SECRETARY OF DEFENSE ENVIRONMENTAL AWARD
NATURAL RESOURCES CONSERVATION–INDIVIDUAL

Robert W. Wescom
Commander, U.S. Naval Forces, Marianas


Many colorful marine species inhabit Gab-Gab Beach.

BACKGROUND

Mr. Robert Wescom is the Commander, U.S. Naval Forces, Marianas (COMNAVMARIANAS) Natural Resources Specialist. Mr. Wescom has 29 years of Federal government experience managing natural resources in a wide range of environments including West Africa, the South Pacific, Micronesia, and most recently Department of Defense (DoD) lands on Guam and the Commonwealth of the Northern Mariana Islands (CNMI). Over the past three years Mr. Wescom provided oversight in developing and implementing nearly $3 million in natural resources management projects for COMNAVMARIANAS. Mr. Wescom's major accomplishments include the completion and approval of the Navy's Installation Natural Resources Management Plan, numerous monitoring surveys in support of mission activities conducted in sensitive habitats, recovery from natural disaster-caused events, and a 50% reduction of the feral carabao population in an important watershed.

POSITION DESCRIPTION

Mr. Wescom is responsible for the conservation and management of natural resources on approximately 18,000 acres of Department of Defense (DoD) lands on Guam and approximately 16,000 acres of DoD leased lands in the CNMI. He formulates and oversees the implementation of natural resources plans and programs identified in Integrated Natural Resources Management Plans (INRMPs), and advises COMNAVMARIANAS and its tenants on highly visible resources issues related to the protection of threatened and endangered species and their habitats, proposed designation of critical habitat on DoD lands, National Environmental Policy Act (NEPA), watershed protection, and other natural resources issues.

The COMNAVMARIANAS' natural resources management program supports the Navy's mission of ordnance and fuel storage and movement, communications, and training. Navy lands on Guam and the Mariana Islands provide essential biodiversity for the protection and recovery of ten federally-listed threatened and endangered species. It is Mr. Wescom's responsibility to oversee military operations and training, and ensure they are conducted with full consideration of the DoD's responsibility to integrate the best environmental practices into its activities.


Threatened green sea turtle.

AWARDS AND SERVICES

Mr. Wescom is a Registered Professional Forester with the State of California Board of Forestry and Fire Protection. He keeps current in professional forestry and natural resources management by completing Society of American Foresters Certified Forester Program continuing education hours, and

is a Certified Forester. He has been a Society of American Foresters member since 1977. He is also a Master Scuba Diver Instructor with the Professional Association of Diving Instructors (PADI).


Wild Orchid

He has authored and co-authored several technical publications related to tropical nursery management, agroforestry, and forestry, all related to the Pacific environment.

During the course of his career Mr. Wescom has received numerous certificates of merit from three Federal agencies. Since beginning his employment with the U.S. Navy in 2000, he has received Special Service awards in 2001, 2002, and 2003 from COMNAVMARIANAS. He received an Honorable Mention in the FY2001 CNO Environmental Awards Natural Resources – Individual Category.

ACCOMPLISHMENTS

Over the last three years Mr. Wescom has directed the planning and implementation of a diverse range of conservation management activities both on Guam and within the CNMI. He ensures integration between the military mission and natural resources stewardship has been accomplished, and oversees activities that protect and enhance biodiversity needed by threatened and endangered species, and watershed protection. Mr. Wescom takes advantage of Geographic Information Systems (GIS) to integrate natural resources management and provide the Command with the most current information on the existing condition of its natural resources.

Overall Conservation Management

Mr. Wescom oversaw the completion of the Integrated Natural Resources Management Plan (INRMP) for Navy Lands, Guam and ensured that the INRMP with its Environmental Assessment and concurrence from the U.S. Fish and Wildlife Service was completed and approved by the due date. The INRMP for Navy lands on Guam fully incorporates ecosystem and adaptive management strategies to ensure all resource values are considered in project planning and execution.

In addition to the completion and approval of the INRMP for Navy Lands, Guam, Mr. Wescom has overseen the completion of several resource and species studies that provide the Command with critical data in decision making. These include:


Endangered Mariana Moorhen.

