HOW MEGA-DEVELOPMENT IS KILLING THE NATURE AND CULTURE OF URUGUAY

by

CAROLINA REID

A THESIS

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This thesis explores how the natural wildlife and complex culture along the coast of Uruguay have been and continue to be negatively impacted by the domestic and international plans for economic growth through mega-development. It is the featurestyle written component to a story and concept that is better argued and presented through multiple mediums, hence the initial multimedia website. I encourage readers to first thoroughly explore the stories presented in the website because the idea that I am defending in this thesis that argues qualitative observations and personal stories are more valuable than quantitative data may be easier to understand after a comprehensive look at the website.

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The creators of this template (CHC Librarian Miriam Rigby & CHC Academic & Thesis Coordinator Miriam Jordan) would like to thank Reed College for providing their Thesis Template for the inspiration of many elements of this template.

List of Accompanying Materials

- 1. This written thesis is an extension of the multimedia website www.routeofthewhale.org. This website represents a major portion of the work towards the completion of my senior thesis research. The content of this website was produced by Kelsey Bradshaw, Christina Belasco, Michael Buisan, Brandy Dominguez, Casey Minter, Carolina Reid, Julia Reihs, and Meredith St. Clair. The website was designed by Jake Braught. All of these people were students in the School of Journalism and Communication at the University of Oregon during the 2013-2014 school year.
- 2. On May 3, 2014, this website won the Northwest regional award at the Society of Professional Journalist's Excellence in Journalism for best online in-depth reporting. The announcement of this award can be found at http://www.spj.org/news.asp?REF=1244#1244. It will now be entered in the national competition.

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Introduction

His cell phone rings and Rodrigo García Píngaro knows something is not right. He gets a report that there is a beached whale, an orca, on the beach near his house in La Pedrera, a tiny town on the coast of Uruguay. Píngaro has dedicated his life to preserving these mammoth creatures. The thought of a lost soul makes his heart sink. He rushes to the site in his truck to greet a group of like-minded biologists who mourn over the sad sight. But what happened? It's not uncommon to find a cetacean—the group of animals that includes whales and dolphins—washed ashore, having died from old age. But the group suspects something other than age contributed to the death of this particular younger mammal. The blade of a boat or overpowering vibrations from seismic exploration? Pollution? Climate change? Whatever might have contributed to this whale's death is what this group is working to combat every day.

Chapter 1: Uruguay, a paradise to some

Tucked between the pulsing tango of Buenos Aires and the expansive beaches of Brazil, lies the country of Uruguay. It is often mistaken for the landlocked Paraguay or sometimes confused for a country in Europe. But Uruguay, comparable in size to California but with one-tenth the population, has a complex history, diverse nature, and a specific culture that locals and tourists relish in equally.

In 2005, Uruguay was ranked third on the Environmental Sustainability Index, a measurement based on 21 indicator sets from 76 sets of data that cross-compares the progress of several countries towards environmental sustainability. It placed higher than 143 other countries in the world that were ranked using the same methodology. In 2013, *The Economist* named it the "Country of the Year" for being "modest yet bold, liberal and fun-loving." The government is progressive and the country has been highly regarded for its impeccable landscapes and wildlife by historians and environmentalists, including Charles Darwin. In his book *The Voyage of the Beagle*, Darwin wrote that during his ten weeks spent in the southern region of Maldonado, "a nearly perfect collection of the animals, birds, and reptiles, was procured." He noted over 80 species of birds including partridges, cuckoos and buzzards, dozens of reptiles including nine different snakes and the odd capybara, a water-dwelling, guinea pig-like rodent—the largest in existence. He travelled through several of the 12 departments (regions similar to counties) of the country and documented natural diversity in each of them.

Today, the economy booms throughout the summer as tourists and inland locals flock to the sunny beaches. The land is rich in minerals and oil that bring income to the

entire country. With seemingly relaxed politics, an Eden-esque array of animals and landscapes and a completely accessible location, Uruguay is, in a sense, a paradise.

Yet, the negative side effects of these utopian characteristics are overlooked. Coastal towns see no one in the winter, making it difficult for seaside-dwellers to make money when they have little to no business. The damaging impacts on flora and fauna from the influx of tourism and the desire for national growth are ignored in place of the greed for money. And the southern right whale, a 45-foot-long mammal that migrates up the coast of South America, along with many other marine animals, is in jeopardy.

