



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122, Box 50088
Honolulu, Hawaii 96850

In Reply Refer To:
2007-FA-0116

JUL 30 2007

Mariana Islands Range Complex EIS
258 Makalapa Drive, Suite 100
Pearl Harbor, HI 96860-3134
Attn: EV2

Dear Sir or Madam:

The U.S. Fish and Wildlife Service (Service) has reviewed the Notice of Intent (NOI) published by the Department of Defense (DoD) on June 1, 2007, to develop an Environmental Impact Statement/Overseas Environmental Impact Statement (EIS/OEIS) for the Mariana Islands Range Complex (MIRC). The proposed action would upgrade and modernize the capabilities of the MIRC, which encompasses land, air and sea training ranges in the Mariana Islands. MIRC supports local military units, multi-national exercises and facilitates the rapid deployment of U.S. defense forces, as necessary. This proposed action is intended to fulfill and improve U.S. government national security and alliance requirements in the Western Pacific Region and increase the strategic defense role of Guam and the Commonwealth of the Northern Mariana Islands (CNMI). These comments are provided in accordance with the National Environmental Policy Act of 1969 [42 U.S.C. 4321 *et seq.*; 83 Stat. 852] (NEPA); and other authorities mandating concern for environmental resources including the Fish and Wildlife Coordination Act of 1934 [16 U.S.C. 661 *et seq.*; 48 Stat. 401], as amended (FWCA); the Federal Clean Water Act [33 U.S.C. 1251 *et seq.*; 62 stat. 1155], as amended (CWA); the Endangered Species Act of 1973 [16 U.S.C. 1531 *et seq.*; 87 Stat. 884], as amended (ESA); and the Sikes Act of 1960 [16 USC *et seq.*; 74 stat. 1052], as amended;

Little specific detail has been provided in the NOI, supporting documentation distributed at public meetings, or the military's informational website; therefore, we provide only general comments related to the proposed action. The proposed EIS/OEIS is large in scope, complex and includes numerous actions that may have significant impacts on fish and wildlife resources in the Mariana Islands. Specific information is required in order to assess and adequately disclose these impacts, including the nature, duration, and specific location of training activities and infrastructure improvements. Because this information is currently unavailable, we recommend that DoD begin coordination with us and other relevant resource agencies at the earliest possible

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time in the planning process to ensure concerns for threatened and endangered and other Federal trust species have been adequately addressed in planning and development of the EIS/OEIS.

A cooperative agreement between the U.S. Air Force and the Service for the establishment and management of the Guam National Wildlife Refuge (dated March 10, 1994) states that the Air Force will provide for consultation with us for actions that may impact habitat of endangered or threatened species even if those species are extirpated from the affected area, but are not extinct. The conditions of this agreement remain valid as the planning process advances, and appropriate consideration for listed species and their habitat will be given in the EIS/OEIS to these Refuge overlay lands.

Federally Listed Species, Candidate Species and other Federal trust resource

Many threatened and endangered plant and animal species occur in the Mariana Islands. Pursuant to section 7 of the ESA, if you determine that your proposed action may affect listed species you should either initiate formal consultation or seek written concurrence from us that the proposed action is not likely to adversely affect listed species. We are concerned that proposed facility and live fire range construction, base expansion and alteration projects, and military training activities may result in habitat loss and physical disturbance that may adversely affect listed species. Additionally, the proposed action has the potential to result in substantial indirect impacts on threatened and endangered species from infrastructure, commercial, residential, and industrial growth and development within the Mariana Islands for support services that are not funded by the military. Although some of these actions may not have a federal nexus, they all should be considered in a cumulative impact analysis within the scope of section 7 consultation under the ESA (see also cumulative impact section below).

In addition to green (*Chelonia mydas*) and hawksbill (*Eretmochelys imbricate*) sea turtles, for which we share joint responsibility with National Marine Fisheries Service (NMFS), other federally listed marine species, including both permanent and seasonally resident species, occur in ocean waters surrounding the Mariana Islands and may be adversely impacted by activities associated with the proposed action. We recommend that the Navy consult with NMFS to ensure that the proposed infrastructure improvements and expanded training activities are adequately addressed for these species in marine waters.

