The boundary between the National Park and the inhabited areas of San Cristóbal has created a divide which unfairly prioritizes certain areas of the island, leaving the inhabited areas neglected. The island’s preservation and local economy is dependent on the revenue brought in by tourism. However, the nature of the tourism industry in the archipelago reinforces the divide within the island. The reliance on water-based tourism has caused the land within the Highlands to be disregarded, leading to abandonment and widespread invasive coverage. The creation and construction of an expansive trail network in the Highlands will begin to mend this division and draw more tourists into the Highlands.

The three distinct trails connect visitors across the Highland’s rich ecologic, geologic, and cultural features, expanding visitors’ expectations and understanding of the island. These trails will function as a way to puncture the psychological barrier that exists around the park and serve as a protective line through the trail’s maintenance and management. In addition, the process of constructing the trail will encourage more collaboration between the different governing institutions and provide more job opportunities for the island’s growing population.
SITE ANALYSIS

Visitor-Based Tourism

On these excursions, tour operators show visitors a curated vision of the islands as the epitome of Pristine Nature. In order to uphold this vision of untouched islands, the boat tours are managed in a way that visitors are not supposed to see another tour boat. This almost mythical view of the islands promotes a vision of a place without inhabitants that leads to a staggering inequality in the overall revenue brought in by tourism.

Water-Based Tourism

- American + Mainland Cruise Ships, Airlines & Travel Agencies maintain majority of revenue
- In Ecuador Mainland Cruises + Travel Agencies
- Park Fees On Islands
- Airfare + International Travel $418 million/year
- Of Tourist Sites are in the Coastal/Arid Zones
- Of Tourist Expenses are spent on the Island
- Of the Revenue stays on the Island

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Trail Proposal | Highland Activation

In order to highlight the unique ecological, geological, and cultural features in the Highlands, the proposed trail network is comprised of three distinct trails. Each trail is accessible.

Trail Strategies & Operations

- Transect Trail
- Terrain Trail
- Stewardship Trail
While the island maintains a diversity of connected ecosystems and ecological conditions, the park’s border rigidly defines and divides the systems as protected and unprotected. This not only prioritizes certain ecological zones, but it leaves others vulnerable. The Transect Trail connects users through all seven of the island’s ecological zones, highlighting the uniqueness of each zone through a series of viewing platforms.

Across the trail, visitors will approach seven distinct platforms that correspond to each of the seven ecological zones. Each platform is meant to make visitors pause and appreciate the unique landscape.

Because the Transect Trail passes through such delicate ecosystems within the National Park, the trail is meant to shift throughout time. As one trail begins to become degraded, park managers can stake out a new trail or decide to make certain routes entirely inaccessible. This would mean that certain viewing platforms would be temporarily unreachable.
Experiential Terrain

The Terrain Trail connects visitors to the island’s largest volcanic cones, El Junco and San Joaquin, while reclaiming portions of the island that have been overrun with invasive species. Along the trail, visitors will go through various topographic conditions unique to this part of the island. The trail carves into the land in order to reveal the island’s rich volcanic layers.
The formation of this new organization would connect the existing governing institutions behind the shared purpose of protection. The Conservation Corps would provide more job opportunities to young workers on the island and on the mainland, and give them the opportunity to experience the National Park in a different way.
The small highland town of El Progreso was the first place on San Cristóbal Island to be settled, as access to fresh water in the highlands made farming possible. Today, approximately ninety-five percent of San Cristóbal’s residents live in the waterfront town of Baquerizo Moreno, and most of them rely on tourism for their livelihood. As residents abandon farming and the highlands, invasive species have more opportunity to take root — only twenty-three percent of the former farmland is cultivated, but sixty percent of it is overrun by introduced and invasive species, which threaten the unique ecosystem. The National Park employs eradication strategies for invasive species within the conservation area, and has cooperated with farmers near the park boundary. Cultivating the land for farming would help with invasive species control. However, for residents, the highlands and farms are less profitable than the waterfront, and for tourists, the highlands are a pass-by spot along the main road. Although the San Cristóbal government has expressed a strong concern about developing the rural area, no official plans have been produced [as of October 2017].

This project aims to highlight the value of the highlands using agricultural-tourism to draw people’s attention to the farmland and hopefully to help with the land management of it. In distinction to the current small-scale and spontaneous projects like wall painting or farmers’ restaurants, I believe that the government should develop agriculture-tourism as a systemic strategy.
Site Analysis

Potential & Opportunity

+ The town of El Progreso is within the rural highlands and not subject to the same rules as the National Park.
+ "Buffer" zone, the Scalesia Forest can only be found in the Galápagos.
+ Featured farms with water conservation, coffee, fruit production.
+ Sugarcane Mill relic indicates the history of the highlands.
Agriculture Tourism Concept Consists of 3 Aspects

1 - Sugarcane Mill Relic as an Agriculture Tourism Interpretation Center, capitalizing on the farming and human history from 1879 - 1904
2 - The trail network brings people to the featured destinations
3 - The featured destinations (featured farms open to the tourists)
SUGARCANE MILL RELIC SITE as INTERPRETATION CENTER

