OFFICE OF SENATOR SABINA FLORES PEREZ
Chairperson
Committee on Environment, Revenue and Taxation, and Procurement
I MINA'TRENTAI SINGKO NA LIHESLATURAN GUÅHAN
35TH GUAM LEGISLATURE

April 27, 2019

Subject: Supplemental MITT Comments

Dear Sir or Madam,

I strongly urge that all Marianas Islands Testing and Training activities be halted for the multiple reasons outlined below:

1) The U.S. military has not sufficiently determined the cumulative effects of all undertakings since the military's presence began on Guam.

   a) Cumulative effects include past, present, and reasonably foreseeable future actions.[1] The U.S. military has a long list of undertakings and activities before and after the U.S. Pacific Re-alignment Plan was initiated. With respect to the 2015 MITT, local regulatory agencies and other stakeholders have not been publicly informed of the impacts (2019 Guam EPA MITT SEIS comments).

      "**For marine mammals, sea turtles, and marine invertebrates Alternatives 1 or 2 would contribute to and increase cumulative impacts, but the relative contribution would be negligible compared to other non-Navy actions.** Cumulative effects on socioeconomic resources may have short-term impacts on accessibility to public services, fishing sites, and tourism resources, but they are not expected to have long-term negative impacts on these resources or the economy of Guam and the Commonwealth of the Northern Mariana Islands. No new information or circumstances are significant enough to warrant further cumulative impact review." (Draft EIS, Volume 1, 2019)

      - What is the basis of the section in bold above?
      - The information provided is inadequate and fails to provide the public with crucial information necessary to make informed comments.

   b) Cumulative effects are the total effects, both direct and indirect, on a given resource, ecosystem, and human community of all actions.[1] In the MITT SEIS, cumulative impacts of the following indirect effects have not been assessed.

      3.7.2.3 Secondary Stressors
      "Stressors from Navy training and testing activities could pose secondary or indirect impacts on marine vegetation via habitat, sediment, or water quality. Potential impacts on marine vegetation exposed to secondary stressors could occur indirectly through sediments and water quality. Components of these stressors that could pose indirect impacts include (1) explosives and byproducts; (2) metals; (3) chemicals; and (4) other materials such as targets, chaff, and plastics."

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3.4.2.1.1.6 Stranding
"Sonar use during exercises involving the U.S. Navy has been identified as a contributing cause or factor in five specific mass stranding events: Greece in 1996; the Bahamas in March 2000; Madeira Island, Portugal in 2000; the Canary Islands in 2002, and Spain in 2006 (Cox et al., 2006; Fernandez, 2006; U.S. Department of the Navy, 2017c). These five mass strandings resulted in about 40 known cetacean deaths consisting mostly of beaked whales and with close linkages to mid-frequency active sonar activity. In these circumstances, exposure to non-impulsive acoustic energy was considered a possible indirect cause of death of the marine mammals (Cox et al., 2006). Strandings of other marine mammal species have not been as closely linked to sonar exposure, but rather, have typically been attributed to natural or other anthropogenic factors."

3.4.1.7 General Threats
"Marine mammal populations can be influenced by various natural factors as well as human activities. There can be direct effects from disease, hunting, and whale watching, or indirect effects such as through reduced prey availability or lowered reproductive success of individuals. Research presented in Twiss and Reeves (1999) and National Marine Fisheries Service (2011a, 2011b, 2011c, 2011d) provides a general discussion of marine mammal conservation and the threats they face. As detailed in National Marine Fisheries Service (2011e), investigations of stranded marine mammals are undertaken to monitor threats to marine mammals (Simeone et al., 2015). Investigations into the cause of death for stranded animals can also provide indications of the general threats to marine mammals in a given location (Bradford & Forney, 2017; Carretta et al., 2017b; Helker et al., 2017). The causes for strandings include infectious disease, parasite infestation, climate change reducing prey availability and leading to starvation, pollution exposure, trauma (e.g., injuries from ship strikes or fishery entanglements), sound (human-generated or natural), harmful algal blooms and associated biotoxins, tectonic events such as underwater earthquakes, and ingestion of or interaction with marine debris (for more information see NMFS Marine Mammal Stranding Response Fact Sheet (National Marine Fisheries Service, 2016d). Since 1963, Guam Department of Agriculture Division of Aquatic and Wildlife Resources has conducted aerial surveys twice every month (weather permitting) of the coastal margin around Guam at a distance of approximately 200–300 meters (m) offshore of the outer reef margin (Martin et al., 2016). Therefore, the Navy assumes any animals stranded on Guam are likely to have been identified; see also Mobley (2007). For a general discussion of strandings and their causes as well as strandings in association with U.S. Navy activity, see the technical report titled Strandings Associated with U.S. Navy Activity (U.S. Department of the Navy, 2017c)."

