The Salinas Bahamas

Nature Reserve Master Plan



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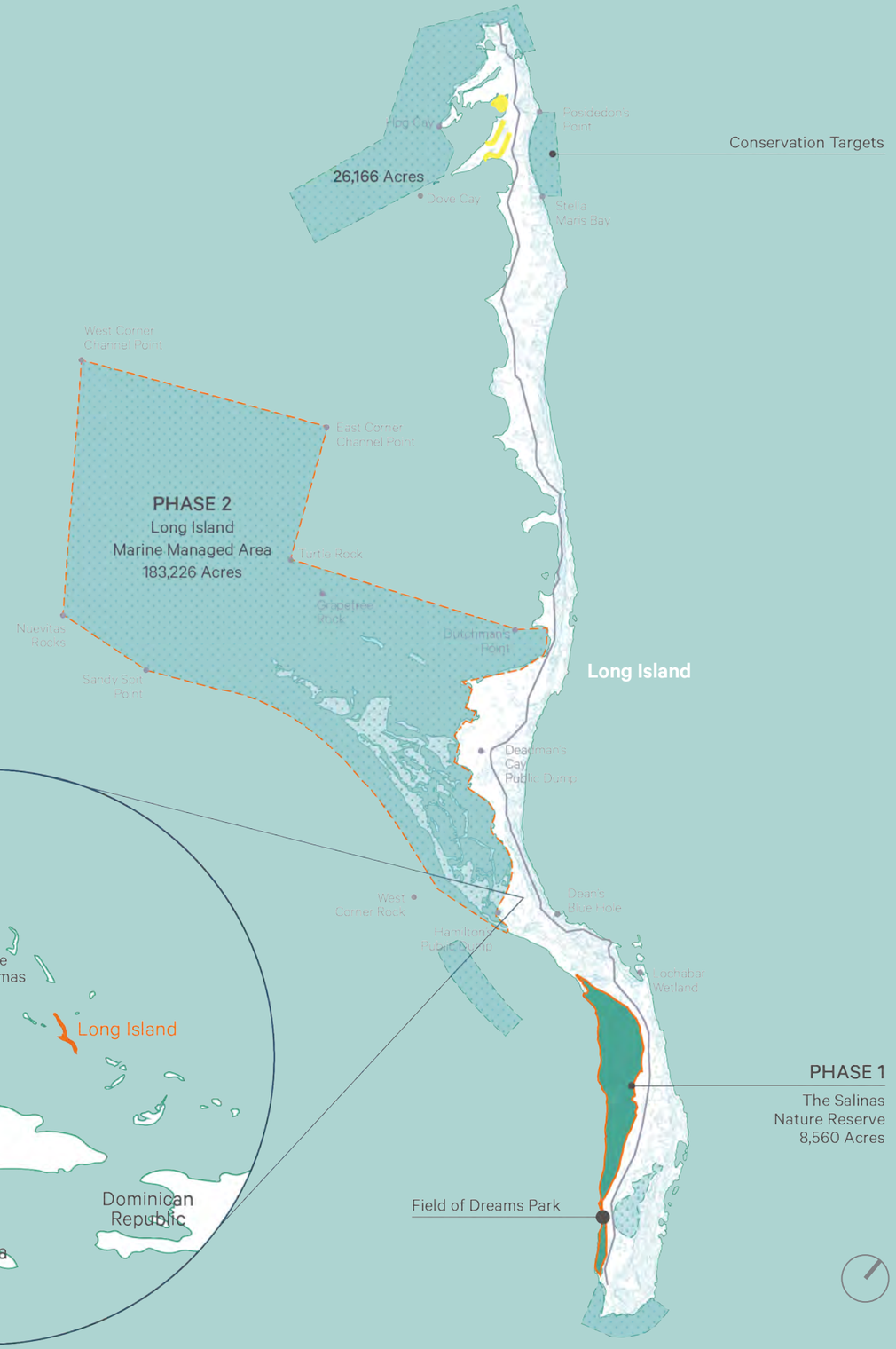
Overview

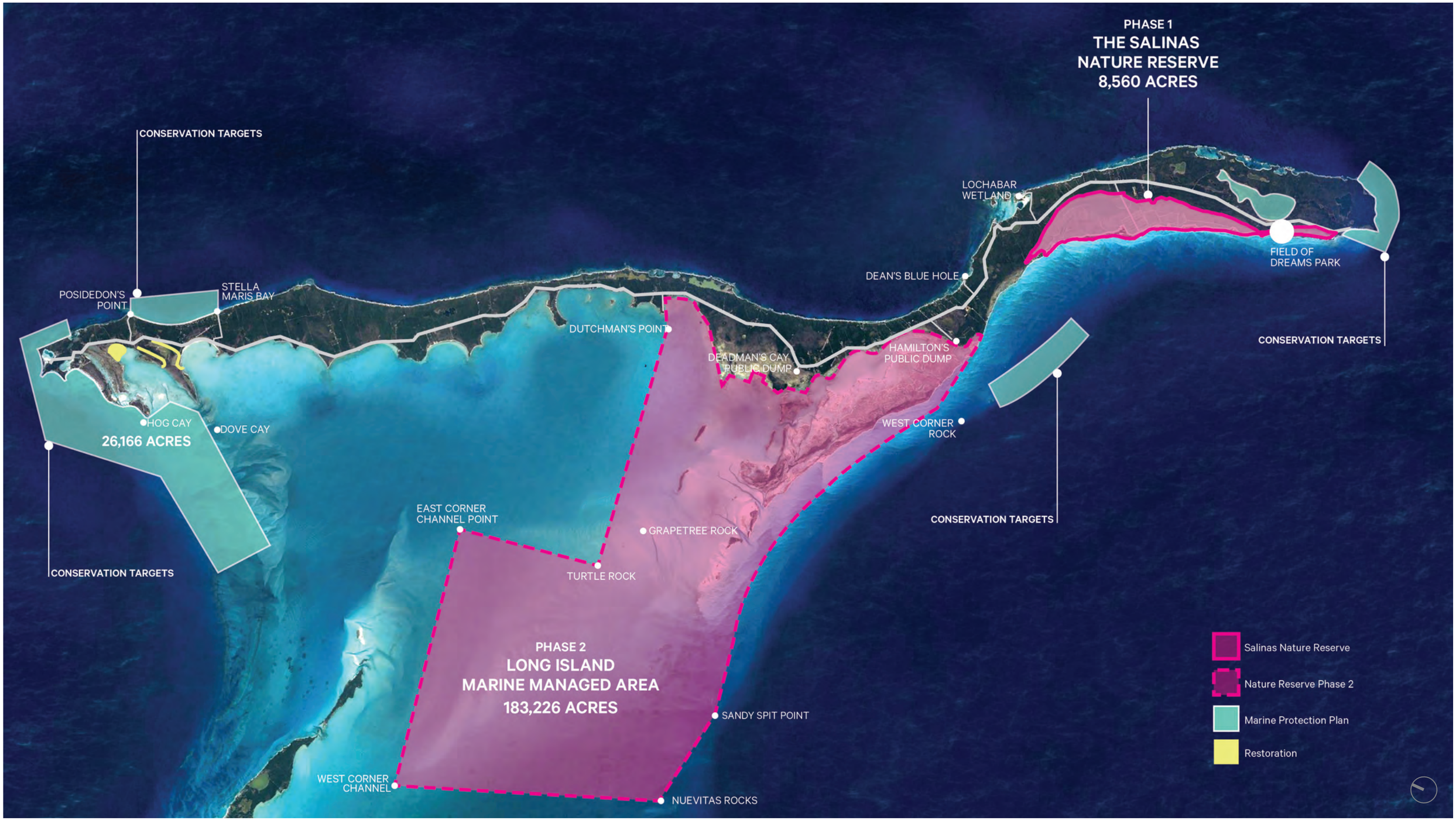
Long Island, Bahamas

Long Island is about 130 km (80 mi) long and 6 km (4 mi) wide at its widest point, totaling 596 sq km (230 sq mi). The Tropic of Cancer runs through the northern quarter of the island.

The mainland of Long Island is surrounded by small bays and inlets, including the large New Found Harbour at approximately the midsection of the island. There are also smaller islands offshore, including Sandy Cay. The northeast side of Long Island is noted for its steep rocky headlands, while the southwest coast is noted for its broad white beaches with soft sand. The terrain ranges widely throughout the island, including flat white expanses from which salt is extracted, swamplands, beaches and sloping hills.



The Salinas Reserve Nature Reserve



Long Island Map - Nature Reserve Phasing

Existing Site



• *Site photos on pg. 7*

The Salinas Nature Reserve Site - Existing Aerial View

Site Photos

Hurricane Dorian Breach



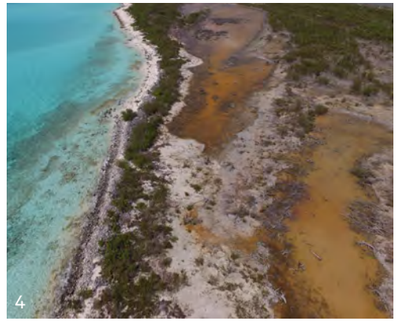
Galloway Canal



Galloway Lagoon



Galloway Lagoon



Hard Bargain Gateway



Hard Bargain Gateway Airstrip



Hard Bargain Gateway Road



The Salinas



Hard Bargain



Rose's Point Lagoon



Rose's Point Inlet



Rose's Point Lagoon





Rose’s Point Inlet

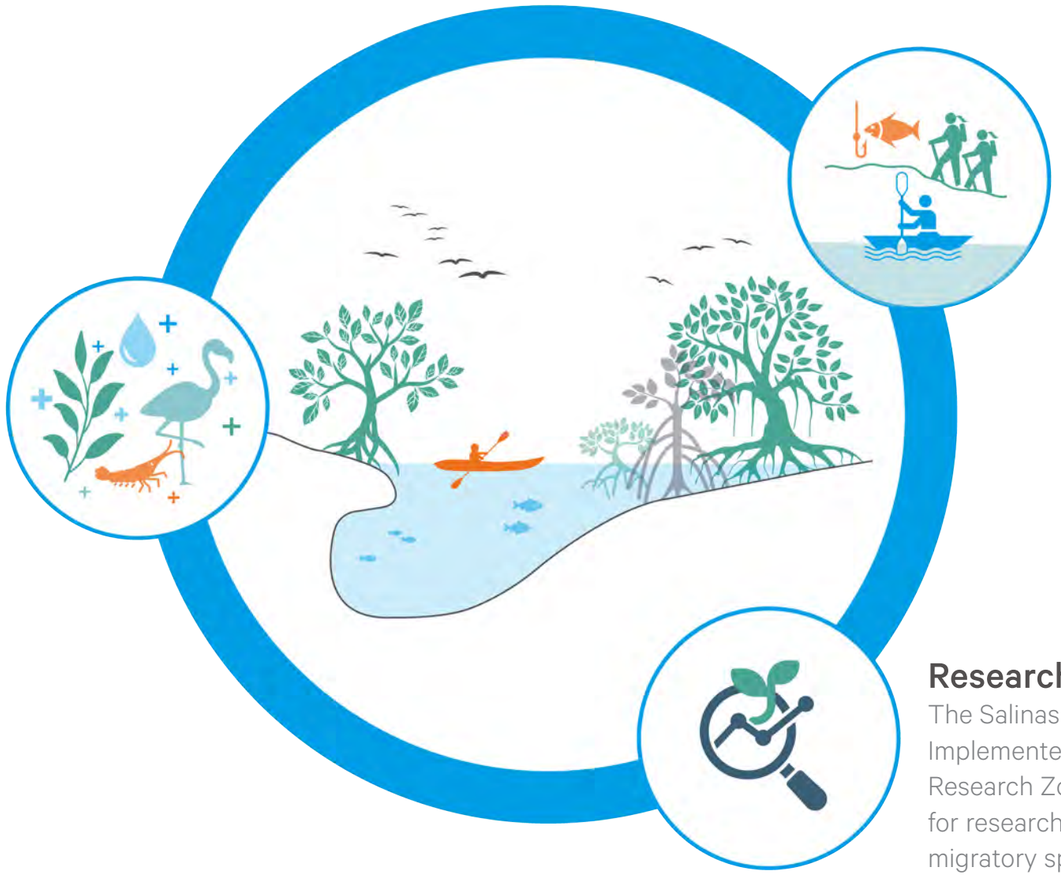
The Nature Reserve

The Nature Reserve Master Plan is located on site of the former Diamond Crystal salt works in Long Island, Bahamas. The Nature Reserve aims to regenerate the coastal ecosystems embedded in the site, which includes tidal flats, mangroves, coastal scrub forests, invasive species mitigation, as well as creation of habitat for avian, terrestrial and marine species. The nature reserve will be a keystone to sustainable tourism destinations and contribute to local Bahamian life that benefits the people of Long Island. The planning of the reserve is intended to be a global example of restoration and conservation and will incorporate features that will reflect and mitigate the future effects of climate change.

