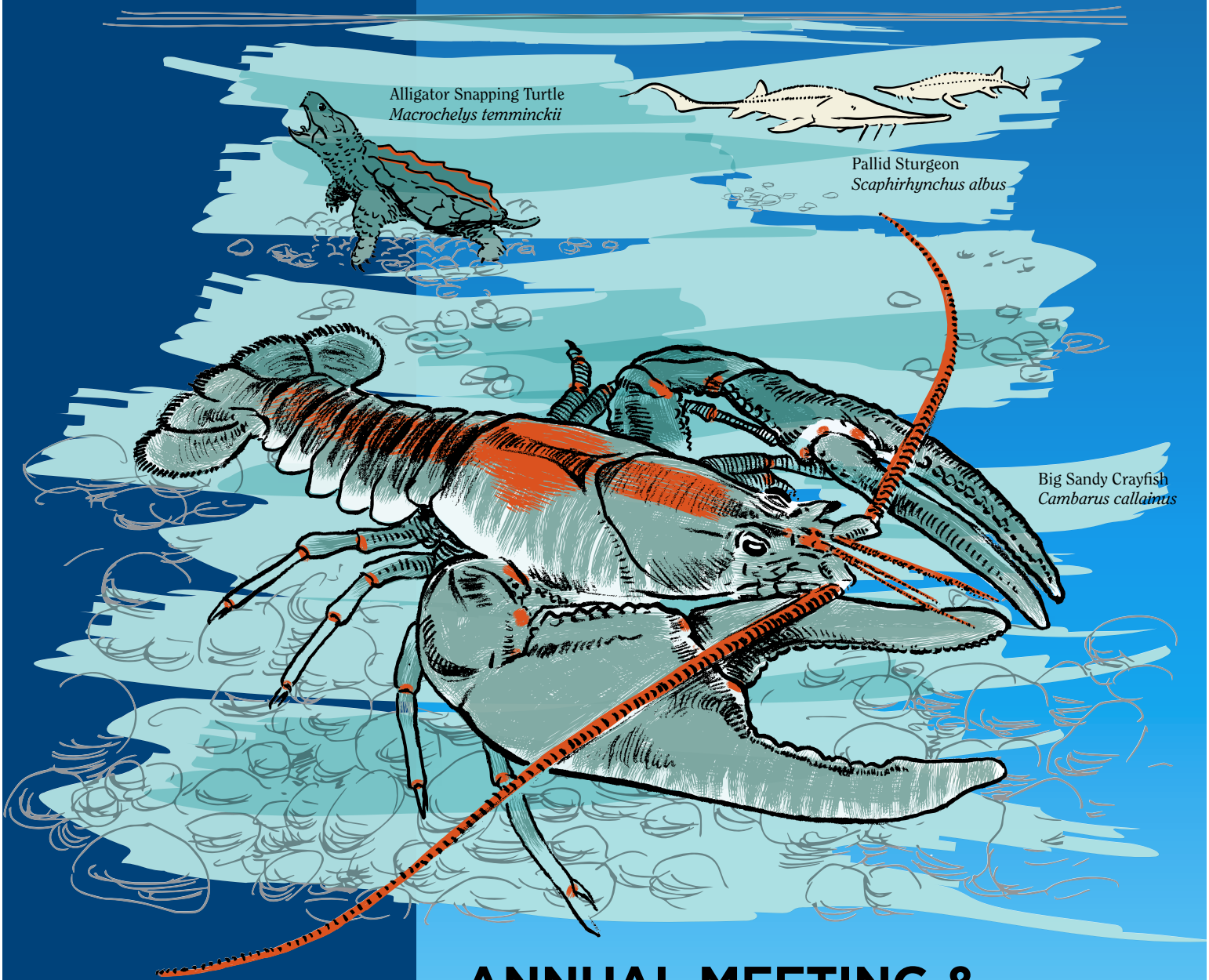
National Military Fish & Wildlife Association



ANNUAL MEETING & TRAINING WORKSHOP

MARCH 10 – 14, 2025
LOUISVILLE, KENTUCKY

NMFWA would like to extend our gratitude to our sponsors

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The **National Military Fish and Wildlife Association** (NMFWA) can trace its roots back to 1977, though it was officially chartered in 1983. We are a non-profit organization consisting of professional resource managers working to protect and manage wildlife and other natural resources on DoD lands. Through the publication of a quarterly Newsletter (Fish and Wildlife News [FAWN]), and the successful creation of an Annual Meeting and Training Workshop, members and supporters remain actively involved and engaged in issues of national and local importance.

Through the hard work and dedication of our membership, we have become a leader in the conservation community. Our members have been involved in initiatives ranging from research on White-Nose Syndrome to the reauthorization of the Sikes Act. The work we do today is more relevant than ever before, as we are faced with significant challenges in policy, stewardship, and research; NMFWA is prepared to meet those challenges. We are able to leverage the combined expertise of our membership though our Working Group System, and continue to strive to do whatever we can to protect and conserve DoD lands.

Visit **www.nmfwa.org** learn more about our organization.

Download the Conference App!

The conference schedule and final program content are available in mobile format through the free **Whova** — Event & Conference App.

- Download "Whova" from the iOS App Store or Google Play Store
- Search within the app for "90th North American Wildlife and Natural Resources Conference"
- Click on "90th North American Wildlife and Natural Resources Conference"
- Click "Join"

Highlights of the app include the ability to build your personal agenda, view the partner/exhibitor directory, interactive floor plans, opportunities to interact with fellow app users attending the Workshop and more!

The Workshop is a complicated event! Please refer to the app for the most to-date schedule and room assignments.

Table of Contents

General Event Information

Location

The workshop sessions, meetings, training courses, and Show & Tell event are being held at the **Galt House**.

All meetings will take place in the **East Tower** of the Galt House unless otherwise indicated.

The NMFWA field trip will be held at **Fort Knox** on Friday. Transportation from the Galt House will be provided.

The Newcomers and Welcome Mixer events are being held offsite at the **Bluegrass Brewing Company**, Bourbon Barrel Loft, within easy walking distance from the Galt House Hotel.

The Awards Banquet is being held offsite at **Churchill Downs**. Transportation from the Galt House Hotel is provided.

NMFWA Registration Hours (Eastern Standard Time)

The NMFWA registration desk is separate from the North American Conference registration desk. Both registration desks are located in close proximity to one another in the registration counter windows. NMFWA will be located on the 2nd Floor Registration Desk.

- Sunday, March 9: 1500–1800hrs (3pm–6pm)
- Monday, March 10: 0700–1700 (7am–5pm)
- Tuesday, March 11: 0700–0800 (7am–8am); 1200–1700 (12pm–5pm)
- Wednesday, March 12: 0700–1700 (7am–5pm)
- Thursday, March 13: 0700–1700 (7am–5pm)
- Friday, March 14: 0700–1000 (7am–10am)

Registration Required

All conference attendees, including those attending or speaking at workshops, Special Sessions or related meetings must be registered. Anyone not wearing an appropriate conference name badge will not be admitted.

Beverage Stations/Breaks (a.k.a. Coffee Breaks)

Limited beverages will be provided:

- Monday – Thursday from 0700–0800hrs (7–8am), 0930–1030hrs (9:30–10:30am), and 1430–1530hrs (2:30–3:30pm)
- Friday from 0700–0800hrs (7–8am), and 0930–1030hrs (9:30–10:30am)

Business Center

The **UPS Store** is conveniently located on the 2nd floor of the East Tower.

The UPS Store offers printing, shipping, packaging, package management, freight services, shredding, notary services, office supplies, mailbox services, and more.

325 W. Main St. Waterfront Plaza
Ste. 150
Louisville, KY 40202
Phone: 502-583-3784
Email: Store6123@theupsstore.com

Hours of Operation
Sunday: Closed
Monday – Friday: 7:30am–6:30pm
Saturday: 10am–2pm

Internet Service

Wi-Fi high-speed internet access is available in the hotel guest rooms, lobby, and throughout the Workshop meeting spaces.

Food Amenities

There are several restaurants, shops, and a Coffee Shop available at the Galt House and in walking distance around the hotel.

In the fifth year of NMFWA's art contest, this year's **program cover Illustration** and **T-Shirt art** was created by Donna Lahr, and represents three species from Kentucky: the Big Sandy Crayfish (*Cambarus allainus*), the Alligator Snapping Turtle (*Macrochelys temminckii*), and the Pallid Sturgeon (*Scaphirhynchus albus*). Congratulations Donna!

Welcome! FROM THE NMFWA PRESIDENT

On behalf of the National Military Fish and Wildlife Association (NMFWA) Board of Directors, I am honored to welcome you to the 42nd Annual Meeting and Training Workshop in Louisville, Kentucky. We are excited to gather once again, and we appreciate your commitment to joining us.

In these times of uncertainty, your work as natural resource professionals on military lands is more critical than ever. NMFWA remains dedicated to supporting you as you navigate the challenges of balancing mission readiness with environmental stewardship. This workshop provides an invaluable opportunity to network, collaborate, and share knowledge that strengthens our collective efforts.

As always, your registration grants access not only to NMFWA's technical sessions, meetings, and events but also to open sessions at the North American Wildlife and Natural Resources Conference. This shared venue fosters connections with federal, state, and non-governmental partners — relationships that often lead to meaningful and lasting collaborations.

Be sure to review the program and plan your schedule for the week. Key events include the DoD Policy Updates session, the NMFWA Annual Members Meeting, and the DoD Branch Breakout sessions. The Members Meeting is your chance to voice concerns, share ideas, and help shape the future of our organization. And if you weren't able to register for a Monday or Friday training workshop, don't worry — there are plenty of technical sessions available to keep you engaged.

We've worked hard to provide a valuable, diverse learning experience with ample opportunities to connect with your peers. Thank you for being here, and we hope you have a great week!

Zoe Duran
President, National Military Fish and Wildlife Association

Monday, March 10

Please don't forget to silence your cellphone and try to enter and leave rooms between speakers.

AT-A-GLANCE		
0700-1700	NMFWA Registration Desk Open (2nd Floor Registration Desk)	
0700-0800	LIMITED BEVERAGE SERVICE *(Check Whova)*	
0800-1700	**Training Courses, Pre-registration Required**	
	0800-1700	Introduction to Manual Bat Acoustic Identification (Jones, 3rd Floor)
	0800-1700	Department of Defense Participation in the Avian Knowledge Network: The Who, What, Where, When, Why, and How (Beckham, 3rd Floor)
	0800-1200	HPA Section 106 Training Session for Natural Resources Managers (French, 3rd Floor)
	0800-1200	Living Shoreline & Coastal Resiliency Training (Segell, 3rd Floor)
	0800-1200	Point of Use eDNA Methods for Biosecurity and Biosurveillance (Stopher, 3rd Floor)
0930-1030	LIMITED BEVERAGE SERVICE *(Check Whova)*	
1200-1300	LUNCH	
1300-1700	**Training Courses, Pre-registration Required**	
	1300-1700	NHPA Section 106 Training Session for Natural Resources Managers (French, 3rd Floor)
	1300-1700	Bumble Bee Atlas Training (Segell, 3rd Floor)
	1300-1700	Navy GRX Training (Stopher, 3rd Floor)
1430-1530	LIMITED BEVERAGE SERVICE *(Check Whova)*	
1730-1900	**2024-2025 NMFWA Board of Directors Meeting** (Clements, 2nd Floor)	

0700-1700 NMFWA Registration Desk Open
(2nd Floor Registration Desk)

0700-0800 Limited Beverage Service *(Check Whova)*

NMFWA TRAINING COURSES/WORKSHOPS

All Courses Require Pre-Registration. Check registration desk for availability.

0800-1700 Introduction to Manual Bat Acoustic Identification (Jones, 3rd Floor)

Moderators & Instructors: Jillian Josimovich*, USFWS;* Donal Solick, Nick Solick, Rada Petric

Training Summary: The initiation and continued monitoring of bat populations across DoD installations is growing in importance as more bat species become federally listed. Acoustic monitoring is a tool for inventorying and monitoring bat species at DoD installations to support INRMP goals, complete required USFWS presence/absence surveys for projects, and assist larger efforts to assess bat species population statuses and trends, such as the North American Bat Monitoring Program (NABat). An online survey/poll was offered during the 2024 NMFWA Bat Working Group (BWG) trainings, technical session, and business meeting to gauge the interests and needs of the BWG members. More than half of the respondents indicated interest in and need for a training session about manual vetting of bat acoustic data. We have found a company of bat acoustic experts, Vesper Bat Echolocation Specialists (Vesper), that is willing to offer a full day (8-hour) training session at NMFWA 2025 to provide attendees the opportunity to learn about the basics of bat acoustic identification and how bat calls can be manually vetted for some common, at-risk, and federally listed species (e.g., Indiana bat, Northern long-eared bat, gray bat,

Monday, March 10 *(continued)*

tricolored bat, little brown bat). This training is equivalent to the Echolocation 101/Best Practices, Acoustic ID of Common and Endangered High-frequency Bats, and SonoBat Data Processing for NABat courses offered by Vesper. The training will include an overview of how to deploy detectors, how to choose which calls to identify, the basics of SonoBat (a popular bat acoustic software program), the basics of AnalookW (another program useful for identifying endangered Indiana bats), and manual vetting for high-frequency bat species in SonoBat. All skill levels are welcome to this training, including wildlife professionals and students. This training would be conducted onsite within the training classroom and provide presentations, handouts, and opportunities for Q/A. All course materials and recordings from the training would be provided for free to course participants. Students would be asked to bring a laptop computer and download some materials beforehand. Vesper also offers affordable online trainings that students could pursue independently after the meeting according to their skill levels and regional species needs.

0800-1700 Department of Defense Participation in the Avian Knowledge Network: The Who, What, Where, When, Why, and How (Beckham, 3rd Floor)

Moderators & Instructors: *Instructors include engineers and biologists from Point Blue Conservation Science, Klamath Bird Observatory, and U.S. Army Engineer Research and Development Center – Environmental Laboratory:* Caitlyn Gillespie, Dianne Miller, Sam Veloz, Elizabeth Neipert, Zoe Duran, John Alexander

Training Summary: Department of Defense (DoD), through the Legacy Program, funds participation in the Avian Knowledge Network (AKN) along with other federal partners. On 24 June 2022, the Office of the Secretary of Defense (OSD) issued a memo that endorses and requires the use of AKN by the DoD Components. AKN integrates avian monitoring data from similar standardized protocols and data structures for use in analysis, summarization, and visualization. Users have access to sharing roles that include data entry, data management, and data analysis, providing the only national enterprise system of its type for scientific observation protocols, analyzable results, long-term storage, and widespread input. Attendees will learn about how the system is organized, how to create project metadata and input data, how data sharing levels work, and how to visualize, analyze, and aggregate data for conservation purposes. They will also learn about the capabilities of pooling Military Service-specific data, regional data, and habitat-specific data including data from our federal partners. Participants will learn the who, what, where, when, why, and how of the AKN and DoD's commitment to the use of the AKN. They will leave with the capability to upload, archive, access, and use extensive avian data tools to assist in NEPA analysis and assessing impacts of readiness and non-readiness activities.

NOTE: Pre-work is required to participate in this course. Any interested participants need to commit to completing the pre-work prior to the in-person training in Louisville, KY. Participants must participate in a pre-course webinar to confirm ready datasets and gain access to AKN. All participants will need to bring laptops that can access the internet to the training. It is encouraged for participants to bring an appropriate and ready avian dataset. Registrants will be contacted by course instructors via email with more information closer to the Workshop.

0800-1200 HPA Section 106 Training Session for Natural Resources Managers (French, 3rd Floor)

Instructors: Michelle Volkema*, Deputy Federal Preservation Officer, U.S. Department of Defense;* Ronald Lamb

Training Summary: Instructors will tailor a standard introduction to National Historic Preservation Act (NHPA) Section 106 compliance training course to meet the needs of Natural Resources Managers (NRMs). The course will walk participants through the four step Section 106 process, providing opportunities for applying knowledge and asking questions after each step. The instructor will

also provide additional tools to navigate unanticipated cultural resources challenges. Participants who would best benefit from this course are NRMs who have cultural resources as other duties as assigned or NRMs who might encounter Section 106 questions during a workday.

0800-1200 Living Shoreline & Coastal Resiliency Training (Segell, 3rd Floor)

Instructors: Tom Olexa*, Natural Resources Manager, Naval Weapons Station Yorktown;* C. Scott Hardaway, Jr.*, Senior Research Scientist, Shoreline Studies Program, Virginia Institute of Marine Science, William & Mary;* Donna Milligan*, Associate Research Scientist, Shoreline Studies Program, Virginia Institute of Marine Science, William & Mary*

Training Summary: Introductory training for marine and natural resources professionals interested in beginning to understand the process and components of shoreline management focusing on living shoreline strategies. Topics will include, but not be limited to, an overview of shoreline management planning and methods; research on performance and resiliency; concept to construction project design for hybrid living shorelines with engineered structures; and site-specific design case studies. The training will allow resource managers to assess nature-based project designs for successful shore protection, ecosystem restoration, and long-term coastal resiliency. The course program will feature shoreline management and living shoreline resiliency projects implemented within the Chesapeake Bay watershed that would also be applicable to other microtidal (less than 2 m; 6 ft) coastal estuarine areas particularly along the Eastern and Southern Coasts of the US. The presenters have extensive experience in research-based analyses of estuarine coastal geomorphology and physical forces for shoreline management as well as living shoreline research, design, and performance monitoring. www.vims.edu/research/units/programs/ssp/

0800-1200 Point of Use eDNA Methods for Biosecurity and Biosurveillance (Stopher, 3rd Floor)

Instructors: Stephen Spear*, Research Biologist, USGS Upper Midwest Environmental Sciences Center;* Tyler Untiedt*, Biologist (Contractor), USGS Upper Midwest Environmental Science Center;* Hayley DeHart*, Research Scientist, Johns Hopkins Applied Physics Laboratory;* Mark Johnson*, Research Biologist, USACE Engineering Research and Development Center (ERDC-CERL)*

Training Summary: Point of use DNA protocols that can be fully implemented in the field have the potential to facilitate more effective biosecurity and early detection of high priority species, such as invasives or threatened species. Depending on exact approach, these workflows can be completed in as fast as a half hour for single species or a few hours for multiple species. In this session, we propose to provide hands-on training and explanation of eDNA workflows for multiple sample types (aquatic, airborne, and surface/sediment) that can be fully implemented and completed on site. Participants will be introduced to and learn 1) the variety of methods used to collect and isolate aquatic and terrestrial eDNA; 2) rapid methods for DNA and RNA extraction; and 3) running species-specific genetic tests using field-stable reagents. We will also demonstrate the state of the art in field-based multispecies DNA sequencing that is currently being optimized for fully autonomous sampling. We will also provide an overview of important considerations for eDNA sampling design for biosurveillance and present advantages and disadvantages of fully portable eDNA workflows. Hands-on component will consist of rotations for each of the specific methods. This course is especially relevant to personnel responsible for biosecurity and biosurveillance at ports or other locations where rapid assessment or inspection can prevent spread of invasive species or other harmful organisms. However, anyone with an interest in environmental DNA and detection of secretive or rare species in the field would benefit as the methods can be applied to species detection in general.

Monday, March 10 *(continued)*

NMFWA TRAINING COURSES

1300-1700 NHPA Section 106 Training Session for Natural Resources Managers
(French, 3rd Floor)

Instructors: Michelle Volkema*, Deputy Federal Preservation Officer, U.S. Department of Defense;* Ronald Lamb

Training Summary: Instructors will tailor a standard introduction to National Historic Preservation Act (NHPA) Section 106 compliance training course to meet the needs of Natural Resources Managers (NRMs). The course will walk participants through the four step Section 106 process, providing opportunities for applying knowledge and asking questions after each step. The instructor will also provide additional tools to navigate unanticipated cultural resources challenges. Participants who would best benefit from this course are NRMs who have cultural resources as other duties as assigned or NRMs who might encounter Section 106 questions during a workday.

1300-1700 Bumble Bee Atlas Training (Segell, 3rd Floor)

Instructors: *Hosted by the NMFWA Pollinator Working Group;* Rich Hatfield*,* Robert Delph

Training Summary: North America is home to around 50 different bumble bee species. However, many of our bumble bees are in trouble and face an uncertain future. Several species have been petitioned for protection under the Endangered Species Act, and many more are recognized in State Wildlife Action Plans as Species of Greatest Conservation Need. The potential listing of these species have the potential to impact military training missions. Understanding what habitats are most important, where to protect them, and where to restore them, are where our Atlas projects will provide essential information.

1300-1700 Navy GRX Training (Stopher, 3rd Floor)

Instructor: Caitlan Dowling*, NAVFAC SW GIS Analyst, Environmental*

Training Summary: Representatives from the Environmental GIS Community will present a half day Monday training to Navy personnel on the Georeadiness Explorer and larger ESRI Portal Enterprise environment. Topics include viewing deliverables, simple map making, and reviewing BASH GIS data currently available in the GRX System. This is open to US Navy employees and approved Navy contractors only. Participants must bring a CAC enabled laptop as this is a hands-on training and expected to log into the ESRI Portal to establish an account prior to the class.

