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**STATEMENT OF TRINA LEBERER, MARINE CONSERVATION COORDINATOR
THE NATURE CONSERVANCY, MICRONESIA PROGRAM
Regarding "U.S. Military Buildup on Guam and Challenges Facing the Community."
Prepared for the Subcommittee on Insular Affairs
United States House of Representatives Committee on Natural Resources**

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Madam Chairwoman and distinguished members of the Committee, thank you for the opportunity to testify on the "U.S. Military Buildup on Guam and Challenges Facing the Community." I'd also like to take the opportunity to express our appreciation to the Congressional leadership in creating a Subcommittee on Insular Affairs and to all of the island delegates for their strong leadership. My name is Trina Leberer, and I am the Marine Conservation Coordinator for the Micronesia Program of The Nature Conservancy. I have lived and worked on Guam for the past 13 years, including 7 years with the Government of Guam Division of Aquatic and Wildlife Resources and now nearly 3 years with TNC.

The mission of The Nature Conservancy is to preserve the plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive. TNC has been working in Micronesia for 17 years. The vision of our Micronesia Program is: The people of Micronesia conserving and effectively managing their natural heritage. The way we work in Micronesia differs from our work in the US, in that we do not own or manage sites ourselves, but instead support and assist with the work of our local partners.

The testimony I am providing today incorporates some of the needs and concerns of many of our local resource partners on Guam. It is critical that the community is involved throughout this process, both directly and through the representation of the government agencies mandated to protect and sustainably manage the natural resources of the island on their behalf. We applaud this Committee's willingness to meet with various segments of the community this past week and encourage the Department of Defense to hold additional public meetings as more detailed information on the expansion is available.

The planned US military build-up on Guam is historic in terms of scale and timing. According to the most recent information provided to the Government of Guam, our island population is estimated to increase by 40,000 people over the next eight years as a direct result of the military expansion. Based on our 2005 population estimate of 167,974 this is a nearly 24% increase. This figure does not include the expected increase in the

general population associated with this large-scale development and the expected economic boom. For an island of only 212 square miles, this will be a huge shock to our system that will require innovative and creative solutions, full participation by all stakeholders, and a willingness on the part of all concerned, and especially the Department of Defense and other federal agencies, to move beyond “business as usual” and to set as the key objective not merely “managing the impact” or “mitigation”, but a true commitment to ensuring that at the end of the day the entire project results in a clear net benefit to the people, culture, sustainable economy, and natural resources of Guam and indeed the entire Micronesia region. There must also be full transparency and a conscious purpose of developing trust among all concerned.

In the midst of this incredible growth, we must ensure the protection of our island’s natural resources, not only because of their intrinsic value, but because they form the foundation upon which we depend culturally, economically, and for our quality of life. This means first and foremost that we must avoid irreversible negative impacts to the environment wherever possible. When avoidance is impossible, then we must ensure not only adequate and appropriate compensatory mitigation, but also positive steps resulting in a clear net enhancement of the quality of, and reliable long-term protection for, our natural resources.

Cumulative Impacts and Compensatory Mitigation

The Department of Defense needs to strengthen their assessment of cumulative impacts in order to meet the requirements of the National Environmental Policy Act (NEPA) and make better informed decisions about project alternatives and compensatory mitigation. In previous years, there has been a tendency for the Department of Defense to manage projects individually or in phases, including the determination of appropriate compensatory mitigation for each individual project. This approach is simply inadequate for a project of the size and complexity of the proposed military build-up, especially given the highly inter-related and fragile nature of the natural resources on Guam and in the lands and waters of Micronesia as a whole. A fully integrated analysis, considering the true cumulative effects, both direct and indirect, of this enormous project, and with full participation by participating and supporting federal agencies, is precisely what NEPA requires. It is also precisely what is needed to ensure that the military build-up results in a clear net benefit to the people, culture, sustainable economy, and natural resources of Guam and Micronesia as a whole.

