

RSG 33326-C
PROGRESS REPORT
JANUARY 2022- JUNE 2022



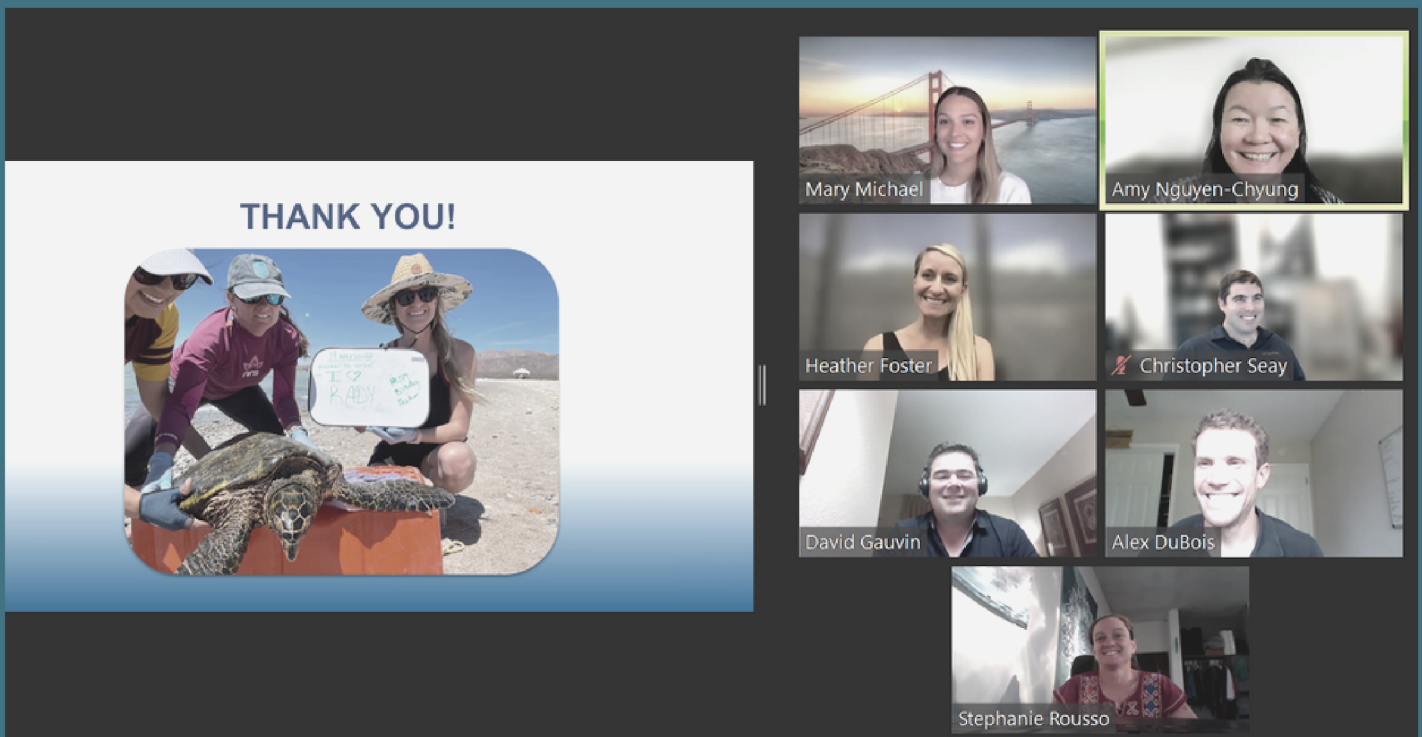
Blue Economy Business Case

In November 2021, Upwell Turtles (Upwell), nominated our business pitch idea to the University of California, San Diego (UCSD) Rady business school. Every year, the UCSD Masters of Business Administration (MBA) program offers a capstone project for graduate business students called, "Lab to Market". A total of five MBA students built our business model as their thesis. The student's backgrounds ranged from communications, project management, biology related to pharmaceutical sales, global studies, and international trade.

MBA students first determine if a business idea is viable, then which products/services are worth taking to market and if the idea big enough to drive a company. During the 6 month program (January through June 2022) students conducted market research and validation, and feasibility studies, and presented a business case for our mission-driven business: Blue Turtle Sustainable.

Our blue economy, a mission-driven business idea to help reduce and mitigate sea turtle bycatch through responsible seafood and conservation travel experiences, was chosen as one of their pro-bono business cases. It was a high accomplishment as we were selected among hundreds of nominations. MBA students at UCSD were able to choose the selected business ideas as their graduate thesis.

