program Forum, at NAVFAC EXWC Headquarters, Naval Base Ventura County, Calif., Sept. 19, 2024. (U.S. Navy photo by Eric Parsons)

Harnessing the Power of the Ocean: EXWC Teams Up with California Polytechnic State University for

ENGINEERING SOLUTION

Electrical engineering participants Ethan Gossard, Hunter Herring-Alderete, Julian Steele, and Alexander Gray.

Mechanical engineering participants David Nyberg, Travis Eccher, Logan Schilling, Otto van Willigen, and Kyle Hohman.

EXWC is partnering with California Polytechnic State University in San Luis Obispo on a project to harness power from the near-shore environment, an effort that will benefit the students, and bring agile technology to the warfighter, according to program organizers.

Launched in the 2024-2025 academic year, the collaboration between the university and EXWC's Marine Energy Development Program is a multi-year, multi-disciplinary capstone project to design, build, test, and field an Expeditionary Ocean Power Generator (ExOPG).

"This opportunity will expose students – the brilliant workforce of tomorrow – to the emerging field of marine energy while at the same time contributing to the energy needs of the Department of the Navy via technology development," Judy Santa Cruz, Marine Energy Development Program Technical Lead with EXWC's Ocean Cables and Unmanned Systems Division, said.

"The students bring unique, fresh perspectives to the process. Working hand in hand with the end user and NAVFAC EXWC engineers will give the students the experience of delivering a research and development project for a realistic application," she said.

For the inaugural session, a team of five mechanical engineering students and four electrical engineering students selected EXWC from a list of sponsors for capstone projects.

The project is for developing a portable system that would convert and store electrical energy from ocean movement in the near-shore ocean environment. The device would need to be able to withstand rough handling and be portable enough to be liftable by hand by two boat crew members.

"The ocean is a challenging and rugged environment, especially for electronics, therefore we are motivated and look forward to tackling the unique challenges ahead," electrical engineering student Julian Steele said.

> "The students bring unique, fresh perspectives to the process. Working hand in hand with the end user and NAVFAC EXWC engineers will give the students the experience of delivering a research and development project for a realistic application,"
>
> - Judy Santa Cruz, Marine Energy Development Program Technical Lead with EXWC's Ocean Cables and Unmanned Systems Division

EXWC is actively researching, developing, testing and evaluating ocean energy conversion devices through the Marine Energy Development Program. EXWC manages and operates the Wave Energy Test Site in Hawaii to advance wave energy technology via in-situ testing to assess technology readiness.

The capstone project addresses a need to support the field and remote activities and would open an avenue to recharge batteries without the need for heavy and bulky diesel power generators – reducing a logistics footprint and sustaining the warfighter's mission without a need for resupply.

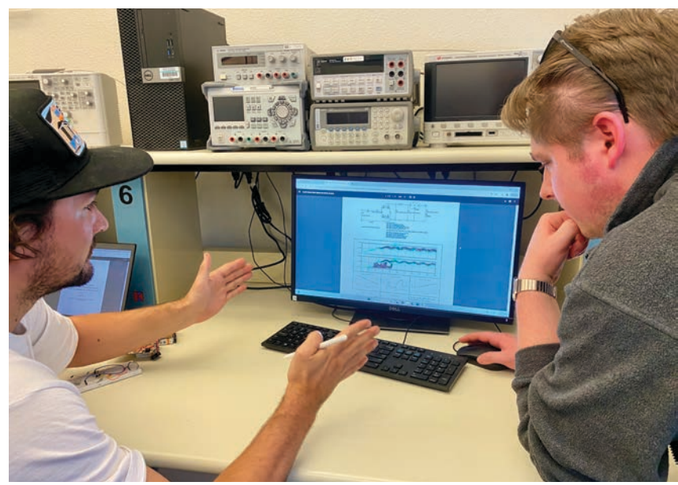
"The Marine Corps Expeditionary Energy Office sees the undeniable potential that ExOPG brings to support operations in the littorals," according to Marine Corps Capt. Joshua Ashley of the Marine Corps Expeditionary Energy Office, representing the end user.