Vegetation clearance and replanting

**Sugarcane Mill Relic**

- Open space
- Replanting crops
- Vegetation clearance
- Relic wall
- 45m/147.6'
- Bus stop
- High point view to the ocean
- Entrance of trail loop

**Clearance & New Planting**

- Vertical scale
- Existing land cover category
- Guava tree: 5m * 5m
- Orange tree: 5m * 5m
- Banana tree: 2.5m * 2.5m
- Coffee tree: 1.5m * 1.5m
- Sugarcane: 0.5m * 0.5m

**Slope Analysis**

- Accessible pathway:
  - 0 - 5%
- Assistance required:
  - 5% - 10%
- Easy hiking:
  - 10% - 12.5%
- Moderate hiking:
  - 12.5% - 22.22%
- Strenuous hiking:
  - 22.22% - 36.36%
- Strenuous advanced hiking:
  - 36.36% -

**Retaining Wall & Way Finding**

**Interpretation Center**
Harvesting Tour

Water Conservation

Harvesting Tour

Water conservation
Future Growing Opportunities

Expansion from EL Progreso

Multiple Centers

Study Model
The Highlands of San Cristóbal Island are 8306 hectares and, historically, provided food for islanders when agriculture was the primary source of sustenance with the founding of El Progreso in 1866. As the islands have shifted to an urban and touristic economy, the agricultural region, like much of the world, has faced increasing neglect culturally, economically, and environmentally. This project presents a conservation land-use framework based on a careful reading of the Highland topography, soils, and hydrology.

The island is becoming increasingly reliant on expensive and slow processes to cope with population and tourism growth. This proposal outlines a land-use framework focused on cultivation as a unique asset for food and tourism. Within the regional scale, it relies on a land-use plan that is driven by analyzing areas most conducive to conservation, agriculture, and tourism in contrast to the very generalized development/agricultural plan developed by the government. This proposal also provides a vision for how parcels or hamlets could be reorganized based upon a conservation and cultural agenda.
Systems of Conflicts

Guayaquil Harbor

Food Products Confiscated (2000-2008)

Prices increase due to: Delays, invasive species, confiscated shipments +$

Organic products are imported

Coffee is only organic export

NUMBER OF SHIPS WITH PROPER LOADING EQUIPMENT & COLD STORAGE

Food products confiscated (2000-2008)

60% 23%

Puerto Ayora

PRICES INCREASE DUE TO:

HARVESTED

Harvested Transitory Crops Sold (Census 2014)

41%

HARVESTED

Permanent Crops Sold (Census 2014)

100%

Coffee is only organic export

INVESTMENT MADE INTO

Agriculture sector (Census 2014)

$241,487

Investment Made Into Livestock Sector (Census 2014)

$659,027

Generalized Future Land Use Plan

Land-Uses Through Conservation Methods

STRUCTURE RESERVE

WILDERNESS AREA

NATIONAL PARK

NATIONAL MONUMENT OR FEATURE

HABITAT SPECIES MANAGEMENT AREA

PROTECTED LANDSCAPE/SEASCAPE

PROTECTED AREA WITH SUSTAINABLE USE OF NATURAL RESOURCES

- Conserve large-scale ecosystems and geodiversity
- Protect biodiversity, limit control of limited human interaction
- Direct control of human habitation and scientific interactions
- Protect large-scale ecosystems, biocultural diversity and habitat
- Protect small natural features, maintain balance of natural biodiversity and cultural heritage
- Protect natural products, environmental services, socio-economic activities
- Protect large-scale ecosystems
- Protect biodiversity
- Protect natural products
- Protect natural ecosystems around protected areas
- Promote socioeconomic benefits to local community
- Facilitate continued protection
- Protect small natural features
- Maintain balance interaction between nature and culture

The Everglades
- Protect large-scale ecosystems
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Victoria Falls
- Protect small natural features
- Protect biodiversity
- Protect natural products
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Galápagos Islands (Land Cover)
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Galápagos Islands (Marine Area)
- Protect large-scale ecosystems
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- Protect large-scale ecosystems, biocultural diversity and habitat
- Protect small natural features, maintain balance of natural biodiversity and cultural heritage
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Cultural Significance

Human Activities

Biodiversity

Ecological Processes

Geological Feature

Cultural Significance

Human Activities

Organic Products Are Imported

Coffee Is Only Organic Export

Prices Increase Due To: Delays, Invasive Species, Confiscated Shipments

Number Of Ships With Proper Loading Equipment & Cold Storage

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The island used to rely heavily on the crops and livestock that were harvested in the Highlands. Urban life and tourism have moved people and the workforce to the Port. My framework places harvesting as a method of conservation through prioritizing land suitable for agriculture.

Ecological and Marine Tourism is a growing economic pressure that the city increasingly moves to rely on. Tourism moves through and around, but does not land within the Highlands. My framework prioritizes land where tourism can fall within the Highlands.

The National Park is the only method of conservation the islands practices surrounding the highlands. My framework prioritizes which land to practice different types of conservation within the highlands to preserve and promote the land, ecology, and identity of the highlands.

