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International Outlook for Privately Protected Areas

Country Profile: ECUADOR

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Introduction:

This country profile is part of a study by the International Land Conservation Network (ILCN) and United Nations Development Program (UNDP) summarizing the legal, policy, and institutional mechanisms used to establish and incentivize privately protected areas (PPAs) in 30 understudied countries.

PPAs contribute to the achievement of global conservation goals and biodiversity targets by contributing to landscape-scale conservation, connectivity and ecological-representativeness of protected areas.

For the purposes of this profile, an area is considered a PPA if it conforms to the definition agreed upon by the International Union for the Conservation of Nature (IUCN). Generally speaking, a PPA's protection must be recognized and durable (with long term conservation intent); it must be governed by a private or non-governmental entity; and it must be governed and managed to meet the general conservation standards of a protected area (PA) as laid out by the IUCN.^{1,2} Note: Alongside currently existing mechanisms in these countries, this study also references mechanisms that represent *potential* opportunities for the creation of PPAs.

The data in this profile is based on a 2018 desk review of law and policy documents, government reports, publications by multi-lateral organizations, scholarly literature, and other sources. For 28 of the 30 country profiles, data was reviewed by a volunteer in-country expert. We are grateful to these experts, whose names and the profiles they reviewed are listed in the appendix to the <u>International Outlook for Privately Protected Areas summary report</u>.

Finally, this profile is intended to be a living document, which will be updated periodically as more information is submitted and time and resources allow. If you have a contribution, please contact the authors at landconservation@lincolninst.edu.

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¹ Mitchell, B.A., Stolton, S., Bezaury-Creel, J., Bingham, H.C., Cumming, T.L., Dudley, N., Fitzsimons, J.A., Malleret-King, D., Redford, K.H. and Solano, P. (2018). *Guidelines for privately protected areas*. Best Practice Protected Area Guidelines Series No. 29. Gland, Switzerland: IUCN. xii + 100pp.

² Dudley, N. (ed.) (2008). Guidelines for Applying Protected Area Management Categories. Gland, Switzerland: IUCN. x + 86pp. WITH Stolton, S., Shadie, P. and Dudley, N. (2013). IUCN WCPA Best Practice Guidance on Recognising Protected Areas and Assigning Management Categories and Governance Types, Best Practice Protected Area Guidelines Series No. 21. Gland, Switzerland: IUCN

ECUADOR (República del Ecuador)

Outlook for Private Protected Areas

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- 3. Martin Schaefer, Executive Director, Fundación de Conservación Jocotoco

I. Country Overview

Land Area

Ecuador is a small, densely populated neotropical country and one of the 17 megadiverse countries of the world.³ For its size, Ecuador is the most biodiverse country on Earth.⁴ According to the Food and Agriculture Organization (FAO) of the United Nations, its total land area measures approximately 24,836,000 hectares (ha).⁵ Of this, forest area covers roughly 12,547,880 ha (51 per cent) and agricultural land covers 5,788,400 ha (23 per cent).⁶

Ecuador is ranked second among Latin American countries with the highest levels of deforestation.⁷ According to Global Forest Watch, cumulative tree cover loss between 2001 and 2014 was estimated at nearly 600,000 ha.⁸ Principal drivers are an expanding agricultural frontier, the spread of agroindustry, and oil exploration and infrastructure.⁹

It has been estimated that just 30 per cent of Ecuador's original natural vegetation remains in the coastal plains, 60 per cent of natural vegetation remains in the Andean region, and 88 per cent of original vegetation remains in the Amazon lowlands. Habitat loss and ecosystem degradation threatens the country's diversity of flora and fauna, making Ecuador an important focal area for private land conservation.

https://www.cbd.int/countries/profile/default.shtml?country=ec

³ Mittermeier, R., et al. 1997. Megadiversity: Earth's Biologically Wealthiest Nations. Cemex. Mexico.

⁴ Convention on Biological Diversity. Ecuador Country Profile. Accessed online at https://www.cbd.int/countries/profile/default.shtml?country=ec

⁵ Food and Agriculture Organization of the United Nations, "Ecuador," FAO website, http://www.fao.org/countryprofiles/index/en/?iso3=ECU, accessed on June 20, 2017

⁶ World Bank, 2015. Ecuador Country Profile. Accessed online at https://data.worldbank.org/country/ecuador

 $^{^{\}rm 7}$ Convention on Biological Diversity. Ecuador Country Profile. Accessed online at

⁸ Mosandl, R., Günter, S., Stimm, B., & Weber, M. (2008). Ecuador suffers the highest deforestation rate in South America. In *Gradients in a Tropical Mountain Ecosystem of Ecuador* (pp. 100–412). doi:10.1007/978-3-540-73526-7

⁹ Stern, M. And B. Kernan. 2011. Report on Tropical Forests and Biodiversity in Ecuador. USAID Ecuador. Quito.

