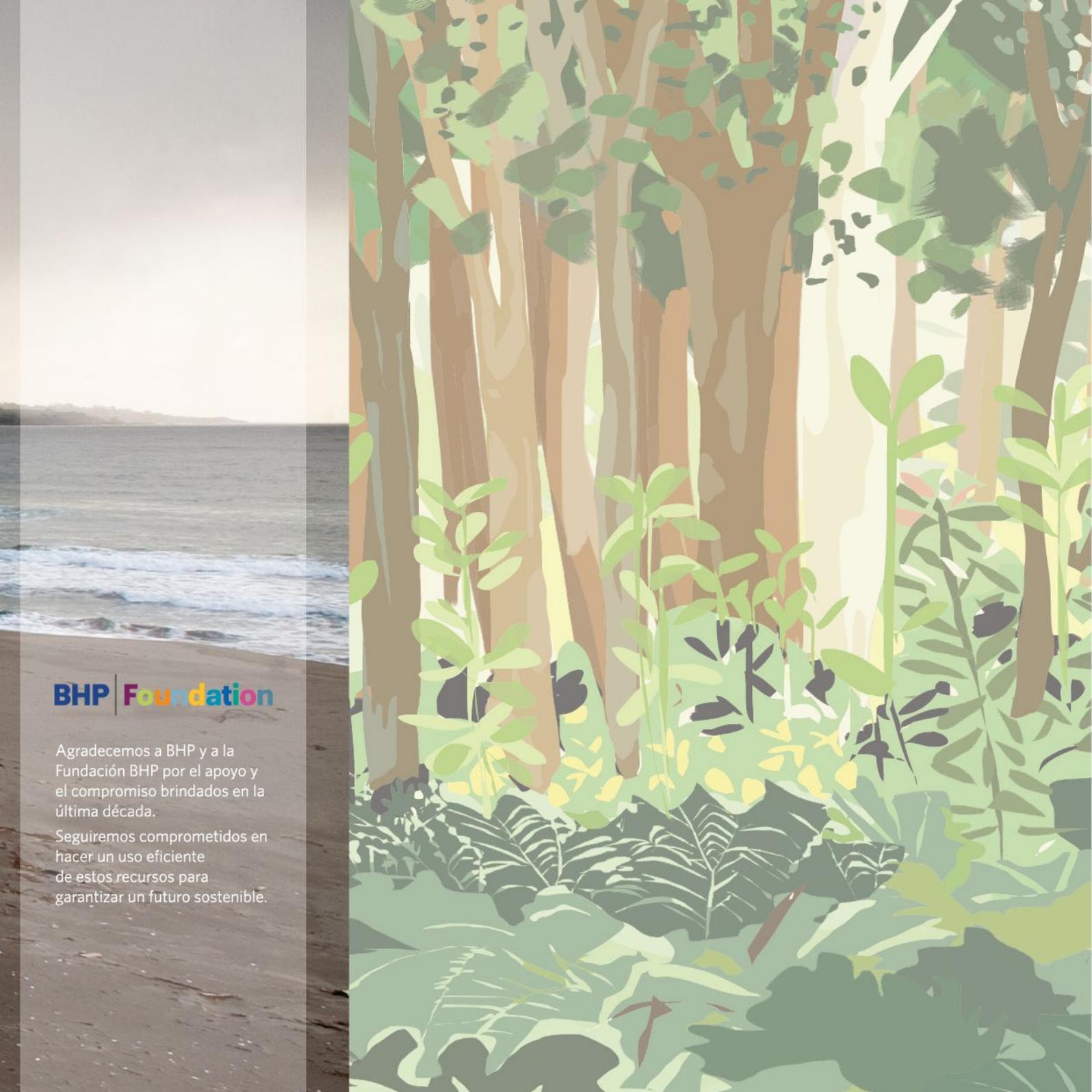


2003 - 2023

The Nature
Conservancy 
Chile

 20 AÑOS
RESERVA
COSTERA
VALDIVIANA



BHP | **Foundation**

Agradecemos a BHP y a la Fundación BHP por el apoyo y el compromiso brindados en la última década.

Seguiremos comprometidos en hacer un uso eficiente de estos recursos para garantizar un futuro sostenible.



 20 AÑOS
RESERVA
COSTERA
VALDIVIANA



Chile

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In Homage to Omar Ponce

Since he was young Omar traveled throughout this great territory and loved it profoundly.

While he learned to read on the peaks of Colún, he saw how these enormous Alerces were cut and made into boards and sawdust. Omar crossed the forests, rivers, hills, and mountains full of life, but he also saw how the trees that had always taken him in burned.

During the last 11 years of his life, Omar felt proud to protect this territory. He is still here, in every sunrise, in the song of every chucao tapaculo, in every diving dolphin, in every planted tree, caring for what he so loved.

Thank you, dear guardian of the Valdivian Coastal Reserve.





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Introduction

We have years, not decades, to take on the interconnected crises of climate change and biodiversity loss. But by working together, we're overcoming barriers to the solutions our planet needs. Together, we find a way.

The Nature Conservancy



In the year 2003, the destiny of one of the largest and most emblematic extensions of the Coastal Range in Chile changed. In a public auction, after a forestry company that substituted native forest with exotic tree plantations went bankrupt, The Nature Conservancy acquired land in Chaihuín and Venecia, and formed the Valdivian Coastal Reserve. From then on, we have worked together with the public sector, academic institutions, and the neighboring communities to maintain the traditional uses of the land and strengthen an economic development that is compatible with conservation.

The temperate coastal forest that the Reserve protects is home to a unique biodiversity with high endemism. During the last glaciation, twelve thousand years ago, the Coastal Range was an ice-free shelter for many species of plants, animals, and mushrooms. As the ice melted, the surviving species recolonized the lower lands, and the distinctive composition of species that makes up the current temperate South American rainforest was formed. Among these species are two of the most long-lived tree species on the planet: the coastal olivillo (*Aextoxicon punctatum*), which can reach four hundred years in age, and the alerce (*Fitzroya cupressoides*), common name in English: Patagonian Cypress), which can live for more than four thousand years.

After 20 years of effort, lessons, and many achievements, we are celebrating a great moment for the Reserve and its conservation objectives. We invite you to experience our story in this tale.

Juan José Donoso

Executive Director of The Nature Conservancy Chile

CHILE

Pacific Ocean

SANTIAGO

VALDIVIA



Pacific Ocean

Huape

CORRAL

Niebla

Isla del Rey

Chaihuín

Huiro

Punta Galera

Playa Colún

Río Colún

Río Chaihuín

Cadillal

ALERCE COSTERO NATIONAL PARK



Hueicolla

Lamehuape

Río Bueno

ALERCE COSTERO NATIONAL PARK

The Nature Conservancy



Chile



0 5 10KM





Witnesses





I sprouted when you already existed. You saw me grow slowly, millimeter by millimeter, with thin growth rings during warm times, and thicker more robust rings during cold periods; it's just that, I like the cold. During those early times it seemed to me that you looked upon me with disbelief; you must have thought that I was only just a tender leaf, that I would not be able to resist such a climate and such a soil. You must have assumed that I would abandon the fight to evolve, to rise up, to widen my stance. I also know that later, when I had become a true tree, upright and sturdy, you feared for me once again: you thought I would give up faced with the invasion of such adversity.

But I am more than 2000 years old. And I am still standing.

I live here, on this mountainside, and thanks to that, and my more than thirty meters of height, I can gaze upon you and admire you daily. I let myself be lulled by the whisper of your waves. Also, by your smell, which rises up, traveling crisply to my crown and my bark. You are witness, caregiving ocean, accompanying me since I have memory. And because I am elderly now and I am proud of this immortal age that I carry in my lineage, I wish to release these feelings, to do the same as I do with the air: absorb the bad, return the good. I have already witnessed much suffering in my surroundings, and I believe that the moment has come to enjoy these calm years that have fortunately arrived.

Even today it is difficult for me to believe that these more than fifty-thousand hectares where I am sheltered, this secluded forest on the cliffs, this forest that I belong to along with the latues (*latua pubiflora*), the arrayanes (*luma apiculata*), and the olivillos (*aextoxicum punctatum*), this forest that survived glaciation (glaciation!), forests that we thought were infinite and eternal, this forest of which I am merely one member and at the same time I am all, it is difficult to believe that it was on the verge of disappearing. In the blink of an eye, cruelty transformed us into a fragmented family. Our world imploded, neighbor. They amputated us, they incinerated us. Our roots cried; the tears moved throughout the watershed until they flowed into you. That is how you heard the laments and found out what was happening to us. I know that during these years that were so difficult for us, you also fought with your own hell: to end up alone and empty. Solitude is hard.

Sometimes I think that I grew so slowly due to all that happened to us, not because of the nature of my genes, but as an act of teenage rebellion: as a way to let them know that the more they wanted to harm us, the less wood I would give. Everything started little by little and we almost didn't realize. At the beginning nothing stood out: old settlers needed us to survive. But then, the appearance of the sawmills alarmed us: one over here, another over there. Later, the worry increased when we became fuel for steel refinery and they burned us as they burn garbage, as old photos are burned that depict painful stories. Until the final blow came, the arrival of the forestry companies. And the families that still surrounded us gave into these giants, faced with the ever-present impending need for work and sustenance. The few of us that yet remained standing breathed in terror, I remember it well, nervous day and night, always vigilant, alert to what could happen to us.

But today I am here, enjoying this calm with you. And thanks to the fact that you are also here, safe and sound, you can enjoy this calm with me. We are fortunate.

There are days that my branches and leaves ache from laughing so much with your plump whales, experts in synchronized swimming, in aerial pirouettes that are sometimes innocent and sometimes magically daring. There are other days that I become fascinated by your dolphins that surf the waves, such eminent athletes. There are moments that I can distinguish your otters as they hurriedly come and go, electric, spasmodic. On top of all of this, from my height and thanks to your translucent waters, which become a mirror, sometimes that clear forest of seaweed that you hold in your depths appears and it returns to us, to those of us that are on this side, our grandeur.

