

SECRETARY OF THE ARMY ENVIRONMENTAL AWARDS 2023

TEXAS ARMY NATIONAL GUARD ENVIRONMENTAL QUALITY, INDUSTRIAL INSTALLATION

The Texas Army National Guard's (TXARNG) Industrial Installation encompasses 33 maintenance facilities supporting the entire training and readiness operations throughout the state. These facilities include 24 Field Maintenance Shops (FMS), two combined support maintenance shops (CSMS), six-unit training equipment sites (UTES), one maneuver area training equipment site (MATES, and five TXARNG-hosted Air Force Reserve Command (ARFC) locations. Scattered over the state's nearly 269,000 square miles, the equipment and maintenance operations of the industrial installation relies upon diligent compliance and environmental oversight. Across the installation, five regional environmental specialists conduct inspections and on-the-spot corrections to ensure compliance and protect the TXARNG's stellar regulatory record. A comprehensive in-house training program promotes organization-wide accountability for environmental protection. Over the past two years, however, the TXARNG has expanded upon this commitment to environmental quality, ramping up an Integrated Pest Management Program (IPMP) that has enhanced operations, reduced chemical use, slashed costs, and protected the TXARNG's critical equipment.

The Integrated Pest Management Program is positioned under the CFMO Environmental group for direction and leadership under the aegis of environmental quality, and the program coordinator is responsive to all facilities, Training Centers and personnel for training, diagnostics, and remediation of pest and invasive organisms. The training, assessments, and actions conducted by the IPMP align with the Texas Military Department's Environmental Directive, and directly protect human health; reduce environmental impacts created with pesticide use and removal of invasive species; prevent pollution through education, mechanical and cultural practices; and meets State and Federal regulatory requirements in regards to mitigation, training, and outreach.



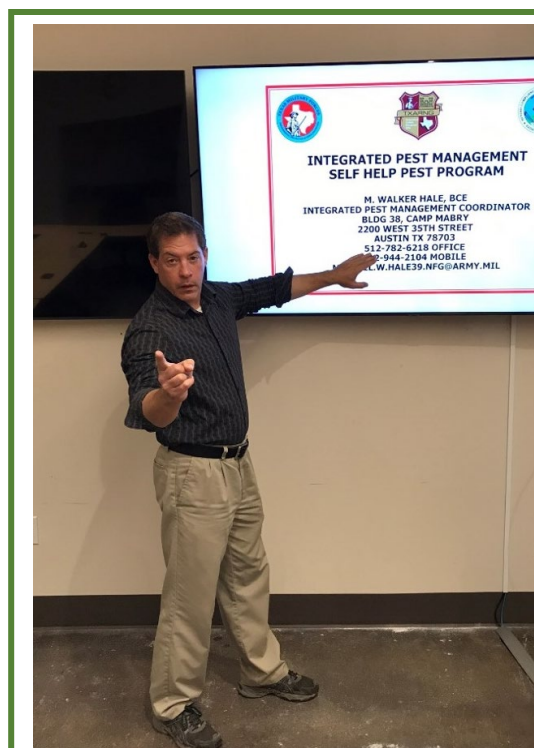
The IPMP is guided by a comprehensive plan developed over the past two years to integrate best practices recommendations, inspections, remediation, and application. As a result, the program has reduced costs across the installation while increasing the TXARNG's responsiveness and flexibility in addressing pest species. The program coordinator also introduced a self-certified applicator training that has empowered the industrial sites to manage some elements of pest control independently using approved materials and methods. A more efficient inspection protocol has been implemented, linking pest management with other environmental quality site visits and audits, establishing greater integration of pest control into everyday facility management and building relationships that have led to positive behavioral changes to naturally limit pest incursions. With all these skill sets now brought in-house, the TXARNG no longer requires significant contractor support for pest management.

