



Environmental Newsletter | Winter—Spring 2024

ENVIRONMENTAL CHIEF'S DESK

OUTREACH UNIFIES AND BUILDS TRUST WITH ALL STAKEHOLDERS

By **Morey Moore**, Environmental Chief, 63d Readiness Division
Department of Public Works

Within the 63d Readiness Division, outreach is crucial for maintaining mission readiness and fostering responsible environmental stewardship in all our activities—in times of emergency and in every day encounters with civilian communities, other military personnel or units, governmental agencies, non-governmental organizations and international partners.

Outreach has many meanings in a range of discussions in our communities and at our work environments. In the military context, outreach refers to activities and initiatives undertaken by military personnel or units to engage with civilian communities, other branches of the military, governmental agencies, non-governmental organizations (NGOs) and international partners. Outreach serves as a way for the Soldiers and civilians to unify and build trust with various stakeholders. Outreach happens every time there are disasters around the world or in our backyards that include humanitarian missions or disaster relief operations. Outreach also happens in our every day interactions including at community service projects, public relations events and during collaborations with non-military government authorities to foster positive relationships and mutual understanding between the United States Army Reserve and the broader community.

The 63d Environmental Division's outreach efforts have bridged the gaps of relationships between us and environmental regulators to educate and discuss the **OUTREACH**—Continued on next page

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The 63d Readiness Division (RD) mission is to provide base operations support enabling the Operating Force to optimize resources towards a focus on readiness, training, mobilizing and deploying America's Soldiers to fight, survive and win our Nation's wars and exercise command and control of assigned units. Our vision is to lead and execute as an intrinsic and indispensable regional partner embracing change and leveraging the talents, agility and innovation of an adept workforce towards unsurpassed facilities, services and support. The 63d RD supports over 40,000 Army Reserve Soldiers in the states of California, Nevada, Arizona, New Mexico, Texas, Oklahoma and Arkansas.



Alexander Brady, Environmental Compliance Branch Chief, 63d Readiness Division DPW, conducts an Environmental Performance Assessment System review, helping Soldiers address environmental risks at their facility, Fort Hunter Liggett, California, 27 Sept 2023.

DoD photo by Perlita R. Dicochea

short falls associated with government entities. It is outreach that benefits our path forward concerning issues that arise with regulatory agencies and how we can better understand our way forward. Outreach has been the key to addressing the many challenges that have occurred regarding compliance throughout the 63d RD footprint due to a lack of awareness and, thus, limited buy-in from Major Subordinate Commands (MSC).

Bridging the gap between the Army Reserve and broader civilian populations involves fostering understanding, communication and cooperation between the two communities. Outreach activities allow the Army Reserve to actively engage with local communities, promoting goodwill and support to our Reserve units and their missions.

Environmental has made progress in the aforementioned areas through the following initiatives:

Environmental Training and Education: Environmental training educates outside entities about the military's roles, missions and challenges, which in-turn helps military personnel grasp the importance of compliance and transparency when dealing with non-military agencies. The development and delivery of educational training also raises awareness about environmental issues within the 63d RD community. Education and training includes workshops, presentations and outreach materials—including this newsletter—which provide invaluable information on topics such as hazardous waste, recycling, spill response, storm water management, cultural and natural resources, conservation and sustainable practices. Environmental personnel also maintain their own training with annual work-

shops on topics such as National Environmental Policy Act updates and issues within tribal communities in the 63d RD's footprint.

Community Engagement: Environmental integrates measures that encourage military personnel to participate in community events and projects. Involving civilians in military activities helps build connections and trust. This type of initiative has paid back dividends in critical areas of compliance in several of the 63d RD's Areas of Operation. For instance, Envi-

“Bridging the gap between military and civilian population involves fostering understanding, communication and cooperation between the two communities.”

ronmental has participated in community clean-up events targeting parks, waterways, beaches and other natural areas to address local environments affected by pollution or litter. Environmental has also participated in planting trees and other vegetation for habitat restoration.

Shared Experiences: Creating opportunities for Army Reserve Soldiers and the broader community to interact and share experiences can break down stereotypes and promote empathy and understanding. These opportunities have led to partnerships that increase awareness of the challenges in maintaining environmental compliance, particularly without command and control.

Policy and Advocacy: Developing policies that support the needs of both the Army Reserve and communities-at-large and advocating for issues that affect both groups can help bridge the gap and promote teamwork.

Partnerships with Environmental Organizations: Collaborating with environmental organizations and agencies to support their initiatives and participate in joint projects facilitates mutually beneficial goals. Joint projects can involve volunteering for environmental restoration projects, supporting conservation efforts and sharing resources and expertise. The results of partnerships have provided better insight regarding expectations and transparency that demonstrate how the Army Reserve is committed to environmental stewardship.