"Making the warfighter self-sufficient in a contested logistics environment where energy supply chains are not a certainty is foundational to our mission. The ExOPG capability falls directly in line with current Marine Corps operating concepts by providing small, disaggregated units the ability to produce power close to the point of use, increasing survivability and lethality," he said.

Senior Mechanical Engineer Dennis How, who is leading the program for EXWC, described the effort as an exciting collaboration with talented students.

"Within the first two months, the students strategized a comprehensive plan, conducted basic research, and presented thorough, industry-quality, preliminary design reviews. The students are enthusiastic, proactive self-starters who are finding creative paths to continue progress as they await input from us at EXWC," he said.

(continued on next page)



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The students, How said, are aware of the importance of this project and its relevancy with the end-user and potential commercial interest. The process, he noted, is exacting but the results are rewarding.

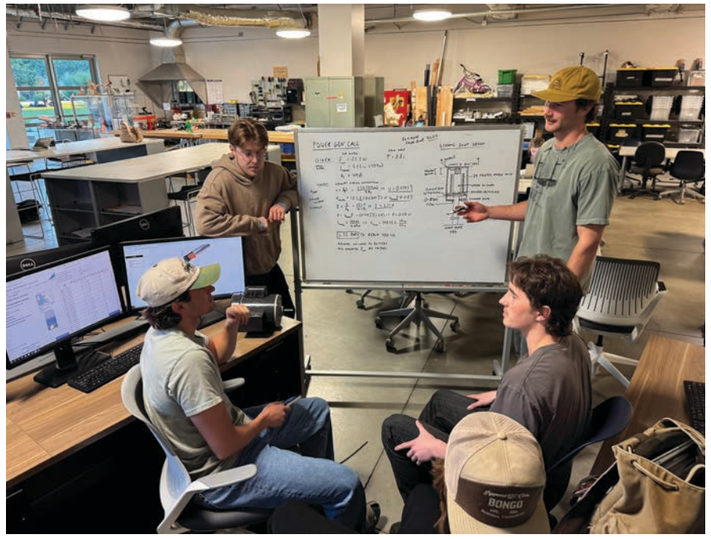
“The students are learning to work within constraints of the natural environment, user requirements, administrative schedules, and military specifications,” he explained. “They will experience the product delivery cycle, from concept to design to manufacture to test. This practical, comprehensive experience is beyond the typical university curriculum. In return, the students will bring new ideas and an innovative product to solve an actual EXWC problem.”

Cal Poly Professor of Mechanical Engineering Jim Widmann hailed the collaboration, saying it engages students and allows them to apply their learning in creative, thoughtful and exciting ways for applications that provide benefits outside the classroom.

“At Cal Poly we value an experiential, ‘Learn by Doing’ education. By partnering with EXWC we can provide our students with real-world challenges that enhance their learning and provide the Navy with innovative ideas for their design problems,” he said. “This partnership enhances both our missions and positions our students to be day-one ready graduates.”

Throughout the academic year, the students will follow the design process and engage with EXWC and stakeholders. The collaboration includes discussions on design reviews and monthly status meetings. The academic year will end with a Design Expo display and final report and prototype.

“This is a very exciting collaboration and we look forward to continuing the relationship with Cal Poly for many years to come,” Santa Cruz added. ◆



LEARN MORE

California Polytechnic State University website:

https://www.calpoly.edu/

Cal Poly College of Engineering (CENG):

https://www.calpoly.edu/college-of-engineering

WE *are Hiring!*

EXWC recruiting teams were busy in 2024, traveling throughout the country to find the best and the brightest to come aboard to support the mission of delivering to the warfighter.

WHAT WE'RE SEEKING

Headquartered at Naval Base Ventura County, California, EXWC is seeking talented engineers, scientists, logisticians and other professionals to provide technology and unique, agile solutions to the warfighter.

