NAVFAC Marianas Increases Vigilance Against Invasive Species

New Rapid Response Capabilities Expand Targeted Species

PERSONNEL FROM THE Naval Facilities Engineering Command (NAVFAC) Marianas have recently established a contractual agreement which provides adequate rapid response capabilities that focus on the control and eradication of introduced non-established, non-native invasive species.

With the ongoing movement of troops between Guam and the Commonwealth of the Northern Mariana Islands (CNMI) for training activities, the U.S. Fish and Wildlife Service has expanded the biosecurity requirements to reduce the risk of the accidental introduction of invasive species into areas where they are not currently established. The new requirements are set out in a February 2015 biological opinion (BO) for the Mariana Islands Training and Testing (MITT) program.

A rapid response capability for the brown tree snake—the region's most well-known invasive species—has been in place for a number of years led by the U.S. Geological Survey's Brown Tree Snake Rapid Response Team. However, the MITT BO expands the Navy's requirement for rapid response capability to include all invasive species.

Besides brown tree snakes, biologists are concerned "especially with invertebrates (snails, slugs, ants, spiders and coconut rhinoceros beetles), vertebrates (rodents and lizards) and weed seeds that could easily get onto a pallet that is sitting or a vehicle parked somewhere," said Stephen Mosher, natural resource specialist at NAVFAC Marianas. "Those are the types of invasive species that are more likely to get spread than, say, a mongoose getting into a container in Hawaii that gets shipped here."

The MITT BO mandates that the Navy "establish a contractual agreement for adequate rapid response capabilities" focusing on "control and eradication of introduced non-established, non-native invasive species sighted in the vicinity of" MITT training areas, and staging, storage and transportation facilities for MITT-related personnel, cargo and vehicles.

To fulfill the mandate, in September 2016 the Navy finalized a cooperative agreement with Colorado State University's (CSU) Center for Environmental Management of Military Lands (CEMML). A four-person team mobilized in Guam in late March 2017 to execute the agreement, the period of performance for which is one year with two one-year option periods. Tasks required by the agreement include:

- Conducting a baseline survey and developing long-term monitoring protocols for early detection of any new invasive species.

The biological opinion mandates that the Navy establish a contractual agreement for adequate rapid response capabilities focusing on control and eradication of introduced non-established, non-native invasive species.

- Developing standard operating procedures for the control and/or removal of invasive species when identified.
- Developing and implementing a plan for rapid response when invasive species are reported.
- Developing and implementing bio-sanitation (equipment cleaning) standards with quality assurance/quality control (QA/QC) procedures.

The Basics About the Center for Environmental Management of Military Lands

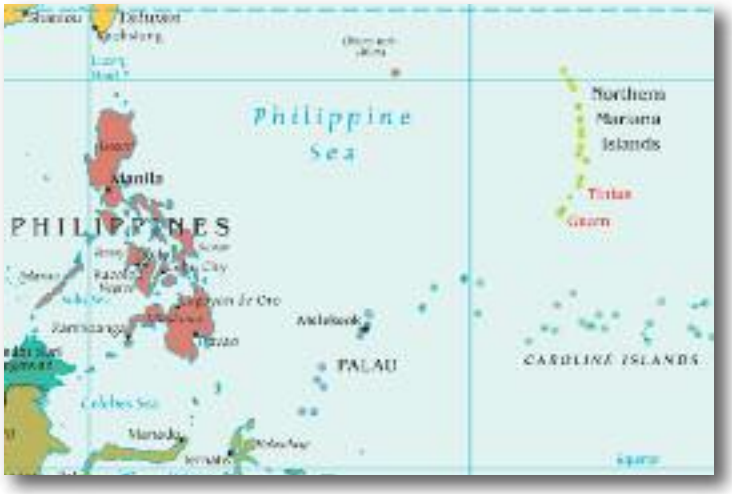
CEMML IS A research and service unit within CSU's Warner College of Natural Resources. The Center's experience supporting military readiness and land conservation stewardship for over three decades provides them with the capability to apply innovative and useful solutions to the real-world, complex issues facing public lands today.

CEMML works closely with the Department of Defense, the U.S. Army Corps of Engineers, the National Park Service and other federal agencies through cooperative agreements and contracts. Their applied research, operationally-focused land management, regional planning, research and policy innovations, as well as education and outreach efforts assist military and federal managers resolve issues surrounding their dual mandates to use and conserve.

For more information, visit www.cemml.colostate.edu.