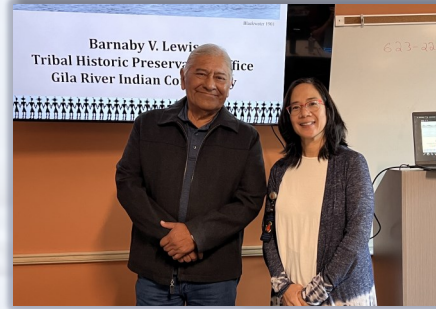
Overall, effective outreach concerning the Army Reserve contributes to recruiting and retention efforts, enhances community support and partnerships, improves public relations and enhances overall mission readiness and resilience. ♦

WINTER WORKSHOP SPOTLIGHT ON THE 63D RD ENVIRONMENTAL DIVISION

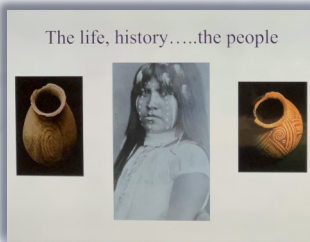
Phoenix, Arizona | December 2023



Above (L to R): Deputy Environmental Chief Cameron Dixon, Environmental Compliance Branch Chief Alexander Brady, Environmental Division Chief Morey Moore at the Environmental Division's winter workshop. Sunnyslope, Arizona, Dec. 13, 2023.



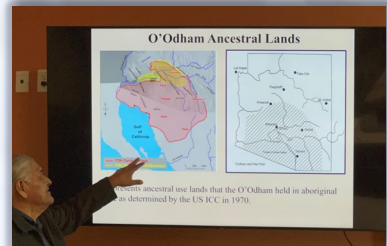
Above (L to R): Barnaby V. Lewis, Tribal Historic Preservation Officer, of the Gila River Indian Community, presented to the 63d RD's Environmental Division on the history, and land rights of the Gila River Indian Community; Cultural Resources Program Manager Margaret Magat (Tahkox Whitetail JV) organized the presentation. Phoenix, Arizona, Dec. 12, 2023.



Above and Right: Lewis educates the 63d RD Environmental Division on the life, history and on-going struggles of the native tribes from the O'odham Ancestral Lands in central and southern Arizona. Lewis' presentation addressed how U.S. dams dried up the Gila River, which was a vital resource for the Gila River Indian Community. Phoenix, Arizona, Dec. 12, 2023.



Above (L to R): Division Chief Moore and Compliance Branch Chief Brady. Right: (L to R): Division Chief Moore and Deputy Chief Dixon receive awards for excellence in environmental stewardship at the Environmental Division's winter workshop. Sunnyslope, Arizona, Dec. 13, 2023.



Above: The 63d RD's Environmental Division convened for their biannual workshop, which is an opportunity for professional development and program planning. Sunnyslope, Arizona, Dec. 13, 2023.

STORY SUBMISSIONS

Do you have a story idea for the next issue of *The Guardian*?
Please submit to usarc-63rd-dpw-env@army.mil.
Visit us at www.facebook.com/63RD.

ENVIRONMENTAL COMPLIANCE REPORT

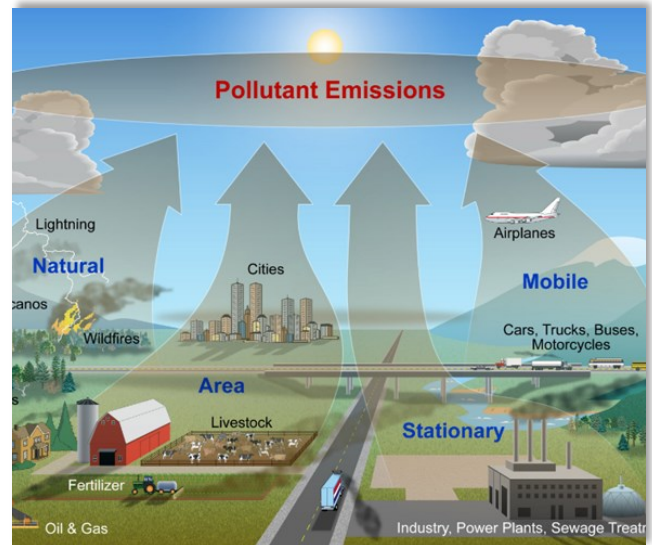
CLEAN AIR ACT WHAT TO KNOW FOR YOUR FACILITY

By Alexander L. Brady, Environmental Compliance Branch Chief
63d RD DPW

BACKGROUND The Clean Air Act was established in 1970 to curb the pollutants that were being emitted into the air by industry and the public, including through the use of incinerators and vehicles that run on gas and diesel. The Federal Government recognized the need to limit the chemicals used and processes implemented for the betterment of the American public as these were found to be harmful by causing negative health and environmental consequences.

In 1990, Section 112 was developed as an amendment to address emissions of hazardous air pollutants. Additional standards to practices that were polluting the air regulated industry further, creating uniform standards for decreasing air pollution. As we learn more about contributors to air pollution, the Environmental Protection Agency (EPA) will implement new guidance and regulations to lessen negative impacts on the public and environment. State and local governments have the capacity to further restrict the release of pollutants in your region.

THE ARMY RESERVE AND THE CLEAN AIR ACT The Army Reserve uses equipment that negatively impacts the environment—some of these are regulated and some are exempt for national security reasons. Knowing which air regulations apply to your specific area is important to stay in regulatory compliance with the Clean Air Act and protect the Soldiers under your care. The best way to ensure your facility is not out of compliance is to contact your Area Contract Environmental Specialist (ACES) for your facility and notify them about any activity or equipment in question.