- Seasonal Movement, Home Range, and Abundance of the Mariana Common Moorhen (*Gallinula chloropus guami*) on Guam and the Northern Mariana Islands. This species survey provided important information on the presence and location of the Mariana common moorhen, an endangered wetland-dependent species on Guam and in the CNMI.

- Natural Resources Species Survey and Monitoring Plan. This survey established 42 permanent natural resources plots in which the current biodiversity and ecosystem health was recorded and are periodically reassessed to document and evaluate changes to biodiversity. The establishment of monitoring plots in sensitive habitats has already proved valuable to the Command in 2002 when an oil spill occurred near a mangrove ecosystem and the

plots provided a valuable measuring tool and helped the Unified Command determine there were no adverse impacts to this important habitat.


Orote Ecological Reserve

- Marine Biodiversity Resource Survey, and Baseline Reef Monitoring Survey of the Haputo and Orote Ecological Reserve Areas, COMNAVMARIANAS. These surveys established permanent underwater transits to evaluate and monitor changes to the rich coral ecosystems within these Navy-established ecological reserves.

- Fena Watershed Resource Assessment. This study documented erosion and sediment transport within the Fena Watershed, which not only provides most of the Navy's water supplies, but also about 20 percent of water supplies to local residents in southern Guam. This study provided vital information needed to respond to high levels of turbidity in Fena Reservoir following Super Typhoons Chata'an and Pongsona that hit Guam in July and December 2002.


The Imong River exhibits effects of post-storm erosion.

Mr. Wescom also oversees and manages several on-going species protection and habitat management projects, including:

- Feral carabao (water buffalo) population management on Ordnance Annex. This project includes three approaches to reduce damage to plant communities and degradation of water quality caused by the non-native feral carabao. The three approaches include fertility control using immunocontraceptive vaccine, carabao calf capture and relocation, and culling. Extensive coordination with Federal and state wildlife management agencies has been crucial in the execution of these three strategies. During the past year the feral population has been reduced by 50% and resource recovery is showing improvements in grasslands and soil stabilization.


Carabao

- Protection and management of *Aerodramus bartschi*, a Federally-listed endangered cave-dwelling swiftlet species on Guam. This project reduces the population of brown tree snakes around three cave sites on Ordnance Annex, COMNAVMARIANAS that provide nesting and roosting habitat for 99% of the remaining swiftlet population on Guam.

- Soil and Water Conservation. This project involves adaptive management strategies to reduce soil erosion and includes improvements to fire breaks, conversion of flammable grasslands in the Naval Magazine to forest cover using both adapted exotic and native plant species, and critical area treatment of severely eroded sites using bio-engineering and erosion control fabrics.

Under Mr. Wescom's direction new studies are being completed to further protect Guam's natural resources. These include:

- Vegetation mapping of Navy owned lands on Guam;
- Development of an Integrated Wildland Fire Management Plan in conjunction with the Federal Fire Department and Guam Division of Forestry and Soil Resources;
- Satellite tracking of sea turtle movement, participating with the U.S. Fish and Wildlife Service and Guam's Division of Aquatic and Wildlife Resources;
- Deer and pig population studies in cooperation with the U.S. Fish and Wildlife Service;
- Mapping and classification of sea turtle nesting habitat on COMNAVMARIANAS.

For 16,000 acres DoD leased lands in the Commonwealth of Northern Mariana Islands Mr. Wescom is providing oversight in the preparation of the new INRMP for Tinian and Farallon de Medinilla (FDM). During Mr. Wescom's tenure with COMNAVMARIANAS, the following projects and studies have been completed in the Commonwealth of the Northern Mariana Islands:

- Annual assessments of Marine and Fisheries Resources, Farallon de Medinilla;
- A Quantitative Survey and Inventory of the Micronesia Megapode and its Habitat on Tinian, CNMI;
- Monthly avian, sea turtle, and marine mammals surveys on FDM;
- Monthly avian and sea turtle surveys on Tinian;
- Feral ungulate population control on Anatahan Island, Commonwealth of the Northern Mariana Islands;
- Native tree reforestation on Tinian.


