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To whom it may concern,

I am writing to comment on the Hawai‘i-Southern California Training and Testing Final EIS/OEIS (EIS/OEIS). My comments specifically relate to the need for mitigation areas for small resident populations of protected species of marine mammals around the main Hawaiian Islands (in particular off Hawai‘i Island), including the endangered main Hawaiian Islands insular false killer whale.

Research around the island of Hawai‘i, funded primarily by the U.S. Navy and by the National Marine Fisheries Service and including Navy-funded research where I have been the principal investigator, has revealed the existence of small resident populations of a number of species of odontocete cetaceans, including two species of beaked whales that are known to be sensitive to mid-frequency active (MFA) sonar: Cuvier’s beaked whales and Blainville’s beaked whales (McSweeney et al. 2007; Baird et al. 2009, 2011a, 2013a; Schorr et al. 2009). Biologically important areas (BIAs) for these beaked whale species off the island of Hawai‘i have been identified through the National Oceanic and Atmospheric Administration’s (NOAA’s) Cetacean Mapping (CetMap) program<sup>1</sup>.

While the EIS/OEIS notes that most of the assessments in the CetMap BIA process use only “observational data available and did not use density or habitat models to determine the biologically important areas”, that is not true for the BIAs designated for beaked whales in Hawai‘i. I am the lead author of the document “Known Biologically Important Areas for Cetaceans Hawaii”<sup>1</sup> and the BIAs for beaked whales are based on extensive satellite tagging data over multiple years for both species (e.g., Schorr et al. 2009; Baird et al. 2011a, 2013a), combined with long-term photo-identification data indicating the existence of small resident populations (McSweeney et al. 2007; Baird et al. 2009). Thus these BIAs are not subject to the same limitations as purely observational/survey data. These BIAs have been reviewed both within the NOAA CetMap program and by scientists at the NOAA Fisheries Science Centers, are

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<sup>1</sup> See <http://cetsound.noaa.gov/pdf/ImportantAreasNarrativeHI.pdf>

largely based on peer-reviewed science, and represent the best available science on these species and the areas that are important to them.

This research has also identified the existence off the island of Hawai‘i of small resident populations of several other species of cetaceans known or thought to be susceptible to the impacts of MFA sonar, including pygmy killer whales (McSweeney et al. 2009; Baird et al. 2011b), short-finned pilot whales (Mahaffy 2012), melon-headed whales (Aschettino et al. 2011), and dwarf sperm whales (Mahaffy et al. 2009; Baird et al. 2013b). BIAs have been identified for all of these species off the island of Hawai‘i through the CetMap program<sup>1</sup>. For two of these species, short-finned pilot whales and melon-headed whales, the BIAs are based both on extensive satellite tagging data and long-term photo-identification data. The north end of Hawai‘i Island has also been identified as a high density area for endangered main Hawaiian Islands false killer whales based on extensive satellite tagging data (Baird et al. 2012).

When responding to comments regarding avoiding “hot spots” for marine mammals, the EIS/OEIS largely dismisses setting aside mitigation areas “based on two principles: (1) mitigations will be effective at reducing potential impacts on the resource; and (2) from an operational perspective, the mitigations are practicable and executable while not compromising safety and readiness”. The first point, that “mitigations will be effective”, is not supported by the best available scientific evidence, given the long dive times and cryptic behavior of many of the species involved, particularly beaked whales, dwarf sperm whales, and pygmy killer whales (Baird et al. 2008, 2013b), and the fact that Navy operations may occur at night or in rough conditions where the species are even less likely to be detected visually, even when they are at the surface.

Navy exercise monitoring reports<sup>2</sup> indicate that the area around the west and north side of Hawai‘i Island is an area of low historical activity for the Navy. The EIS/OEIS inaccurately assumes that, if training and testing in this area is limited, the small resident populations of marine mammals found there will not suffer harm from infrequent exposure to MFA sonar. In fact, the best available science indicates the opposite is true. Marine mammal individuals and populations that are only rarely exposed to MFA sonar exposure are likely more vulnerable than populations that regularly are exposed to MFA sonar (Falcone et al. 2009; Baird et al. 2011a). Accordingly, the small resident populations off the island of Hawai‘i may be particularly at risk from harm if training and testing occurs in their core habitat. To avoid this harm, setting aside the area off the west side of Hawai‘i Island as a mitigation area should be considered in the EIS/OEIS. Since this area is not normally used for Navy training activities, exclusion of it should not result in any impact on training realism or Navy readiness. In relation to a small resident population of melon-headed whales that resides off the northwest coast of Hawai‘i Island, Aschettino<sup>3</sup> et al. (2011) noted that “given the difficulty in mitigating impacts from anthropogenic sounds, the area off the northwestern side of the island of Hawai‘i should be considered as an exclusion zone for mid-frequency sonar use for training purposes”. I strongly agree.

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<sup>2</sup> See <http://www.navy Marinespeciesmonitoring.us/reading-room/>

<sup>3</sup> The senior author of this paper, Jessica M. Aschettino, is currently a Natural Resources Management Specialist with Naval Facilities Engineering Command, Pacific.

Sincerely,



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cc: Office of Protected Resources

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