Chile: Valdivian Coastal Reserve Conservation

Along Chile’s southern coastline within a global biodiversity hotspot, the Valdivian Coastal Reserve is part of a temperate rainforest and one of the most carbon-dense forests on Earth. With more than half of the world’s temperate rainforests destroyed, the Reserve is one of the largest remaining on Earth. The project aims to achieve security for the threatened biodiversity, conduct scientific research of the unique, native Valdivian rainforest and contribute to the sustainable development of surrounding communities, ensuring long-term stability of the ecosystem.
The project
Prior to the project, the Valdivian Coastal Reserve faced an immediate threat of deforestation and degradation due to planned conversion to non-native eucalyptus plantations as well as the construction of a coastal highway. The Reserve is located on privately-owned property which was purchased by The Nature Conservancy - the largest environmental charity in the Americas - in 2003, when an industrial timber company owning the land became insolvent. Without The Nature Conservancy’s involvement, another industrial timber company would have likely purchased the land and conversion from native forest to non-native eucalyptus plantation would have continued.

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The Nature Conservancy purchased roughly 60,000 hectares of this forest, over 10% of the remaining coastal forest ecosystem in southern Chile, with conservation as the primary objective. The Nature Conservancy donated more than 9,000 hectares to expand the Coastal Alerce National Park and recently protected the Reserve using the Chilean equivalent of a “conservation easement” which requires the current landowner, or any future purchaser, to continue to adhere to the conservation restrictions over the long-term. The easement is held by Forecos Foundation, a third-party Valdivia based conservation foundation, who will monitor the land to ensure that it continues to be managed in line with the conservation goals of the project.

The project divided the Reserve into zones based on biological, ecological, human and administrative criteria to enable informed, long-term conservation of the area. With clear objectives and an understanding of the threats facing the region, the project has been able to implement targeted activities that engage local communities and other relevant stakeholders.

Contribution to sustainable development
The project contributes to sustainable development in several key areas:

Biodiversity protection
The project is located in Chile, an ecological “island” bounded by the Pacific Ocean, the Andes Mountains, and the Atacama Desert. The Reserve, which is part of a unique forest tract, is in the southern portion of the country and is home to rich, endemic flora and fauna; it forms part of one of the most carbon dense forests on Earth. Olivillo trees, which can live up to 400 years, are amongst the special tree species found in the Reserve, along with Alerce trees, which resemble North American Giant Sequoias. Alerce trees have life spans of up to 4,000 years and are the tallest trees in South America.

The area is also home to 77 identified species of mammals, birds, reptiles, amphibians and fish. This includes endemic and endangered species such as the river otter, the pudú (one of the world’s three smallest deer species), the mountain monkey, Darwin’s fox, the Magellanic woodpecker and the Guiña cat (the smallest wild felid in the western hemisphere).
The project’s pilot restoration programme involved the planting of a total of 225,000 trees across 150 hectares. The project is now continually working on activities to help rehabilitate the land, including removing the existing non-native eucalyptus that were planted by the previous landowners and replacing them with native Coihue saplings. The sustainable tree harvesting activities are monitored by The Nature Conservancy and the Universidad Austral de Chile in Valdivia to determine the best methods for extraction and restoration.

One overarching goal of the project is to promote the use of sustainable resources while also contributing to community development. The primary customary land uses for people living in the surrounding areas are cattle grazing and travelling through the Reserve to access marine food sources. The common practice of allowing cattle to graze freely, including in conservation areas, threatens biodiversity. As a result, the project is helping to ensure livestock populations are sustainably managed, while still supporting this important livelihood activity for local communities.

To address the other major land uses, the Reserve has agreements with the communities’ fishermen’s unions allowing them access to fishing coves, the seabed bottom and management areas, use of internal roads and permitting them to construct cabins from which to protect, monitor and harvest the sites.

The Nature Conservancy is also working along the coast of the project on a conservation marine reserve totalling 136,000 acres. Together with local fishing associations, academic institutions and government agencies, they are helping strengthen marine conservation activities, monitoring the ecological performance and developing strategies to improve the value of fishing catches for fishermen. Though not explicitly part of the carbon project, the decline of local fisheries would likely increase pressure on terrestrial ecosystems as communities would seek to replace previous income with new resources.

Water stewardship
Important riverine systems are well-represented within the project area. Unfortunately some areas have been degraded due to poor management practices from industrial forest plantations as well as the construction of the bridge crossing the Chaihuín River, developed as part of the coastal highway. The non-native eucalyptus that was planted by previous landowners uses more water than native forests and retains less water in the soil after precipitation, while the clear cutting practices leave the land susceptible to erosion. The river is still recovering from affected summertime flows and increased sediment load that damaged the coastal and riverine habitats upon which communities depend. Research carried out in the Reserve has estimated that restoration activities can have a significant benefit on the water’s ecosystem services. One study estimates that for every 10% of native forest cover restored, there is nearly a 15% increase in total summer river flows, and that silvicultural techniques, which accelerate ecological succession such as thinning, could shorten recovery time5.