1730-1900 2024-2025 NMFWA Board of Directors Meeting — All Members Welcome
(Clements, 2nd Floor)

Moderator: Zoe Duran*, NMFWA Vice President, Owner and Lead Biologist, Duran Environmental Consulting, LLC, nmfwaworkshop@gmail.com, zoeduran.dec@gmail.com*

Session Summary: This is the closeout meeting of your outgoing 2024/2025 NMFWA Board of Directors (BoD). Please feel free to join us and see the NMFWA organization in action. The 2024/2025 BoD is required to attend and all NMFWA members, especially the 2025/2026 BoD nominees, are welcome and encouraged to attend.

Tuesday, March 11

Please don't forget to silence your cellphone and try to enter and leave rooms between speakers.

AT-A-GLANCE		
0700-0800	NMFWA Registration Desk Open (2nd Floor Registration Desk) *(Desk is closed from 0800-1200hrs so all NMFWA members can attend the NMFWA Welcome and DoD Policy Updates and the NMFWA Annual Members Meeting)*	
0700-0800	LIMITED BEVERAGE SERVICE *(Check Whova)*	
0800-1000	**NMFWA Welcome and DoD Policy Session** (Grand Ballroom B, 2nd Floor)	
	0800-0815	NMFWA Welcome
	0815-0845	DoD Policy Session
0930-1030	LIMITED BEVERAGE SERVICE *(Check Whova)*	
1000-1015	BREAK	
1015-1200	**NMFWA Annual Members Meeting** (Grand Ballroom B, 2nd Floor)	
1200-1700	NMFWA Registration Desk Open (2nd Floor Registration Desk)	
1200-1300	LUNCH	
1300-1700	**DoD Service Breakout Sessions**	
	1300-1700	Joint Air Force & Space Force Breakout Session (Jones, 3rd Floor)
	1300-1400	Joint Army & National Guard Breakout Session (Segell, 3rd Floor)
	1300-1700	Navy Breakout Session (French, 3rd Floor)
	1400-1700	Department of Army Breakout Session (Segell, 3rd Floor)
	1400-1700	Army National Guard Breakout Session (Taylor, 3rd Floor)
	1500-1700	Marine Corps Breakout Session (Stanley, 3rd Floor)
1430-1530	LIMITED BEVERAGE SERVICE *(Check Whova)*	
1700-1730	BREAK	
1730-1830	**NMFWA New Members Meet and Greet** (Off-site: The Bluegrass Brewing Company)	
1830-2100	**NMFWA Welcome Mixer** (Off-site: The Bluegrass Brewing Company)	

0700-0800 NMFWA Registration Desk Open
(2nd Floor Registration Desk)

0700-0800 Limited Beverage Service *(Check Whova)*

0800-1000 NMFWA Welcome & DoD Policy Session (Grand Ballroom B, 2nd Floor)

NMFWA Welcome

Moderator/Presenter: Zoe Duran*, NMFWA President: nmfwapresident@gmail.com*

DoD Policy Session

Moderator/Presenter: Megan Scanlin*, DoD Natural Resources Contractor, Office of the Deputy Assistant Secretary Defense (Environmental Management and Restoration)*

Session Description: The Department of Defense (DoD) Natural Resources (NR) Program policy presentation will provide an overview of the DoD NR Program's DoD Instruction 4715.03.

Tuesday, March 11 *(continued)*

0930-1030 Limited Beverage Service (Check Whova)

1000-1015 BREAK

1015-1200 NMFWA Annual Members Meeting
(Grand Ballroom B, 2nd Floor)

Moderators/Presenters: Zoe Duran*, NMFWA Vice President, Owner and Lead Biologist, Duran Environmental Consulting, LLC, nmfwaworkshop@gmail.com, zoeduran.dec@gmail.com;* Russ Lawrence*, NMFWA Vice President, Natural Resources Project Leader, Hill AFB and the Utah Test and Training Range, nmfwaworkshop@gmail.com;* NMFWA Board of Directors, NMFWA Officers

Session Summary: This year's Members Meeting will bring members together to review accomplishments over the past year and lay a path forward for continued success. Highlights will include an introduction of the current and future Board of Directors and Past Presidents in attendance, a review of the current budget and Board activities, the announcements of our 2024/2025 NMFWA Award recipients, and discussions of motions put forth to alter the constitution and bylaws of the organization. Members will be asked to provide their input on the direction that NMFWA is taking and also to identify issues that they feel should be addressed. This is your Association, so come and tell us what you think.

1200-1300 LUNCH

1200-1700 NMFWA Registration Desk Open
(2nd Floor Registration Desk)

1300-1700 DoD Service Breakout Sessions

Session Summary: The DoD Breakout Sessions are your chance to hear from and speak to your Service Headquarters representatives, meet and greet your sibling installations, and get information on the upcoming fiscal years from the Washington perspective. We are pleased to have six Service Breakout Sessions this year. Note, some sessions may be joined fully or part-time with other sessions.

1300-1700 Joint Air Force & Space Force Breakout Session (Jones, 3rd Floor)

Moderators/Presenters: Karla Meyer*, Natural Resources Subject Matter Specialist, US Air Force Civil Engineer Center (USAF AFMC AFCEC/CZTQ): karla.meyer.1@us.af.mil;* Paul Jurena*, Natural Resources Specialist, US Air Force Civil Engineer Center (USAF AFMC AFCEC/CZTQ): paul.jurena.1@us.af.mil*

Session Summary: The Department of Air Force (DAF) break-out session will spotlight natural resources management on Air Force and Space Force installations. The Natural Resources Subject Matter Expert will provide opening remarks and an overview of the DAF natural resources program. Additional presenters will highlight significant accomplishments within the last year and current natural resources issues on DAF installations. All NMFWA members are welcome to attend.

1300-1400 Joint Department of Army and Army National Guard Breakout Session (Segell, 3rd Floor)

Session Summary: For the first 1 hour of the DoD Breakout Sessions, the Army and Army National Guard will meet jointly to discuss parallel topics. The remaining 3 hours they will meet separately (see below).

1400-1700 Department of Army Breakout Session
(Segell, 3rd Floor)

Moderators/Presenters: Taura Huxley*, Conservation Branch (AMIM-AEC-EC), US Army Environmental Command, taura.a.huxley.civ@army.mil;* April Andujar*, Natural Resource Program Manager, NR, TES, REPI, and CRFCP, HQ IMCOM G-4 Env Tech Branch (AMIM-PWE)*

Session Summary: Come hear the latest news about the Army Conservation Program, featuring updates from HQDA and conservation success stories from your colleagues. This breakout session will cover Army's challenges and success of REPI, growing partnerships, and more. Supplemental time will be provided for open discussion.

1400-1700 Army National Guard Breakout Session
(Taylor, 3rd Floor)

Moderator/Presenter: **Mr. Shannon Bowling**, *Natural Resources/ Sikes Act Program Manager, ARNG-G9, IEE-N, Arlington, VA*

Session Summary: The Army National Guard (ARNG) breakout session will include a mixture of program updates, presentations, and open discussion. Topics will include ARNG Integrated Natural Resources Management Plan (INRMP) template layout and organization, processes for INRMP updates and reviews and operational INRMPs, current status of resiliency initiatives, a refresher on Conservation Reimbursable and Fee Collection program requirements, a Wildland Fire program update, highlights from the ARNG Status Tool for the Environmental Program (STEP) training, and a Pest Management program Q&A.

1300-1700 Department of the Navy, U.S. Navy
(French, 3rd Floor)

Moderator/Presenter: **Tammy Conkle**, *Director of Environmental Planning and Conservation (EV2), Naval Facilities Engineering Systems Command (NAVFAC) HQ, tamara.s.conkle2.civ@us.navy.mil*

Session Summary: The U.S. Navy Breakout Session will focus on policy and program updates from the Office of the Chief of Naval Operations Installations (N4I), Commander Navy Installations Command (CNIC), Naval Facilities Engineering Systems Command (NAVFAC) as well as supported commands. NAVFAC Echelon III and IV commands as well as specific Navy Regions will address program updates, initiatives, successes, challenges, lessons learned and acquisition strategies.

1500-1700 U.S. Marine Corps Breakout Session
(Stanley, 3rd Floor)

Moderator/Presenter: **Jacqueline Rice**, *Natural Resources Program Lead, Headquarters, US Marine Corps, Jacqueline.rice@usmc.mil*

Session Summary: The U.S. Marine Corps Breakout Session will focus on Headquarters updates on policy, programs, initiatives, strategic communications, Natural Resources Program Guide and EMR and Region/ Installation updates on program status, initiatives and challenges.

1430-1530 Limited Beverage Service *(Check Whova)*

1700-1730 BREAK

1730-1830 NMFWA New Members Meet & Greet

Location: (Off-site) The Bluegrass Brewing Company
300 West Main Street
Louisville, KY 40202

Summary: **Calling All NMFWA Newbies!** If you are new to NMFWA, we invite you to join us at the Newcomers Meet & Greet event. All 1st and 2nd-time attendees will have the opportunity to chat with Board members, meet other newcomers, and learn about all the ways you can get involved.

Registration Required — be sure to bring your ticket! If you do not have your ticket and you are a 1st or 2nd-time NMFWA attendee, check in with the NMFWA registration desk.

Calling All NMFWA Newbies!

NMFWA Newcomers Meet & Greet • Tuesday, March 11 • 1730–1830

If you are new to NMFWA, we invite you to join us!
All 1st and 2nd-time attendees will have the opportunity to chat with Board members, meet other newcomers, and learn about all the ways you can get involved.

Registration required — be sure to bring your ticket!
If you do not have your ticket and you are a 1st or 2nd-time NMFWA attendee check in with the NMFWA registration desk.

BBC
BLUEGRASS BREWING CO.

A 7-minute walk from the hotel:

The Bluegrass Brewing Company
300 West Main Street
Louisville, KY 40202

DAILY SCHEDULE

Tuesday, March 11 *(continued)*

1830-2100 NMFWA Welcome Mixer

Location: (Off-site) The Bluegrass Brewing Company
300 West Main Street
Louisville, KY 40202

Note: Due to the prior event, doors will not open for this event until 6:30pm

Summary: Enjoy an evening of appetizers, drinks, and fun conversation. Our event will have plenty elbow room. For nearly 30 years, Bluegrass Brewing Company has been a Louisville fixture, helping to pioneer the River City's microbrewery and restaurant scene at a time when microbreweries weren't the dime-a-dozen experience they (usually) are now. *(see ad below)*

Both the Newcomers and Welcome Mixer will be at the The Bluegrass Brewing Company and is just a short 7-minute walk (0.2 miles, ~7 minute) from the Galt House.

BBC
BLUEGRASS BREWING CO.

Welcome Mixer

Tuesday, March 11 • Starting at 1830hrs (6:30pm)

Enjoy an evening of appetizers, drinks, and fun conversation. The Bluegrass Brewing Company believes that "beer is food," but they also respect those who believe "food is food," so they do both: From their award-winning local beers to unpretentiously delicious pub fare, the BBC is the perfect spot for a beer and a burger.

Since 2010, they have been doing their thing at an historic bank. First built in 1837 — one of the oldest surviving buildings in Louisville, their renovations carefully preserved the character of the building's Victorian Era construction materials. The resulting European-style pub atmosphere is ideal for The NMFWA Meet and Greet and Newcomers Welcome Mixer!

The Bluegrass Brewing Company

300 West Main Street, Louisville KY 40202

Walking Directions

Head south toward N Fourth Street, Continue on N Fourth Street, Turn left onto W Main Street, Turn right onto 3rd Street and destination will be on the right.

Wednesday, March 12

Please don't forget to silence your cellphone and try to enter and leave rooms between speakers.

AT-A-GLANCE		
0700-1700	NMFWA Registration Desk Open (2nd Floor Registration Desk)	
0700-0800	LIMITED BEVERAGE SERVICE *(Check Whova)*	
0800-1000	**WMI 90th Annual North American Wildlife & Natural Resources Conference — Plenary Session** *(Check Whova)*	
0930-1030	LIMITED BEVERAGE SERVICE *(Check Whova)*	
1000-1015	BREAK	
1015-1200	**WMI Special Sessions** *(Various Rooms – Check Whova)*	
1200-1300	LUNCH	
1300-1700	DoD Avian Knowledge Network Office Hours (Fields, 3rd Floor)	
1300-1700	**Session Room #1** (McCreary, 3rd Floor)	
	1300-1330	Business Meeting — NMFWA Invasive Species Working Group
	1330-1445	Operational and Innovative Invasive Species Management Technical Session
	1445-1500	BREAK
	1500-1700	Endangered Species Act Policy Innovations through the Recovery and Sustainment Partnership Initiative
1300-1700	**Session Room #2** (Beckham, 3rd Floor)	
	1300-1330	Business Meeting — NMFWA CLEO Working Group
	1330-1445	Wildland Fire Management for Installation Resilience
	1445-1500	BREAK
	1500-1530	Business Meeting — NMFWA Wildland Fire Working Group
	1530-1700	Wildland Fire Partnerships Technical Session
1300-1700	**Session Room #3** (Stopher, 3rd Floor)	
	1300-1420	NMFWA Herpetology Working Group Technical Session
	1420-1445	Business Meeting — NMFWA HERPS Working Group
	1445-1500	BREAK
	1500-1630	NMFWA TRAWG Working Group Technical Session
	1630-1700	Business Meeting — NMFWA TRAWG Working Group
1430-1530	LIMITED BEVERAGE SERVICE *(Check Whova)*	
1700-1730	BREAK	
1800-2100	**NMFWA Awards Banquet** (Off-Site: Churchill Downs)	

0700-1700 NMFWA Registration Desk Open
(2nd Floor Registration Desk)

0700-0800 Limited Beverage Service *(Check Whova)*

0800-1000 WMI 90th Annual North American Wildlife & Natural Resources Conference — Plenary Session *(Check Whova)*

Wednesday, March 12 *(continued)*

0930-1030 Limited Beverage Service *(Check Whova)*

1000-1015 BREAK

1015-1200 WMI Special Sessions *(Check Whova)*

1200-1300 LUNCH

1300-1700 DoD AKN Program Office Hours
(Fields, 3rd Floor)

Session Moderator/Presenter: DoD AKN Program Team*, www.dodakn.org, dodakn@erdc.dren.mil*

Session Abstract: DoD AKN Office Hours provide an open forum for military natural resource professionals to ask questions, receive guidance, and discuss topics related to avian data management and monitoring. These informal sessions offer direct access to the DoD AKN Program Team, allowing participants to explore subjects such as data entry and visualization, project setup, Mission-Sensitive Species resources, protocol selection, study design, and integration of avian data into conservation planning. Whether users need technical support, help navigating the AKN platform, or insights on best practices for avian monitoring, Office Hours provide a space for discussion and problem-solving tailored to installations' individual needs. Stop by anytime during this open house-style session to sit down with the team.

Session Room #1 (McCreary, 3rd Floor)

1300-1330 Business Meeting — NMFWA Invasive Species Working Group

Moderators/Presenters: Steven Manning*, NMFWA Working Group Cochair, President Invasive Plant Control, Inc., Nashville, TN;* Cory Campora*, Terrestrial Natural Resources (EV51) Supervisor, Environmental Department, NAVFACSYSCOM Pacific, HI, cory.e.campora.civ@us.navy.mil*

Session Summary: The annual business meeting of the Invasive Species Working Group serves as a venue for members to network, share challenges, priorities, voice issues of concern, and promote the needs of our community for future training and future technical sessions in invasive species management. A brief overview of OSD level actions, items of interest and technological issues of significance will be shared with the membership. A new Invasive Species Working Group Co-Chair will be vetted and elected.

1330-1445 Operational and Innovative Invasive Species Management Technical Session

Horizon scanning a tool for prevention of new invasive species introductions

Presenter: Wesley Daniel*, U.S. Geological Survey, Wetland and Aquatic Research Center, wdaniel@usgs.gov*

US Navy Joint Region Marianas Biosecurity Program: Biosecurity Quality Assurance/Quality Control Cleanliness Inspections

Presenter: Ray Hiroshi*, Colorado State University – CEMML, Joint Region Marianas – Naval Base Guam, Andersen Air Force Base & Marine Corps Base Camp Blaz, Ray.Hiroshi@colostate.edu*

Little Fire Ants control to preserve Threatened and Endangered species in the Joint Region Marianas

Presenter: Kenneth Puliafico, PhD*, Supervisory Entomologist, JRM Biosecurity Project – Guam, Colorado State University – CEMML*

Abstract: Little Fire Ants (LFA, *Wasmannia auropunctata*) were first discovered on Guam in 2011 and quickly spread across the island where they have become a major concern for the Joint Region Marianas (JRM). LFA are one of the World's Top 100 Worst Invasive Species, and on Guam they negatively impact civilian and military personnel, training activities, biosecurity, ecological restoration projects and environmental reserves designated to protect endemic flora and fauna. Movement of LFA is mainly facilitated by human activity which has resulted in at least 32 major LFA infestations detected across all three JRM installations: Naval Base Guam, Andersen Air Force Base and Marine Corps Base Camp Blaz. Beginning in 2017 CEMML started conducting early detection surveys for LFA across training areas, cargo handling areas and roadways. In 2019 JRM initiated the first LFA treatments which have resulted in eradication of LFA at 11 sites. Currently another 15 sites are under active management with four additional areas in preparation for pesticide control by CEMML. Here we report on the progress and challenges of our eradication treatments of these large infestations, covering a total of almost 180 acres, primarily in humid tropical jungles. Three of the active treatment sites are home to several federally listed threatened and endangered species. We will discuss the adaptive management steps that have been undertaken with regular and close consultation with our DoD partners and the US Fish and Wildlife Service to protect all three species of endangered Guam tree snails, the Mariana eight spot butterfly and its host plants along with green sea turtle nests within LFA infested areas. The goal is to further reduce the presence of LFA and foster a greater understanding of how management of this invasive species can be done safely around our most sensitive native species.

Feral swine management and associated challenges

Presenter: Nathan Beane*, Wetlands & Coastal Ecology Branch, U.S. Army Engineer Research and Development Center (Vicksburg, MS), Nathan.R.Beane@usace.army.mi*

Showcase of costshare program that is 100% operational and consists of the federal government and state government working on prevention of invasive species movement

Presenter: Jeremy Crossland*, US Army Corps of Engineers, Jeremy.M.Crossland@usace.army.mil*

Operational overview of the rat eradication on Wake Island

Presenter: Don Teig*, US Air Force; AFCEC/COSP Tyndall AFB, FL, Donald.teig.1@us.af.mil*

Discovery of a Novel Invasive Plant on a Military Installation: Our Experience with Small Flowered Honesty *(Savignya parviflora)*

Presenter: Drew White-Jacobson*, Drew.White-Jacobson@colostate.edu, Center for Environmental Management of Military Lands – Las Vegas Nellis Air Force Base*

Abstract: Nellis Air Force Base (AFB) has a robust ecological management plan for the diverse species that inhabit its properties in the Mojave Desert ecosystem. Noteworthy sensitive and actively managed species and their supporting habitats on the installation include the Mojave desert tortoise, Burrowing Owl, Bendire's Thrasher, Mojave poppy bee, Mojave fringe-toed lizard, Las Vegas bearpoppy, Parish's phacelia, threecorner milkvetch, Eastern and Western Joshua trees, and Las Vegas buckwheat. While conducting routine herpetological survey work in the sand dunes of Nellis AFB, a field biologist encountered an unfamiliar herbaceous plant. Local and regional botanists determined the plant to be small-flowered honesty (*Savignya parviflora*), a mustard-family plant native to the Saharo-Arabian region. This was the first recorded instance of small-flowered honesty growing in the wild on the North American continent, prompting our team

Wednesday, March 12 *(continued)*

to implement the Early Detection Rapid Response (EDRR) framework: 1) develop a plan of action, 2) communicate our plan to our partners (Nellis AFB) and acquire the necessary approvals and support, 3) communicate the species discovery with regional stakeholders, 4) develop research/survey methods, 5) repeat and modify as needed. Our efforts have so far involved surveys to determine population extent, development of an herbicide testing and monitoring plan, estimating an initial treatment budget, establishment of communications with and notification to stakeholders within and outside of the DoD, recommendations for treatment and monitoring, and determining potential funding sources for future research and treatment of this species.