When I started hearing more about Uruguay, I questioned how a country that had received such raving reviews for several hundred years for its natural attributes and sustainably-minded population could be moving forward with plans to implement giant development projects. While the government was making plans to legalize marijuana, create a more welcoming environment for the homosexual community and declare the coastal oceanic waters a whale sanctuary, they were also developing small coastal fishing towns into giant resort getaways, granting artisanal fishing rights to ginormous, greedy international boats and moving forward with ancient, failed plans to excavate limited non-renewable resources from the untouched soil. These contradictions were too stark to ignore. So, last August, I embarked on a journey with seven other journalists. We were a group of students in the School of Journalism and Communication at the University of Oregon, with an interest in multimedia, a newer form of journalism that combined several approaches and mediums in order to tell a story. Our goal was to find out how all these things could possibly be happening at the same time.

Not many people had written about this country before from a modern standpoint. Even though the media in Uruguay have easy access to politics and government, it didn't seem like they were telling every side of the story. The companies who would financially benefit from developments were the ones releasing any reports about the plans for development. Politicians were indecisive when making statements about how they felt. And it seemed that the organizations that would be impacted by these developments were being ignored or silenced. Not everything added up right. The entire story had not yet been told.

When we embarked on this investigative journey, we were practicing enterprise journalism: a field where discovery, more so than background research, would give us the answers to our questions.

To make sure we would be exposed to as much of the country and its culture as possible, we teamed up with Rodrigo García Píngaro, the founder of the Organization for the Conservation of Cetaceans and the man who had been working to save whales for most of his life. His organization focuses on sustainable and responsible tourism and outdoor pursuits in order to save the nature of Uruguay and the lives of marine mammals, specifically the southern right whale that migrates along the coast every year. Most recently, Píngaro and his team finished conceptualizing, planning and building the Route of the Whale. Before arrival, we thought this route of land-based whale-watching towers and local and sustainable hotels and restaurants was just an easy way to make the journey of these magnificent creatures more accessible to all. We had no idea it was a symbol of hope for the preservation of the nature and culture of this country.

We worked closely with Píngaro for most of the time we were in Uruguay, which made for easier access to certain contacts and subjects that would help us to better understand the story. That being said, it meant we were making connections mainly with people that held consistent views with Píngaro. While we did meet with representatives from major development companies, these people approached our interactions from a public relations standpoint, seemingly covering up certain truths. We did the best we could in this setting to determine what the true story was from the perspectives of the most critical players.

We followed the Route of the Whale, from the southernmost coastal city of Piriápolis to the northernmost town of Punta del Diablo, with a week of preparation and a week of post-production in the capital city of Montevideo. We spent time in eight coastal cities, interviewing local fisherman, restaurant-owners, hotel clerks, politicians, surfers and tourists to understand what was happening in their country.



Figure 1: Interview with Robert Acosta

Carolina Reid, Kelsey Bradshaw and Michael Buisan conduct an on-site interview in Punta del Diablo with Robert Acosta as he sips mate and worries about the future of his artisanal fishing school.

We heard stories of swimming with dolphins, surfing over whales, fishing for snappers, sleeping on the sand and relaxing in the ocean's breeze. It became obvious that the true heart of this country was in the ocean; people lived for the sea. And mega-development was destroying the prospect of keeping life this way.

Chapter 2: Organization for the Conservation of Cetaceans

When he was a boy, Rodrigo García Píngaro would go fishing off the coast of La Pedrera with his father. One day, he set down his rod to approach a creature he saw several hundred feet down the shore. He was nine years old and had noticed the animal because of a sharp, high-pitched sound it was making. It was stuck on the sand in the shallowest part of the waves and in distress. Píngaro wanted to help it by taking it home as his own pet, not understanding this would be deadly to the animal. As he got closer, his father told him it was not a fish, but a dolphin that they had to help back into the water quickly. More than 30 years later, Píngaro remembers the image of the dorsal fin of the young dolphin breaking the water alongside its mother as they danced near the shore after being reunited.

"That memory started a great attraction in me — I felt that I developed a passion for the sea," says Píngaro.



Figure 2: Rodrigo García Píngaro Píngaro has dedicated his life to the conservation and preservation of the coast of Uruguay and the nature and culture that is found there.

Píngaro continued living on the coast of Uruguay while he studied biology and developed a specific love for and knowledge about the southern right whale. In 2000, he joined with a group of friends to found the Organization for the Conservation of Cetaceans (OCC). This group of preservation-minded individuals saw that this whale, along with other marine animals in Uruguay, was in danger. The species had been hunted for hundreds of years within miles of the coast of the country and population numbers had dropped significantly. The group started this organization to protect these creatures from domestic threats, such as over-development, over-fishing, and unsustainable tourism/whale watching as well as international threats, such as seismic exploration.