¹⁰ Francisco Cuesta, Manuel Peralvo, Andrés Merino-Viteri, Macarena Bustamante, Francis Baquero, Juan F. Freile, Priscilla Muriel & Omar Torres-Carvajal (2017) Priority areas for biodiversity conservation in mainland Ecuador, Neotropical Biodiversity, 3:1, 93-106, DOI: 10.1080/23766808.2017.1295705

Land Ownership and Tenure

Ecuador recognizes seven types of land tenure: public, private, communal, state, associative (belonging to local associations), cooperative (belonging to cooperatives), and mixed-economy. The 2016 *Ley Orgánica de Tierras Rurales y Territorios Ancestrales* is the most current law regarding land tenure.¹¹

While a large extent of Ecuador's land area is not formally or securely titled, the government is in the process of creating a country-wide rural land cadaster. New rules, such as requiring accurate maps of a property prior to any land purchase transaction, are facilitating robust land registry information throughout the country. Land titling is becoming a more efficient process in many areas and provinces of Ecuador. For example, rural land owners in the canton Quininde, Esmeraldas province, NW Ecuador, are able to title their land in three to six months, while in the past this process has taken years.¹²

It is important to note that individual owners or organizations can only title up to two properties of 70 ha (which may be an important restriction for private reserves that consist, partly or entirely, of untitled land). While the reformed 2016 *Ley Orgánica de Tierras Rurales y Territorios Ancestrales* granted exceptions for this rule (such as for areas that are important for agricultural production), the purpose of conservation is not granted as an exception.¹³

Of Ecuador's agricultural land, about 94 per cent is privately owned, approximately 5 per cent is owned communally, and less than 1 per cent is owned by the state.^{14, 15}

This pattern is markedly different on forest land, of which about 40 per cent is publicly owned and 60 per cent is owned either communally by indigenous groups and communities or privately by individuals or organizations. According to the FAO, forest ownership in Ecuador is largely unknown although in practice, the majority of forest land is owned and managed by indigenous and local communities. Indigenous territories cover one fifth of Ecuador's land area. The 2008 Ecuadorian Constitution provides strong protection of indigenous authority over traditional or ancestral lands and forest resources. ¹⁷

Protected Areas in Ecuador

Ecuador's primary strategy to conserve its biodiversity has been the establishment of a National System of Protected Areas (*Sistema Nacional de Areas Protegidas del Ecuador* or SNAP), which, to date, has conserved 4,702,664 ha (18.9 per cent of Ecuador's land area) across 54 protected areas.^{18, 19}

¹¹ República del Ecuador, Asamblea Nacional. 2016. *Ley Orgánica de Tierras Rurales y Territorios Ancestrales*. Available online at https://www.eltelegrafo.com.ec/images/cms/EdicionImpresa/2016/Marzo/14-03-16/14-03-16-pol-Ley-de-Tierras.pdf

¹² Personal Communication, Martin Schaefer, July 25, 2018.

¹³ Personal Communication, Martin Schaefer, July 25, 2018.

¹⁴ Alvarado, M. & Vandecandelaere, A., 2011. Tenencia de la tierra e inequidad en el acceso a la tierra. En: F. Hidalgo & M. Laforge, edits. Tierra Urgente. Quito: SIPAE, pp. 51-79.

¹⁵ Hidalgo, F. y otros, 2011. Atlas sobre la Tenencia de Tierra en el Ecuador. Primera ed. Quito: SIPAE.

¹⁶ Palacios, W. and J.L. Freire. 2004. *Recursos forestales y territorios indígenas: in proceedings of the Premier Encuentro Andino de Derecho Ambiental Forestal con Enfoque comunitario*. CEDA, Quito, Ecuador, pp.120–139.

¹⁷ USAID. "Ecuador Country Profile: Property Rights and Resource Governance." Accessed online at https://www.land-links.org/wp-content/uploads/2016/09/USAID_Land_Tenure_Ecuador_Profile.pdf

¹⁸ Personal communication, Renzo Paladines P., July 30, 2018.

¹⁹ The World Database on Protected Areas shows 5,598,000 ha of land – over 21per cent of the country.19 The governance type is not reported for the vast majority of protected areas in the WDPA. Differences between statistics may be due to differences in methodologies or out of date reporting.

