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LATIN AMERICAN AND CARIBBEAN FORESTRY COMMISSION

THIRTY-THIRD SESSION

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Forest Health in Latin American and the Caribbean

Executive Summary

Forest ecosystems in Latin American and the Caribbean (LAC) are under increasing stress due to multiple biotic and abiotic threats.

Numerous invasive alien species and native pest outbreaks are threatening the health of forests in the region. From defoliators attacking mangroves in Central America, and native bark beetle outbreaks affecting millions of ha of pine forests the in countries of the Dry Corridor, to the dieback and canker disease on *Araucaria Araucana* in Chile. The pink hibiscus mealybug, *Maconellicoccus hirustus* in the Selva Maya, to the invasion of beavers in Tierra del Fuego, quoted as "*the largest landscape-level alteration in subantarctic forests since the last ice age*"[1], are all phenomena that directly affect local rural communities' livelihoods and well-being.

As invasive species are a transboundary issue, countries in the LAC region need a coordinated approach to improve information systems, implement early warning and rapid action mechanisms to better respond to increasing forest health emergencies, and halt the advancement of existing invasive species already present in their landscapes.

FAO's One Health approach provides a guiding path, advocating for all stakeholders to work cohesively on sustainable agriculture, animal, plant, forest, and aquaculture health, food safety, antimicrobial resistance (AMR), food security, nutrition and livelihoods.

Suggested action by the Commission

[1] https://onlinelibrary.wiley.com/doi/full/10.1111/j.1365-2907.2008.00136.x

The Commission may wish to:

- Recognize the importance of the participatory role indigenous communities and forest dependent communities play in keeping forests healthy.
- Strengthen the One Health approach in countries to improve effective collaboration between sectors and partners at different levels to protect forest health successfully.

The commission may recommend FAO to:

- Support the re-establishment of the Southern Cone Countries Network on Invasive Alien Species in Forest Ecosystems, to combat transboundary invasive species and facilitate its linkages to other networks present in the region.

Queries on the content of this document may be addressed to:

LACFC Secretariat
Regional Office for Latin America and the Caribbean (RLC)
Pieter.VanLierop@fao.org

I. INTRODUCTION

1. Forests in Latin America and the Caribbean (LAC) cover 49 percent of the total area. They extend for 891 million ha, representing approximately 22 percent of the global forest area. This region is home to some of the most ecologically valuable forest ecosystems in the world, containing to about 50 percent of the world's biodiversity and some of the most species-rich biomes on the planet, including tropical forests, wetlands and mangroves. These critical ecosystems also provide sustainable livelihoods for local people[2].

2. Unfortunately, regardless of its importance, 20 percent of forestlands (nearly 350 million ha) have been completely deforested and a further 20 percent (300 million ha) badly degraded.[3]

3. Latin American countries have become increasingly aware of invasive species that negatively affect the health of their forest resources. Even though ecosystems of native forests are adapted to a certain level of disturbance, they are now struggling due to the impact of climate change, deforestation, illegal wildlife trade and invasive species[4], the latter accelerated by the increased movement of people and trade worldwide.

4. Many countries in the region have agreed to important global agreements to minimize the effects of invasive species and decrease biodiversity loss. However, as controlling and eliminating forest pests and invasive alien species is a complex task, it requires greater investment, improved alignment of public policies, and better coordination among neighbouring countries through bilateral or multilateral agreements.

5. Countries in the LAC region should take actions as there is an immediate need for various sectors and stakeholders to work together to prevent and detect invasive species in forests. It is crucial to take early action and implement sustainable forest management practices to promote the development of more resilient ecosystems.

[2] https://initiative20x20.org/news/5-projects-protecting-biodiversity-latin-america-forests#:~:text=Latin%20America%20and%20the%20Caribbean,sustainable%20livelihoods%20for%20local%20people.
[3] https://initiative20x20.org/restoring-latin-americas-landscapes
[4] https://initiative20x20.org/news/5-projects-protecting-biodiversity-latin-america-forests#:~:text=Latin%20America%20and%20the%20Caribbean,sustainable%20livelihoods%20for%20local%20people

II. FOREST HEALTH AND INVASIVE SPECIES

6. Latin America and the Caribbean is home to the highest share of plantation forests around the world, which cover 99 percent of the total planted-forest area[5]. As most of the plantation forests are mono- cultures they are highly susceptible to non-native pests and without the natural enemies the pest outbreaks could cause severe damages to forests.