But the most formidable gift occurs at the distant edge, on that far away line of the horizon where the sky and you are the same entity, easily confused. The sunsets. Orange, intense and every now and again quite bathed in moonlight. Certain as the canelo (*drimys winteri*) that lives around the corner and as the lichens that invade me in this very instant, encircling me.

I love you. And if you asked me, I wouldn't even know how to explain to you what love means. But I know, unfailingly, that it is the resin that covers me. I love you for your coastal humidity, crystal and cold, always at the feet of my roots. For teaching me what you also had to learn: that surrendering is the last possibility.





The sun is already rising. A flock of gulls flies over you and I have a dozen thorn-tailed rayaditos climbing on my branches; it is breakfast time and the uproarious thorn-tailed rayaditos come to scavenge me in search of larvae. I am large and they are very small. As the minutes pass, the pudús, the black woodpeckers, the agile step of the Darwin's fox trying to dodge the trail cameras will all join in; also, you know better than anyone that the game of hide and seek will begin between the fishermen in their boats and your fish. Later, when the sun shows itself without shyness, the park rangers, administrators, and scientists will appear along with school children and our lifelong neighbors: the women and men of Chaihuín, Huiro, Huape, Hueicolla and Lamehuape. They will come in search of products to cook with in their lodgings and sell in their stores.

So it is, that on towards nine in the morning, here the whole reserve will be reunited, forming a chorus. The singing frogs will be, as always, the directors: they are the ones who knew from the beginning how to organize us into baritones, tenors, basses, and sopranos. And though it is true that the most gifted are the chucao tapaculos and the black-throated huet-huets, we all try and practice the same for at least an hour a day. I tell you this story now as if you didn't know any of it, but do not think that I have not seen and heard you, on more than one occasion, also vocalizing, opening your waters in a wave to sound out a fine-tuned, precious "sol."

We rehearse. Because, in the end, that is what these last twenty years have been about: about wanting to act, to have the will, to correct. So it is, that around ten or twelve in the morning this choir is ready to receive the last link in the chain: the hikers. And when those trekkers start to hike, we are already in pure bliss, showing them what, surely, they already sensed: that we are a celebration.

Every different colored line in the increment core is one annual growth ring, representing one year of the tree's life. The characteristics of a growth ring can provide us a lot of information about the climatic conditions and events that occurred that year.





Guided by the enthusiasm that celebrations always inspire, in the middle of their hike on the trail, before they have even truly discovered me, a fantastic, powerful appearance, they immediately stretch out an arm to bury in the spongy moss that covers me. Just as I stretch my branches up when I want to sink them into the clouds. The trekkers want to get close enough to touch and caress me. They want to embrace me, and I understand them: I am one of the oldest trees they have ever seen. And when they realize that it is impossible, that even if they stretch like chewing gum, they will not reach me, in that moment when they least expect it, I speak to them. Slowly, with my raspy voice. From the meters that separate us, I look them right in the eyes and I tell them that even though they cannot touch me, I especially prepared myself to receive them: I put on my best shine, I used the night's humidity and sheltered lichens with perfect forms, I show them that I strained as much as I could to make my bark porous so they could see all the beings that inhabit me within. I explain to them that even though I appear to be asleep, as if overtaken by the drowsiness of a nap, it is not so. Not in the slightest.

Then I remain quiet, they think that I have nothing more to say to them, they get ready to leave, satisfied for their return. But I clear my throat and speak to them again. Although, this time, I raise my voice to the height of my hierarchy. I ask them not to leave yet, that they listen to me for only one more moment. They look at me, I breathe in deeply, we dwell together for a few seconds, an emptiness. As if it were a sidereal space waiting to be filled.

And at that moment, in which I have their full attention, I feel the need and the urgency to tell them that which is most important. I explain to them the same that I try to explain to you, now: that I have upon me the strength of history, the wisdom of experience. That this path that has already transpired through thousands and thousands of years, this path plagued with losses and suffering, also left me with the greatest honor and pride: that of having survived.

In this increment core's fragment of a thousand-year-old alerce, 60 rings can be counted, equivalent to 60 years, only a small part of the 2,205 years of life of this giant.

Biodiversity Hotspot



Darwin's Fox, Lycalopes fulvipes

At the beginning of the 21st century, 25 critical biodiversity points, or hotspots, were identified on a global scale, among them was the temperate forest of South America.

Hotspots are areas that must be protected with the highest priority; they contribute uniquely to global biodiversity, where endemic species are experiencing an exceptional loss of habitat ¹.

The Valdivian Coastal Reserve (VCR) is located within the temperate forest of South America, on a section of the Coastal Range known as the Cordillera Pelada (Pelada Range).

The great variety of native species inhabiting the Coastal Range comes, in great part, from this Range's history as a glacial refuge.

Natural History of the Cordillera Pelada

During the Pleistocene, around 11 thousand years ago, the glacial and interglacial cycles affected the climate and the distribution of species throughout the temperate forest. While ice completely covered the Andes Mountain Range, and the vegetation in the valley was affected, the same did not occur on the Coastal Range: the oceanic influence mitigated the effect of the low temperatures on the vegetation. The ice-free areas were thus covered by Alerce forests and other species from the southern forests ². This more temperate condition on the coast provided a great diversity of habitats for the long-term stability of biodiversity ³.

1 Myers, N., Mittermeier, R.A., Fonseca, G.A.B. & Kent, J. (2000) Biodiversity hotspots for conservation priorities. *Nature*, 403: 853-858.

2 Molina, R., Correa, M., Smith-Ramirez, C. y Gainza, A. (2006) Alerceos Huilliches de la Cordillera de la Costa de Osorno. Editorial Andros. Santiago de Chile

3 Premoli, A., Mathiasen, P., Souto, C. y Acosta, M.C. (2019) Refugios antiguos de bosque en la Cordillera de la Costa, Chile.



© Carolina Pino Inda

During the Holocene (9,500 to 3,000 years ago), average temperatures increased, and the lowlands and the Andes Range thawed. From the ancient forests and coastal refuges, the distinct species recolonized the rest of southern Chile. The Alerce forests moved from the Cordillera Pelada northwards through the central valley and towards the Andean and coastal streams.

The alerce (*Fitzroya cupressoides*) reached its current distribution 3,000 years ago, in the Andean Mountain Range and the Cordillera Pelada ⁴.

4 Villagrán, C. y Hinojosa, L. F. (1997) Historia de los bosques del sur de Sudamérica II: Análisis fitogeográfico. *Revista Chilena de Historia Natural*, 70(2): 1-267

*Among the endemic species of the temperate rainforest the Alerce (*Fitzroya cupressoides*) stands out as one of the most long-lived conifers on the planet.*

© Carolina Pino Inda

The greatest biological value of the coastal temperate forests resides in their high endemism; a great diversity of plants and animals live exclusively in these forests, and most of them are still barely known.

In terms of vertebrates, for example, more than 40% of these species are endemic to these forests ⁵. Many of them are the only living representatives of ancient evolutionary lineages, like the monito del monte (*Dromyciops gliroides*), the planta del león (*Valdivia gayana*), the fern of Corral (*Blechnum corralense*), and the pink tupa (*Lobelia bridgesii*).



Kushnell

03-19-2013 16:50:00

*This photograph taken by a camera trap in the year 2013 confirmed the presence of Darwin's fox (*Lycalopex fulvipes*) in the VCR and the Alerce Costero National Park ©Ariel A. Fariás*

5

Smith-Ramirez, C. (2004) The Chilean coastal range: a vanishing center of biodiversity and endemism in South American temperate rainforests. *Biodiversity and Conservation* 13: 373-393



In the temperate rainforest, especially in the older areas, there is a great abundance of mosses. Also, the richness of epiphytic lichen species is one of the highest in the world ⁶.

Among the endemic fauna, there are species with conservation problems, such as the river otter (*Lontra provocax*), the southern pudu (*Pudu puda*), the monito del monte (*Dromiciops gliroides*), the Magellanic woodpecker (*Campephilus magellanicus*), the kodkod (*Leopardus guigna*), Darwin's frog (*Rhinoderma darwinii*), and the spiny-chest frog of the Cordillera Pelada (*Alsodes valdiviensis*). There are also species with high endemism, such as *Aegla hueicollensis*, a freshwater crustacean pertaining to the group of freshwater crabs, used as biological indicators of water quality due to their sensitivity to contamination.

6

Smith, C. y Armesto, J. (2002) Importancia biológica de los bosques costeros de la Décima Región: el impacto de la carretera costera sur. *Ambiente y Desarrollo*, 18(1): 6-14.

*Small representatives
of the unique biodiversity
of the Valdivian
temperate rainforest:*

*Terrestrial black snail
(Macrocyclus peruvianus),
Chuco tapaculo
(Scelorchilus rubecula)
© TNC*

*Rosy ground frog
(Eupsophus roseus)
© Matías Pinto*

Planta del león (Valdivia gayana) at the access to Colún's caves. Harbors the nest of a green-backed firecrown hummingbird (Sephanooides sephanooides)
© Matías Pinto

The VCR is a box of surprise in terms of flora and fauna. Thanks to the use of camera traps and fauna surveys, we have found an enormous diversity of species associated with distinct habitats that make up the heterogenous landscape of the Reserve.

Francisco Fontúrbel. Ecologist, Professor at the Catholic University of Valparaíso





© Erika Nortemann



Tracks of Time

—  —  —

*The same Alerce has perhaps seen us in loose
Indian times, then in a rigorous colony, then
in a Republic, and God knows how many
more of our trances it has yet to see!*

Gabriela Mistral. Message on the Alerce, 1945

—  —  —



The Human Adventure

The territory that makes up the VCR protects an important part of the pre-Hispanic archeological heritage of southern Chile.

From Monteverde to Colún: the first human populations

The first evidence of human populations from the South American temperate forests were found in Monteverde, a site located in the vicinity of Puerto Montt ⁷, from the Paleoindian cultural period, 12,500 years before the present time.

At that time, the glaciers had already retreated, the forests advanced, and here megafauna of the Pleistocene lived, a diversity of species that are extinct today.