"Including all of the tasks in the one cooperative agreement was cost-efficient and will likely result in a better outcome than separating the tasks into multiple agreements," Mosher said. "If we're going to pay for a full-time staff for a rapid response capability, why not have them do everything?" he said. "They can be doing baseline surveys. If there is a training exercise, we can send team members to Andersen Air Force Base to verify that the equipment is all clean before going off-island. When they're done there, they can come back and continue with the baseline survey."

Once the baseline survey is completed, team members can do long-term monitoring and control and, when needed, rapid response for an invasive species sighting. Having done the initial baseline survey, the team will have a better idea of what to expect when called on for the other tasks.



A baseline survey is to be completed first to document species that are present in Guam and Tinian U.S. Geological Survey's Brown Tree Snake Rapid Response Team training locations, identify those that may present a threat, and then to be able to detect new invasive species before they become established.

The baseline survey is expected to take at least a year according to Program Manager Tom Mathies of CEMML. "We're tasked with recognizing a huge number of species—every plant, every invertebrate within the project areas on Guam and Tinian," he said. "No one has ever looked to see what non-native species are in these training areas. This will provide insight into what can be inadvertently spread."

Larger species of non-native animals like monitor lizards and medium size mammals are relatively easily detected. "But typically, weeds, spiders, ants, slugs and snails are the

The team will also develop protocols for dealing with high-risk species that may be in either Guam or Tinian training locations.

From left, field biologists Kyle Ngiratregd and Brian Leo, and program manager Tom Mathies, all of the invasive species team from the CEMML at CSU, undergo training on Trimble handheld computer and GIS device on Naval Base Guam. The devices will be used by the CEMML team to conduct a baseline survey of potential invasive species in Guam.

types of invasive species that are going to get spread without people immediately noticing them being transported until they become established," Mosher said. "There could be invasive species on Tinian that Guam doesn't have and vice versa. We don't want to be transporting any invasive species. There may be something specifically that we need to control that may be common on Tinian, but that could be considered a high-risk invasive species that we don't want anywhere near cargo-staging areas."

The MITT BO also raises the level to which equipment being deployed must be cleaned. Specifically, it mandates adherence to the 118-page Armed Forces Pest Management Board Technical Guide No. 31, which is already in place for the movement of military equipment from foreign countries into the U.S., but now will be applied to equipment moving between Guam and the CNMI for training.

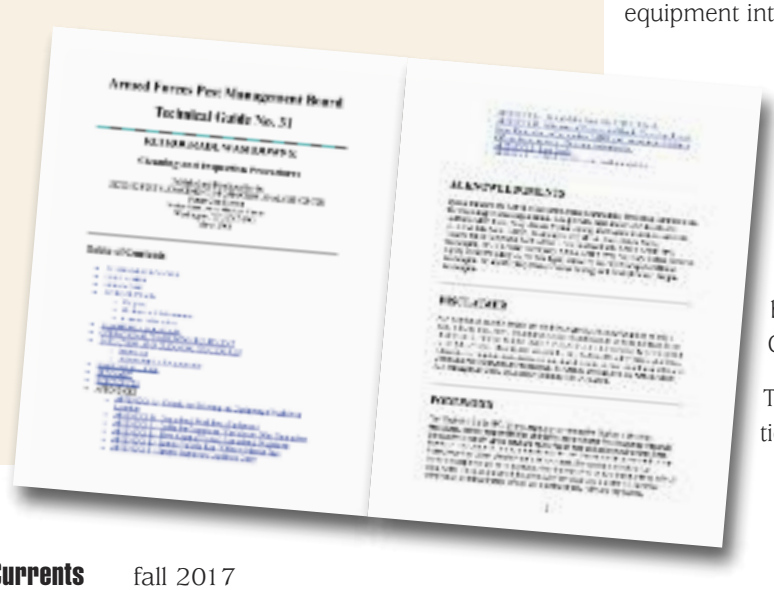
"It's a pretty thorough guide on washdown procedures," Mosher said. "It gets into detail for every type of equipment from an amphibious assault vehicle to a pickup truck to a seven-ton truck—all sorts of large equipment. It shows where the problem spots are, where people typically miss cleaning up underneath vehicles, where material (especially mud) gets up inside the frame or the wheel wells. The initial idea behind the technical guide was to ensure that the military is not transporting agricultural pests whether it's a nematode or weed seeds on equipment into the U.S., but the guide's washdown measures also serve to prevent invasive species from being accidently transported and potentially impacting endangered species at the equipment's receiving destination."

