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Land of the flooded forest

About 200 million years ago the joined mass of land that existed on Earth began to separate. Over time South America shifted west and it collided with another plate. This overlapping and crunching of the land masses created what is now known as the Andes Mountains. The river, which originally emptied into the Pacific, was blocked during this process. It became a mega lake, covering a large portion of the continent. Eventually, it forced through to the Atlantic Ocean, changing directions of flow. Now known as the Amazon, this river is the largest on the planet and hosts an extreme diversity of life. For a little less than half of the year, the floods of Amazon river recede. For the rest of the year there are torrents of rain, flooding the river banks where the water may reach thirty miles inland. Transforming the forests into marine habitats, fish swim among the treetops.

Since college Michael Goulding, a researcher of the Amazon, has spent countless days with the Caboclos, the people who live atop these flood waters. His topic of research is in the single functional ecosystem created by a rare efficient relationship between the “drought” and floods. A large component is the relationship between marine life and the remaining canopy animals. The Caboclos, who are expert hunters, fishers, and gatherers, are known as “brothers of the water.” Without the peoples’ expertise, Michael Goulding would have accomplished far less research. According to Goulding, the Caboclos provide selfless hospitality and time in order to help him navigate and understand the complexities of the basin. Although the Caboclos learn from Goulding, he knows them as true scientists, considering their understandings of the Amazon from pure experience.

Goulding, studying the place with the richest diversity, encounters many rare and interesting species. Ranging from the largest rodent to the smallest monkey, many are found nowhere else on Earth. Some monkeys are nomadic, while others, like howlers, use their loud barks to keep others away from their slow lifestyle. The Amazon is the richest bird region in the world, housing more than 900 species. More than half of those are found only in the Amazon, including hoatzins. Only living in flooded forests, these leaf eaters have a genetic relation to other birds that still remain a mystery. Their chicks have claws, unlike other birds, allowing them to gain stability while learning to fly. The sloth, another unusual water dweller, can barely walk;

however, the water sets them free to roam tirelessly. Being slow moving and slow metabolizing animals, they have little muscle, making them very weak. Swimming among the tree tops is the only reason they are a widespread species.

Even trees in the Amazon remain widespread through the transportation of their seeds via water and fish. Most trees bear fruit during the floods solely for this purpose. Tambaqui, a popular type of fish, have teeth and jaws evolved for the consumption of the forest fruits and seeds. Storing the healthy fats, the fish defecate the tree seeds throughout the forest floor, aiding in the specie's succession. A large portion of the forest fish function this way, storing energy for the dry months. Many species of the Amazon are primary fruit feeders, feeding during the flooded six months when the trees are seeding, in order to sustain life for the rest of the year.

The Caboclos, also living as part of this interesting ecosystem, have to accommodate to the water. They constantly have to change the levels of their homes in an attempt to keep water out. They live without electricity, which means no refrigeration. They catch and gather food almost every day in order to eat. They have learned an array of uncanny skills including the use of harpoons, bows and arrows, nets, and just fishing lines. Catching a fish like tambaqui, which could weigh thirty pounds, could feed a whole family for a few days. If there is extra catch, they will trek to the city to sell at markets. During the dry season, many supplement their diets by growing things like bananas and rice.

The Amazon is a provider, sustaining life for humans and countless other animals and plants. Unfortunately, I think that there are too many people who see value in the rainforest beyond its ecosystem services. They believe that it is a resource to be used, ruining it with dams, farms, and many other monetary opportunities. Because of this, many species are disappearing from the face of the earth, some even before their existence is even acknowledged. A huge consequential issue is the damage being caused that is far beyond current understanding. Many people do not even understand the basic consequences of depleting a forest, probably due to a lack of education. However, there is much more to it that can only be hypothesized in science. I do believe that none of the outcomes are pleasant, and mother nature has a way of maintaining itself. With the loss of a single species, the fragile ecosystem of the Amazon could collapse. This is because the forest's ecosystem is built on interdependent relationships between the life within. For example, without trees, there would be no fish since they use the seeds and

fruits of the trees to sustain energy for most of the year. In turn, there would be no humans, or any other animal who rely on this abundant resource.

Although the Caboclos take no more from the river than they need to survive, greed continues among business driven people. Loggers, gold miners, and commercial fisherman are all playing a part in the breakdown of this ecosystem. Attending a fish market, Goulding noticed that the fish are much smaller than he has known in the past. This could be a combination of minimized trees, mercury toxicity from gold mining, and commercial fishing all smothering the population. Even the pirarucú, a fish who's only predator is man, are being sold much smaller. Before, it was not uncommon to find a nine foot pirarucú. Until now, time has been on the Amazon's side. Every species has had much uninterrupted time to find its perfect niche, contributing to the forest. The web that has been created is complex and is unlike anywhere else on Earth. In consequence of its disruptions, all of its beautiful life and its necessary functions could be lost.