Aquatic Invasive Species in PH

Presenter: *Keving Lino, kevin.c.lino.civ@us.navy.mil; Kaitlyn Jacobs,*

Abstract: Scientists have documented the devastating, negative impacts of aquatic invasive species (AIS): altering food webs, reducing native species richness and density, and hurting the global economy through resource damage, infrastructure impacts, and subsequent management. Island ecosystems are especially vulnerable to AIS because of globalization and increased reliance on trade. Hawaii is faced with a new AIS invasion: the soft corals *Unomia stolonifera* and *Capnella cf spicata*, both of which are not native to Hawaii. First reported in 2020, the octocorals' current range appears confined to Pearl Harbor, which heightens the possibility of eradication before spread to the rest of the island and archipelago occurs. In June 2023, the Navy surveyed the octocoral distribution boundaries to establish a density map. A remote operating vehicle (ROV) and drop camera survey investigated the species presence and boundaries, surveying deep-water areas for presence and density. Dive surveys then confirmed ROV and drop camera observations, refined species boundaries, recorded octocoral density, collected high resolution representative photographs, and identified whether other biota are interacting with the AIS. The results identified high-density and low-density abundance zones, offering valuable, preliminary depiction of the octocorals' distribution and density within Pearl Harbor. The large area of occurrence and high biomass of the two species suggest that these species are not a recent introduction. The Navy tested removal methods while developing an adaptive management plan through an inter-agency collaboration with federal and university partners. Current eradication efforts include manual removal and smothering to reduce the infestation extent while concurrently evaluating other treatment methods. Control procedures tested here are the first crucial step towards complete eradication to prevent a devastating outbreak in the sensitive Hawaiian coral reef ecosystem. These techniques will test for efficacy against AIS and inform future AIS response plans across the globe.

DISRUPTR: Disruption of Invasive Species via Remotely-controlled Underwater Precision Treatment and Remediation

Presenter: Jazmine Hawkins (Davalos)*, US Army Engineer Research and Development Center – Environmental Laboratory (ERDC-EL), Jazmine.L.Davalos@usace.army.mil*

Abstract: In many US Army Corps of Engineers (USACE) Divisions across the nation and particularly in the Northwestern Division (NWD) and Southwestern Division (SWD) there are concerns and restrictions on chemical control methods for managing invasive aquatic plant species in Endangered Species Act (ESA)-listed waters and/or in National Historic Preservation Act (NHPA) culturally sensitive areas. As a result of these restrictions, the USACE has been unable to treat small, newly established populations of invasive SAV in the necessary rapid response time, leading to an increased risk of introduction to uninvaded areas. While well-intended to preserve sensitive ecosystems, artifacts or tribal areas of concern, both ESA and NHPA can lead to a paradoxical result, where invasive SAV are inadvertently left to grow and spread in sensitive areas because they cannot be controlled with current broad-stroke methods, which, in turn, causes out-competition of endangered and threatened species and leads to population decline for

these desired species. To solve this issue, the US Army Engineer Research and Development Center (ERDC) developed an underwater remotely operated vehicle (ROV)-guided herbicide injector that can precisely dispense either liquid or granular chemical herbicide formulations in ecologically and culturally sensitive areas, thereby alleviating issues related to water column dilution and water exchange processes in small patch treatments and minimizing off-target ecosystem and cultural impacts. This presentation will provide an overview of the invention, called the "DISRUPTR" (Disruption of Invasive Species via Remotely-controlled Underwater Precision Treatment and Remediation) and cover the results of all component, system, and pond tests performed to-date.

1500-1700 Endangered Species Act Policy Innovations through the Recovery and Sustainment Partnership Initiative

Moderators/Presenters: Stephanie Hertz *(Recovery and Sustainment Partnership Coordinator), Stephanie.a.hertz.civ@mail.mil; 1919 Oakwell Farms Pkwy, Ste 100, San Antonio, TX 78218; Alternate:* Megan Scanlin *(Senior Lead Technical Specialist/OSD NR Program Support, scanlin_megan@bah.com*

Session Description: The Department of Defense (DOD) and Department of the Interior established the Recovery and Sustainment Partnership (RASP) Initiative via a Memorandum of Understanding in June 2018 (renewed 2024). The RASP develops and promotes species conservation while increasing flexibility for military mission activities. Through the RASP Initiative, DOD and U.S Fish and Wildlife Service (USFWS) are collaborating on new approaches to the Endangered Species Act (ESA) that ensure DOD can meet its training and testing requirements, contribute to the conservation of species found on its installations, and facilitate a more efficient regulatory process. This session builds on the RASP Technical Session discussed at NMFWA in 2024. Audience members will have the opportunity to learn how they can apply these new approaches to their own installations, resulting in a more collaborative, proactive planning approach to ESA Section 7 consultations.

Session Objectives:

1. Highlight how DOD and USFWS are building innovative approaches to the ESA to streamline regulatory processes, enhance DOD mission flexibility and capabilities, and achieve greater conservation benefits to listed and at-risk species.

2. Spotlight how nationwide strategies are being developed for wide-ranging species to support installations in fulfilling their responsibilities under the ESA and facilitate a consistent and streamlined regulatory process.

3. Share information regarding a new educational resource that documents case studies, tools, and innovative approaches that enable installations to conserve species in ways that sustain military mission capabilities.

4. Share status updates, lessons learned, and what comes next from two pilot projects originally discussed in the RASP Technical Session at NMFWA in 2024 regarding a "defined conservation commitment" and "strategic habitat conservation".

5. Showcase how installations can utilize these novel approaches and educational resources for a more collaborative, proactive planning approach to meeting ESA requirements while accomplishing the military mission.

Audience Engagement: To encourage questions and engagement from audience members, organizers will provide multiple ways for participation (live Q&A, sign-up sheet for follow-up discussions and interest, and opportunities for side-bar questions).

Wednesday, March 12 *(continued)*

Session Room #2 (Beckham, 3rd Floor)

1300-1330 Business Meeting — Conservation Law Enforcement Officer (CLEO) Working Group

Moderator/Presenter: Cpl Jesse Travis*, NMFWA Working Group Chairperson, Senior Federal Wildlife Officer, US FWS, Eglin AFB jesse_travis@fws.gov;* Tom Tripolone*, thomas.tripolone@us.af.mil*

Session Summary: The Conservation Law Enforcement Working Group annual meeting is where peers can come together to talk installation to installation for cross-boundary and cross-Service support. We will hold administrative elections and discuss any of the members' issues or concerns in an open forum. Please bring along issues and good news stories to share with the group.

1330-1445 Wildland Fire Management for Installation Resilience

Moderator/Presenter: Anne Jewell*, CF, Fire & Emergency Management Programs, Environmental Planning & Conservation,Office of the Deputy Assistant Secretary of Defense for Environmental Management and Restoration, Office of the Assistant Secretary of Defense for Energy, Installations, and Environment, anne.m.jewell3.civ@mail.mil*

Session Description: Wildfire poses an increasing threat to Department of Defense (DoD) mission, built and natural infrastructure, personnel, and local communities. Prescribed burns are also used extensively on military installations as a land management tool. Recognizing that wildland fire can have a significant impact on installation resilience and military readiness, the Department is taking strides to focus on workforce skillsets and credentialling to enhance knowledge, skills, and abilities and evolve wildland fire management capabilities and interoperability. This session will provide an overview of installations wildland fire metrics, DoD's role on the National Wildfire Coordinating Group, and a technical overview of personnel qualifications and the national Incident Qualifications and Certification System.

DOD Wildfire Hazard Assessment

Presenter: Andrew M. Beavers*, Wildland Fire Program Manager, Center for Environmental Management of Military Lands, Colorado State University, Fort Collins, CO*

Abstract: This study to be discussed expands on the 2021 DOD Wildfire Hazard Assessment by assessing over 5,000 additional sites across all DOD components.

National and installation-level wildfire occurrence data varies widely in completeness and accuracy, making data-driven assessments of the wildfire threat difficult at the regional and national level. This information is critical, as understanding the location and nature of the problem is required to effectively solve it.

The initial Legacy Resource Management Program funded study completed in 2021 triaged 145 active-duty sites identified by representatives of the Air Force, Army, Marine Corps, and Navy. The current study expanded to include all DOD components, comprehensively considering over 5,000 sites and specifically analyzing 105 of those, resulting in a total of 250 sites analyzed.

The methodology, unchanged from the 2021 study to ensure comparable data, used Landsat imagery to delineate fire perimeters, producing a dataset with a consistent methodology across the entire study area. Ten wildfire characteristics discernable from the fire perimeters were calculated. These included measures such as the total number of wildfires detected, how many crossed the site boundary, and the proportion of the site area burned over the study period. This data was normalized, and sites were grouped based on a statistical cluster analysis. Groups were assigned a wildfire hazard level, and then individual sites were reviewed to refine hazard classifications. Sites were triaged within their military component as well as across all of DOD.

We identified 7,163 wildfires across the 11-year span of our data. The triaging process separated sites with high and moderate wildfire hazards, which increases the ability of national wildland fire managers to focus resources and make data-driven wildfire management decisions. It also identified sites that likely have limited wildfire liability and therefore can be expected to require little wildfire mitigation, increasing wildfire resourcing efficiencies.

1445-1500 BREAK

1500-1530 Business Meeting — NMFWA Wildland Fire Working Group

Moderators: David Kelley*, NMFWA Wildland Fire Working Group Co-chair, david.kelley.25@spaceforce.mil;* Tim Bradley*, USAF, Wildland Fire Specialist/ NMFWA Wildland Fire Working Group Co-chair timothy.bradley.8@us.af.mil*

Meeting Description: The Wildland Fire Working Group was created to provide a forum for DOD Natural Resources personnel to share information related to the implementation of wildland fire on DOD installations. The annual business meeting will consist of an election for a new Co-Chair and a wildland fire update from OSD.

1530-1700 Wildland Fire Management Partnerships and Collaboration

Moderators/Presenters: Tim Bradley*, USAF, Wildland Fire Specialist/NMFWA Wildland Fire Working Group Co-chair;* Andrew Beavers*, CEMML, Wildland Fire Program Manager;* Tammara Galentine*, USAF, Beale AFB, NRM;* James Furman*, USFS, Fire Management Specialist;* Stephen Najar*, USAF, New Boston AFB, NRM;* Josh Pennington*, Minnesota Army National Guard-Camp Ripley Training Center, Environmental Supervisor*

Session Description: Successful wildland fire management relies on a variety of partnerships and collaboration to gain efficiencies and leverage opportunities. This session provides a look into several partnership topic areas, including fire safe councils, research partnerships, tribal relations, fire planning, fire MOU, and partnerships at local, regional and national scales. The format for the session will include brief presentations on these topic areas followed by a panel discussion with audience questions and input that provokes an expanded discussion on partnership experiences, challenges, opportunities and more.

Session Room #3 (Stopher, 3rd Floor)

1300-1420 NMFWA Herpetology Working Group Technical Session

30 Years of Blanding's Turtle (*Emydiodea blandingii*) Conservation Work at Camp Ripley Training Center

Presenter: Andrew Herberg*, Animal Survey Coordinator | Division of Ecological and Water Resources, Minnesota Department of Natural Resources, Camp Ripley HQ – Environmental, andrew.herberg@state.mn.us*

Abstract: A large metapopulation of the Blanding's turtle, *Emydiodea blandingii*, occurs in Central Minnesota centered around the Camp Ripley Training Center (CRTC). Low intensity land use and lack of development coupled with disturbed habitat used for nesting is believed to be responsible for the substantial extant population of *E. Blandingii* turtles at CRTC. Wildlife management practices have been developed to maintain aquatic and nesting habitat in a manner compatible with military training requirements and the needs of *E. Blandingii*. Ongoing research at CRTC continues to document new adults and newly matured turtles. To date, 187 turtles have been marked, helping it better understand the population within CRTC. Since 2002, CRTC efforts have focused on increasing nesting success through breeding season surveys and nest protection efforts. To date, 173 nests have been protected, successfully producing 2,292 hatchlings. Much has been learned about the reproductive ecology of *E. Blandingii* at CRTC including nest site fidelity, ages at first reproduction, hatch rates, clutch sizes, incubation durations, amongst others. However, hatchling survival and overall recruitment rates remain unknown. Future work will focus on better understanding recruitment and male/juvenile demographics at CRTC

Wednesday, March 12 *(continued)*

Baseline Population Structure, Movements, and Management Recommendations of Relict Southwestern Pond Turtles on Edwards AFB, CA

Presenter: Alison Haigh*, Wildlife Biologist, Center for Environmental Management of Military Lands (CEMML, alison.haigh@colostate.edu*

Abstract: The southwestern pond turtle (*Actinemys pallida*) is a primarily riparian species ranging from the central coast of California to Baja California Sur, and was proposed for Endangered Species Act listing as threatened. The Piute Ponds Complex on Edwards Air Force Base, CA supports one of two relict populations of southwestern pond turtle found in the Mojave Desert. Piute Ponds are at the terminus of Amargosa Creek and pond turtles were common in the upper drainage in the late 1990s and early 2000s. CEMML conducted a multi-season trapping survey and radio telemetry study for the southwestern pond turtle within potential habitat at the Piute Ponds Complex from 2019 to 2024. Auxiliary studies (eDNA, DNA barcoding, and surveys of nearby water bodies) attempted to understand the genetic origin and current extent of pond turtles in Kern County. Twenty-two pond turtles were captured, marked, and released at Shuttle Pond during 2019 to May 2024, with 18 recaptures throughout the study. Population structure based on size classes was mostly sexually mature adults (66% of total), with 33% of the sample comprised of immature adults, but no hatchlings. Thirteen turtles were fitted with radio transmitters and were tracked May 2022 through June 2024. Telemetry studies revealed that turtles make movements outside the immediate Shuttle Pond area into some adjacent ponds; behavior during storm events, such as movement into flooded upland areas; and evidence of brumation. Southwestern pond turtle eDNA was detected at 12 out of 92 locations in the Piute Pond Complex, but no turtles were captured at these locations during subsequent trap surveys. These surveys provide a baseline for determining pond turtle management strategies within Edwards AFB and could provide information for consideration by the U.S. Fish and Wildlife Service Species Status Assessment for pond turtles in the Mojave Desert.

Radio Tracking Mediterranean Chameleleons

Presenter: Chris Petersen*, christopher.e.petersen4.civ@us.navy.mil*

Abstract: This brief talk will highlight a radio-tracking project with Mediterranean Chameleons at Naval Station Rota, Spain in 2024. The purpose and goals of the project will be discussed in addition to the successes and challenges of using radio-telemetry to monitor chameleon movements.

Opportunistic Snake Road Crossing Data

Presenter: Andrhea Massey*, Threatened and Endangered Species – Database Manager and Field Biologist, Colorado State University – Center for Environmental Management of Military Lands, DPW-ENRMD Conservation Branch, Fort Johnson, Louisiana, andrhea.d.massey.ctr@army.mil*

Abstract: For 20 years, Fort Johnson biologists have been opportunistically recording data on snakes found crossing roads — i.e., see a snake while driving in a work vehicle? Record the data. Began in 2004 as a way to track road encounters of the threatened Louisiana Pinesnake, biologists have accrued over 1000 detections of 22 species, including 8 detections of Louisiana Pinesnakes. In 2025, we begin to explore ways to utilize this data.

Soil eDNA analysis can reliably detect terrestrial salamanders in subterranean environments

Presenters: Aron D. Katz, *Engineer Research and Development Center, Champaign, Illinois, USA, Department of Entomology, University of Illinois at Urbana-Champaign, Urbana, Illinois, USA;* Sasha J. Tetzlaff, *Engineer Research and Development Center, Champaign, Illinois, USA;* Olivia M. Clausen, *Engineer Research and Development Center, Champaign, Illinois, USA;* Lauren R. Urie, *Engineer Research and Development Center, Champaign, Illinois, USA;* Catherine E. Dana, *Engineer Research and Development Center, Champaign, Illinois, USA;* Jimmy MacMillan, *Zara Environmental LLC, Manchaca, Texas, USA;* Ethan Perrine, *Zara Environmental LLC, Manchaca, Texas, USA;* Charles E. Pekins, *United States Army Garrison-Fort Cavazos, Fort Hood, Texas, USA;* Jinelle H. Sperry,

Engineer Research and Development Center, Champaign, Illinois, USA, Department of Natural Resources and Environmental Sciences, University of Illinois Urbana–Champaign, Urbana, Illinois, USA

Abstract: The Western Slimy Salamander, *Plethodon albagula* is a species of conservation concern on Fort Cavazos. Its limited range and strong ecological dependence upon subterranean habitats make this species exceptionally vulnerable to disturbance, underscoring the need for more efficient monitoring tools to facilitate proactive management efforts on Fort Cavazos. Recently, aquatic environmental DNA (eDNA) analysis has shown to be effective for surveying cave biodiversity, but many caves lack sufficient water for sampling, limiting the applicability of aquatic eDNA sampling approaches in these systems. Soil eDNA can provide a viable alternative, but has yet to be validated for surveying cave-dwelling amphibians. Here we develop and apply a novel qPCR-based approach to detect *P. albagula* eDNA in soil samples collected from 37 karst features (i.e., cave, sinks, and springs) on Fort Cavazos. Our findings indicate that our eDNA survey was highly effective, with positive *P. albagula* eDNA detections in 54% (20 of 37) of surveyed sites, including 94% (17 of 18) of sites where *P. albagula* had been observed during 2023 surveys. Our results suggest that eDNA is a promising technology for surveying at-risk salamanders in subterranean systems.

Population structure and size of the declining Western Pond Turtle (*Actinemys spp.*) across thirteen military installations in California

Presenter: Emily Asche, *Illinois Natural History Survey, Prairie Research Institute, University of Illinois Urbana-Champaign, Champaign, IL 61820, USA, Natural Resources & Environmental Sciences, University of Illinois Urbana-Champaign, Urbana, IL 61801, USA*

Co-Authors: Matthew I. Parry, *Illinois Natural History Survey, Prairie Research Institute, University of Illinois Urbana-Champaign, Champaign, IL 61820, USA, Natural Resources & Environmental Sciences, University of Illinois Urbana-Champaign, Urbana, IL 61801, USA;* Thomas S. B. Akra, *Smithsonian Conservation Biology Institute, Front Royal, VA 22630, USA;* Robert Lovich, *Naval Facilities Engineering Command Southwest, San Diego, CA, USA (eeasche@illinois.edu);* Michael J. Dreslik, *Illinois Natural History Survey, Prairie Research Institute, University of Illinois Urbana-Champaign, Champaign, IL 61820, USA, Natural Resources & Environmental Sciences, University of Illinois Urbana-Champaign, Urbana, IL 61801, USA*

Abstract: The Western Pond Turtle (*Actinemys spp.*) is currently undergoing assessment to be listed as a Threatened species under the Endangered Species Act. It is designated as a species of special concern in California, sensitive/critical in Oregon, and endangered in Washington, indicating an imminent likelihood of listing. Habitat loss, predation, and shell disease have caused significant population declines, yet there remains a scarcity of data necessary for making informed management decisions. Understanding the current population structure of remaining populations is pivotal for initiating effective conservation strategies. We have gathered demographic data from thirteen military installations across their California range to assess the level of concern and identify key management priorities. Data collection spans two intensive sampling years, with sampling conducted in week-long intervals using 50 aquatic traps per base. Recorded parameters include body size, life stage, and sex of all individuals to characterize the population structure. Additionally, estimated abundance and growth rates have been derived from the final dataset. Our study's objective is to delineate targeted conservation efforts for species recovery, inform land managers as to the status of the species on military lands, and contribute data to fill gaps in our understanding of populations range wide.

1420-1445 Business Meeting — NMFWA Herpetology Working Group

Moderators/Presenters: Tom Mathies*, tomcmathies@gmail.com;* Zia Walton*, jhadzia.walton@colostate.edu*

Session Summary: The Herpetology Working Group annual meeting is where peers can come together to talk installation to installation for cross-boundary and cross Service support. We will hold administrative elections, elect a new co-chair, and discuss any of the members' issues or concerns in an open forum. Please bring along issues and good news stories to share with the group.

Wednesday, March 12 *(continued)*

1445-1500 BREAK

1500-1630 Technical Resources Application Working Group Grab Bag — Current Technologies being used across DoD Technical Session

Moderators: Susan Cohen*, NMFWA Working Group Chairperson, Associate Director, UNC Institute for the Environment, susanac@email.unc.edu;* Mike Jungen*, NMFWA Working Group Chairperson, Biologist, U.S. Fish & Wildlife Service, Ft. Bliss, TX., michael_jungen@fws.gov;* Troy Walton*, NMFWA Working Group Secretary, Remote Sensing Specialist, UNC Institute for the Environment, twalt@unc.edu*

Session Summary: The Technology Resources and Applications Working Group (TRAWG) Technical Session will have presentations from land managers and practitioners that highlight the use of technology to improve the informing and execution of natural resource management. Presentations will highlight three approaches (pit tags, autonomous recording units, and telemetry) to monitoring fish and wildlife, and how to get more out of that data through GIS.

