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**Comments and recommendations regarding application for Incidental Harassment Authorization for marine seismic surveys in SE Asia from March 21 to July 14 (FR 78294).**

Dear Mr. Payne:

Wild at Heart Legal Defense Association and the undersigned individuals and organizations jointly submit the following comments and recommendations regarding the application by Lamont-Doherty Earth Observatory (LDEO) for an Incidental Harassment Authorization (IHA) for a marine seismic survey proposed to be carried out in south-east Asia from March 21 to July 14, and the EA for the project.

COMMENTS AND CONCERNS:

- 1. The EA contains several erroneous claims, omissions and unacceptable proposals with regards to the critically endangered ETS population of humpback dolphins (*Sousa chinensis*)**

The distinct, isolated Eastern Taiwan Strait (ETS) population of Indo-Pacific humpback dolphins (*Sousa chinensis*) was listed under the IUCN Red List in August

2008 as “Critically Endangered”. This was partly due to its small population size (<100) and the numerous threats present in its limited habitat along the west coast of Taiwan, the main threats being: bycatch; underwater noise; reduction of freshwater flow to estuaries; habitat loss through land reclamation; and air and water pollution. Several international workshops and peer-reviewed reports have highlighted the urgent need to reduce these threats in order to avoid pushing this population closer to extinction, and aid its recovery.

- Sixty-eight point seven percent - the percentage of the ETS humpback dolphin population which LDEO has applied for permission to take - constitutes an indisputably high percentage of the population; **over two-thirds cannot be reasonably argued to constitute a “small number” of dolphins in any context, let alone the context of there being less than 100 in existence.** The requested level of impacts of this survey therefore exceeds the coverage provided by IHAs.
- **Even the high number of dolphins estimated in the EA to be potentially harassed does not accurately reflect the potential impact,** as the entire ETS humpback dolphin habitat could be ensonified at received levels of >160dB re 1µPa (rms), with some dolphins being exposed to received levels of >180dB (rms), given that the survey tracklines pass within 1 km of shore (or 2km if proposed mitigation measures are applied) and therefore directly through the shallow, narrow, linear coastal ETS humpback dolphin habitat which extends to 5km from shore.
- **The level of harassment for which LDEO has applied for permission (level B) is inappropriate for a survey which threatens to expose ETS humpback dolphins to received levels of >180dB re 1µPa (rms),** which can cause permanent physiological damage and would constitute at a minimum level A harassment.
- When considered in the context of a population that is estimated to be unable to sustain an annual loss of one individual, and the fact that noise levels > 180dB (rms) may cause serious injury or even death while noise levels >160dB and indeed <160 dB (rms) may influence behavior or act in combination or synergy with existing threats (e.g. increasing the likelihood of injurious or deadly interactions with boats and gillnets), **the proposed survey does not merely threaten to cause minor impacts to individuals – it clearly poses a significant threat to the future existence of the population.**
- **The claim in the EA that the impacts of the TAIGER survey will be minor and short-term “[b]ecause human activities in the area of the proposed seismic survey are high” (EA p. 79) is illogical** and reflects a serious

misunderstanding or misrepresentation of the nature of cumulative and synergistic effects. Impacts predicted to result from this seismic survey must be viewed with no less seriousness than any other new stress factor, i.e. they should be treated as impacts that could threaten the continued existence of the population.

- Recent estimates of habitat boundaries and noise buffer zones specifically for the ETS humpback dolphins are not referred to yet could have easily been acquired through consultation with the Eastern Taiwan Strait *Sousa* Technical Advisory Working Group (ETSSTAWG). The existence of this expert advisory team dedicated to ETS humpback dolphin matters was brought to the attention of one of the principle preparers of the EA by the director of Wild at Heart Legal Defense Association in an email dated 19 September 2008.

2. **The proposed mitigation measures are inadequate and do not sufficiently allow for local marine mammal observation conditions – weaknesses which augment the risk of impacts in a region where cetacean status and distribution are relatively poorly understood**

The lack of reliable information from systematic surveys in the relatively poorly-studied SE Asian region, as in other regions, necessitates the highest levels of precaution in estimating and attempting to mitigate potential impacts. Even best practice marine mammal visual observation, shut down and other measures can provide no guarantee against significant impacts on populations in these regions (given, for example, inherently low observation sighting rates for species such as beaked whales and evidence that some species decrease or cease vocalizing in response to seismic surveys). **However, LDEO has not attempted to adopt all available precautionary measures that may help to reduce impacts.**

- With tracklines overlapping known and suspected habitat for beaked whales, which are known to be particularly sensitive to acoustic impacts, extremely difficult to detect visually, and already facing numerous threats (including acoustic) within their habitat *at least* in Taiwanese waters, and with almost no data on abundance for beaked whales in SE Asia (as reflected by the IUCN Red List status of three species in the region as “Data Deficient”), there is a clear potential for significant impacts on beaked whales, and hence a need for great precaution.
- Similarly, abundance and other data in SE Asia for sperm whales, which are known to ‘startle’ in response to seismic surveys and to face numerous threats in

the SE Asia region (including acoustic), are unknown, justifying precautionary measures.