It is in Monteverde where the oldest records of the use of the Alerce (*F. cupressoides*) were found; various objects made of wood were discovered there. For these human populations, resources from the forest and the ocean were vital in their diet and their social and economic life ⁸.

Human populations in their relationship with the forest and the sea

During the Archaic and pottery cultural periods, between 10,000 and 450 years before present day, human occupation was continuous. The marine resources that are currently extracted and collected, such as mollusk species, are, in fact, the same species that were collected millennia ago by coastal peoples ⁹.

7 Godoy, M. y Adán, L. (2006) Huellas de historia: patrimonio cultural de la Reserva Costera Valdiviana. Valdivia. Imprenta Austral.

8 Adán, L., Mera, R., Munita, D. y Urbina, S. (2010) Los primeros habitantes. Síntesis de la historia prehispánica de la actual Región de Los Ríos. En Síntesis Histórica de la Región de Los Ríos. Diagnóstico del Patrimonio Cultural de la Región de Los Ríos, Capítulo 1, pp. 4-25, Valdivia.

9 Adán, L., Mera, R., Bahamondes, F. y Donoso, S. (2007) Historia cultural de la cuenca del río Valdivia: proposiciones a partir del estudio de sitios alfareros prehispánicos e históricos.

15,000 years ago

10,000 years ago

5,000 years ago

The most important archeological sites in this area are Chan Chan (in the northern part of the VCR) and Colún beach (one of the most visited sectors in the VCR). A large part of the history of the ancient inhabitants of Colún is buried under its dynamic system of dunes; the wind's effect still allows one to see pieces of pottery in the sand and other remains of pre-Hispanic origin ¹⁰.

The Paths of the Mountain Range

Since ancestral times, indigenous peoples from this area have traveled between the coast and the interior, to fish and collect marine species. They traveled down the navigable rivers in canoes or by foot along trails bordering the shores of rivers and streams. They also crossed the Coastal Range among the Alerce forests. These paths had a great economic importance for indigenous communities because they allowed communication between the permanent interior populations and the fishing and gathering populations on the coast ¹¹.

The human adventure in the temperate forests constitutes a singular business that, since the earliest traces recovered from the Monteverde site, already shows us an adaptation closely linked to the evolution and history of the rainforests, their fauna, their landscapes, and resources.

*Marcelo Godoy & Leonor Adán
Huellas de Historia, 2006*

Revista Austral de Ciencias Sociales (12): 5-30.

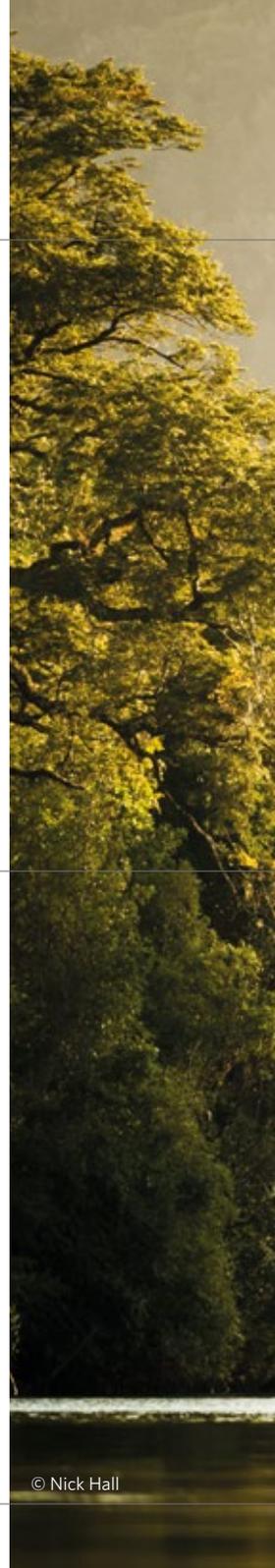
10 Godoy, M. y Adán, L. (2006) Huellas de historia: patrimonio cultural de la Reserva Costera Valdiviana. Valdivia. Imprenta Austral.

11 Molina, R., Correa, M., Smith-Ramirez, C. y Gainza, A. (2006) Alerceros Huilliches de la Cordillera de la Costa de Osorno. Andros, Santiago, Chile.

15,000 years ago

10,000 years ago

5,000 years ago





Chucaco
(*Scelorchilus rubecula*)
© Matías Pinto

In 1864, Federico Philippi recounted his route on the path that still connects Hueicolla and La Unión, a path once called “the reeds”. At the highest part of the Mountain Range, a place referred to as “the lookout”, this path crossed several Alerce forests and from there the road split to “Chaigüín” and Punta Galera:

Normally, those looking for shellfish and seaweed come down in their canoes along the Bueno River until near its mouth: there they leave their canoes and, carrying their provisions over their shoulders, they walk along the beach until they reach a place sufficiently rich in marine herbs to be able to gather a load of these, which they also have to carry over their shoulders until the place where they left their canoes, which sometimes makes for a journey.

Others travel on land with loaded horses and mules, crossing the mountain range by the only known path, that is the one me and my brother took. It is little used because it is long and hard and most of the collectors are poor folk that do not have the mules necessary for the journey and prefer, for this reason, to embark on the Trumao or Bueno Rivers. But we preferred to travel by land because this path leads to a place on the coast that is rather far from the mouth of this great river where those traveling by canoe do not reach and where therefore the Collofe and Luche are more abundant, which are the most searched for seaweed.



© Erika Nortemann

Clash of Cultures

Spanish Conquest

The archeological records from the territory that currently comprises the River's Region, confirm the abundant native population that lived at these latitudes. Their numerous timber resources, scenic beauty, and excellent conditions for navigation and trade led to the later intense Spanish occupation starting in 1550¹². In 1552, Chaihuín was established as one of the 47 administrative zones of the Spanish Colony in this area¹³.

The site that the VCR currently occupies was also witness to the contact between the indigenous and European cultures, and the impact that this encounter generated. Profound changes in local communities were provoked, among them was the transformation of the way they connected with nature and their use of those resources, such as the exchange of plant and animal species originating from different areas in America and Europe, thus modifying the ecosystems and traditional local economies¹⁴.

The First Cycle of Alerce Exploitation

Valdivia was one of the earliest and most important river city centers founded by Spain in the Chilean kingdom. Since its founding, in 1552, the exploitation and exportation of the Alerce (*F. cupressoides*) began, which was initially utilized in the construction of windmills, water canals and other hydraulic works. An Alerce shingle acquired a value equal to gold in those years, and was used to calculate debts, make payments or trade for food. The principal area of exploitation of the Alerce in Valdivia corresponded to the high areas of Corral, near the mountain range referred to as the Colún Mountain Range¹⁵.

12 Adán, L., Mera, R., Bahamondes, F. y Donoso, S. (2007) Historia cultural de la cuenca del río Valdivia: proposiciones a partir del estudio de sitios alfareros prehispánicos e históricos. *Revista Austral de Ciencias Sociales* (12): 5-30.

13 Molina, R., Correa, M., Smith-Ramirez, C. y Gainza, A. (2006) Alerceros Huilliches de la Cordillera de la Costa de Osorno. Editorial Andros, Santiago de Chile.

14 Godoy, M. y Adán, L. (2006) Huellas de historia: patrimonio cultural de la Reserva Costera Valdiviana. Valdivia. Imprenta Austral.

15 Molina, R., Correa, M., Smith-Ramirez, C. y Gainza, A. (2006) Alerceros Huilliches de la Cordillera de la Costa de Osorno. Andros, Santiago, Chile.

Remains of burned Alerces.
© Mark Godfrey

The exploitation of the Alerce (*F. cupressoides*) and its associated activities on the Coastal Range south of Corral sustained itself until the Great Indigenous Uprising of 1604. At this time, the city of Valdivia and the Trinidad fort that defended it were abandoned by the Spanish, thus ending the extraction of gold and Alerce. Afterwards, a recovery period of areas of indigenous domain began, which lasted for 45 years¹⁶. Nonetheless in 1646, and despite the general fear among the conquistadors, the decision to repopulate Valdivia was made. This time the process was planned and adjusted to a colonial model that was replicated in several places in Latin America, incorporating more extractive economies than in the prior period. In addition, the fort system was installed in the Corral Bay, together with an evangelization program and a negotiation system with the local communities through parlaments¹⁷.

The Republic Period

Along with the establishment of the Republic of Chile in 1820, the Province of Valdivia arose, which included the territory between the Tol-tén River and the Reloncaví Sound, sharing its southern border with the Province of Chiloé. This facilitated the industrial expansion of fishing resources. Thus, the whaling industry of Corral emerged, which lasted from 1913 to 1936, along with the exploitation of mineral deposits and the forestry resources of the native forests. Corral became the third most important port in the country, where a fervent social and cultural activity flourished¹⁷.

16 Solari, M. E., Cueto, C., Hernández, F., Rojas, J. F., y Camus, P. (2011) Procesos territoriales y bosques en la cuenca del río Valdivia. *Revista de Geografía Norte Grande* (49): 45-62.

17 Godoy, M. y Adán, L. (2006) Huellas de historia: patrimonio cultural de la Reserva Costera Valdiviana. Valdivia. Imprenta Austral.







The Second Phase of the Alerce Exploitation

Along with the arrival of a new European colonizing contingent in 1850, new practices and technologies were also established for the exploitation of natural resources. In the meantime, scientific investigations began to recognize the biodiversity and multiple uses of the available resources.

On the Coastal Range, between Corral and the Bueno River, the exploitation of the Alerce (*F. cupressoides*) forests had incremented, starting in 1840, as a result of the influx of workers (from areas where Alerce forests had already been exploited) with experience as “hacheras,” those who could chop Alerce wood into shingles with an axe. The timber was loaded onto ships in the port of Corral for its exportation. The Alerce played an extremely important role in terms of the value it contributed to the goods exported from Valdivia in 1850. Approaching the year 1890, most of the large country estates, in the area where the CVR is now located, had sawmills.

In the words of the naturalist Philippi: *The true mines of the Coastal Range are their forests, above all the Alerce forests (...). The other trees are less important principally because of how difficult it is to transport the beams, boards, and other timber that they are looking for, while the Alerce shingles, because of their size and lightness, can be more easily carried on the rugged hard mountain roads. The Alerce is of utmost importance for the Provinces of Valdivia and Llanquihue because all the houses in these provinces are roofed with Alerce shingles*¹⁸.