Masked Booby nesting on Farallon de Medinilla.

Mr. Wescom is also the primary point of contact for COMNAVMARIANAS' NEPA compliance. He reviews and approves approximately 250 NEPA categorical exclusion documents for COMNAVMARIANAS each year. In addition, he has prepared, reviewed, and edited several Environmental Assessments. These have included the Overseas Environmental Assessment for extending warning areas in the Western Pacific and maintenance dredging of Inner Apra Harbor, COMNAVMARIANAS.

Natural disasters that have affected Guam in the past three years have resulted in unplanned and challenging work to protect natural resource values. In July 2002 two typhoons passed over Guam resulting in an extensive oil spill in Apra Harbor and heavy sedimentation of Fena Reservoir. Mr. Wescom coordinated a rapid shoreline assessment with the U.S. Fish Wildlife Service, U.S. Coast Guard, and Guam Division of Aquatic and Wildlife Resources. The shoreline assessment provided the Navy, Guam and Coast Guard Unified Command up-to-date information on the natural resources at risk, including sensitive mangrove ecosystems, sea turtle nesting habitat, and shore birds. Following the shoreline assessment, Mr. Wescom prepared the Natural Resources Assessment that identified methods to protect natural resources from long-term damage from the oil spill. Mr. Wescom was able to provide the Unified Command current information on the sources of sedimentation into Fena Reservoir and provide recommendations for long-term management of the watersheds.


Fena Reservoir, an important source of drinking water for Guam.

Ecosystem Management
The new INRMP is based upon an analysis of ecosystems rather than separate plans. This management plan allows for the management of the various ecosystems found on COMNAVMARIANAS property, rather than the management of individual species. This completely rewritten plan now allows for much easier implementation of projects and plans for protecting the resources while enhancing mission accomplishment.


Erosion Control Area

Land Use Management
Several factors influence the management and control of erosion on Guam, and in particular the watershed areas of Fena Reservoir, Ordnance Annex. Mr. Wescom manages projects to control the population of feral water buffalo (locally known as "carabao"), provide fire breaks in savanna and forest areas, and control erosion through revegetation. Carabao trampling and wallowing in the Ordnance Annex have denuded areas of ground cover, resulting in the erosion of topsoil. These animals, released to the wild during World War II, have experienced a great population growth due to lack of natural predators in the highly secure Ordnance Annex. In addition, frequent wildfires during Guam's dry season have contributed to the erosion problem. Mr. Wescom is on solving the erosion problem through creative programs designed to decrease the carabao population and to revegetate areas that are experiencing accelerated erosion.

Additional conservation projects managed by Mr. Wescom during the nomination period include erosion control, watershed management, and the provision of fire breaks for use as access during fire response, as well as for breaking the continuity of fuels in case of wildfire. Many acres of eroded land and savanna areas have been stabilized through the use of erosion control fabric and revegetation of the areas. Water conservation measures are guided by watershed management plans developed as part of the natural resources program as well.

Through his coordination with the Guam Division of Aquatic and Wildlife Resources, the U.S. Fish and Wildlife Service, U.S. Geological Survey, and other federal and local agencies, Mr. Wescom is managing a three-pronged approach to reducing the carabao population. The first phase involved immunizing the female carabao with a remotely administered *porcine zona pellucida* (PZP) vaccine. The vaccine causes the production of antibodies that change the shape of the protein sperm receptor molecules, and cause temporary sterilization (up to approximately three years). In October 2001 a program to relocate carabao calves into the local community was initiated and has received local media attention as well. Calves are tranquilized and removed from the area and given to the local village mayors where they are then adopted out to local residents for agricultural use. The third method of population control, implemented in 2003, is culling. A protocol was developed that included full consideration of military mission requirements and using weapons within an operational munitions storage area. Highly skilled active duty marksmen establish safe firing zones in and around munitions storage bunkers to ensure that hunting of animals could be accomplished safely. The culling only targets mature animals, allowing the calves to


Erosion problems caused by carabao.

