



Seawords

The Marine Option Program Newsletter

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UHH MOP TURTLE TAGGING

GLOBAL WARMING: THE UPDATE

CREATING THE THREE SPHERES OF AWARENESS



UHH MOP GOES TURTLE TAGGING

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On February 11, UHH MOP packed up the vans early morning to take students on one of the most anticipated events of the year: turtle tagging. The Hawaiian green turtle (*Chelonia mydas*) population was almost depleted in the 1960's from commercial over-fishing. In 1985, a Turtle Recovery Team was formed between the National Marine Fisheries Service, the U.S. Fish and Wildlife Service, and the Hawai'i State Department of Land and Natural Resources. Their recovery plan was submitted in 1987 and green sea turtles received state and federal protection (Penisten and Dudley 1991). The honu is a turtle with a specific genetic stock that only nests in Hawai'i, almost exclusively at French Frigate Shoals in the North-western Hawaiian Islands (Balazs 2015 and Hawaiian Green Turtle Life History NOAA 2011). It has been found that females start nesting between ages 17-28, the average being 23 years (Balazs 2015 and Van Houtan et al. 2014). They are thought to live between 60-70 years. There are many factors affecting the long-term survival of these turtles including: habitat destruction, ille-

gal harvest, boat strikes, ingestion of and entanglement in fishing line, recreational fishing encounters and climate change (Hawaiian Green Turtle Life History NOAA 2011 and Protected Resources NOAA 2015).

For over 30 years, UHH MOP has maintained a relationship with George Balazs, a sea turtle biologist for the National Marine Fisheries Service of the Pacific Islands Fisheries Science Center (NOAA). Balazs has been studying depleted turtle stocks, restorative measures and human cultural aspects for more than 40 years. In 1987, Marc Rice, the director of the Sea Turtle Research Program at Hawaii Preparatory Academy (HPA) began assisting Balazs to capture, measure, and tag green turtles in order to study them.

Back in the vans, MOP students neared the research site. Punalu'u Beach is located on the southeastern coast of Ka'u and is a place that holds a lot of cultural significance, as well as a large population of green turtles. Under permit from the National Marine Fisheries Service, MOP students were able to act as research assistants for this ongoing project.

Vans were unloaded, gear was set up and the research tent was in place. Being able to conduct research in such a locally significant area was a privilege and a pleasure. With that in mind, having the proper attitude for the day was critical. Makani Gregg, a UHH Marine Science B.S. and M.Sc. graduate and her students from Kua O Ka Lā Charter School led an *oli* (Hawaiian chant). The entire research team stood facing the water breathing in the moment. Toes were buried in the black sand as the waves rolled in and the morning sun warmed up the beach. Those who knew the chant, E Hō Mai, spoke with the line of Kua O Ka Lā students, and when we finished they led the rest of the oli. The mana (power) was present and it was time to begin.

At Punalu'u, Balazs, accompanied by his visitor Connie Ng from Hong Kong, gathered the group and spoke. He thanked Gregg and her students for sharing such a beautiful part of Hawaiian culture with us and for beginning the day. Balazs tagged his first turtle on the beach at Punalu'u in 1976, and he's captured hundreds since. He told us about the legend of

Kauila who had the ability to morph between woman and turtle and how she would play with and keep watch over the children on the beach. She gave them a spring with fresh water to drink and it is said that you can still feel her presence at Punalu'u today (Balazs 1996). This was the 40th year of turtle research done at Punalu'u, and the standards and expectations of the students were in place. MOP students and HPA high school students got into teams and everyone began their roles.

Led by Rice, the first team hit the water. Each team had a leader who had been on a turtle tagging event before, it was their job to make sure each member was in position and felt comfortable with what they were doing. Teams in the water looked for turtles that were distracted with eating the red seaweed, *Pterocladia capillacea*, the only food source chosen by green turtles at Punalu'u (Balazs 1994). Once a turtle was spotted, one person would sneak up behind and grasp the turtle while the rest of the team would come around to assist in placing the turtle on its back in an inner tube to be carefully floated back into shore. Turtles are stronger than they look, and once they've seen you in the water and decide to swim off you've missed your opportunity. There's no hope catching up to them. There was no try, only do.