Nature Reserve Principles

Regeneration

A regenerative design approach is the foundation of The Salinas Nature Reserve. The restoration of the lagoon's hydrology is established through a series of new ocean inlets, while post-industrial berms located in the interior lagoon are opened to restore the tidal flow of the site. Earthworks landforming creates key habitats for land and marine species to inhabit.
A passive regeneration strategy of the mangrove forest, endemic to the site, is supported by the restored hydrology. While an active restoration strategy is implemented to halt current coastal erosion and allow for plant species to regrow themselves along the coastline. The regeneration of the lagoon hydrology, the mangrove forest, and habitat for land and marine species create the new vision of the Nature Reserve.



Recreation

A series of recreational networks: walking trails, kayak trails, look outs, and rest stops, allow visitors and local community members to actively participate in the restoration and protection of essential habitats. The canal is adapted into a watercraft trail, while old berms are connected into a hiking network. The Salinas is positioned to be a world destination for recreational birding and fishing. By providing a one of a kind site experience, visitors can see the site's post-industrial history that has been transformed into a thriving ecological network. The Nature Reserve provides a tangible vision to regenerative development, and how humans can have agency in the evolving climate crisis.

Research

The Salinas Nature Reserve is a site of active research. Implemented parallel to The Salinas site restoration, the Research Zone is an area of active learning and test bed for research in coastal and ecological practices, local and migratory species, as well as art and culture. Both institutional and public programming are integral to the success of the Research Zone. Active education through the site's experience is core to The Salinas identity. Positioned as a global leader in climate research, The Salinas Research Zone is a living lab, learning, responding and imagining the next future of the Athropocene.

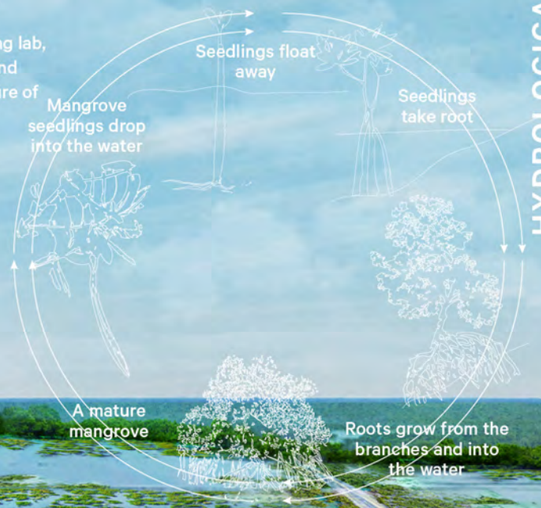
Restoration Initiatives

MANGROVE REGENERATION

The mangrove ecosystem is a keystone to the long term vitality of the lagoon and Salinas site at large. Mangroves provide essential habitat for a biodiverse ecosystem along with coastal flood protection. A passive regeneration approach to mangroves is foundational to The Salinas site restoration. By creating a healthy hydrology across the site, mangroves are allowed to regrow, regenerate and thrive naturally on their own.

RESEARCH ZONE

The Salinas Nature Reserve is a site of active research. Implemented parallel to The Salinas site restoration, the Research Zone is an area of active learning and testbed for research in coastal and ecological practices, local and migratory species, as well as art and culture. Positioned as a global leader in climate research, The Salinas Research Zone is a living lab, learning, responding, and imagining the next future of the Athropocene.



HYDROLOGICAL RESTORATION

Hydrological restoration is the catalyst of The Salinas Nature Reserve restoration. A series of ocean water inlets establish tidal flow and improve flushing throughout the lagoon system, beginning the remediation process of the post-industrial site. This process restores water flow and enables the regeneration of the marine ecosystem along with its supporting habitats and species.

HABITAT BUILDING

In spite of its relatively small land area, The Bahamas has many terrestrial ecosystems and a high diversity of marine ecosystems. Shorebird habitats are created by preserving, enhancing or creating small islands within inland lagoons. Higher salinity zones are preserved as habitats for flamingos to feed and nest. A series of fishing and conch nurseries provide a sustainable resource embedded in the site. Habitats are connected through a series of walking trails, look outs, and rest stops for visitors and local community members to actively participate in the restoration and protection of essential habitats.

Nature Reserve Boundary



Site Area: 8,300acres

The Salinas Nature Reserve Map



Programming

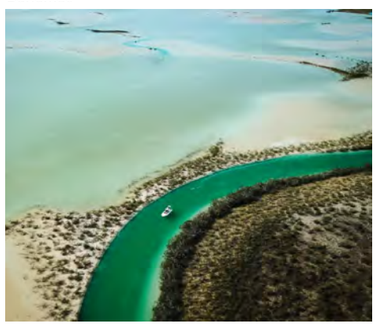
Land & Water Trails



Turks and Caicos Island



Leon Levy Native Plant Preserve, Eleuthera, Bahamas



West Side National Park, Andros, Bahamas

Lookouts



Sun Tunnels, Utah



Spiral Jetty, Utah



Floating Piers, Brescia, Italy

Rest Stops



Red Ribbon Park, Qinhuangdao, China



Perry Lake Park Restroom, Alabama

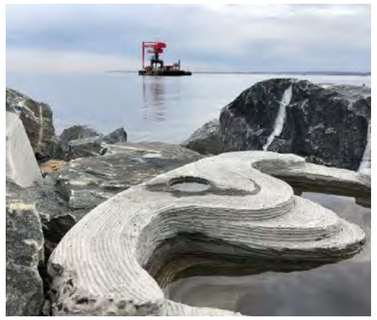


Hooke Park, England

Research & Education



Atelier LUMA, Arles, France



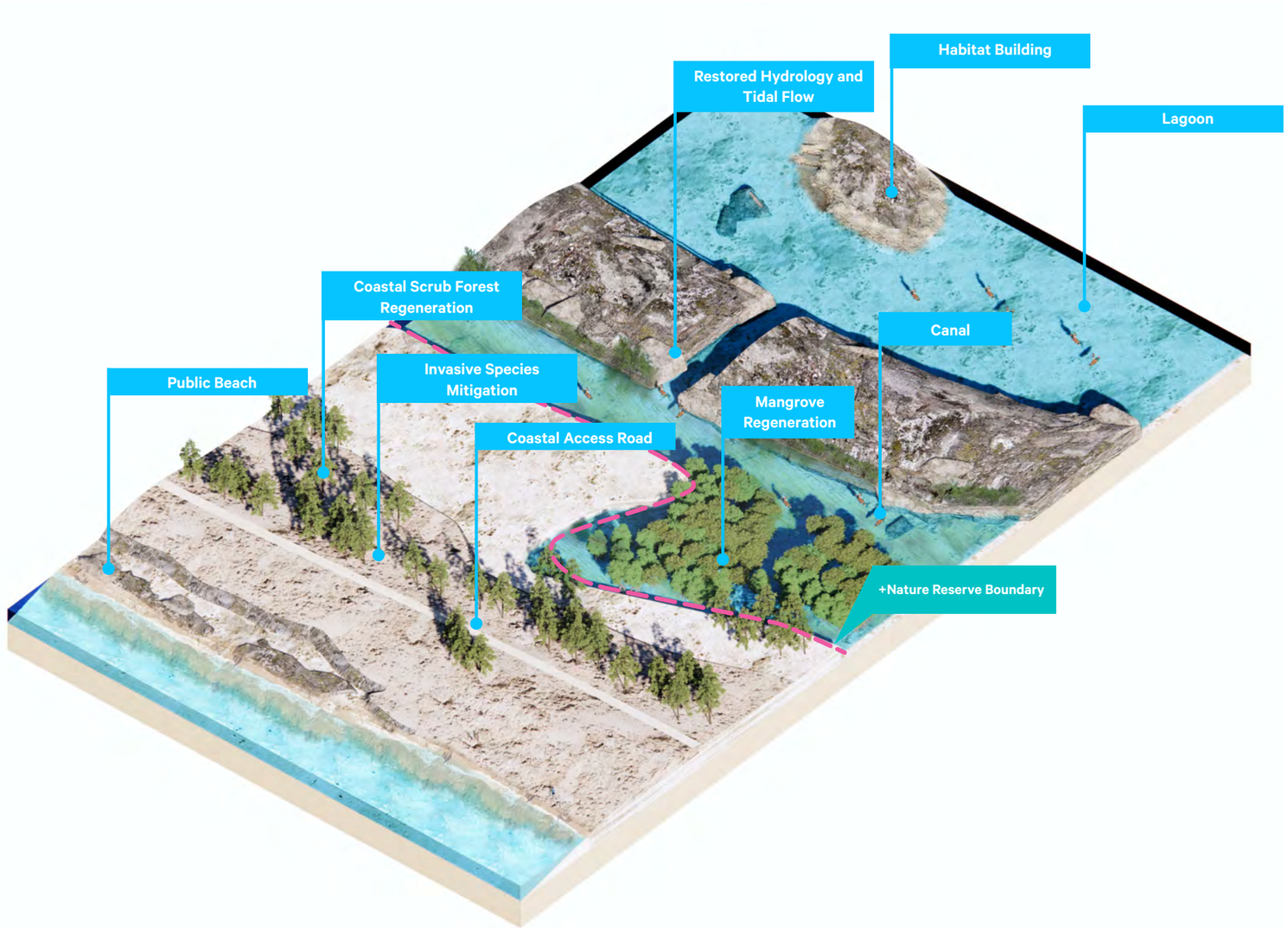
Living Breakwaters, New York



Yagasu, Indonesia

The Salinas Nature Reserve is connected through a series of public land and water trails which facilitate light watercraft and pedestrian hiking. A series of art and design/build intervention in partnership is the research center create a network of local and global expertise. Through design build programs, institutional and public/private partnerships.

Nature Reserve Features





Canal Kayak Trail



Mangrove Regeneration



Copenhagen Islands, Denmark



Coastal Scrub Regeneration



Jubail Mangrove Park, Abu Dhabi



Lagoon





1 Research Centre 2 Boutique Shrimp & Salt Farm Inlet

The Site

The property includes twelve miles of sandy shoreline as well as 10,000 acres of interlinked offshore cays, wetlands and mangrove systems. Tidal flats and a land interior lagoon are bordered on the east by the mainland of southern Long Island. Immediately offshore from The Salinas is a series of shallow, narrow marine sand banks which drop into the Columbus Basin. Seafloor depths in the Columbus Basin exceed 1000 m (3000 ft). Across the property's coastal lagoon, tidal and intertidal flats are surrounded by a coastal land bar consisting of sandy beaches, calcified sand and iron shore, as well as coastal scrub forest.

The site previously operated as a salt mine for Diamond Crystal Salt beginning in the early 1970's. After filing for bankruptcy and abandoning salt operations in the 1980s, alterations to the natural ecosystem remain and have perpetuated widespread environmental degradation of the surrounding ecosystem. This degradation is evident in the coastal land where the mining facilities were located, and more extensively throughout the mangrove wetlands and marine habitats throughout the lagoon system where the salt mining occurred.

The Salinas Existing Conditions



Site Conditions



Shoreline

The shoreline, which runs approximately 12 miles, consists of sandy beaches, calcified sand and iron shore. Some shore has been impacted by the invasive Casuarina equisetifolia (Australian Pine), causing coastal erosion.



Shoreline Impacts of Casuarina equisetifolia (Australian Pine)



Iron Shore



Sandy Beach

Site Conditions



Coastal Land

A coastal land bar separates the ocean from lagoon, ranging in width between 380-metres to 85-metres. The predominant landscape typology along the coastal land is a coast scrub forest, a mix of low shrub and plant types resilient to salt and ocean water. The coastal scrub forest on site is affected by two invasive species: (1) Casuarina equisetifolia (Australian Pine), and (2) Scaevola taccada (Hawaiian sea grape). In particular, the Australian Pine poses a threat to the stability of the shoreline, with significant degrees of erosion observed in areas with dense populations. In many areas along the shore, this invasive species has completely taken over, with little or no native species present.