3.0.4.1.2 Vessel Noise
"The Center for Naval Analyses conducted studies to determine traffic patterns of Navy and non-Navy vessels (Mintz & Parker, 2006; Mintz & Filadelfo, 2011; Mintz, 2012; Mintz, 2016). The most recent analysis covered the period 2011–2015 (Mintz, 2016) and included U.S. Navy surface ship traffic and non-military vessels such as cargo vessels, bulk carriers, commercial fishing vessels, oil tankers, passenger vessels, tugs, and research vessels. **Although the aforementioned studies did not include analysis of vessel traffic and associated vessel noise in the Study Area** (the geographic scope was the continental United States and Hawaii), the conclusions of the studies are relevant to vessel noise in the Study Area."

- Although extrapolation of impacts from studies outside of the Study Area may be informative, it does not measure impacts directly within the Study Area and is not valid in cumulative impact analysis.
- Are procedures and NOAA personnel in place to monitor cumulative effects for the aforementioned citations and others that the proposed actions under the MITT encompass?
- Cumulative impacts are not being considered. These effects must be assessed and shared with the public, so the community can have an opportunity to provide meaningful and informed input on the SEIS. An assessment of cumulative effects should include military-induced and natural or other anthropogenic factors.

c) Cumulative effects need to be analyzed in terms of the resource, as environmental effects are often evaluated only from the perspective of the proposed action. Analyzing cumulative effects thus requires focusing on the resource, ecosystem, and human community and understanding how the resource is susceptible to effects.[1]

d) Cumulative effects are rarely aligned with political and administrative boundaries.[1] Cumulative effects of migratory animals, spawning events of fishes and other marine species, fishing practices need to be assessed from a transboundary and Mariana Island archipelago perspective. The cumulative effects on the distribution of nutrients via upwellings and major ocean currents, atmospheric deposition and oceanic distribution of pollutants has not been determined.

e) Significant adverse impacts may result from accumulation of similar effects, or the synergistic interaction of different effects. The following needs to be addressed:

- Are the changes in the use of sonar in combination with increased use of explosives causing additive or synergistic effects?
- Specifically, how is the military dealing with the use of midfrequency active sonar (MFAS) and the stranding's of Cuvier's Beaked Whales, which occur after MFAS use?
- How is the current use of MFAS in training, impacting migratory or local populations of beaked whales?

f) There may be adverse impacts that last beyond the life of the proposed action that causes the effects.[1] The SEIS needs to study and incorporate these impacts, and share such information, so the public can provide informed input.

> G.6.3 Long-Term Consequences to the Individual and Population
> "Long-term consequences of secondary stressors on an individual or population are often difficult to determine. Once a primary impact is identified, the severity of that impact helps to determine the temporal scale at which the secondary stressor can be measured. For most marine resources, the abundance of prey species near a detonation point would be diminished for a short period (weeks to months) before being repopulated by animals from adjacent waters. In some extreme cases, recovery of the habitat or prey resources could occur over a relatively long time-frame (months to years). It is important to note that indirect impacts often differ among resources, spatial, and temporal scales."

- Are procedures and NOAA personnel in place to monitor long-term effects?

g) There must be included analyses of the capacity of each affected resource, ecosystem, and human community to accommodate additional effects, based on the resource's own time and space parameters. The most effective approach to conducting a cumulative analysis focuses on what is needed to ensure long-term productivity and sustainability of the resource.[1]

2) Mitigations are not sufficient for current and proposed MITT activities.

a) "Two factors are considered when quantifying the effectiveness of mitigation: (1) the extent to which the type of mitigation proposed for a sound-producing activity (e.g., gunnery exercise) allows for observation of the mitigation zone prior to and during the activity; and (2) the sightability of each species that may be present in the mitigation zone, which is determined by species-specific characteristics and the viewing platform." (SEIS 3.1.1.2.4.1)

- What types of observations methods are used?
- Is it sensitive enough to engage mitigation procedures?

b)The Biological Opinions should be re-initiated to offer sufficient mitigation options considering the addition of high-energy laser use in the current supplemental EIS.