The above shows emissions from multiple sources that contribute to poor air quality.

www.nps.gov/subjects/air/sources.htm

SOURCE DEFINITION

The Clean Air Act (CAA) is a comprehensive federal law that **regulates air emissions from stationary and mobile sources**. The CAA authorizes the Environmental Protection Agency (EPA) to establish National Ambient Air Quality Standards (NAAQS) to protect public health and public welfare and to regulate emissions of hazardous air pollutants. Under the CAA, EPA sets limits on certain air pollutants, including setting limits on how much can be in the air anywhere in the United States.

For more information go to <https://www.epa.gov/regulatory-information-topic/regulatory-and-guidance-information-topic-air>.

What to do if you are concerned about your facility and the risks that might arise during your normal mission tasks:

Step 1 Ask, Does this mission-related task require environmental considerations?

Some examples include working with HVAC systems, Civilian-run generators (non-tactical), AC repair systems for vehicles and heaters, boilers for heating, paint booths, refueling tanks and fork lifts.

Step 2 Contact the Environmental Division at the 63d RD. Contact information can be found on the last page of this newsletter.

Step 3 Request training dates to learn more about environmental compliance. The Environmental Division offers multiple training opportunities throughout the 63d RD footprint. ♦

EXPIRED ALCOHOL-BASED HAND SANITIZER A WHITE PAPER ON PROPER DISPOSAL

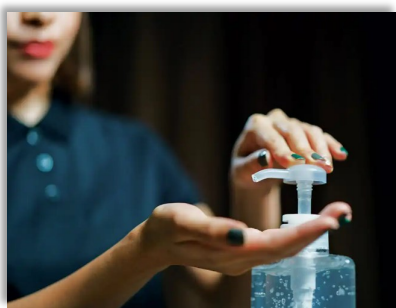
By Lisa Torralba, Environmental Compliance Program Manager (Tahkox Whitetail JV)
63d RD DPW

Spawnd by the COVID-19 pandemic, the accumulation of alcohol-based hand sanitizer (ABHS) at USAR facilities has created hazardous situations. In a white paper released on Jan. 9, 2024 titled "Management of Bulk Alcohol-based Hand Sanitizer (ABHS)," I expand on major concerns that have arisen. A summary follows:

BACKGROUND Alcohol-based hand sanitizer (ABHS) has been distributed and utilized extensively across Army Reserve facilities since the beginning of the Covid pandemic to minimize the spread of the Covid virus. ABHS is classified as a flammable liquid whose storage, handling and disposal must comply with state-specific Fire Code, Occupational Safety and Health Administration (OSHA) requirements and Environmental Protection Agency (EPA) requirements. As such, facilities need to be aware and comply with the limits of onsite storage that trigger regulatory requirements. Although the incidence of fires related to hand sanitizer is very low, the Environmental Division has had to address multiple sanitizer related issues in 2023.

FIRE CODE VIOLATIONS AN WASTE GENERATOR STATUS An issue that arose in 2023 involved an unscheduled inspection by the Los Angeles Fire Department at CA093 Van Nuys AMSA 32. The inspector identified several violations at the facility that constitute a fire hazard and danger to human life and/or the public. To close these violations, the Environmental Division worked with the facility to remove the sanitizer they were storing in bulk. However, this triggered the issue of waste generator status. Van Nuys is a CUPA (LA Fire) permitted small quantity generator and disposing of the large quantity they were storing on site would push them into a large quantity generator (LQG) status, which exceeds their permit limits. Increased generator status to LQG comes with more stringent regulatory requirements as well as additional waste generation/permit fees and additional people-power requirements to manage the larger accumulation areas and increased number of waste turn-ins.

HAZARDOUS MATERIALS BUSINESS PLAN PROGRAM In the State of California, ABHS is considered a hazardous material and is subject to regulation under the Hazardous Materials Business Plan program. In general, if a business stores a quantity of liquid (or gel) ABHS that at any one time is equal to or greater than 55 gallons (combined total), the business must submit a Hazardous Materials Business Plan.



"Storage" does not include hand sanitizer that is "in use."

www.wowstyle.com

NFPA 30 Most state fire regulations reference the adoption of Flammable and Combustible Liquids Code (NFPA) 30 as the standards that apply to the storage of ABHS. NFPA 30 is enforceable as law under building and fire prevention codes in the following states within the 63d RD: Arizona, California, New Mexico, Nevada and Texas. The storage of ABHS may require a flammable storage permit depending on the quantity being stored and the applicable fire and building codes. *It is important to note that "storage" does not include hand sanitizer that is "in use."*

DISPOSAL Regarding disposal, ABHS is considered a Resource Conservation and Recovery Act (RCRA) hazardous waste when it has expired beyond one year of its expiration date. *It is recommended that expired product be used up for its intended purpose to avoid hazardous waste requirements.*

Please contact Environmental and/or Safety if you have questions or concerns regarding the amount of hand sanitizer stored at your facility. For additional information please refer to the white paper at armyeitaas.sharepoint-mil.us under the folders Environmental/Environmental_Programs/Compliance or contact Lisa Torralba at 805.710.9069 or via email at lisa.m.torralba.ctr@army.mil. ♦