There is also a challenge, frankly, for the Congress itself to be willing to create the political and funding environment that will allow for truly effective public participation and will allow the Department of Defense to proceed in a manner that meets not only the letter of, but also the spirit and intent of NEPA. Advance funding to allow comprehensive baseline data is part of that challenge. Broad oversight across multiple committees of jurisdiction in the Congress to ensure adequacy of funding not only for the Department of Defense but also for other key federal agencies will be both difficult politically and essential to a successful project. Enabling legislation to allow funding of endowments for long-term stewardship of natural resources will be important and politically challenging both within the Executive branch and in the Congress.

Another part of the challenge facing Congress will be the need to recognize that the long lead times and project specificity normally associated with projects funded through the Military Construction (MILCON) process may require modification to provide the Department of Defense the kind of flexibility and agility that will be necessary to ensure that the project as a whole is one of true partnership between the Department of Defense and the government and people of Guam. The timeline for this project, driven in part by political commitments given to Japan with regard to the timing of relocation of US forces now stationed on Okinawa, combined with the need to adjust project planning based on public input and additional data as the project progresses, simply may not fit within the normal procedures and long lead times associated with the MILCON process

We recognize that this current build-up is comprised of a myriad of projects under several branches of the Department of Defense, and as such there have been or will be separate Environmental Impact Statements prepared for each project, or in some cases a related group of projects such as the proposed training activities in Guam and the Northern Marianas. Unfortunately, it is unclear how the overall planning process will ensure the adequate identification and assessment of the cumulative environmental impacts from these individual projects. To help ensure the sustainable management of the natural resources of Guam for future generations, the Department of Defense needs to truly identify and quantify the cumulative impacts, minimize those impacts where feasible, and, where avoidance or minimization is not feasible, address those impacts with actions that not only mitigate for those impacts but result in a clear net benefit.

In addition, the Department of Defense, Regulatory Agencies, and Congress need to be receptive to alternative forms of compensatory mitigation in order to achieve meaningful results. There has been a preference for onsite mitigation or mitigation within the immediate vicinity of the project. For example, if a certain acreage of coral will be dredged, then the proposed mitigation might include coral transplantation or the placement of artificial reef-like structures in the vicinity of the dredged area. Unfortunately, the proposed mitigation methods often fail to compensate for the lost ecological function of the impacted reef, even under the best of circumstances. Furthermore, onsite mitigation in a place like Apra Harbor, where future proposed projects require additional dredging, is not prudent as any benefits from mitigation may be undone by future development. A more recent approach to compensatory mitigation has been to provide a set of viable options. Although this is a better approach, the applicant still has the ability to choose any of the viable alternatives, even if the selection is not the best option for achieving replacement value of the resources lost. Finally although past mitigation has resulted in an overall loss of terrestrial and marine natural resources, new mitigation options now make it possible to scale against loss and this should be required when determining the level of mitigation required.

Therefore, we support the local Guam agencies plea for creative alternatives to onsite compensatory mitigation options and that they be allowed to select the best alternatives, such as off-site watershed restoration and the banking of mitigation funds using an appropriate mechanism, such as a Guam sub-account in the Micronesia Conservation

Trust. The MCT is a regional organization committed to long-term, sustainable funding to support biodiversity conservation and related sustainable development for the people of Micronesia.

Information Availability and Dissemination

The public and local resource agencies often do not receive enough information about Defense projects to provide meaningful input during the EIS process. When they do receive detailed information, they either are not provided with enough time to review the information and adequately address the myriad impacts to the island's natural resources or the opportunity occurs too late in the process to facilitate implementation of new alternatives. Although we have known that several proposed projects associated with the military build-up will negatively impact our natural resources such as coral reefs and native forests, the information provided was not detailed enough for assessing and adequately addressing the cumulative impacts.

