

## Trees For Seas

At Astillero Verde (Spanish for Green Shipyard), we are a living example of a regenerative economy; a platform for conservation and sustainable development. Located in Punta Morales, Costa Rica, Astillero Verde is both the physical home and nonprofit branch of SAILCARGO INC., an emissions-free marine cargo company dedicated to proving the value of clean shipping. Astillero Verde's reforestation program, Trees For Seas, is planting trees to make wooden ship building a regenerative pursuit, creating a model which can be replicated and scaled by other sustainable ventures around the world.

TreesForSeas is working to restore forest connectivity and function within the <u>Bellbird Biological Corridor</u>, focusing on the integration of working lands into forest matrices to promote both ecological and socioeconomic resilience. The goal of this project is to reduce the impacts of climate change and promote sustainable development by planting trees to restore resilient ecosystems, sequester carbon, and empower communities.



"Seeds become saplings, become towering trees, become a sailing ship, and we return to the seeding."

Nikki Blythe-Wood

# With planting sites strategically located in both Monteverde and Morales, TreesForSeas is working to connect the mountains to the sea.

Bellbird Biological Corridor

The Bellbird Biological Corridor encompasses 66,416 hectares, spanning from the continental divide in the Monteverde region to the Gulf of Nicoya on the coast. The area contains three major watersheds and multiple ecosystems and life zones, including cloud forest, transitional forests,

lowland tropical dry forests, and mangroves. Connectivity between these forests is essential for enabling upslope species migration, both seasonally and in response to climate change, thus promoting genetic exchange and limiting biodiversity loss. Restoration of these highly vulnerable forest types is paramount for ensuring both biological and socio-economic resilience.



Our program represents one of the only organizations working in the lowland portion of the corridor. By focusing on the forests surrounding our shipyard home, TreesForSeas is working to engage in tropical dry forest and mangrove restoration, with well-established partnering efforts the conservation mountains to tie together forests of the Bellbird Biological Corridor.



#### **Planting Sites**

Sybil Gotsch Property At 1,100m, this property is 2.6

hectares of mostly degraded pasture with some young secondary forest and is being planted with native species

Finca el Jardin At 985m, this 38ha farm is

utilizing agroforestry, planting trees to shade organic coffee

Punta Morales
Just 30m above sea level, this

Just 30m above sea level, this 700ha farm is enriching its secondary forest with native tree species

#### Finca el Jardín, Monteverde

This beautiful 38 hectare property in San Luis, Puntarenas (985m) has a similar history to much of the Monteverde region; functioning as a coffee plantation until 1980, followed by cattle pasture which degraded the soil. The land has been managed organically since 2008, and is now set to become a biodynamic coffee farm, using agroforestry techniques to shelter shade-grown organic coffee under bountiful fruit trees and towering tropical timbers.

Approximately 1 hectare was designated for reforestation in 2020.
633 trees were planted, representing 31 native species.
One year post-planting we are proud to report that the trees are thriving with a survival rate of 92%!



Noam Sirota carrying trees to be planted on his land

#### Dr. Sybil Gotsch's Land, Monteverde

At 1,100m, this property is 2.6 hectares of mostly degraded pasture with some young secondary forest close to the stream. An experienced tree climber who studies epiphytes, Dr Sybil Gotsch's vision for this land is to restore ecosystem services. Planting only native species in the forest designated area. The intention is to rehabilitate the degraded soil and purify the stream, bring back pollinator gardens and grow a forest that could potentially turn into a biological corridor.

Approximately 1 hectare was designated for reforestation in 2020. 607 seedlings were planted, along with 752 estacas, or cuttings, totaling 1,359 trees planted.



Astillero Verde team tree planting in June, 2020

### Lowland Tropical Dry Forest

The lowland tropical dry forest, which only accounts for a small fraction of national forest cover, is one of the most vulnerable and understudied ecosystems in the Neotropics. In their current state of degradation, they are among the most sensitive Costa Rican forests to climate change, but with restoration, they can become some of the most resilient.