The pilot restoration programme involved the planting of 225,000 trees
Additionally, the project is helping improve the accessibility to potable water for adjacent communities that currently rely on the watersheds for drinking water. As well as the overall conservation efforts, the Reserve has donated half a hectare of land and water rights to help provide drinking water for the 115 families in Chañuy. The Chilean government funded the infrastructure needed to build these water projects and local communities bid on contracts for the construction. The Nature Conservancy’s advocacy and support has resulted in the government agreeing to extend this project to the Huiro Community.

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**Economic growth**

Much of the local economy is dependent on the marine, estuarine and riverine zones within the reserve. Therefore, the project works closely with neighbouring indigenous communities and fishing villages to encourage local economic growth as part of the Reserve’s conservation strategy. This work includes helping restore the Chañuy River where development of the land had led to sedimentation. This particularly impacted the habitat for species central to the communities’ economy such as shoe mussels (Choromytilus chorus). Reducing erosion helps improve habitat conditions and subsequently increases shoe mussel production, which in turn results in more product for local fishermen to sell.

The Nature Conservancy also plays an active role in working with local fishermen to promote sustainable fishing practices and help protect marine habitats off the coast, though these activities are not part of the carbon aspect of the Reserve. The marine activities include community-based catch sharing agreements that help allocate the management of coastal resources. In addition, The Nature Conservancy is partnering with Shellcatch Co. to help fishermen gain access to premium markets and increase their revenue by implementing traceability systems to promote the sustainable sourcing of fishing products.

Ecotourism also plays a significant part of the project’s activities and the Reserve is central to the emerging ecotourism industry in the area, with an estimated 5,000 visitors each year. Alongside the project, a separate fund of US $300,000 gives seed money to local entrepreneurs who develop sustainable business plans, many of which are tourism related.

There are a number of additional projects developed through other partners which were unlikely to have been implemented without the presence of the Reserve. For example, working with the United Nations Development Programme, Small Subsidies Programme (UNDP-SSP), community organisations have already been funded to develop local initiatives and small businesses.
Erwin Ovando, one of the Valdivian Coastal Reserve park guards, standing among Alerce trees which can grow up to 4,000 years old making them the second oldest growing tree species in the world.

The Nature Conservancy has implemented workshops in three rural schools reaching around 1,000 people

**Empowering women**
Women lead many of the community-based entrepreneurial projects in the area. Funded separately from carbon finance, but implemented with The Nature Conservancy’s support, one women’s cooperative was awarded US$20,000 which they used to start a restaurant, north of the community of Chaihuín. They also sell locally made textiles in this area. Additionally, the project has supported a group of female artisans, The Kutralhue Artisans Group of Huiro, who produce non-wood forest products such as herbal teas made from collected fruit from the Reserve’s temperate rainforest.

**Education & skills**
An environmental education campaign, organised by the Reserve for schools, local organisations and tourists, has helped generate greater environmental awareness. The Nature Conservancy has implemented workshops in three rural schools in the neighbouring communities of Chaihuín, Huape and Huiro which reaches around 1,000 people.

There are a number of training programmes for the Reserve’s staff and local communities to help promote sustainable community development and consistently improve the quality of conservation. These include education on: forest fire prevention and suppression, GIS and GPS technologies, first aid, biodiversity monitoring and bird identification, computer skills and basic English lessons.

**Job creation**
For the operation of the Valdivian Coastal Reserve, 12 permanent staff members have been employed, including park guards who also act as a fire brigade. There has been ongoing dialogue with communities for more than 10 years, which is organised by a full-time social programme coordinator dedicated to community engagement, to ensure opportunities and benefits continue.

The project has also, indirectly, helped create approximately 40 positions of seasonal employment due to the ecotourism growth in recent years. These roles are generally in activities around tourist operations, local restaurants and development of rental cabins for visitors.
The Reserve has a high level of outreach which extends nearly 30km north towards Corral city

management and forestry, in addition to other topics. The Universidad Austral is one of the leading scientific research centres in Chile and is located 50km from the Reserve.

Chile’s National Forestry Corporation and Ministry of Environment has acknowledged the project as a benchmark for reducing emissions from deforestation and forest degradation (REDD) projects in Chile. More than 9,000 hectares of the land that was purchased has been donated to the Chilean government and is now part of the adjacent National Coastal Alerce Park. Combined, the park and Reserve make up Chile’s largest protected area of coastal temperate rainforests.

The region

Surrounding the Valdivian Coastal Conservation Reserve, there are roughly 1,000 people benefiting from the project across seven small towns, in the municipalities of Corral and La Union. The region has relatively high poverty rates, with an estimated one in five people living below the poverty line (earning approximately US $96 per month). Though the majority of community activities are being implemented within these adjacent communities, the Reserve has a high level of outreach which extends nearly 30km north towards Corral city.

The Nature Conservancy aims to formalise and strengthen connections between institutions and organisations to maximise the conservation potential of the Reserve and general region. This includes a long-term partnership with Universidad Austral to support scientific research at the Reserve on specific species, water and watershed

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