The 2008 Constitution sets out Ecuador's commitment towards land and biodiversity conservation. Article 405 states that the country's protected area system "shall be comprised of state, decentralized autonomous, community and private subsystems, and it shall be directed and regulated by the State." ²⁰

The primary legislation for national protected areas in Ecuador is the Organic Environmental Code, which was enacted in April 2017 (Reg. Of No 983) and which entered into force in 2018.²¹ Article 37 in the Code specifically includes privately protected areas within Ecuador's National System of Protected Areas (SNAP). Article 46 within the Code states that privately protected areas that form part of this private subsystem must be declared by the country's National Environment Authority.²² Ministerial Agreement No 83 of the Environmental Minister of 2016 describes the guidelines for private reserves to be part of SNAP.²³

Article 41 of the Code defines the protected area categories as *national parks*, *flora and fauna production reserves*, *wildlife refuges*, *natural recreation areas*, and *marine reserves*. Several of the protected areas within SNAP overlap with communal lands held by indigenous groups or rural communities, and/or privately held lands.²⁴

In addition to protected areas, 241 protected forests and vegetation areas (*bosques y vegetacion protectores*) nominally protect 2,386,957 ha of land or 11 per cent of Ecuador's land area. A total of 60 per cent of the protected forests and vegetation lands are publicly owned, 32 per cent are a mix of public-private lands, 8 per cent are privately owned and 7 per cent are communal or local associations' lands.²⁵ More information on these follows below.

II. Law and Policy for Private Land Conservation

Ecuador has a rich history of private land conservation, dating back to the 1940s, with the first formal private reserves created in the 1970s and 1980s. Today, Ecuador is among the Latin American countries with the largest numbers of privately protected areas.²⁶

Within the 2008 Constitution, Ecuador includes land protected by private landowners ("private subsystems") as part of the state patrimony of natural areas.²⁷ There are four primary methods of private land conservation: private forest reserves (including protection forests mentioned above), conservation easements of adjacent lands, land trusts, and land sales including a conservation clause.²⁸ The constitutional inclusion of private protected areas has been, and continues to be, an extremely important

²⁰ República del Ecuador. Constitucion de 2008. Accessed online at http://pdba.georgetown.edu/Constitutions/Ecuador/english08.html

²¹ It replaced the Forestry and Conservation of Natural Areas and Wildlife law, which had been in effect since 1981.

²² Organic Environmental Code of Ecuador, 2017. Accessed online at: http://www.lse.ac.uk/GranthamInstitute/wpcontent/uploads/laws/8269.pdf

²³ Personal communication, Renzo Paladines P., December 5, 2018.

²⁴ USAID. "Ecuador Country Profile: Property Rights and Resource Governance." Accessed online at https://www.land-links.org/wp-content/uploads/2016/09/USAID_Land_Tenure_Ecuador_Profile.pdf

²⁵ Ministerio del Ambiente. Bosques y Desarrollo Sostenible: Visión 2030.

 ²⁶ Environmental Law Institute, "Ecuador", 2003, Conservación Privada en Latinoamérica: Herramientas Legales y Modelos Para El Éxito. p. 123.
 Available in English online at: https://cmsdata.iucn.org/downloads/spn___legal_tools_and_incentives_for_private_lands_conservation.pdf
 ²⁷ República del Ecuador. Constitucion de 2008. Article 405. Accessed online at http://pdba.georgetown.edu/Constitutions/Ecuador/english08.html

²⁸ Hugo Echeverría and Sofía Suárez (Centro Ecuatoriano de Derecho Ambiental), "Ecuador," 2009, Conservacion Privada Comunitaria en los Paises Amazonicos, p. 140

step within Ecuadorian protected area legislation. However, no private lands are included in the WDPA for Ecuador, so it is unclear if the government is counting any of these forms of private protection toward the country's protected areas goals.

Approximately 191,000 ha of Ecuador's forests are protected privately as private forest reserves (*bosques protectores*). ²⁹ Of this, 5 non-governmental organizations protect and manage approximately 150,000 ha. At this time, these does not seem to be an organization in Ecuador that is comprehensively tracking privately protected areas.

It is important to note that landowners do not own the sub-surface rights, which has led to some land use conflicts within protected areas in Ecuador. In 2017, the previous Ecuadorian administration granted mining concessions in various protected areas (amounting to ~2,000,000 ha), including both private and state-owned protection forests. ³⁰ However, the current administration has challenged the previous rules and has established, through a public vote, that no mining is allowed in those protected areas that are already inscribed in SNAP. As such, all PPAs that have not been included in SNAP may remain vulnerable to extractive industries. ³¹

Private Protection Forests

Ecuador has established processes for the formal creation of private reserves through the declaration of permanently protected forests and vegetation lands (*bosques y vegetacion protectores*). Privately owned, legally titled land can be permanently declared a protection forest (*bosque protector*). Once declared, the designation cannot be changed by subsequent landowners.³²

