2002 World Food Prize Borlaug ~ Ruan International Internship

Penang, Malaysia *ICLARM - The World Fish Center*

Kristina Glenn Central High School – Elkader, Iowa "Soon, perhaps, we will realize that the sea is but an immense extension of our human world, a province of our universe, a patrimony that we must protect if we ourselves are to survive-"

-Captain Jacques-Yves Cousteau Excerpts from *Life and Death in a Coral Sea*, 1971

Through the course of this paper I am presenting to you I will introduce you briefly to myself, why I chose to be an intern and why this experience was important to me. I will also describe the work I did and the importance of coral reefs not only to mankind, but also to the environment of this planet and the future of feeding the world through it.

I (Kristy Glenn) have spent the past 18 years of my life growing up and being a part of my parent's beef and swine farming operation near Elkader, Iowa. I am now currently a student at Central Community high school. It was at school where I learned about the World Food Prize Youth Institute in the fall of my junior year (2001). My first introduction to the Youth Symposium was by a former attendee who told me that while he was there he had some of the best food he had ever tasted and was able to miss two days of school, with an excused absence! To be completely honest with you it was that initial statement that enticed me to listen. I willingly gave him my full attention as he went on to say how the lectures, discussions and atmosphere were very enlightening. It was there that he became introduced to the magnitude of the current situation and concerns our world is facing in dealing with world hunger, food security and poverty. Something that he hadn't ever really thought that much about or was influenced by.

A great majority of the people here in the United States have the comfort and luxury of never knowing what it is like to be hungry or having to ration what food they do have. Since the absence of food or the lack there of doesn't personally affect our daily lives, it's not an issue that we really discuss in our usual conversations. The problem with that statement is that we should be having more conversations about poverty and world hunger and that everyone should be aware of the world issues and its problems- not just what you may catch from watching the nightly news or reading the daily newspapers.

During the Youth Symposium I had the opportunity to listen to the interns from the previous year give a presentation on their summer as an intern. I was very impressed by the pictures and information they presented. They all seemed to get so much out of it and they said that no matter where you go or what you decide to do that taking this opportunity will have a positive effect on you in one way or another. They all seemed to genuinely care about the poverty and hunger issues all around the globe. I was overwhelmed by the idea that an opportunity like this was within my reach and I wanted to take advantage of it I was yearning to learn more about the world around me and to most importantly be apart of a team or group of people that are actively engaging in work or research that would be a part of making it possible to feed the entire world in the 21st century. Here was a organization- The World Food Prize Foundation; that could make this possible and was offering to arrange, pay for, and organize our trips with the center, and all that was required of us, was that we simply took and spent our time here seriously and wisely, write and present a paper of what we did and to come out of those two months with new knowledge, a new or improved attitude on food security and everything else intertwined in making it possible to feed starving people around the planet and to share that information with those around you. Needless to say it was a most

excellent opportunity presenting itself in front of me, one that I knew might possibly in that type and form never present itself again in my lifetime, or I at least wasn't willing to take the chance that it would.

My internship was spent in Penang, Malaysia at the ICLARM- the World Fish Center

Since February of 2000, ICLARM has made its headquarters in Penang, Malaysia- They were previously located in the Philippines and has, outreach sites and staff in nine countries; the Philippines, Vietnam, Solomon Islands, Egypt, Malawi, Bangladesh, Cameroon, Jamaica, and the British Virgin Islands in the Caribbean; ICLARM conducts collaborative research in a total of 22 countries in these regions and is linked to through its research and information networks, collaborators and community of aquatic research scientists and managers to individuals and institutes globally.

Overall the work is conducted under five major programs: The Biodiversity and Genetic Resources Program, the Freshwater Resources Research Program, and Coastal and Marine Resources Program, the Policy Research and Impact Assessment Program and

Partnerships, Information and Training Program- ICLARM'S research covers both marine and fresh waters in important tropical ecosystems- coastal waters, coral reefs and inland water bodies. The research is carried out and distributed through the programs that were listed.