The height of the metallurgic industry of the High Ovens of Corral occurred between 1913 and 1958. A surface area estimated at 10,000 hectares of native forest and Alerce forest were incinerated in this industry, which was fueled by wood charcoal and firewood. This industry also brought hundreds of families in search of stable employment, which formed the current distribution of communities between Corral and Huiro.

18

Molina, R., Correa, M., Smith-Ramírez, C. y Gainza, A. (2006) Alcereros Huilliches de la Cordillera de la Costa de Osorno. Editorial Andros, Santiago de Chile.

Thousand-year-old Witnesses and Protagonists of a Tragedy

After the enormous losses caused by the great earthquake of May 1960, families sought ways to rebuild their lives and their economic sustenance. During this time, the Valdivian Cooperative Ltda. emerged, an association of artisanal fishermen from the Amargos fishing cove, which was able to assemble the fishermen from the Valdivian coast in a solidary economy. Later, the districts of Huiro and Chaihuín also joined. In this way, artisanal fishing became a lifesaver in a time of crisis, reaching its maximum peak with the fever of the Chilean abalone (*Concholepas concholepas*) and the macha clam (*Mesodesma donacium*). It was during these years when the first symptoms of the overexploitation of marine resources appeared. At the same time, industrial fishing took a strong hold in the zone.

Period from 1980-2000: two decades of logging and the replacement of native forest by exotic tree plantations

At the same time as fishing exploitation increased, another crisis began: a forestry model of substituting species was installed. The forestry company BIMA exploited a large extension of forest, exterminating the Alerce (*F. cupressoides*) from two large estates, those of Chaihuín and Quitaluto on the Coastal Range. In 1988, BIMA sold these two estates to Forestal Terranova S.A. who promoted a model of substituting native forest with exotic species, principally eucalyptus trees.

In 1994, the company Bosques S.A. appeared to make the model initiated by Terranova more intense. They logged 5,200 hectares of native forest and carried out massive burnings. Of the total deforested area, they planted 3,500 hectares with eucalyptus trees.

1940

1950

1960

1970

1980

1990





In Cadillal, we were surprised that logging Alerce forests was permitted, as well as burning them. The fire consumed everything, and the smoke covered our valley for days.

Patricia Barría. Park Ranger VCR

I remember, as a child, having seen how black with soot the clothes that my mother hung on the line were.

Marcelo Vera. Park Ranger VCR

In Chaihuín, another one of the great impacts of the forestry companies was the road construction; all the earth and sediment that they took from the road they dumped downriver; once, the bank of mussels in the sea was covered and shellfish could not be gathered.

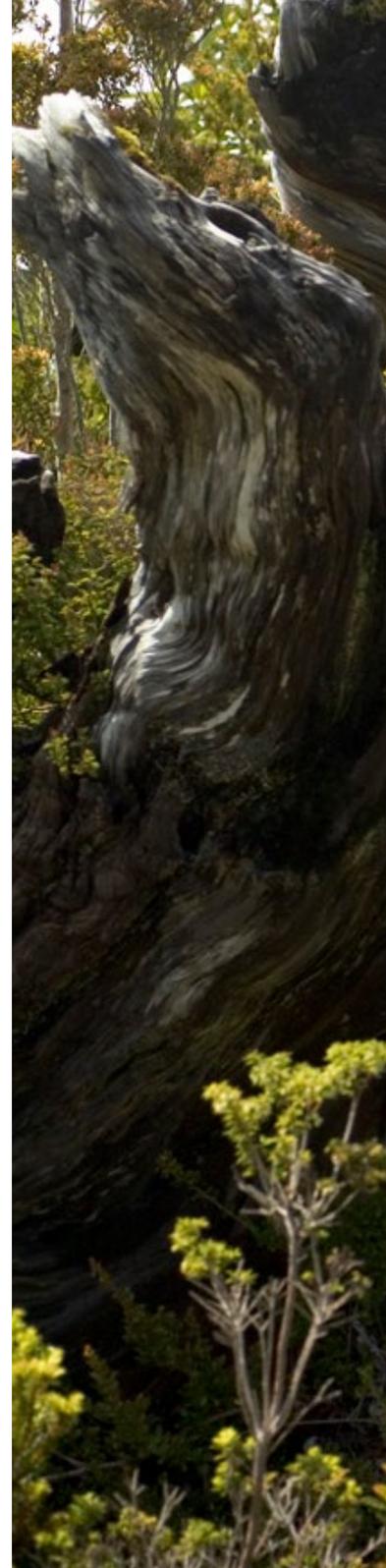
Danilo González. Park Ranger VCR

The undoubtable damage to natural ecosystems also affected the territory's local communities; they saw their waters contaminated, the sky covered in smoke after the burnings of the native forests, the prohibition of gathering forest products and forced relocations.

After the forced relocations, the families that lived in the territory organized themselves and asked for help from the bishopric to obtain legally recognized land in the area that they had traditionally inhabited. After years of negotiations, the families were able to legally acquire the lands in the lower part of Huiro, along a coastal strip, where they still live today¹⁹.

Finally, when the company Bosques S.A. declared bankruptcy in the year 2002, the Chilean government announced that their properties in Chaihuín and Venecia were up for sale to the highest bidder.

19 Godoy, M. y Adán, L. (2006) Huellas de historia: patrimonio cultural de la Reserva Costera Valdiviana. Valdivia. Imprenta Austral.



“What I remember was the forced relocation; I lived in an area that was logged and burned, so they told us that we had to leave the “forestry zone” and go somewhere else. The houses were moved in “mingas” (community organized volunteer work efforts), with the effort of every family and the community’s support. Then, we saw the hillside burn.”

Claudia Antillanca. Administrative Secretary VCR



“Minga” or relocation of the Aguayo family house, when Terranova S.A. obligated the families in the area to relocate from lands they had lived in for generations. @Héctor Guido Aguayo

“

*Once again it travels through the hills.
It is the voice of the stumps, remembrance
scattered across the territory...it only
devoured the useful, the sellable and
marketable. The stumps were forgotten.*

*As the deceased without graves.
Today, they are still rooted and firmly
planted to the ground, they are shelter
to other plant species, they are home to
insects, bird food, water's refuge.
They continue being life and making
memories of the dead. Of their own and
of the vanished forest. In every stump
of lawan (another name for the Alerce)
water celebrates their life.*

*Pedro Pablo Achondo
Dendrochronologies,
writing with Alerces, 2002*

”



Winds of Change: the Conservationist Route

The rejection of forestry practices was unanimous on the part of diverse environmental and academic organizations, due to the immense harm caused to these especially relevant ecosystems. Another threat to the conservation of the biodiversity in the area during these years was the plan to build the Southern Coastal Highway, a proposal made by the Ministry of Public Works. If completed, the highway would have been a serious accelerating force of the already existent pressures on coastal ecosystems. This caused protests, in addition to the participation of social organizations in defense of this highly valuable biological territory. Thus, the Coalition for the Conservation of the Coastal Range (CCCR) was established, with a long list of national and international organizations.

In the year 2003, there was already ample scientific consensus at a global and national level regarding the importance of the biodiversity of the Chilean temperate rainforests. These forests, along with the territory referred to as the Ecoregion of the Temperate Valdivian Forests or the Valdivian Ecoregion, were identified as a biodiversity conservation priority by international organizations such as the World Wildlife Fund (WWF), World Resources Institute, Birdlife International and Conservation International (CI).

In 1996, the National Forestry Corporation (referred to as CONAF in Spanish) published the Red Book of Critical Areas for the Conservation of Biological Diversity in Chile, where two areas on the Coastal Range were identified that required urgent protection. One of them was the Cordillera Pelada (Bald Range), with approximately 27,900 hectares.





A New Beginning

The creation of the Valdivian Coastal Reserve is greatly symbolic for the region, representing one of the first steps in the transition process towards a more just and sustainable economic development.

Alberto Tacón. Biologist, Investigator, and current Regional Secretary of the Environmental Ministry.

The Valdivian Coastal Reserve is Born

The origin of the Reserve is closely linked to the daily work of numerous people and organizations.

In the year 2003, the destiny of one of the most emblematic extensions of the Coastal Range changed when The Nature Conservancy (TNC) won the public auction of the lands in Chaihuín and Venecia. Together these properties added up to around 60,000 hectares that included the 3,500 hectares of eucalyptus tree plantations. From this moment on, the Valdivian Coastal Reserve emerged.

This acquisition was possible thanks to the dedication and work of multiple territorial organizations like the WWF, CI, the Defense Committee of the Chaihuín River, the Association of Forestry Engineers for the Native Forest, and the Pro-Defense Committee of Flora and Fauna. Together they promoted the protection of this territory and found financing for its conservation.

This human support network has grown over time, with more and more investigators from diverse disciplines and enthusiastic university students joining forces. More still continue to collaborate on this path towards investigation.

For 20 years now, this framework of people, organizations and institutions has supported the development of the Reserve; thanks to them its projection and sustainability strengthens over time.



Güiña
Leopardus guigna



“

The management of the Reserve has a very distinct focus; its management is based on conservation and the joint effort of multiple institutional and community organizations. I think this origin makes it a very novel exercise in conservation.

Marcelo Godoy. Anthropologist, Universidad Austral de Chile

The situation on the Coastal Range was disastrous, and today you find a formidable conservation territory, that can be a model to replicate in other areas of the country.

Eduardo Silva Rodríguez. Ecologist, Investigator and Professor, Universidad Austral de Chile

”

Key Contributions of the VCR in the Management of Protected Areas

Most Effective Actions

Throughout these years, we have substantially advanced in the management, planning, and monitoring necessary for the conservation of this area. We have aimed to meet the highest international standards. In evidence of this, to date we have four cycles of Conservation Plans: 2005, 2010, 2015 and 2021, in addition to a planning study from the year 2012 for the marine-coastal zone between Chaihuín and the Bueno River, a study considered an innovation in the management of protected areas.