1630-1700 Business Meeting — NMFWA Technical Resources Application Working Group

Moderators: Susan Cohen*, NMFWA Working Group Chairperson, Associate Director, UNC Institute for the Environment, susanac@email.unc.edu;* Mike Jungen*, NMFWA Working Group Chairperson, Biologist, U.S. Fish & Wildlife Service, Ft. Bliss, TX., michael_jungen@fws.gov;* Troy Walton*, NMFWA Working Group Secretary, Remote Sensing Specialist, UNC Institute for the Environment, twalt@unc.edu*

Session Summary: The Technology Resources and Applications Working Group (TRAWG) was formed to help NMFWA members in the ever-evolving world of technology and its applications for natural resource management and research. As a group we take advantage of the combined experience of our membership and provide a platform to collaborate, answer questions, and provide support to NMFWA members. During this year's business meeting we will elect a new co-chair, discuss current issues and concerns surrounding technology, and review activities of the working group. There will be time for member input and exchange. Join us for the meeting and stay for TRAWG Session right after the meeting.

1430-1530: Limited Beverage Service (*Check Whova*)

1800-2100 NMFWA Awards Banquet

Location: Churchill Downs Racetrack
www.churchilldowns.com

Note: Those registered for the Banquet will receive a Banquet ticket with registration.

Don't have a banquet ticket? Visit the NMFWA registration desk to check for availability. Extra banquet tickets will be released on a first-come-first-served basis midday Wednesday (stay tuned for instructions announced during the Annual Members Meeting and via the Whova app).

Got a ticket, but decided not to attend? Please return your ticket to Registration to make it available to others.

Getting to the venue: We will be providing transportation to the venue via large charter buses. Pick-up location and time will be posted at the registration desk and announced during the Members Meeting and on the Whova app.

Summary: Join us in recognizing your fellow members, enjoy a tour through the gorgeous facility, grab a beverage and walk the historic grounds, and enjoy a delicious meal as we celebrate your fellow members in their achievements. *(see ad, facing page)*

Wednesday, March 12 | 1800–2100hrs

at Churchill Downs Racetrack

CHURCHILL DOWNS

Join us in recognizing your fellow members, enjoy a tour of the gorgeous facility, grab a beverage and walk the historic grounds, and enjoy a delicious meal as we celebrate your fellow members in their achievements.

Getting to the venue: We will be providing transportation to the venue via large charter buses. Pick-up location and time will be posted at the registration desk and announced during the Members Meeting and on the Whova app.

www.churchilldowns.com

Those registered for the Banquet will receive a Banquet ticket with registration. Don't have a banquet ticket? Visit the NMFWA registration desk to check for availability. ***Got a ticket and decided not to attend? Please return your ticket to Registration to make it available to others.***

Thursday, March 13

Please don't forget to silence your cellphone and try to enter and leave rooms between speakers.

AT-A-GLANCE

0700-1700	NMFWA Registration Desk Open (2nd Floor Registration Desk)	
0700-0800	LIMITED BEVERAGE SERVICE *(Check Whova)*	
0800-1200	**Session Room #1** (Stanley, 3rd Floor)	
	0800-0945	REPI Program 101: Developing a Successful REPI Proposal
	0945-1000	BREAK
	1000-1200	World Café: Provide Input to the Update to the DoD Manual 4715.03 "Integrated Natural Resources Management Plan (INRMP) Implementation Manual"
0800-1200	**Session Room #2** (McCreary, 3rd Floor)	
	0800-0830	Business Meeting — NMFWA Bird Conservation Working Group
	0830-0945	DoD Birds 101: What All Installation Natural Resources Managers Need to Know
	0945-1000	BREAK
	1000-1130	DoD Partners in Flight — Strategic Planning for DoD Mission-sensitive Species
	1130-1200	Expanding Partnerships to optimize the Integration of USDA BASH GIS with the Navy IGI&S Enterprise System
0800-1200	**Session Room #3** (Beckham, 3rd Floor)	
	0800-0930	Special Session — Interagency Partnerships and Innovative Solutions for Climate Adaptation
	0930-0945	Business Meeting — Climate Change Working Group
	0945-1000	BREAK
	1000-1100	The Endangered Species Toolbox: Creative, Mission-based, Conservation Solutions
	1100-1200	Bird Aircraft Strike Hazard Special Topics
0800-1200	**Session Room #4** (Stopher, 3rd Floor)	
	0800-0945	Monarch Butterfly Conservation on DoD Lands — Next Steps
	0945-1000	BREAK
	1000-1200	Monarch Butterfly Conservation on DoD Lands — Next Steps (*continued*)
0930-1030	LIMITED BEVERAGE SERVICE *(Check Whova)*	
1200-1300	LUNCH BREAK	
1300-1700	**Session Room #1** (Stanley, 3rd Floor)	
	1300-1420	Advancing Urban Biodiversity Conservation
	1420-1445	Business Meeting — NMFWA Outdoor Recreation Working Group
	1445-1500	BREAK

AT-A-GLANCE *(continued)*		
1300-1700	**Session Room #2** (McCreary, 3rd Floor)	
	1300-1330	Business Meeting – Bird Aircraft Strike Hazard (BASH) Working Group
	1330-1445	DoD Partners in Amphibian and Reptile Conservation (PARC) Network Technical Session
	1445-1500	BREAK
	1500-1700	The DoD AKN Program: Progress Update, Avian Survey Methodologies, and Decision-Support Tools
1300-1700	**Session Room #3** (Beckham, 3rd Floor)	
	1300-1330	Invasive Species Projects Supported by the DoD SERDP
	1330-1445	DoD Small Mammal Initiative
	1445-1500	BREAK
	1500-1530	Business Meeting — NMFWA Bat Working Group
	1530-1700	NMFWA Bat Working Group Technical Session
1300-1700	**Session Room #4** (Stopher, 3rd Floor)	
	1300-1330	Business Meeting — NMFWA Pollinator Working Group
	1330-1445	Archaeological Resource Protection Act of 1979 (ARPA) Technical Session
	1445-1500	BREAK
	1500-1600	Spatial Data Standard for Facilities, Infrastructure, and Environment
	1600-1700	Managing Threatened and Endangered Plants to Sustain the Training Mission
1430-1530	LIMITED BEVERAGE SERVICE *(Check Whova)*	
1700-1715	BREAK	
1715-1815	**2025–2026 NMFWA Board of Directors Meeting** (Marrow, 3rd Floor)	
1815-1830	BREAK	
1830-2030	**NMFWA Show & Tell Reception** (Grand Ballroom A, 2nd Floor)	

0700-1700 NMFWA Registration Desk Open
(2nd Floor Registration Desk)

0700-0800 Limited Beverage Service (*Check Whova*)

Session Room #1 (Stanley, 3rd Floor)

0800-0930 REPI Program 101: Developing a Successful REPI Proposal

Moderators/Presenters: Elizabeth Kendrick Liggett*, Readiness and Environmental Protection Integration (REPI) Program, Office of the Assistant Secretary of Defense (EI&E);* Erica Rohr*, erica.s.rohr.civ@mail.mil*

Session Summary: The Readiness and Environmental Protection Integration (REPI) Program preserves military missions by supporting cost-sharing agreements between the Military Services, other federal agencies, state and local governments, and private conservation organizations to avoid land use conflicts near military installations, address environmental restrictions that limit military activities, and increase military installation resilience. Join this session to learn about the various REPI funding sources and requirements for developing a successful proposal. REPI funding is available to installations and partners, including state and local governments, corporations, private investors, and conservation groups.

Thursday, March 13 *(continued)*

REPI Program 101

Presenter: Erica Rohr

Summary: Review the REPI Program's key statutory authorities, project locations, and funding opportunities.

Annual REPI Proposal Example and Best Practices

Presenter: Amber Morin*, Fort Huachuca Sentinel Landscape Coordinator (Virtual)*

Summary: Review Fort Huachuca's annual REPI Program funding and how the installation is leveraging REPI funding to preserve critical water resources for the installation..

REPI Challenge Example and Best Practices

Presenter: Jeff Talbert*, Project Coordinator, and* Kelly Coles*, Program Manager, Atlanta Botanical Garden(In Person)*

Summary: Review the Eglin AFB FY25 REPI Challenge project and how the Atlanta Botanical Garden will work in partnership with the Air Force and Nokuse Plantation to administer a prescribed burn program adjacent to the installation that will improve installation resilience.

Leveraging REPI Funding to Reduce Regulatory Burdens from Endangered Species

Presenter: Dan Calvert*, Joint Base Lewis-McChord (JBLM) Sentinel Landscape Coordinator (Virtual)*

Summary: Review how the JBLM Sentinel Landscape is leveraging the REPI Program to conserve prairie habitat outside the installation to reduce the Army's regulatory burden to manage federally listed endangered species.

Audience Q&A

0945-1000 BREAK

1000-1200 World Café: Provide Input to the Update to the DoD Manual 4715.03 "Integrated Natural Resources Management Plan (INRMP) Implementation Manual" — We want to hear from you!!

Moderator/Presenter: Megan Scanlin*, Senior Lead Technical Specialist/DoD Natural Resources Program, Megan Scanlin, scanlin_megan@bah.com*

Alternate: Derrick Golla *(Lead Associate/ DoD Natural Resources Program); golla_derrick@bah.com*

Session Summary: Come join us and tell us what you want to see in the update to DoD Manual 4715.03, currently known as Integrated Natural Resources Management Plan (INRMP) Implementation Manual. While INRMPs are the backbone and blueprint of an installation's natural resource program, having guidance on all other aspects of the natural resource program is important too. This is why we want your feedback and input for consideration into our upcoming revision of the DoD Manual for natural resources to make sure it provides policy and guidance for all aspects of the natural resources program. Members from the Office of the Secretary of Defense Natural Resources Program and its affiliated programs will be available to take your inputs and answer questions on the various sections addressed in the DoDI 4715.03 in a World Cafe style format. Bring us your thoughts, ideas, suggestions, or issues you want solved. We really want your input in how to make this policy guidance better work for installation natural resource implementation. We look forward to hearing from you.

1200-1300 LUNCH

1300-1420 Advancing Urban Biodiversity Conservation

Moderator/Presenter: Corina Newsome*, National Wildlife Federation, newsomec@nwf.org*

Session Summary: Cities are underprioritized, but critically important, landscapes for advancing biodiversity conservation. Cities are often placed with respect to important geological features, such as mountains and waterways, which are also crucial for regional biodiversity. Furthermore, 80% of people in the U.S. live in cities, and social inequities have profoundly shaped the distribution of environmental amenities, harms, and biodiversity within urban areas. This session will make the case for the importance of prioritizing cities in local, state, and landscape-scale conservation, and rooting that work in equity and environmental justice. Attendees will have the opportunity to craft concrete strategies to apply these priorities within their own state and regional contexts, advancing a conservation movement that truly benefits all wildlife and all people.

1420-1445 Business Meeting – NMFWA Outdoor Recreation Working Group

Moderators/Presenters: Kevin Zebro*, Conservation Law Enforcement, Fort McCoy, WI, kevin.j.zebro.civ@armyeitaas.mail.onmicrosoft.us;* Gene LaRocca*, eugene.larocca.1@us.af.mil*

Meeting Summary: The Outdoor Recreation Working Group is concerned with recreational activities involving natural resources on military installations. Specific subjects within the scope of this working group include but are not limited to hunting, fishing, trapping, wildlife-viewing, camping, public access, permits, fish and wildlife management activities in support of recreational activities, outreach, off-road vehicles, etc. During this year's business meeting will include introductions, membership, new business, and an open floor discussion of current issues and concerns surrounding outdoor recreation on DoD installations. Join us for the meeting as we share a common enthusiasm and passion for recreating outdoors.

1445-1500 BREAK

Session Room #2 (McCreary, 3rd Floor)

0800-0830 NMFWA Bird Conservation Working Group Business Meeting

Moderators/Presenters: Todd Wills*, NMFWA Bird Conservation Working Group Chairperson, Natural Resources Manager, Naval Support Activity Monterey, CA, todd.c.wills.civ@us.navy.mil;* Keeli Marvel*, NMFWA Bird Conservation Working Group Chairperson, Natural Resources Manager, Dugway Proving Ground, UT, keeli.s.marvel.civ@army.mil*

Session Summary: At the business meeting the Bird Conservation Working Group members will be electing a new co-chair, and then open the floor to discuss current bird-related issues and concerns facing DoD installation managers, outreach activities and opportunities, and installation success stories.

0830-0945 DoD Birds 101: What All Installation Natural Resources Managers Need to Know

Moderators/Presenters: Todd Wills*, NMFWA Bird Conservation Working Group Chairperson, Natural Resources Manager, Naval Support Activity Monterey, CA, todd.c.wills.civ@us.navy.mil;* Keeli Marvel*, NMFWA Bird Conservation Working Group Chairperson, Natural Resources Manager, Dugway Proving Ground, UT, keeli.s.marvel.civ@army.mil;* Eric L. Kershner*, Chief, Division of Bird Conservation, Permits, and Regulations, Migratory Bird Program US Fish & Wildlife Service Headquarters;* Kylan Frye*, USFWS National General Permits Lead, USFWS HQ office*

Session Summary: Annually, NMFWA membership shows an ever-increasing number of new natural resources professionals in support of DoD installations. The Bird Conservation Working Group, in collaboration with the U.S. Fish and Wildlife Service, presents this opportunity to review the basics as they relate to migratory birds, the role of the DoD in bird conservation, and recent updates

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to bird conservations laws that may impact how the DoD conserves and manages bird populations. This "Bird 101" Session will focus primarily on the Migratory Bird Treaty Act, Endangered Species Act, and the Bald & Golden Eagle Protection Act, and what all DoD natural resource professionals should know to support the military mission.

0945-1000 BREAK

1000-1130 DoD Partners in Flight — Strategic Planning for DoD Mission-sensitive Species

Moderators/Presenters: Rich Fischer*, DoD Partners in Flight Coordinator, ERDC, Richard.A.Fischer@erdc.dren.mil;* Alan Schultz*, Certified Wildlife Biologist, Chief, Fort Liberty Wildlife, Directorate of Public Works*

Session Summary: DoD Partners in Flight is developing Strategic Plans to proactively address our Mission-sensitive Species (MSS) on installations. This session will provide details of the work that is being done to support each Plan. The Strategic Plan for Pinyon Jay (PIJA), a species currently petitioned for federal ESA listing, emphasizes inventory and monitoring and utilizes existing PIJA survey frameworks in conjunction with emerging technology. We recently deployed dozens of Autonomous Recording Units (ARUs) at two DoD installations and generated tens of thousands of high-confidence PIJA detections that provided NRMs on installations with valuable information regarding distribution. DoD PIF is finalizing the PIJA Strategic Plan to provide recommended inventory and monitoring guidelines to DoD. Our Desert Thrasher Strategic Plan includes both Bendire's and LeConte's Thrasher, which are among the fastest-declining bird species in North America and occur with much range overlap with DoD installations across much of the southwestern U.S. Both species can be difficult to detect due to infrequent singing and a temporally variable breeding season. As such, a high degree of survey effort is required to determine where (and when) these species do or do not occur. Since 2024, DoD PIF has been participating in discussions with the interagency Desert Thrasher Working Group and the Collaborative Wildlife Protective and Recovery Initiative Desert Thrasher focal group to determine the next steps needed for surveys and research at DoD installations. Finally, Northern Bobwhite (NOBO) are a high-priority Mission-sensitive species with much conservation interest within and outside of the DoD. More than 200 DoD installations and Civil Works facilities are located within the NOBO range. Many Natural Resource Managers are already inventorying and monitoring, and managing for NOBO and associated sensitive grassland/forested grassland species and are enthusiastic about the contribution DoD lands can make toward collaborative conservation efforts that consider population connectivity and landscape-level management. DoD PIF is working to assist these managers in partnership efforts with major landscape-scale conservation initiatives including the National Bobwhite and Grassland Initiative and the USDA Natural Resources Conservation Service/Quail Forever — Working Lands for Wildlife Program.

11:30-1200 Expanding Partnerships to optimize the Integration of USDA BASH GIS with the Navy IGI&S Enterprise System

Moderator/Presenter: Caitlan Dowling*, caitlan.r.dowling.civ@us.navy.mil*

Session Summary: Commander, Central Navy Installations Command (CNIC), Naval Facilities Engineering Systems Command (NAVFAC), and USDA Wildlife Services (WS) Airport Wildlife Hazards Program (AWHP) have collaborated to develop Bird/Wildlife Aircraft Strike Hazard (BASH) feature layers for the Navy Data Model (NDM). The NDM is the Navy IGI&S enterprise geodatabase that stores geographic objects as data and is designed to meet the business needs and requirements of its stakeholders. The five feature layers represent crucial data collection efforts in the BASH environment and include: BASH Mitigation Zones, BASH Strike/Near Miss, BASH Attractant Management, BASH Wildlife, and BASH Vegetation Hazard Control . Through this

partnership, CNIC, NAVFAC, and USDA WS AWHP have developed data schema, Data Collection Guidelines (DCG), and workflows for the integration of data collected at CNIC Installations in support of BASH, into the NDM. This integration of data into the NDM will ultimately allow Navy GeoReadiness Explorer (GRX) users to view data collected in support of BASH throughout the Navy GIS Enterprise. To date, USDA WS AWHP has provided 85,000+ data points collected during BASH wildlife surveys, spanning 6 CNIC Regions including 40 CNIC Installations. This data will help inform BASH programs and guide their Wildlife Hazard Management Plans (WHMP) to reduce BASH risk for Navy Assets across CNIC Installations. Having this data readily available through GRX will also be valuable to other program areas and their associated plans such as Integrated Natural Resources Management Plans (INRMP) and Integrated Pest Management Plans (IPMP).

1200-1300 LUNCH

1300-1330 Business Meeting — Bird/Wildlife Aircraft Strike Hazard (BASH) Working Group

1330-1445 DoD Partners in Amphibian and Reptile Conservation (PARC) Network Technical Session

Moderators/Presenters: Chris Petersen*, DoD PARC National Representative, christopher.e.petersen4.civ@us.navy.mil;* Rob Lovich*, DoD PARC National Technical Representative, robert.e.lovich.civ@us.navy.mil*

Session Summary: Our technical session will cover a variety of topics related to the conservation and management of reptiles and amphibians on military lands. We will discuss current, new, and future DoD PARC products such as our annual report, podcasts, and collaborative surveys with DoD Partners in Flight and other partners. Furthermore, we will present on new and emerging techniques and research opportunities for monitoring herpetofauna and highlight specific DoD PARC projects currently being conduct on military lands. Projects that will be highlighted include preliminary results of our mission-sensitive species genomics project, California genomics project, western pond turtle surveys, and the DoD Natural Resources Photo Share Site. Lastly, we will update you on national PARC initiatives in addition to recent Endangered Species Act listing decisions made by the U.S. Fish and Wildlife Service.

1445-1500 BREAK

1500-1700 The DoD AKN Program: Progress Update, Avian Survey Methodologies, and Decision-Support Tools

Session Moderator/Presenter: Elizabeth Neipert*, Director – Department of Defense Avian Knowledge Network Program, Chair – AKN Steering Committee, Interim U.S. Coordinator – Partners in Flight (PIF), Research Wildlife Biologist – US Army Corps of Engineers, Engineer Research & Development Center – Environmental Lab, elizabeth.s.neipert@erdc.dren.mil*

Session Abstract: Over the last year, there has been substantial progress within the DoD Avian Knowledge Network (AKN) Program, including incorporation of installation avian data within the system, providing multiple trainings for DoD professionals, and DoD-specific and AKN-wide tool development. This session will involve three major components: 1) the Program Director will provide updates on the progress made within the last year; 2) Program partners will give technical presentations on best practices for INRMP-relevant DoD avian monitoring methodologies, decision-support tools for Mission-Sensitive Species, specifically Burrowing Owls, and tools to assess relative conservation responsibility of avian species across jurisdictions; and 3) Military leadership will be present for a Q & A discussion and provide DoD-wide and Military Component-specific implementation guidance.

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Using AKN frameworks to improve bird monitoring: Practical strategies and best practices

Presenters/Co-authors: John Alexander*, Executive Director – Klamath Bird Observatory, jda@klamathbird.org;* Caitlyn Gillespie*, Research Biologist/Informatics and Data Science Program – Klamath Bird Observatory, crg@klamathbird.org*

Summary: Over the past few years, the DoD AKN Program has helped military installations improve their bird monitoring efforts by offering guidance on study design, survey methods, and data management. Our goal is to ensure that monitoring efforts are well-structured, efficient, and aligned with each installation's conservation priorities. In this presentation, we'll share our approach to selecting the best monitoring methods and organizing data in a way that maximizes its usefulness. By considering factors like survey efficiency, species detectability, resulting analysis and population metrics, and survey timing, we aim to help DoD biologists get the most value from their bird monitoring programs. Ultimately, the DoD AKN Program provides tools and support to ensure high-quality data collection and informed decision-making for managing bird populations on DoD lands.