Because the NOI is not specific about the location of proposed base expansion activities, including expanded live fire ranges and enhanced training activities, we have provided a list of U.S. threatened and endangered species occurring within the Mariana Islands (Enclosure 1). Recovery plans with detailed information on these species can be obtained from our office in Honolulu or via the worldwide web at <http://www.fws.gov/endangered/recovery/index.html>.

Numerous other Federal trust resources occur in the Marianas Islands, including migratory birds, wetlands, and coral reefs. Please refer to Executive Orders 13186, 11990, and 13089, which

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instructs Federal agencies to use their programs and authorities to avoid and minimize impacts to these resources from their activities. We are concerned that the proposed facility constructions and military training activities may result in disturbance, damage, or harm to these resources.

Numerous species have been identified as Species of Concern, including candidate species for listing under the ESA, species listed by the Territory of Guam and the CNMI as threatened or endangered, identified by us as Birds of Conservation Concern, and species with restricted ranges (see Enclosure 2). We recommend that an analysis of potential impacts to these Species of Concern resulting from the proposed action be included in the EIS/OEIS.

The Tinian Monarch (*Monarcha takatsukasae*) has been delisted, and we are in the process of a 5-year post-delisting monitoring project (Federal Register: December 13, 2004 (Volume 69, Number 238)). This monitoring is intended to ensure that our decision to delist was appropriate and that the threats to this species have been removed. Increased military activity on Tinian may result the loss of large areas of secondary tangantangan (*Leucaena leucocephala*) forest and may increase the likelihood of brown tree snake becoming established, both of which could adversely impact the Tinian monarch. Declines in the species' population could require us to re-evaluate the status of this species. We recommend that impacts and appropriate compensatory mitigation for the Tinian monarch be considered in the EIS/OEIS.

Potential impacts from the proposed activities on federally listed species, candidate species and other Federal trust resources may include:

- Habitat destruction from expansion of installations, including live fire ranges, and from training exercises. Birds may be adversely affected by disturbance or destruction of breeding colonies, the destruction of intact native forest, and the construction of artificial wetlands or the alteration of natural wetlands associated with expanded installations and training grounds. Wetlands, including coral reefs, may be adversely affected by dredging and filling and increased terrestrial inputs via runoff resulting from expanded installations and training exercises that employ large vehicles and live munitions training. Live fire ranges may promote increased occurrences of wildland fires. These fires and associated soil erosion and coastal sedimentation are serious threats to federally listed bird and plant species and resting sea turtles. Damage may occur to sea turtle nesting beaches as a result of amphibious training and coral reefs may be impacted by training exercises that require vessels to operate on or near the shallow fringing reefs prevalent around most of the Mariana Islands. Training activities that release contaminants directly or indirectly into the marine environment may also adversely impact coral reef species, many of which show significant adverse affects at concentrations well below established U.S. Environmental Protection Agency (EPA) levels.
- Disturbance of or collision with marine life during nearshore training exercises. Damage to the marine environment may occur from the mooring of buoy arrays or dredging of shallow areas to facilitate new or expanded training support installations.

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- Disturbance by aircraft overflights and land-base training activities. These activities cause noise and physical motion that may disrupt foraging and nesting by forest birds and nesting by sea turtles.
- Introduction of invasive alien species, especially brown tree snake (*Boiga irregularis*). The brown tree snake is known to be a significant troublesome predator of native forest bird in the Mariana Island chain. In addition, cats, rats, plants, insects, ungulates, and other non-native species are known to adversely impact federally listed birds, nesting sea turtles, and plants.
- Increased vandalism, illegal hunting, and disturbance resulting from increased human access into previously inaccessible areas. Cave vandalism, resulting from increased human visitation may have significant impacts on cave dwelling. Illegal hunting is already a significant problem for the Mariana fruit bat (*Pteropus mariannus*), and expansion of installations may increase access to bat roosting trees and provide opportunities for bat poaching.

Potential impacts from the indirect and cumulative effects of activities associated with the proposed action may be similar to those listed above but occurring on more discrete or localized scales. We recommend that the impacts to federally listed species, candidate species and other Federal trust species be analyzed and that appropriate conservation measures (including avoidances of unnecessary impacts, minimization, and compensation of unavoidable resource losses) be fully described in the EIS/OEIS. We recommend that coordination with the Service be initiated early in the planning process to ensure that these resource concerns are adequately addressed.