In March 2022, the five students traveled to La Paz, BCS, to experience firsthand our program, participate in field research on monitoring sea turtles, interview fishing community members, and of course taste the seafood products. In June, the students presented me with a business plan and a go-to-market strategy via Zoom (Photo below).



Determining Business Viability

MBA students evaluated the business viability in three sectors: 1. Individuals, 2. Ecotourism, and 3. Restaurants. After an initial assessment and reviewing our previous findings on the successful viability of individuals and ecotourism operators, the students decide to focus on restaurants.

POTENTIAL TARGET AUDIENCES

#1

Individual eco-tourist and residents

#2

Ecotourism Companies/
Wellness centers

#3

High-end tourism Restaurants

The #3 restaurants were the largest challenge since there is not a defined profile of the customer. The reason I choose to focus on ecotourism as our target market was to recruit more citizen science data on the spatial distribution of sea turtles, encourage ecotourism companies to increase their responsibility for the ocean by providing responsible seafood choices to their clients, and engage a captive audience for consumer surveys as a means of quantifying our conservation impact.

Choosing to focus on restaurants was a decision based on my hypothesis that restaurants were not a viable option for my business. I hypothesize that to make a change and recruit small-scale fishermen to modify their gear and practices to reduce bycatch, we needed a more direct, traceable, and transparent approach from boat to fork. Eco travelers and individuals we sell directly to or via ecotourism guides we directly collaborate with are more likely to achieve productive outreach leading to positive change.

My objective was never to achieve high volume. Rather, the idea was quality over quantity, meaning that this program was to reward the fishermen for ocean stewardship towards sea turtles (and other marine life). The idea was to allow the culture to build over a long period, mostly shifting the paradigm from responsible fishery to individual fisherman. Their research throughout the semester, including a weeklong trip to La Paz to investigate the consumer side of the supply chain, proved my hypothesis correct. Their report detailed the reasons why selling to restaurants was not a viable option to reach our mission of building a program with small-scale fishermen to report bycatch, and collect data on sea turtles through accidental capture of sea turtles, which will lead us to co-develop methods to reduce bycatch through fisher-designed and approved gear and fishing activities modifications.

It was great to have a business perspective that was outside the ecological sea turtle conservation perspective. What they did find was that there are many restaurants, consumers, and ecotourism operators very interested in knowing more about an ecolabel. While their research proved my hypothesis that restaurants are not our priority sector, their findings did prove that the ecolabel will be an added value to the seafood industry in Mexico.



Full Seafood Travel Experience

In March 2022, I took the MBA students to experience firsthand our expedition model. They ate shrimp and fish prepared by our team Chef and the fishing community, they met and laughed with the fishermen who are participating in searching for bycatch and sea turtle populations through direct monitoring efforts (photo), and they snorkeled with sea turtles in their foraging habitat of the protected mangrove lagoon. This helped them to understand that the expeditions are where we generate funding and the seafood marketing and sales are how we recruit more fishermen and expand the responsible fisherman ecolabel to more communities.

Ecotourism operators can be an extension of outreach as well as a source of sustainable, long-term funding, built into the Blue Economy model. When naturalist guides serve responsible seafood to their clients during an eco-tour, they can also share information about the fishermen who are part of our program and the research they are participating in as citizen scientists.



"The expedition encompasses all things 'blue mind' and so much more! I came away feeling more at peace, connected and in awe of the islands, the communities, the ocean and the turtles swimming just below." ~Charlotte Wood, Student

I feel that most ecotourism operators will receive and understand the issue of unsustainable- nonresponsible shrimp more favorably. We assume from some interviews we have conducted and the basic foundation of ecotourism principles that they will be more receptive to changing suppliers of shrimp. Furthermore, we feel that ecotourism operators provide an incredible opportunity for education. We can provide ecotourism naturalist guides with information regarding sea turtles that they can share with their clients when they go snorkeling. We feel the best way to reach individuals is to set up an outreach table at farmers' markets with information regarding the biodiversity of sea turtles in the region, the research we are doing, promote our citizen science activity to report sea turtles, recruit volunteers, and sell individually vacuum packed shrimp.