DoD AKN Mission-Sensitive Species Data Initiative – effective Burrowing Owl monitoring and data management

Presenters/Co-authors: Caitlyn Gillespie*, Research Biologist/Informatics and Data Science Program – Klamath Bird Observatory, crg@klamathbird.org;* John Alexander*, Executive Director – Klamath Bird Observatory, jda@klamathbird.org*

Summary: The DoD AKN Program offers tools and guidance to help biologists both improve data management and support effective bird monitoring. Specifically, the Program's Mission-Sensitive Species (MSS) Data Initiative aims to provide DoD biologists with species-relevant monitoring guidance to support conservation goals and regulatory requirements. In this presentation, we will describe the DoD AKN Program MSS Data Initiative process and present tools and resources for DoD biologists. Using theoretical and real-world examples, we will focus on Burrowing Owls, including a review of current survey methodologies, recommended monitoring protocols and data management strategies, and framework to develop outcome-focused study design.

Quantifying the relative conservation responsibility of military lands

Presenters/Co-authors: Sam Veloz*, Director Ecoinformatics and Climate Solutions – Point Blue Conservation Science, sveloz@pointblue.org;* Leo Salas*, Principle Quantitative Ecologist – Point Blue Conservation Science, lsalas@pointblue.org*

Summary: Conservation of at-risk species, particularly by federal or state agencies, must consider the agency's mission and regulatory requirements while at the same time assessing the degree to which the species relies upon the agency's lands or water for persistence or population growth relative to its distribution across other land ownerships. Understanding this "relative conservation responsibility" of avian species on military installations can help prioritize where conservation actions can have the greatest benefits for at-risk species by military staff, potentially accelerating species recovery. The DoD AKN Program Team, with additional support from Klamath Bird Observatory and Point Blue Conservation Science, has recently received funding from the NASA Research Opportunities in Space and Earth Science (ROSES) Program to develop a new decision-support tool to help assess relative species' conservation responsibility across diverse jurisdictional landscapes. By integrating real-world DoD AKN avian observation data with NASA remote sensing products, this tool will summarize occurrence and abundance of avian Mission-Sensitive Species across jurisdictional

landscapes, even in unsurveyed areas. We will preview how these tools will be updatable with new avian observation data and satellite imagery so that the tools can continuously provide up to date and actionable information. By identifying where species occur across different jurisdictions, this tool will also help the DoD find key partners—such as federal agencies, state wildlife programs, and conservation organizations—that share similar conservation goals, making it easier to coordinate efforts and maximize conservation impact. This tool will enable better understanding of conservation responsibilities across jurisdictions, helping federal agencies prioritize efforts effectively and efficiently.

Military Leadership Question and Answer

Session Room #3 (Beckham, 3rd Floor)

0800-0930 Special Session — Interagency Partnerships and Innovative Solutions for Climate Adaptation

Moderators: Christy Wolf*, Conservation Program Manager, Naval Weapons Station Seal Beach, christy.m.wolf.civ@us.navy.mil;* Mindy Clarke*, Assistant Director, Center for Environmental Management of Military Lands (CEMML), Colorado State University (CSU), Mindy.clarke@colostate.edu*

Abstract: Complex climate change responses require leveraging expertise and funding from multiple sources, as well as ensuring that multiple perspectives and priorities are represented in resilience-building projects. Presenters will demonstrate how innovative partnerships have achieved successful conservation to build climate change resilience and present real-world examples of achievements in climate adaptation and mitigation.

The Development and Implementation of Nature Based Solutions for DoD Installations: Lessons Learned from MCAS Cherry Point

Presenter: Jessica Guilianelli*, US Marine Corps, MCAS Cherry Point, jessica.guilianelli@usmc.mil*

Abstract: Marine Corps Air Station (MCAS) Cherry Point is bounded by water on three sides, presenting a unique set of challenges for the resilience of the installation. In order to increase resilience along the extensive Neuse River shoreline, MCAS Cherry Point has proposed a living shoreline from Slocum Creek to Hancock Creek that will protect 12,000 linear feet of shoreline, defending existing infrastructure and reducing the potential for continued erosion. Discussion will focus on management practices, the rigorous permitting process for nature-based solutions, benefits of partnerships, and lessons learned throughout the development and implementation of the project.

Protecting Our Heritage, Preserving Our Future: Shoreline Resiliency Efforts at JBLE–Eustis

Presenter: Suzanne Dyba*, MBA, MEM, PMP, Environmental Engineer/Water Quality Program Manager, Joint-Base Langley–Eustis, suzanne.dyba@us.af.mil*

Abstract: JBLE–Eustis is facing significant challenges due to sea-level rise, with 22 miles of vulnerable shoreline, 234 archaeological sites, and many acres of forested coastal training areas at risk of erosion and inundation. Although we are in early stages of addressing our shoreline concerns, we have begun to take steps toward resiliency. These include developing strategic partnerships, living shoreline project planning, and exploring Thin Layer Placement (TLP) opportunities. This presentation will outline our proactive approach to shoreline management thus far, highlighting the challenges, opportunities, and innovative solutions being implemented to protect our installation's natural and cultural resources.

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Field Methods to Validate and Prioritize Current and Future Carbon Opportunities on Military Lands — a demonstration of evaluation methods spanning the United States

Presenter: Nathan Beane*, U.S. Army, ERDC-EL, nathan.r.beane@usace.army.mil*

Abstract: Supporting the U.S. Marine Corps (USMC), the U.S. Army, Engineer Research and Development Center (ERDC), Forest Ecosystem Dynamics (FED) Team are evaluating and prioritizing carbon storage and sequestration opportunities at select installations to meet the objectives of the Department of Defense (DoD) Climate Adaptation Plan. Through joint efforts of the ERDC-FED Team and Engineering With Nature® Program, field investigations and opportunity assessments have been conducted, to date, at Townsend Bombing Range (Georgia), Mountain Warfare Training Center (California), Camp Lejeune (North Carolina), and Parris Island (South Carolina). The objective of this research is to evaluate and provide guidance for reforestation, carbon storage, and carbon sequestration opportunities across diverse ecosystems and training environments managed by USMC. The goal of this study is to quantify biomass and soil carbon storage and sequestration priorities while also identifying reforestation opportunities across dominant forest and wetland habitats.

0930-0945 Business Meeting — Climate Change Working Group

Moderators: Mindy Clarke, PhD*, Assistant Director, Climate Adaptation Program, Center for Environmental Management of Military Land (CEMML), mindy.clarke@colostate.edu;* Christy M. Wolf*, Conservation Program Manager, Naval Weapons Station Seal Beach Detachment Fallbrook, NAVFAC Southwest, christy.m.wolf.civ@us.navy.mil*

Abstract: Concerned about climate change? Seeking to learn about climate science and potential implications of climate projections? Looking for adaptation and mitigation opportunities? NMFWA's Climate Change Working Group (CCWG) shares information among NMFWA members regarding the management of natural resources on US military lands and waters in the context of an ever-changing environment. Come join our annual business meeting, meet the CCWG officers and Committee members, learn about what the CCWG has been working on over the past year, provide input into activities for the year ahead, and how you can get involved.

0945-1000 BREAK

1000-1100 The Endangered Species Toolbox: Creative, Mission-based, Conservation Solutions

Moderator/Presenters: Tad McCall*, Senior Advisor, Strategic Conservation & Policy Program, Texas A&M Natural Resources Institute, Tad.mccall@ag.tamu.edu;* Caitlin Castro*, student assistant, Texas A&M University (TAMU) Natural Resources Institute (NRI) and Department of Rangeland, Wildlife, and Fisheries Management (RWFM);* Dr. Kathryn (Katy) Smith*, project manager, Texas A&M Natural Resources Institute, Strategic Conservation and Policy Program team;* Stefanie Blihovde*, project Manager, Texas A&M Natural Resources Institute, Military Lands Sustainability and Policy Group's Strategic Conservation and Policy Program;* Louise McCallie*, senior research associate, Texas A&M Natural Resources Institute*

Session Overview: In support of the Department of Defense (DOD) and Department of the Interior (DOI) Recovery and Sustainment Partnership (RASP) Initiative, the Natural Resources Institute (NRI) at Texas A&M University has compiled an Endangered Species Act (ESA) Toolbox for use by DOD installations across the U.S. The ESA Toolbox is a comprehensive and updateable guide for DOD natural resources managers, providing specific tools and innovations that enable an installation to conserve species in ways that sustain military mission capabilities. This session introduces attendees to the Toolbox and highlights the conservation strategies included therein that will enable installations to implement the ESA more efficiently and effectively.

The ESA Toolbox uses case studies featuring DOD installations, supplemented with guidance to help installations pick the most relevant approaches and strategies for their situation. The ESA Toolbox begins with a Basics section. The Basics section presents three case studies that show that complying with the ESA does not always have to involve an intricate or complicated application of the ESA. The Basics is followed by three Tool Kits. Each tool kit illustrates specific tools and innovations that enable an installation to conserve species in ways that sustain military mission capabilities. Tool Kit 1 features case studies illustrating efficient programmatic conservation approaches that reduce paperwork and oversight and sustain mission flexibility. Tool Kit 2 explores approaches to engage with partners outside the installation. The off-installation cases sustain installation mission flexibility and provide effective conservation across habitats, rather than focusing exclusively on installation natural resources. Tool Kit 3 case studies illustrate the advantages of early engagement with the U.S. Fish and Wildlife Service as an effective strategy to obtain regulatory agreement on conservation solutions that also sustain installation missions. The Toolbox recognizes that DOD installations face a diversity of conservation challenges and presents the case study method to offer nuanced sets of solutions for each installation to consider that will best meet mission needs and conservation goals.

Session Objectives:

1. Introduce the Toolbox, including the overall concept, its basic structure, the intended audience, and its intended use.

2. Share the specifics of the four main sections: including the Basics and then each of the three individual Tool Kits, each with a different set of tools that use a particular overall strategy.

3. Spotlight case studies that demonstrate broad concepts and elaborate on how these approaches can be used to streamline the ESA process at other installations.

4. Demonstrate where the Toolbox can be accessed, the formats provided to fit different needs and audiences, and how the navigation works.

1100-1200 BASH Special Topics

Moderator: **Brian Washburn**, *Research Wildlife Biologist, USDA Wildlife Services, Sandusky, OH*

Avian Radar Track Identification for BASH and Environmental Planning

Presenter: **Dr. Chloe A. Wright**, *Wildlife Research Scientist, University of Montana, chloe.wright@mso.umt.edu*

Abstract: An important goal of wildlife planning at military airfields is to reduce the risk of wildlife strikes by aircraft through Bird/Wildlife Aircraft Strike Hazard (BASH) programs. Many airfields use avian radar detection systems to assist in this goal. However, radar systems do not automatically identify bird attributes, such as bird species or flock size, which would be useful for understanding spatial and temporal patterns of bird activity and real time risk to aircraft. Instead, radar collects information about tracked targets (i.e. shape, size, speed), which may allow identification of targets to different levels of classification based on bird morphology or flock size. We classified tracks recorded by MERLIN DeTect radar systems at Ellsworth and Offutt Air Force Bases to different levels of bird type and quantity. We created a dataset of 4,225 ground truth tracks at Ellsworth and 2,257 tracks at Offutt by identifying radar tracks to bird species and quantity in the field, then used machine learning models to evaluate whether tracks could be classified based on covariates. We demonstrate how this broadly applicable approach can be used to better inform BASH programs at military airfields through identification of potential habitat modification sites and implementing risk management procedures.

Managing Raptor Strike Risk with Aircraft by Understanding Small Mammal Occurrence at Grand Forks Air Force Base in North Dakota

Presenter: **Levin Brandt**, *Graduate Student, University of North Dakota Biology Department*

Abstract: Collisions of birds with aircraft are a major safety issue. On military installations, collision risk has not only implications for safety but also for national security depending on the information and technology on the aircraft. As a result, there is a need to conduct evaluations

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of bird attractants at the airfield and surrounding landscape to mitigate bird collisions with aircraft. Grand Forks Air Force Base (GFAFB) is a 2,325-ha (5,745 acres) installation situated among a complex landscape, which includes state and federal conservation areas managed for grasslands and wetlands, providing an ideal habitat to encourage raptors in and around the airfield. To evaluate raptor food availability at the GFAFB, we conducted a small mammal study in 2021 and 2022. We ran 18–125 m transects with Sherman live traps placed every 5 m. Transects were selected at a subset of points that were on-base (n = 9) and off-base (n = 9). Traps were baited with peanut butter and oats and checked in the morning and evening for three consecutive days each season. We found a total of 11 species of small mammals with 376 captures on-base and 217 captures off-base. We did not detect a statistically significant difference ($p>0.05$) in catch per unit effort between on and off base transects. When we examined areas by vegetation management using mowing, we found a statistical difference between off-base with un-mowed and on-base mowed areas having lower small mammal catch per unit effort than un-mowed areas on base. As would be expected with summer breeding, we found higher small mammal catch/effort in fall compared to summer and spring. Our results suggest that overall, the base is not more attractive than the surrounding landscape, but that un-mowed areas on base hold higher numbers of small mammals than areas mowed on base and that numbers of small mammals change with season. These areas and temporal periods with higher small mammals may serve as attractive times and sites for raptors that increase collision risk.

Assessing Mitigation Translocation as a Tool to Reduce Human–great Horned owl Conflicts

Presenter: Brian Washburn*, Research Wildlife Biologist, USDA Wildlife Services, Sandusky, OH*

Abstract: The great horned owl (*Bubo virginianus*) is a generalist predator that inhabits wide-ranging territories that are relatively stable throughout the year. These owls are also involved in a variety of human–owl conflicts, including killing of domestic poultry, predating colonially nesting seabirds and shorebirds, and pose a hazard to safe aircraft operations. Managing these conflict situations presents unique challenges as great horned owls are nocturnally active and occupy a wide range of habitats. We evaluated information about great horned owl collisions with civilian aircraft and found this is a contemporary and growing aviation safety issue. We conducted a study to determine whether a biological (e.g., age of the bird) and logistical factors (e.g., month and translocation distance) influenced the return rate of great horned owls following a mitigation translocation from 13 civil airports and three military airfields during 2013–2023. Great horned owls (n = 1,020) were live-captured, banded, and translocated various distances from the airfields which were then monitored for returning owls. We developed a set of candidate binomial-distributed generalized linear models [involving all possible subsets of three factors (age, month, and distance translocated) as well as interactions]. The return rate of translocated great horned owls was very low (i.e., 2.6%) and we found no evidence that these biological and logistical factors influenced great horned owl homing behavior. Management programs that use release sites 40 km from the conflict location and translocate individual owls only once would increase program efficacy by minimizing homing behavior and decreasing implementation costs.

1200-1300 LUNCH

1300-1330 Invasive Species Projects Supported by the DoD SERDP

Opening Remarks: Mr. Kevin Hiers

DNA detection and monitoring of invasive arthropod terrestrial species (IATS) on Pacific Islands

Moderator/Presenter: George Roderick, PhD*, The Regents of the University of California*

Abstract: Invasive (introduced) alien terrestrial species (IATS) are a growing threat to environmental and human health and livelihoods, especially on Pacific Islands. Our project is developing eDNA and DNA metabarcoding tools for rapid detection and monitoring of invasive terrestrial arthropods. We are studying multiple sites/islands on Hawaii, Guam and the Marianas, and Okinawa, spanning gradients of habitat disturbance from range-edge to mixed and largely native forest.

Highly modified range-edge habitats were found to have the greatest number of arthropod species, and the most invasive species. We used new sources of eDNA (spider webs, wash water, washed leaves, washed leaf-litter, etc.) to detect both species identity and relative abundance, and found that multiple eDNA collection methods are necessary to recover most species detected with traditional approaches. eDNA and DNA metabarcoding both rely on accurate DNA-vouchered data, which remains a challenge for arthropods in the Pacific, where most species are not yet in web-based DNA databases (GenBank/NCBI, BOLD). We found that AI and machine learning (NI-Classify) can assist with classifying arthropods as invasive (introduced) or native without a complete reference library. These new DNA tools, coupled with accessible databases (GeOME) and outreach, can make detection and monitoring of terrestrial arthropods faster and less expensive.

RNA interference (RNAi) for invasive ant control and eradication

Moderators/Presenters: Neil Tsutsui, PhD *(Dept of Environmental Science, Policy and Management, UC Berkeley) and* Elizabeth Cash *(Dept of Environmental Science, Policy and Management, UC Berkeley; Engineering School of Sustainable Infrastructure & Environment, University of Florida)*

Abstract: Invasive ants rank among the most damaging of invasive species and they continue to be introduced to new locations by human activities. Current methods that use conventional insecticides for control are unsuitable in many contexts due to their impacts on sensitive non-target organisms, soil, water, and air. Silencing of essential genes using RNA interference (RNAi) offers a potential species-specific control strategy, but this technology has proven difficult to implement for ants. To address these problems, we have performed a series of experiments that address potential barriers to efficacy and field deployment. We have discovered and tested new methods that solve previous problems and combined our discoveries into a new formulation and baiting protocol. We show that this new approach is successful, leading to significant mortality in several species of invasive ants. Next steps include optimization and increasing efficacy, thus allowing this approach to be scaled up, confirmation of safety for non-target organisms, and eventual field trials for the control and eradication of invasive ants.

Role of Invasive Species in Seed Dispersal Networks of Hawaii

Moderator/Presenter: Jinelle Sperry, PhD*, ERDC-CERL*

Abstract: Multi-species interactions are crucial to the maintenance of ecosystem services. This is especially true for seed dispersal networks, where interactions among seed dispersers, plants, and predators influence the efficacy of seed dispersal and community structuring. The Hawaiian Islands are both the extinction and invasive species capitals of the world, with ecosystems replete with a mix of invasive and native species. Although the vast majority of native Hawaiian plants are bird-dispersed, the only effective seed dispersers that remain in most ecosystems are invasive birds and rats. In collaboration with Army Natural Resources Oahu, our SERDP funded projects examine the role of invasive vertebrate species on native and non-native plant dispersal on Oahu, as well as potential management strategies for increasing seed dispersal and maintaining robust ecosystems. Our work has found that invasive species play an important role in seed dispersal networks in Hawaii, albeit with the majority of interactions between invasive birds and invasive plants, indicating that sustained and creative management solutions are needed to identify and encourage critical mutualistic interactions involving native plants.

1400-1445 DoD Small Mammal Initiative

Moderators: David McNaughton*, NAVFAC SW, San Diego, CA;* Eric Britzke*, ERDC Environmental Lab, Vicksburg, MI*

Abstract: The DoD Small Mammal Initiative provides OSD with subject matter expert input on non-game mammals. Led by Eric Britzke and Dave McNaughton, this session will update the audience on listed bat determination keys, data centralization and archiving, research priorities, bat programmatic consultations, and the newly formed CWPRI working group. The session will also discuss support tools, trainings, and materials planned for release in FY25 and FY26.

1445-1500 BREAK

Thursday, March 13 *(continued)*

1500-1530 |Business Meeting — NMFWA Bat Working Group

1530-1700 NMFWA Bat Working Group Technical Session

Moderators/Presenters: Mike Armstrong/Andy King/ Rain Ketzler – *USFWS Species Updates;* Brian Reichert/ Bethany Straw/Andrea Schuhmann – *USGS NABat;* Amanda Adams/Megann Santana – *BCI/USFWS/ DoD Cooperative Agreement;* Joy O'Keefe/Reed D. Crawford/Patrick Wolff – *Artificial Roosts*

Update and status on listed and under review bats

Authors: Andrew King*, Fish and Wildlife Biologist, US Fish and Wildlife Service, Indiana Field Office, Bloomington, IN;* Mike Armstrong*, Fish and Wildlife Biologist, US Fish and Wildlife Service, Kentucky Field Office, Frankfort, KY*

Abstract: We will share updated information on bats that are currently listed and under review for listing, including *Myotis sodalis, Myotis grisescens, Myotis septentrionalis, Perimyotis subflavus, Myotis lucifugus,* and *Lasiurus cinereus.* We may potentially include information on *Corynorhinus townsendii virginianus, C.t. ingens*, and *Eumops floridanus*.

DoD-specific Customizations to the NABat Partner Portal and What They Mean for Streamlining Survey Workflows and Information Delivery of Bat-related Data

Authors: Brian Reichert, Bethany Straw, Andrea Schuhmann*; U.S. Geological Survey, Fort Collins Science Center*

Abstract: Major updates to the North American Bat Monitoring Program's (NABat) Partner Portal user interface are underway aimed at streamlining bat survey workflows and information delivery for Department of Defense partners. NABat is rolling-out customized project planning, project management, and automated reporting build-outs tiered to the bat-related information needs of Department of Defense (DoD) contract administrators, installation command, and defense branch administration. We will provide a walkthrough of these DoD-specific customizations and reporting options. We will also share general NABat programmatic updates, including the release of the first edition North American Bat Monitoring Program report providing a snapshot of the current NABat network of users and contributors and a summary of the NABat database holdings — over 113 million bat-related data records powering analyses that inform where bats are, in what numbers, and how bat populations are changing through time.