During my internship here I worked with CMRRP (Coastal Marine Resources Research Program). CMRRP's focus is developing and disseminating methods for sustaining production from coral reefs and tropical coastal waters through a variety of methods such as marine protected areas, interactive databases, stack enhancement, etc. This program includes 17 projects designed to conserve and manage coastal habitats, restore depleted stocks, improve the productivity of fisheries, increase the capacity of national aquatic research systems through effective training in integrated coastal management, and to equip managers with the information needed for these tasks. The projects within these programs are grouped under different categories. I worked specifically with ReefBase who are grouped under the category of Coral Reef Resources. ReefBase was used extensively as a data source for the reefs at risk analysis for Southeast Asia, a project undertaken by the World Resources Research Institute.

I was assigned to my internship at ICLARM based on my previous interests in marine biology. I had spent one week me previous summer at the Maine Maritime Academy in Castine, Maine, learning about basic ocean biology and chemistry, navigation and Seamanship. These prior interests seem to match me best with The World Fish Center:

ReefBase has many goals or objectives that they are working on. The ReefBase team is working on developing a relational database and information system for structured information on coral reefs and their resources that will serve as a computerized analytical tool for use in reef management, conservation and research. Other aspects of their mission is to collaborate with other national regional and international databases and GIS facilities relating to reefs and provide a means of comparing and interpreting information at the global level. Develop and distribute analytical routines for ReefBase that will make full use of the information and ensure appropriate interpretation and synthesis. It also serves as a central repository of data for the Global Coral Reef Monitoring Network. ReefBase defines criteria for reef health and uses them to refine procedures for coral reef assessments and to determine coral reef status at the regional and global level. Finally, the last current goal of their mission is to determine the relationships among coral reef health, fishery production and the quality of life of people dependent on reefs.

Coral reefs are one of the most diverse ecosystems in the world. They provide a perfect habitat for many different species, one of that being fish an important source of food for people all over the planet. A great part of the coral reef resources in the world are in danger of destruction due to over-exploitation, degradation of habitat, and possibly, changes in global climate. Globally the loss in income from fisheries is estimated to be billions of dollars each year and affects billions of people worldwide.

The gifts and abilities that coral reefs present to mankind are not always in the form of a vital source of food or employment. They also hold one of the keys in yielding medicines, and herbicides of the future.

Corals themselves possess a yet untold value as biochemical material for pharmaceuticals, that researchers believe may hold many valuable properties in the treatment of AIDS, cancer and other diseases.

Although the condition of coral reefs all around the world are vital to us in many ways. I will focus on the current situation in Southeast Asia. Southeast Asia's coral reefs have the highest degree of biodiversity of all the world's coral reefs. This exceptional diversity generates high productivity, providing food for millions of people within the region and beyond; Scientists are just beginning to understand the potential diversity of the coral reef. It is estimated that only 10 percent of marine species associated with coral reefs have been identified and described. The diversity of coral reefs is not limited to corals.

Over 1,650 fish species have been recorded in eastern Indonesia alone, the majority of which are associated with coral reefs. Coral reefs also play a very detrimental role in preserving and protecting our coasts from erosion.

It's a difficult task, but yet so simple to see what needs to be done and there is so much that needs to be accomplished. Education is perhaps the key to the dilemma of nourishing starving people. By educating people in the improvement and importance of our environment and teaching them the skills to grow and produce crops, to care for livestock, we are helping them recognize the abilities they have to sustaining a better life.

We all have something the ties us all together and that is we are all humans with the same basic needs and wants. What spreads us apart is where we rank our own needs and wants. Everyone one of us only lives one life here on earth and we all have the ability the make the lives of others better. Every person wants one thing when it comes down to it and that is happiness. When we are happy we are content, when we are content we are peaceful, but when people are angry and restless we have conflicts. By giving one more person the tools they need to find contentment we are promoting peace. When we work towards feeding the world we are not only physically nourishing their bodies, but also giving them happiness. My point is that feeding the world won't just fill the stomachs of the starving, but could give them peace and contentment and could possibly bring more peace into this world.

As I could see while I was interning at ICLARM was that sometimes politics might be your biggest foe. Sometimes a project may be going great, but the funding could be cut short and the research would need to be wrapped up. Basically everything revolves around money. Projects need to be funded; new equipment needs to be bought. It's a lot of hard work just to keep the finances in order. It was frustrating to hear how because funding was cut short that research had to end and that knowledge wasn't being obtained.

