FANTASY ISLAND
Karen M’Closkey
ACKNOWLEDGMENTS

Though only eight projects are included here, this studio benefited from the efforts and inspiring work of each and every student who took part in the studio. I am grateful to them and to all of those in Ecuador who shared their time with us on our studio trips. In particular, I would like to thank Michael Weinberg, who first invited us to work in the Galápagos; Ernesto Vaca, our intrepid guide; Fausto Rodriguez and Bonnie Arcos from Galápagos Best. This studio was supported by funding from a Penn Global Grant, a Penn Making a Difference Grant, and Penn’s Program in Environmental Humanities. Many thanks are also owed to the Dean’s Office at the Stuart Weitzman School of Design. Our adventurous travels would not be possible without this support. I would also like to thank Dorothy Jacobs, Toni Rinaldi, and Keith VanDerSys for collating and distilling the studio work into the drawings that precede the individual student projects.
Instead of asking what capitalism does to nature, we may begin to ask how nature works for capitalism.3

Islands hold a special place in the imagination, perhaps none more so than the Galápagos, archipelago in Ecuador, a place long considered a “natural laboratory” and “secular pilgrimage site” ever since it provided the locus for Charles Darwin to develop his theory of evolution by natural selection.4

The “Galápagos Paradox”

Eco tourism empowers capitalist mechanisms to address problems of capitalist development itself.5

As a means to minimize impact on the terrestrial ecosystems, tourism was initially water-based. Visitors stayed on “boat-hotels” where all food and amenities were supplied. The problem was that this did not benefit Galápagos residents who were not directly involved in tourism. This has changed in the last two decades or so—recent estimates put land-based tourist visits at 45% (55% remain water-based, which is much more expensive). And though tourism accounts for 65%-70% of the islands’ GDP, some estimate that the amount of tourist-generated revenues provide much of the funding to protect and maintain the national park. The cycle continues. There is no simple “fix” for the Galápagos. This has resulted in what is referred to as the “Galápagos Paradox.” The islands are promoted as a pristine place as the “Galápagos Paradox.” These are diversions ideological at play in how nature is valued, what nature is valued, and for whom.

In 1989, the Galápagos Islands were the first place in the world to be designated an ecolutionary destination.6 The archipelago was imagined as an example to the rest of the world—or at least to the western imagination—as a place where one could step back in time and experience the bounty of an untouched landscape. This proved to be very costly, and profitable. Between 1990-2005, the number of tourists rose from 40,000 to over 160,000 per year. In 2007, UNESCO declared the Galápagos Islands a World Heritage Site at Risk—the following year tourist numbers increased.

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In addition to lack of controls on tourism, several obstacles to preventing further habitat degradation and pollution have been cited: abandoned farmland, which has higher rates of invasive species; exploitation of resources for short-term profit; limited knowledge by residents—especially those who were not born there—about the uniqueness of the Galápagos; and decision-making that is rooted in a mind-set that has long seen science and conservation as politically neutral.

The Islands provide a concentrated place to consider the tension between biodiversity and economic models rooted in the cross-section between the global discourse of “ecotourism” and the local livelihoods that have been left out of conversations about prohibitions on island activities. By rooting the problems in the 3% unprotected area, a binary between nature and society—conservation and people—is reinforced; it is a line that ignores the permeability between these spheres. In this studio, students were asked to operate on these lines of demarcation in order to locate conceptual, material, and programmatic means of permeability.


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San Cristóbal is the easternmost island in the Galápagos archipelago, as well as one of the oldest geologically. It is administratively part of San Cristóbal Canton, Ecuador.

San Cristóbal Island is roughly 215 square miles with a peak elevation of 2,400 feet. It is the second most populous island in the archipelago, after Santa Cruz. Puerto Baquerizo Moreno, a town of at least 8,000 residents, is located at the south-western tip of San Cristóbal.
Due to the growth of tourism, rural residents gradually move to the towns. While the urban areas remain the same physical size, the urban population density has increased dramatically during the past 30 years.
Puerto Ayora - Puerto Baquerizo Moreno Comparison

**PUERTO AYORA - 2018**
Estimated Population: +/- 20,000

**PUERTO BAQUERIZO MORENO - 2018**
Estimated Population: +/- 8,000

Puerto Baquerizo Moreno - Current Development Trend

At current development patterns, 9000 new residents could fill the urban boundary as soon as 2030 (~6% growth rate/year). By 2050, the town could reach over 50,000 residents (~6%), or 160,000+ (~10%). Even if growth slows, the town will have at minimum 20,000 residents by 2050 (~3%/yr).
Ravines

Ravine Typology | San Cristobal

Section 1
Section 2
Section 3
Section 4
Section 5
Section 6
Section 7
Section 8

Development close to ravine
Ravine and road intersection

Ravines Threatened by Construction Upland
Puerto Baquerizo Moreno - Current Development Trend

Potential Development Strategies

Loss of vegetation upland leads to floods in town.