Progress update on the USFWS-BCI-DoD Cooperative Agreement for bat monitoring

Authors: Amanda Adams*, Bat Conservation International;* Megann Santana*, U.S. Fish and Wildlife Service*

Abstract: Bat Conservation International (BCI), USFWS, and DoD are collaborating to support bat conservation and monitoring efforts across all branches and installations of the DoD. This collaboration provides funding to identify DoD installation needs to monitor and conserve bats and can fund analysis of data collected during bat acoustic monitoring projects in their Integrated Natural Resources Management Plans (INRMPs). In 2024, 165 installations participated in a survey to identify their status and needs for bat monitoring. We have started working with installations to purchase supplies, provide technical support for monitoring plans, and process data. Our goal is to continue to identify the needs of all installations, facilitate data submission to the North American Bat Monitoring Program (NABat), and support Natural Resource Managers to promote bat conservation across all DoD-managed lands.

Evidence-based guidance for the use of artificial roosts as tools for bat conservation

Authors: Joy O'Keefe, Reed D. Crawford, Patrick J. Wolff – *Human-Wildlife Interactions Lab, University of Illinois Urbana-Champaign, IL (JMO and RDC); Construction Engineering Research Laboratory, U.S. Army Engineer Research and Development Center, Champaign IL (PJW).*

Abstract: Artificial roosts for bats are popular conservation tools used on many DoD properties, offering alternative roost sites for bats adapted to roosting in tree cavities and crevices or in rocky habitat like cliffs and caves. In

the U.S., bat boxes and bark mimics are used by three federally listed bats and many other non-listed species. Despite these structures being widely used and occupied by bats, best practices for structural design, deployment, and monitoring have not been established. Until recently there had been little work to improve the microclimate conditions inside artificial roost structures, which tend to offer more variable temperatures than natural tree and rock roosts. Artificial roosts are prone to overheating on warm, sunny days and are typically too cold at night, when pups are left alone in the roost. We will review research on simple design modifications that have improved daytime and nighttime conditions inside rocket style and flat-fronted bat boxes, sharing the results of computational work and field studies in Minnesota, Illinois, Indiana, and Florida. Landscape placement is another critical factor affecting uptake and efficacy of artificial roosts, so we will provide evidence-based guidance on where to place roosts relative to cover and potential foraging habitat. We will share tips to best monitor structures for use by bats, accounting for the known variation in individual and population-level use. Finally, we will discuss scenarios in which installing artificial roosts is not advisable and describe alternative means for creating natural roosting habitat for bats where it is lacking. Our aim is to provide natural resource managers with the knowledge to develop effective roost structures and recommendations for when and where to place them to achieve their bat conservation goals.

Session Room #4 (Stopher, 3rd Floor)

0800-0945 Monarch Butterfly on DoD Lands — Next Steps

Moderator: Cheryl Schultz*, Washington State University*

Session Summary: The Department of Defense Legacy Resource Management Program (DoD Legacy Program) is partnering with the U.S. Forest Service International Program to support DoD in monarch conservation. During FY23 and FY24, partners have been interfacing with installations and developing resources to help natural resource managers with the potential listing of the monarch butterfly in FY25. In addition, partners have been working to advance basic science to fill important knowledge gaps to manage monarchs and monarch habitat on DoD lands. Programs aim to help DoD land managers develop efficient and effective strategies which maximize the use of their lands for training while meeting the needs of this widespread at-risk butterfly. This session will facilitate information exchange session among USFS-IP and their partners, USFWS and DoD natural resource managers to help guide current and future efforts through this partnership.

Welcome and Introduction to DoD Legacy — US Forest Service-International Programs Partnership

Presenters: Matt Horning, Michael Rizo *(USFS-IP)*

Introduction to proposed rule to list monarch butterfly as a threatened species

Presenter: *USFWS (TBD)*

DoD's Conservation Strategy for monarch butterfly

Presenter: Cheryl Schultz*, Washington State University*

Q+A with DoD and USFWS leaders

Research to advance monarch conservation on Department of Defense Lands

Presenter: Cheryl Schultz

Co-authors: Elizabeth Crone, Aramee Diethelm, Lucia Weiman and Neal Williams

Organization: *Washington State University and University of California Davis*

Abstract: Monarch butterflies (*Danaus plexippus*) have declined dramatically across North America. Monarchs in the West have declined by over 99 percent since the 1980s, with a second steep crash in the last five years with fewer than 10,000 butterflies overwintering in November 2024. In December 2024, the monarch butterfly was proposed as a threatened species under the US Endangered Species Act. We are working closely with Department of Defense, US Forest Service, Xerces Society for Invertebrate Conservation and partners across the west to design and implement research to increase the efficiency and effectiveness of managing habitat for monarchs on DoD lands in the West. A primary aim of our work is to gain insight into the monarch breeding phenology — or the timing of when

Thursday, March 13 *(continued)*

breeding occurs across the western range — to help inform timing of other activities on these lands. A second aim of this work is to understand what tools are available to increase resiliency of monarch habitat experiencing extreme conditions of heat and drought. A third aim is to quantify the role of monarch habitat to act as an umbrella for other pollinator species. I will highlight lessons learned from this work-to-date including insights into potential drivers of decline in the 2024 crash as well as potential steps towards building more resilient habitat.

Impacts of Motus-compatible telemetry tags on monarch butterfly movement, behavior, and survival

Presenters: Leone Brown, Helen St. John*, James Madison University*

Abstract: With monarch butterfly population declines and increasingly small radiotelemetry tags, the international Motus telemetry tower network holds promise for understanding monarch movement and pinpointing regions of conservation concern. Movement of monarchs carrying Motus-compatible tags has been documented but impacts of tags and attachment methods have not been evaluated. We conducted fieldwork comparing move lengths and times, turning angles, and resting probability in untagged and tagged breeding and migratory monarchs, using Lotek NanoPin and Cellular Tracking Technologies' BlūMorpho tags. We conducted a greenhouse study testing effects of four glue types on monarch lifespan, and tag retention for a subset of CTT-tagged butterflies. Our field study suggests individuals with heavier-weight Lotek tags moved shorter distances, spent more time resting, and had a higher resting probability than untagged or CTT-tagged monarchs. Movement in heavier monarchs may be compromised by heavier tags, but monarchs with larger wingspans were less affected. In the greenhouse, tagged monarchs successfully mated and laid eggs, and carrying a tag did not affect lifespan. Superglue and Vetbond adhesives lowered monarch lifespan, while DuoActive eyelash glue and Torbot bonding cement did not, although the mean was lower relative to controls. Fewer tags were lost with eyelash glue than superglue or Torbot, although this was not significant; Vetbond did not adhere tags. Monarch conservation will benefit from a broadening Motus network, but we urge tagging effort coordinators to have clearly defined research questions and goals, to use the smallest tag that facilitates reaching study goals, and to carefully consider unanticipated tagging impacts.

0945-1000 BREAK

1000-1200 Monarch Butterfly on DoD Lands – Next Steps

Recovering monarch butterflies in California and the West on DoD lands

Presenter: Emma Pelton*, Xerces Society*

Abstract: The Xerces Society is working with the Department of Defense (DoD) natural resource managers, US Forest Service International Program (USFS-IP), fellow grant recipients, community scientists, and other conservation partners to monitor, protect and restore western monarch overwintering habitat and map, restore and guide management of monarch breeding habitat DoD lands in the West. We are also partnering with researchers and DoD natural resource managers to advance monarch overwintering and breeding science, including current projects to advance the use of telemetry and Motus to track monarchs and to better understand monarch overwintering habitat requirements.

We also work to engage community scientists, on-base communities and the public to engage in monarch conservation, with a focus on lowering barriers to participation. Specific work accomplished over the past year include engaging with installation managers across the western breeding and overwintering range, writing site-specific management guidance, providing technical assistance on breeding habitat restoration, giving away free milkweed and nectar plants, and advancing multiple research projects.

Enhancing Monarch Research and Community Engagement through Veteran and Military Spouse Employment

Presenters: Dejeanne May, Jordan Castinado*, Environment for the Americas (EFTA)*

Abstract: In 2024, Environment for the Americas (EFTA), a nonprofit that connects diverse communities with nature and bird conservation through education, research, and

training, expanded its internship model to support monarch conservation on military installations. Focused on empowering veterans and military families while addressing workforce gaps in conservation, the program engaged 13 interns, including nine with military affiliations, and was led by a military-affiliated project manager. Supported by the U.S. Forest Service International Programs and the Department of Defense Legacy Resource Management Program, and in partnership with key organizations like the Monarch Joint Venture (MJV) and Xerces Society, EFTA advanced monarch monitoring and conservation while informing DoD land management.

EFTA interns conducted breeding-season surveys on 30 military installations across 12 states, covering over 2.8 million square meters of DoD land. Their contributions included data on nectar plant diversity, milkweed availability, and monarch presence, supporting initiatives like the Integrated Monarch Monitoring Program (IMMP) and Western Monarch Milkweed Mapper. Interns also supported the Western Monarch Count by surveying over 30 overwintering sites on California installations. Results showed monarch breeding habitat at all installations, with 62% of survey sites containing milkweed and monarchs observed at all but two installations.

Interns like Army veteran Brittany Hutchinson, military spouse Olivia Geiger, and Marine Corps veteran Jordan Castinado discovered new career paths through skill-building, career guidance, and public engagement. EFTA's impactful model advances monarch conservation while equipping military-affiliated individuals with tools for career success, integrating community engagement with critical research for lasting environmental impact.

DoD Lands in California: Leveraging the expertise of Resource Conservation Districts to improve monarch habitat

Presenter: Heather Bernikoff; Co-author: Nancy Wahl-Scheurich, *California Association of Resource Conservation Districts*

Abstract: This presentation will update the audience on the progress of work being done under the USFS-IP DoD Legacy program for monarch habitat. We will showcase the successes and project challenges associated with improving and restoring monarch habitat. Additionally, how RCDs link these habitats with additional efforts to amplify the DoD projects will be discussed. The audience will learn about the complexities inherent in these projects, project design ideas and how these investments are being multiplied exponentially through leveraging other programs.

Highlights on actions to enhance monarch habitat on DoD lands in the range of western monarch

Presenter: *TBD*

Monarch Habitat Assessments on DoD Lands

Presenter: Alexa Koch*, Monarch Joint Venture*

Abstract: Through the support of the interagency agreement between US Forest Service and the Department of Defense on monarch butterfly conservation, Monarch Joint Venture has partnered with Environment for the Americas (EFTA) to conduct monarch habitat and monitoring surveys across Department of Defense lands. This joint initiative seeks to assist DoD natural resource managers in maximizing the use of their lands for training, while addressing the needs of this widespread at-risk species, by assessing existing or potential habitat and monarch presence on installations. MJV and EFTA have coordinated and completed visits to 50 installations encompassing 5 military branches throughout the course of the project thus far. These visits totaled nearly 500 Integrated Monarch Monitoring Program (IMMP) surveys conducted, covering a breadth of terrains and ecosystem types. This technical session will give an outline of our data collection processes & the IMMP, presenting our observations and findings in order to take a closer look at monarch habitat across different military branches and regions of the country. Through the data that has been collected, we intend to further support installations in their pollinator conservation efforts through guidance on habitat restoration and management. We will provide an overview of our ongoing efforts and partnerships, highlight the conservation work being done by DoD natural resource teams across the country for both monarchs and other at risk pollinators, and give insight into the future of the project as it continues into 2025.

Thursday, March 13 *(continued)*

Highlights on actions to enhance monarch habitat on DoD lands in the range of eastern monarch

Presenter: TBD*, DoD*

Partnership Approaches for Monarch Butterfly Conservation on Installation Rights-of-Way

Presenter: Alison Little*, University of Illinois Chicago*

Abstract: Energy and transportation lands span millions of miles across the U.S. bisecting a variety of landscapes and infrastructure, including Department of Defense (DOD) installations. When managed for habitat, energy and transportation rights-of-way (ROW) can provide biodiversity and refuge for pollinators and wildlife. The Monarch Candidate Conservation Agreement with Assurances is a voluntary agreement for energy and transportation organizations to create habitat on ROW for regulatory assurances. Through funding from the Office of the Secretary of Defense and the U.S. Forest Service, the University of Illinois Chicago (UIC), administrator of the Monarch CCAA, is expanding the reach of the conservation agreement to DOD installations by enrolling overlapping energy and transportation lands and coordinating conservation vegetation management.

To date, UIC has facilitated working partnerships between installation natural resource staff and industry representatives to coordinate vegetation management activities that support pollinator habitat within overlapping easements. These joint management strategies align common organizational goals, monarch butterfly conservation recommendations, and regulatory parameters, including DOD mission and sustainment parameters and recommendations provided by the U.S. Fish and Wildlife Service.

During this presentation, UIC will provide a summary of the Monarch CCAA and its DOD partnership initiative, including outcomes experienced by installation and industry participants to date. Audience members will gain insight on the role of multi-sector collaboration for conservation on DOD installations, including how these partnerships can leverage anticipated regulatory consultations associated with species listings for all involved parties.

Applying the Bumble Bee Atlas to Department of Defense Lands

Presenter: Rich Hadfield*, Xerces;* Mike Jungen*, USFWS*

Abstract: Bumble bees (*Bombus spp.*) are essential pollinators in wildlands, on farms, and in our gardens. Unfortunately, due to myriad threats, including climate change, drought, pesticides, disease, land use change, and competition from commercial bees, many species of bumble bee are in decline, and face an uncertain future. Nine species of bumble bees have been petitioned for endangered species protection under the Endangered Species Act, and two of those species currently have federal protection; the remainder are in the U.S. Fish and Wildlife Service decision-making pipeline. An important first step in conserving these animals is to gain a comprehensive understanding of their status across North America, as these data are lacking. To help close these information gaps, the Xerces Society and partners have been spearheading Bumble Bee Atlas projects (BumbleBeeAtlas.org) across the country since 2018. The program is currently active in 20 states, and is serving to provide essential data to guide on-the-ground conservation action and management, and also to inform Species Status Assessments for Endangered Species Act listing decisions. This presentation discusses the Bumble Bee Atlas purpose, methodology, application on DoD, accessibility to DoD/natural resource staff, and implementation for meeting INRMP project objectives. McConnell AFB's participation in the Great Plains Bumble Bee Atlas is highlighted as an example of the protocol's application on DoD and the DoD's contribution to regional pollinator conservation efforts.

Q+A with session speakers

0945-1000 LUNCH

1300-1330 Business Meeting — NMFWA Pollinator Working Group

Moderators/Presenters: Robert Delph*, NMFWA Working Group Chairperson, Wildlife Biologist, Colorado State University/Center for Environmental Management of Military Lands, Dugway Proving Ground, robertdelph1978@gmail.com;* Mercy Manzanares*,*

NMFWA Working Group Information Outreach Officer Program Coordinator, Program Coordinator Monarch Joint Venture, mmanzanares@monarchjointventure.org

Session Summary: The Pollinator Working Group was established to share information among NMFWA members regarding the management of Pollinator Species on U.S. military lands and waters. During this year's business meeting we will elect a new co-chair and then open the floor to discuss current issues and concerns surrounding pollinator research and management on DoD installations. Join us for the meeting and hopefully you can also attend the Pollinator Technical Session as well!

1330-1445 Archaeological Resource Protection Act of 1979 (ARPA) Technical Session

Moderator & Presenters: Amy Williams*, U.S. Army Corps of Engineers, St. Louis District's Mandatory Center of Expertise;* Matt Baird*, Federal Wildlife Officer, Joint Base Langley-Eustis;* Katie Hill*, U.S. Army Corps of Engineers, Albuquerque District;* Carla Burnside*, US Fish and Wildlife Service*

Session Description: Archaeological Resources Protection Act of 1979 (ARPA) and its uniform regulation (32 CFR Part 229) direct the Department of Defense to protect archaeological resources and sites on public lands and Indian lands through permits and reporting suspected violations of the Act. This session will provide a brief overview of the Act and information on a current DoD Legacy project working to create consistent ARPA processes and procedures across DoD. The project reached out to over 150 archaeologists/cultural resource managers, real estate professionals, and federal law enforcement officers to gather successes, issues, and case studies with ARPA procedures on an installation level.

Archaeological Data Contributions to Wildlife and Ecosystem Studies and US Fish and Wildlife Service's Archaeological Site Monitoring Program

Presenter: Carla Burnside*, US Fish and Wildlife Service*

Archaeology is defined as the study of human history, but data recovered from archaeological sites has contributed to wildlife and ecosystem studies around the world. A quick review of data from archaeological sites will be used to illustrate the value of archaeological data for other disciplines and the need to protect archaeological sites from looting. Archaeological sites yield a variety of important information about past human behaviors, unfortunately the commercial value of artifacts has led to the destruction of archaeological sites on federally managed lands. The US Fish and Wildlife Service, Division of Refuge Law Enforcement has implemented a Disturbance Monitoring and Protection Program aimed at curtailing destruction of archaeological resources on refuge lands. A brief overview of the program will be presented to illustrate how Federal Wildlife Officers are working with archaeologists to improve protection of sites.

Joint Base Langley-Ft Eustis ARPA Case Study

Presenter: Matt Baird*, Federal Wildlife Officer, Joint Base Langley-Eustis*

In January 2024 while patrolling on the James River along the shoreline of Ft Eustis an individual was observed by a Federal Wildlife Officer trespassing and exhibiting suspicious behavior on a portion of Fort Eustis. After contacting the individual, it was determined that a violation of the Archaeological Resources Protection Act (ARPA) had occurred at an archaeological site on the base. This case study will illustrate how law enforcement worked with base archaeologists to gather evidence of a violation of ARPA and submission of the case to the Army Judge Advocate General's Corps for prosecution.

Case Study

Presenter: Katie Hill*, U.S. Army Corps of Engineers, Albuquerque District*

In 2019, what initially appeared as a single potential illegal excavation on Bureau of Land Management (BLM) property near Amarillo, Texas led to the discovery of numerous illegal activities across Texas on private land, parkland in the city of Austin and BLM and Corps of Engineers managed lands by the same individuals. The multi-agency team successfully prosecuted the violators.

Question and Answer

Open Forum with Presenters and Michelle Volkema*, DoD Deputy Federal Preservation Officer, Office of the Assistant Secretary of Defense for Energy, Installations, and Environment*

Thursday, March 13 *(continued)*

1445-1500 BREAK

1500-1600 Spatial Data Standard for Facilities, Infrastructure, and Environment — the importance of data standards and the implementation across the DOD Community

Moderator/Presenter: Caitlan Dowling*, NAVFAC, San Diego, CA*

Session Summary: SDSFIE is a family of IGI&S standards, guidance, and frameworks that include models and specifications and define a DoD-wide set of semantics intended to maximize geospatial information and services interoperability for installation, environment, and civil works missions. Each Department is authorized to create adaptations that meet the needs of their stakeholders, including of the Environmental communities. Presenters will discuss their Departments' model and how they engage stakeholders in its creation.

1600-1700 Managing Threatened and Endangered Plants to Sustain the Training Mission

Moderators/Presenters: Lena Schnell*, Colorado State University, Center for Environmental Management of Military Lands, lena.schnell@colostate.edu;* David Jones*, Colorado State University, Center for Environmental Management of Military Lands, david.jones@colostate.edu*

Session Summary: The DoD is responsible for managing over 500 species listed as threaten or endangered (T&E) under the Endangered Species Act (ESA) and over 550 species at risk (SAR) for needing ESA listing protections. Plants represent the greatest number of listed T&E/SAR species on DOD lands compared to other taxonomic groups. Yet, a national forum to discuss management strategies for conservation, management, and recovery is lacking. This technical session would focus on 1) T&E/SAR plant management including tracking population trends and viability, and how these population data can feed into the frameworks outlined in species recovery plans; 2) Conservation genetics; 3) Management efforts that integrate with DoD initiatives and grant programs such as the Readiness and Environment Integration Program (REPI) among others; 4) Management challenges and techniques.

Aligning Rare Plant Monitoring Data with Recovery Objectives used by the US Fish and Wildlife Service in Hawaii

Authors: Lena Schnell, Dominic Goshert, and David Jones*, Colorado State University, Center for Environmental Management of Military Lands*

Abstract: Pōhakuloa Training Area (PTA) on Hawaii Island is a 132,000-acre installation that supports live-fire and maneuver training for multiple military service branches and US allies. PTA is also home to 20 plant species listed as threatened or endangered (T&E). The populations at PTA are critical to the survival and recovery of most of these T&E species. Multiple threats, such as invasive species and altered fire-regimes, and stressors like climate change compound management challenges for these T&E plant species. In Hawaii, the US Fish and Wildlife Service recently adopted a new recovery stage — Preventing Extinction — for the 20 T&E plant species occurring at PTA. Reliable abundance data/estimates are needed to evaluate management efficacy progress toward conservation goals and species recovery objectives. We used recently improved monitoring protocols to collect abundance data and evaluate progress toward recovery stages for each species by population at PTA. More than half of the 20 T&E species showed a pattern of decline in abundance between 2019 and 2024. Most T&E species have at least one population at PTA with enough mature adults to meet the Preventing Extinction stage; however, many of these populations do not meet other required criteria such as natural regeneration and invasive plants control. From this analysis, we can develop management actions for each species in select populations to enhance the species progress toward recovery.