The biggest problem they saw was that locals, especially politicians, didn't know there were whales migrating along the coast of their country. To combat this ignorance, the group created education programs to implement in public schools as well as classes in sustainable tourism, ecology preservation and animal rescue to educate communities throughout Uruguay. In 2002, OCC proposed to the Ministry of Tourism a plan to build the Route of the Whale. This is a circuit of land-based towers, lighthouses and docks that begins in Piriápolis and continues along the coast, ending at the border of Brazil in Chuy. Along the route are hotels, restaurants, boat and fishing companies, outdoor activities and tour guides that implement sustainable practices for the tourism industry in order for everyone to see the whales.

The purpose of the Route of the Whale is to attract locals and tourists alike to the coast throughout the year, not just in the summer. Píngaro says the issue is that Uruguayans work hard throughout the entire year so they can have 10-20 days of vacation in the summer. This is a problem because every person goes on vacation around the same time, sometime between the months of January and March. They believe this is the only time that the coast has anything to offer to them and this leaves the coastal towns with very little business in the winter months.

"The big problem is the fact that the majority of the population that can afford to travel only think in this way," says Píngaro. "There is a big disconnect with nature and with culture in these areas because, really, they only know a small part of what these areas really are."

Beyond the sunny beaches with flawless white sand, the coast has much more to offer that is often overlooked. There are wetlands and lagoons that provide beautiful

bird watching; long, secluded trails for horseback rides; small villages with no electricity but plenty of warm, local smiles; and places like Monte de Ombúes, an ancient forest of twisted, cartoon-like trees, that transfer the cosmic energy of the earth beneath Uruguay to the travellers who take the time to appreciate them.

"Everything is connected," Píngaro says, "because while you're looking at whales, you'll find culture, landscapes, other species of animals, marine birds, flamingoes, diversity in animals, and people in *their* nature, in *their* environment, the people that really live in the communities."

He admits, however, that it is hard to convince people to understand how the whales can serve them when the mentality is that working hard year-round is the only way to get rewards. In many scenarios, it is hard to convince people that a resource that can only be measured qualitatively, such as the culture and true spirit of the coast, is more valuable than a resource that can so easily be measured in numbers, such as exports and, therefore, money.

Such is the case with the construction of the deep-sea port, iron mine and many other development projects along the coast of Uruguay.

Chapter 3: History

To understand the current government and political decisions made in Uruguay, it is important to understand its past. After independence from Spain in 1828, Uruguay faced years of military and political pressure from its neighbors. By 1851, after 12 years of civil war and unrest, Uruguay had signed treaties with Brazil and Argentina and a Triple Alliance was formed. Two political parties emerged as well at this time: the Colorado Party, which was associated with the city, labor unions and progressive movements, and the Blanco Party (termed the National Party in 1872), which was composed more of interior farming groups and conservative individuals. Although there were still residual conflicting sentiments from the civil war, this formation of a relatively democratic, two-sided government gave the country stability, hope and the groundwork to flourish at the beginning of the 20th century.

In 1903, José Batlle y Ordóñez was elected president of Uruguay. He had founded the newspaper *El Día* in 1886 and had worked to make the Colorado Party into a political organization that attracted folks from the whole nation, instead of only the more liberal, urban-dwelling Uruguayans. He had served on the Uruguayan Chamber of Deputies and the Senate for Montevideo. Although he was politically qualified to hold the presidential position, his election created tension between the two parties and led to a civil war between the two political parties in 1904. The Colorado Party won and his re-election in 1905 was a marking point in Uruguayan history. He served until 1907, and again from 1911 to 1915. He had an impact on national politics for the first two decades of the 1900s. He fought for labor rights and universal suffrage and was able to create a more democratic political system. He supported efforts to create a more

complete railroad system throughout the country and was recognized as a leader who considered the development and growth of the entire country, not just Montevideo. Statues of him can be found throughout the country and many major roads have been named after him. His leadership and impact is a point of national pride for Uruguay.

Although this country did experience a period of dictatorship from 1973 to 1985, the regime of Battle y Ordóñez helped to establish Uruguay as a just and safe country earlier than many other Latin American countries. Places like Argentina, Brazil, Bolivia and Nicaragua continued to struggle through periods of civil war, dictatorship, and revolution throughout the 1900s.

Furthermore, Uruguay has been ahead of other Latin American countries in terms of progressive politics. Divorce was legalized in 1902, long before Argentina (1954), Brazil (1977), and Chile (2004). Women gained the right to vote in 1917, also long before Argentina (1947), Brazil (1932) and Chile (1949). This politically liberal history has made the image of Uruguay one of the most progressive in Latin America. In June 2012, the country fully legalized state-controlled sales of marijuana. This legislation, along with the decision to decriminalize abortions and legalize gay marriage was passed under the presidency of José Mujica, who has served since 2010.