The steps to establishing a permanent privately-owned protected forest include: 1. Soliciting inscription through the Ministry of the Environment, including a certificate from the registration of the property showing that there are no financial liens held on the property; 2. Conducting an inspection of the zone to verify compliance with necessary requirements for conservation; 3. Establishing the official land use through a resolution from the Ministry, and; 4. Creating a management plan during the first 180 days of inscription that is filed along with the registration of the property.³³ This last step assures the continuation of the objectives of a protected forest or reserve; however, because it depends strongly on approval by the Ministry of Environment, it constitutes a legal barrier as procedures may result in long periods of delay in the designation of the PPA. As of 2009, very few privately-owned protected forests in Ecuador had a management plan approved by the Ministry of the Environment.³⁴

There is some debate as to whether protection forests achieve permanent conservation in Ecuador. There have been a number of instances where this designation has not protected land from conversion, particularly in protection forests declared by the state. For example, when Fundación Jocotoco challenged

²⁹ Hugo Echeverría and Sofía Suárez (Centro Ecuatoriano de Derecho Ambiental), "Ecuador," 2009, Conservacion Privada Comunitaria en los Países Amazonicos. p. 140

³⁰ Personal Communication, Martin Schaefer, July 25, 2018.

³¹ Personal Communication, Martin Schaefer, July 25, 2018.

³² Environmental Law Institute, "Ecuador", 2003, Conservación Privada en Latinoamérica: Herramientas Legales y Modelos Para El Éxito. p. 123. Available in English online at: https://cmsdata.iucn.org/downloads/spn___legal_tools_and_incentives_for_private_lands_conservation.pdf

³³ Environmental Law Institute, "Ecuador", 2003, Conservación Privada en Latinoamérica: Herramientas Legales y Modelos Para El Éxito. p. 99.

³⁴ Hugo Echeverría and Sofía Suárez (Centro Ecuatoriano de Derecho Ambiental), "Ecuador," 2009, Conservacion Privada Comunitaria en los Paises Amazonicos, p. 149

artisanal mining in a protection forest in El Oro Province, the mining operations that had previously been permitted by local authorities had to halt operations because they did not have a management plan in place for the mitigation of environmental impacts.³⁵ In certain cases, privately declared protection forests have tended to be better protected because of the conservation motivations of the landowner.³⁶

Conservation Easements

Article 61 of Ecuador's Organic Environmental Code of 2017 recognizes conservation easements, known in Ecuador as ecological servitudes (*servidumbres ecologicos*), as a mechanism for private land and biodiversity conservation.³⁷ Easements can be either voluntary or obligatory (in the case of riparian areas or in the buffer zones of protected areas).

Conservation easements are an adaptation of Article 859 of the Ecuadorian Civil Code, which allows for one property to place regulations on another property with a different owner. The conservation easement has been defined as a "contract by which the owner of the servant estate voluntarily decides to constitute a self-limitation on the uses that can be made on its property in order to conserve the biodiversity found within it in favor of the owner of the dominant property." The properties must be adjacent to one another. Theoretically, an easement can be for conservation in perpetuity; however, to date this tool has only been used for fixed terms (~25-30 years) in Ecuador.

The first conservation easement in Ecuador was created in 1999 between two foundations; the second, in 2001, was between a family and a foundation tasked with research and conservation activities.

Conservation Trusts

In Ecuador, the practice of establishing a civil and commercial trust (*fideicomiso mercantil*) has been adapted for the purposes of conservation. Conservation trusts constitute a tripartite contract transferring ownership of land to an individual or group with the stated goal of land or biodiversity conservation. The trustor transfers ownership of the property; the trustee manages the trust to ensure its conservation purposes are fulfilled; and the beneficiary is the person in favor of whom the trust is constituted. ⁴⁰ This mechanism has been used in several instances and could, theoretically, be a tool for permanent conservation. ⁴¹

Direct Purchase

NGOs in Ecuador have been very active in purchasing and managing land for conservation. A number of such efforts have been strategic, mapping critical habitat remnants on private land and working to acquire

³⁵ Personal Communication, Martin Schaefer, July 25, 2018.

³⁶ Environmental Law Institute, "Ecuador", 2003, *Conservación Privada en Latinoamérica: Herramientas Legales y Modelos Para El Éxito*. p. 124. Available in English online at: https://cmsdata.iucn.org/downloads/spn___legal_tools_and_incentives_for_private_lands_conservation.pdf ³⁷ Organic Environmental Code of Ecuador, 2017. Accessed online at: http://www.lse.ac.uk/GranthamInstitute/wp-content/uploads/laws/8269.pdf

³⁸ Hugo Echeverría and Sofía Suárez (Centro Ecuatoriano de Derecho Ambiental), "Ecuador," 2009, Conservacion Privada Comunitaria en los Paises Amazonicos, p. 140