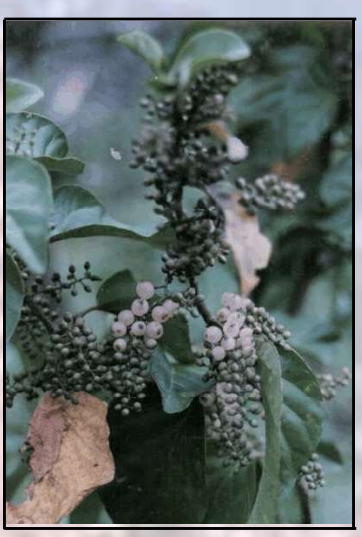
continue to be adopted out to the local villages. Mr. Wescom's efforts have resulted in a 50% decrease in the carabao population to date. Native vegetation has begun to reappear, and the resultant decrease in erosion will protect the Navy's Fena Reservoir from bacterial contamination.

Several agricultural and recreational outleases of property are managed consistent with the Navy's multiple land use concept. These outleases provide numerous benefits to the mission, natural resources management, and to the community. Outleases include:


Farmer harvests crops from agricultural lease land.

- Aggregate fishing buoys within Navy waters at Apra Harbor leased to the Government of Guam
- Private agriculture leases at Communication Annex, Barrigada
- Lease to the University of Guam College of Agriculture and Life Science
- Land at Communication Annex, Barrigada, leased to the Government of Guam, Department of Agriculture
- 7,429 acres in Tinian leased back to the CNMI government for agricultural purposes
- Communications Annex, Finegayan ingress/egress to beach leased to the Government of Guam
- Communications Annex, Finegayan recreation area leased to the Government of Guam
- Tanguisson Beach and Picnic Area being leased to the Government of Guam

Conservation of native plants is an important part of the program managed by Mr. Wescom because the military land on Guam and in the Northern Marianas includes much of the least disturbed native vegetation in the islands.


Maesa Walkeri, native to Guam.

Highly managed military areas have served to protect the habitat and enhance the environment for a number of threatened and endangered species. During development of the Environmental Impact Statement (EIS) for military training in the region, sensitive forest areas such as *Merilliodendron megacarpum*, and rare forest trees such as *Heritiera longipetiolata* were identified and are now being protected during military training and exercises.

In addition, COMNAVMARIANAS manages the Orote Peninsula and Haputo Ecological Reserves. While both of these areas are used in harmony with training and exercises, their primary purpose is to maintain ecological diversity.

All of these projects have required a great deal of coordination with the U.S. Fish and Wildlife Service, Natural Resources Conservation Service, Government of Guam's Division of Aquatic Wildlife Resources, and the University of Guam's Marine Laboratory. COMNAVMARIANAS has been fortunate that Mr. Wescom has established an excellent working partnership with each of these agencies. In fact, several agencies continue to assist with performing surveys, inventories and the management of natural resources on COMNAVMARIANAS properties through cooperative agreements developed and directed by Mr. Wescom.


Tinian Monarch.

Forest Management

Mr. Wescom oversees forest management projects in two areas--on Tinian and in Guam. On Tinian the Navy is reforesting areas by planting native limestone species in an effort to improve the habitat for the endangered Tinian Monarch. On Guam, programs are in place to revegetate savanna areas, reduce soil erosion, and provide habitat diversity. Prescribed burning is not currently used as a management technique.

Military property includes the most pristine native limestone and ravine forests and habitat for threatened and endangered species. Many of the natural resources programs managed by Mr. Wescom are directed toward maintaining and improving these habitats. During the evaluation of environmental impacts caused by the various military training activities, the rare forest tree *Heritiera longipetiolata* was identified, as well as the *Merrilliodendron megacarpum* forest areas. These areas are the least disturbed by introduced species and are off-limits to certain types of training.


Ravine Forest.