Mujica is famous internationally for his alternative living and governing. He gives 90% of his \$12,000-dollar monthly salary to organizations that support poor people and small entrepreneurs, forgoes living in a national palace for residing in his humble farmhouse, and drives his own Volkswagen Beetle. He is, in fact, considered the most generous and considerate president in the history of Uruguay and, debatably, the world. These progressive measures and sustainable practices have given

conservation-minded Uruguayans the hope that Mujica will support decisions that will help preserve the nature and culture of this country.

Like in any country, however, political actions and decisions that impact the entire country are made in the capitol city of Montevideo. This city sits at the mouth of the estuary where the Paraná and Uruguay Rivers meet the Atlantic Ocean. A walk along the boardwalk provides views of a murky, greenish mixture of salt and fresh water and the distant bright metropolis that is Buenos Aires. Locals sip a bitter looseleaf tea called mate and stay up-to-date with local politics. With a population of over 1.8 million, the capital accounts for more than half of the country's population. But this city is no reflection of the country as a whole. Restaurant owners believe every town along the coast is just like the mega-developed southern city of Punta del Este. High school students will shrug their shoulders at the thought of marine wildlife in jeopardy on their coast. Downtown taxi drivers love the influx of tourists in the summer and will tell you, "No, you must be mistaken—there is no whale migration on the coast of Uruguay, only along Brazil."

Chapter 4: The southern right whale

The taxi drivers who believe tourists are in the wrong country to watch a whale migration are very much mistaken themselves. Starting in August and lasting nearly two months, southern right whales migrate north, seeking warmer waters for mating, along the coast of Uruguay. They pass within a couple hundred meters of the coast, often in pairs or in small groups, making their movements and migration easily visible from points of elevation on shore.

This species of whale can weigh up to 60 tons and is the rarest of all large whale species. Their large, white, barnacle-like collections of healthy bacteria that speckle their bodies distinguish them from other species. Although whaling was a common sport in the 18th and 19th centuries, the southern right whale was legally protected from commercial whaling in 1935.



Figure 3: Southern right whale Each southern right whale can be recognized by the markings on its nose and back. They emerge infrequently but can act playfully around the right audience.

It would be misrepresentative to describe these creatures as majestic; their presence goes beyond that. A right whale's breach is slow and graceful from hundred of yards away but could sink a close ship if location and timing were off. Their existence is often revealed to onlookers by the playful splashing of circling sea lions, who nuzzle these mammals as they surface for air just a few times every hour. Their blowhole sprays in two directions, creating a V-shaped streamline of hot air and mist from the top of their massive bodies, and the feeling is ominous when they submerge back into the darkness of the ocean.

These whales, like all cetaceans, have the ability to use their fine-tuned sense of echolocation to tell when a female, be she human or of another species, is pregnant.

Cetaceans rely on this emission and consequent reception of reflected sound waves to

communicate with others and understand the environment around them. They are wise and seem to sense when they are being watched, making observers gasp with a simple, spirited appearance. They will often approach research vessels and small-scale tourist excursion boats, but this species rarely makes their presence known near large ships, which continue to be a threat to their existence.

Besides echolocation, other characteristics make them a perplexing species. The southern right whale shows site fidelity in migration patterns. Off the coast of Australia, 92% of migrating females of this species were seen frequenting the same locations multiple years in a row during migration season. In addition, calves stay with their mothers longer than expected. After spending four months in one area during nursing, calves stay close to their mothers for another nine months, another trait that adds to the distinctive character of these beings.

It is estimated that over 2,500 southern right whales migrate through the shores of Uruguay each year. While today's global population is estimated to be around 7,000, this is only a fraction of the population that once existed. At its peak, there were 60,000 whales. But for years, this species was killed for its blubber and oil. And despite the fact the global population has been increasing at an annual rate of 6.8% recently, the well-being of these animals is still in danger. It is important to understand the faltering presence of this mammal because its jeopardy is a good indication of where Uruguay's priorities currently lie.

Beyond the existence and migration of the southern right whale, there are several other natural and cultural phenomena that make this country unique. In the

northern department of Rocha lies Monte de Ombues, a forest of bushes with spongy wood and winding branches that emit an undeniably mystic and calming energy.



Figure 4: An ombu tree Ombu trees have a peculiar presence and can live for hundreds of years. They provide energy and sustenance to life around them.