³⁹ Environmental Law Institute, "Ecuador", 2003, Conservación Privada en Latinoamérica: Herramientas Legales y Modelos Para El Éxito. p. 103
40 Hugo Echeverría and Sofía Suárez (Centro Ecuatoriano de Derecho Ambiental), "Ecuador," 2009, Conservacion Privada Comunitaria en los
Países Amazonicos. p. 141

⁴¹ More information on this tool is available here: Arias, V; Falconi, E. 2006. El fideicomiso de conservación. La experiencia de Ecuador. The Nature Conservancy. Quito, Ecuador. Available online at: http://191.98.188.189/Fulltext/9415.pdf

properties of high conservation value. Several such systems of reserves, varying in size, exist throughout the country.⁴²

There are also a number of informal reserves in Ecuador that are not legally registered as protected areas. In these instances, individual landowners choose to manage their land as a private nature reserve without inscribing the reserve with SNAP.

Land Sale with Conservation Clause

Land sales can incorporate a conservation clause into their civil purchasing contracts, through which the buyer agrees to conserve the natural environment of the acquired property. Both NGOs and individuals have used this tool in Ecuador. For example, individuals may sell shares of their property to family members with a conservation clause to ensure that the land is managed sustainably and that important resources are protected.⁴³

National Biodiversity Strategy and Action Plan (NBSAP)

In Ecuador's 2007 Strategic Plan of the National System of Protected Areas (SNAP), SNAP was directed to establish subsystems to better integrate conservation interests from a variety of actors. For private landowners, they were to create a Subsistema de Áreas Protegidas Privadas (APP).⁴⁴ Both actions occurred with the enactment of the Organic Environmental Code in 2017.

III. Financial Incentives for Private Land Conservation

Ecuador's 2008 Constitution directs the State to "give incentives to natural persons and legal entities and to communities to protect nature and to promote respect for all the elements comprising an ecosystem." ⁴⁵ Ecuador has consistently developed a variety of financial incentives geared towards encouraging the establishment of PPAs and other forms of private land management. These programs, including the Socio Bosque program and tax incentives described below, require landowners to hold legal title to their land.

Socio Bosque Program

In September 2008, Ecuador initiated an incentive-based conservation program called *Socio Bosque*. ⁴⁶ The program provides an economic incentive for individual and collective landowners (including indigenous communities or local associations) to conserve ecosystems on their land. Landowners must have title to their land and commit to a 20-year contract with the program. The incentives are then based on the amount of land enrolled, not its value. ⁴⁷ For example, the first 50 ha of land receives US\$30 ha-1 year-1, the second 50 ha receives US\$20 ha-1 year-1 and so on.

⁴² Environmental Law Institute, "Ecuador", 2003, Conservación Privada en Latinoamérica: Herramientas Legales y Modelos Para El Éxito. p. 103

⁴³ Hugo Echeverría and Sofía Suárez (Centro Ecuatoriano de Derecho Ambiental), "Ecuador," 2009, Conservacion Privada Comunitaria en los Paises Amazonicos, p. 140

⁴⁴ Ministerio del Ambiente del Ecuador. 2007. Políticas y Plan Estratégico del Sistema Nacional de Áreas Protegidas del Ecuador 2007 - 2016. Proyecto GEF: Sistema Nacional de Áreas Protegidas. Quito, Ecuador. Available online at:

 $http://suia.ambiente.gob.ec/documents/10179/369324/11.-PLAN+ESTRATper\ centC3per\ cent89GICO+DEL+SNAP-Resumen+Ejecutivo.pdf/72b6c299-cb55-4be4-8aa4-70591adf23a1$

⁴⁵ República del Ecuador. Constitucion de 2008. Accessed online at http://pdba.georgetown.edu/Constitutions/Ecuador/english08.html

⁴⁶ Hugo Echeverría and Sofía Suárez (Centro Ecuatoriano de Derecho Ambiental), "Ecuador," 2009, Conservacion Privada Comunitaria en los Paises Amazonicos, p. 146

⁴⁷ Ministerio del Ambiente, "Programa Socio Bosque," 2017, Ministerio del Ambiente website, http://www.ambiente.gob.ec/programa-socio-bosque/, accessed on July 5, 2017

Currently, Socio Bosque has more than 120,000 beneficiaries and has enrolled about 1.58 million ha of native forests and *páramos*. The national government has invested almost 18 million USD in this program.⁴⁸ There are plans to involve the private sector in this program and the speed and efficiency of its payments.⁴⁹

Tax Incentives

Ecuador offers tax incentives to encourage individual participation in conservation efforts. It should be reiterated that such forms of financial incentives require legal title on the part of the landholder, and their success depends on the continuing resolution of land titling issues in country.