In the search to improve our conservation effectiveness, we follow the most updated methodology of the Open Conservation Standards. This work methodology has also contributed to the management of our neighbor, the Alerce Costero National Park. One of the positive results of this work methodology is that since the year 2017 CONAF incorporated this Park into the Chilean National System of Protected Wild Areas (referred to as SNASPE in Spanish).

One of the innovative aspects of the Reserve's management has been its work with groups of cattle breeders in the neighboring communities, through strategies that help cattle raising be compatible with the conservation of biodiversity. These experiences have contributed to public policies such as the National Strategy of Climate Change and Plant Resources from the year 2016 or the Regional Action Plan for Climate Change in The River's Region from the year 2022.





“The Reserve is a reference not only in conservation and investigation, but also in management and planning.

Eduardo Silva Rodríguez. Ecologist, Investigator and Professor, Universidad Austral de Chile

Upon arriving to the Reserve from Chaihuín the monocultures of eucalyptus trees can be seen; they are part of recent history. They are there so that we do not forget what happened.

Maximiliano Sepúlveda. Veterinarian, The Pew Charitable Trusts

Public-Private Conservation Model

The VCR aims to be a conservation model that articulates public and private entities connected to the territory. From the beginning, one of the principal strategic allies was CONAF and, as a result of this alliance, in the year 2012 TNC donated around 9,500 hectares of the VCR. This donation that CONAF received, along with the former Valdivian National Reserve and Alerce Costero Natural Monument, formed what is known today as the Alerce Costero National Park, the first public protected area located entirely in the River's Region. This is how a large public-private conservation area on the Valdivian coast was formed, uniting planning methodologies and monitoring efforts, as well as the control of threats, expressed in a Public-Private Cooperation Agreement signed in the year 2011²⁰.

20 Silva-Rodríguez, E.A., Pezoa, L., Contreras, P., Ovando, E., González, D., Aleuy, O.A., Napolitano C. y Sepúlveda, M.A. (2019) Avances para la conservación de mamíferos amenazados en la Cordillera de la Costa valdiviana. Pp. 361-382, en: Smith-Ramírez, C. y Squeo, F. (eds.) Biodiversidad y Ecología de los Bosques Costeros de Chile. Editorial Universidad de Los Lagos, Chile





Financing Conservation

The international natural resource company BHP supported the Valdivian Coastal Reserve during its establishment phase, with two donations that added to a total of US\$20.4 million, between 2013 and 2016. Since 2019, this company established a fund to permanently finance the VCR, administered by the BHP Foundation, under the supervision of the multi-disciplinary Advisory Committee. This fund contributes to the Valdivian Coastal Reserve's annual budget.

The BHP Foundation is a US charity organization that works to address some of the most critical challenges to sustainable development in the world. The Nature Conservancy's management and conservation of biological and cultural diversity, including its contributions to the local and regional wellbeing, as well as constructing a model of reference for private conservation efforts, are financially supported by the BHP Foundation.

Since its establishment, the VCR has been able to strengthen its conservation work, initiate ground-breaking projects, endorse the development of community businesses, and promote activities that are both sustainable and productive in the territory. This collaboration is testimony to the importance of a long-term funding strategy for the conservation of a valuable and unique ecosystem.



Carbon Credits

The monetary cost of conservation and the defense of protected areas is very high, and in Chile the resources destined to these measures are scarce. Consequently, in the year 2013, the VCR began offering the first carbon credits, a global mechanism to compensate for the emission of greenhouse gases, which works through a market value, in which money is exchanged for the capacity to retain CO₂.

The VCR has more than 50,000 hectares; nonetheless, the surface area that was validated for carbon credit transactions was around 1,200 hectares. This area corresponds to that with native forest that at some point had CONAF approved management plans to be substituted by exotic species; their logging was thus avoided thanks to the acquisition of these areas; they were thus able to verify more than 400,000 carbon credits through the Verified Carbon Standard. This means that for the 2003-2014 period the VCR captured 400,000 metric tons of CO₂.

The VCR acquired a second verification of carbon credits, as a result of the certification they received from the International Alliance for Climate, Community and Biodiversity (CCB), due to their contribution to local communities and biodiversity.

Companies such as Delta Airlines, Microsoft and Natura were some of the purchasers of these carbon credits, which have been a way to finance the VCR and its conservation efforts, with an agreement to conserve a surface area that is validated and verified by international standards.

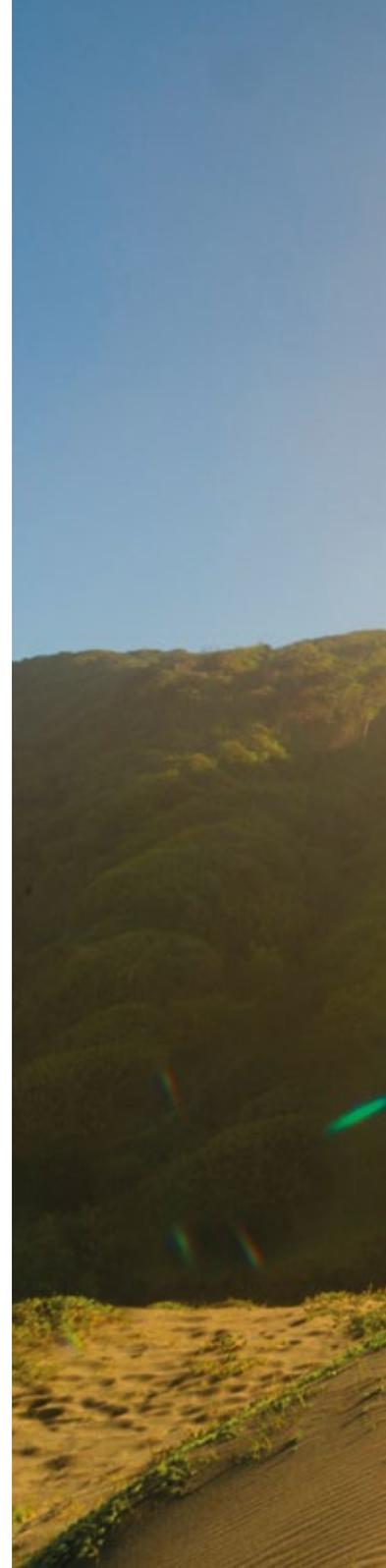
Voluntary Conservation Easement

On the 29th of May 2014 the largest conservation easement in the country was signed between the Nature Conservancy and the Center of Native Forests FORECOS. So, what does a conservation easement establish? It describes the natural or productive facets that the owner wishes to perpetually sustain, such as the maintenance of vegetation or native forest, recreational uses, certain species habitats, or a scenic view. It also defines what the owner can continue doing on the property, which must be in alignment with the conservation agreement. Finally, it establishes that which the owner can definitely not continue doing on the property and gives an organization the right to monitor the compliance with the terms established in the easement.

Through this legal instrument the perpetual conservation of the VCR is assured. For this agreement, a zoning plan was developed, including the zones that will never be intervened and those of cultural protection, and cattle raising, among others. FORECOS acts as the Land Trust or conservation guarantor, and they safeguard the compliance of the agreements that are detailed in the easement.

“The Conservation easement established in 2014 between the TNC and the FORECOS Foundation has been an innovative experience in Chile, of learning and mutual collaboration, which has, without a doubt, contributed to the conservation of this highly valuable protected area, along with the reduction of its threats.”

*Antonio Lara Aguilar. Forestry Engineer, Researcher.
Universidad Austral de Chile and Fundación FORECOS*







Conservation and Community

A change in the conservation paradigm has been proposed for decades now: that protected areas stop being seen as pristine islands and are, instead, converted into areas that are connected to their immediate surroundings and neighboring communities. This process is mutually beneficial and creates opportunities for local and regional development, through tourism and the sale of local products and services. It has been necessary to build trust and carry out consensus work, to promote leaderships and strengthen the communities' capacities. Alliances with local organizations that focus on effective ecosystem conservation have also been formed, with the aim of maximizing the ecosystem services and goods that these areas provide, which help work towards improving the quality of human life as well.

The connection between the VCR and the neighboring communities has continually been expressed in diverse forms of support to the base organizations through collaborations, gratuitous commodatums, agreements with labor unions and different associations, joint work plans, environmental education programs, support of the formation of new groups, and land donations.

“Conservation cannot be carried out without the collaboration of neighboring communities. The benefits of conserving ecosystems with the support of scientists and experts aims also to support sustainable development to create more prosperous communities.”

*Liliana Pezoa, Administrator of
the Valdivian Coastal Reserv*



Conservation with a Scientific Base

This great natural laboratory that is the VCR allows us to link experimental theory with practice, such as science with traditional practices, making scientific knowledge accessible for productive practices and the wellbeing of local communities. The scientifically based conservation model applied in the VCR is an open classroom, as well as a community conservation model with a dynamic and adaptable character.

The Giant Alerces

Giant trees have always fascinated us, because of their size, their beauty and the mysteries they hold: How many years can they live? How many fires and other disasters have they survived? Are they vulnerable to climate change?

The alerce (*F. cupressoides*) is in danger of extinction. It grows exclusively in certain areas of southern Chile and Argentina, including the protected territory of the reserve, where some of the largest known alerce trees survive the logging and huge fires of the last centuries.

On the Los Alerces trail, a 2.6 meter diameter, 8 meter perimeter and 34 meter high alerce tree is visited by many people. During their trips through the reserve, the park rangers discovered an even larger alerce tree in an area of difficult access: 3.5 meters in diameter and 11 meters perimeter, although it is less tall: 24 meters.

Specialized researchers from the Austral University of Chile are working to determine the age of these giants. The challenge is great, since it is not possible to take complete samples of their trunks with the usual sampling drills. This prompted the development of a methodology that allows estimating the age of these trees quite accurately, using a statistical model that represents the growth patterns of larch trees.

Park ranger Marcelo Antillanca extracts an alerce tree's increment core by means of an increment drill, to determine the age of the tree. ©Antonio Lara



The result of this study shows that the age of the alerce of 2.6 meters in diameter is 2,208 years (+/- 5.8%) and that of 3.5 meters is 2,051 years (+/- 11.5%)²¹, which reflects that the latter has grown faster. Because of their growth, the density of their foliage and the fact that they show no insect or fungal damage, it is assumed that both trees are healthy and vigorous, despite their age.