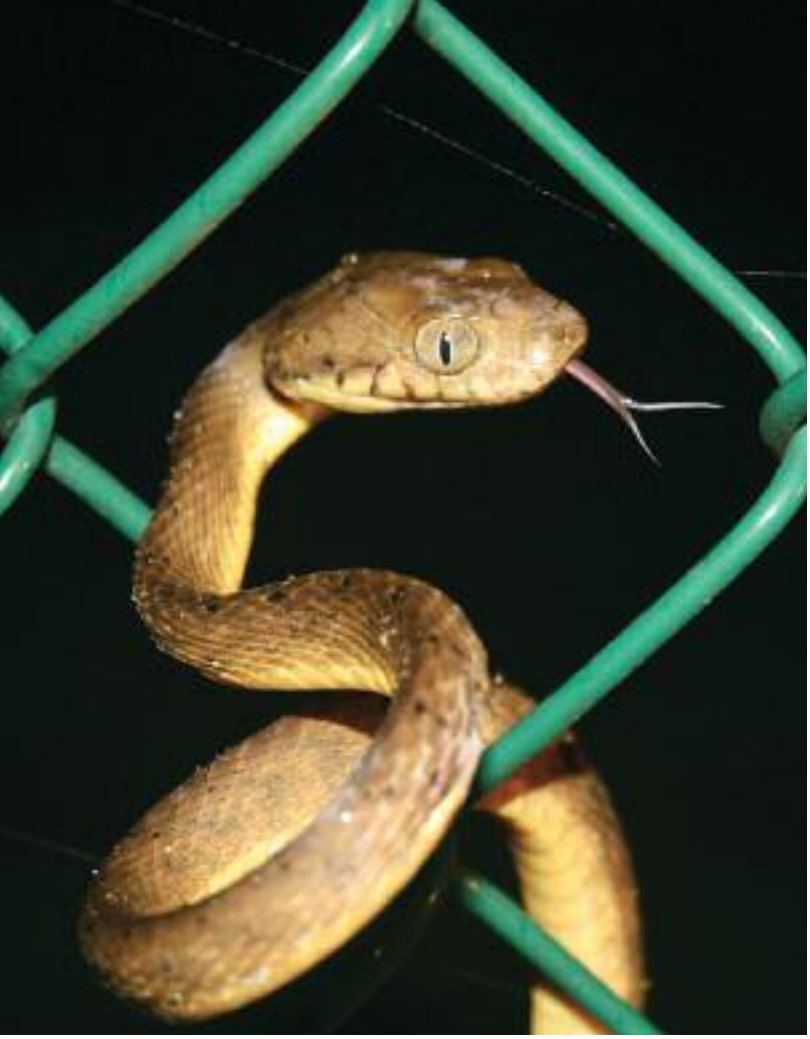
"While equipment cleaning has been mandated for years, the standards have not been as rigorous or as specific as Technical Guide 31 until now," Mosher said.

The CSU team will provide QA/QC inspections to ensure the standards are enforced.

For More Information

To download an electronic copy of the Armed Forces Pest Management Board Technical Guide No. 31, visit www.dodinvasives.org/AFPMB_Retrograde_Washdowns.pdf.





A rapid response capability for the brown tree snake has been in place at CNMI for a number of years.
USDA Wildlife Services

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—Tom Mathies

The team will also develop protocols for dealing with high-risk species that may be in either Guam or Tinian training locations. Mosher said he anticipates control protocols will be written for such known recent high-risk invasive species as the little fire ant and the coconut rhinoceros beetle.

Little fire ants have been detected in a number of locations in Guam, including recently, on one edge of the Andersen South property which is used frequently for training. "The CSU team will draft a control/eradication protocol for little fire ants," Mosher said. "When they get to Tinian, they will know which pesticides are legal to use in the CNMI, which monitoring methods to apply and how often to put the bait down. They'll have the protocol in hand so they won't have to ask 'What do we do?' if they happen to detect little fire ants over the course of their surveys."

Other species that warrant protocols may be identified when the baseline surveys are complete. Protocols may also be needed for species that are identified as high risk in Hawaii, Okinawa or northern Australia all of which are originating points for troops coming to Guam for training.

For more information about NAVFAC Marianas, visit www.navfac.navy.mil/navfac_worldwide/pacific/fecs/marianas/about_us and www.facebook.com/navfacmarianas.

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