COMPETITIVE HIRING INCENTIVES

EXWC, as a DoD Science and Technology Reinvention Laboratory, is fortunate to have unique hiring authorities that allow the agency to directly hire civilians and offer competitive hiring incentives.

EFFICIENT HIRING AUTHORITIES

"This authority allows us to grow our team, more efficiently than in traditional federal hiring, and ensures EXWC remains at the forefront of the mission to deliver specialized facility and expeditionary solutions," EXWC Lead Human Resources Specialist Tracey Stills said.

CONTACT US

"Send us a message! We want to hear from you. If you're already an EXWC civilian employee, consider becoming a recruiter or employee ambassador as we build on exciting new opportunities in 2025," Stills continued. ◆

San Antonio, Texas

Boston, Massachusetts

Fort Worth, Texas

LEARN MORE

To learn about direct hiring opportunities, reach out to us at:

NAVFACEXWCHiring@us.navy.mil

Postings are listed at Federal job site:

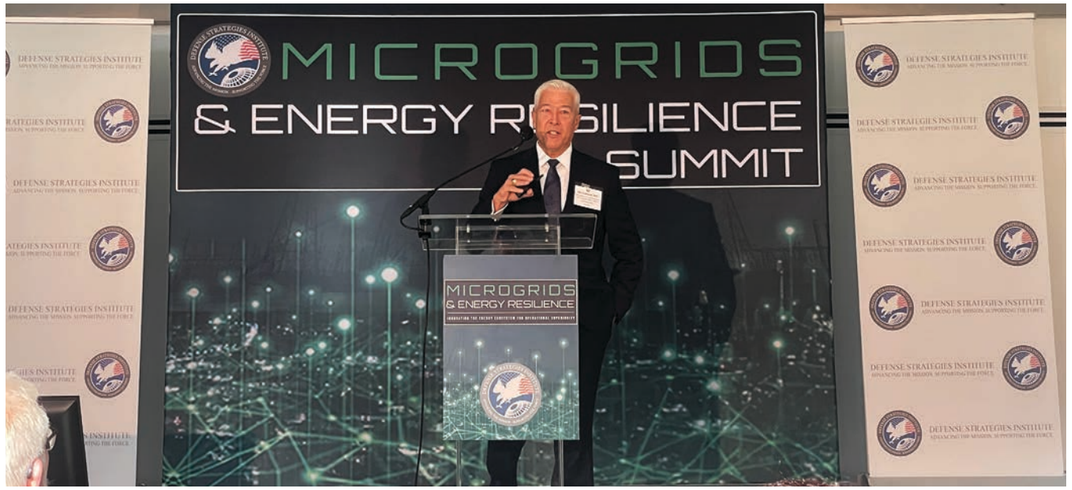
https://www.usajobs.gov/

NAVFAC EXWC on LinkedIn:

https://www.linkedin.com/showcase/exwc

EXWC Expert Highlights Benefits of Renewable Energy Microgrids for

ENERGY RESILIENCE



Bill Anderson, PhD, PE, EXWC Microgrid and Energy Resilience Senior Subject Matter Expert, speaks at the Defense Strategies Institute Microgrids and Energy Resilience Summit, National Harbor, Md., Oct. 31, 2024.

Renewable energy microgrids are an important component in the Department of the Navy's energy resilience plan and supporting mission readiness, Bill Anderson, PhD, PE, EXWC Microgrid and Energy Resilience Senior Subject Matter Expert, said.

Anderson spoke at the Defense Strategies Institute Microgrids and Energy Resilience Summit in National Harbor, Maryland, Oct. 31, sharing how microgrids can support mission assurance of defense critical infrastructure through building climate resilience and reducing climate risk.

The summit brought together experts from across the Department of Defense, industry, research labs and academia to discuss key initiatives to drive the integration and connectivity of microgrids and distributed energy resources into the defense ecosystem.