There are times when it's not just the funding issues that are frustrating. It is also frustrating when the government doesn't enforce its laws and the people are free to pollute and slowly degrade the environment. When I was in Malaysia I saw a lot of pollution that I wasn't used to and it got me angry, but it also made me ask the question, why? It also made me wonder where the motivation to pollute or the lack of not was coming from? I asked this question to some of my coworkers and they said that they do have some laws pertaining to recycling and littering, but they are not enforced. They told how the government is corrupt. For example, if you were to get picked up for speeding you could easily bribe the police officer and not get any penalty. That made me wonder about overall attitude of the government. It made me see that the government has a huge hand on promoting the well being of its people. If the government is just concerned with themselves then the people will like wise follow and live with the thought of every man for himself. That selfish concept is not healthy for anyone to live by, but is necessary in order to survive for some people.

Trying to work with and convince the government all the way from the top of the pecking order to the bottom could definitely predict the success of the outcome of your project. A cooperative government and its officials could really make things more efficient.

When I went to Kuala Lumpur it was hard to think that just a couple of hours either north, south, east or west that the people there lived without air-conditioning in small houses and rode bikes or drove these little cheap cars, while wearing the traditional Muslim attire. Going from Kuala Lumpur to these little villages

was almost like travel back in time. Kuala Lumpur seemed so technologically advanced and most of the people seemed to have more money and nicer cars, but not far from there it seemed so different In the U.S. we really don't have that contrast yes we do have our different social classes, but in most cases not to that extreme.

When I attended the ReefBase field trip to Redang Island I saw again people living very different from what I had ever seen, but these people all had food. Many had goats or cattle grazing by the road and I was told that there are not very many hungry people in

Malaysia. In other Southeastern Asian countries the story changes. In the countries of Laos, Vietnam, Cambodia, etc, there are many hungry people, so not everyone in the region is so lucky and who knows when the resources run out for the Malaysians and they are in the same boat. Basically just because it's there now, doesn't mean it'll be there forever and since most of the people don't see the food or the condition of the seas as a threat, there are no worries and people are continuing to live in their destructive manners, but when the problem does present itself then it will be too late for a quick fix and require a lot of all around effort, time and money.

On the field trip to Redang we were all educated in the field of coral reefs. It was also a good bonding experience for all of us and was very enjoyable. We did snorkeling at two different sites. One site was a very populated tourist area; there were virtually no restrictions on anything for anyone. The quality of these corals was obviously very poor. There was litter on the ocean floor and heavy sediment in the water, blocking the sun from the corals; corals being photosynthetic not having the right amount of sunlight can cause them to die. There were people that were stepping and breaking off pieces of the coral reefs and there were hardly any fish in the area. I was really disappointed in everything that I saw at this site. It got me mad because humans and it all could have been prevented caused all the damage. At the other site there were many restrictions. It was known as a MPA or a marine protected area. A crew kept the beaches relatively clean and there were signs and what not warning tourists to dispose of litter in trash cans and what-not: There-were also certain times that no one is allowed in the water, so that you could not disturb the fishes. We made two trips to this spot; one was when a lot of tourists were in the water with us. At that point there was some fish in the water and it was a huge improvement over the previous site. We went another time later that afternoon after the tourist had left and it was amazing. All the fish had come back in and there were tons of them. It wasn't a coincidence that there were more fish now than before. When I spoke to the manager there of this he said that the fishes never get really used to large groups of people and that when the people leave the fish start to come back out. I couldn't describe to you how amazing it was to see the fish and to see them in a healthy environment. The fish thrive off of the coral reefs and I was able to see the whole ecosystem work and flourish. The different fish, corals, sea cucumbers and even the things I couldn't see, but were there. It was an amazing network of everything working in harmony together It made me wonder about how maybe some of us need to follow the lead of nature and do the same. If we were successful, the things we could accomplish would be endless.

During my last day at ICLARM I had a talk with Director General, Meryl Williams. She told me that one of the most important things I could take back with me and share with everyone else would be to explain and make others aware of how important the health of our oceans are. The oceans are very vast covering far more of an area than land and have a wealth of food and provide jobs to people everywhere. It is important that we respect nature and not take what we were given for granted, because as the world grows it becomes a greater responsibility to make sure we know where everything stands in relationship to how we could improve it and make not only our own, but the lives of others more fulfilling. The sea life in the seas has a lot to offer we just have to harvest it wisely and educate others and ourselves in preserving it for the future.