The IPMP coordinator brings a combination of over 12 years military and private industry experience to the program as well as a Masters degree in entomology. He works in close coordination with the TXARNG's full complement of environmental managers and specialists as well as with CFMO staff to comprehensively address environmental protection and compliance. The IPMP is particularly integrated with the Natural Resources program to ensure that pest



species are being managed with respect to sensitive plants and wildlife and to protect water and soil resources. This collaborative approach has yielded solutions that range from updated best practices for facility operations to upgrades to facility envelopes. The new IPMP Plan is in force for the next four years, but it is updated annually and shared throughout the installation via the Lonestar Portal, continually refreshing guidance on approved pesticide, herbicide, and insecticide products available with or without an applicator license; this plan helps to protect the TXARNG from any compliance-related infractions related to these chemical controls. The IPMP also coordinates directly with the EPA and Texas Department of Agriculture (TDA) to manage the licensing requirements and meet all federal and state regulations. The TDA and NGB receive an annual report not only on the IPMP and its chemical usage, but also on any spill events, hazardous materials storage, and transport of materials throughout the industrial installation. This reporting oversight further enables the IPMP to track and validate the reductions achieved in chemical controls for pests.

The cost savings achieved by the IPMP on the industrial installation have been significant in these first two years of new initiatives and management. Review of contractor bids is more stringent, but creating in-house capabilities has made the greatest difference. Over FY21-22, termite assessments and treatments saved the TXARNG \$9000. Avoidance of contract hires via in-house pesticide acquisition and Certified Applicator treatment saved approximately \$24,000 while also accelerating response time. The use of non-repellent chemistry formulations to reduce medically important species on and around structures saved \$5000 in lost labor and time. A program initiated for rodent abatement, including the identification of abandoned bait stations and improvement of application is saving an estimated \$5000 per year, and in-house rodent remediation and live animal trapping has avoided around \$12,000 in contract costs annually. An FY21 monitoring program and application for mosquito species at the Martindale and Camp Swift UTES saved \$2000 over previous contracted costs. Bee remediation and removal coordination across the industrial installation saved the TXARNG \$3000, and in-house pest control operations for the MATES allowed the TXARNG to terminate an annual contract of nearly \$5000. All told, the IPMP has saved the TXARNG around \$70,000 at industrial facilities in just two years while also limiting the use of chemical controls and increasing the efficiency of treatment options.



Pest Management Coordinator Walker Hale leads a self-certification course for TXARNG soldiers. This course empowers the industrial sites to manage elements of pest control independently using approved materials and methods.



Industrial facilities are often characterized by lofty areas and open to the surrounding environment, making pest control particularly challenging. Protecting these facilities and the equipment within is paramount to the TXARNG mission.

In-house pest management has dramatically improved operations on the industrial installation with greater accountability and responsiveness to issues. Over FY21-22, 79 PRIDE work orders for nuisance, pest, and herbicide applications were closed. The bulk of these work orders received direct output from the IPMP, including inspection, treatment, and guidance for integrating all aspects of pest control at the facility level. In conjunction with the CFMO DPW, the IPMP created and curated a storage and distribution mechanism for TXARNG personnel needing pest control products. Authorized and permitted pest control products can be easily distributed with Work Order submission. In collaboration with the Natural Resources program, the IPMP also assists with water collection and sampling, outreach training, and herbicide application for perimeter fencing, parking areas, and structures. This coordination also improves capabilities for removal and remediation of invasive plant species.

Pest management for industrial installations involves unique challenges. Often these facilities are difficult to seal, with open bays, large doors, high ceilings, bright lighting, and envelope gaps that can attract animals and insects; open ground containers, tires, drums, and drainage points can exacerbate the risks of standing water. The pests in

question can range from nuisance species to medically important or potentially dangerous wildlife, including rodents, raccoons, mosquitoes, scorpions, ants, bats, bees, wasps, and snakes. One of the first steps the IPMP has taken is to train personnel in behavioral changes that can limit these pest incursions. Outreach at every facility includes training and recommendations to improve food and water storage and remove harborage points as well as to integrate secondary containment options to protect equipment. Improved facility hygiene is always the first line of defense.

The IPMP was initially launched as a call-out program, with facilities requesting assistance when problems arose, but the coordinator soon realized that effective management could piggyback on the inspections and audits already being conducted with EPAS, waste management, and water quality teams, creating the opportunity for more contact points with facility staff. The IPMP joins these teams on their site visits now, which allows for preventive treatments and operational corrections, a much more proactive approach to pest management. As a result, the IPMP has effectively established an installation-wide inspection and assistance rotation.

