

Wednesday, April 12 – Day 2 by Johnny Wise

Dear All,

We have been out of satellite reception for the last two days. The voyage is going well otherwise! Below is my log from April 12, enjoy :)

April 12, 2017

Our day began with another small (relatively) humpback whale. It was also headed in a southern direction, while we were headed north. Again, we followed it to do our best to learn its diving pattern...3-4 breaths, then a dive for about 10 minutes. Rick and I were in the bowsprit waiting for an opportune moment...an okay moment came, but distance and angle weren't optimal, causing us to hesitate. We could sense some frustration from other members of the crew, and pops came up to report the captain was going to give us one more approach. We felt that was all we needed...the boat was maintaining a good speed and course as the whale and we were getting closer after each dive. The next time it surfaced...it was behind us, we were drifting. It was close enough to our stern to be within range, but that of course meant Rick and I had to move quickly. This was imminently clear to everyone else on board, and they gave us a clear path to the aft deck...all eagerly watching with cameras and data sheets in hand. The water was calm and clear as the whale swam directly towards us. Mark reported its movements to us from the crow's nest (a MUCH better vantage point than the deck), and we moved ourselves accordingly. The humpback noted our presence, seemed to hesitate for a moment as it assessed what it wanted to do, then casually steered itself to our starboard stern, showing us its broad back as it dove once again on its journey south. This was exactly the moment we were waiting for – Rick and I both released our arrows and watched them fly true to their target with a dull thud and quiet splash reporting our successes. Patience can be very rewarding!

The rest of the day passed relatively quiet and uneventful...rays continued to jump and glide at the surface, their wing-tips sometimes reaching above the surface...a pair of bottle-nosed dolphins eagerly swam over to ride our bow waves, but finding our speed too slow decided to find some other game to play. At some point just before lunch, Rachel mentioned to me that she had seen a lot of dead birds – grebes to be specific. Being environmental toxicologists, we decided to investigate. We retrieved five dead grebes for necropsy and collected tissue samples of liver, lung, brain, and heart - other organs were either too difficult to identify, or not as toxicologically interesting because they do not accumulate as much metals. In all five birds, there was no clear sign of death. As the day progressed we saw more and more of these grebe carcasses...probably 50 in total. I began to wonder if there was a seasonal explanation (e.g. red tide) or an incident that might have caused these untimely deaths...there are a lot of silver mines along the coast of Baja California, and maybe something happened to expose these birds to lethal levels of contaminants. The rest of the crew was much dismayed by our curiosities, mostly due

to the smell of death that hung on the air – but all were just as curious and concerned as us and were simply glad they didn't have to participate in the necropsies.

During our down time as we waited for more whale sightings, pops and I sat on deck in the shade to discuss future infrastructure of our nonprofit. For those of you that may not know – our family began a non-profit organization to help fund our field research activities in our pursuit to study One Health. Although we are all in separate universities now, our family (all 6 toxicologists) take the approach of research to study how contaminants (e.g. metals, pesticides, flame retardants) affect the health of the environment, wildlife, and us humans. While most researchers focus on one of these areas, we realize that we all share the same health, and to best understand how contaminants affect our health, we need to understand how it affects all of us – humans, whales, birds, and all other creatures alike. After all, we all depend on each other to survive.

The latter half of the day brought us more humpbacks, but unfortunately no samples. We simply couldn't get close enough – though we tested the range of our crossbows and our accuracy quite well. In the midst of these humpbacks, we were treated to two incredible breaches barely 50 yards in front of our boat!

In the wake of all the death we saw today, I took some time after we all ate dinner, anchored, and settled in for the night to reflect. Laying on top the main sail, listening to the night orchestra that the ocean provides...gentle waves lapping the side of our boat, birds calling in the distance, and the occasional splash of some fish jumping, and the waning gibbous moon dancing on the water's surface...my thoughts drifted to how I've come to identify myself after all my years of education and research, and all the unique opportunities the universe has provided me. I consider myself a guardian of all I see around me – not simply here in the Sea of Cortez, but everywhere I go. Almost everywhere I go, I see the threats that our luxurious human lifestyles pose to the natural world around us – threats that aren't malicious, but simply naïve, as we humans pursue our health, comfort, and desires and learn how to best achieve them while causing as little harm as possible. Such an achievement is a very difficult task, and our species is still very young in the grand scheme. I often like to view whales as wise mentors for us – for they've been around about 20 million years and have mastered the oceans. I wonder if we could look that far back in history...would we find the whales went through a similar transition as us?

"We, as relative newcomers, may be asking too much of ourselves to communicate meaningfully with minds as ancient as those of the whales and dolphins...the whales and dolphins may have more to teach us than we have to teach them." – John C. Lilly, *Man and Dolphin*, New York: Doubleday, 1961

Cheers,

Johnny