The forest is divided by the Arroyo Valizas, a creek that connects the Castillos Lagoon with the Atlantic Ocean. The north side of the river is inhabited by Marcos Olivera. He is an affectionate, older, single man who slings a house cat over his shoulder and grew up playing dragons among the same trees that grow there today. The grass is thick, the trees tall and the energy pure. Olivera's family has owned this side for six generations.



Figure 5: Monte de Ombues
This forest of magical trees in divided by a swampy river; a federal park ranger protects
one side while the other side is privately owned by the Olivera family.

The south side of this forest has been maintained for 22 years by government-employed park ranger Juan Carlos. While he and Olivera are friendly neighbors, their respective sides of the forest have seen very different fates. Although the public soil is federally protected land, Juan Carlos refers to the land he lives on, as well as other similar areas, as "paper parks," protected only by a document stashed in the depths of a file cabinet. He's seen the existence of cattle deteriorate his land and the ombu trees aren't even half as lush as they are on the other side of the river. While he himself cares about the future of Uruguay and the preservation of this mystical forest, he believes the rapid pace of Uruguay's urbanization and development is going to bring more protected areas into danger and deplete the natural beauty of his country.

Culturally, the town of Cabo Polonio, located about 10 miles from the Monte de Ombues, is a wonder to any visitor. With a year-round population of less than 100 residents, this seaside escape receives no electricity. Some residents use solar energy to serve food or run basic appliances but other than the flapping of flags and the squeak of swinging chains in the wind, this town is still and quiet. The essence is in no way that of impoverishment or loneliness—merely that the locals are so content with the simplicity of life that any faster of a pace would be completely unacceptable.

With a clearer understanding of the developed history of this country and what natural and cultural elements are truly at stake, it is then also important to understand the background of the current proposals for mega-development, especially the legislation to build a deep-sea port and iron mine.

Chapter 5: A proposal is made

When Batlle y Ordóñez became president, his well-versed experience and the general stability of the country gave him the ability to strive for major development and growth. Specifically, national transportation was of major importance during his second term. In 1911, Batlle y Ordóñez was having great difficulty with a contract he had signed with Lord Grimthorpe, an English baron, nearly ten years earlier during his first presidency about a two-and-a-half mile road that was to be built in Montevideo. Originally, Batlle y Ordóñez had agreed to provide bonds totaling up to seven million pesos after significant construction had begun on this beachfront boardwalk that would supplement English investments. But the baron, who had initially made himself out to be a reliable capitalist who was interested in foreign investments and was stable enough financially to build such a road, had put off construction for many years. It was becoming more and more apparent that he would not be able to financially support the contracts he had signed with Batlle y Ordóñez. In November of that year, Grimthorpe's City of Montevideo Public Works Company, Ltd. declared bankruptcy and the project was terminated.

The failure of this project to build a boardwalk in Montevideo tainted Batlle y Ordóñez's perception of other national transportation projects. He was hesitant to support any major internationally proposed developments that might end up being a waste of time and energy. So, when the plan to build a deep-sea port near the Brazilian border resurfaced, it was pushed to the wayside.

This idea had been discussed before. During Batlle y Ordóñez's first term,

Brazil had seen an influx of imports and Uruguay itched for more growth. The proposal

had been presented to build a port in La Coronilla, a northern village near the border of Brazil. The port would see international trade and provide an outlet for imports and exports other than that of Montevideo. General Edward O'Brien, former American Minister to Uruguay who now served as a chairman to the new Swift Montevideo refrigerated packing plant, had reintroduced the idea in April 1911, before Grimthorpe's company had declared bankruptcy. The Senate had approved a bill to appropriate 350,000 pesos for engineering studies of the port but before work had begun, Batlle y Ordóñez halted any movement forward and the topic was tabled.

Furthermore, even though he believed in the growth of his country, globalization and the success of economic trade had not yet been popularized, let alone conceptualized; Batlle y Ordóñez thought it would be foolish for Uruguay to rely any more on the support of foreign investors and suppliers. He wanted to see growth but turned his focus to nationwide industrialization, instead of international investments, so that Uruguay could prosper as independently as possible. The idea to build a port for international trade was tabled for another 40 years.

The proposal resurfaces yet again

The proposal to build the port resurfaced again at the beginning of the 1950s.

The first half of the century had seen incredible growth and as time went on, ships had a harder time accessing the port of Montevideo. This area needed constant dredging as the mix of fresh water from the rivers and salt water from the ocean made for costly maintenance on ports. Building the port in La Coronilla would reduce the physical and economic stress on the port of Montevideo and alleviate the tension that was building between Uruguay and Argentina over the influx of traffic in their communal estuary.