How are you storing and disposing of hand sanitizer at your facility?

www.vecteezy.com

“TRIBAL NATIONS SOARING TO NEW HEIGHTS”

DEPARTMENT OF DEFENSE CELEBRATES NATIONAL NATIVE AMERICAN HERITAGE MONTH

By Margaret Magat, Ph.D., Cultural Resources Program Manager (Tahkox Whitetail JV)
63d RD DPW

With this year's theme of "Tribal Nations Soaring to New Heights," the Department of Defense (DoD)'s observance of National Native American Heritage Month Nov. 8, 2023, commenced with a riveting presentation from the Kiowa Black Leggings Warrior Society and a flag song performed by the Zotigh Singers, followed by the national anthem. In addition to marking the Native American Heritage Month, the event was also in honor of Native American veterans. Native Americans have served in the Armed Forces at five times the national average and many have been awarded the highest honors.



Native American Heritage Month image, 2 Nov 2020, blogspot.

[Nims360.blogspot.com/2020/11/celebrating-national-native-american.html](https://nims360.blogspot.com/2020/11/celebrating-national-native-american.html)

that ensures liberty, justice, dignity, and equality for all," said Biden (White House 2023).

Whether by presidential proclamation or statute, the month of November is set aside in honor of America's first inhabitants and is observed with numerous events. For example, other agencies like the Bureau of Indian Affairs and the National Park Service also held various events to commemorate the month. The Smithsonian's National Museum of the American Indian held an exhibit called "*Americans or Nation to Nation: Treaties Between the United States and American Indian Nations*" and had guided tours of the gallery. There were also performances from Native American artists such as Charly Lowry: Lumbee-Tuscarora Singer and songwriter and artist Raven Chacon, of Diné heritage.

During the DoD's celebration of Native American heritage, there were tribal dances as well as speeches in the native languages from the different speakers who attended, including the Navajo Nation President, Buu Nygren, Pechanga Tribal Chairman Mark Macarro, Harvey Pratt, who is the chairperson of the Indian Arts and Crafts Board of the U.S. Department of the Interior and a member of the Cheyenne & Arapaho tribes, and Alicia Madalena Sylvester, the Defense Department's senior tribal advisor and liaison for Native American affairs and who is a member of the Pueblo of Jemez tribe.

"It is truly a blessing to hear the songs, the native language, and drumbeats throughout the Pentagon courtyard and within our corridors," Sylvester stated (Vergun 2023).

The official designation of November as National Native American Heritage Month began in 1990 when Congress passed the joint resolution which was signed into law by President George H.W. Bush. The month is intended to also

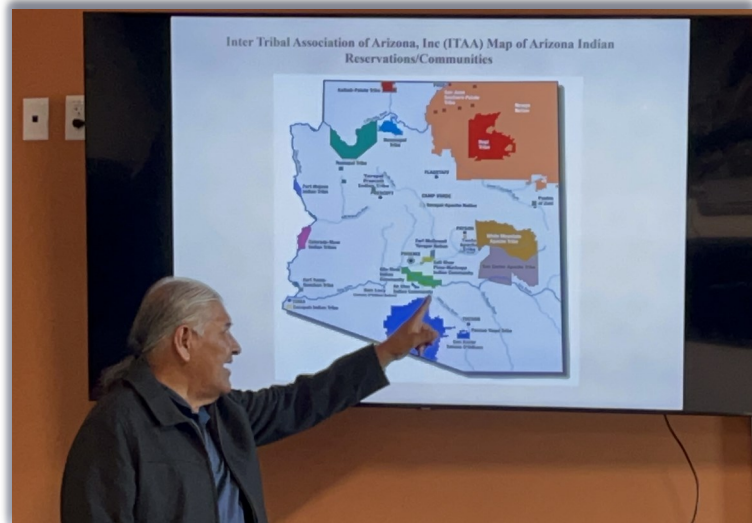
[NAHM—Continued on next page](#)

NAHM—Continued from page 6

“recognize the invaluable contributions of Native peoples that have shaped our country and honor the hundreds of Tribal Nations who continue exercising their inherent sovereignty as vital members of the overlapping system of governments in the United States” (White House 2023).

President Biden’s proclamation also declared the Federal Government’s commitment to the trust and treat responsibilities, a point which was also emphasized during the DoD’s celebration of Native American Heritage Month.

According to Sylvester, the DoD is also committed to meeting its responsibilities, both legal and moral. “I want to assure all tribal leaders present here that DoD is committed to ensuring that government-to-government consultation with American Indian and Alaska Native tribes are consistently timely, respectful, meaningful and robust” (Vergun 2023).



As part of Native American Heritage Month, Barnaby Lewis, Tribal Historic Preservation Officer for the Gila River Indian Community, presented on the history, cultural values and current land rights issues of southern Arizona Native American tribal communities, Phoenix, Arizona, Dec. 12, 2023. DoD photo by Perlita R. Dicochea

“We are reminded that with hard work and a commitment to our founding ideals, we can address the wrongs of our past and become a more perfect Union — one that ensures liberty, justice, dignity, and equality for all.”