The information available in the latest series of public meetings and open houses for the upcoming expansion was extremely vague and thus precluded the submission of meaningful comments about specific sites. Any requests for more specific information about the area requirements or exact numbers were dismissed. Individuals were instructed to wait for the draft EIS and make comments then. Unfortunately, once the plans for proposed projects reach this stage, the time given for review and response is usually insufficient for capacity-strapped local and federal regulatory agencies to thoroughly review and assess all alternative actions. In addition, especially in the case of Apra Harbor, there is no comprehensive set of pre-expansion, baseline data for the extensive coral reef and fishery resources, the hydrodynamic processes, stakeholder use patterns, or current sediment and water quality. This makes it extremely difficult to again assess the cumulative impacts of the recent and proposed projects in the Harbor. Early and adequate funding from the Department of Defense and other relevant federal agencies to enable compilation of a comprehensive set of baseline data will be vital if the process is to be successful.

The core of the NEPA process is full transparency and public participation well before agency plans are "finalized" so that the agency is in fact in a position to truly consider input received and adjust initial plans in light of that input. In this complex situation, the Department of Defense must work actively to achieve greater transparency immediately and throughout the planning process. Local agencies and the community need timely information to fully assess the expansion and provide comments regarding project-specific and cumulative impacts at a point in the process when it is still practical for the Department of Defense to modify and improve plans based on that input. Congressional willingness to give the Department of Defense additional flexibility in project funding and implementation so that the Department can incorporate public input on the very short timelines it is facing will be critically important.

Support for Increased Resource Agency Capacity

This expansion is unprecedented in its size and scope and the impacts to Guam's natural resources will be numerous and diverse. The local and federal resource agencies are

tasked with assessing the alternatives presented by the Department of Defense and providing mitigation options. However, their current lack of capacity, both human and monetary, will greatly hinder their ability to complete these tasks. This problem will be greatly exacerbated if they are forced to operate under short deadlines and insufficient planning information.

Because of these limitations, it would be beneficial if the Congress could release a portion of the Department of Defense funding for these projects to the local and federal resource agencies so that they can address the need for proper assessment of alternatives and planning for mitigation actions. In addition, the federal agencies and the Congress should consider the necessary increase in operational capacity for local natural resource management agencies and organizations, associated with the preparation for and eventual increase in population, both in military personnel and in general, and the associated development that the island will experience in the next several years. To assist the local agencies, allocations for existing federal grant programs such as the NOAA coral and coastal zone grants, the Forest Service Pacific Island grants, the US Fish and Wildlife Service state wildlife, coastal conservation, endangered species and invasive species grants, EPA grants, and Capital Improvement Grants under the Office of Insular Affairs should be increased to levels based on Government of Guam capacity needs assessments currently being developed. These additional funds should be made available for direct implementation of projects on-the-ground, including the need for increased enforcement of conservation laws. Federal agencies should also consider devoting technical staff to assist the local resource agencies in this unprecedented military development.

Finally, in the past, the local natural resource agencies have been denied access on the military bases to conduct surveys and assessments of marine, terrestrial, and endangered species resources. With the increase in military buildup, these surveys are vital to ensure the conservation and protection of the resources. The Department of Defense needs to coordinate with the local natural resource agencies and provide access onto the military base to conduct these surveys and assessments.

Invasive Species

Throughout the planning process, special attention should be paid to invasive species issues, including the brown tree snake and marine invasives. The increase in personnel and training activities, and subsequent traffic in and out of the ports of Guam, associated with the military build-up will increase the risk of the spread of invasive species across the region tremendously. Currently over \$10 million per year is spent on brown tree snake (BTS) control and eradication alone. Guam has suffered severe economic impact, numerous species extinctions and a major ecological disaster due to this invasive reptile. The BTS is directly responsible for the extinction or local extirpation of 9 of 12 native forest bird species and 3 of 12 native lizard species in Guam. It also preys upon an endangered fruit bat of which fewer than 300 individuals are left in the wild.

BTS climb utility poles and cross electrical power lines, causing numerous power failures each year. From 1978 to 1997, BTS caused more than 1600 power outages. Recently the rate has increased to nearly 200 outages per year. These power outages cost millions of

dollars in damaged equipment, lost productivity, repair costs and reduced income from tourism each year.