Coastal Scrub Forest



Mixed Coastal Scrub and Casuarina equisetifolia (Australian Pine)



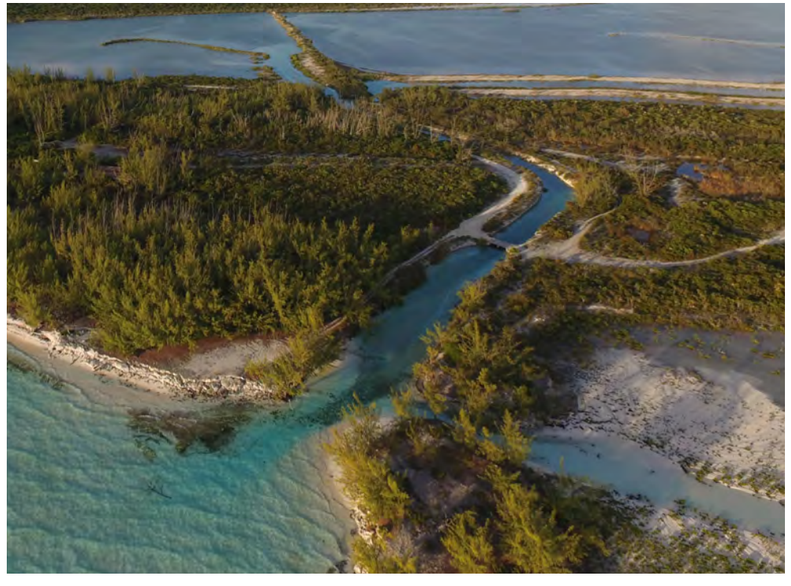
Coastal Scrub and Scaevola taccada (Hawaiian sea grape)

Site Conditions



Inlets

Two existing inlets currently operate as hydrological connections between the ocean and lagoon: Galloway to the north and Rose's Point to the south of the site. A few kilometers south of the Galloway inlet is the 2019 Hurricane Dorian breached coast line that is currently infilled by sand, however has been designated as a future inlet location.



Galloway Inlet

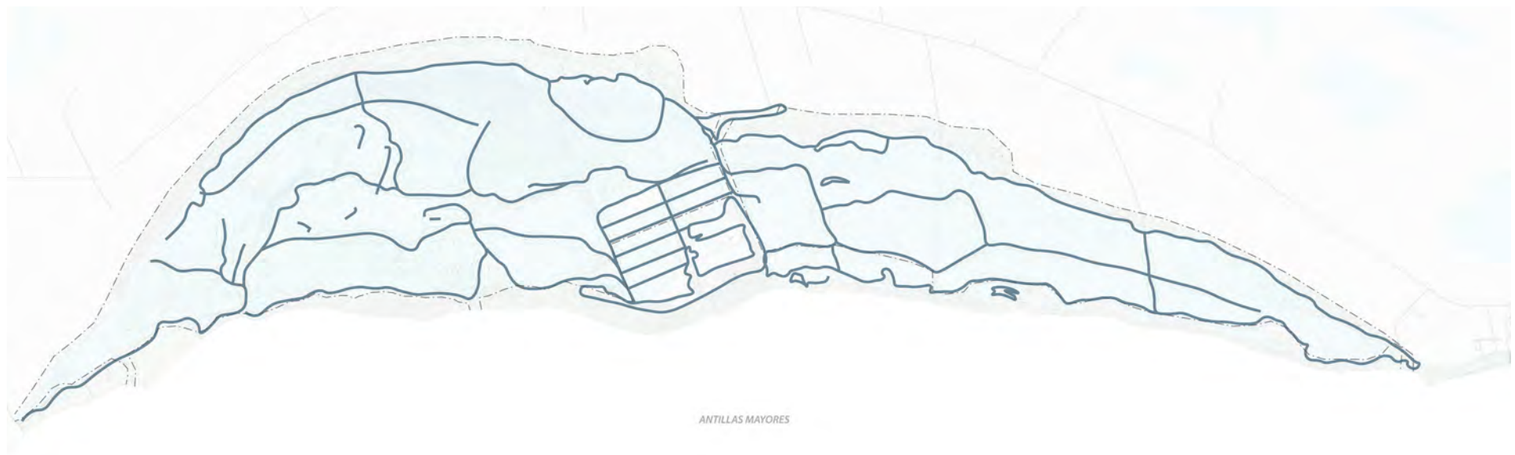


Hurricane Dorian Breach



Rose's Point Inlet

Site Conditions



Berms

A series of man-made berms, a product of mining operations, are distributed across the lagoon area. While the salt mine was in operation, berms assisted with channeling water to the salt pans. The tidal flow was engineered to stagnant water in order to create high salinity, and through evaporation, harvest the salt on site. The berms' function, during salt production of the 70s-80s is antithetical to what makes a lagoon ecosystem healthy and resilient. The berms in their current state vary in terms of continuity and habitat regrowth.



Salinas Berms

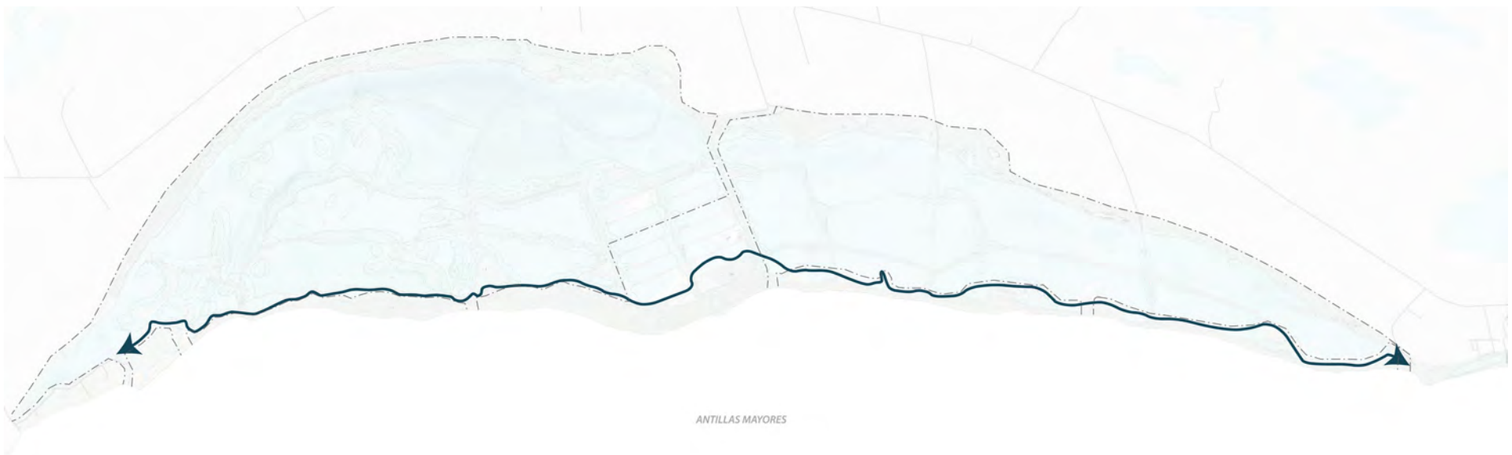


Galloway Berms



Hard Bargain Berms

Site Conditions



Canal

In addition to the berms, a canal was created during the site's mining operations. The canal runs directly inland to the coastal land along the lagoon shoreline with a total distance of 19km (12 mi).



North Canal



North Canal



North Canal

Site Conditions



Road

An unpaved road currently connects most of the northern coastal land. Proposed as a continuous artery, the road connects Hard Bargain Gateway to Galloway Gateway.



Hard Bargain Road



Hard Bargain Road



Hard Bargain Gateway

Landscape Types



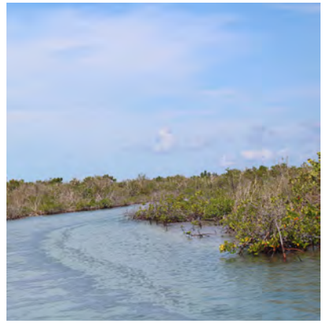



















Mangroves

The site is home to vast mangrove forest. Several large interior areas of Rhizophora mangle (Red Mangrove) and Avicennia germinans (Black Mangrove) have been heavily impacted by water flow restrictions and hypersaline conditions.

Landscape Types






















Coastal Scrub Forest

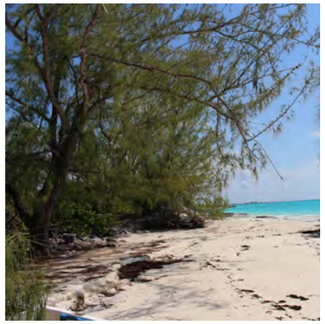
A coastal scrub forest is the primary landscape of the site's coastal land bar. Currently impacted by invasive species, target plant species including ground cover, shrubs, trees and palms types are designated to establish a biodiverse ecosystem.

Landscape Types





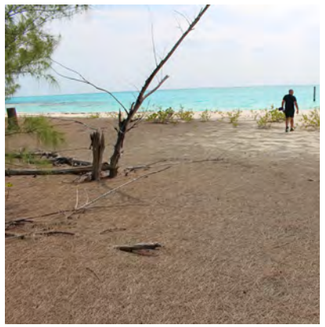

















Invasive Species: Australian Pine and Sea Grape

The site is home to two invasive species whose removal should be prioritized: (1) Casuarina equisetifolia (Australian Pine), and (2) Scaevola taccada (Hawaiian sea grape). In particular, the Australian Pine poses a threat to the stability of the shoreline, with significant degrees of erosion observed in areas with dense populations. In many areas along the shore, this invasive species has completely taken over, with little or no native species present.

Regeneration

A regenerative design approach is the foundation of The Salinas Nature Reserve. The restoration of the lagoon’s hydrology is established through a series of new ocean inlets, while post-industrial berms located in the interior lagoon are opened to restore the tidal flow of the site. Earthworks landforming creates key habitats for land and marine species to inhabit. A passive regeneration strategy of the mangrove forest, endemic to the site, is supported by the restored hydrology. While an active restoration strategy is implemented to halt current coastal erosion and allow for plant species to regrow themselves along the coastline. The regeneration of the lagoon hydrology, the mangrove forest, and habitat for land and marine species create the new vision of the Nature Reserve.

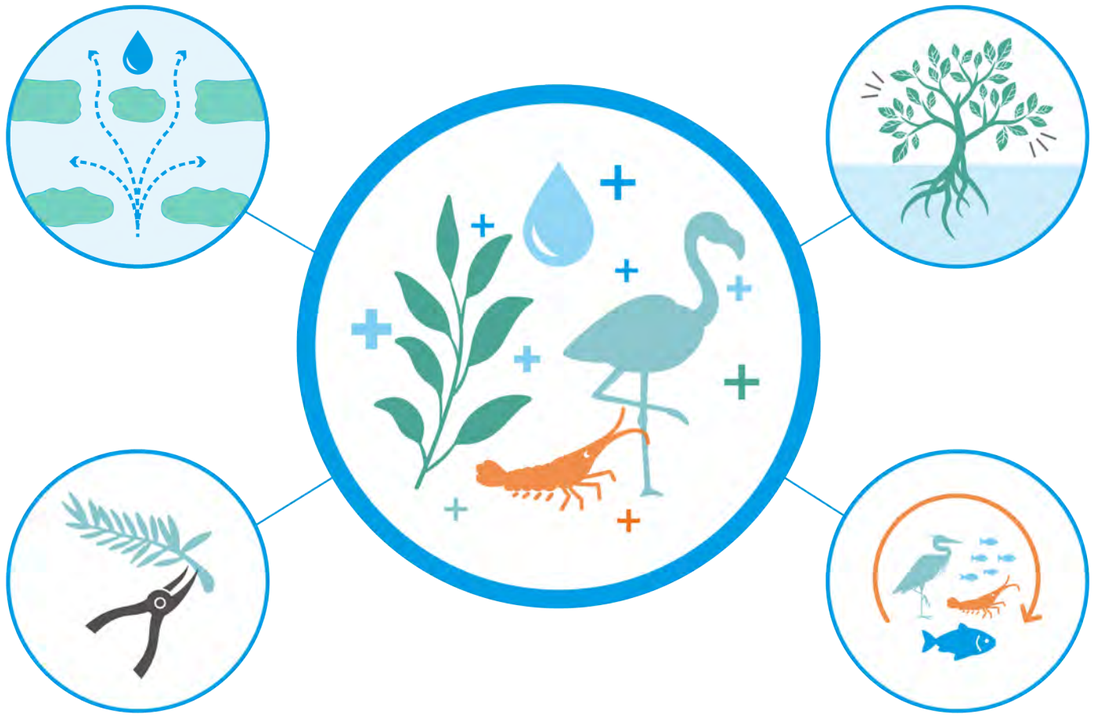
Regeneration Principles

Hydrological Restoration

Hydrological restoration is the catalyst of The Salinas Nature Reserve restoration. A series of ocean water inlets establish tidal flow and improve flushing throughout the lagoon system, beginning the remediation process of the post-industrial site. Within the interior of the lagoon, the earth works land strategy will reconnect the lagoon into a singular hydrological system. This process restores water flow and enables the regeneration of the marine ecosystem along with its supporting habitats and species.

Invasive Species Mitigation

Parallel regeneration efforts, the Salinas site is home to two invasive species (1) Casuarina equisetifolia (Australian Pine), and (2) Scaevola taccada (Hawaiian sea grape). The removal of these invasive species will prevent further coastal erosion and allow endemic species to re-establish across the site. The methodology used for removal and eradication is size specific and based on accessibility. A combination of mechanical and manual removal should be used and sensitive to each context with select replacement species to re-establish a resilient ecosystem and coast line.



