Project Update: November 2017

To evaluate our field work for dugong behaviour, I analysed some underwater videos for the dugong of Marsa Abo Dabbab to get information that can be useful for public awareness. These data show the different values for the different categories of dugong behaviour. A total of seven behavioural categories were recorded: feeding, travelling, resting, surfacing, rolling, approach and fleeing. According to Hodgeson (2004), feeding is that a body resting on a substrate, nose turned down to the substrate with slow movement. Traveling is movement at a constant speed. Resting is floating without obvious movements. Surfacing is ascending to the surface for breath and descent until touching the bottom. Rolling is rotating vertically or horizontally in mid-water or on the substrate. The approach is heading directly to the observer. Fleeing is moved off and turns back fast.

A total of 15 videos were recorded for the dugong at Marsa Abo Dabbab with a total of 1726 seconds. The dugong spent more than half its time feeding (58%) (Figure 2). Surfacing was the second most common behaviour (16%) of the time budget. The remaining five behavioural categories: travelling (14%), rolling (5%) resting (3%) and fleeing (2%) were shown a small percentage of the observations. A total of 44 submergence intervals were recorded and 40 surface intervals. All dive times were recorded in waters ranging from 3 – 17m deep with a mean of 6.5±3.2m. The overall mean surface interval was 2.4± < 1 s with a range of < 2 – 3 s.

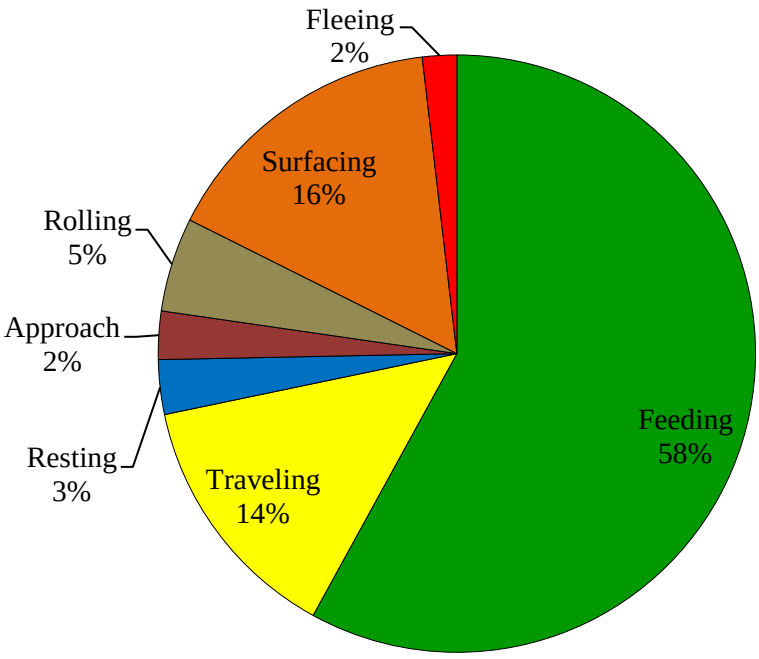

Figure (1): The time budget of the mean proportion for each behavioural bout for the dugong at Marsa Abo Dabbab.

When feeding on these low growing seagrasses, the dugong excavated into the substrate with its muzzle, extracting and consuming seagrass leaves, stems and interconnecting rhizomes. After feeding, the dugong pushed the bottom with its flipper

and ascended to the surface to breathe at an angle of 45° exhaling once it reached the surface. The breathing pattern comprised of one or two short breaths. Between the two breaths, the dugong may stay below the water surface for resting before take another breath followed by a longer third breath before diving again by arching the body and a forward downward. Once the dugong is reaching the bottom it maintained itself on its flippers that used for locomotion on the bottom and start feeding again. Sometimes the dugong had more than one remora fish adhering to the body, so rolling may be taken place to release it away from its body the divers need to take care when observing this behaviour to keep a distance of the dugong.

Approach and fleeing behaviour was observed in the presence of tourism activities. The dugong sometimes approaches the divers in some circumstances. This may be due to the territory of the dugong in a specific area where the presence of divers in a special place for a long time took place. Fleeing behaviour was mainly recorded at the surface when dugongs ascend for breathing. The snorkelers waiting at surface swim directly over the dugong mainly to approach and to touch. In this situation, I recorded the dugong change the direction and move away from the snorkelers a few metres and ascend to take a quick breath. This attitude from snorkelers has a harmful effect to the dugong, where it may prevent the dugong from breathing in time. This may be discussed why the dugong it travelling more or less from each site according to the presence of a disturbance. Also, the dugong may travel away due to the sound of boat propeller which has a direct impact. The more underwater survey is needed to collect more videos in a different situation to get a definite conclusion for the effect of tourism activities on the dugong behaviour. The example of these results will used in the presentation for the tourist and tour guide. It will help them to understand the different behavioural categories of the dugong hopefully to get a code of conduct for dugong watching.

Figure (2): Feeding Behaviour

Figure (3): Rolling Behaviour

Figure (4): Dugong Ascend to the surface

Figure (5): Dugong take a breath at the surface

Figure (5 and 6): Dugong approach to the observer