The high densities of BTS on Guam, combined with Guam's importance as a shipping hub, make the spread of BTS from Guam a critical threat to other Pacific Islands such as Hawaii, the Commonwealth of Northern Marianas Islands (CNMI), Samoa, the Freely Associated States (Palau, Federated States of Micronesia, and the Marshall Islands), and subtropical regions of the U.S. mainland. In the last ten years, BTS have been sighted on Tinian and Saipan (both islands of the CNMI). Since 1982 there have been 69 credible BTS sightings and 13 captures in the CNMI. A total of eight BTS have been found in Hawaii since the mid 1980's, but no live snakes have been found on Hawaii since 1994, thanks to Congress' support for full implementation of US Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) Wildlife Services (WS) interdiction activities. All snakes found on Hawaii were associated with the movement of civilian and military vehicles or cargo from Guam. In addition, BTS have been credibly sighted, captured, or found dead in the following locations: Corpus Christi, Texas; Anchorage, Alaska; Wake Island, Pohnpei, FSM; Darwin, Australia; Diego Garcia (British Indian Ocean Territory); Taiwan; Okinawa, Japan; and Rota, Spain. The potential cost of a BTS invasion is immensely high. A University of Hawaii economic study recently estimated that the introduction of BTS to Hawaii could cost the state between \$29 million and \$405 million annually.

Recently Deputy Assistant Secretary of the Navy for Environment Donald Schregardus traveled throughout Micronesia and discussed the possibility of conducting future training exercises in the freely-associated states, increasing the risk further. Prevention is always preferable and more cost-effective than attempts at control or eradication. The islands in the region have already started to work together on this issue, forming the Regional Invasive Species Council. Teams from several islands, including Guam are members of the Pacific Islands Invasive Learning Network, which was launched with US government support. Guam and the region need continued technical and financial support from the US government to develop and implement appropriate and cost-effective prevention and rapid response efforts.

In addition, the Department of Defense needs to implement expanded internal programs to control, eradicate, and prevent the spread of both terrestrial and marine invasive species. For example, currently there is no bilge-management plan in place for their port operations. DOD should develop and implement a plan and assist the Port Authority of Guam to do the same, to prevent the spread of marine invasive species. Further, the Governments of Guam and the Northern Mariana Islands need the support of the US Departments of Agriculture and Homeland Security-Customs Border Patrol to allow a higher level of prevention and quarantine capacity to protect themselves from new introductions of invasive pests that could threaten the fragile natural systems, economies and lifestyles of these islands.

Ancillary impacts

As Guam has experienced in the past, ancillary development in the private sector will accompany the military build-up as investors speculate on the expected economic growth. For example, there is already 1 new large-scale development planned for an area encompassing prime coastal land and native limestone forest, in the northern part of the Tumon Bay Marine Preserve. The local resource agencies, already struggling with the additional workload associated with the military build-up must also assess the impacts from these ancillary developments in the private sector.

In addition to the direct impacts from ancillary developments, there will be a need to import a great deal of labor to supplement Guam's existing construction industry. An estimated 12,000-15,000 construction workers will be needed and, with an estimated 85-90% coming in from off-island, they will have an impact on our resources as well. Not only in terms of an additional burden on our water and sewage systems, but also in terms of fishing and gleaning on our reefs in our coastal waters to supplement their diet. There will be a need for increased enforcement of and education about Guam's marine preserves and other fishing regulations as these workers are often unfamiliar with local laws.

The Department of Defense should work with local resource agencies to develop a program to educate all military personnel, their dependents, and contract workers about the value of Guam's natural resources and the laws protecting them. Financial support to improve infrastructure and increase the operational capacity of enforcement for conservation laws should be part of the annual funding required under the Department of Defense's Sikes Act agreement with the Government of Guam.

Green Infrastructure

Guam is an island with limited natural resources, and we therefore encourage the use of green infrastructure and sustainable building practices in the design of all new military construction. The military expansion will require a number of large-scale infrastructural developments to house personnel and their dependents and support operations. It is important that these developments are designed and built for maximum energy and water efficiency, including the use of green belts and green space planted with native species, renewable construction materials, water catchments, and alternative energy sources, such as solar panels. The overall benefits of this strategy will far exceed the costs of including these modifications as they will decrease operating costs and minimize the military's dependence on off-island supplies of fuel for power. It will also minimize the military's ecological footprint on this small island. Including this now, in the design stage, will be more cost-effective than having to retrofit structures in the future and will result in cost savings and a reduction over time in the dependency on non-renewable resources. We encourage the Department of Defense to follow guidelines in the Leadership in Energy and Environmental Design (LEED) Green Building Rating System for New Construction & Major Renovations (http://www.usgbc.org/Docs/LEEDdocs/LEED_RS_v2-1.pdf).