> "The 2015 MITT Final EIS/OEIS covered the use of low-energy lasers in Section 3.0.5.2.2.3 (Lasers), but high-energy laser weapons were not part of the Proposed Action in the 2015 MITT Final EIS/OEIS. The use of high-energy lasers represents a new sub-stressor as part of an existing activity in this SEIS/OEIS. As discussed in this SEIS/OEIS, Section 3.0.4.3.2.2 (High-Energy Lasers), high-energy lasers are designed to disable surface targets, rendering them immobile. The primary concern is the potential for a marine mammal to be struck with the laser beam at or near the water's

surface, where extended exposure could result in injury or death." (Draft EIS, Volume 2, 2019)

- Are High-Energy Lasers a new technology used by the U.S. Military?
- In which other training locations have High-Energy Lasers been used?
- What impacts and concerns have resulted from the use of High-Energy Lasers?
- What mitigation standards or procedures are offered for the use of High-Energy Lasers?
- What current and future cumulative effects will the use of High-Energy Lasers have on marine, terrestrial, and atmospheric conditions of the archipelago, both in part and as a whole? Such effects should also including consideration of the use of High-Energy Lasers in conjunction with other technologically advanced weapon systems.

c) The Biological Opinion should be re-initiated to consider cumulative impacts.

3.0.4.1.4.1 Muzzle Blast from Naval Gunfire
The 2015 MITT Final EIS/OEIS (Section 3.0.5.2.1.4, Weapons Firing, Launch, and Impact Noise) describes the characteristics of the 5-inch (in.) large caliber naval gun, which is the most prevalent large weapon fired. Since information regarding characteristics of muzzle blast from naval gunfire has not changed, this SEIS/OEIS will not further analyze muzzle blast from naval gunfire. Examples of noise measurements from naval gunfire muzzle blast are provided in Table 3.0-6.

- Naval gunfire is the most prevalent weapon fired with sound levels of 200 db that are known to cause harm to marine mammals. (Cumulative effects from both military and non-military sources of noise needs to be assessed.
- What procedures and personnel are in place to monitor cumulative impacts and assess if mitigations are sufficient?

d) The Biological Opinion should be re-initiated to consider scientific information that temporary threshold shift can lead to permanent damage. (Ryan, A.F., et al, *Temporary and Permanent Noise-Induced Threshold Shifts: A Review of Basic and Clinical Observations) See attached.*

e) Studying the effects of marine mammals and sea turtles in situ introduces impacts that influence the outcome of the studies. For instance, density determinations using intrusive technology such as sonar and other means could falsely lower density results. The SEIS should adjust its analyses to appropriately accommodate for this.

3. Historic properties, including those on submerged lands and sunken ships, have not been fully identified and therefore effects have not been determined. Additionally, cumulative effects, as described on item #1, on historic properties, has not been determined. Current and proposed actions pertaining to multiple detonations, sonar, and other detailed and unlisted activities threaten the existence, and knowledge of the existence, of unidentified

historic properties. The public deserves information about this potential destructive action, it and should be afforded an opportunity to provide informed comment.

4. Cumulative effects regarding public access to ancestral lands, traditional fishing grounds, native forests for the continued practice of traditional medicine, including lack of access due to marine preserves and military ecological preserves at Haputo and Orote peninsula, has not been determined. Given the absence of such information, the public has not been given an opportunity to provide informed input on a potentially destructive action.

5. The fragmentation of the Programmatic Agreement process from the Record of Decision is a burden to the community. The process is confusing to a layperson, and has been inadequately explained to the public. Deadlines for document review and feedback are unreasonably short. It is disingenuous to claim to seek community involvement, but then burden the public with dense, lengthy technical documentation and a short comment period. The feedback process should be extended further, considering the extreme length and significant impact of the MITT SEIS, and proper community outreach and education should be conducted to properly facilitate public input.

[1] Council on Environmental Quality, Office of the President, *Considering Cumulative Effects Under the National Environmental Policy Act,* January 1997