“A recent study determined that the reserve protects the second and third oldest alerce trees in the Coastal Range, with 2,208 and 2,051 years old, respectively, which is an important finding for the promotion of respect, interest, care, and other attitudes towards the conservation of nature.”

*Antonio Lara Aguilar. Forestry Engineer, Researcher.
Universidad Austral de Chile and Fundación FORECOS*

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Lara, A. y Rodríguez, C. (2023) Informe del fechado de árboles gigantes de alerce en la Reserva Costera Valdiviana. Valdivia. 32 pp.



Rediscovering the Forest

Monitoring the Conservation Objects

The first attempts in the VCR of using camera traps for monitoring species occurred in 2007, thanks to the work of young investigators from the Universidad Austral de Chile, together with the forest rangers of the VCR.

Starting in 2010, under the framework of postgraduate investigations, the installation of these cameras began, with the aim of implementing a long-term monitoring program. In the year 2011, the VCR held training sessions for the forest rangers of the Alerce Costero National Park to broaden the monitoring efforts in the whole conservation area.

The implementation process of these new methodologies was slow and full of lessons, through which a stable and viable monitoring system was established over time. The use of camera traps is extremely suitable for the non-invasive monitoring of species that are difficult to detect, as well as the monitoring of conservation threats.

One of the great motivations, from the beginning, among the rangers and the investigators was to find new populations of Darwin's fox (*Lycalopex fulvipes*), whose presence had been suspected, but had never been verified.



It is not only about trying to care for a natural heritage; it is also about integrating cultural, anthropological, archeological, and historical visions.

For me, the presence and action of the Reserve has been very significant because it is carrying out the process necessary for the protection of a unique and singular natural heritage, including very valuable objects of cultural conservation, like the great reservoir of medicinal plants and traditional plants of power of the mapuche people, as well as the archeological sites that exist there. We are talking about occupations of around 5,000 years ago.

Marcelo Godoy. Anthropologist, Universidad Austral de Chile

The monitoring of the Conservation Objects through camera traps was initiated in the Reserve and the team was able to successfully share this work to CONAF. This collaborative work was the precursor of the National Camera Trap Program that SNAPSE currently carries out. This Program involves more than 32 protected areas, 1,000 cameras and 1,500 monitoring points between Arica and Magallanes.

This level of collaboration is not only beneficiary for the institutional exchange, but also for the Objects of Conservation that they share, provided that these know no borders.

Diego Valencia. Area of Monitoring and Information of SNAPSE, CONAF



Surprises that the Valdivian Rainforest Hides

As time passes the monitoring starts to give fruit: mammals appear. Thus, the perception of the forest changes: the landscape is no longer only trees and vegetation surrounded by the songs of chucaco tapaculos and the black-throated huet-huets; there is much more fauna ever-present, though invisible to the human eye.

Darwin's Fox

The photographic appearance of this mysterious canine in the VCR, in the Alerce Costero National Park and in Oncol Park was an exciting development. In the year 2014, it was officially accepted that the Reserve and its surrounding areas formed part of this fox's habitat range, which permitted the confirmation of the hypothesis that there was continuity between the only previously known populations in Nahuelbuta and Chiloé.

The first photograph was of a young fox, which was a significant sign, indicating that the population was reproducing. Endemic to Chile and sadly one of the canines with the highest risk of disappearing on a global scale ²², Darwin's fox (*Lycalopex fulvipes*) is categorized as an Endangered species by IUCN and by the Chilean Environmental Ministry. One of its principal threats is the presence of dogs and the reduction in the surface area of native forest ²³.

Within this fox's continental distribution, the VCR and the Alerce Costero National Park are the largest protected areas; they therefore play a fundamental role for the long-term conservation of Darwin's fox. This motivated the VCR's team to modify their planning instruments, with the objective of including this species as a Conservation Object.

22 Cabello, J., Altet, L., Napolitano, C. et.al. (2013) Survey of infectious agents in the endangered Darwin's fox (*Lycalopex fulvipes*): High prevalence and diversity of hemotrophic mycoplasmas. *Veterinary Microbiology* 167 (3): 448-454.

23 TNC (2021) Plan de Conservación Reserva Costera Valdiviana 2021-2026. The Nature Conservancy (TNC), Valdivia, Chile.

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Local knowledge is widely valued and an emblematic example of this is that local inhabitants previously had a story about the Darwin's fox, who they called the red-eared fox or the short-legged fox.

Liliana Pezoa, Administrator of the Valdivian Coastal Reserve

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Kodkod and Southern Pudu

Over time, the monitoring program has also been able to show that the southern pudu (*Pudu puda*) and the kodkod (*Leopardus guigna*) are common species in the VCR. This indicates that the size of the Reserve is adequate for the long-term conservation of their populations²⁴.

Long-nosed caenolestid

Similar to the case of Darwin's fox, the discovery of this small mammal extended its geographical range of distribution; its last record in the region was from the year 2019. The long-nosed caenolestid (*Rhyncholestes raphanurus*) is one of the four marsupials that lives in Chile. It is endemic to the temperate rainforest of South America and is categorized as the least-known native mammal in the country.

Amphibians

In the VCR there are at least 13 species of amphibians, most of which are endemic to the temperate rainforest of South America, with a few being endemic to the River's Region.

24 TNC (2021) Plan de Conservación Reserva Costera Valdiviana 2021-2026. The Nature Conservancy (TNC), Valdivia, Chile.





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Currently, there is not sufficient information regarding this group. Consequently, the commitment and permanent training of the rangers has been fundamental. For years they have searched to know the ecological attributes of these species in the VCR, with the objective of improving their conditions, and broadening the current knowledge available regarding their state of conservation in the country.

Six of the amphibian species in the VCR are classified under one of the threatened categories, and three of them are categorized as Endangered: Darwin's frog (*Rhinoderma darwinii*), the spiny-chest frog of the Cordillera Pelada (*Alsodes valdiviensis*), and the green frog of Mehuín (*Insueto-phrynus acarpicus*). Provided their worrisome situation, it is fundamental to have extensive areas of protection with well conserved forests and healthy water courses ²⁵.

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TNC (2021) Plan de Conservación Reserva Costera Valdiviana 2021-2026.
The Nature Conservancy (TNC), Valdivia, Chile.

Top: Southern pudu's (*Pudu puda*) offspring, registered by camera traps in the VCR. ©TNC
Left: Lesser Grison (*Galictis cuja*); the Darwin's fox (*L. fulvipes*), is one of the most threatened canines on the planet; and Kodkod (*O. guigna*) ©TNC



“ We have found species that had not been recorded for a long time, for example, the iconic austral frog (*Telmatobufus australis*) and the emerald forest frog (*Hylorina sylvatica*). ”

Teninson Antillanca, forest ranger in charge of amphibian monitoring in the VCR

The year 2023 marks 10 years since the systematic monitoring with camera traps in the VCR began. This positions us as pioneers in Chile.

The systematic and rigorous information that we obtain with this methodology is key to make decisions that increase the effectiveness of our conservation.



*Emerald forest frog (*Hylorina sylvatica*)*

Danilo González with a specimen of Darwin's frog. Amphibian skin is extremely sensitive to chemical products and microorganisms. Thus, for their conservation it is fundamental to avoid touching them and comply with the capture protocols. The VCR's forest rangers have the Agricultural and Livestock Government Service's authorization to manipulate amphibians while they are monitoring fauna. ©Eduardo Sorensen



Changes in Figures

Year 2003 *



In the year 2003, 12,035 hectares were protected by the Chilean government (SNAPSE) on the Coastal Range of the River's Region.

This area, equivalent to approximately 25% of the current surface area of the VCR, corresponded to the Valdivian National Reserve and Alerce Costero Natural Monument.

The reserve represents two-thirds of the total protected area (SNASPE plus Private Areas) in the Coastal Range of the Los Ríos Region.

Year 2023 **



By the year 2023, the surface area protected by SNAPSE on the Coastal Range of the River's Region had doubled to 24,694 hectares.

This area, equivalent to approximately 50% of the current surface area of the VCR, corresponds to the Alerce Costero National Park.



The Reserve added 50,830 hectares protected in the Coastal Mountain Range of Los Ríos, together with 8 other private conservation initiatives, totaling 2,834 hectares more.

* Data from Smith-Ramírez, C. (2004) The Chilean coastal range: a vanishing center of biodiversity and endemism in South American temperate rainforests. *Biodiversity and Conservation* 13: 373-393

** Calculated from data taken from Pliscoff, P. (2022) Update of Chile's protected areas: analysis of representativeness and climate risk. Centro de Estudios Públicos de Chile; de Smith-Ramírez, C. et al. (2019) Conservation and state of the ecosystems of the Cordillera de la Costa: synthesis and

perspectives. In: C. Smith-Ramírez and F.A. Squeo (Eds.) *Biodiversidad y Ecología de los Bosques Costeros de Chile*. Editorial Univ. de Los Lagos, Chile; more own information

Erratum:

In the Spanish printed version, it says: "Adicionalmente, se suman 187,000 hectáreas correspondientes a áreas protegidas privadas (...)". It should read "The RCV added 50,830 hectares protected in the Coastal Range of Los Ríos".





Community Ties





A Change in Perspective

The current human settlements on the Valdivian coast originated from the migratory movements of people looking for work in the forest's exploitation and the port of Corral. In some cases, the rural families left their farm work behind to dedicate themselves to industrial activities²⁶.

Nonetheless, in the years since the creation of the VCR and the Alerce Costero National Park, a change has occurred in the productive focus of many families and communities: tourist activities and services have gained importance. Thanks to the singularity that the VCR harbors in terms of its biodiversity and scenic beauty, as well as its coastal location, this change from industrial and forest exploitation towards tourism has generated alternatives for families' incomes along with new opportunities.

The emergence of tourism as an economic activity permitted the local gastronomic development in Chaihuín, Huiro and Huape, as well as the creation of the Association of Local Guides of Chaihuín.