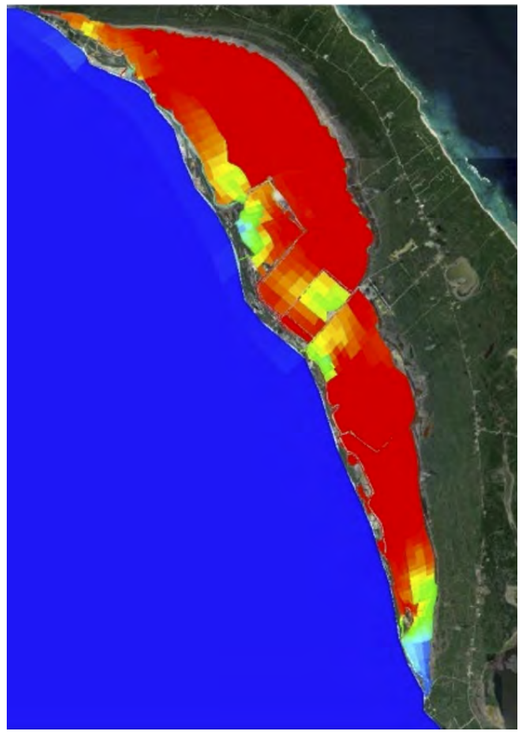
Passive Mangrove Regeneration

A passive regeneration approach to mangroves is foundational to The Salinas site restoration. The mangrove ecosystem is a keystone to the long term vitality of the lagoon and Salinas site at large. Mangroves provide essential habitat for a biodiverse ecosystem along with coastal flood protection. By establishing a healthy hydrology across the site, mangroves are allowed to regrow, regenerate and thrive naturally on their own.

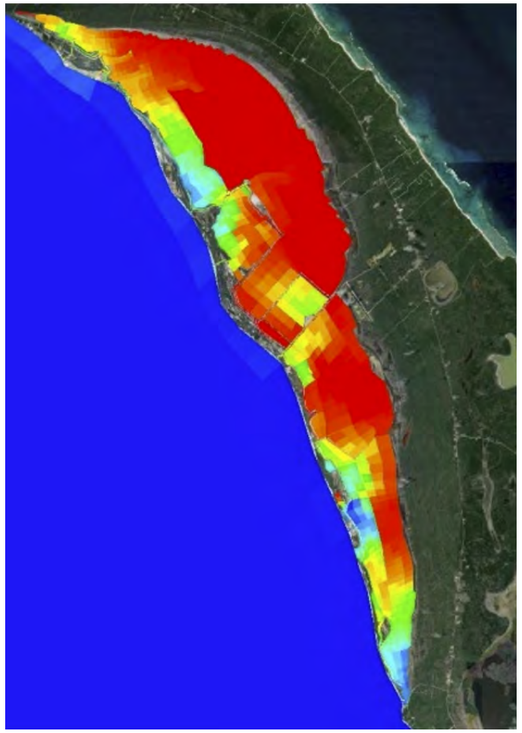
Habitat Building

In spite of its relatively small land area, The Bahamas has many terrestrial ecosystems and a high diversity of marine ecosystems. By prioritizing habitat for key land and marine species, the Nature Reserve will regenerate into a connected ecosystem. Shorebird habitats are created by preserving, enhancing or creating small islands within inland lagoons. Higher salinity zones are preserved as habitats for flamingos to feed and nest. A series of fishing and conch nurseries provide a sustainable resource embedded in the site. By creating these key habitats across The Salinas, the site becomes both a place that protects and allows species to thrive, while also creating a destination for visitors to interact with this unique ecosystem.

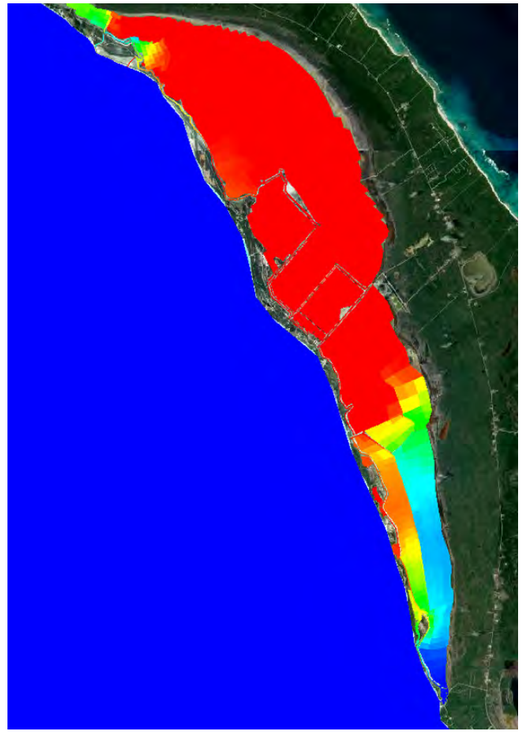
Hydrologic Simulation and Optimization



Existing Conditions



Existing + Two Additional Inlets



Existing + Five Additional Inlets

ATM coastal engineers have monitored and modeled the existing hydrology of the site, and in particular the performance of the existing north inlet at Galloway and south inlet at Rose's Point. Observations concluded that the current inlets provide minimal tidal flushing for the interior lagoon and will need significant modification in order to have meaningful hydrological impact.

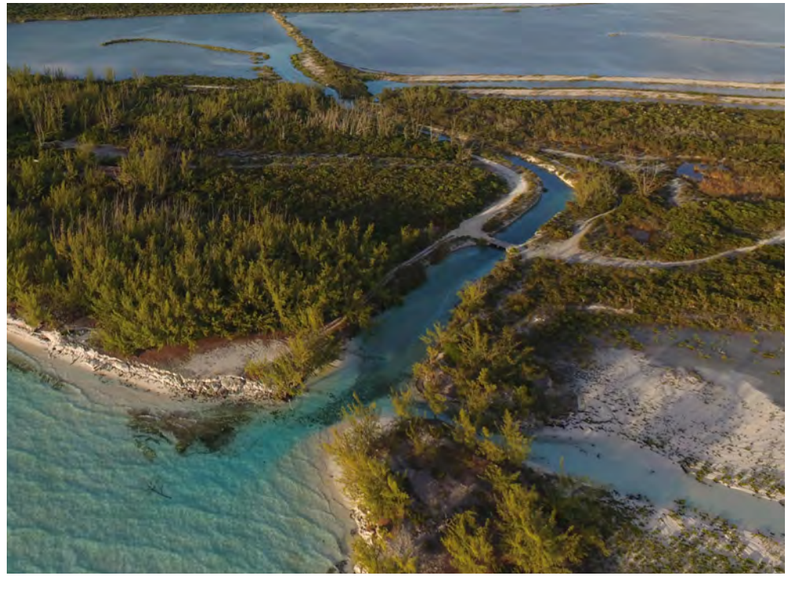
Overall, the water quality throughout the site could be improved to balance salinity and open areas that are currently restricted to water flow, preventing healthy exchange. Assessment for new inlet locations have considered qualitative characteristics of the coastline that lend themselves to be transformed into operable inlets. An improved intertidal marine ecosystem will support overall ecosystem health with improved food sources and habitats for existing species throughout the site.

Proposed Inlets



Proposed Inlets

Candidate inlet locations were determined through an extensive topographic and bathymetric analysis, archival image analysis and site investigation to determine the location of previously existing inlets. In addition to the two existing inlets, four new inlets are proposed along the coast line. A particular example of one of the new inlet locations is the 2019 Hurricane Dorian breach point. Two new inlets will be located on the north and south ends of Hard Bargain, while the last is sited along the midpoint of the Rose's Point coast line.