We have all these very evident barriers we have to cross while striving to feed the entire world in the 21st century. They range from the governments (local and national), social dilemmas, funding, amount of help or workers who are willing to dedicate their lives in some way to help, environment and nature. The rewards though after seeing the satisfied expression on the face of a hungry person and even the look of

fulfillment of knowing that you made another persons life better some way, somehow is one of the best gifts that life has to offer. That is why many of the people at ICLARM do their jobs, because they know that the work they are putting in will help in the future and can make a difference.

It was hard to come back home and hear and see people taking the comforts they have for granted and ignorantly ignoring the cries that are coming from all corners of this planet that needs help. It was hard to hear this, but at the same time I can't say too much because that was I just a year ago. It's very rare that we are ever put in a place where we don't have many of our comforts. I was put in that place for awhile and though I don't suggest it for a long period of time, due to some health conditions that could arise, it definitely will make you extremely aware and thankful for all those little things you do have on a regular basis and the time experiencing that in itself is irreplaceable. I know that I will never forget that feeling and it was a good thing that I felt that, because it makes me understand others better. The thing that turned my thought process around was the education and the experience that I was given. The World Food Prize Youth Institute last fall and the internship last summer in Malaysia. The education that we receive and the experiences we gain from it can be used to have a profound impact on others. I had many great teachers at ICLARM, Marco and Dilla in particular, who shared with me their knowledge and helped my perspective grow.

Coral reefs are unfortunately suffering from many different degrees and types of threats.

The coral reefs in Southeast Asia are the most threatened in the world. Like all reefs, they suffer from storms and other natural phenomena, which can have the ability to cause coral bleaching. However, the growing populations in the region are putting coral reefs in a situation of unprecedented pressure. The five major threats are coastal development, marine-based pollution, sedimentation, ovefishing and destructive fishing.

Coral reef ecosystems provide a generous supplement of crucial goods and services to hundreds and millions of people, mostly in developing countries. Within Southeast Asia in particular, the potential economical value of coral reefs is substantial, as is the potential economic loss if these resources are degraded.

There are many people and organizations that are researching and providing data, but this data has no place to go for everyone, that makes it easy for the rest of the world and scientific community can find all in one place. This is where ReefBase comes in and the work that I did. ReefBase is far more than a traditional database. It is a set of research initiative designed to facilitate the evaluation and management of coral reefs. It has been a effective means of data archeology, archiving, repatriating, standardizing and distributing that facilitates a wide range of coral reef investigation, including meta-analysis across sets of coral reefs, scientists, managers and users around the world that returns information in value-added form. This physical entity then serves as a rallying point for enhanced, targeted efforts in the conversation and management of coral reefs.

I had a couple of different jobs while I was a part of the ReefBase staff. I was first assigned to helping them build a small archive of images of coral reefs and/or images related to coral reefs related to coral reefs. This will primarily be used in developing a macromedia flash presentation for their website to make it more attractive to its users and hopefully will be able to portray a quick story of the importance's and threats to coral reefs. Some of these photos may also be added to their photo gallery. The second job I had was finding pdf documents to be added to their literature database- There are many reports and documents circulating the web that ReefBase doesn't have listed and downloaded that can be available to its users. This makes it much easier for the user and saves time. That way they only have to go to one site for their information and don't have to waste time searching the web. Basically spend less time searching and more time researching in return it should make their jobs more efficient. So basically I was doing the searching for them. It's very important that the world has this kind of information at their fingertips, many people really have little idea of the current threats, concerns, needs and research findings pertaining to coral reefs. Providing the world with this type of information is part of a working chain of people that are harmoniously trying to improve the health and well being of reefs. So that the coral reefs on return can efficiently provide mankind with the essentials of goods and other services that they can aptly contribute to our well being. Demonstrating this by providing fishes to feed hungry mouths, supplying jobs, providing new ground breaking discoveries in the medical field, protecting our coasts, and supplying money through many different ways, one of them being tourism.

Sometimes we don't always see the value of what we do not know or are not educated on. So we don't give it any value. We know that coral reefs are a very diverse ecosystem, providing a perfect habitat for many fish and other species. Coral reefs also provide money through a variety of different assets and protect the environment around it. On the other hand we also recognize the estimation that we know as little as 10 percent of the marine species associated with coral reefs. Which means that any value we place on coral reefs is by all means an understatement. We have yet to even understand all the possibilities that their futures will hold for ours. Of course we can only find their genuine merit if we are willing to strive toward the improvement of their current environments and preserve those that remain in sound constitution so we are able to further continue researching them.