Sustainable Drinking Water

The Northern Guam aquifer, designated a "principle source aquifer" in 1978 by the US Environmental Protection Agency, is the primary drinking water source for the island,

servicing 80% of the population. The aquifer has been formed from recharge from rainfall in northern Guam percolating through surface soils to the underlying cavernous limestone where it accumulates in a lens which "floats" on and displaces the denser sea water. Although efforts have been made to determine the recharge rates and water quality of segments of the aquifer, funding is needed to conduct a comprehensive baseline study for the whole aquifer.

The Department of Defense owns a substantial amount of land in northern Guam and thus plays a critical role in protecting Guam's northern aquifer. The Department of Defense should strive to maintain existing forested areas on their land and restore denuded areas with native forest. This will help to enhance recharge rates and maintain water quality.

Southern Guam is comprised of volcanic soils and contains several watersheds. There are currently 2 main drinking water sources in southern Guam: Fena Reservoir and the Ugum River. Both sources suffer from heavy sediment loads and require significant watershed restoration. The Department of Defense is currently conducting some watershed restoration efforts in the watersheds feeding Fena Reservoir, and the Government of Guam is currently implementing the Ugum Watershed Restoration Strategy, but more funding is required to truly restore native forests in both areas, ensuring a sustainable drinking water supply for our growing island population.

Protection and Enhancement of Public Shoreline Access to the Ocean's Resources

The people of Guam have a long history of dependence on and sustainable use of coastal and marine resources. Thus the protection and enhancement of public shoreline access to Guam's ocean resources is a major concern for the community. One of the primary goals of the Guam Coastal Management Program, developed under the Coastal Zone Management Act of 1972, is the protection and enhancement of public access to the ocean's resources for recreation purposes. Public access to these resources is also vital to tourism, the island's main industry. Dive tours, fishing charters, and boat tours provide significant income to the island's economy.

Unfortunately, an expansion in military installations and associated security restrictions often result in the restriction of access to the ocean's resources for the residents of Guam. For example, in 2001, public shoreline access was restricted to the Glass Breakwater and Luminao Reef. Prior to these restrictions, the area was frequented by the public, including the military population, for activities such as fishing, surfing, snorkeling, and diving. The closure of the area has increased recreational pressures in other areas, resulting in negative impacts to coral reef resources in protected areas such as Piti Bomb Holes Marine Preserve.

We encourage the Department of Defense to work with Guam's local agencies and the community to identify opportunities for collaboration and joint planning to protect and enhance public shoreline access to the ocean's resources under military jurisdiction.

The Micronesia Challenge

In January 2006, Governor Felix P. Camacho signed the Micronesia Challenge (MC), a commitment by the Chief Executives of Guam, the Commonwealth of the Northern Mariana Islands, the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau to *effectively conserve at least 30% of the near-shore marine resources and at least 20% of the terrestrial resources across Micronesia by 2020.*

The MC was conceived as a result of the deep commitment of these five leaders to ensure a healthy future for their people, protect their unique island cultures, and sustain the livelihoods of their island communities, by sustaining the island biodiversity of Micronesia. The MC also contributes to global and national targets set out in the Millennium Development Goals, the Johannesburg Plan of Implementation for the World Summit on Sustainable Development, the Mauritius Strategy for Small Island Developing States, the U.S. Coral Reef Task Force National Plan of Action and the relevant Programmes of Work of the Convention on Biological Diversity.

