

## Faith Okamoto

I found "The Science of Seal Tracking with Monica DeAngelis" interesting, but not really because of the specific science described. The conduction of basic research, however, was fascinating. It isn't a flashy part of science, but basic research and data collection are important because they show what is possibly possible. They show which questions are askable. Without the right questions to ask, science can't find the right answers. To analogize this to another area of science, cancer medicine, would be to point out that we could not progress beyond indiscriminate cellular poisons (chemotherapy) without studying the basic biology of the cancer cell to produce less toxic oncogene-specific drugs. This is exactly what the seal research is doing. Without an understanding of what seals are doing, we can't properly identify the important problems. Without identifying the important problems we can't hope to properly target solutions to fix them. As the video points out, the Navy and Marine Corps need to have people monitoring for developments in marine and especially coastal ecosystems to safely conduct their operations in such environments, and so that they are aware of any potentially important changes and events.

From that video, I found Monica DeAngelis inspiring because she's pursuing something that she (and I) find interesting as a career. Having a clear path in life and succeeding at it is something that I hope to someday achieve, and seeing someone else who was able to do it is inspiring. I am not that sure of my career goals, but research sounds interesting and it is hopeful to see that there are good basic research positions which are both open to regular people and not in cloistered academic laboratories. Field research as opposed to lab research is a path that I was only vaguely aware existed, and seeing DeAngelis succeed in a dream of doing outside, hands-on research is inspiring. It shows me possibility.

I find it difficult to extrapolate this particular video into the future, however. Of course I see basic research continuing, monitoring and tracking of wildlife still being done. For reasons outlined above that is essential to the success and safety of the military and humanity in general. But the fruits of this research are unclear, and the possibilities aren't obvious at this time. That is, again, the whole point. Basic research attempts to find basic information, which indicates what interesting things are worth investigating in more detail. I predict that there will indeed be further interesting phenomena. I simply can't predict what they'll be.

Of course, I could turn to looking at the GPS technology involved. I can safely predict that we'll find better, cheaper ways to create small computer-receivers, and that this will allow more people access to GPS and location-based services. Moore's Law and life experience both show that computers get better over time, and with the basic math and concept of GPS being solid, the clearest route to improvement is making it more accessible to more people. What those people will use GPS for, I do not know. And that is hopeful (we could do anything!) and a bit scary (we could do anything!). But I choose to hope that this will benefit the Navy, Marine Corps, science, and humanity. Knowledge is power, and basic research with basic tools is an important way to get it.