Galloway North Inlet



Hurricane Dorian Inlet

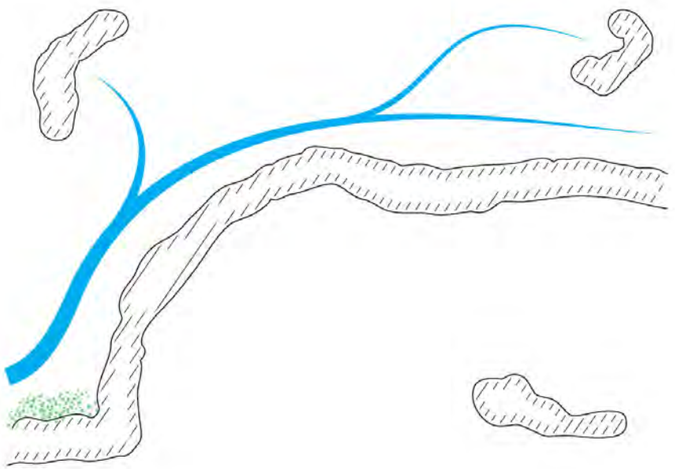


Rose's Point Inlet

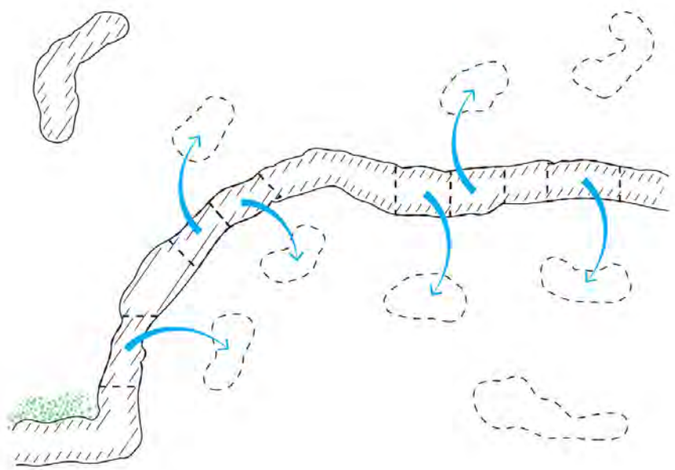
Proposed Inlets



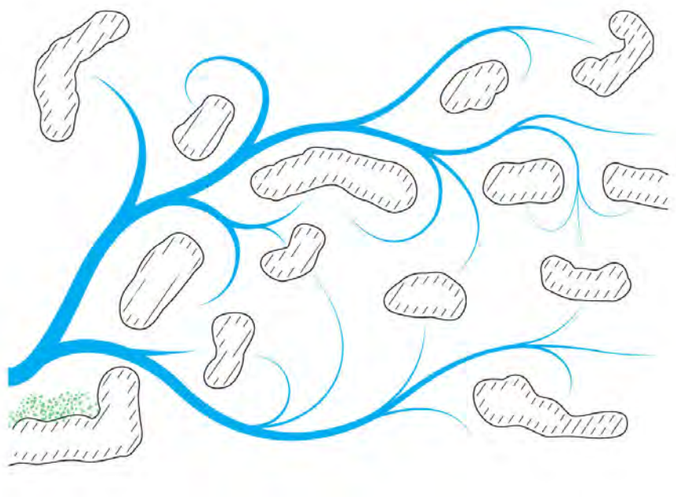
Earthworks



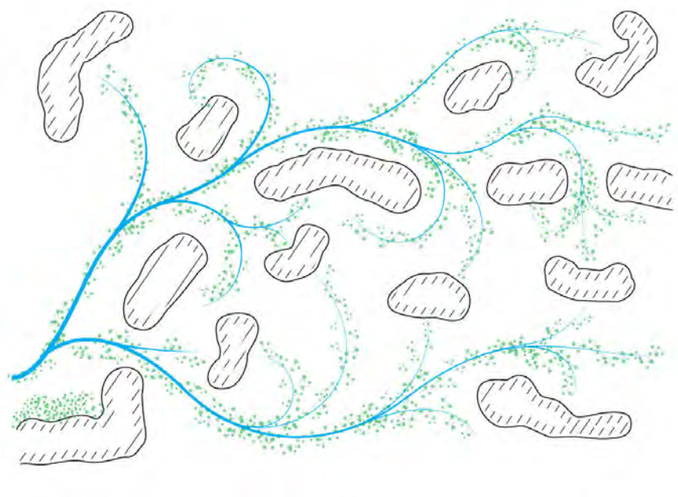
1. Existing Barrier



2. Cut and Fill



3. New Tidal Flow Patterns

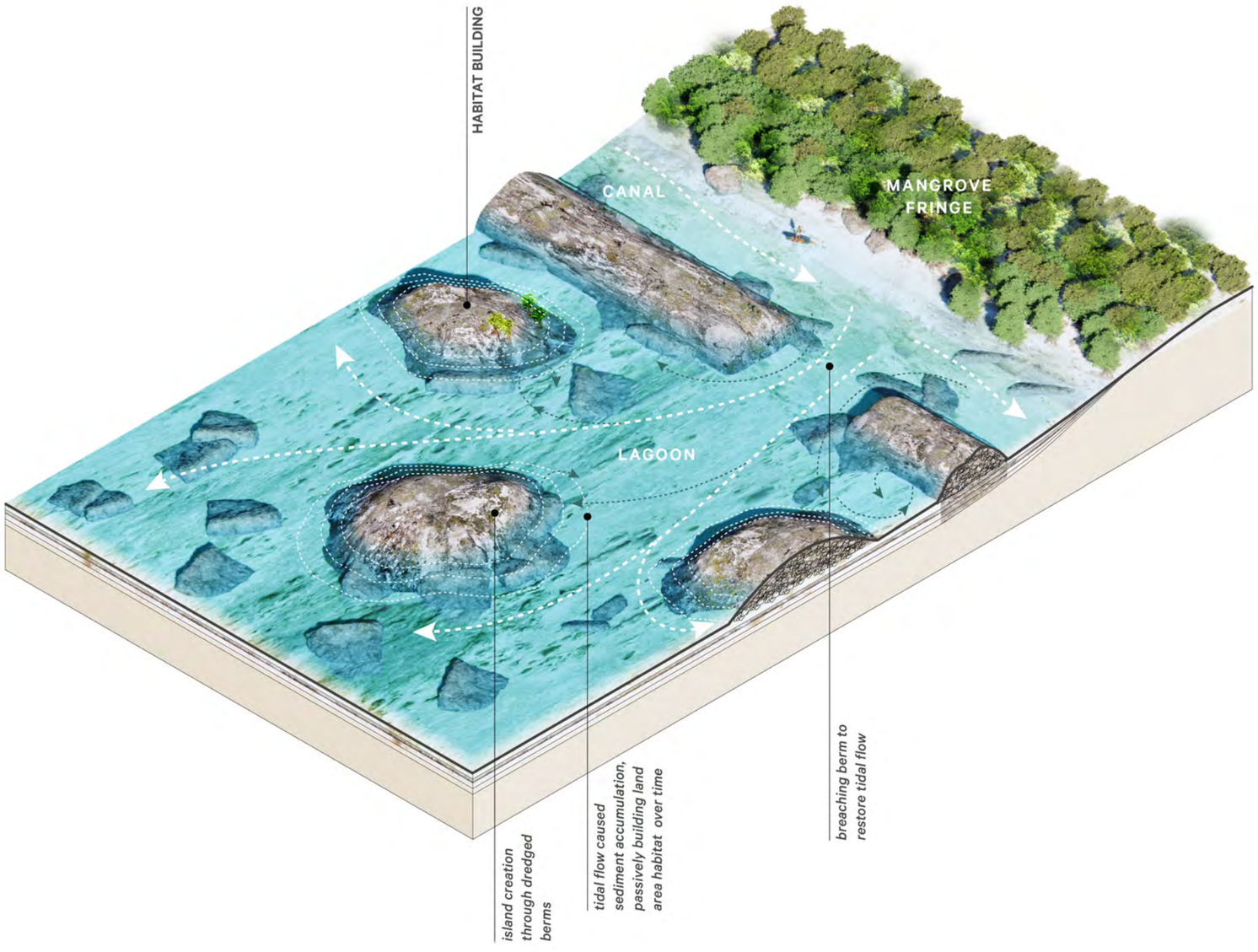


4. Movement of Propagules, Water and Sediment

In addition to the creation of new inlets, a series of land forming and earthworks within the interior of the lagoon will take place in order to restore the tidal flushing of the full lagoon system.

As berms are dredged, breached and reformed into islands, in order to reconnect the hydrological system of the site, these islands become key areas which instigate a passive habitat regeneration.

Habitat Building



Habitat Building

Habitat Building is a foundational restoration effort across the Nature Reserve. Initiated by the restored tidal flow and flushing within the lagoon. Habitat building occurs in tandem to the earthworks activities on site.

As restored tidal flow redistributes and carries sediment throughout the lagoon. As the tidal flow reaches the land forms, the current erodes the lagoon bed and redirects sediment to accumulate around and on the landforms, thus passively building habitat over time. This passive regeneration strategy is key to the active management of the site as well as seeing the Nature Reserve as a connected system that is dependent on itself.

Shorebird habitats are created by preserving, enhancing or creating small islands within inland lagoons. Higher salinity zones are preserved as habitats for flamingos to feed and nest. A series of fishing and conch nurseries provide a sustainable resource embedded in the site. By creating these key habitats across The Salinas, the site becomes both a place that protects and allows species to thrive, while also creating a destination for visitors to interact with this unique ecosystem.

Habitat Building



Map Illustrating Island Creation

Target Species: Avian

Phoenicopterus Ruber
(American Flamingo)



Dendrocygna arborea
(West Indian Whistling Duck)



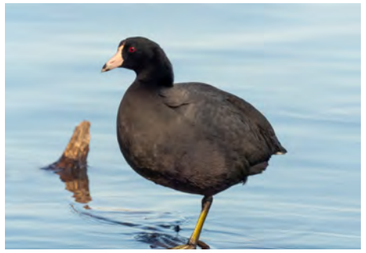
Patagioenas leucocephala
(White-crowned **pigeon)**



Zenaida asiatica
(White-winged dove)



Fulica americana
(American Coot)



Ardea herodias
(Great Blue Heron)

Egretta rufescens
(Reddish Egret)

Egretta caerulea
(Little Blue Heron)

Fregata magnificens
(Magnificent Frigatebird)

Charadris nivosus
(Snowy Plover)

Megaceryle alcyon
(Belted Kingfisher)



Geothlypis trichas
(Common Yellowthroat)



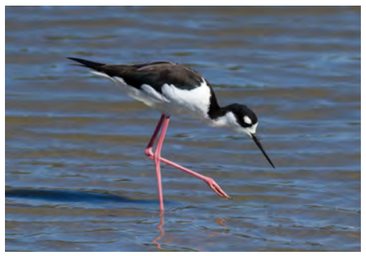
Setophaga ruticilla
(Cape May Warbler)



Setophaga Discolor
(Prarie Warbler)



Himantopus mexicanus
(Black-necked stilts)



Tringa semipalmata
(Willet)



Charadrius wilsonia
(Wilson's plover)



Mimus gundlachi
(Bahama Mockingbird)



Charadrius vociferus
(Killdeer)



Setophaga kirtlandii
(Kirtland's Warbler)



Habitat Rebuilding Avian Species

Potential habitat remediation efforts that would improve habitats and overall ecosystem health, promoting species diversity and abundance of avian species, are as follows:

Preserving, enhancing or creating small islands within inland lagoons that would attract species such as that may use the areas for nesting, particularly if they are placed in isolated areas away from traffic and development.

Some shorebird areas should be kept in low disturbance areas.

Provide multiple wetland lagoon areas managed for different levels of salinity, depth, and disturbance regime. Creating layers with varying water levels would attract shorebirds and waders at the same time.

Provide extensive areas of shallow water or open mud/sand flats for shorebirds between September and March that provide suitable habitat for migrating and wintering shorebirds.

Some lagoons should be deeper to allow for different waterfowl.

Target Species: Flora

Coccothrinax argentata
(Silver Thatch Palm)



Bursera simarouba
(Gum Elemi)



Coccoloba diversifolia
(Pigeon Plum)



Erithalis fruticosa
(Black Torch)



Bourreria succulenta
(Bahama Strongback)



Psychotria ligustrifolia
(Smooth Wild Coffee)



Flora Habitat

Ecosystem and habitat regeneration goals should be based as much as possible on the historic distribution of these features, not just the current distribution. All interventions should ensure that there is natural habitat connectivity (terrestrial and aquatic) between different areas so that animals can move between these areas without having to cross arterial roads or other elements of infrastructure.

Planting of native species should take place immediately after removal along the shoreline. Replacement material planted in areas of removed vegetation should be established (take root) before removal of a second ban of plant material.

Revegetation of the areas where invasive species are removed should be done under the supervision of a revegetation specialist or botanist that is well versed in the identification of native and invasive species at all stages of development.

Prior to any invasive removal it is imperative that a replanting pallet be developed and source(s) of replacement material be identified.

Target Species: Marine Flora & Fauna

Scaridae
(Parrotfish)



Holothuria mexicana
(Donkey Dung Sea Cucumber)



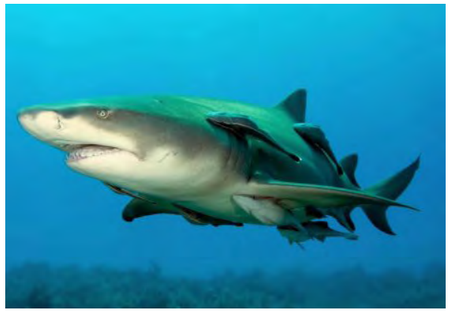
Siderastrea siderea
(Massive Starlet Coral)



Ginglymostoma cirratum
(Nurse Shark)



Negaprion brevirostris
(Lemon Shark)



Scleractinia spp.
(Stony Corals)



Dasyatis americana
(Southern Stingray)



Aliger gigas
(Queen Conch)



Orbicella faveolata
(Star Corals)



Seagrasses



Marine Flora & Fauna Habitat Regeneration

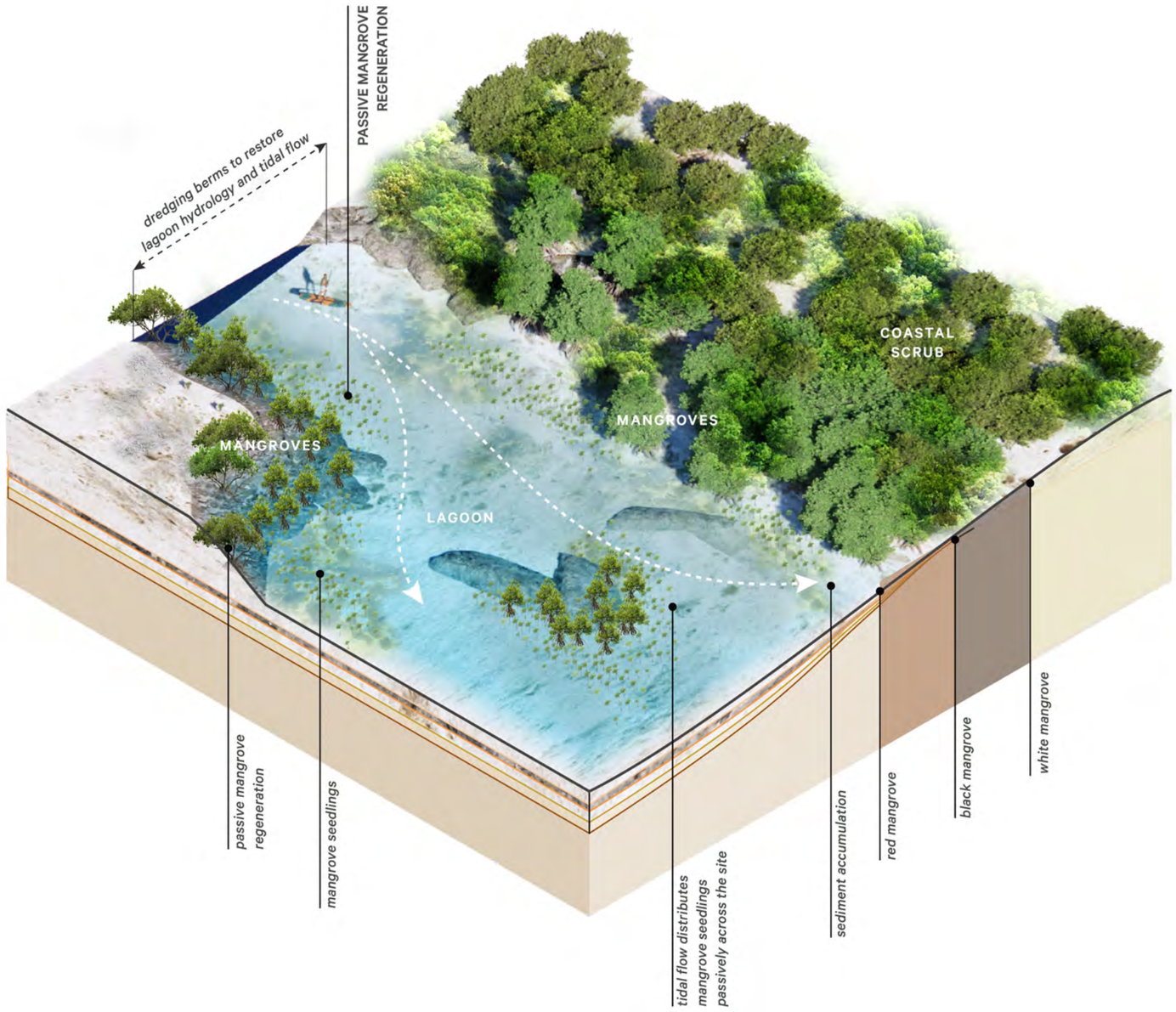
Establishment of a conch nursery with no-take season and regular monitoring by local community members.

Improve flushing throughout the lagoon system to improve food sources, habitat conditions, and species abundance and diversity.

Facilitate passive mangrove regeneration with improved habitat conditions for Parrotfish.

Facilitate coral reef regeneration with strategic relocation of any potentially existing reefs on equipment from the lagoon interior.

