

Day 29: July 6, 2011

The team was tired today. Sandy thought it was because the boat was rolling quite a bit last night. Indeed, it does not take much swell to make this boat roll. However, I think it's the long days in the Gulf heat and the constant work. Regardless, field work at sea is challenging work under difficult conditions peppered with truly amazing sights and good camaraderie. They are a good team.

When Biology is taught to high school students and undergraduates, they are taught the vocabulary and basic principles. Clear and straightforward examples of how cells, plants and critters work interspersed with parts that are unknown yet. In graduate school, students learn that the knowledge gaps are really much bigger than previously let on and that the basic principles they learned are true under very particular and exact circumstances. I have come to believe it is that way with sperm whales- at least the Gulf whales.

We were taught when we started and indeed the books say: 1) Sperm whales dive for 35-45 minutes when they feed underwater; 2) Sperm whales rest at surface for 7-10 minutes and execute short (few minute) shallow dives; 3) my favorite- the Odyssey legend- "when we were with sperm whales we could stay with them for days" (I have come to believe this was done while sailing in waist deep snow uphill both ways). Now that we are well into our second season with these Gulf whales, I have come to realize these 3 basic principles don't fit and are of minimal help.

Consider #1 and imagine yourself on the boat. The whale has fluked for a deep dive. You note the time and figure 45 minutes and the whale will be back up. But nope, not these whales. These guys dive for 70 minutes or more meaning you spend 25 minutes wondering when the whale will finally surface and being barraged with constant questions of "has it stopped clicking yet?" because everyone else on the team knows the 45 minutes passed. It's a bit like the fabled "Are we there yet?" parents get while driving.

Now, consider the case of the whale that is supposed to stay at the surface for 7-10 minutes with only short shallow dives. This situation is quite a bit worse because in this scenario the entire team is on deck ready for sampling. The sun is blazing, humidity high, and the boat is pulling right up near the whale and "poof" the whale slips under the water- a shallow dive. Everyone begins scanning because it'll be right up in a few minutes- right? Except in the Gulf that is only sometimes true. Sometimes they dive for 2-3 minutes. However, sometimes they shallow dive for 20-30 minutes, which feels like a year in the hot sun. Even worse, sometimes they shallow dive for well, forever, as we never see them again and that is truly maddening.

This behavior, I think, is the principal cause of the teams exhaustion as the whale can shallow dive for 2-3 minutes - three or more times in a row and then shallow dive for 20-30 minutes, with the boat getting closer each time. So now the whole team has bitten the biopsy apple and believes a sample is imminent just a bit more patience. Except the whale has other ideas and simply shallow dives and vanishes forever, but you don't know that it has done so until 30 minutes or more have passed. The team is disappointed and now aware of just how hot they are - except wait- there is another whale 1 mile away... and the cycle continues.

That leads right into #3 - the Odyssey legend of staying with the same group of whales for days. Each time Iain Kerr tells me this one, I feel a sense of frustration as we cannot stay with a group of whales for more than half a day. I finally asked Captain Bob if this was true and he said yes... in the Galapagos... and maybe in the Pacific... but not in the Atlantic. That makes sense as the Gulf of Mexico is part of the Atlantic. I didn't ask about whether or not they sailed in waist deep snow uphill both ways.

But, we are pretty good at this work. When we do get a biopsy, we have a sense of fulfillment and euphoria. Today we got one, so an afternoon with whales once again proved to be successful. Our total on this is 21 and our overall total is 25 sperm whales and 1 Bryde's whale. We feel good, but tired.

Photo of sunset attached.

John

P.S. We are still off Louisiana finding sperm whales. Our current location is 28 degrees 14.2 minutes North and 89 degrees 39.8 minutes West, for those who want to track us as we go. For Google maps (not Google Earth - but maps) use (include letters and comma): 28.141 N, 89.398 W

For those of you who are new to this email diary - the previous days can be found at: <https://cms.usm.maine.edu/toxicology/dr-wises-voyage-leg-summaries-2011>