Wescom coordinated the development of a long-term species monitoring and survey plan with the U.S. Forest Service, covering all Navy lands. The Navy has contracted the development of a habitat monitoring project throughout Navy property, and has worked in cooperation with the U.S. Forest Service and Guam Division of Forestry and Soil Resources to ensure compatibility with a Guam-wide vegetation survey.

Fish and Wildlife

Mr. Wescom manages some of the most sensitive habitat in the Mariana Islands. Navy owned and leased lands provide important habitat for a variety of species--terrestrial, aquatic, and marine. As a result, he manages a multitude of projects aimed toward the protection of the federal and locally listed threatened and endangered species. Examples include:

- Brown tree snake control projects--As with the remaining avifauna on Guam, the island's swiftlet population is vulnerable to the brown tree snake (BTS). At present the largest swiftlet colony resides on COMNAVMARIANAS property. To reduce the numbers of BTS at swiftlet colonies and gather data on snake abundance, the U.S. Fish and Wildlife Service, U.S. Geological Survey/Biological Resources Division, the Guam National Wildlife Refuge, and COMNAVMARIANAS have partnered to reduce snakes in the vicinity of two swiftlet colonies using intensive trapping with mouse-baited traps.


Worker installs BTS trap in cave.

- Species management and control projects:
  - Species surveys on Guam, Tinian and FDM--Extensive marine surveys have been conducted off the coastline of FDM, in conjunction with the U.S. Fish and Wildlife Service, the CNMI Division of Fish and Wildlife, and the National Marine Fisheries Service. This live fire

The BTS, an introduced species contributing to the decline of bird populations on Guam.

bombing range, the only one in the Pacific, is considered essential for mission readiness. These surveys evaluate the impacts to fish, coral, land and marine mammals, and have noted no significant impact to the environment, thanks to Mr. Wescom's efforts.

- Tinian Megapodes–This project provides mitigation of habitat damage on FDM, and thereby supports the continued use of FDM – the only live fire training range in the Pacific. In order to offset any possible impact to the megapode (*Megapodius l. laperus*) and its habitat on the Navy-controlled bombing range, Wescom manages work to improve the Micronesian megapode habitat through management and enhancement measures on neighboring islands. Megapode population surveys are being conducted on Tinian.

Micronesian Megapode, federally-listed as endangered.

- Tinian and Guam--Moorhen are outfitted with radio transmitters, and these birds' movements are tracked on Guam, and also among the islands of the CNMI. This project allows scientists to track the birds' home range and dispersal, and will allow for trend analysis of that information. This could become important in the Pacific as the military's mission needs evolve, as well as provide information on the changing complexity of wetland habitats in the Marianas.

Endangered Hawksbill sea turtle.

- Turtle tagging study--Through Mr. Wescom's efforts, the Navy is participating in a study to track the migration of threatened and endangered sea turtle species. These turtles are captured briefly and satellite transmitters are attached to the turtles' shells, allowing scientists to track their migration patterns. This project is being accomplished in coordination with the Government of Guam's Division of Aquatic and Wildlife Resources.

- Endangered species migration (FDM)--Monthly aerial surveys are conducted to monitor and evaluate the bird populations on FDM.

- USFWS Overlay Refuge--The Navy supports a wildlife biologist position to assist with the management of the Guam National Wildlife Refuge.

Under the direction of Mr. Wescom, the Navy is cooperating with the Guam Division of Aquatic and Wildlife Resources to survey native and non-native fish in the Fena Reservoir and adjacent stream courses. A new saltwater fishing instruction was developed and issued during this nomination period, and clarifies appropriate areas for spear fishing. Wescom has also developed a hunting management plan which will be used when hunting programs are made available to the public in the future, when security concerns permit. In the meantime, COMNAVMARIANAS is host to 2000 fishing days on Navy property each year, and its shoreline properties are popular local dive and fishing sites.

Other Natural Resources

In cooperation with the federal and local resource agencies, Wescom sees that members of the public are able to access these resources where appropriate while still meeting the needs of national security and the military mission. Gab-Gab and Tanguisson Beach are examples of popular beach areas that are

used by military and local families for recreational purposes. Tanguisson Beach is fully accessible to the general public, and most weekends the park is crowded with families enjoying swimming, fishing, and camping activities. The areas associated with the Orote Peninsula and Haputo Ecological Reserves are popular dive sites, and the new fishing instruction serves to clarify safety issues associated with spearfishing. Off-road vehicle use is carefully monitored and controlled, so that this activity will not increase erosion-related problems and otherwise impact the sensitive island environments.