Assessing the Impact of Invasive Species on Threatened and Endangered Plants in Hawaii's Pōhakuloa Training Area

Authors: Clare Aslan, *School of Earth and Sustainability, Northern Arizona University (clare.aslan@gmail.com);* Sara Souther, *School of Earth and Sustainability, Northern Arizona University;* Christina Liang, *US Forest Service Pacific Southwest Research Station;* Manette Sandor, *Cary Institute of Ecosystem Studies;* Karen Haubensak, *Biological Sciences Department, Northern Arizona University*

Abstract: Pacific Island installations, such as Hawaii's Pōhakuloa Training Area (PTA), are characterized by high occurrences of both invasive species and Threatened and Endangered (T&E) plants. Notably, invasive species like fountain grass (*Cenchrus setaceus*) and fireweed (*Senecio madagascariensis*) are known to disrupt fire regimes, alter nutrient cycling, and outcompete native flora. Through funding from the DoD SERDP program, we are using demographic modeling to assess how these invasive species affect six T&E plant species across PTA. Our approach integrates dynamic population viability analyses (PVA) to evaluate invasive species impacts on population trajectories of both invasive and T&E species. In this study, we have cataloged and measured all individuals in 8–12 populations per species, identified key demographic variables, and developed integral projection models to estimate population growth rates in the presence of invasive competition. Preliminary results from 2023 and 2024 data show that, under current management practices, two of six endangered plant populations are in decline, while the others are stable or growing. Increasing pressures from drought and invasive competition are also evident. Ongoing field experiments are assessing key stressors, including drought, pollination failure, seed predation, and fungal infection, while spatially explicit fire risk models are being developed to further refine PVAs by incorporating fire-related risks. With additional data over the next two years, we aim to refine dynamic, interactive PVAs that will more accurately capture population interactions between T&E plants and invasive species. Ultimately, this research will advance PVA methodology and provide essential insights for adaptive management and conservation strategies. Continued support from DoD grant programs is critical for addressing knowledge gaps and guiding management decisions in the face of ongoing environmental changes.

Innovations in Rare Plant Management at the Army's Natural Resource program O'ahu.

Authors: Kapua Kawelo, *USAG-Hawaii;* Kaia Kong, *USAG-Hawaii;* Tomothy Chambers*, University of Hawaii, Office of the Vice President of Reseach and Innovation*

Presenter: Lena Schnell*, Colorado State University, Center for Environmental Management of Military Lands.*

Abstract: The Army's Natural Resource Program on O'ahu supports Endangered species act (ESA) and Sikes act compliance for the U.S. Army Garrison, Hawaii which is home to over 100 federally listed species. The two main threats from Army training include wildfire and invasive species introduction. In the early 2000's two major ESA consultations were completed with USFWS which outlined requirements to prevent jeopardizing the continued existence of numerous plant and animal taxa. As a result, two implementation plans were developed with a team of experts that laid out specific targets to meet stability for 50 taxa, most of which are plants. ANRPO is on the cutting edge or rare plants conservation, conducting collections, genetic storage, and reintroductions to meet stability goals. All this work is done in context of new invasive species introductions, changing climate and shrinking budgets. This presentation will highlight the successes and challenges of this two-decade long effort.

WHERE TO NEXT?

Columbus, Ohio
March 30 – April 3, 2026
The Hilton Columbus Downtown

2026 NMFWA Annual Meeting & Training Workshop

Thursday, March 13 *(continued)*

REPI Projects Help Build Rare Plant Management and Protection Capacity Across the Hawaiian Islands

Authors: Lena Schnell, *Colorado State University, Center for Environmental Management of Military Lands;* Tiana Lackey, *US Army Garrison, Pohakuloa Training Area;* Kapua Kawelo, *US Army Garrison, Hawaii*

Abstract: The Readiness and Environmental Protection Integration (REPI) program facilitates long-term, collaborative partnerships between installations and state/local agencies that improve resilience, preserve important habitats and natural resources, and support sustainable and productive land uses and water resources for their surrounding communities. Through FY 2023, DoD and its partners have spent over $162 million dollars on REPI projects in Hawaii to address land development and loss of habitat in the vicinity of military installations, ranges, and airspace. By engaging conservation partners through REPI projects, rare plant management occurs regionally and across ecosystems and is not confined within the installation boundary. Since FY 2021, REPI has funded several Army-sponsored projects that address rare plant management through watershed and habitat protection, fire risk reduction, invasive plant management, and seed collection, storage, propagation, and outplanting of native and rare plant species. By implementing these projects and working within the recently established Hawaii Sentinel Landscape Partnership, conservation partners will help protect additional rare plant habitat and outplant new populations of endangered plant species that primarily occur on Army installations. Working with conservation partners to re-establish rare plant populations on land outside the installation boundaries, helps to distribute the burden of management and recovery for these threatened and endangered plants while sustaining installations' operations and resilience.

1715-1815 2025-2026 NMFWA Board of Directors Meeting – All Members Welcome
(Marrow, 3rd Floor, limited space)

Session Summary: This is the inaugural meeting of the incoming 2025-2026 NMFWA Board of Directors (BoD). Please feel free to join us and see what the new BoD has in store for NMFWA. All NMFWA members are welcome to attend.

1830-2030 NMFWA Show & Tell Reception (Grand Ballroom A, 2nd Floor)

Session Summary: All Workshop Attendees are welcome! Our Show and Tell will include a Silent Auction, Poster Session, Agency and Vendor Booths, and our Annual Photo Contest. Photo winners and auction item winners will be announced at 2000 hrs. Item & Award Pick-up will also occur at this time. All proceeds of our Silent Auction will go towards the NMFWA Scholarship Program. Join us for appetizers and a cash bar. Come on down and help us celebrate NMFWA and its amazing Members!!!

SHOW AND TELL

Thursday 1830–2030hrs • Grand Ballroom A, 2nd Floor

Poster Session | Silent Auction | Photo Contest

Agency & Vendor Booths

Photography & Auction Winners will be announced at 2000hrs

Join us for appetizers and cash bar • Vote for your favorite photo!

All proceeds from the Silent Auction will go toward the NMFWA scholarship.

Awards and auction items will need to be picked up at 2000hrs.

Friday, March 14

Please don't forget to silence your cellphone and try to enter and leave rooms between speakers.

AT-A-GLANCE		
0700-1000	NMFWA Registration Desk Open (2nd Floor Registration Desk)	
0700-0800	LIMITED BEVERAGE SERVICE *(Check Whova)*	
0800-1200	**Training Courses, Pre-registration Required**	
	0800-1200	Monarch Butterfly Assessments on Military Installations (Nunn, 2nd floor)
	0800-1200	Avian Carcass Searches to Document an Ecological Incident (Wills, 2nd Floor)
	0800-1200	Novel Approaches to Ground-based Forest Measurements – Seeing the Forest by measuring trees (Breathitt, 2nd Floor)
0800-1530	**Field Trip to Fort Know, Pre-registration Required**	
	0800-0830	Loading buses at hotel (meeting location TBD, *check Whova*)
	1315-1400	Travel back to hotel
0930-1030	LIMITED BEVERAGE SERVICE *(Check Whova)*	
0800-1200	**Session Room #1** (room TBD)	
	0800-1200	Special Topics
1200-1300	LUNCH	

0700-1000 NMFWA Registration Desk Open
(2nd Floor Registration Desk)

0700-0800 Limited Beverage Service *(Check Whova)*

NMFWA TRAINING COURSES/WORKSHOPS

All Courses Require Pre-Registration. Check registration desk for availability.

0800-1200 Monarch Butterfly Assessments on Military Installations (Nunn, 2nd Floor)

Moderator & Instructor: Mercy Manzanares*, Monarch Joint Venture*

Course Description: Part 1: Learn about the current status of monarch butterfly populations and how that can impact habitat management and other activities on military installations. Share how monarchs have already been incorporated into some INRMPs and discuss how to address local factors (e.g., habitat, military activity) when considering monarch resource management.

Part 2: Learn about several methods of assessing monarch habitat and activity on military lands, including what is already underway at certain installations. Focus on a nationwide monarch & pollinator monitoring protocol, the Integrated Monarch Monitoring Program (IMMP), which includes flexible options for monitoring nectar plants, milkweed, monarch reproduction, and adult monarch activity and sharing data among installations. Hear how IMMP has been successfully applied at over 50 military installations and discuss how this or other methods can function for their sites of interest.

0800-1200 Avian Carcass Searches to Document An Ecological Incident (Wills, 2nd Floor)

Moderator & Instructor: Nimish Vyas*, US Geological Survey Eastern Ecological Science Center*

Course Summary: An ecological incident is an adverse effect caused by a stressor on wildlife. Documentation of an incident provides real-world evidence of the adverse effect. Documenting the magnitude of an incident is essential for estimating the losses of federal and state

Friday, March 14 *(continued)*

listed and trust species. Quantification of the magnitude of injury can also serve as a reality check on regulatory and management decisions. Additionally, the magnitude of an incident is a critical element of the prosecution for environmental crimes. Thus, searches for dead and debilitated wildlife are an essential component for documenting and estimating the magnitude of injury. Proficiency at detecting carcasses is a function of experience, as novice searchers are more likely to miss carcasses than experienced searchers. Goals: (1) Attendees will have a greater understanding of the challenges faced when documenting incidents. (2) Attendees will gain a greater appreciation for the value of incident reports. Objectives: The overarching objective of this training is to provide participants real-world experience in searching for and collecting avian carcasses. Training will include an oral presentation and a field exercise. Specific objectives of the oral presentation: (1) Provide an overview of the challenges of documenting incidents. (2) Explain how these challenges may underestimate the magnitude of the incident. (3) Use published studies and case reports to example ecological incidents. 4) Highlight the importance of timeliness in collecting incident evidence, ensuring the sufficiency of evidence, and maintaining the integrity of the evidence collected. Specific objectives of the field search: (1) Provide real-world experience of carcass search and collection using avian carcasses that I will have planted at the field exercise site about two days prior to the search. (2) Introduce novice searchers to carcass searching and provide a refresher for experienced searchers. (3) Before beginning the search, briefly discuss personal protection equipment and personal safety. (4) After the search, discuss search results with respect to the methods used and the potential biases in the results.

0800-1200 Novel Approaches to Ground-based Forest Measurements — Seeing the Forest by Measuring the Trees (Breathitt, 2nd Floor)

Moderator & Instructor: Nathan Beane*, US Army Corps of Engineers*

Course Summary: This training is aimed at reviewing foundational approaches to measuring vegetation while showcasing advancements in forestry tools that can increase efficiencies and improve the quality of data collected. With fast-paced advances in remote sensing technologies, opportunities to acquire high-resolution imagery and LiDAR data of forested areas abound. How does one decipher what they are seeing in the imagery without performing ground-based validation? Collecting accurate forest and vegetation community structure and condition is not only essential for mapping/modeling needs, but also critical information used to guide forest and wildlife management decision-making. The course will be geared to showcase common foundational forest sampling methods and to demonstrate the use of traditional and new innovative tools used to assess forest and vegetation community structure and condition. This learning and hands-on opportunity will discuss method selection while also demonstrating novel tools used to perform forest stand evaluations. This training is applicable to any natural resources manager in any geographic region. This training will provide 1.5 hours of lecture materials, and 2.5 hours of hands-on learning. Attendees are not required to have any prior or specific knowledge of the subject area, but if you hug trees (to measure them as part of your day job), this training will be beneficial to you.

0800-1530 NMFWA Field Trip to Fort Knox
Pre-registration Required

Note: Bus will load outside the Galt House Hotel between 0800-0830 (see registration desk for exact location). Pre-registration is required. Check registration desk for availability. Please bring a lunch and dress appropriately for walking around outside.

Organizer: David Jones, *Chief, Natural Resources Branch (NRB), Environmental Management Division, Fort Knox Kentucky;* Austin Hargrove*, Wildlife Biologist, Environmental Management Division, Fort Knox Kentucky*

Session Summary: Fort Knox is located in north-central Kentucky and is the home of the Army Cadet Command, Army Human Resources Command, and Army Recruiting Command. Fort Knox is 109,000 acres in size (170 square miles) and provides high-quality, realistic training lands for the Army, Air Force, Navy, Marine Corps, National Guard, Coast Guard, Reserve forces, and military units of other nations. While the entire installation is 75% forested there are approximately 65,000 acres that are potentially available for recreational use when the training mission allows in addition to approximately 45,000 acres available for active commercial forest management.

The Fort Knox Natural Resources Branch (NRB) consists of 8 Department of Army civilian employees that encompass sections of Hunt Control, Fish & Widlife as well as Forestry. Our ecological focus is on listed bat species monitoring and management, forest management, non-native invasive vegetation treatments and pollinator habitat. Annually our forestry program generates ~$300,000 via timber sale revenue while our hunting and fishing program generates ~$140,000. We are able to execute our projects through utilization of our USFWS cooperative agreement as well as through contract vendors. The NMFWA field trip will consist of two stops on Fort Knox. Location #1 will include a visit of the Cedar Creek Glade complex on the south side of the installation. More intensive management efforts have taken place in this area over the last decade to include timber stand improvement actions, timber harvesting, herbicide treatment as well as prescribed fire in an attempt to return this footprint back to an oak woodland setting.

Location #2 will include a visit to the west side of the installation on former tank training grounds that were historically impacted by the Armor School. Discussion and management efforts will include reclamation efforts with native vegetation, herbicide treatments, pollinator habitat and old field management techniques.

0930-1030 Limited Beverage Service (*Check Whova*)

SESSION ROOM #1 (room TBD)

0800-1200 Special Topics

Advanced Topics in Floodplain Modeling: Incorporating Subsurface Stormwater Infrastructure

Presenter: Gwynn Ellis

Abstract: With a focus on continuous improvement, the Center for Environmental Management of Military Lands (CEMML) and the Department of Civil and Environmental Engineering at Colorado State University (CSU) working in conjunction with the Air Force Civil Engineering Center (AFCEC) have completed pilot studies at multiple Air Force (AF) installations incorporating subsurface stormwater infrastructure to analyze the impacts to existing floodplain modeling results. CSU/CEMML have previously conducted sophisticated two-dimensional floodplain area analyses for over 90 Air Force installations worldwide. High quality land cover/land use data was developed by CEMML using AF aerial imagery to achieve a resolution of 0.3 m or better. After gathering and developing all the necessary high-resolution spatial data, floodplain models were built for select AF installations and 2D simulations were executed using subject matter expertise, best available science, and the latest high-tech software/hardware tools. These floodplain maps are

Friday, March 14 *(continued)*

made available on the Air Force Geospatial Information Platform for use in planning, analysis, and assessments at both the installation and enterprise level.

Having assessed the floodplain for over 90 AF sites, nationally and internationally, CSU has identified opportunities and challenges in modeling complexities between the bases that offer interesting insights for floodplain development at the enterprise level for the US military. We will review comparisons between standard CSU/CEMML floodplain method results and how they compare with results from updated models that incorporate subsurface stormwater infrastructure. This session will explore how to apply these results to identify when incorporating additional data inputs into the modeling process is most beneficial as well as feasible. Additionally, we will examine the successes achieved under this effort as well as further capabilities and future possibilities for process improvements. Floodplain maps are an integral piece of installation planning and CSU/CEMML is constantly looking for ways to ensure the floodplain maps are as complete and reliable as possible.

GIS Web Applications for Natural Resources Management

Presenter: Gwynn Ellis

Abstract: Geographic Information System (GIS) web applications can be beneficial for natural resource management by providing a user-friendly platform to visualize, analyze, and understand data. The results can then be used to optimize planning and decision making. Working in conjunction with the Air Force Civil Engineering Center (AFCEC), Colorado State University/Center for Environmental Management of Military Lands (CSU/CEMML) has already been tasked to create a comprehensive standardized geospatial database for all Air Force installations providing a readily available dataset of Environmental assets from which GIS analysis can be performed. This data has then been incorporated into GIS web applications to easily visualize large datasets and facilitate analysis for streamlined decision making across the enterprise. We will highlight how web applications currently in-use by the Air Force ranging from viewers hosting large datasets with intuitive visualization to interactive dashboards and applications allowing for advanced spatial analysis how they can help drive planning and management decisions.

1200-1300 LUNCH

See you next year in Columbus!

Thank You!

No meeting can be a success without the efforts of special people who give of their time and talents in putting the meeting together. The NMFWA Board of Directors and its members would like to thank:

Workshop Coordination and Assistance

Workshop Coordinator
Russ Lawrence
Photographers
Bryan Hall, Junior Kerns
Program and Reviewers
Zoe Duran, Michèle Richards, Janet Johnson
AV Lead
Vanessa Shoblock
AV Support
Christian Johnson, Soe Minh Thu
Show & Tell and Poster Session (set up, food)
Taura Huxley
Photo Contest
Nicole Olmstead
Silent Auction
Dave Hanson, Scott Summers
Show & Tell MC
Bill Berry
Newcomers Meet & Greet
Charles Baun
T-Shirts & Art Contest
Liz Neipert
Workshop Pins
Michèle Richards
Training Committee
Janet Johnson (Chair), Coralie Cobb, Nicole Olmsted, Dana Lujan, Cole Hovanec, Jennifer Scarborough
Working Group Coordination
Michael Wright
Awards/Hall of Fame
Vanessa Shoblock, April Andujar, Tammy Conkle
Sponsor Coordination
Zoe Duran
Transportation Coordination
Russ Lawrence, Tim Buchanan

Instructors

Jillian Josimovich
Michelle Volkema
Tom Olexa
C. Scott Hardaway, Jr
Stephen Spear
Tyler Untiedt
Hayley DeHart
Mark Johnson
Rich Hatfield
Donald Solick
Nick Solick
Rada Petric
Caitlan Dowling
Mercy Manzanares
Nimish Vyas
Nathan Beane
Caitlyn Gillespie
Elizabeth Neipert
Zoe Duran
Donna Milligan
John Alexander
Dianna Miller
Sam Veloz
Joe Knott
Robert Delph

Session Organizers and Moderators

Anne Jewell
Brian Washburn
Shawn Haggerty
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Cheryl Schultz
Tadd McCall
Caitlin Castro
Katy Smith
Stefanie Blihovde
Louise McCallie
Christy Wolf
Mindy Clarke
Dave McNaughton
David Kelley
Tim Bradley
Elizabeth Kendrick Liggett
Erica Rohr
Corina Newsome
Elizabeth Neipert
Kevin Heirs
Rada Petric
Mercy Manzanares
Amy Williams
Lena Schnell
David Jones
Gwynn Ellis
Jacqueline Rice
Jesse Travis
Tom Tripolone
Jillian Josimovich
Karla Meyer
Taura Huxley
April Andujar
Shannon Bowling
Keeli Marvel
Kevin Zebro
Gene LaRocca
Megan Scanlin
Derrick Golla
Mike Jungen
Troy Walton
Paul Jurena
Rich Fischer
Alan Schultz
Rob Lovich
Robert Delph
Stephanie Hertz
Steven Manning
Susan Cohen
Todd Wills
Tom Mathies
Tommy Conkle
Zia Walton
Zoe Duran

Working Group Co-Chairs

BASH: Joel Helm, Jessica Gorski
Bat: Jill Josimovich, Dr. Rada Petric
Bird Conservation: Todd Wills, Keeli Marvel
Climate Change: Dr. Mindy Clarke, Christy Wolf
CLEO: Jesse Travis, Tom Tripolone
Fish and Wildlife Recreation: Kevin Zebro, Gene LaRocca
Herpetology: Tom Mathies, Zia Walton
Invasive Species: Steve Manning, Cory Campora
Pollinators: Robert Delph, Mercy Manzanares
Technical Resources Application: Susan Cohen, Mike Jungen
Wildland Fire: David Kelley, Tim Bradley

Board & Committees

2024-2025 NMFWA Board of Directors

President: **Zoe Duran**, *Duran Environmental Consulting, ID*
Immediate Past President: **Michael Wright**, *Naval Air Station Oceana, VA*
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Western Director: **Rich Riddle**, *US Army, Fort Carson, CO*
FAWN Editor: **Laura Busch**, *US Fleet Forces Command, VA*

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Awards: **Vanessa Shoblock** and **April Andujar**
Certifications: **Dan Savercool**
FAWN: **Laura Busch**
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Government Affairs: **Neil Bass**
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Memorials: **April Andujar**
Nominations: **Michael Wright**
Outreach/Website/Social Media: **Chelsea Fletcher, Rhande Shaw, Elizabeth Neipert, Michèle Richards,** and **Charlie Baun**
Resolutions: **Dave McNaughton**
Scholarship: **Coralie Cobb** and **Tim Buchanan**
Training: **Janet Johnson** *(Chair)***, Coralie Cobb, Nicole Olmsted, Dana Lujan, Kylene Lang,** and **Jennifer Scarborough**
Webmaster: **Bryan Hall** (Contracted)
WMI Coordination: **David McNaughton**
Working Group Coordination: **Michael Wright** and **Jackie Smith**
Workshop: **Russ Lawrence**

NOTE: Titles and affiliations are for informational purposes only and do not present the individuals as spokespersons of the Department of Defense or agency/installation listed.