Site Analysis

**Invasive Land Cover**

**Invasive Species Control**

**Invasive Agroecology**

**Water Recharge Zone**

**Protection of Aquifer Access**

**High Erosion Risk**

**Prevent Soil Deposition & Landslides**

**Suitable Soil**

**Best Possibility of High**

**Gradual Slopes**

**Land Easy to Maneuver and Build Upon**

**Hamlets**

**Distance to Services, Amenities, and Market**

**Geological Formations**

**Significant & Unique Cultural Identity**

**Easy Access to Services, Amenities & Market**

**Paved Main Roads**

**Tourism Priority, An Economic Driver within Land Management**

Ecological and Marine Tourism is a growing economic pressure that the city increasingly moves to rely on. Tourism moves through and around, but does not land within the highlands. My framework prioritizes land and interventions where tourism can fall within the highlands.

**Conservation Priority, Typology of Land Management**

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**Cultivation Priority, A Typology for Land Management and Identity**

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**Tourism Priority, An Economic Driver within Land Management**

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**Prioritization Scheme**

Through a layering of the analysis elements, prioritized land is identified for each conservation land use: Habitat Management, Protected Landscapes, and Natural Monuments.

<table>
<thead>
<tr>
<th>Conservation Priority</th>
<th>Ideal Land for Conservation</th>
<th>New Land Use Through Conservation Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conservation Priority</td>
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<td></td>
</tr>
<tr>
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<td></td>
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</tbody>
</table>
Parcelization Through Conservation Boundaries

Through reparcelization from the conservation land use boundaries created, the region can be redesigned to provide touristic, agricultural, and habitat conservation programs.

Advertising the Highlands

Now SAN CRISTOBAL is more fun than ever!

Here's the vacation you've hoped for plus new, added attractions.

NEW SMALL VILLAGES TO SEE...
historic and cultural sites, restaurants, local shops, new and improved accommodations to fit any purse.

NEW OUTDOOR ADVENTURES TO EXPLORE...
hiking, biking, and equestrian trails, education centers, tour routes, and much more have been added to the agenda for visitors to experience.

NEW FARMING RESORTS...
several farms now provide a unique learning and participatory experience for visitors to cultivate coffee, bananas, oranges and lemons, pineapple; techniques founded in the island's creation.

NEW HABITAT MANAGEMENT...
several hectares of unused land can now be managed for habitat restoration, research, and exploration for visitors to help the island maintain its beauty and identity.

NEW OUTDOOR ACCOMMODATIONS...
never before has the island provided the closest experience to nature than with its new campsites and local housing accommodations.

NEW VOLCANOES...
now the rugged terrain can be explored, climbed, and seen through new views of the island never seen before.
The native ecosystem of the Galápagos Islands is being threatened by the introduction of invasive species. Farmland on the island of San Cristóbal has been abandoned, primarily because farmers are seeking better wages in the tourist industry in Puerto Baquerizo Moreno. This has resulted in over half of the farmland being covered by invasive species such as blackberry. At the same time, the majority of the produce consumed on the island is brought in from the mainland, creating an avenue for invasive species, increasing food prices, and decreasing food quality. This project aims to bolster the food culture of San Cristóbal Island to increase its autonomy from mainland Ecuador. To do so, this project focused on shaping the food culture in Puerto Baquerizo Moreno at three scales: structuring new development, reworking the central park, and crafting deployable structures that can be used as shade and market stalls. Through these interventions, the project aims to shape the tourist-local interface, promote individual growing capacity, and create community food space. These design interventions capitalize on existing innovators, while promoting cooperation among the municipality, the National Park, the Ministry of Tourism, and the Ministry of Agriculture in order to stem the flow of invasive species to the islands and increase the availability of local quality produce for both locals and tourists.
Resource Dependency in San Cristóbal

Mainland Dependency

96% of hotels + restaurants in the Galápagos import their organic food from the continent.

most consumed produce in Galápagos households:

- 1. beans
- 2. potatoes
- 3. rice
- 4. corn
- 5. cassava
- 6. sweet potato
- 7. papaya

all of which can be grown in the Galápagos

Increasing Demand

“Agriculture represents a very small part of the economy, but more activity in this sector is critical to lessen the islands’ dependence on imported produce.”

Goals of Galápagos Bioagriculture Plan:

1. Transition agriculture into the primary source of the Galápagos food supply so that it can contribute to the conservation of the natural habitat of the islands, especially with regards to controlling invasive species, through the design and implementation of highly efficient agroecological production systems.

2. Contribute to economic sustainability in the Galápagos through the promotion of local markets by creating a food supply for the islands based on local food crops and animal products.

3. Establish a research institute based on dialogue, sharing knowledge, expanding local capacity to create and innovate.

Fraîcheur at Risk

600 species of edible plants are grown on the islands.
Project Approach

Transform the Existing Single Use + Conventional Public Space

Structuring New Development

Existing Conditions

Proposed Approach
Central Park

Growing Conditions

- proposed stairs allowing access to high school
- municipal market
- irrigated growing demonstration area
- walkthrough to municipal market
- preserve the conch
- proposed culinary school on adjacent lot
- rainwater harvesting shade structures
- main street