Pest Management

Mr. Wescom's primary pest management activities are related to the control of the Brown Tree Snake (BTS). Although application and use of chemical pesticides is minimal on Navy properties, a great deal of resources are directed toward the management and eradication of the BTS population. This pest, introduced to Guam several decades ago, is believed to be a contributing factor to the decline of many of Guam's threatened and endangered species populations. In conjunction with several federal and local agencies, COMNAVMARIANAS is working on several projects to eradicate and manage this pest, including trapping and development and use of alternative snake control methods.

Conservation Education (on and off nominee's property)

Mr. Wescom ensures that COMNAVMARIANAS incorporates environmental awareness into its base indoctrination program, and conducts a base wide program covering each major environmental area, including Natural Resources Management. During the planning and execution of training operations, every effort is made to heighten troop awareness, including the use of locally developed training videos. Information cards, which describe the resources protection needs during major exercises, are provided to those participating in the training. Signs identifying wetlands and noting their protection status are provided in several areas in an effort to educate the public on Guam's resources. Hands on activities during the annual Base Enhancement Day enforce Mr. Wescom's environmental stewardship training.

Tree planting during Base Enhancement Day.

Community Relations

Local scouting groups are encouraged to use Navy property for camping and recreational activities when appropriate. Members of the community frequently use the Navy's shoreline areas for fishing and diving activities. In addition to these types of activities on COMNAVMARIANAS property, Mr. Wescom also participates in Earth Week activities within the local community at parks and shopping centers. This allows island residents to understand how COMNAVMARIANAS is helping to protect Guam's unique resources.

Snorkeler at Gab-Gab Beach.

Environmental Enhancement

All of the projects managed by Mr. Wescom serve toward enhancing the environment. By conducting the necessary steps to avoid or minimize environmental harm that could have been caused by military training; performing wetland delineations, species surveys, controlling the BTS and carabao populations, and rehabilitating degraded areas through revegetation

programs, Wescom has been able to actively pursue the preservation and enhancement of the island's best remaining native natural communities and their wildlife components.

Mission Enhancement
Wescom's efforts are an important part of the military mission in the Pacific. His experience and use of computerized management tools has helped in the decision making process to support the military missions of training, mission readiness, and environmental protection.

The various species and habitat programs that Mr. Wescom manages have been particularly crucial in allowing the military's continued use of FDM as a live fire training range. The bird and marine surveys and habitat conservation and improvement projects have all contributed to the Navy's ability to support the mission with realistic tropical training environments, while preserving habitat for threatened and endangered species.

Natural Resources Compliance Program
Mr. Wescom interacts so well on a regular basis with natural resources agencies such as the U.S. Fish and Wildlife Service, U.S. Natural Resources Conservation Service, U.S. Forest Service, U.S. Geological Survey, U.S. National Park Service, Government of Guam Division of Aquatic and Wildlife Resources and Division of Forestry and Soil Resources, and the CNMI Division of Fish and Wildlife, that these agencies consider him and the Navy to be an integral part of the Natural Resources Management team on Guam and in the Northern Marianas. This true partnership has allowed ongoing communication on sensitive issues, and ensured compliance with Natural Resources programs.

Approximately $3 million was spent during the three-year nomination period on the natural resources programs and projects, garnering COMNAVMARIANAS a great reputation for natural resources protection in the community and with the resource agencies. This was made possible by Mr. Wescom's involving these agencies directly in most of the projects.


Wetlands at Waterfront Annex.

In addition to working with the various agencies on species and habitat management and protection, Mr. Wescom also participates in the planning for damage assessment efforts. He is a part of the Government of Guam's committee to plan damage assessment in the event of various events that may occur on Guam, and has participated in community exercises such as oil spill drills.