Speaking to an audience of more than 300, Anderson discussed advancing microgrid research and design to support naval operational resilience and modernization, and leveraging emerging technologies to develop smart grids and meet the energy demands of future Navy and distributed maritime operations.

In his presentation, Anderson reviewed case studies and addressed the Department of the Navy's energy security policy, resilience and cost assessment models, and methodology to create the resilience and cost tradespace.

The Navy's objective in deploying microgrids is to enable off-grid energy resilience for all defense critical infrastructure, supporting energy resilience initiatives to enable continuous delivery of energy despite any disruptions, he said.

"Energy resilience can be increased through redundancy and diversity of distributed energy resources, and excess power," Anderson said.

Further, he noted, aging energy infrastructure and electrical distribution on the grid should be improved to ensure the full benefits are gained from a microgrid, and onsite personnel should ensure they are properly trained in order to achieve maximum performance and efficiency of the microgrid.

> "Energy resilience can be increased through redundancy and diversity of distributed energy resources, and excess power,"
>
> - Bill Anderson, PhD, PE, EXWC Microgrid and Energy Resilience Senior Subject Matter Expert

As a leading authority on microgrids, EXWC has a pivotal role in supporting the Department of the Navy in that subject area for shore and operational energy projects.

EXWC, based at Naval Base Ventura County, California, hosts a Microgrid Academy to train defense personnel on microgrid technologies and operations, and operates a Microgrid Test Bed where government and industry partners can test and validate the performance of renewable, alternative energy and storage technologies in a laboratory environment. In addition, the Deputy Assistant Secretary of the Navy has directed EXWC's microgrid team to stand up a Department of Navy Microgrid Community of Practice in 2025, as well as represent the Navy on a future Office of Secretary of Defense Microgrid Community of Practice. ◆

Navy Living Marine Resources Program Co-Funds Groundbreaking Study to support

NAVY READINESS

The Living Marine Resources (LMR) program, sponsored by Chief of Naval Operations for Fleet Readiness and Logistics (N4) and managed out of EXWC, co-funded a groundbreaking study with other federal agencies on minke whale hearing to understand the potential effects of Navy sound sources used during training and testing activities.

Satellite tag on the dorsal fin of a minke whale. Photo credit: Rune Rolland, SOST Minke Hearing Project

This study is the first of its kind into the hearing sensitivity of minke whales, explained Mandy Shoemaker, the deputy program manager at LMR, saying this information will be used by the Navy to better understand the potential impacts to large whales from acoustic sound sources. Data such as this enables the Navy to obtain environmental compliance permits to conduct essential training and testing activities that support warfighting efforts, she said.

Shoemaker points out the effort is dual-purpose, as it supports the Navy and gives insight to regulators who make policy.

“We are proud to co-sponsor this important study, which advances our mission of providing the best available science to the Navy as it carries out its ability to train and test in the oceans while minimizing potential impacts to marine species,” she said.

The multi-year project (2019-2024) took place in northern Norway during the late spring and early summer. During that time, the smallest of the baleen whales, the minke whale (Balaenoptera acutorostrata), migrate northward to Arctic waters. The research team performed a catch-and-release study of adolescent minke whales, using auditory evoked potential (AEP) methods to measure their hearing. The AEP method monitors electrical signals produced by the brain when it hears a sound. These tests are regularly performed on newborn human babies.

Researchers completed their fourth and final field study in Norway in 2024, with data indicating minke whales have ultrasonic hearing.

"This project is an example of how the LMR program directly supports Navy warfighters by reducing risk and enabling military readiness,” according to LMR resource sponsor representative Benjamin Colbert, Deputy Chief of Naval Operations, Installations Division (OPNAV N4I).

“The Navy is required to assess the impacts of military readiness activities on protected marine species," Colbert explained. "A lack of data results in increased risk to the Navy and requires regulators to take a precautionary approach in dictating mitigation or other permit conditions which can reduce the realism and effectiveness of training and testing."