Passive Mangrove Regeneration



Mangrove Regeneration

Passive Mangrove Regeneration

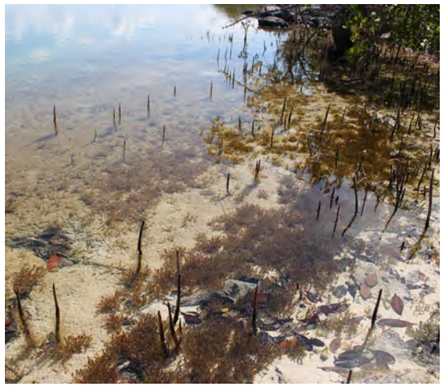
The site is home to vast mangrove forest. Several large interior areas of Rhizophora mangle (Red Mangrove) and Avicennia germinans (Black Mangrove) have been heavily impacted by water flow restrictions and hypersaline conditions. The Sediment build-up has closed three of the six creek entrances on the site.

As the site's hydrological system is re-established and habitat is regenerated over time, so will the passive regeneration of the mangrove forest. Tides carry mangrove seedlings across the site where they are caught in sediment and the interstitial shoreline between water and land. As seedlings turn into propagules and establish their root structure, the mangroves provide key habitat to marine and avian species. Mangroves also act as an active filtration system for the lagoon water and provide key carbon sequestration.

Mangroves reach maturation between 10-20 years and have life spans as long as 100 years. This places the Nature Reserve as a regenerative design project that stewards land for future generations and places human life and its impact within the large time-line of the Athropocene.

Passive Mangrove Regeneration







Current Mangrove Site Conditions

Stages of Mangrove Growth



Mangrove Seedling

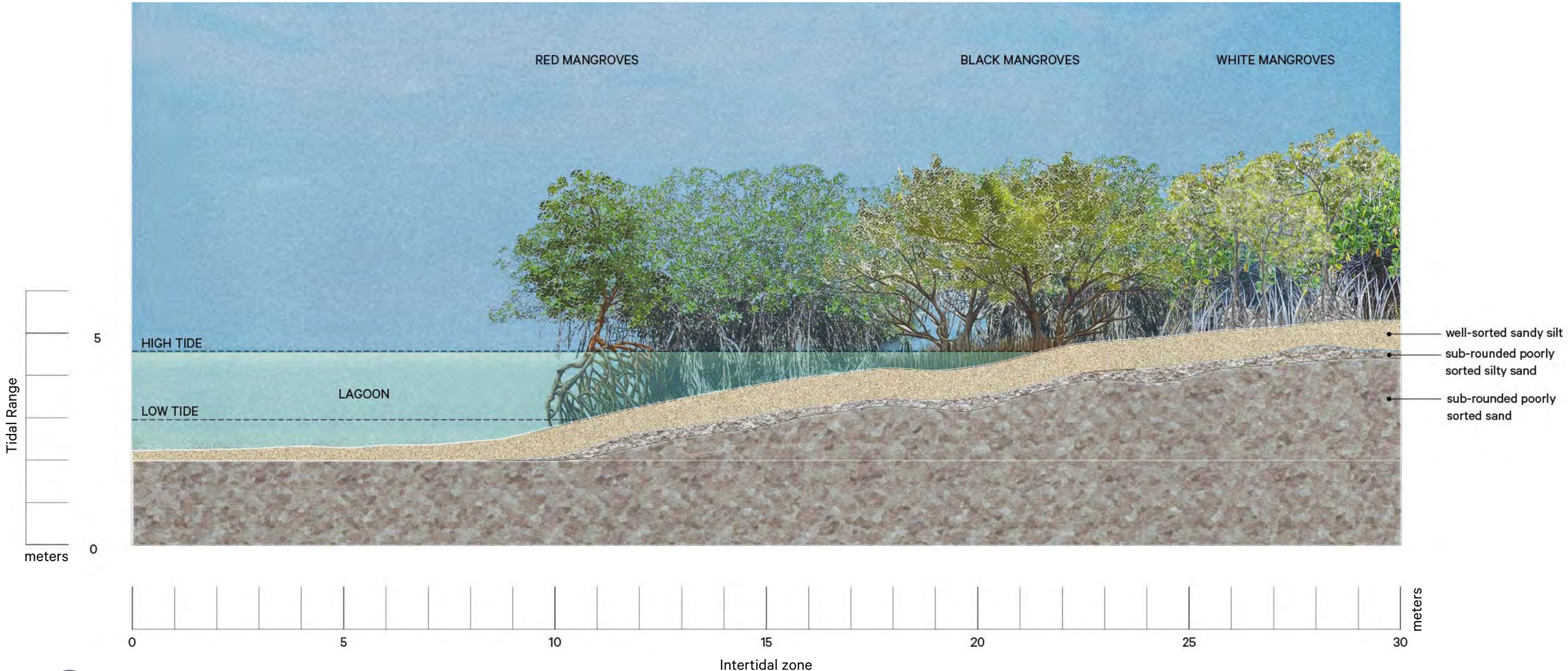


Mangrove Propagules



Mangrove Intertidal Zone

Mangrove Intertidal Zone



Mangrove Regeneration

Mangroves grow in the coastal intertidal zone, thriving in the diurnal rhythms of the tide. The mangrove restoration strategy targets three mangrove species, the Red, Black and White mangroves. These three species have varying preferences within the intertidal gradient and will succeed each other as their sediment and biomass accumulation properties alter that gradient. Where land forming is required, careful articulation of this gradient will employed to maximize the successful habitation of new landforms by the propagules of existing mangrove populations.

Invasive Species













Casuarina equisetifolia (Australian Pine), and Scaevola taccada (Hawaiian sea grape) Site Conditions



Invasive Species Mitigation

Located primarily along the coastal land, two invasive species (1) Casuarina equisetifolia (Australian Pine), and (2) Scaevola taccada (Hawaiian sea grape) are overtaking endemic species. The removal of these invasive species will prevent further coastal erosion and allow endemic species to re-establish across the site.

The methodology used for removal and eradication is size specific and based on accessibility. A combination of mechanical and manual removal should be used and sensitive to each context with select replacement species to re-establish a resilient ecosystem and coast line.


Galloway Gateway
Hard Bargain Gateway
Rose's Point Gateway

Recreation

A series of recreational networks: walking trails, kayak trails, look outs, and rest stops, allow visitors and local community members to actively participate in the restoration and protection of essential habitats. The canal is adapted into a watercraft trail, while old berms are connected into a hiking network. The Salinas is positioned to be a world destination for recreational birding and fishing. By providing a one of a kind site experience, visitors can see the site's post-industrial history that has been transformed into a thriving ecological network. The Nature Reserve provides a tangible vision to regenerative development, and how humans can have agency in the evolving climate crisis.

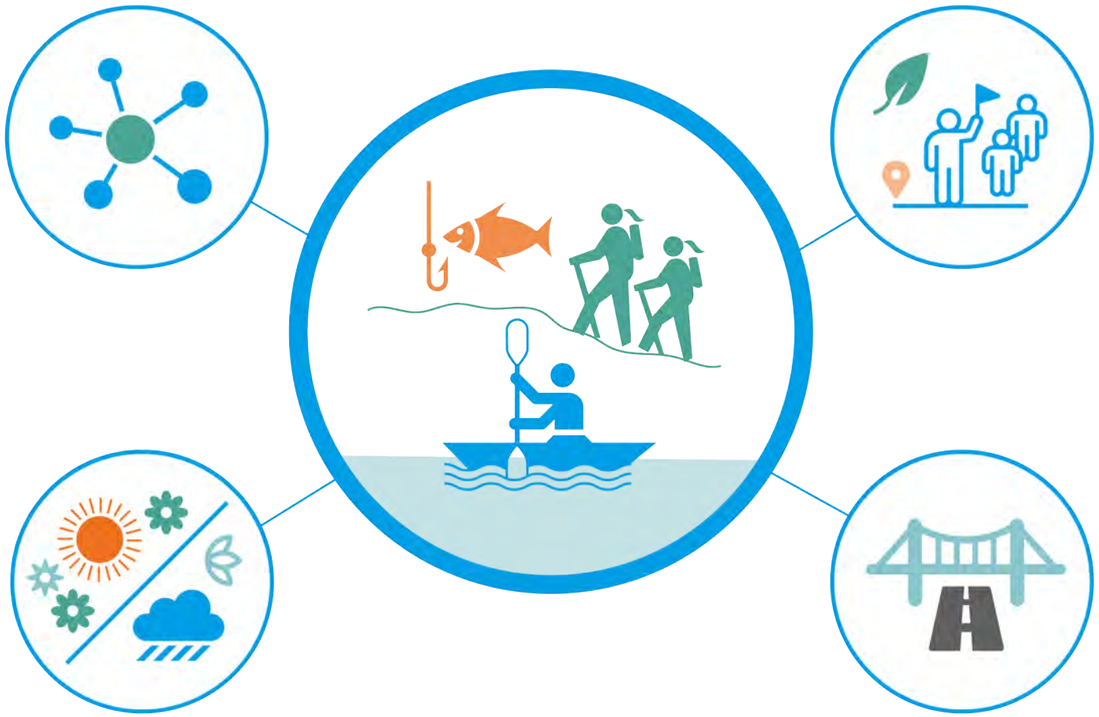
Recreation Principles

Land and Water Networks

Land and water trail networks support local community members and visitors to be immersed in, observe, and actively participate in the site's regeneration. The trail networks highlight what makes The Salinas one-of-a-kind and situates the regeneration of the post-industrial mining site as a learning tool for active management of the Nature Reserve.

Seasonal Access

Seasonal site access for sensitive habitats and ecological zones assist in sustaining the Nature Reserve and site's long-term future. Across The Salinas site, clear boundaries have been delineated between conservation areas and development sites. No Disturbance or Very Low Impact Area and Light Disturbance from Human Activity zones will be established across the site in order to enable the ecosystem to thrive.



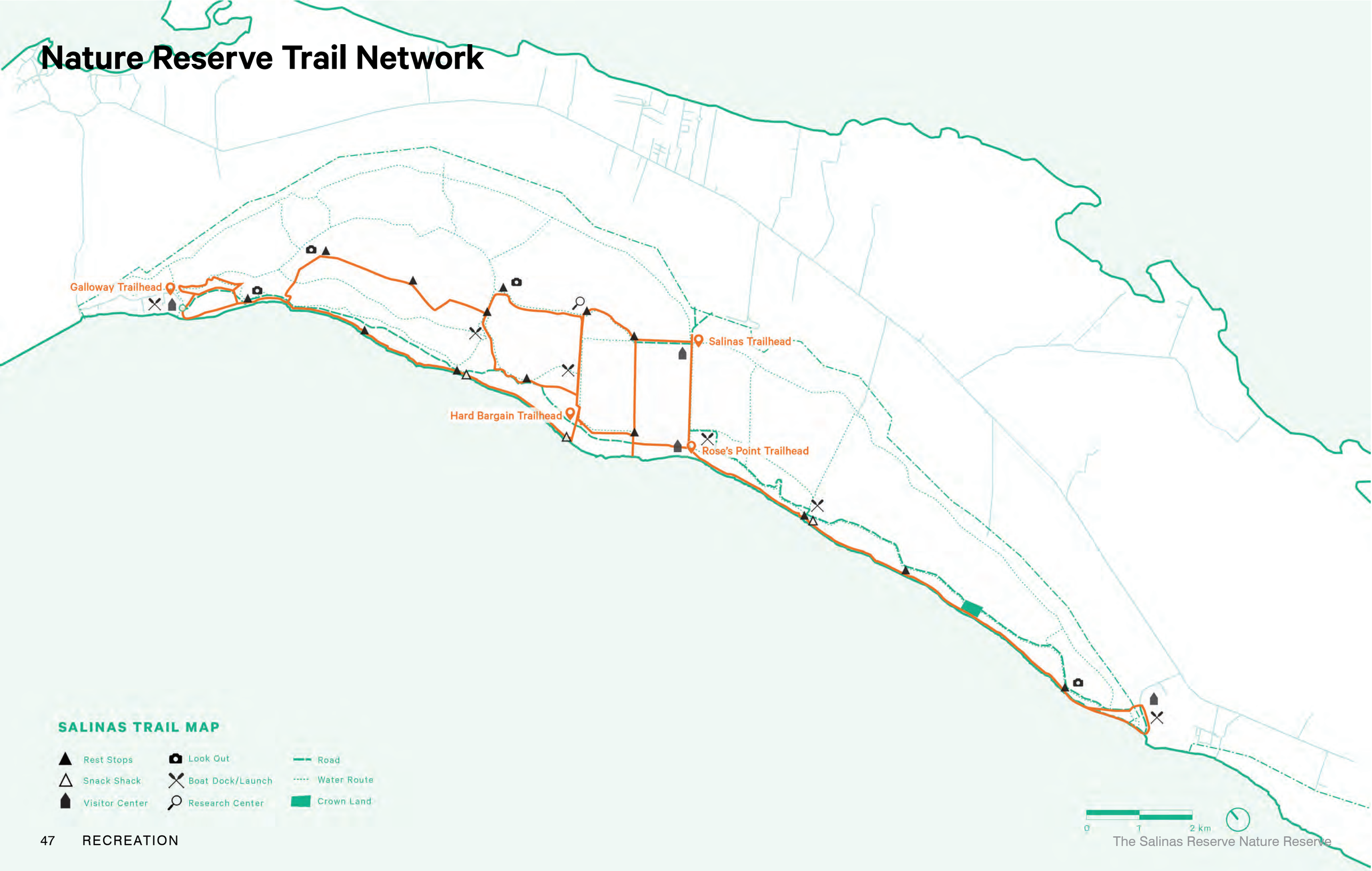
Public Programming

The Nature Reserve is a place of active learning and research. Local community members and visitors will be key players in the active management of the site. Through a variety of recreational, educational and environmental tours for land and water navigation. As well as on-site research, and local production of salt farming, fish nurseries and shrimp farming offer a variety of public programming that will support the long-term vision for the site.