In order to follow through on this we have to understand the concept that many of the people, but not limited to, the ones that are destroying or degrading the coral reefs are also the ones that desperately need the money and food. In these cases we need to provide these people and their families with another alternative. One idea that is being implemented is aquaculture farming and fisheries.

I have learned and have seen first hand how it takes more than just people to fund the projects, it takes more than field researchers to conduct their studies and it takes more than educators and organization to inform in order to complete and conduct sound scientific experiments. For a task as laborious as attempting to provide food for all no department or jobs within can be overlooked. It's like a chain reaction everyone has a important role that the others rely on, without them providing the outcome of their tasks others are set back, and eventually the goal will not be met or if it is, it may already be to late. I always thought that the people having the most-impact were those that worked out in the field, collecting data or working in a lab. That they provided the most valuable resources and had the most dramatic effect on subjects dealing with world hunger, and food security, but after interning here I can see the ignorance of my narrow scope of view. I found the scientific community doesn't just revolve around a few individuals. It functions and revolves around everyone who works there.

I feel I have helped make a good contribution to ReefBase and to the rest of those that use or benefit from information they distribute on their website. I feel that what I have done has not directly placed the food into a starving child's mouth, but instead helped present information to someone that is in the position to do just that.

While I was interning at ICLARM I was among some very diverse and interesting people. My mentor and leader of ReefBase, Marco Noordeloos, were from Amsterdam. Marco had a degree in Marine Biology and had worked all around the world. The leader of CMRRP was Johann Bell, he was from Australia. Out of all the people I worked with I learned a lot from Marco, but also Dilla. Dilla was Malaysian. She had just started working with ReefBase a few weeks before I came. Dilla held the position as secretary. Marco taught me about coral reefs and other marine related topics. He also told me about growing up in Amsterdam and various other interesting life experiences. I have to say that the stories he told me had a big impact on how I view the world. Ever since I came back from Malaysia all I want to do is travel and see the rest of the world. Marco basically told me that wherever you go, you will learn something about the place your in, but also yourself. The more you see and experience the more aware you are. Dilla on the other hand had spent all her life in Malaysia. It was interesting talking with her, because Dilla was Muslim and I was Christian. Even though we had different backgrounds and different beliefs we both got along great and there was never any tension between us.

Ever since September 11, I think that everyone was a little weary of Muslims and people of Middle Eastern decent. When I showed my classmates the pictures of Dilla and the other people I worked with they were skeptical. Usually they were like; "Wow you met Muslims? Were they nice? Didn't you ever feel scared?" All of that showed me that we shouldn't stereotype people we don't know and that when we do stereotype we are forcing ourselves to live in a smaller world.

It's very clear that the majority of the people in Southeast Asia live differently from us. Some are more fortunate than others are, but the people there and basically people everywhere have some resource that they can use for their benefit. Through my talks with Marco, Dilla and others I became aware of the threats our future will be facing with world hunger, and especially the health of our oceans. The ocean is a huge resource for the people of Southeast Asia, for food, jobs, etc, but its condition is not in very good shape.

Which means that the production of what they reap from what the sea has to offer is declining and so are there chances for building a stronger and more stable economy for its people. Cleaner and well balanced oceans means more fish and healthier corals, which in turn will have more to offer to the people in the region and in the world. So when we focus on hunger, it is also important that we focus on the environment.

Alright, so now we know in order to feed the world we have to have a balanced ecosystem, but it takes time to build what we have broken down over the centuries and we really don't have the luxury of time, so how do we try to feed the world, rebuild the environment and keep the majority of the people happy and peaceful? Well obviously if we had a good answer to that question I wouldn't be writing this paper, but we don't and I think it will take a variety of ideas and people combined to make it work.

To take stress off the oceans from overfishing, pollution, etc, there is a practice being implemented. Its called aquaculture. Aquaculture is done by a variety of ways; one of them is that they raise the fish in ponds. This gives people jobs and also supplies food, but as my Malaysian cab drivers and others that I talked to about the quality of aquaculture said, "It just doesn't taste as good as fish brought in from the sea." But for someone that hasn't had a decent meal in a few weeks, I'm sure that pond-raised fish would taste just fine. The two-month summer intern ship here changed me in a couple of very different ways. I first learned a great deal about coral reefs. I also grew to appreciate the corals, that may sound weird, but without knowing how much of a impact a ecosystem such as they have on the world, you really can not truly appreciate them for what they are capable of providing us.