Facilities inadequate for growing population.

Development turning back to the ravine.

Lack of commercial activity and density upland building in low-lying areas.

14

15

Shift development to prioritize ravine access.

Continue mixed-use density along main road.

Utilize ravine as public space infrastructure.

Shared facilities + community hubs.
Establish the Ravine as Public Space and Create Local Access Points

Because roads have been constructed to run parallel to the ravines, residents tend to construct their homes along these main roads, facing away from the ravine. This blocks access to the ravines and causes them to be perceived as abandoned spaces rather than shared assets. Enforcing building setbacks and providing continual access to the ravines will help transform people’s perception of them as shared public space.

Protect Low-lying Areas and Vegetation

The majority of land that is likely to be developed outside of the town center is covered with vegetation, which acts as a filter that slows down the water flow from the highlands before it reaches the ravines in town. Completely stripping this area of its existing vegetation for new development would greatly exacerbate the flooding in town. However, this impact can be lessened by creating areas within the new developments that accommodate local flows and preserve the existing vegetation. These areas can become public spaces that form a larger network to connect different neighborhoods.
Create Shared Community Facilities

In order to accommodate the growing population, the island will need to create several new schools and other community facilities. Creating larger shared facilities would transform these places into community hubs that are designed to perform a number of different functions for residents.

Densify Corridor

Currently, the only area with relative density in Puerto Baquerizo Moreno is along the waterfront. In contrast, more recent developments are following a pattern of single-use residential buildings that are centered in the middle of a lot. Continuing mixed-use development further upland would create opportunities for other businesses. In addition, it is vital to strategically plan areas of denser development to help preserve land for public amenities and to respond to topography and water flow.
The Galápagos Islands are volcanic, sitting on a continually eastward moving tectonic plate called the Nazca—has been understood and managed, which is based on the construction of many oppositons and boundaries? In order to address this question, the studio began with assignments focused on several exploratory tracks that assisted students in the formation of their designs.

**FOCUS AREAS**

**San Cristóbal Island**

San Cristóbal Island—the famed site of Charles Darwin’s first landing spot—is the eastern most island in the Galápagos and the second most populous in the archipelago. It is the most fertile island in terms of arable land and Galapagos Islands is one with a fresh water source. Subsistencial are active, with new formations still occurring. At least three and a half million years separate the youngest and sometimes invasive species.

The enormous amount of attention that has been paid to the natural environment of the Galápagos has not been extended to the developable areas. There is little to no urban planning and residents suffer from lack of clean water and limited health care facilities. While some concerns are beyond the scope of our studio, there are pressing issues where landscape visualisation and design can play an important role with an economy dependent almost solely on water-based activities—tourism and fishing—sea-level rise could adversely impact waterfront use and access, and more volatile weather patterns will have wide-ranging effects on the flora and fauna. The coastal areas must be designed to adapt to such changes and benefit both human and animal residents. A more immediately pressing issue is to consider where an increasing population will live. At a current growth rate of 4.4%/year, compared to 2% on the mainland, San Cristóbal’s population will double in just over ten years, and development is already butting up against the National Park border. Lastly, development of public space amenities are focused primarily on the waterfront, frequented by tourists, and constructed with a seawall that removed the mangrove and beaches along most of the town. Though residents can use this waterfront and remaining beaches, the town is lacking other forms of public space, and more volatile weather patterns will have wide-ranging effects on the flora and fauna. Our task was not to provide single solutions to problems; rather, the projects are speculations that are grounded in the realities of the Galápagos and hold together complex and conflicting positions, using visualization and design as a means to negotiate among them. Each proposal was developed in response to one or more of the issues outlined above, and its specific location and programming were based on what students discovered in their site investigations. They developed drawing methods that enabled them to operate on these physical and legal lines of demarcation, in order to locate political boundaries, which provided the basis upon which to build a multiplicity of manifold structures, students were asked to explore their sites in time by visualizing the forces and flows that constitute it under multiple conditions, whether looking at seasonal and cyclical changes, projections pertaining to population growth or climate change, or both.

**METHOD**

How might students engage the apparent dualisms arising from how the archipelago has been understood and managed, which is based on the construction of many oppositons and boundaries? In order to address this question, the studio began with assignments focused on several exploratory tracks that assisted students in the formation of their designs.
01 Defining Lines
Dorothy Jacobs

02 Elevating Tourism in the Highlands
Zhouli Zhu

03 Feeding the Highlands
Stefan Molinaro

04 Cultivation Island
Andrew Ward

05 City Trail
Luke van Tol

06 The Tortoise’s Neck
Lucy Whitacre

07 Park City Park

08 Multi-Functional Pier
Yini Tang