Infrastructure

Strategic implementation of infrastructure: roads, bridges, inlets, public services, enable the site to be reconnected both ecologically and also for its inhabitants. The placement of infrastructure will localize human impact to key active programmatic areas in the Nature Reserve, while retaining protected areas for species with minimal human intervention and access.

Nature Reserve Trail Network



SALINAS TRAIL MAP

- Rest Stops
- Snack Shack
- Visitor Center
- Look Out
- Boat Dock/Launch
- Research Center
- Road
- Water Route
- Crown Land

The Salinas Reserve Nature Reserve

Recreational Trail Networks

36 km (22 miles) of land trails and 19 km (12 miles) of water trails connect the Nature Reserve. A series of land trails navigate both the coast land and interior lagoon for a total of five routes across the site: Galloway Trail, Little Lagoon Trail, Large Lagoon Trail, The Salinas Trail, and Rose's Point Trail. A water trail located along the site's canal runs the entire interior coast line, connecting the site from the north to south. A series of trail heads and launch pads are distributed at key locations and offer multiple access points to navigate the trail network.

The opportunity to collaborate with local and international artists and designers focused on climate, environment and material research provide a unique opportunity for collaboration in the public infrastructure supporting the trail network. Looks Outs, rest stops and public facilities are positioned to respond and reimagine how humans and ecology co-exist and support each other. How views are framed, materials used, methodologies of building can create a culture and new vision of regenerative development.

GALLOWAY LOOP



Length
4 km

Duration
Est. 1 hr

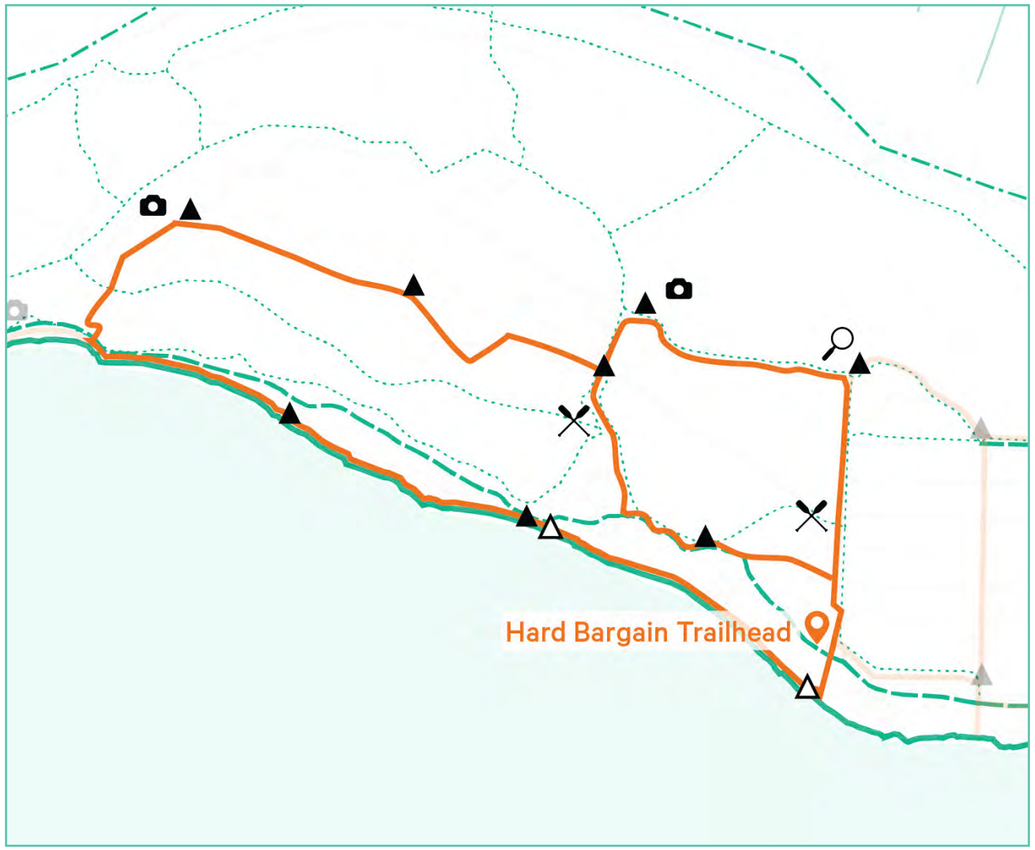
Start point
Galloway Trail head







LARGE HARD BARGAIN LOOP



Length
14 km

Duration
Est. 3.5 hr

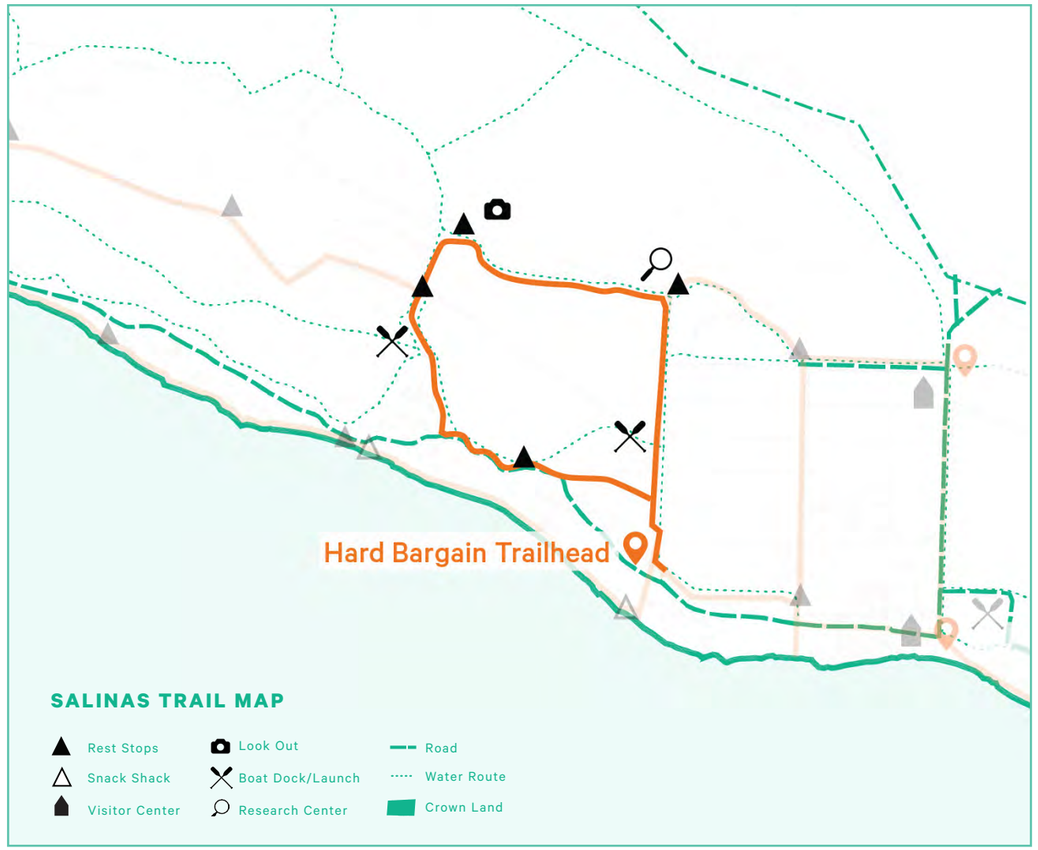
Start point
Hard Bargain Trail head







SMALL HARD BARGAIN LOOP



Length
6 km

Duration
Est. 1.5 hr

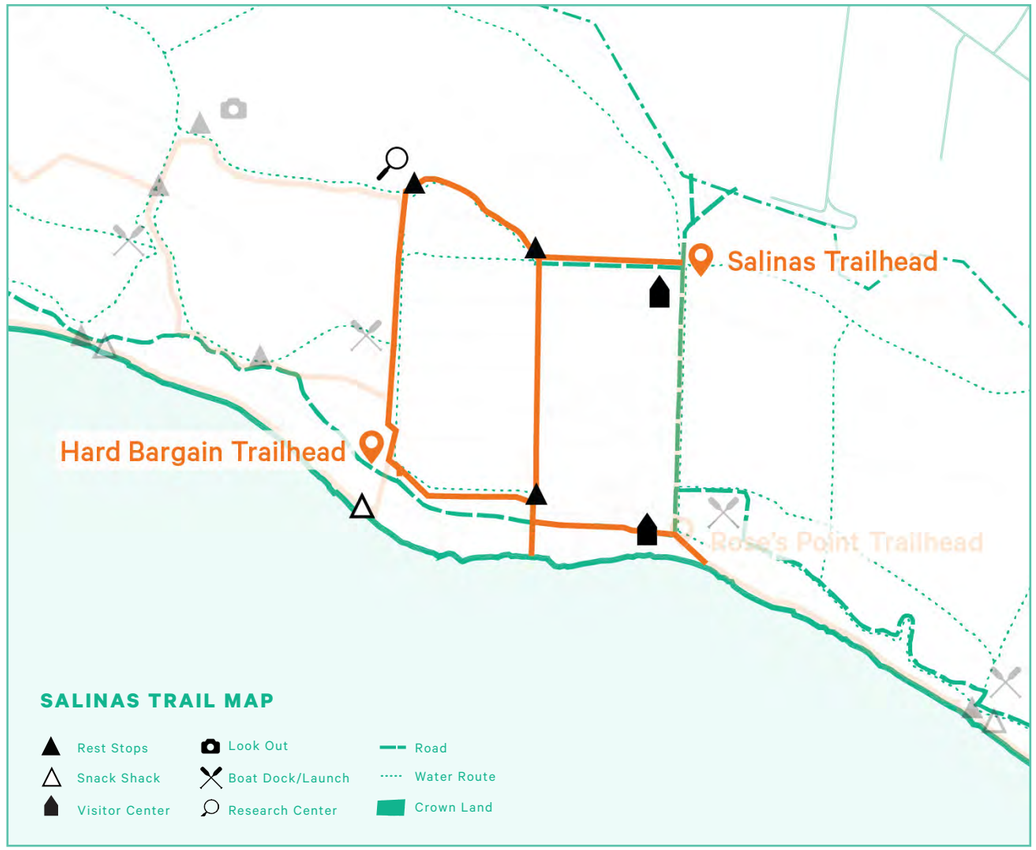
Start point
Hard Bargain Trail head







RESEARCH CENTER LOOP



Length
6.2 km

Duration
Est. 1.5 hr

Start point
Hard Bargain/Salinas Trail head







ROSE'S POINT TRAIL



Length
11 km

Duration
Est. 2.75 hr

Start point
Rose's Point Trail head







Research

The Salinas Nature Reserve is a site of active research. Implemented parallel to The Salinas site restoration, the Research Zone is an area of active learning and test bed for research in coastal and ecological practices, local and migratory species, as well as art and culture. Both institutional and public programming are integral to the success of the Research Zone. Active education through the site's experience is core to The Salinas identity. Positioned as a global leader in climate research, The Salinas Research Zone is a living lab, learning, responding and imagining the next future of the Athropocene.