Article 180 of the *Reformed Law for Tributary Equity of Ecuador* exempts "properties located within protected areas, public or private, registered in the corresponding public body" from taxation. ⁵⁰ This includes land that is designated as a protected forest, as well as land that is classified as forest or wetland by the government. Article 1 of the *2002 Forest Law* indicates that fees for investments in forest contracts, particularly for afforestation, are transferred to the Ministry of Environment. Article 54 further states that forest land covered by forests, natural vegetation or cultivated forests, are exempt from tax on rural property.

Ecotourism

Several PPAs in Ecuador, often those of larger size, participate in some kind of ecotourism to support their conservation and management activities (see case studies below).

Water Funds

Water funds are a type of ecosystem service market that invests in the conservation of watersheds to "1) improve or maintain water quality and quantity for downstream users; 2) maintain regular flows throughout to year; 3) maintain or enhance natural ecosystem biodiversity, both freshwater and terrestrial; and 4) improve or maintain human wellbeing and quality of life for upstream human communities." ⁵¹

Ecuador is home to several water funds, including the first water fund in Latin America - the Quito Water Fund, called the Fund for the Protection of Water (FONAG; others include Pro-cuencas (Zamora), Espindola (Amaluza), Fondo para Conservación de la Cuenca de Paute (Paute), and Tugurahua (Ambato) Water Funds, with several others in the initial phases of development).⁵²

⁴⁸ Ministerio del Ambiente, "Programa Socio Bosque," 2017, Ministerio del Ambiente website, http://www.ambiente.gob.ec/programa-socio-bosque/, accessed on November 10, 2018

⁴⁹ Personal Communication, Martin Schaefer, July 25, 2018.

⁵⁰ Artículo 180 de la Ley Reformatoria para la Equidad Tributaria en el Ecuador, 29 de diciembre de 2007

⁵¹ Goldman, R.L., Benitez, S., Calvache, A., and Ramos, A. 2010. Water funds: Protecting watersheds for nature and people. The Nature Conservancy, Arlington, Virginia. Accessed online at https://naturalcapitalproject.stanford.edu/pubs/TNC_Water_Funds_Report.pdf ⁵² Goldman, R.L., Benitez, S., Calvache, A., and Ramos, A. 2010. Water funds: Protecting watersheds for nature and people. The Nature Conservancy, Arlington, Virginia. Accessed online at https://naturalcapitalproject.stanford.edu/pubs/TNC_Water_Funds_Report.pdf

In 2000, The Nature Conservancy (TNC) worked with the municipality of Quito and the water company of Quito to create FONAG in response to water demands and watershed degradation.⁵³ Guided by a multistakeholder board that includes public, private, and NGO actors, FONAG protects watersheds supplying 80per cent of Quito's freshwater.⁵⁴ Today, FONAG has an endowment of more than \$10 million USD and disburses more than \$1.5 million USD a year for conservation projects in key watersheds, which can include protecting and restoring forests and grasslands in areas owned by local communities, private landowners, and the Quito water company.⁵⁵ FONAG has protected and/or restored over 40,000 ha, working with more than 400 families.

Water funds have financed the establishment of privately protected areas in watersheds. Since 2006, Nature and Culture International (NCI) has worked with the Regional Water Fund of Southern Ecuador (FORAGUA), a financial mechanism that supports the conservation of the watersheds that provide water for cities and small towns of Loja, El Oro and Zamora Chinchipe provinces.

Since 2009, FORAGUA has enrolled 39 municipalities and established 183,994 ha of municipal reserves through municipal ordinances. These ordinances created a water fee for conservation that is paid by ratepayers and collects on average \$500,000 annually for the conservation, restoration and management of municipal reserves. Additionally, through these ordinances some municipalities have established incentives for landowners inside municipal reserves, such as direct payments for environmental services; municipal tax exemptions; and training and technical support for sustainable activities; and security in land tenancy among others.⁵⁶

UN-REDD Programme

Ecuador joined the UN-REDD Programme in October of 2009 and became a pilot country in the National Joint Program 2011.⁵⁷ In June 2017, Ecuador completed its REDD+ readiness process and became eligible to receive Results Based Payments for emissions reductions completed during 2009-2014 and reported to the UNFCCC.⁵⁸

⁵³ The Nature Conservancy, Water Funds. n.d. Quito Water Fund. Accessed online at: https://waterfundstoolbox.org/regions/latin-america/quito-water-fund

⁵⁴ Calvache, Alejandro. n.d. Creating Water Funds for People and Nature. Water funds help to provide fresh water today and into the future. The Nature Conservancy. Accessed online at: https://www.nature.org/en-us/about-us/where-we-work/latin-america/stories-in-latin-america/water-funds-of-south-america/

⁵⁵ The Nature Conservancy, Water Funds. n.d. Quito Water Fund. Accessed online at: https://waterfundstoolbox.org/regions/latin-america/quito-water-fund

 $^{^{56}}$ Personal Communication, Renzo Paladines, December 5, 2018.