Once a turtle was brought out of the water, the team assisted with data collection. The group must communicate as they navigate over the submerged rocks while the turtle is in the inner tube, lifting and lowering the turtle on and off the beach and keeping the turtle stationary until it's time for release into the water. For some students, this was the first

experience handling a wild animal and since without a research permit it is illegal to touch green turtles, it is an odd experience plucking them out of the water and holding them through the process.

When the turtle was taken up to the research tent, some of the measurements included were weight, carapace (shell) length and width. Note was taken of any carapace damage or injuries, any *limu* (seaweed) that was in the mouth and each turtle was checked for Passive Integrated Transponder (PIT) tag ID numbers. Most of the turtles captured had already been tagged because tagging events at Punalu'u have been ongoing. In the case that a turtle had no tags, it had not been caught before and it would be tagged for future identification. Once measurements were complete, a small paint mark would be made on the carapace so the same turtle would not be caught again and the team would release the turtle back into the water.

Teams not in the water or standing by on the beach to collect snorkel gear from the capturing team, talked with locals and tourists about who we were and what we were doing. As a student, volunteering as a research assistant on a project that has been going on for decades and given the responsibility of sharing that information with people is absolutely incredible and undeniably nerve-racking. It is a feeling of importance, integrity, and value—a pressure to bring an issue from a scientific point of view into a social context as an environmental issue that people should care about.

Glenn Ferrier, MOP student said, “because of the sensitivity of the work and the topics of the turtles, [public relations were] essential.” For some visitors to Hawai'i, it is new information that it is illegal to touch a turtle (Penisten and Dudley 1991). For them to then see students take them out of the water, “[it] could have easily been misunder-



stood,” Ferrier explains. For this reason, the communication job for the day was arguably the most important. As beginner scientists, building public relations and communication skills during fieldwork is absolutely necessary.

Jen Sims, lecturer at UHH and coordinator of the MOP/NOAA Sea Turtle Stranding Response Team said that the goal for this MOP event was to, “assist and help perpetuate this very significant

and historic data set on green [turtles] in Hawai‘i, to expose students to varying research experiences and techniques [as well as having] permission to work under special permit for endangered species for the day.” Assisting with turtle tagging not only gives students the experience of handling wild animals, assisting in data collection, and developing communication skills, but also is an opportunity to make scientific career connections as well.

For many students, this event fuels a desire for more time in the field. One great way to keep developing the skills introduced in the turtle tagging event is to volunteer for the MOP/NOAA Sea Turtle Stranding Response Team. Dennis Fukushima, a biological assistant for the response team, said, “turtle tagging allows UHH students to gain valuable fieldwork experience: what parameters are measured, how to handle live animals, and how to educate the general public about the research being conducted.” These are the skills that transfer over for working with

the turtle response team. “The UHH MOP turtle response team heavily

of situation, no matter how gruesome it can be,” said Fukushima. If you see an injured, dead or stranded turtle you can reach the response team at [\(808\)-286-4359](tel:8082864359). To get more information about volunteering or what situations should be called in visit uhh-mop.hawaii.edu/turtle-response/.

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new skills whether it be in the water capturing a turtle, talking with the public or working alongside professionals. As of this last trip to Punalu‘u, 271 individual turtles have been tagged, some of which have been caught repeatedly making for 787 captures since 1976. Be sure to check out the day using the photo gallery at uhhmop.hawaii.edu. For a global perspective on Hawaiian green turtles you can visit www.iucnredlist.org/details/16285718/0. ■

relies on volunteers to help on calls concerning injured, sick, distressed or deceased turtles,” Fukushima explains. The response team answers calls for the east coast of Hawai‘i Island. Volunteers are expected to navigate different terrain, be able to work in a team when it comes to lifting a large turtle, be able to stomach the smell of a turtle (alive or dead), as well as handle if any of the turtles are injured or amputees. “We need volunteers to be ready for any kind