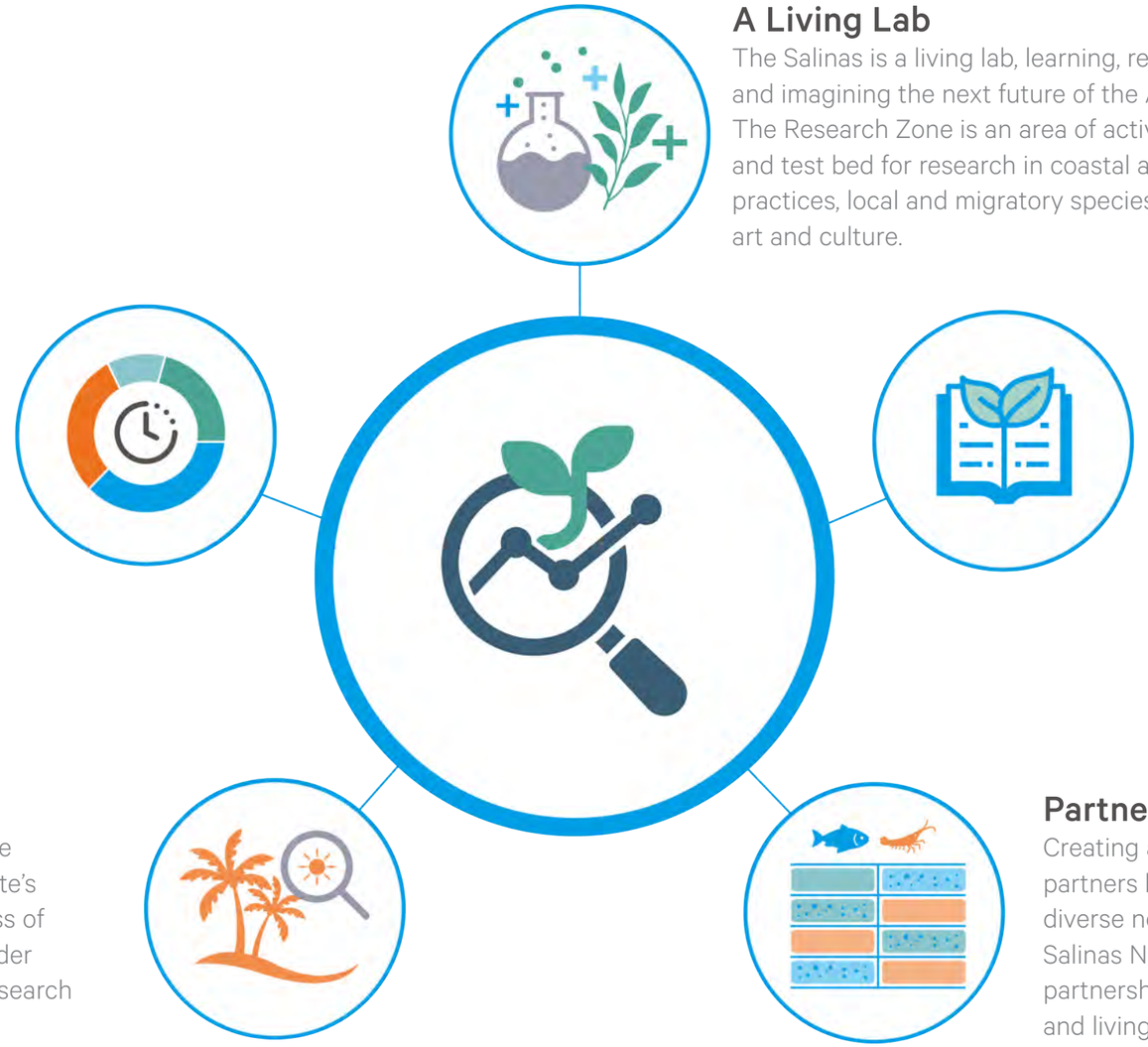
Research Principles

Phasing

With a long-term vision for a leading research institution on site, an incremental construction phasing is proposed for the research center building. This allows for the institution to sustainably grow overtime while adapting to research needs and partnerships that will evolve with the site implementation. By beginning with a economical and lean footprint, only what is essential to begin hosting researchers on site, the phasing and implementation of the research center building creates a feasible and sustainable.

Climate and Ecological Research

The Nature Reserve is the site of research itself. Active management and on-site research, in parallel to the site's implementation and regeneration, is key to the success of the Salinas Nature Reserve. Positioned as a global leader and local expertise in climate research, the Salinas Research Centre focuses on coastal resilience, flood-protection, material research, marine flora and fauna and carbon sequestration initiatives.



A Living Lab

The Salinas is a living lab, learning, responding and imagining the next future of the Athropocene. The Research Zone is an area of active learning and test bed for research in coastal and ecological practices, local and migratory species, as well as art and culture.

Education

The Nature Reserve is both a site to learn from as it is an active tool for learning. The accumulative build of knowledge and the shared exchange with local inhabitants and the general public highlights how the project is a tool of education but also an evolving resource of climate knowledge.

Partnerships

Creating a diverse network of public and institutional partners both local and global, will create a dynamic and diverse network of knowledge expertise at the Salinas. The Salinas Nature Reserve will evolve over time and strategic partnerships are integral to the process of learning from and living with the project and site.

Research Centre Framework

1 Connect

Establish initial research partner: Individual, institutional and/or non-profit



Baseline

Establish a hydrological and environmental baseline for the Salinas site.

2 Deploy

Deploy on-site researcher(s) at starting point of The Salinas project implementation

3 Monitor

Research centre monitoring of nature reserve implementation for baseline of future research



Water Entry Points

Determine points of water entry and re-establish water-flow throughout Salinas site.



Monitor

Monitor success or failure of restored site hydrology.

4 Output of Baseline

Evaluation and assessment of initial project monitoring

5 Scaling + Projection

Long term planning, growth and implementation of research centre



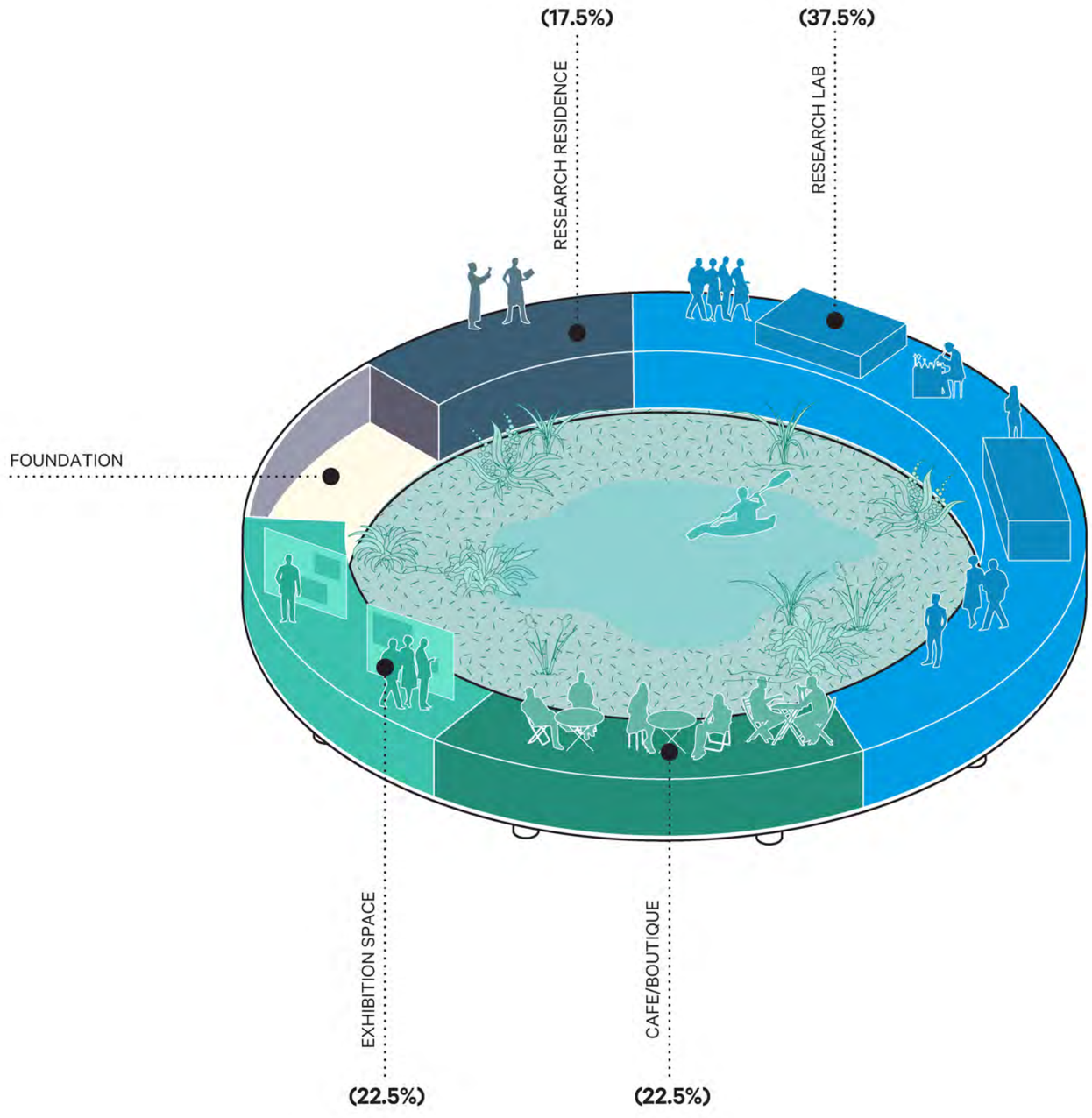
Deploy

Implementation of nature reserve restoration project.

6 Research Centre

Launch of research centre, initiatives and programming

Research Centre Programming





Farnsworth House, Illinois

Located in Illinois, the Farnsworth House by Mies Van der Rohe incorporates a raised building mass sitting on various columns in hopes of disturbing the land as least as possible through construction and design. With the intent of allowing the Salinas Bahamas site to remain mostly untouched, the building could be raised to its flood line, allowing both the building structure and the site to remain unharmed.



Downtown Cary Park, Cary

With a mixture of landscape design, urban design, and architectural design, the Downtown Cary Park Master plan allows its visitors to have a unique experience through multi use programming including food and beverage, public restrooms, events and performance venues, as well as providing general covered and semi-enclosed spaces of shaded leisure and recreation.



Berggruen Institute, Los Angeles

The Berggruen Institute in Los Angeles accomodates a broad programme that combines areas for living, eating, study and meetings. Climate makes it possible to provide spaces for exchange both indoors and outdoors. A landscape vision as much as it is an architectural project, the builidng is sited to minimise the impact and located only on land that has already been modified.

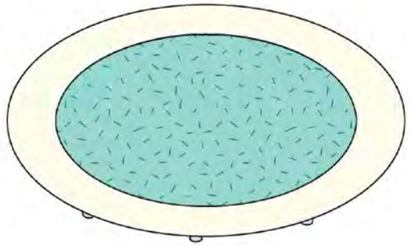


Solo House, Spain

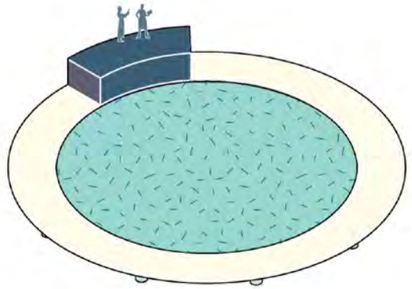
Located in Spain, the Solo House represents a form in which the building has a direct connection and correlation to it's surrounding landscape. The building is completely self-dependent. Photovoltaic panels will provide thermic and electrical energy, which are stocked in buffer tanks. Water is claimed on the site itself, and purified after use.

Research Centre Phasing

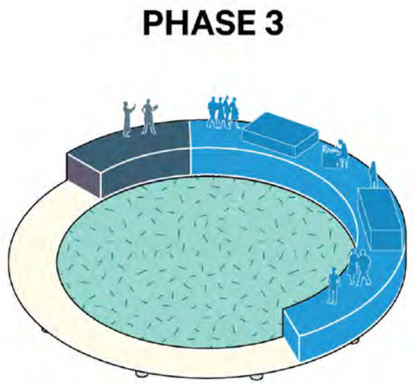
PHASE 1



PHASE 2



PHASE 3



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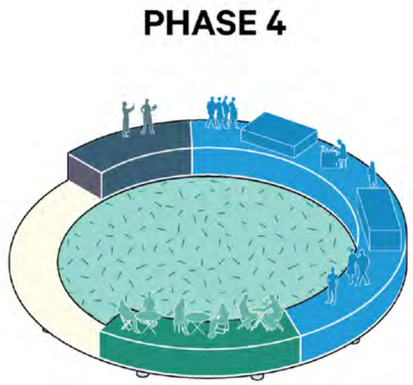

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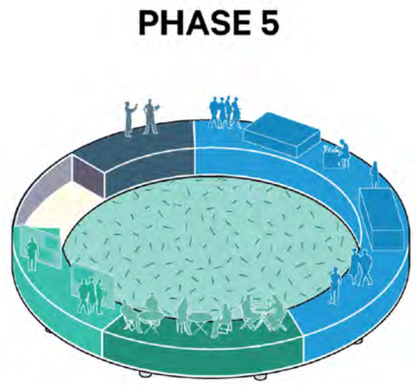

Research Centre Phasing

Through a phasing system divided into five sections, a conceptual massing division has been created for the Nature Reserve Research Centre. Phase one introduces a foundation system raised onto various columns, allowing the building structure to be positioned at the site's flood line. Phase two establishes a research residence intended for two users, continued by the third phase being the research centre which allows the residences to become a place of rest rather than work. The fourth and fifth phases introduce public program elements, being a cafe / cafeteria space which will bring funding to the site, as well as an exhibition / lecture centre.

- PHASE 1
- PHASE 2
- PHASE 3
- PHASE 4
- PHASE 5

