The AUTEC range is located in the Tongue of the Ocean (TOGO) off the island of Andros in The Bahamas, in a deep basin bounded to the south, east, and went by shallow waters and with maximum depths of 2000 m. In contrast, PMRF is located to the northwest of the island of Kauai and occurs across a steep slope and into deep water, over 5000 m in depth. Although the environments at PMRF and AUTEC are different, the foraging dive behavior of Blainville’s beaked whales is similar at AUTEC and PMRF; dives occur in deeper waters over steep slopes with gradients ranging from 3-23%, although dives occur in deeper waters (2000-3000 m; Henderson et al 2016) at PMRF that at AUTEC (500-1300 m; MacLeod & Zuur, 2005; Hazen et al 2011). Resident Blainville’s beaked whales off the Big Island also occur in slightly shallower waters than at PMRF, from 980 -1410 m (Baird et al. 2009, 2011). Therefore it is likely the location of the mesopelagic scattering layer along the slope that drives the location of Blainville’s beaked whales rather than the bathymetric depth; this is supported by the fact that dive depths are similar across areas, occurring on average down to 1050-1150 m for 46-60 min (Baird et al 2008; Schorr et al 2009; Joyce et al 2017).

Similarly, responses to MFAS activity are similar at both ranges, with individuals and groups moving to the periphery of the range or off the range and returning 2-4 days after the cessation of the sonar (McCarthy et al 2011; Manzano-Roth et al. 2016; Joyce et al 2019). Tagged individuals that were to the north of AUTEC at the onset of sonar moved 27 – 43 km away from the edge of the range; the individual that was south of the range initially moved south but may have been trapped by the shallow water at the edge of the basin and so turned north towards the range, then south again (Joyce et al 2019). In contrast, Blainville’s beaked whales at PMRF can easily move away from the range in any direction without impediment. While no Blainville’s beaked whales have been tagged at PMRF, they have been tagged off the Big Island and the resident, island-associated animals appear to remain relatively close to shore, with median distances of 4-27 km (Schorr et al 2009). These resident animals may also travel to other islands as well (Baird 2019), unlike Blainville’s beaked whales in the Bahamas where no animals have been photo-identifed at both AUTEC and the nearby island of Abaco (Claridge 2013). However, two Blainville’s beaked whales have been tagged off the Big Island that moved away into deep water; these may represent offshore animals that are also found in Hawaiian waters (Baird et al. 2009; Baird et al. 2011;Baird 2019). Resident animals that are frequently exposed to training activity and transient animals that only encounter MFAS occasionally are likely to respond differently to the sonar; it is not known how resident the Blainville’s beaked whales are at PMRF, and there may be offshore animals as well found on the northern hydrophones. Regardless, the similarities in Blainville’s beaked whale behavioral responses to Navy training activity across different ranges and environments and at similar received levels may indicate the intrinsic nature of the response. Conducting a similar analysis of Cuvier’s beaked whale responses at the SOAR range would further support this assessment; existing findings already demonstrate that Cuvier’s respond in a similar manner by reducing their foraging dives and moving away from the ensonified area (Falcone et al 2017; DeRuiter et al. 2013).

Manzano-Roth, R., Henderson, E. E., Martin, S. W., Martin, C., & Matsuyama, B. M. (2016). Impacts of US Navy training events on Blainville's beaked whale (Mesoplodon densirostris) foraging dives in Hawaiian waters. *Aquatic Mammals*, *42*(4), 507.

Henderson, E. E., Martin, S. W., Manzano-Roth, R., & Matsuyama, B. M. (2016). Occurrence and habitat use of foraging Blainville's beaked whales (Mesoplodon densirostris) on a US Navy range in Hawaii. *Aquatic Mammals*, *42*(4), 549.

Hazen, E. L., Nowacek, D. P., Laurent, L. S., Halpin, P. N., & Moretti, D. J. (2011). The relationship among oceanography, prey fields, and beaked whale foraging habitat in the Tongue of the Ocean. *PloS one*, *6*(4), e19269.