- There is a risk that dolphins from the Jiulong River Estuary (JRE) population of humpback dolphins, which is of similar size (<90) and faces similar threats to the ETS population, may also be exposed to received levels >180dB, again exceeding the type of take for which LDEO has applied.
- The anticipated presence of female finless porpoises and their calves in the survey region during the surveys is of great concern, particularly given the fact that these animals will likely be difficult if not completely impossible to detect visually at distances at which they may still be exposed to noise levels > 190dB (rms), and do not vocalize at all times.
- The potential impacts on western north Pacific humpback whales in the waters of the Babuyan Islands (believed to be calving and nursing grounds for a small population of humpback whales) and Taiwan (e.g along the east coast and in the Taiwan Strait) and the fact that surveys will occur during the northward migration of mothers and calves is worrying. Mothers and calves may be more sensitive to acoustic disturbance and are probably more susceptible to the impacts of stress responses to disturbance of any kind.

A lack of understanding of the distribution and status of the abovementioned and other species and populations highlights the need for greater precaution and investigation prior to carrying out seismic surveys in this region. However several proposed monitoring and mitigation measures do not reflect the need for precaution, for example:

- **The proposed number of marine mammal visual observers is insufficient** (a minimum of only one observer working during daytime operations, except for 30 minutes before and after ramp up when this will be increased to two observers)
- **Nighttime seismic surveys could be (but are not) prohibited**, meaning impaired effectiveness of MMVOs and greater reliance on PAM, which provides no certainty of detection of animals that are not vocalizing.

#### RECOMMENDATIONS:

- An IHA should not be granted for the proposed survey because:
  - the number of ETS humpback dolphins that LDEO proposes to harass and the likely level of harassment both exceed the levels for which an IHA should be granted.
  - the number of ETS humpback dolphins to be harassed is likely to exceed a

sustainable level of take for this critically endangered population and is therefore unacceptable.

- the proposed monitoring and mitigation measures are inadequate to detect or avoid impacting several species which are endangered, particularly vulnerable to noise impacts, extremely difficult to detect (e.g. ETS humpback dolphins, beaked whales and finless porpoises) and generally poorly understood.
- the timing of the surveys shows little or no regard to periods of migration through or near the survey locations for some species (e.g. humpback whales)
- the EA reflects serious misunderstanding and error in the analysis of potential cumulative impacts where such impacts matter greatly.
- While it may be true that some of the planned monitoring and mitigation measures “would reduce the possibility of injurious effects”, the monitoring and mitigation measures cannot be argued to *prevent* the possibility of injurious effects, which are highly likely to occur. The claim in the EA that “[n]o long-term or significant effects are expected on individual marine mammals...the populations to which they belong, or their habitats” is ill-founded and should be reconsidered in light of the above concerns.
- In the event that no attempt was made by LGL to consult with the Eastern Taiwan Strait *Sousa* Technical Advisory Working Group (ETSSTAWG) prior to completion of the EA, we would recommend that this be done immediately with a view to clarifying some of the concerns relating to harassment of Indo-Pacific humpback dolphins, and that similar consultations be held with other experienced researchers throughout the region in question.
- Finally, we are aware that that this LDEO survey proposal is one of a very small number of requests for authorization for geophysical surveys while other user groups, including the oil and gas industry, are not carrying out such environmental assessments or are not subjected to public scrutiny in this way. Rather than allowing the focus to be limited to geological surveys such as LDEO’s, we recommend that measures be taken to ensure that all future marine seismic surveys (whether of an academic or commercial nature) are made subject to the same level of scrutiny and transparency, such as by requiring EAs or EISs to be submitted for professional and public review and with all relevant documents (including post-survey reports and relevant local permits, authorizations and licenses) being made publicly available.

For further information regarding these comments and recommendations, please

contact us at the above address.

**Co-signees:**