Frequently Asked Questions …

Q: Who can be a member of the National Military Fish and Wildlife Association (NMFWA)?

Anyone who works in the field of conservation on Department of Defense (DoD) lands, or is interested in a conservation career with DoD may become a member.

Q: Does it cost to be become a member?

There is no cost to becoming a member. It's free, so join today!

Q: How do I become a member?

It's easy! Visit our website, www.nmfwa.org, and complete a simple application form. The Membership Committee will review your application and upon approval you will be added to our member listserv.

Q: What benefits do I get for being member of NMFWA?

Membership keeps you connected to other natural resource professionals and informed about NMFWA news and events such as our Annual Workshop and other training opportunities.

Q: Who is the Wildlife Management Institute (WMI) and why do I register for the NMFWA Annual Workshop through the WMI Website?

WMI is a professional conservation organization that works to improve the professional foundation of wildlife management. We have partnered with WMI to hold our Annual Meeting and Training Workshop in conjunction with their North American Wildlife and Natural Resources Conference. This allows us to bring our membership a better meeting experience by providing more opportunities to network and learn from our counterparts from other federal, state, and local agencies, in addition to NGOs and leading academics. NMFWA members are also able to attend WMI Conference sessions as well.

Q: Can I attend the NMFWA Annual Meeting and Training Workshop if I'm not a member?

Yes. The Annual Meeting and Training Workshop is open to all, members and non-members, as long as you select the National Military Fish and Wildlife Association from the drop down choice for Registration Type.

Q: Can I show up to any of the trainings?

Our trainings have a limited number of seats available so pre-registration is required. Tickets will be issued to attend the trainings when you check in at the registration desk. There will be a waitlist in case there are cancellations. Please check with the registration desk to see if there are extra tickets.

Q: How do I get involved?

It's easy, contact any member of our Board of Directors by visiting our website for information on how you can become more involved. Or, if your are attending the Annual Meeting and Training Workshop in March, feel free to approach any member of the current or past Board of Directors to volunteer; we have opportunities to join one of our Committees and to help with AV and room set-up during our meetings.

Q: Who can be on the Board of Directors?

Our board is composed of some of the best conservation professionals in our industry. They range from herpetologists to evolutionary biologists. Together they comprise an amazing team and represent the different Services. We hold elections every year so if you are interested in running for an office, please contact a member of the Board of Directors.

Q: What is the NMFWA Certification Program? Why should I become a Certified Military Natural Resources Professional?

The goal of NMFWA's certification program is to assist the DoD in meeting its Sikes Act requirement by recognizing trained natural resource professionals. It aims to provide a means by which individuals engaged in Defense Department conservation activities may establish, validate, and obtain recognition of their professional credentials; to guide the DoD, other federal and state agencies, tribes, and the public in defining minimum standards of education and experience for natural resources professionals and to encourage these individuals to meet such standards; and to create and maintain confidence, by the DoD, other federal and state agencies, tribes, and the general public, in the advice and opinions of the Certified Military Natural Resources Professional as educated and experienced professionals who have pledged to act in the best interest of the DoD mission. Visit **nmfwa.org** for more information on how to apply.

Q: What are the benefits of becoming a Certified Military Natural Resources Professional?

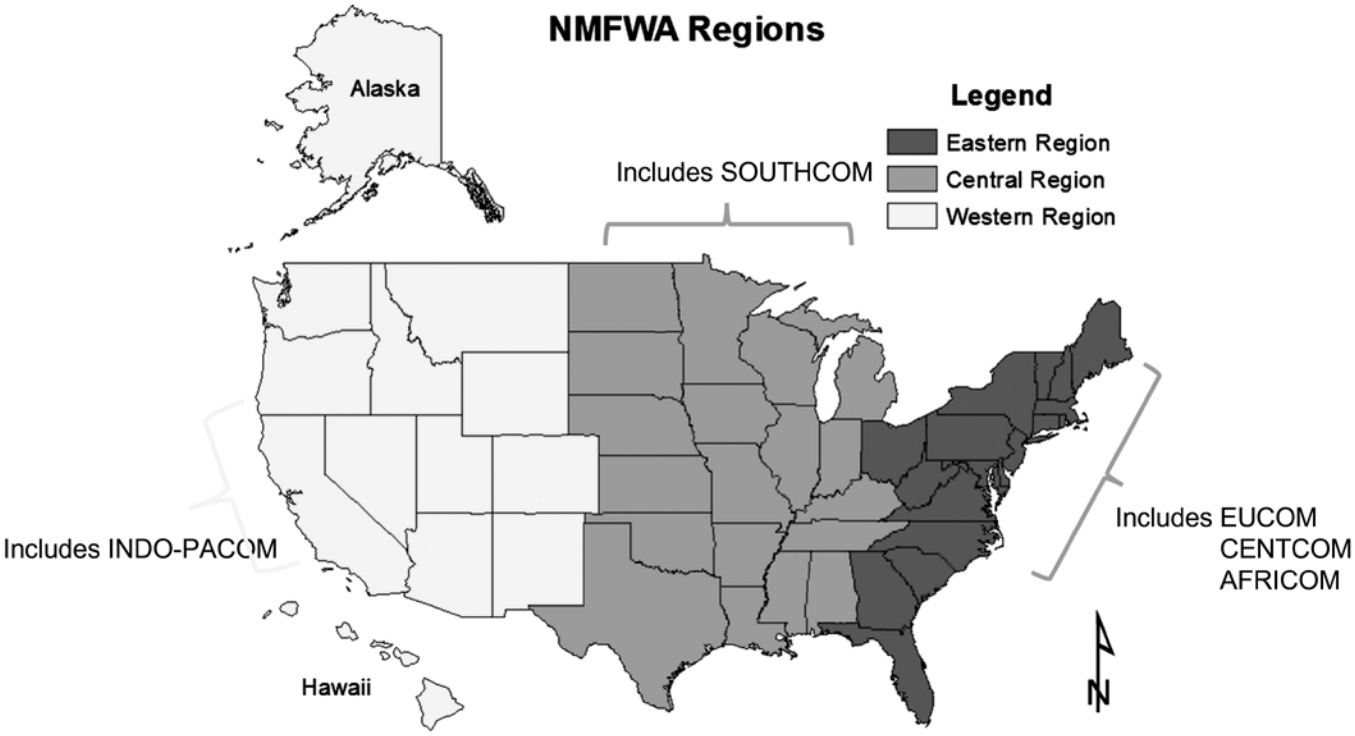
Certification provides a means by which individuals engaged in Defense Department natural resource profession may establish, validate, and obtain recognition for their professional credentials. Certification will also make the Association a more effective voice in natural resources stewardship in support of the military mission on military installations.

Q: What is the FAWN?

The Fish and Wildlife News (FAWN) is the official newsletter of NMFWA. You can find the current issue and all past issues of the FAWN on our website.

Q: How can I submit stories to the FAWN?

NMFWA would like to hear from you! If you have an article you'd like to submit, contact your NMFWA Regional Director by visiting the Board of Directors page on our website and clicking on the corresponding Director for your region at https://www.nmfwa.org/our-board.html. Visit **www.nmfwa.org** for more information.



NMFWA BINGO

Name: _____

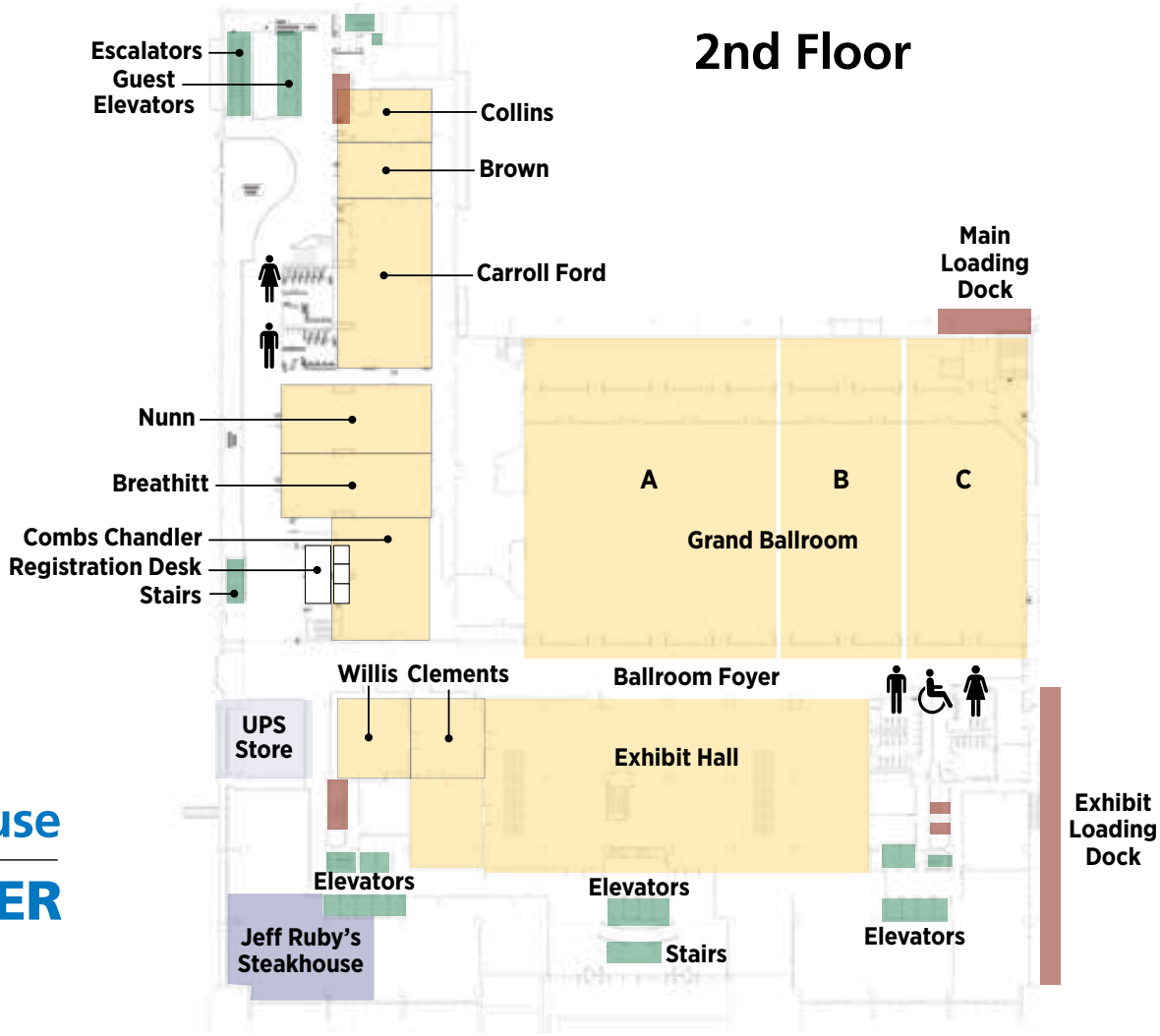
RULES: Find a person who can sign their name in one box. EACH PERSON MAY SIGN ONLY ONE BOX. You cannot sign your own form (except at the top where it says "NAME")! Turn in the form for a prize at the Show and Tell!

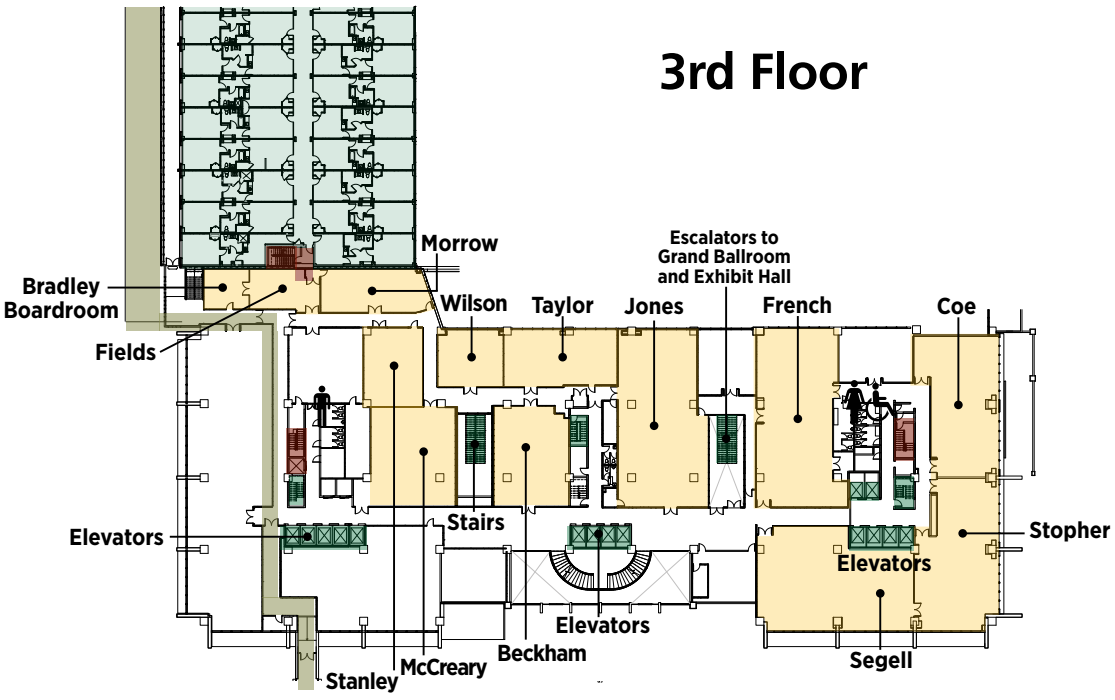
Find a NMFWA meeting attendee who… THEN, start a conversation with them!

Is attending their first NMFWA	Has worked for 3 or more of the military services	Has conducted a section 7 consultation	Has a "Life" list	Is Interested in being on the NMFWA BOD but is not currently on the BOD
Is a Past President	Is a USFWS credentialed Conservation Law-enforcement Officer	Has conducted an animal survey from an aircraft or a boat	Has been bitten by an animal at work	Can name two laws that protect polar bears
Has served on active duty	Is a NMFWA Certified Wildlife Biologist	Is attending their 5+ NMFWA	Is a TWS certified Wildlife Biologist	Has seen the film that won the 2025 Oscar for Best Picture
Is a NWCG certified Wildland Urban Interface Firefighter	Has been chased by an animal other than a domesticated dog / cat	Has a job that requires a rabies vaccination	Has "birded" outside the US/in a foreign country	Was a federal employee when Ronald Reagan was US President
Has placed a GPS transmitter on an animal	Was a Peace Corps Volunteer in a Spanish speaking country	Is a current Board Member	Has re-located an animal during a military training activity	Is attending their 10+ NMFWA

The Galt House

EAST TOWER





[DRAFT] National Military Fish & Wildlife Association 2024 Annual Meeting and Training Workshop Schedule, 10-14 March, 2025 (Version Nov 10, 2024, subject to change)

Time (Eastern) - 24hr	Monday (10 Mar)					Tuesday (11 Mar)	Wednesday (12 Mar)				Thursday (13 Mar)				Friday (14 Mar)					Time (Eastern) - 12hr
0800-0830	Introduction to Manual Bat Acoustic Identification	Department of Defense Participation in the Avian Knowledge Network: The Who, What, Where, When, Why, and How	NHPA Section 106 Training Session for Natural Resources Managers	Living Shoreline & Coastal Resiliency Training	Point of Use eDNA Methods for Biosecurity and Biosurveillance	NMFWA Welcome & DoD Policy Updates	88th Annual North American Wildlife and Natural Resources Conference - Plenary Session				REPI Program 101: Developing a Successful REPI Proposal	*Bird Conservation WG	*Interagency Partnerships and Innovative Solutions for Climate Adaptation	Monarch Butterfly on DoD Lands - Next Steps	Special Topics	Monarch Butterfly Assessments on Military Installations	Avian Carcass Searches to Document an Ecological Incident	Novel Approaches to Ground-based Forest Measurements - Seeing the Forest by Measuring the Trees	Field Trip (Limited Seating (50). Advanced Registration Required) **Location: Fort Knox, Kentucky** (Off-site, Transporation Included)	8:00 - 8:30 AM
0830-0900												*DoD Birds 101: What All Installation Natural Resources Managers Need to Know								8:30 - 9:00 AM
0900-0930											OPEN		*Climate Change WG							9:00 - 9:30 AM
0930-1000											Break				Break					9:30 - 10:00 AM
1000-1030						Break	Break				We want to hear from you - World Café: Provide Input to the Update to the DoD Manual 4715.03 "Integrated Natural Resources Management Plan (INRMP) Implementation Manual"	*DoD Partners in Flight (PIF) Technical Session	The Endangered Species Act Toolbox:	Monarch Butterfly on DoD Lands - Next Steps	Special Topics	Training Course (Limited Seating - 40 Advanced Registration Required	Training Course (Limited Seating - 15 Advanced Registration Required	Training Course (Limited Seating - 25 Advanced Registration Required		10:00 - 10:30 AM
1030-1100	Training Course (Limited Seating - 50) Advanced Registration Required	Training Course (Limited Seating - 35) Advanced Registration Required	Training Course (Limited Seating - 20) Advanced Registration Required	Training Course (Limited Seating - 35 Advanced Registration Required	Training Course (Limited Seating - 25 Advanced Registration Required	NMFWA Annual Members Meeting	Wildlife Management Institute (WMI) - Special Sessions													10:30 - 11:00 AM
1100-1130													BASH Topics							11:00 - 11:30 AM
1130-1200												*Expanding Partnerships to optimize the integration of USDA BASH GIS with the Navy GIS & Enterprise System								11:30AM - 12:00PM
1200-1230	Lunch					Lunch	Lunch				Lunch				Lunch					12:00 - 12:30 PM
1230-1300																				12:30 - 1:00 PM
1300-1330	Introduction to Manual Bat Acoustic Identification	Department of Defense Participation in the Avian Knowledge Network: The Who, What, Where, When, Why, and How	NHPA Section 106 Training Session for Natural Resources Managers	Bumble Bee Atlas Training	Navy GRX Training	DoD Service Breakout Sessions – Air Force Army National Guard Marine Corps Navy Space Force	*Invasive Species WG	CLEO WG	*Herps Working Group Technical Session	DoD AKN Office Hours	Conservation in Cities: An equity-centered approach	*BASH WG	*Invasive Species Projects Supported by the DoD SERDP	Pollinator WG					Fort Knox Field Trip, continued	1:00 - 1:30 PM
1330-1400							*Operational and Innovative Invasive Species Management Technical Session	*Wildland Fire Management for Installation Resilience				*DoD PARC Network Technical Session		*Archaeological Resource Protection Act of 1979 (ARPA) Technical Session						1:30 - 2:00 PM
1400-1430									*Herps WG		Recreation WG		*DoD Small Mammal Initiative							2:00 - 2:30 PM
1430-1500							Break				Break									2:30 - 3:00 PM
1500-1530			Training Course (Limited Seating - 20 Advanced Registration Required	Training Course (Limited Seating - 40 Advanced Registration Required	Training Course (Limited Seating - 30 Advanced Registration Required		*Endangered Species Act Policy Innovations through the Recovery and Sustainment Partnership Initiative	*Wildland Fire WG	*TRAWG Grab Bag - Current Technologies being used across DoD Technical Session	DoD AKN Office Hours		The DoD AKN Program: Improvements in Data Informed Management	*Bat WG	*Spatial Data Standard for Facilities, Infrastructure, and Environment						3:00 - 3:30 PM
1530-1600								*Wildland Fire Partnerships Technical Session					*Bat WG Technical Session							3:30 - 4:00 PM
1600-1630														Managing Threatened and Endangered Plants to Sustain the Training Mission						4:00 - 4:30 PM
1630-1700									*TRA WG											4:30 - 5:00 PM
1700-1730	Break					Break	Break				Break				Break					5:00 - 5:30 PM
1730-1800	2023-2024 NMFWA BoD Meeting - All Members Welcome					NMFWA New Members Meet & Greet (Offsite, Bluegrass Brewing Company)					2024-2025 NMFWA BoD Meeting - All Members Welcome									5:30 - 6:00 PM
1800-1830							NMFWA Awards Banquet (Offsite, TBD)				Break									6:00 - 6:30 PM
1830-1900						NMFWA Welcome Mixer (Offsite, Bluegrass Brewing Company)					NMFWA Show & Tell: Poster Presentation Session, Photo Contest, Silent Auction, Sponsor Booths									6:30 - 7:00 PM
1900-1930																				7:00 - 7:30 PM
1930-2000																				7:30 - 8:00 PM
2000-2030																				8:00 - 8:30 PM
2030-2100																				8:30 - 9:00 PM