⁵⁷ the REDD desk: a collaborative resource for REDD readiness, "REDD in Ecuador," 2017, the REDD desk website, http://theredddesk.org/countries/ecuador, accessed on July 4, 2017

⁵⁸ Halverson, Elspeth, "Reducing deforestation while increasing agricultural production, Ecuador is now eligible to receive REDD+ Result Based Payments," 2017, UN-REDD Programme website, http://www.unredd.net/announcements-and-news/2643-reducing-deforestation-while-increasing-agricultural-production-ecuador-is-now-eligible-to-receive-redd-result-based-payments.html, accessed on July 4, 2017

IV. Organizations for Private Land Conservation

Governmental Organizations

- Ministry of Agriculture and Livestock: Through the signing of the Forestry and Conservation of Natural Resources and Wildlife Law in 1981, protected forests are under the management of the Ministry of Agriculture.⁵⁹
- Ministry of the Environment: In 1996, the formation of the Ministry of the Environment formally placed the management and administration of protected areas under its jurisdiction.⁶⁰

Non-governmental Organizations

- The Corporación Nacional de Bosques Privados del Ecuador was formed with support from Fundación Natura to support small private landholders in creating and managing protected reserves while strengthening existing PPAs.⁶¹ As of 2002, the group was comprised of 65 members and encompassed 70,000 hectares of privately protected forests. They do not require formal land tenure for membership, contrary to the government requirements for protected areas.⁶²
- Fundación Pro-Bosque was created by a Ministerial decree on November 9, 1992 by the Ecuadorian Ministry of Agriculture and Livestock. In partnership with the World Land Trust and IUCN-Netherlands, the organization acquired and manages the largest privately protected area in the endangered dry tropical forests of coastal Ecuador: the 6,078 ha Cerro Blanco Protected Forest (see case study below). 63
- *Naturaleza y Cultura Internacional* is an NGO that works with Ecuador's Ministry of Environment to help communities conserve land through the Socio Bosque program. To date, they have worked with 28 communities and 33 landowners to protect 382,507 acres through this program. ⁶⁴ NCI also owns 7 private reserves in south Ecuador, that in total protect 27,066 ha of critical ecosystems, among others: the best remnants of dry forest, important areas of cloud forest around Podocarpus National Park and the last intact corridor between the Andes and the lowlands of the Amazon. During the last 12 years NCI has supported 35 municipalities all over Ecuador to protect its main watersheds, trough the establishment of municipal reserves that in total protect 603,784 ha, mainly *paramo* and cloud forest.
- The Fundación de Conservación Jocotoco protects areas of critical importance for the conservation of threatened birds in Ecuador and the biodiversity that coexists in their habitats. The Foundation acquires land to manage these areas as biological reserves. To date, they have established a network of 12 reserves that together protect around 17,500 ha of land that are home to 800 species of birds, of which 50 are endangered or at high risk globally. More than 100 of these species are endemic to the region. 65

⁵⁹ Hugo Echeverría and Sofía Suárez (Centro Ecuatoriano de Derecho Ambiental), "Ecuador," 2009, Conservacion Privada Comunitaria en los Paises Amazonicos, p. 145

⁶⁰ Hugo Echeverría and Sofía Suárez (Centro Ecuatoriano de Derecho Ambiental), "Ecuador," 2009, Conservacion Privada Comunitaria en los Países Amazonicos. p. 145

⁶¹ Hugo Echeverría and Sofía Suárez (Centro Ecuatoriano de Derecho Ambiental), "Ecuador," 2009, Conservacion Privada Comunitaria en los Paises Amazonicos, p. 153

⁶² Corporación Nacional de Bosques Privados del Ecuador, "Quiénes Somos?" n.d. Corporación Nacional de Bosques Privados del Ecuador website http://www.actiweb.es/reddebosques/index.html accessed on July 6, 2017