McCarthy, E., Moretti, D., Thomas, L., DiMarzio, N., Morrissey, R., Jarvis, S., Ward, J., Izzi, A. and Dilley, A., 2011. Changes in spatial and temporal distribution and vocal behavior of Blainville's beaked whales (Mesoplodon densirostris) during multiship exercises with mid‐frequency sonar. *Marine Mammal Science*, *27*(3), pp.E206-E226.

Baird, R. W., Schorr, G. S., Webster, D. L., Mahaffy, S. D., McSweeney, D. J., Hanson, M. B., & Andrews, R. D. (2011). *Open-ocean movements of a satellite-tagged Blainville's beaked whale (Mesoplodon densirostris): evidence for an offshore population in Hawaii?*. CASCADIA RESEARCH COLLECTIVE OLYMPIA WA.

Baird, R. W., Webster, D. L., Schorr, G. S., McSweeney, D. J., & Barlow, J. (2008). Diel variation in beaked whale diving behavior. *Marine Mammal Science*, *24*(3), 630-642.

Baird, R. W., Schorr, G. S., Webster, D. L., Mahaffy, S. D., McSweeney, D. J., Hanson, M. B., & Andrews, R. D. (2009). Movements of satellite-tagged Cuvier’s and Blainville’s beaked whales in Hawai ‘i: Evidence for an offshore population of Blainville’s beaked whales.

Schorr, G. S., Baird, R. W., Hanson, M. B., Webster, D. L., McSweeney, D. J., & Andrews, R. D. (2009). Movements of satellite-tagged Blainville’s beaked whales off the island of Hawai ‘i. *Endangered Species Research*, *10*, 203-213.

MacLeod, C. D., & Zuur, A. F. (2005). Habitat utilization by Blainville’s beaked whales off Great Abaco, northern Bahamas, in relation to seabed topography. *Marine Biology*, *147*(1), 1-11.

Joyce, T. W., Durban, J. W., Claridge, D. E., Dunn, C. A., Hickmott, L. S., Fearnbach, H., ... & Moretti, D. (2020). Behavioral responses of satellite tracked Blainville's beaked whales (Mesoplodon densirostris) to mid‐frequency active sonar. *Marine Mammal Science*, *36*(1), 29-46.

Joyce, T.W., Durban, J.W., Claridge, D.E., Dunn, C.A., Fearnbach, H., Parsons, K.M., Andrews, R.D. and Ballance, L.T., 2017. Physiological, morphological, and ecological tradeoffs influence vertical habitat use of deep-diving toothed-whales in the Bahamas. *PLoS One*, *12*(10), p.e0185113.

Claridge, D. E. (2013). *Population ecology of Blainville's beaked whales (Mesoplodon densirostris)* (Doctoral dissertation, University of St Andrews).

DeRuiter, S.L., Southall, B.L., Calambokidis, J., Zimmer, W.M., Sadykova, D., Falcone, E.A., Friedlaender, A.S., Joseph, J.E., Moretti, D., Schorr, G.S. and Thomas, L., 2013. First direct measurements of behavioural responses by Cuvier's beaked whales to mid-frequency active sonar. *Biology letters*, *9*(4), p.20130223.

Falcone, E.A., Schorr, G.S., Watwood, S.L., DeRuiter, S.L., Zerbini, A.N., Andrews, R.D., Morrissey, R.P. and Moretti, D.J., 2017. Diving behaviour of Cuvier's beaked whales exposed to two types of military sonar. *Royal Society Open Science*, *4*(8), p.170629.

Baird, R. W. (2019). Behavior and ecology of not-so-social odontocetes: cuvier’s and blainville’s beaked whales. In *Ethology and Behavioral Ecology of Odontocetes* (pp. 305-329). Springer, Cham.