Dry forest have been heavily deforested due to their wealth of tropical hardwoods and timber trees



Many of these trees are deciduous, and drop their leaves in the dry season only to burst into brightly colored flowers



These forest are extremely biodiverse and are home to many rare species of plants and animals

#### Walter's Farm

This 700 ha working farm represents our first dry forest restoration site. Producing cattle, sweet potatoes, wheat, and teak, this diverse property is an ideal place to develop forest matrices, integrating natural forest, agroforestry, and silvopastoral practices to create a model land scape for restoration.

Approximately 12 hectares are designated for reforestation in 2021. Our planting goal is 3,000 trees.



Areal view of Walter Rodriguez Monturiol's farm in Morales, Costa Rica

#### Mangroves

Mangroves are another highly threatened ecosystem that offers important ecosystem services, including carbon sequestration, acting as buffers for sea-level rise and storm surges, and as rookeries and estuaries which support local biodiversity and coastal economies. The mangroves surrounding AstilleroVerde filter water entering the Gulf of Nicoya, one of the most productive estuaries in the world.



Mangroves blur the boundary between land and sea. As TreesForSeas continues to grow, we hope to restore the mangroves surrounding our coastal community and shipyard home



Artisanal fishing is the main income of our neighbours in the Morales, Costa de Pajaros, and Chomes communities. These represent some of the most impoverished communities in Costa Rica, and they are dependent on these mangrove systems for food and economic security. Though legally protected, the mangrove remain degraded and in need of restoration.

#### Astillero Verde

Astillero Verde is a non-profit association committed to supporting the sustainable development of coastal communities and the restoration of local landscapes by implementing free educational programs, professional training and apprenticeship opportunities, as well as coordinating this multi-year reforestation program and supporting the establishment and growth of a community garden. All of these programs are integrated, making each of them stronger than if they stood alone.



## Growing the trees to shade and feed our community

As part of our commitment to education,
TreesForSeas hopes to host courses and workshops
on topics including:

Agroforestry
Silvopastoralism

Seed collection and germination

Offered in collaboration with the Mar y Miel community garden's agroecological workshop series, beginning in 2021.

The TreesForSeas Vivero is being constructed on the same land as the community garden, and will produce seedlings for future planting seasons, as well as fruit trees to be donated to the community to aid in food sovereignty.

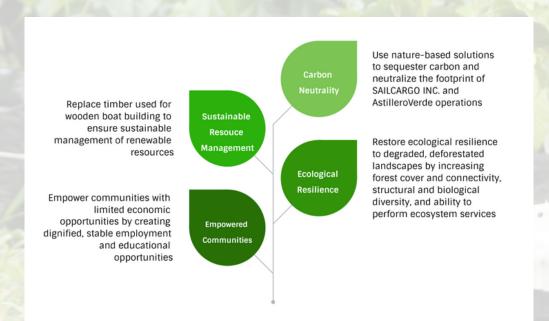


Visit Astilleroverde.org to learn more and become a supporter of these projects

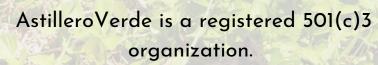


With the potential to account for nearly 30% of the Paris Agreement carbon sequestration goal, restoring ecosystem function is a key step in mitigating the impacts of climate change, both ecologically and socially. Increasing forest connectivity and diversity by converting degraded, deforested land to multi-structure, multi-use forested systems is critical for ecological restoration and human livelihoods.

Meeting nearly all of the United Nations Sustainable Development Goals, this reforestation program provides an example of the potential for integrated business models as platforms for conservation and community empowerment. This project is supporting economic development in a marginalized community by providing opportunities for stable, dignified employment for both men and women via tree planting, care, and maintenance both in the nursery and field. This program aims to increase food security with publicly available fruit trees and economic sovereignty by diversifying agriculture through agroforestry and silvopastoralism. Reforestation will provide ecosystem services, protecting life on land and underwater. Partnering with universities and institutions, this program aims to advance circular-economy implementation, creating a model reforestation program that can be replicated with company expansion and to additional projects worldwide.







Tax deductible donations made to this project though our partners CRUSA and Amigos of Costa Rica are what makes all of this possible.

Thank you for planting trees with us





#### **AstilleroVerde**

A Shipyard for Coastal Communities

in association with SAILCARGO INC.

AstilleroVerde 200m Oeste al Super la Familia Provincia de Puntarenas, Punta Morales Costa Rica 60103

> astilleroverde.org @astilleroverde info@astilleroverde.org +506 2661-9222