⁶³ See their website: http://bosquecerroblanco.org/es/fundacion-pro-bosque-3/

⁶⁴ See their website: https://natureandculture.org/places/ecuador/socio-bosque/

⁶⁵ See their website: http://www.fjocotoco.org/

- Flora and Fauna International has worked closely with the Ecuadorian organization Fundación Sirua to acquire and protect around 10,000 ha of forest in the most significant tract of Chocó rainforest in Ecuador, the Awacachi Corridor.⁶⁶
- Fundación Ecominga is a foundation formed under the auspices of the Ministry of the Environment and funded by international sponsors. The foundation is dedicated to the conservation of the foothill forests, cloud forests, and alpine grasslands ("paramo") of the Andes. The foundation owns and manages 7 reserves covering nearly 5,000 ha, many of which adjoin national parks.⁶⁷
- Fundación Imaymana is an NGO which owns and manages 6 privately protected reserves in the Chocó Andean region of Ecuador. ⁶⁸
- Fundación Jatun Sacha is an Ecuadorian NGO and biological research station that owns and manages five private reserves with the goal of conserving tropical rainforests in Ecuador. ⁶⁹
- Third Millennium Alliance (*Grupo Ecológico Jama-Coaque*) is an Ecuadorian NGO that owns and protects the Jama-Coaque Reserve, more than 566 ha of tropical moist forest and premontane cloud forest in one of the last major remnants of Pacific Ecuadorian Forest in the Tumbes-Chocó-Magdalena Global Biodiversity Hotspot.⁷⁰
- The international NGO The Nature Conservancy is active in Ecuador, particular in relation to water funds.⁷¹

V. Case Studies

Chongón Colonche Protected Forest

The Chongón Colonche protected forest was established in 1994, comprising 77,694 ha of protected mountainous forest under the administration of a nongovernmental organization headed by Pro-Bosque as part of an alliance between private companies. The families living in the Chongón Colonche Protected Forest, who had lived there for more than 20 years, received title to the land through an award granted by the Ministry of the Environment. It remained a protected forest, even with the change of ownership. Making up a crucial portion of the Chongón Colonche connectivity corridor, a highly biodiverse mountainous region leading to the coast, a main challenge to the sustainable management of the protected forest is regulating proper land use. The families, together with the administrating organization headed by Pro-Bosque, have established community norms by which to utilize local resources in a more sustainable manner. This has aided in helping to regulate activities within the region that promote the conservation of the area and its local species. However, there remain threats to this

⁶⁶ See their website: https://www.fauna-flora.org/countries/ecuador

⁶⁷ See their website: https://ecomingafoundation.wordpress.com/

⁶⁸ See their website: http://www.imaymanaforestconservation.org/

⁶⁹ See their website: https://www.jatunsacha.org/

⁷⁰ See their website: http://tmalliance.org/

⁷¹ See their website: https://www.nature.org/en-us/about-us/where-we-work/latin-america/ecuador/

⁷² Hugo Echeverría and Sofía Suárez (Centro Ecuatoriano de Derecho Ambiental), "Ecuador," 2009, *Conservacion Privada Comunitaria en los Paises Amazonicos*, p. 139

⁷³ Chemonics International Inc., "Final Report: USAID Sustainable Forests and Coasts," 2014, p. 11, Chemonics website, http://www.chemonics.com/OurWork/OurProjects/Documents/Ecuador_Sustainable_ForestsandCoasts_FinalReport_June2014.pdf accessed on July 8, 2017

⁷⁴ Hugo Echeverría and Sofía Suárez (Centro Ecuatoriano de Derecho Ambiental), "Ecuador," 2009, Conservacion Privada Comunitaria en los Paises Amazonicos, p. 139

forest from the extraction of the Evadriana VI limestone deposit, the felling of guayacán and the hunting of guatusa, deer and saino.

Fundación Jocotoco Reserves⁷⁵

Fundación Jocotoco was established in 1998 to protect Ecuador's threatened biodiversity. This is largely achieved by purchasing lands and managing them as ecological reserves. Fundación Jocotoco has established a network of 12 reserves protecting approximately 20,000 ha and populations of over 800 species of birds (more than 100 of which are range restricted or endemic). Almost all of the land is titled, but there has been a protracted process to title the few areas without titles.⁷⁶ Increasingly, the value of PPAs is recognized by local communities and authorities for their role in protecting environmental services, particularly water.

Their first reserve, Tapichalaca in Zamora-Chinchipe Province, was established in 1998 to protect a newly discovered species of bird, the Jocotoco Antpitta. Today, Tapichalaca Reserve remains home to more than half of the known world population of this species.⁷⁷ The Reserve has since been expanded and, today, covers about 3,000 ha of mostly cloud forest. It also buffers the Yacurí National Park (declared in 2009), creating one of the largest areas of undisturbed montane forests in South America.

Inspired by the scientific community's interest in the area, Fundación Jocotoco started an ecotourism arm – Jocotours, which manages lodges in some of reserves. Jocotours also promotes birdwatching and offers a wide assortment of nature trips in Ecuador. Money that is collected from tourists is used to support Jocotoco Foundation's conservation projects.⁷⁸

 $^{^{75}\,\}mbox{See}$ their website: http://www.fjocotoco.org/home.html

⁷⁶ Personal Communication, Martin Schaefer, July 25, 2018.

⁷⁷ See their website: http://www.fjocotoco.org/tapichalaca1.html

⁷⁸ See their website: http://jocotoursecuador.com/