-President Biden (White House 2023)

For more information on the DoD’s observance of the National Native American Heritage Month, see www.defense.gov/Spotlights/National-Native-American-Heritage-Month/.

In the event that cultural resources are found, please stop all digging in the project area, protect the finds, and immediately contact the 63d RD Environmental Division Deputy Environmental Chief Cameron Dixon at (719) 516-6377 or Cultural Resources Contractor Support Margaret Magat at annamargaret.r.magat.ctr@army.mil.

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3. Vergun, David. “Nation Celebrates Native American Heritage Month,” Nov. 8, 2023. DOD News, <https://www.defense.gov/News/News-Stories/Article/Article/3584448/nation-celebrates-native-american-heritage-month/>.

AS MONARCH BUTTERFLY NUMBERS DECLINE, ENDANGERED LISTING UNDER CONSIDERATION

By Peter Grunow, Natural Resources Program Manager (Tahkox Whitetail JV)
63d RD DPW

The Monarch butterfly is one of the most-well known and beloved butterflies in the world, in part due to its striking orange and black appearance and its long migration. In the longest migrations, the butterflies may travel a distance of 3000 miles!

Most Monarch populations winter either along the California coast or in pine forests of Mexico, but a few overwinter near the Gulf Coast as well. However, most of these sites have experienced declines in the butterfly's numbers in recent decades and the widespread loss of milkweeds is likely a contributing factor. As a result, a proposal was submitted to the U.S. Fish and Wildlife Service (USFWS) for Federal listing under the Endangered Species Act.

Species that are awaiting review by the USFWS for listing are also categorized as "species at risk" by the DoD. Independently, the International Union for Conservation of Nature (IUCN), a global conservation network, has placed the Monarch on its "Red List" of species with extinction concerns, so there is a very real possibility of some Federal protection to come in the near future. The Monarch's multi-generational migration movement requires host plants at many stops, which makes it vulnerable to decline across many locations. On a more local level, winter storms may have impacted California overwintering sites for Monarchs the past couple of years, with a 30%



A female Monarch butterfly takes nectar , Vacaville, California, 2018.

ucanr.edu/blogs/blogcore/postdetaildfm?postnum=28142

“The 63d RD’s Natural Resources program is identifying and surveying sites that may host Monarch populations or habitat in anticipation of the species possibly gaining Federal protections.”

decline from previous years noted on last year's counts in the State of California.

How could the decline of the Monarch impact readiness within the 63d RD? The 63d RD's Natural Resources program is identifying and surveying sites that may host Monarch populations or habitat in anticipation of the species possibly gaining Federal protections. This also helps us be better prepared in the event that the USFWS designates critical habitat adjacent to a reserve center. A Federal listing of Monarchs may also impact pesticide use at specific 63d sites.

DoD has developed the Legacy Resource Management Program for Monarch butterflies across the United States and has partnered with other wildlife and conservation organizations, including the Monarch Joint Venture. This program created a series of Best Management Practices (Monarch Conservation on Department of Defense Lands in the West: Best Management Practices) that were published in 2021 and monitors Monarch numbers on several installations.

Within the 63d's region, priority monarch conservation regions for the DoD's Legacy Resource Management Program include coastal wintering sites and the central valley in California. Much of Texas, Oklahoma and Arkansas lie within the "South Core" area of the project as well. The 63d RD's Environmental Division is currently analyzing Monarch habitat and suitability on its facilities and possible benefits of including sites in this program.

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Monarchs at CA187 and CA150 The Witkowski Army Reserve Center (ARC) at Mountain View (CA187) serves as a migrating and wintering location for these butterflies. Among the trees at the facility most likely to harbor overwintering butterflies are the eucalyptus trees, pines, redwoods, and oaks. Nine of these butterflies were found on the site during a January 2024 survey. Mare Island hosts populations of migrating and overwintering Monarchs as well and the Mare Island Army Reserve Center (CA150) lies within a mile of a count site for the Western Monarch count. Monarchs were sighted around the reserve center during fall migration surveys conducted by the 63d RD Environmental Division and pines and eucalyptus in and around the Mare Island ARC provide suitable habitat.

Life Cycle A Monarch's life cycle begins as an egg laid on the underside of a milkweed leaf; typically, only a single egg is laid. The eggs are very small—roughly the size of a pencil tip—and whitish and hatch within 3 to 5 days. As with other butterflies, the Monarch then undergoes its larval phase in the form of a caterpillar. Monarch caterpillars are characterized by black, white, and yellow stripes. As the caterpillars grow, they molt, or shed their outer covering, on several occasions. Monarchs are caterpillars for normally two weeks or less. The vast majority of growth takes place in this phase.



Monarch butterflies travel through San Antonio, Texas on their annual migration to Mexico, San Antonio Botanical Gardens, Oct. 20, 2000.

Mysanantonio.com/living_green_sa/slideshow/Monarch-butterflies-in-South-Texas-51817.php

At the end of their caterpillar stage, the Monarchs spin silk from spinnerets on the base of their head to form a cocoon. The caterpillar hangs upside down in the cocoon and is then referred to as a "pupa." This is the final stage of metamorphosis, and the individual emerges as an adult butterfly after 8 to 12 days depending on temperatures. The adult stage lives for only about 2 to 5 weeks but may live for months in wintering populations. At this adult stage, male Monarchs have a pair of spots on their wing veins that females do not possess.