Invasive alien species

With increased traffic and the movement of personnel and materials into, within, and out of the Mariana Islands, new invasive alien species may be introduced to numerous areas across the Pacific. The potentially adverse impacts of these introductions are difficult to predict or quantify, but they may prove significant and could represent the single largest threat to the native species in the Mariana Islands and other islands in the Pacific (e.g., consider the brown tree snake effect on Guam).

- Training operations conducted in the Mariana Islands that include forces originating from outside the region, including U.S. flag and foreign vessels and troops, increase the risk of new species introductions to the Mariana Islands.
- Active training by forces stationed within the Mariana Islands, and specifically on Guam, that requires movement among the islands of the archipelago increases the risk of invasive species introductions on islands where they are currently not present. This is a concern particularly for the Northern Islands of the CNMI, which historically have been seldom visited due to their relative isolation and are currently free of many of the invasive

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species present on the southern islands. We are particularly concerned that the brown tree snake may spread from Guam to islands throughout the CNMI.

- The movement of training equipment and forces from the Mariana Islands to other regions of the Pacific increases the risk of spreading destructive invasive species that are currently present only in the Mariana Islands to other jurisdictions, especially other U.S. islands with military activity (e.g., Wake, Kwajalein etc.) and the State of Hawaii. For example, the introduction of the brown tree snake to Hawaii may lead to their establishment which would likely result in the devastation of avifauna, including many federally listed species.

Invasive species of concern are not restricted to one specific taxonomic group, and may include:

- Terrestrial vertebrates – brown tree snake (covered in detail below), goats, pigs, deer, rats, mice, cats, shrews, frogs, and non-native skinks and geckos.
- Terrestrial invertebrates – flatworms (e.g., *Platydemus manokwari*), snails (e.g., giant African snail, *Achitina fulica*, and the rosy wolfsnail, *Euglandina rosea*), and insects (e.g., erythrina gall wasp, *Quadrastichus erythrinae*, and Asian cycad scale *Aulacaspis yasumatsui*).
- Terrestrial plants – scarlet gourd (*Coccinia grandis*), vines (e.g., *Meremia* sp.), and fire promoting grasses.
- Aquatic and Marine species – algae, invertebrates, and fish.

The inadvertent introduction of one or a few of these species could adversely affect threatened and endangered species and other Federal trust species within the Mariana Islands and elsewhere across the Pacific. Once established, new invasive species are often difficult and costly to eradicate, and prevention is the best way to reduce this potential threat.

The proposed action includes numerous avenues for transporting invasive species, including stowaway of individuals in cargo or equipment, import of individuals or seeds with landscaping materials, transport of seeds or eggs via soil trapped in vehicle tires, tracks and personnel footwear, and transport of individuals or larvae in marine ballast water or as hull fouling. We recommend that the EIS/OEIS outline inspection and sanitary procedures to avoid introducing invasive species to any islands upon which they are not currently found. Additionally the EIS/OEIS should identify techniques and funding mechanisms for the early detection and eradication of incipient invasive species introduced as a result of the MIRC activities.

Brown tree snake control and interdiction

The accidental introduction of the brown tree snake on Guam in the 1940s resulted in the extinction and extirpation of most of the island's native forest bird species. This snake has also become a significant economic problem, agricultural pest, and public health concern. Because Guam is a focal point of trans-shipment of air and sea cargo, the risk exists for the inadvertent

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transport of the brown tree snake to other islands and continental U.S. sites as a stowaway in cargo or transportation vehicles.

The brown tree snake may cause similar ecological and socioeconomic problems elsewhere. For example, in Hawaii there are at least 30 endangered avian species and 1 endangered mammal, the Hawaiian Hoary Bat (*Lasiurus cinereus semotus*) that may be adversely affected if the brown tree snake becomes established. All of the avian and mammalian species of the CNMI would be vulnerable to brown tree snakes if they became established on these islands.