On a personal level I simply-can not express everything that I felt and learned about myself as a person. I have learned to be really grateful, more than just in thought. I mean sincerely grateful for everything that I have back home and at the apartment I stayed at in

Malaysia. Such as warm water on a regular basis, clean water to drink, convenience of safe food, convenience and quality of the internet and other telecommunications, etc. When you don't have these luxuries for even a 24-hour period you begin to really appreciate what you did have. There were a few times when traveling while sightseeing on the weekends, where we didn't have a traditional toilet or warm shower, or no shower at all. That would only last at most for two days and them we would be back at the apartment and would be able to wash up. It was comforting to know that we had that to look forward to when we got back. When I first got there I really didn't notice too much of difference. Then as I went about my daily routine I started to become very thankful for my comforts I had at home. This made me analyze the different levels of how the comforts we are used to become evident in your life, as you have to adjust to not having them as you would otherwise. I think that leaning to appreciate those simple commodities is a valuable lesson to learn that you can refer back to your entire life.

On a different level, I began to see things a little differently: I realized how important religion is in my life and how much I had to rely on God to sustain me and help me make sense of some of the depressing scenes that you take in while visiting a developing country.

It was hard to see riverbanks and coasts completely covered in trash and other rubbish. It was difficult to understand when I would witness people throwing or leaving a little mountain of rubbish behind wherever they had been sitting. I have always been an environmentally conscience person. So seeing this initially had me very frustrated, but these people are also not as educated as other are and when the government doesn't lay down proper rules to govern this behavior or when the law enforcers don't exert laws then there will be no respect for the environment. This kind of pollution has a very negative impact on the ocean life in the area, because if the waste is not picked up it will eventually find itself floating down the sewage canals and into the sea. Once it is in the sea, enough of it will degrade the ocean habitat that is home to many living creatures, which in turn will eventually cause them to die. In time those effects will leave our own children

and grandchildren without the reliance of their natural resources and contribute to hunger and poverty worldwide.

My thoughts in themselves will not do a thing, but the action I choose to take will. This is important for me to remember in any situation. We can think and dream and criticize all we want, but it doesn't accomplish a thing and never will. We have to take the burden upon ourselves if we truly want to see a difference made. That theory applies to every job and every walk of life.

I remember the counselor telling me that it is very important to choose a career that matches your personality. I silently but naively disagreed. I was under the impression that anyone can do anything they choose but while interning I saw that the most productive people are the ones that enjoy and find meaning in their work. That was very important for me to see. That before I runoff makings quick decisions I have to think very carefully about where I belong in this world. The nice thing is that in most cases you have the freedom to change your mind and careers, but we also have limited time and it is important to seek out what it is you are truly passionate about and not base it all in what earthly rewards you will get out of if The more you care about what you are involved in the more of an asset you will prove to be.

During my stay I was asked the question of my plans after high school quite often, but by the end of my stay my former answers and thoughts really didn't make much sense. I am not sure where I exactly belong, but I do know that a lot of people in this world need help, whether it be through the medical profession, social and scientific research, environmental issues, agriculture, etc. Reality finally struck and I conceived that anyone really could contribute to making this fallen world we live in better. You have to discover where you fit in and follow your abilities. With God guiding me I believe I will find that spot and hopefully be able to contribute my efforts in a worthy and ethical manner.

The need is there and so are the people designed to fulfill those needs. Before, that was all just a common thought for me, now it is a feeling with meaning that I know will guide me in many future decisions. Something as simple as that took two months and halfway around the world for me to realize, but it is possible to accomplish and feed the poor and starving and it is possible to reverse the degradation of our coral reefs, oceans and environment in general. It takes the right people in the right position working towards the goal of making everyone healthier and more educated and doing all this by concentrating on improving our environment and the ethics of the laws we currently have

The two-month summer internship here changed me in a couple of very different ways I first learned a great deal about coral reefs. When I first started the only thing I knew about them was they were animals that lived in the ocean and there were many different kinds. Through my work I learned how delicate they can be, the fishes that thrive off of them the diseases that can kill them and all the ways that they can help the economy. I also grew to appreciate the corals, that may sound strange, but without knowing how much of an impact a ecosystem such as they have on the world, you really cannot appreciate them for what they are capable of providing us.

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