Armed Forces Efforts to Protect Pollinators Efforts to conserve Monarchs can benefit other pollinating species. The DoD has recognized the importance of pollinators and their benefits in our daily lives. One useful tool is the "National Strategy to Promote the Health of Honey Bees and Other Pollinators," published in 2015. Both locally within the 63d RD's region and globally, pollinators play an important role in providing basic needs such as the food we eat.

Other benefits include that native habitats on 63d RD lands may reduce the risks of erosion, which could positively impact mission readiness while also saving water. Additionally, the Armed Forces Pest Management Board produced a Pollinator Conservation Reference Guide for the DoD.

What can we do to help Monarch conservation? Anyone can help by decreasing pesticide and herbicide use, planting native milkweed or butterfly-attracting plants and reporting Monarchs sighted to online citizen science projects, such as Journey North.

If you have questions about endangered plants or other species, please contact 63d RD Natural Resources Program Manager Peter Grunow at peter.e.grunow.ctr@army.mil. ♦

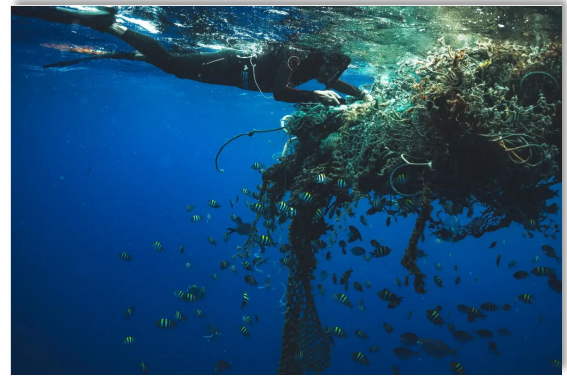
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THE TRASH VORTEX AND THE IMPACTS OF MICROPLASTICS

By Jen Ahl, Area Contract Environmental Specialist, Region 4
(Tahkox Whitetail JV) 63d RD DPW

You might have heard of the massive floating landfill in the Pacific Ocean or maybe you know it as The Great Pacific Garbage Patch. According to the National Geographic, this oceanic dump site is a "20 million square kilometer (7.7 million square mile) mass of garbage in the ocean!" A *National Geographic* article titled "The Great Pacific Garbage Patch" explains that this mass is comprised of the Western Garbage Patch, located near Japan, and the Eastern Garbage Patch, located between the U.S. states of Hawai'i and California.



Researchers sample water in The Great Pacific Garbage Patch.

www.nytimes.com/2022/05/06/science/great-pacific-garbage-patch-pollution.html

LOCATION AND SIZE Connected from the west coast of North America all the way to the western landfill near Japan is the Gyre. The Gyre is around an area of 20 million square kilometers (7.7 million square miles) and nearly 2 trillion of that is made up of plastic pieces and one third of this plastic circulates in the North Pacific Gyre.

PLASTICS Our oceans are impacted greatly by plastic waste. There are 66 marine ecosystems, ranging from the deep sea to the coastal break. Each has very different physical and biological characteristics and they are all significantly impacted by this form of pollution. An article was released in 2010 by the Cascadia Research Collective of the Pacific Northwest about a gray whale (*Eschrichtius robustus*) stranded on a beach in West Seattle—and the mysterious death surrounding the stranding. Upon initial examination, there was little evident to determine a cause. Usually a vessel strike or an animal attack would be visible and explain a stranding of this nature. The scientist conducted a necropsy on the 37-foot male gray whale on the beach. Biologists discovered more than 50 gallons of undigested contents in the gray whale ranging from foreign materials, plastic bags, plastic objects, surgical gloves, sweatpants, golf balls, duct tape and more.

There were five more gray whale strandings and deaths that year in Washington. Plastic debris in their stomachs was the common culprit.

For centuries, the oceans have served as a dump yard for fishermen, the navy, cruise ships, industry and small towns, among others. Several organizations have worked to develop environmental awareness, education programs, volunteer opportunities and educational materials to bring awareness to harmful dumping practices and attempted to provide alternative options. Despite these efforts, mass amounts of plastic continued to accumulate over the years in our oceans. Scientists calculated that 275 million metric tons (MT) of plastic waste was generated in 192 coastal countries in 2010, with 4.8 to 12.7 million MT of that waste making its way into the ocean.

MICROPLASTICS According to Deutsche Welle, a German broadcast service, in 2017, "Five huge trash vortexes measuring 15 million square kilometers (up to 5.7 million square miles), have formed in the oceans globally." However, 99 percent of the plastic waste in the ocean does not reach these vortexes. Instead, through erosion, these remaining plastics are broken down into another very serious pollutant, microplastics. These tiny plastic particles, 5 millimeters or smaller in size, permeate the ocean waters, settling on the ocean bed and endangering many different marine species.