With the increase in military personnel and training activities, as well as infrastructure expansion and improvements, military and civilian traffic and cargo shipment via air and sea ports will likely increase. We are concerned that existing control and containment activities for brown tree snakes at air and sea ports will not be adequate to screen the increase in cargo and personnel that will be transported from Guam to other high-risk destinations (e.g., Hawaii, CNMI etc.). We recommend that an analysis of the risks associated with brown tree snake dispersal from Guam to other Pacific Islands such as the CNMI and Hawaii as a result of activities associated with the proposed action be included in the EIS/OEIS. This is particularly critical considering the proposed expansion of training facilities and activities in the islands of the CMNI.

The best way to reduce the risk of brown tree snake dispersal from Guam is likely through long-term support of snake suppression on a landscape level on Guam. We recommend that the Navy assure that funding is available to consistently sustain a 100 percent inspection rate of all military cargo, vehicles, munitions, household goods and other items departing Guam. Support for brown tree snake quarantine efforts by United States Department of Agriculture's Wildlife Services (USDA-WS) should be based on the staff levels required to maintain programmatic integrity during peak periods of cargo and vehicle movement off Guam. We recommend that the Navy adequately support sustained brown tree snake trapping, capture, and toxicant use by USDA-WS in the vicinity of sites where Navy cargo, munitions, vehicles, and other items are staged, stored, or packed prior to departing Guam. We also recommend that the Navy, USDA-WS, and the Service cooperatively develop a mechanism that estimates the cost for USDA-WS brown tree snake interdiction efforts at a 100 percent level for all Navy cargo and vehicles departing Guam. This estimated level of funding should be requested and funded annually as part of the Navy operations budget. The Navy should develop a brown tree snake control plan for all facilities in the Marianas similar to the Andersen Air Force Base Brown Tree Snake Control Plan. We recommend that this document be an Appendix of the Final EIS/OEIS and incorporate DoD's Defense Transportation Regulation 505 and 506 protocols. The importance of adequate, consistent, and long-term office and kennel space for USDA - WS brown tree snake interdiction efforts on DoD facilities is essential. Efforts should be made to identify and secure long-term permanent space for this program.

We recommend that DoD provide sustained base funding for applied brown tree snake research efforts by USDA-WS National Wildlife Research Center (NWRC). The applied research efforts

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funded by DoD should focus on: 1) development of aerial broadcast techniques for snake toxicants; 2) development of artificial lures and attractants for brown tree snakes; 3) development of more cost-effective strategies to control or eliminate brown tree snakes from quarantine and field situations; and 4) detection and capture of brown tree snakes at low densities. We suggest that the research scope and direction of NWRC efforts be determined by DoD, USDA-WS, NWRC, and our staff through identification of annual and multi-year, discrete, and finite goals. It should be emphasized that the development and implementation of these research goals will increase the effectiveness of the interdiction program, support large-scale control programs for listed species, and ultimately reduce the cost while increasing the geographic scale of brown tree snake control on Guam.

We recommend that DoD provide sustained supplemental funding for applied research efforts by the United States Geological Survey's Biological Resource Division Fort Collins Science Center (FORT) to support both research and operation efforts to detect and capture low snake populations. Development and refinement of this program is essential to addressing brown tree snake sightings off Guam.

Because of the high potential risk of brown tree snake introduction from Guam to the Northern Mariana Islands, we recommend that the Navy support, and or establish, enhanced brown tree snake quarantine and containment efforts in the CNMI in sites where Navy activities are anticipated. Such activities would include: 1) construction of quarantine facilities for all goods and vehicles imported from Guam; 2) appropriate staffing of such facilities; 3) enhancement of regional capacity to respond to and capture brown tree snakes reported off the island of Guam; and 4) long-term support for the development of techniques to detect and eradicate incipient populations of snakes.

We recommend that DoD and the Navy refer to the independent Review of the Brown Treesnake Problems and Control Programs, dated March 2005, as this issue is addressed. This report can be found on the web at [http://biology.usgs.gov/pierc/Invasive Species/Review of Brown Treesnake problems and control review.pdf](http://biology.usgs.gov/pierc/Invasive%20Species/Review%20of%20Brown%20Treesnake%20problems%20and%20control%20review.pdf). We also recommend you refer to Executive Order 13112 section 2 (3), which instructs Federal agencies to take all feasible and prudent measures to minimize risk of harm from invasive species.