However, during the 1950s and 1960s, the presidency of Uruguay changed hands over a dozen times. Many presidents served terms shorter than a year and there was no consistency in their political ideology. With these changes, there was no president around long enough to fully consider and evaluate the plans for a port. Furthermore, these quick political changes created a rocky period in the economy that could not financially support plans for major developments. The proposal was once again pushed aside.

Iron prices skyrocket

Those who cringed at the thought of a deep-sea port on the coast of Uruguay were relieved as time moved on and no progress was made. It wasn't the primary concern for a country whose economy hadn't made much growth since the 1950s and who was recovering from a period of dictatorship. But things changed after the Great Commodities Depression of the 1980s and 1990s.

The world had seen two decades of low prices for gas, minerals, foodstuffs, textiles and much more. Trade had been inexpensive but slow. However, in 2000, demand for such things rose. Emerging countries such as Brazil, Russia, India and China were looking for investments and trade opportunities and this created the Commodities Boom of the 2000s. Prices rose rapidly.

Most importantly to the future of Uruguay was the price of iron. As the BRIC countries began to develop and become interested in commodities like iron, its international price skyrocketed. Until 2005, the price of ore per dry metric ton stayed below US\$15.00. In February of that year, though, the price nearly doubled and by

April of 2010, the price of ore per dry metric ton was US\$172.47, over ten times what it had been five years earlier.

This quick international economic shift had countries around the world considering how they could use this to their advantage to make money. In 2008, a Swiss corporation called Zamin Ferrous presented to Uruguay an official proposal to build an iron mine, an underground pipeline and a deep-sea port on the country's coast. The company had invested 170 million dollars into the exploration of the land and had discovered what they believed to be a profitable amount of iron. They wanted to move forward with an idea very similar to the one that had been tossed around for nearly 100 years.

The concept was simple. In order to access the iron that is contained in Uruguay's soil, five open-pit iron mines would be constructed in the interior areas of the country, primarily in the areas surrounding Valentines and Cerro Chato. The mines would be in the departments of Florida, Durazno, Treinta y Tres and Cerro Largo. Construction of these mines would be done using explosives that create pits that are 200-800 meters deep and cover an area of over 100 hectors. To create mines this size, 218 tons of explosive would be used every two days throughout the duration of the project. The company would separate the iron from the rest of the elements in the soil using magnetic forces, instead of chemical extraction. The construction of the mines alone would cost roughly US\$2 billion. Then, in order to transport this mineral out of the mine, the company would build a pipeline underground that would span over 230 kilometers to the coast for exportation. The pipeline would house a track that would transport the iron from the mine to the coast. It would measure almost 2 meters across

and reach the coast just near Laguna Negra, Uruguay's largest freshwater lake. From the coast, the iron would be exported—primarily to China—from a deep-sea port that is also part of Zamin Ferrous's proposal. The port would span nearly 6 kilometers of shore in the northern region of Rocha and extend more two kilometers into the ocean. While much of the initial research was presented by 2010, Zamin Ferrous has still not yet completed the official evaluation of the impacts from this project that must be approved to continue forward with this proposal. The company continues releasing information in support of the development but nothing that confirms that the project complies with national and international legal stipulations.

Chapter 6: The effects of the proposal

The first part of the proposal that attracts the attention of many Uruguayans is the fact that it would create jobs for the area. Zamin Ferrous promises a project that will "employ 1,500 direct permanent workers and create 10,500 indirect jobs." This is appealing to locals. The northern part of the coast of Uruguay is the most affected by the yearly imbalance in the tourism industry. The beaches are rainy and barren throughout the winter and those who work in tourism and hospitality receive little business for nine months of the year. While their income is steady throughout the summer months, residents of Rocha struggle in the winter and must act conservatively with their consumption to make it through the year. The simple prospect of tens of thousands of potential jobs is reason enough for local Rocha residents to support Zamon Ferrous' efforts.

But these jobs are unlikely. While mineral extraction projects can sometimes create nearly ten times as many indirect jobs for every direct employee (such was the case in the Antamina mine in Peru), cumulative research on the averages of similar mineral extraction projects suggests that every direct job creates only 1.7 to 3.4 indirect jobs. This means that if Zamin Ferrous can promise 1,500 direct jobs, it would only be reasonable to estimate a maximum of 5,100 other jobs. In addition, the current unemployment rate in Rocha is already the lowest than in any other department in Uruguay. National unemployment sits just above 6%, while the region of Rocha only sees 4.2% of its population unemployed. It seems then that Zamin Ferrous' emphasis on job creation is an unnecessary detail based on an inflated statistic.

Alcides Perdomo, the mayor of La Paloma since 2010, has mixed feelings about the development in terms of jobs. He is a short man whose office is the space where OCC used to reside. A whale is painted on the side and he has lived in the area for his entire life.