26 TNC (2021) Plan de Conservación Reserva Costera Valdiviana 2021-2026. The Nature Conservancy (TNC), Valdivia, Chile.



It is an honor and a privilege for us, as a community, to be able to work with the Valdivian Coastal Reserve, which has always been willing to support us, especially in relevant issues for the people that have come to live in the area or have established their second homes here.

Jimena Railaf. President of the Rural Potable Water Committee of Chaihuín

I think that the most important change that the Reserve has brought about is tourism: people come to see a protected place that is unique in the region, and along with their arrival there are culinary and boarding services.

Margarita Huala. President of the Indigenous Community We Llanka Milla

Tourism occurs naturally upon maintaining a beautiful place with trails where people can feel calmer. In Chaihuín in the year 2003, there were two restaurants and four or five cabins, nonetheless, today there are more than one hundred and twenty cabins and more than seven restaurants...these numbers do not lie.

Danilo González. Forest ranger of the VCR



Cattle Management

Cattle raising is a threat to conservation that affects all of the protected areas across the country; it is very difficult to address. Most rural and indigenous families use the native forest as shelter and a food source for their cattle. However, cattle cause great damage to the structure and regeneration dynamics of the forest, affecting its biodiversity and ecosystem services.

Creating cattle raising practices that are compatible with the conservation of the forest implies a serious challenge that the VCR has faced since its beginning. The results can be considered encouraging.

The key points of this initiative have been the recognition and appreciation of cattle raising as part of the community's traditional life, coming to agreements, and assigning responsibilities to local families and fundamentally providing alternative grazing options through the establishment of exclusive areas for cattle, which do not include forested areas. Restricting cattle from forested areas avoids soil compaction and negative impacts on water sources, as well as the transmission of diseases to wild fauna.

This program has the support of the Universidad Austral de Chile and the Municipality of Corral, so as to include all of the key participants.

Cattle raising is a problem with no solution for all protected areas in Chile, and the only reasonably successful story in this regard is in the Valdivian Coastal Reserve.

*Eduardo Silva Rodríguez. Ecologist, Investigator
and Professor of the Universidad Austral de Chile*





Freshwater Reservoirs

The native forest's role in the regulation and provision of water helps decrease the scarcity of this precious natural resource in rural areas. This ecosystemic role is directly related to human's wellbeing.

Until the year 2012, the Municipality of Corral had to supply families from the communities of Chaihuín and Huiro with water, transporting it via water trucks. This same year, TNC donated 0.48 hectares of land to the Chilean government, in addition to the water rights to 5 liters per second, to implement the Rural Drinking Water of Chaihuín plant. In the year 2023, new water rights were transferred to the Rural Drinking Water Committee of Chaihuín with the objective of doubling their capacity to provide water to residents, as well as schools, rural clinics, and neighborhood associations.

The VCR's contribution to water security in the sector is something highly valued by the community. It is also very significant considering the current climate scenario and that predicted for the near future.

The year 2021 has been considered as the driest year in recorded history in the River's Region. Under this scenario, the experience and learning of the VCR regarding the restoration and protection of watersheds that provide water is a reference for the implementation of adaptive measures for climate change.

The most important thing is the Rural Drinking Water that we have today: the population that benefits from the support that the Reserve provided is very big; this permits the collection and distribution of water to the people of Chaihuín and Huiro.

Margarita Huala. President of the Indigenous Community We Llanka Milla

Coastal Traditions

The economy of neighboring communities to the VCR is based on a mixed productive system, with mostly activities related to artisanal fishing and the collection of marine products along the shore.

The VCR has proposed implementing a conservation model of marine biodiversity focused on two main ideas: sustaining the population of marine species over time and assuring the local communities' livelihoods. This model emphasized the sustainability of artisanal fisheries. Through the Marine Program a permanent work plan has been established with the fishing unions and the Association of Indigenous Fishermen of Huiro with the aim of supporting the administration of the Benthic Resource Management Areas.

On the other hand, the activity of artisanal fishermen is directly benefited by the presence of the VCR: the forest conservation and the work to conserve water resources upstream, along with the absence of industrial activities creates good conditions downstream, where the freshwater ecosystems, the estuaries, beaches, and rocky shores can maintain high levels of biodiversity and productivity. In this way, the resources of commercial interest to the local fishing communities are protected.



Many families traditionally dedicated to artisanal fishing have incorporated or transformed their source of employment to tourism since the creation of the VCR. ©Ian Shive

Right: Juvenal Triviños diving ©Nick Hall







Environmental and Patrimonial Education

Environmental education has been addressed in all the Reserve's activities since its creation. What were talks and workshops in the beginning, were then consolidated and formalized into an Environmental Education Program, linked to all the lines of work that the VCR carries out in its multiple dimensions.

Environmental and patrimonial education is directed towards students from local schools. It aims to create a greater awareness in local families, promoting responsibility, and a deeper appreciation of the coastal forests and the importance of their biodiversity through discovering the interconnections between the freshwater ecosystems and the estuaries, and how these then impact the wellbeing of local communities.

Part of the teachings that are provided to children are then transmitted to their families and, step by step, the impact and transformation continually expands.

Some of the specific issues addressed in schools have been waste management and beach cleaning efforts, responsible pet ownership and forest fire prevention. In the year 2023, the Environmental Education Program incorporated the territorial recognition of the VCR as a conservation organization, along with the Alerce Costero National Park as a protected area of the Chilean Government.

The Reserve's staff has been a contribution in every way. The children receive workshops with special attention and so much dedication, given that the work methodology is very attractive for them. The subjects include the care and conservation of nature and consciousness raising. Hopefully, this can transcend the educational environment to involve families and the community in this process of change, to face how we will be able to care for our surroundings.

Ricardo Guaitiao. Teacher at the Rural Chaihuín School



I think the most marvelous thing that the Reserve has done is work with school children. This could be the salvation of what remains for us to care for, because we already tried to do it, but not with the same awareness of children today.

Margarita Huala. President of the Indigenous Community We Llanka Milla

People today can recognize species such as Darwin's frog and fox; little by little they have learned that the southern pudu does no harm when it approaches houses; also, when they find hurt animals, they bring them here.

Teninson Antillanca. Forest ranger of the VCR

While it is true that the forestry companies provided work, I think that at that time we did not gauge the damage they produced in relation to the logging of the forest.

Today we have learned to care for nature and live together with her, which is the most important change. Thanks to what they have maintained of what they were able to save of the native forest, today we can breathe oxygen into our lungs.

Adelaida Arriaza, President of the Cattle Raisers of the Valley Association and Traditional Leader of the Association of Artisanal Fishermen









Our Team

A large part of our team has been our neighbors for generations: they come from the communities that boarder the Reserve, and they have always had a relationship with the forests and the ocean, intimately interconnected with the local culture and the regional history.



The VCR's central team at 2023. From left to right, standing: forest rangers Teninson Antillanca, Erwin Ovando, Danilo González, José Angelo Carreño, Marcelo Antillanca, Marcelo Vera and Héctor Aguayo. Bottom: Patricia Barría, Lilana Pezoa and Claudia Antillanca ©Carolina Pino Inda

The VCR's Team under a Coastal Olivillo Tree. From left to right, top: David Faivovich, Héctor Aguayo, Danilo González, Lilana Pezoa, Teninson Antillanca, Francisco Torres, Marcelo Antillanca, Erwin Ovando, Marcelo Vera, María Leticia Garrido and Claudia Antillanca. Bottom: Carolina Pino, Marcela Martínez, José Angelo Carreño, Patricia Barría and Camila Paredes ©Carolina Pino Inda



Our Team

*The Dendrochronology Laboratory Team
from Universidad Austral de Chile dating
Alerces with the VCR's team.
From top to bottom and from left to right:
Antonio Lara, Liliana Pezoa,
Danilo González, Marcelo Antillanca,
Marcelo Vera, Carmen Gloria Rodríguez
y Diego Aliste ©Carolina Pino Inda*

*Children and teachers from the Huiro
School, visiting the Alerce Trail, 2022
©TNC*





*2023 Forests and Watersheds
Week, organized by the
FORECOS Foundation
©Carolina Pino Inda*

*Visit from the 2023
Advisory Committee
of the BHP Foundation
©Carolina Pino Inda*





Pitío
Colaptes pilius
©Matías Pinto



From left to right, top:
Alejandra Garcés, Danilo
González, Anaís Palomar,
Juan Ramón Candia, Juan
José Donoso, Angelo Sartori,
Liliana Pezoa, Eduardo
Novoa, David Faïvovich and
Patricia Barria. Bottom:
Sofía Beuchat, Ximena Báez,
Abraham Korman, Tania
Correa and Pamela Villamar,
2023 ©TNC

*Amphibian Workshop 2022,
provided by the NGO Ranita
de Darwin @TNC*



Pudú
Pudu puda
©TNC



2015

VCR's Team, in the year 2015. From left to right, standing: Layla Osman, Liliana Pezoa, Verónica Hormazábal, Héctor Aguayo, Patricia Poveda and Pablo Chatre. Seated: Alfredo Almonacid, Danilo González, Marcelo Antillanca, Erwin Ovando and Agustina Andrade
©Constanza Rutherford

2014 CONAF Brigade against Forest Fires
©TNC





*VCR's Team in the year 2014.
From left to right: Gerando Ponce, Patricia Poveda, Erwin Ovando, Solange Zamorano, Danilo González, Héctor Aguayo, Liliana Pezoa, Omar Ponce, Barbara Salas, Maryann Ramírez, Makarena Sobarzo, Pablo Chatre, Verónica Hormazábal and Alfredo Almonacid ©TNC*

The forest rangers Erwin Ovando, Teninson Antillanca and Danilo González @TNC



TNC's Team in 2013. At the signing of the donation by the BHP Foundation.