Other Concerns

Some of the Mariana Islands are relatively unaffected by invasive species and human-caused habitat destruction. The biological integrity of Aguiguan (Goat Island) and the northern islands of the CNMI (Farallon de Medinilla north to Farallon de Uracas) are particularly important. These islands constitute a string of nearly uninhabited high islands that, owing to their extreme isolation, provide refugia for native biota and ecosystems of the Mariana Islands. The importance of connectivity among islands in maintaining archipelago-wide populations has been long recognized as a fundamental principle of metapopulation dynamics and island

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biogeography. Many Federal trust species may require populations on multiple islands in order to persist or recover. These remote Mariana Islands offer an irreplaceable opportunity to recover endangered species, restore and protect the natural communities of the archipelago, and conserve important breeding populations of widespread taxa.

Since 1998, DoD has supported the eradication of ungulates from the island of Sarigan as part of a mitigation project for take of Micronesian megapodes (*Megapodius laperouse*) on Farallon de Medinilla. The efforts of DoD, in partnership with the CNMI government and our office, has lead to the eradication of ungulates from the island, resulting in a positive effect on the megapode and other Federal trust species. Sarigan is now believed to have the largest population of Micronesian megapodes in the Mariana Islands, and the humped snail (*Partula gibba*) and Slevin's skink (*Emoia slevini*) may have also benefited from the increase in native vegetation that has occurred as a result of ungulate removal.

The specific locations for the proposed training actions are not well defined at this early stage of the planning process and assessing the potential impacts of the proposed action is difficult. Areas harboring Federal trust species and important habitats occur on all islands in the Mariana archipelago and all proposed actions will be reviewed by us on a case by case basis as specific details are made available. We recommend that DoD coordinate with us at the earliest possible time in the planning process so we can provide timely recommendations to reduce the potential impacts resulting from the proposed actions on Federal trust species and assist with development of appropriate compensatory mitigation.

Cumulative Impacts

In addition to the proposed relocation of U.S. Marine Corps forces to Guam, other planned military projects (e.g., Northwest Field Beddown and Global Strike Task Force expansions of Anderson Air Force Base) and private developments (e.g., casino and homestead development on Tinian and inter-island ferry service) should be included in the cumulative impacts analysis for the proposed project. Specific issues may include increased traffic among islands, increasing the probability of transporting invasive species to new locations, and continued habitat destruction due to concurrent development projects. We recommend that all possible cumulative effects associated with the proposed project be considered within the EIS/OEIS.

Assistance from the Service

Any action requiring the discharge of dredge and fill material into the water will require a CWA section 404 permit from the U.S. Army Corps of Engineers. This permit will require coordination with us under the ESA and the FWCA. Previous Navy coordination with the Service on water resource development projects aimed at infrastructure improvement in the Mariana Islands have begun late in the project planning and EIS development process, and has

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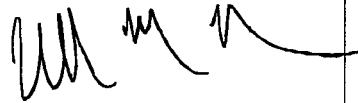
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resulted in delays. Therefore, we recommend that coordination with the Service be initiated early in the planning process to ensure that our resource concerns are adequately addressed.

We also recommend early coordination with us and other resource agencies to help develop survey needs and methodologies to adequately assess potential affects of the proposed action. We offer our expertise and assistance in developing resource surveys that may be necessary for a comprehensive analysis of the potential impacts to flora and fauna resulting from the proposed action. We look forward to working closely with Navy environmental staff in Hawaii and Guam on this and future proposed Navy actions.

We appreciate the opportunity to comment on the published NOI for this EIS/OEIS. If you have questions regarding these comments please contact Fish and Wildlife Biologist Dwayne Minton at 808-792-9445.

Sincerely,



 Patrick Leonard
Field Supervisor

Enclosures:

1. Status of Federally Listed and Candidate Species
2. Terrestrial Species of Concern

cc:

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Ms. Patricia Port, OEPC, Oakland
Mr. Don Steffeck, USFWS, Region 1, Portland
EPA Region 9, Honolulu
NMFS – PIRO, Honolulu
DFW, CNMI
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