Experts from the California-based National Marine Mammal Foundation (NMMF), and two Norweigen-based organizations – the Norwegian Defence Research Establishment (FFI), and LKARTS-Norway – led the team of researchers.

“Until now, no direct measures of baleen whales’ hearing had ever been conducted,” Dorian Houser, NMMF’s director of conservation biology and one of the project’s lead researchers, said. “This vital information will help establish scientifically based regulatory guidelines to protect all baleen whales, which is our research’s most important accomplishment.”

Baleen whales, including minke whales, rely on sound to communicate, forage, and navigate.

“Man-made sound can potentially affect a whale’s hearing, change its behavior, and interfere with its ability to communicate, look for food, and navigate. It can potentially hinder a baleen whale’s ability to hear and avoid ships, and we believe chronically high levels of sound might elevate levels of stress hormones that affect a whale’s health and ability to reproduce,” according to Norway’s lead researcher on the project, Petter-Helgevold Kvadsheim, PhD.

The scientific team discovered minke whales can hear frequencies possibly as high as 45-90 kHz. This is higher than previously believed based upon their ear anatomy and the frequencies at which they vocalize. The study also found the frequency range that minke whales hear best is around 32 kHz.

“This overlaps with the same frequencies that killer whales use when hunting with echolocation.

Researchers perform a hearing test on a minke whale. Photo credit: Eric Franks, National Marine Mammal Foundation

Minke whales can be prey for killer whales, so it makes sense that individuals who hear killer whale echolocation frequencies are more likely to survive and pass on their genes,” Kvadsheim said.

Knowing the frequencies of sound that minke whales can hear, and which frequencies they are most sensitive to, allows the Navy to better determine which Navy sound sources need to be analyzed. This improves the Navy’s modeling analysis that estimates how many animals may be impacted, which streamlines the environmental compliance process.

The research is funded by the U.S. Navy’s Office of Naval Research (ONR) and Living Marine Resources (LMR) programs, Bureau of Ocean Energy Management, National Oceanic and Atmospheric Administration’s National Marine Fisheries Service, and the Marine Mammal Commission, through the U.S. congressional Subcommittee on Ocean Science and Technology Interagency Working Group on Ocean Sound and Marine Life. ◆

FOR MORE INFORMATION

The findings have been published in a leading scientific journal, *Science*, at:

https://www.science.org/doi/10.1126/science.ado7580

Information can also be found here:

https://www.ffi.no/en/research/the-minke-whale-hearing-project

Acknowledgement

Thanks to the Norwegian Defense Research Establishment and National Marine Mammal Foundation for their contributions to this article.

EXWC

CIVILIAN *Recognitions*

Palmer Anderson, 40 years of government service!

“Currently, I am a contracting officer’s representative (COR) in the Shore Department for two major contracts – the Environmental Security and Engineering Contract (ESEC) and the 8(a) Environmental Sciences Contract. I have been employed at NFESC/EXWC since October 1997, and I’ve working exclusively with Navy environmental contracts since January 1999. Previously, I was a U.S. Marine from August 1984 through August 1997, with my last duty station located at Marine Corps Base Camp Pendleton, California.”

- Palmer Anderson

Barbara Sugiyama, 35 years of federal service!

“Working for NAVFAC for over 35 years has been extremely rewarding. I started out as a research engineer in the Planning Design and Construction program, which allowed me to explore a variety of environmental technologies and create lifelong relationships. As my career advanced, I was able to lead a variety of research projects looking at remediating small arms range soils, documenting the environmental effect of underwater ordnance, and investigating other remediation technologies. At a point in my life when traveling became a burden, NAVFAC afforded me the opportunity to pivot from technical work to a management role where I managed resources and helped other engineers with research proposals. Currently, I serve as the Environmental Resources and Assessment Division Head, SH33. Every day I am proud to be a member of the Navy community.”

- Barbara Sugiyama

Willie Harvey, 35 years of federal service!