TNC is a member of a Regional Support Team, along with Conservation International (CI), the Secretariat of the Pacific Regional Environment Programme (SPREP), US National Oceanic and Atmospheric Administration (NOAA), RARE (formerly RARE Center for Tropical Conservation), the Micronesia Conservation Trust (MCT), the Locally Managed Marine Area Network, the Community Conservation Network, the Pacific Islands Forum, and the US Department of Interior. The team was formed to provide strategic assistance and external resources required for effective implementation of the MC.

The MC Steering Committee, made up of government focal points from each jurisdiction, is providing regional coordination and is recruiting a Regional Coordinator to advance MC activities across the region. Guam and each of the other four jurisdictions are designing their own strategies to implement the MC involving partnerships between Government agencies, NGOs and local communities. For Guam, a multi-agency team developed a draft strategy that will be presented to other stakeholders for input, focused on strengthening and more effectively managing existing marine and terrestrial conservation areas rather than establishing new sites. As a significant landowner on Guam, the Department of Defense will be a key partner in helping to achieve this, especially the restoration of native forest in the areas of the Guam National Wildlife Refuge Overlay under their jurisdiction.

TNC is also assisting local partners on Guam to develop a sustainable finance plan to be completed in early 2008. The plan will identify the funding needed to effectively manage Guam's natural resources and meet the goals of the MC. The plan will also identify key strategies, from internal and external sources, to secure the necessary funding, including the building of an endowment.

This military build-up poses one of the biggest challenges to Guam's vision to achieve healthy natural resources available for the sustainable use of ours and future generations. But at the same time, it can provide one of the biggest opportunities to attain long-term

sustainable funding of the work needed to achieve this same vision. As stated above, we support the local governments proposal to explore the possibility of using a portion of the amount of money required for compensatory mitigation to help build Guam's and CNMI's pieces of the MC endowment. Other innovative and creative solutions, some of which may require specific federal enabling legislation, will be required to turn this tremendous challenge into an equally tremendous long-term opportunity for the people, culture, sustainable economy, and natural resources of Guam and Micronesia as a whole.

Summary of Key Recommendations

There is a critical need for Congressional support for:

1. Early and adequate funding to compile comprehensive baseline data and a fully integrated analysis, considering the direct and indirect cumulative effects of this enormous build-up, required under NEPA.
2. Department of Defense funding for planning for mitigation actions and additional technical assistance prior to EIS completion and project implementation. Due to extremely short deadlines and current capacity limitations, the local and federal natural resource regulatory agencies need help to properly assess alternatives and plan for mitigation actions. Greater flexibility in DOD project funding and implementation is needed, so they can incorporate public input on the very short timelines required to complete this move by 2012.
3. Increased allocations for existing federal grant programs to support operational capacity for local natural resource management agencies and organizations, based on the capacity needs assessments for the Government of Guam currently being developed. These allocations are critical to allow natural resource agencies to meet the Department of Defense's timelines in preparation for the projected population increase, associated development, increased pressure on natural resources and invasive species prevention and control to avoid devastating economic, social and environmental impacts. This additional funding should be used to implement projects on-the-ground in Guam, including increased enforcement of conservation laws.
4. Joint DOD/Gov Guam programs to educate all active military, their dependents, and contract workers on Guam's environmental laws and the value of Guam's natural resources.
5. Department of Defense to follow guidelines in the Leadership in Energy and Environmental Design (LEED) Green Building Rating System for New Construction & Major Renovations (http://www.usgbc.org/Docs/LEEDdocs/LEED_RS_v2-1.pdf).
6. Sustainable funding for natural resource management activities in Guam and the CNMI. Using the sustainable finance plans for natural resource management being developed in Guam and the CNMI, Congress, the DOD and local governments need to work together to identify appropriate long-term funding mechanism(s) for the expanded environmental programs required by this military build-up. We strongly encourage Congress to support Governor Camacho's proposal to allocate a percentage of all Department of Defense appropriations related to the military build-up, above and beyond funding for mitigation, to build a conservation endowment. The interest derived from this endowment would be used for the long-term, stable funding of critical natural resource management programs.

Again thank you for the opportunity to testify and I hope this testimony will be useful to assist you with addressing some of the very real challenges facing the community as we prepare for the military build-up on Guam.

I would be pleased to answer any questions at this time.