"More jobs means more traffic that no one likes," he says. He believes that an increase in development would actually deter tourists from coming to the area at any point in the year and put more and more locals out of a job.

Moreover, even if the Zamin Ferrous project created over 10,000 jobs in the area, they wouldn't be the type of jobs that match the natural lifestyle of the community.



Figure 6: Fishing on the coast Artisanal fishing is a common livelihood for Uruguayans who live on the coast. However, their jobs will be in danger if the proposal for a deep-sea port is passed.

Robert Acosta is a fisherman in Punta del Diablo, a simple fishing village on the northernmost part of the coast. His style of fishing is referred to as "artisanal fishing," which means these fishermen are given certain rights by the government to supplement and endorse their practices. They use nets that are safer for other marine wildlife, restrict boat access to locally trained individuals and are only able to catch a certain amount of fish. Acosta owns *Pescadores de Rocha*, a small school that teaches local fisherman about these simple, sustainable fishing practices. His warehouse is small, just

100 feet from the crashing waves of the ocean and the odor of fish guts and salt water is sharp. The hands of his employees bear callouses and cuts but their laughs are deep and genuine. They have found a family amongst themselves and many have learned the traditions of this practice from several generations before them.

"Fishing is my way of life," Acosta says, "in an artisanal way."



Figure 7: Pescadores de Rocha Robert Acosta uses his small fishing boats six days a week throughout much of the year. He has been practicing artisanal fishing his entire life and will pass the tradition on to the rest of his family.

His four boats rest on the shore in front of the warehouse and stretch less than 30 feet long. Their red paint is chipping away but these same boats have held crews of three or four men for decades. Women cannot step foot on the boat because it is a sign of bad luck and no fisherman would dare mention a fish's resemblance to a snake because it would bring a bad catch for months. These superstitions seem negligible but for a

community that catches a modest amount of fish every day, it's worth taking every measure to get a good catch.

Despite the fact that Acosta leaves his house before 5 a.m. six days a week and often stays on the water for more than 10 hours, his heart is with the ocean. He will teach his children to fish and continue spreading the message through his small school.

The thought of a proposal such as this one devastates him. He has seen what previous development has done to other aspects of life around him. The Uruguayan government has pushed the rights of artisanal fishers to the side. They've granted artisanal rights to large ships as a way to lower taxes for exportation.

"There are boats, like in La Paloma, with artisanal rights that catch 10 tons of fish every day," he says. That is more fish than his four boats catch in a year.

He knows that if this port were to be built, his career would never survive. The port would make room for larger fishing boats to bring in tons of fish being sold for a fraction of the price and causing buyers to take their business elsewhere. So while the port and mine might provide industrial jobs to locals, it would take away the potential for a humble lifestyle for people like Acosta.

Beyond jobs for locals, the proposal for this pit also presented economic gains for Uruguay as a nation. Zamin Ferrous reports that the country of Uruguay holds 18 million tons of iron ore under its soil that would provide for 20 to 30 years of "exploitation, export and industrialization" at US\$500 million a year. While the initial installation of the project would cost over US\$2 billion, the profits alone would boost Uruguay's GDP by 1.5%. But these statistics too are misrepresented.

These statistics would be true if the matter extracted from the earth was 100% iron. But Uruguay is known for its rich, nutritious soil. The composition is diverse, containing a plethora of minerals that contribute to the easy growing of crops and food for livestock. Parts of Uruguayan soil that have the highest iron content are found to only contain 28% of the mineral, significantly below the international standard for extraction at 65%. This would create work for just 12 years, less than half of what Zamin Ferrous predicts. Essentially, this company is lying to the public to gain national support.

But the part of Uruguay that will see the biggest negative impacts from this development is something that cannot be quantified: the nature and culture.

Gonzalo Millicet was born in Montevideo and has lived in Punta del Este for more than 10 years. He works at a hotel and teaches classes in hospitality management, constantly trying to incorporate sustainable practices. But he sees that many students care little about these sustainable ideas. They are just interested in the industry to make enough money to support their family, not to show off the true identity of their country to visitors. He is 38 and remembers that as a child, Punta del Este had only four of five buildings.

"It's a shoe box now," he says, "and the tourism season has a huge impact on the city—it's all chaos." He's noticed that the bird population that he once observed on long hikes and excursions has dwindle to hardly nothing other than the squawking seagulls that are just looking for fish scraps from port fisherman. After what he's seen happen to the city he calls home, he is deeply opposed to the creation of an iron mine and deep sea port.