In the year 2019, the National Oceanic and Atmospheric Administration (NOAA) looked to the official Marine Mammal Working Group (MMWG); a team formalized in 1992, comprised of experts from scientific and academic institutions, conservation organizations, and State and Federal agencies; to investigate an alarming number of reported gray whale strandings. Because of the historically significant analysis of quantitative whale mortalities, this event demanded an immediate response. At that time, more than 60 gray whales were stranded on the coasts of California, Oregon, Washington and Alaska, which was the most recorded since 2000.

TRASH—Continued on next page

TRASH—Continued from page 8

The unusual mortalities in 2019 continued into the year 2020, by which time a total of 384 gray whale strandings were recorded along the West Coast of North America. This event was declared an Unusual Mortality Event (UME)



Members of the California Wildlife Center collect samples of a dead whale on the beach of Malibu, California, March 18, 2024.

California Wildlife Center

by the MMWG and NOAA. The scientists of MMWG and NOAA conducted necropsies on a large number of these species, which led to one finding— emaciation.

EMACIATION Emaciation is the state of being weak and abnormally thin. During the summer months, gray whales spend their time in the Arctic waters, consuming sea bottom amphipods and other small organisms by means of filter feeding. They “place their bets” during this time, seeking to consume enough food to survive their 12,000-mile round trip migration journey down to the waters of Mexico and back, during which time they do not feed extensively.

“Gray whales likely face the greatest nutritional stress during their return from this journey,” explains the Wood Hole Oceanographic Institute.

If gray whales did not consume enough food during the spring and summer feeding season, they may not have enough nutritional stores to fuel their roundtrip migration back to the Arctic.

CAUSES OF EMACIATION The UME of the gray whale during migration could demonstrate one impact plastics and microplastics have on a marine ecosystem, as could be the case with the gray whale that washed ashore in Washington in 2010. It is possible that the state of emaciation determined among many of the gray whale mortalities could be due to microplastics, which are known to damage the digestive tract of marine mammals and block nutrient absorption. Additionally, toxins from plastics, when ingested, may cause extreme permanent neurological damage. Neurological damage could cause the gray whale to become disoriented, thus swimming into heavily populated areas.

The UME of the gray whale is just one example of the many species, including humans, that are negatively impacted by plastic pollution. According to the World Wildlife Foundation, “Plastic waste pollutes every corner of the ocean, threatens marine wildlife, and even ends up in the seafood you eat. Currently, more than 11 million metric tons of plastics are flowing into the ocean each year. By 2050, there could be more plastic in the sea by weight than fish.” ♦ To learn more about these impacts, please see the reference box below. ♦

**The author is not affiliated with the research facilities nor is she endorsing the organizations mentioned in this story.*

REFERENCES

1. AAA Science 2015 at <https://www.science.org/doi/10.1126/science.1260352>.
2. Cascadia Research Collective, 2010, https://cascadiaresearch.org/project_article/examinationgray-whale-west-seattle-reveals-unusual-stomach-contents-no/.
3. C. Johnson, 2021, para. 3, World Wildlife Federation.
4. D. Fauquier 2020 Gulland et al. 2005) PP. 1, 2 NOAA Investigation of West Coast Gray Whale Strandings. <https://www.fisheries.noaa.gov/national/marine-life-distress/frequent-questions-2019-graywhale>.
5. Osterath, B. (2017, May) para.6. in Deutsche Welle at <https://www.dw.com/en/5-biggest-threats-to-our-oceans-and-what-we-can-do-about-them/a-39065307>.
6. Wood Hole Oceanographic Institute 2018.

FURTHER READING:

- NOAA's National Ocean Service (noaa.gov)
- Plastic pollution facts and information (nationalgeographic.com)
- Ocean and Marine Wildlife Conservation Initiatives (worldwildlife.org)

THE SOLDIER BEHIND THE NAME

1ST LT. PATRICK HENRY DANIEL III

By Tom Smith, Environmental Compliance Specialist
(Tahkox Whitetail JV)

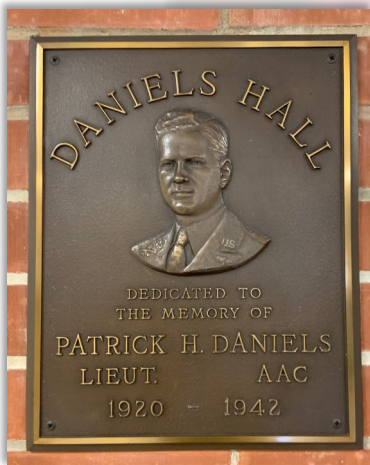
Along the palm tree-lined Sepulveda Boulevard, among the shops and restaurants of vibrant Sherman Oaks, California, is Daniels Hall ARC CA092. Daniels Hall ARC memorializes the courage of local hero 1st Lt. Patrick Henry Daniels III, who served in World War II as an ace fighter pilot with the Flying Tigers Squadron in the Asiatic-Pacific Campaign. 1st Lt. Daniels was one of 2,000 Americans who lost their lives defending China from Japanese invaders from 1941 to 1945.

Two miles north of Sherman Oaks, Patrick H. Daniels III was born Jan. 27, 1920 to Maj. Patrick H. Daniels Jr and Thelma Irene Buel Daniels in Van Nuys. His father served with distinction as a regular army officer in World War I. His mother was an active member of the Van Nuys chapters of the Gold Star Mothers, American Legion Auxiliary and the Disabled American Veterans Auxiliary.