“I absolutely love my job and the entire team at EXWC. Sure, there are challenges just like everything else, but we have to endure and overcome those challenges head on. Nothing is impossible with a little resilience and drive to achieve the desired results you want. What I love the most is giving back to the Sailors and the fleet. Since I was once on the uniform side of the house, I fully understand all the ups and downs.

I did 26 years in the Navy as a Logistics Specialist (LS) covering a host of tours ashore and out at sea. Upon retiring, I worked as a Contracting Officer Representative (COR) at NAVCENT in Bahrain (4 years- 2015-2019), from there I moved to PEO-Stir with the Army in Orlando, Florida, as a Logistics Management Specialist (2 year- 2019-2021).

Currently, I am a Configuration Data Manager for EXWC EX42 logistics department. My job is to serve as a Configuration Data Manager (CDM) responsible for effectively managing system and equipment configuration and logistics support information for the Naval Expeditionary Warfare units.”

- Willie Harvey

EXWC

DIVE LOCKER

Trains for Emergency Scenarios, Strengthens Mission Readiness

NAVFAC EXWC Dive Locker personnel conducted emergency procedures training for SCUBA operations.

The drills at Port Hueneme encompassed a range of scenarios to include unconscious, trapped and lost divers, and a variety of dive-related illnesses.

The dive team, under the guidance of Diving Supervisor BU1 Zavier Favila, who was also being assessed, had to quickly identify the issues and demonstrate an appropriate response.

This training is crucial to the unit's ability to respond to emergency scenarios they could encounter in missions around the globe. The EXWC Dive Locker supports the Command and the Navy with research, development, testing and evaluation of state-of-the-art underwater technology for worldwide application. ◆

PARTING *Shots*

Fair Winds and Following Seas to Dan Magro, who retired after 40 years of dedicated service.

As the Energy Savings Performance Contracts Program Manager in the Shore Department, Dan demonstrated exceptional leadership and mastery of business and financial acumen.

We honor your extraordinary contributions, initiative and loyal dedication at EXWC. We will miss you and wish you the very best!

Happy Retirement, Dan Magro!

Inspection of an autonomous lawn mower.

EXWC Environmental Engineer David Cook inspects an autonomous lawn mower at Fort Stewart, Georgia. The photo was taken during an information-gathering meeting with base staff, and researchers from EXWC and the U.S. Army's Corps of Engineers Construction Engineering Research Laboratory. The robot is used to maintain the primary parade area on the base that is used for various ceremonies.

The effort is part of an Environmental Security Technology Certification Program study working on developing viable strategies for electrification of landscaping equipment. This effort is to takes advantage emerging opportunities offered by electric landscaping equipment. Advantages include lower maintenance costs, less noise, improved safety, lower fuel costs and reduction of air emissions including criteria pollutants and greenhouse gas emissions. Additionally, robotic equipment also greatly reduces labor costs.

Established in 2012, the Naval Facilities Engineering and Expeditionary Warfare Center (NAVFAC EXWC), headquartered at Naval Base Ventura County, California, is a command of approximately 1,300 dedicated federal civilian employees, contractors, and military personnel providing research, development, test, and evaluation, and in-service engineering to deliver specialized facility and expeditionary solutions to the warfighter. As NAVFAC's only warfare center, our engineers, scientists, analysts, logisticians, contract specialists, and other professional personnel provide technology and unique, agile solutions for the warfighter that specifically focus on expeditionary, oceans, and shore needs from enduring bases to forward deployed expeditionary locations. In 2017, NAVFAC EXWC became a Defense Department Science and Technology Reinvention Laboratory.

MISSION

Provide research, development, testing and evaluation, in-service engineering, and life-cycle management for shore, oceans, and expeditionary domains.

VISION

Accelerate innovation to enable fleet lethality at sea and ashore.

MOTTO

ANTICIPATE • INNOVATE • ACCELERATE

View past EXWC Edge issues on the Defense Visual Information Distribution Service website
https://www.dvidshub.net/unit/NFEEWC