"Rocha is a reserved biosphere, protected by UNESCO, and yet the government is still going through with the project. They don't care." He shakes his head and knows it will change the entire population that live near the proposed location of the port.

Despite these realities, he continues his work with gusto and optimism. If he sees a whale, he photographs it to register the creature with OCC. The white markings on each animal make them distinguishable from one another.

"The whales are a sign of peace," he says. After being hunted and killed for years, their re-arrival is a miracle to Millicet and what he believes to be a symbol for the country. The lifestyle, economy and wildlife in this area are precious and a point of pride for many locals.

Chapter 7: Where the proposal (and Uruguay) stands today

Nevertheless, the proposal has made progress. Despite President Mujica's progressive lifestyle and previous recognition of sustainable and environmental efforts, he issued a decree on June 27, 2012 to restructure the laws around mega-mining projects. Uruguay had signed an agreement in Ramsar, Iran in 1971 agreeing to protect the wetlands of the country and plan rational and sustainable uses for the future. Mujica changed Uruguay's agreement to this measure so that non-renewable resources can be obtained through practically whatever means possible. This measure completely ignores international and G8 guidelines.

On July 3, 2012, Mujica met with Aratirí, the group within Zamin Ferrous taking charge of the project, and made a public announcement that they would be following international sustainable standards, despite his actions not one week earlier. Days later, the government began relocating individuals and families in the area where the port is to be built in order to "reactivate communications in production, tourism and the country's domestic development." Citizens living on 480 hectors of land have been cleared from the area and this will continue to happen until 2,500 hectors are cleared and made ready for construction.

But it would be hypocritical to critique a proposal for development from an environmentally sustainable point of view without proposing an alternative. That is why the work that Píngaro does is essential.

Chapter 8: What can be done instead

OCC had always fantasized that the waters along the coast of Uruguay would one day become a protected whale sanctuary. The members hadn't taken active measures, however, to make this dream become a reality until young students in classes taught by OCC started planning.

"'What can we do to save the whales?' Wow! 'We want to make a project for the law.' Wow! 'Let's go to parliament!'" Píngaro recalls the beginning of the movement distinctly. It was not only the work of OCC but also the motivation of the children to strive for higher standards to protect the whales.

In 2002, Píngaro and a group of over 20 children spoke with the local government in La Pedrera. They had written a formal proposal to make the coastal waters a protected whale sanctuary. The government received their proposal well and in 2013, Píngaro was able to present the proposal in Montevideo. The bill had been pushed aside year after year, because it was of low importance to the government and the political session would end before the issue was addressed. But after 11 years, the legislators finally addressed the proposal.

On September 3, Píngaro sat in the Uruguayan Parliament awaiting the long-delayed decision on the whale sanctuary. After several hours spent listening to other irrelevant measures, anxiously waiting for what he really cared about, Píngaro watched the vote take place. That evening, the coastal waters of Uruguay were declared a protected whale sanctuary by a unanimous vote of 62-0. Píngaro had won.

This law raises the bar for the measures that boats must take when entering and exiting the country. It adds additional steps in the process for any development to be done along the coast and makes the nature and culture in Uruguay more of a priority.



Figure 8: Uruguayan Parliament On September 3, 2013, OCC's proposal to make the waters of Uruguaya protected whale sanctuary was finally voted on in Uruguayan Parliament. The legislation was approved unanimously.

But his work is not over yet. As the government seems to continue to support the plans for mega-development, the sanctuary legislation looks more and more like a paper plan—one that, like Juan Carlos said, will just be protected by a document stashed in the depths of a file cabinet and not actually enforced. The approval of the whale sanctuary seems now to be more metaphorical than literal.

But, in theory, truly respecting the measures to make the waters a safer place for marine life and utilizing the Route of the Whale could fix many of the problems that arise in the proposal for mega-development.

While the Route of the Whale wouldn't contribute to the national GDP of Uruguay immediately, it would tackle the problems with the imbalance in the tourism industry throughout the year and the disconnection of Uruguayans from what is truly important about this country.

Inland Uruguayans would have a reason to travel to the coast throughout the year, not just in summer. They could spend the fall and winter months exploring Monte de Ombues and other parks along the coast. Spring would be an easy time to follow the route and watch the whale migration. Year-round activity would stimulate the local economies of each village and provide people with income during the typically barren months.

With an easy, affordable and accessible way to view these whales, Uruguayans would connect with this creature as a symbol of their national pride. They would feel inclined to learn about the recent tragic history the country has faced and join in the fight to preserve the valuable resource that is the nature and culture of this country. While these things cannot be quantified and are rather an observation of qualitative integrity, they are the heart and soul of this country and their destruction must be stopped.

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