Patrick resided in Van Nuys prior to the start of World War II (WWII). During the war, he served as a First Lieutenant and Pilot on P-40K #42-45735, 76th Fighter Squadron, 23rd Fighter Group, under General Claire Chenault, U. S. Army Air Forces. He led thirty-seven missions against the enemy and downed eleven planes.



Portrait of 1st Lt. Patrick H. Daniel III, Daniels Hall Army Reserve Center, Sherman Oaks, California, Feb. 9, 2024. DoD photo by Tom



A plaque of 1L Patrick H. Daniel III, Daniels Hall Army Reserve Center, Sherman Oaks, California, 9 Feb 2024. DoD photo by Tom Smith

Patrick was declared "Missing in Action" over Canton, China on Nov. 24, 1942. His name is commemorated on the Walls of the Missing, Manila American Cemetery, Taguig City, Philippines. He also has a cenotaph located in Glen Haven Memorial Park, Sylmar, Los Angeles County, California, where his parents are buried. Additionally, he is commemorated on The Monument to the Aviation Martyrs in the War of Resistance Against Japan in Nanjing, China.

For his skill and bravery, 1st Lt. Patrick Daniels was awarded the WWII Victory Medal, Distinguished Service Cross, Distinguished Flying Cross, Air Medal, Silver Star (2), Purple Heart, American Campaign Medal, Army Presidential Unit Citation, Army Good Conduct Medal, Asiatic-Pacific Campaign Medal and Order of the Flying Cloud, conferred by General Chiang Kai-shek.

The United States Army, in recognition of the courage 1st Lt. Daniels displayed and the ultimate sacrifice he made, chose to designate the United States Army Reserve Center in Van Nuys to be known as Lt. Patrick Henry Daniels Hall.

On May 13, 1959 the Los Angeles City Council issued a proclamation to the Army Reserve that read "Be it Resolved that the City Council of Los Angeles deems it fitting and proper to so honor the memory of Lt. Patrick Henry Daniels III for his courage and the contribution he made to the preservation of freedom and democracy, and does hereby join with the United States Army in paying tribute to the memory of this courageous and devoted American."

The framed proclamation is proudly displayed on the wall in the front foyer of CA092 ARC.

First Lieutenant Lt. Patrick H. Daniels III is listed on the California Gold Star Veterans Gallery. ♦

WELCOME NEW EMPLOYEES

JAMES WILSON

**Environmental Protection Specialist
63d RD DPW**

James Wilson recently came over from Homeland Security working with the U.S. Coast Guard in St. Louis, Missouri, where he worked for about six years. Prior to that, Wilson worked for the Missouri Department of Corrections for eighteen years. He retired from the Naval reserves in 2015 (NMCB 15/25) and spent five years on active duty onboard two nuclear fast attack submarines. Wilson is married with five children ages 27, 26, 16, 15 and 4. James Wilson will be assisting Alex Brady, Compliance Branch Chief, 63d RD DPW, with compliance and special projects. Wilson is enthusiastic about this new chapter in his career and looks forward to meeting the entire Environmental Team. James Wilson may be reached at james.e.wilson.civ@army.mil. ♦



James Wilson at Camp Robinson, February 2024.

DoD Photo by Cameron Dixon

JASON DOUGHERTY

**Environmental Performance Assessment System (EPAS) Program Manager
(Tahkox Whitetail JV) 63d RD DPW**

Jason Dougherty worked for the 63rd RD as an Area Contract Environmental Specialist (ACES) from 2017 to 2020. He spent the last four years in the Aerospace industry as a Senior Environmental Health and Safety Manager (EHS) and at Amazon as a Regional EHS Manager. Dougherty enjoys outdoor activities, working out in the gym, restoring classic cars and spending time with his family. He lives in Goodyear, Arizona, with his wife of eighteen years and their three children. Jason Dougherty is excited to rejoin the team as the Environmental Performance Assessment System Program Manager. Jason Dougherty can be reached at jason.dougherty@whitetail-env.com. ♦



Jason Dougherty at home, Goodyear, Arizona, February 2024.

Courtesy of Jason Dougherty

ANNOUNCEMENT

ENVIRONMENTAL TRAINING UPDATE

Environmental Training Courses are undergoing restructuring and update. March, April and May courses are postponed. Notices have been sent by email to those enrolled in postponed courses.

Thank you for your patience while we work to enhance our training program. An updated schedule of courses will be distributed on the COIC.

If you have any questions, please contact Environmental Compliance and Training Program Manager Perlita Dicochea at perlita.r.dicochea.ctr@army.mil or 408.771.9045.

www.desantisbreindel.com

DID YOU KNOW? ENVIRONMENTAL HOLIDAYS

- International Forests Day—March 21
- World Water Day—March 22
- Zoo Lovers Day—April 8
- Earth Day—April 22
- National Arbor Day—April 26
- World Migratory Bird Day—May 11
- World Bee Day—May 20
- Endangered Species Day—May 17
- Intersectional Environmentalism Day—May 28
- World Oceans Day—June 8

www.animaloutlook.org

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ON THE COVER: Yosemite National Park, CA — www.californiacrossroads.com



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