Since eco-travelers and many individual residents spend time on the water, we can provide sea turtle sighting logbooks that our interns developed in 2021. We can add their sighting reports to the database that we have been building over the past several years. We can also promote expeditions to them to help spread the word to their families and ecotourism companies can adopt our travel itinerary as a package to sell to their clients. In contrast to restaurants, we just don't have the direct outreach component that is multifaceted to sell seafood, expeditions, and provide outreach that will help build the culture of responsible seafood options in the region.

Our program is easily replicable in Los Cabos, Puerto Vallarta, Mazatlan, and other popular tourist destinations. While we don't want to solely focus our efforts on tourism destinations, we feel that this is where we need to start since the majority of tourists in this region originate from countries more knowledgeable about sustainable/ responsible food options.

Paradigm Shift: Responsible Fisher

In July 2022, Grupo Tortuguero de Las Californias (GTC) organized a workshop with fishermen, scientists, and community leaders from over 10 communities in the Mexican states of Sonora, Sinaloa, and Baja California Sur. The invitation-only workshop was designed specifically for certain members of GTC working in bycatch research or mitigation activities. Over 40 people were in attendance, including 1 government authority from the Mexican National Institution of Fisheries Research (INAPESCA) and 2 Ph.D. expert researchers in bycatch mitigation of endangered sea turtles: Dr. Jeff Seminoff from NOAA and Dr. Bryan Wallace from Ecolibrium (Photo Below).

I was invited by GTC and supported by my Ph.D. advisor, Dr. Alan Zavala, and Ph.D. committee member, Dr. Agense Mancini. Jeff and Bryan funded the workshop as part of their major initiative to study the bycatch solutions throughout the Gulf of California and adjacent Pacific Ocean, a project called MARES.

During the workshop, we discussed two main themes: 1. Bycatch reduction methods using modifications to gear and fishing practices, and 2. Economic incentives through seafood certifications and scientific travel. I was invited to present my experience building a model for sea turtles conservation with tourism companies and the progress of our responsible fisherman seafood certification program. Jeff from NOAA said that our idea to certify the fisher, rather than the fishery as is currently done internationally, is a paradigm shift that needs to happen.

The week prior, Fisherman Adalberto Garcia and I co-presented the program of Responsible Fisherman to the Sinaloa Marine Turtle Network. These workshops and annual meetings are important outlets to discuss and recruit more fishermen to the program. At both events, there were several fishermen interested in joining the program either by selling their seafood products with a responsible label and/or by receiving groups of tourists to take monitoring sea turtles.



Photo: Recognition of participation presented to Fisherman Adalberto Garcia and his wife, Margarita by Karen Ogecuera, (GTC president), Dr. Jeff Seminoff (NOAA), Dr. Bryan Wallace (Ecolibrium), experts in bycatch mitigation and founders of MARES, a project to study bycatch in Mexico.

Balancing Business, Outreach, Thesis

I have struggled this past year balancing my time between bycatch research collection and analysis and building out the citizen science reporting program with fishers, ecotourism guides, and sailboats. This past year, I learned about the challenging ongoing task of consumer education in responsible seafood. Results from the business case and volunteer interviews highlight that many people believe consuming local seafood means it is sustainable. Yet, the increasing mortality of sea turtles washed ashore from suffocation in local seafood nets proves otherwise. While the fishermen from whom we promote are local, it does not signify a direct correlation between local and responsible seafood. Combined with learning about the illiteracy rate of fishermen, the costly process of obtaining an international ecolabel, and the underpinning of small-scale fishermen by industrial fishing is overwhelming. Yet, I recognize this social aspect is an integral part of my research, not separate.

Due to the positive feedback and reception of the program, my Ph.D. thesis committee has decided that the Responsible Fisherman program will be more successful if incorporated into my Ph.D. research. This Fall semester I am working with my committee, three of whom are current Rufford team members, to adjust my thesis to reflect the progress and pending advancements. This idea aligns much better with my time management. Thanks to the support of my Rufford team, my committee, the recognition from bycatch experts, and the eagerness of fishermen, I feel that my research and outreach from the past 7 years are finally aligning. This alignment allows me to effectively strengthen data collection of citizen science data, and barnacles, while improving bycatch reporting methodology with new technology, and generating funding through seafood and travel experiences with my business.

For the remainder of the funding timeline, (August to November), I will be analyzing the economic gain received and translating that into conservation benefits, building collaboration with the fishermen, promoting sea turtle mindfulness expeditions for 2023, and analyzing data. I have my doctorate candidacy exam in September 2022 and will receive much-needed feedback on our progress and guidance on how best to move forward. My final funding report will be submitted in November 2022.