*From left to right: Francisco Solís, Patricia Poveda, Daniela Cabezas, Verónica Hormazábal, Omar Ponce, Gerardo Ponce, Solange Zamorano, Guido Aguayo, Carlos Fernández, Makarena Sobarzo, Pablo Chatre, Danilo González, Mike Zellner, Liliana Pezoa, Javier Beltrán, Mercedes Ibáñez, Stephan Halloy, Víctor Guardia, Maryann Ramírez, María Inés Urquieta and Mark Gerrit.
©TNC*

The teams of the VCR, the Marine Conservation NGO, and the Fishermen's Union of Chaihuín participating in an Environmental Education Project, 2013 @TNC





Jose Vistoso, Pablo Chatre, Paulita Torres, Omar Ponce, José Railaf, Danilo González, Erwin Ovando, Verónica Hormázabal, Guido Aguayo and Patricia Poveda, 2011 ©TNC

Patricia Poveda, Mark Gerrit, Danilo González, Alfredo Almonacid, Macarena Toledo, Francisco Solís, Gerardo Ponce, Omar Ponce, Catalina Parot, Juan Andrés Varas, Liliana Pezoa, Mike Zellner y Layla Osman, 2012 @TNC

Dr. Eduardo Silva, scientific advisor of the VCR, 2015 ©Liliana Pezoa

The success of the Reserve is not due to good financing; there is a team of people that work extremely hard and are not looking at the clock at the end of their shifts... Things have worked because of these people.

Eduardo Silva Rodríguez, Ecologist, Investigator and Professor of the Universidad Austral de Chile





Our Team

(Previous page)

Alfredo Almonacid, Liliana Pezoa and Mark Gerrit in a Alerce stump, 2005 @Francisco Solís

Víctor Sepúlveda with Maryann Ramírez from TNC, 2012 @TNC

Héctor Guido Aguayo, one of the longest employed VCR employees, 2005 ©Mark Godfrey

The forest ranger Erwin Ovando using an antenna to monitor fauna, 2009 @TNC

The forest ranger Patricia Poveda showing a Alerce plant reproduced in the VCR, 2012 @Nick Hall

The forest ranger Danilo González, 2004 ©Mark Godfrey

Francisco Solís in the VCR, 2005 ©Liliana Pezoa





*Solange Zamorano,
Teodora Leal, Mónica Vera,
Flor Marina Leal, Leonidas
Torres, Patricia Poveda,
Henry Azurmendi, Margarita
Huala, Alfredo Almonacid,
Rina Charlín, David Cárcamo,
Marco Díaz and the Senator
Alfonso de Urresti ©TNC*

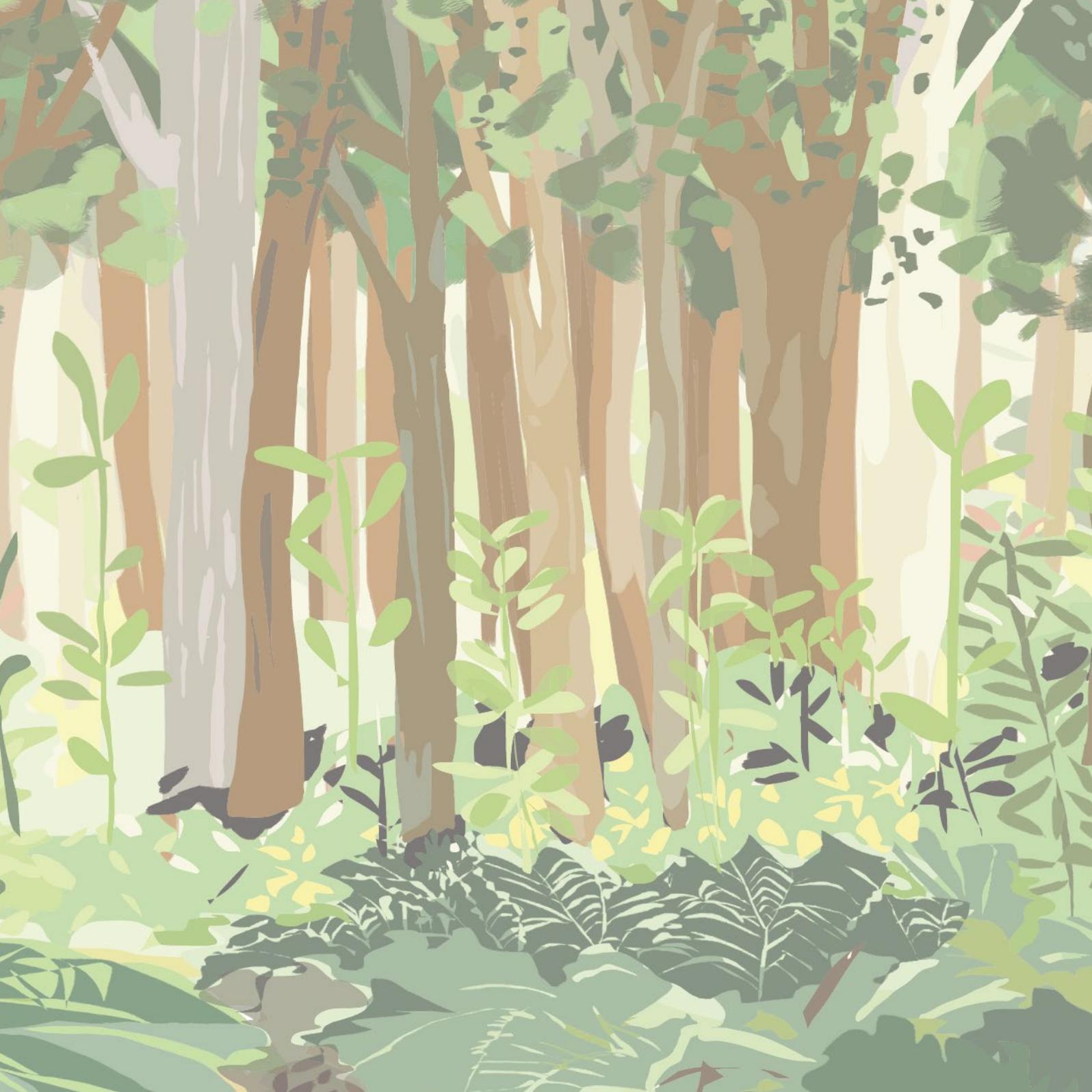
*Local Tourist Guides
José Antillanca, Natalia
Cerde and Juan Carreño,
2011 ©Erika Nortemann*

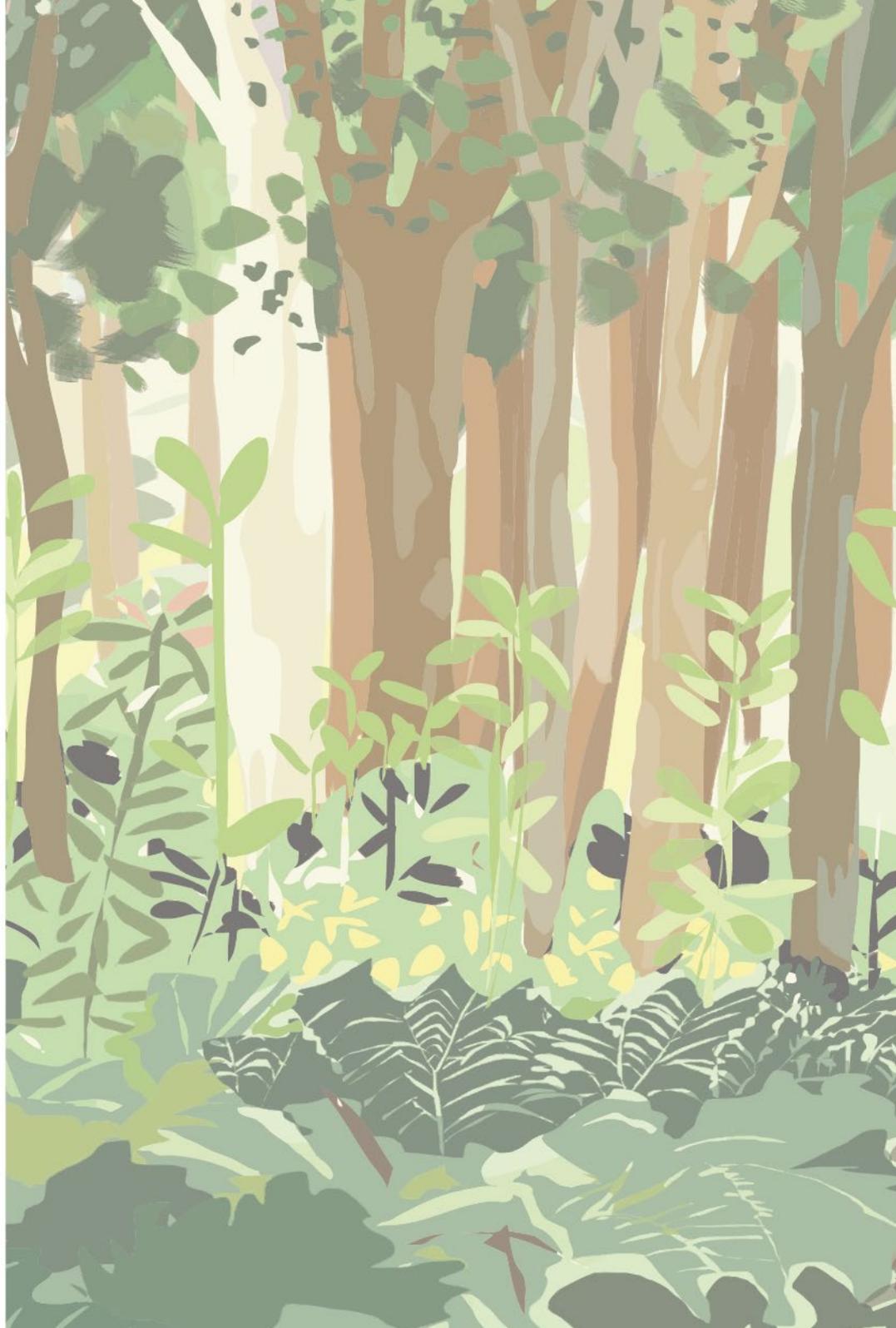




Omar Ponce, 2014 © Ian Shive







2003

2023



The Nature
Conservancy



Chile

nature.org/reservacosteravaldiviana