By focusing on preventive strategies and direct coordination with facility managers, the IPMP has reduced use of chemical controls and associated contact risks to TXARNG staff. The self-help training program and approved materials list help to ensure that all facilities are





empowered to manage for pests with the appropriate protections and limits. The purchase of pest control materials has been reduced by at least one-third over FY21-22, with the IPMP maintaining records of materials acquired and used throughout the installation. The program has also created a portal for Wood Destroying Insect reporting for any facility requesting insect identification or assistance, significantly reducing costly termite applications and baiting strategies for structures that would not have structural compromise from such insects.

The IPMP also emphasizes integration of pest management with the TXARNG's EPAS process. Instruction and inspection of pesticide storage methodologies prevent improper use, handling, and storage, thus avoiding interior and exterior findings and infractions during audit. The program is cross-training TXARNG personnel for EPAS coordination to further develop pest reduction practices throughout the installation. The IPMP Coordinator is a key liaison for EPAS inspections, closing any findings related to pest management in-house.



Pest Management is integral to the TXARNG's readiness and operations on the industrial installation. In some locations, pest species present a medical risk to personnel; mosquitoes and rodents, for instance, can carry harmful diseases that endanger health and safety. Rabies exposure is a concern where bats or raccoons are present as well. The IPMP has provided training on proper use of personal protective equipment throughout the installation and behavioral changes that limit encounters with these pest species. Pests, however, pose a risk beyond personnel; harms to equipment can cost the TXARNG thousands of dollars each year. Rodents or raccoons that roost in



vehicles or aircraft, for instance, can take key equipment out of rotation. Fire ants are some of the most problematic pests challenging the TXARNG and the state more broadly; the state of Texas spends \$2 billion annually on fire ant abatement. These insects post a health hazard, of course, but they are also drawn to any equipment with an electrical current, including vehicles, machinery, and building systems. When an ant encounters an electric shock, it sends out alarm pheromones that attract more ants. The ants will invade these areas and destroy the electrical systems, which can be incredibly debilitating to readiness. The IPMP routinely surveys for fire ant mounds and treats these colonies using a granular application developed by the Texas Agricultural Extension at Texas A&M University. Within the industrial installation, however, the program has developed a more targeted approach. Working with the TXARNG's GIS department, the program is delineating models for any road, fence, structure, or disturbed area—all of which are preferred by fire ants—to create a predictive map of where ants are likely to be present and target treatment and monitoring accordingly.



The Pest Management Coordinator joins EPAS and other inspection teams to integrate pest management into overall environmental compliance. Integrated holistic approaches help to correct storage needs and address extant issues.



As pest control treatments are applied, the IPMP captures this data throughout the installation; this information allows the program to track success or failure and chart any trends. The database allows the IPMP to adjust protocols as needed, identify facilities in need of retraining, and transfer best practices across sites. The IPMP Plan is updated annually to reflect changes in approved materials for use without a Certified Applicator license, and the use of these products within the industrial facilities is also tracked.



One of the most transferable innovations of the TXARNG's IPMP is the Self-Help Pesticide training, offered as a stand-alone course or as part of the NCO Readiness Course. Over FY21-22, the IPMP has trained 92 personnel, allowing them to order and apply approved pesticides and herbicides at their facilities independently but with the guidance of the IPMP.



Easy interactive requests for training are available through the environmental website, and training is available 7 days a week statewide. These courses are publicized by the IPMP with articles in *Earth Guard*, the TXARNG's environmental newsletter. The self-help course has also been integrated with in-person compliance toolkit training modules like spill prevention. When in-person training is conducted, the IPMP will also assist facilities in creating a dedicated storage area for pesticides and establishing procurement processes. As a result, shop and facility supervisors are empowered to manage day-to-day pest control without requiring procurement assistance from the CSMS or AASF; all approved self-help materials are available through the IPMP "shop." The self-help training creates environmental awareness, personnel involvement, and decreased reliance on pesticides. The projected savings as all facilities take advantage of this program, in terms of avoided treatment costs and materials, is projected to be between \$12,000 and \$30,000 per year. The IPMP's collaboration with the GIS and Environmental Office is also helping the TXARNG to expand on statewide pest management efforts beyond the industrial installation, creating a ready template for invasive organism remediation and accurate linear or square footage details for soliciting bids, particularly in parking areas and security perimeter or motor pool fencing. From a compliance perspective, the IPMP represents the TXARNG's commitment to going above and beyond where stewardship and readiness are concerned.