Depredation in marine systems is defined as the damage or removal of fish or bait from fishing gear by predators. The long term objective of the PARADEP project is to reduce toothed whale depredation impacting pelagic longline fisheries. This general objective comes in several components including scientific research, capacity building, communication and economic study.

The scientific objective of PARADEP includes two sub-objectives. The first one is to develop a physical depredation mitigation device for pelagic longline fisheries targeting swordfish and tuna. This innovative device will have three protective skills: a physical protection (physical barrier between the fish and the predator), a visual protection (hiding of the fish) and a passive acoustic protection (modification of the acoustic signature of the fish). It will be tested in Reunion Island on board pelagic longliners during commercial fishing trips. The second objective is to acoustically monitor the depredation process. Several hydrophones and accelerometers will be deployed on the fishing gear along with the devices. This will allow to detect toothed whale presence in the vicinity of the longline, to identify the involved species and to analyze their acoustic behavior when they interact (or not) with the devices.

The capacity building objective of PARADEP is to enlarge the research community working on mitigation of negative interactions between marine mammals and fisheries. This will include the organization of workshops and the supervision of several interns.

The communication objective of PARADEP is to share the knowledge resulting from this approach to the public, political managers, stakeholders, scientists and fishermen. This will be done by the use of several communication supports, including the construction of a website dedicated to the project and the participation to various workshops, conferences and meetings.

The last objective of PARADEP is to economically assess the direct and indirect loss due to toothed whale depredation impacting the pelagic longline fisheries of Reunion Island. This will allow to assess the position of the device in the market of fisheries equipment, based on its estimated price.

PARADEP is funded by the European Funds for Maritime Affairs and Fisheries (FEAMP), and is due to last 30 months (July 2018 – December 2020). It involves three partners: two research labs (IRD MARBEC and CEBC CNRS) and one pelagic longline fishing company (ENEZ DU, based in Reunion Island).