7. For example, reports[6] show teak plantations in the Selva Maya Biocultural Territory being affected by the pink hibiscus mealybug, *Maconellicococcus hirustus*, an invasive alien species, which also attacks native trees (*Ceiba pentandra*, *Spondias mombin*, among others) as well as agricultural cultivations. Meanwhile, in the case of eucalyptus plantations, research points at the *Glycaspis brimblecombei* and *Ctenarytaina eucalypti*, both sucking insects and the canker *Teratosphaeria zuluensis*.

8. It is crucial to bear in mind that indigenous groups reside in 35 percent of forests in the LAC region[7], and all forests play a vital role in sustaining livelihoods in rural areas.

9. The LAC region is home to about 26 percent of the world's mangroves, but their extent is declining rapidly. In Mexico for example, a defoliator, suspected to be *Hyblaea puera*, has affected at least 3000 ha of mangrove in the "*Los Petenes Biosphere Reserve*" in Mexico.

10. Healthy mangrove forests are a precious resource for indigenous peoples and local communities, providing them with a source of food and serving as a natural buffer against hurricanes, storms, and floods. They are also a habitat for several species of birds, reptiles and amphibians and thus generate employment through ecotourism[8]. Protecting mangroves means protecting biodiversity and rural people's livelihoods.

11. Pine forests in Mexico and Central America, have been subjected to one of the most destructive insect pest, the southern pine beetle (SPB), *Dendroctonus frontalis*, responsible for the loss of millions ha of forests and economic costs including timber losses, changes in ecosystem services, water retention, climate and carbon loss mitigation, and public health consequences[9].

12. The invasive American Beaver population present in the Patagonia and Tierra del Fuego has grown between 70 000 and 110 000, affecting ecosystems by decimating nearly 31000 ha of peat bogs, forest and grasslands[10], as well as disrupting watercourse and the hydrological cycle of watersheds in these areas.

13. Countries in the South Cone are now witnessing an outbreak of a dieback and canker disease on *Araucaria araucana*, the largest conifer species, native to central and southern Chile and neighbouring regions of Argentina and Brazil. Tackling this phenomenon has proved challenging as information regarding fungal diseases and pathogens on *A. araucana* is fragmented, outdated and/or difficult to access.[11]

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[5] https://www.fao.org/3/CA8753EN/CA8753EN.pdf

[6] USAID-USFS: Macro de riesgos y peligros a la sanidad y la salud de los recursos forestales del Territorio Biocultural Selva Maya y áreas adyacentes.

[7] https://www.fao.org/3/cb2953en/cb2953en.pdf

[8] https://www.unesco.org/es/articles/restauracion-de-manglares-en-siete-biosferas-de-america-latina-y-el-caribe

[9] https://www.mdpi.com/1999-4907/11/2/173

[10] https://www.nationalgeographic.co.uk/environment-and-conservation/2019/07/argentina-brought-beavers-to-tierra-del-fuego-it-was-not-a-good-idea

[11] https://www.fabinet.up.ac.za/publication/pdfs/4370-balocchi2022.pdf

14. The loss of *Araucaria araucana* means the loss of a highly nutritious source[12] as well as an important natural heritage closely connected to local communities dating back to pre-Columbian times up to smallholder farmers nowadays.

One Health and Forests

15. Given the undeniable links between forests health and people, FAO's One Health[13] approach has an important role to play in promoting the production and implementation of programmes, biosecurity initiatives, enabling policies and, where relevant, regulatory frameworks to ensure health security from communities to national and international level.

16. A key **component** of this approach is to create a shared responsibility as an integral part of decision making in forest health activities. Forest dependent people, especially indigenous communities, hold a deeper understanding of forests, their flora and fauna, pests and diseases, fire, climate, and soils, and how these elements respond to human practices; this represents an important resource for sustainable forest management and resilience.[14]

17. During the 31st session of the Latin American and Caribbean Forestry Commission (LACFC), invasive species were identified as a threat, increasingly degrading native forests, and possibly changing forest ecosystems and the services they provide in the region. To avoid the loss of such important biodiversity, efforts should be made to promote regional investment in capacity building efforts, as well as coordinated regional information mechanisms, which include systems and methods for monitoring, early detection and control of pests that are widely accessible and part of a decision-making system.

FAO's forest health work in Latin America and the Caribbean

18. FAO has worked continuously to provide knowledge tools that promote the better management of forest health. Two examples of this are the "*Guide to implementation of phytosanitary standards in forestry*"[15], published in 2011 (to be updated in 2023), and the "*Guide to the classical biological control of insect pests in planted and natural forests*"[16] available since 2019. Currently, a core group of stakeholders involved in forest health activities from different regions are putting their know-how into the production of a of a new biosecurity guide, thus providing countries around the world with Knowledge, tools and a framework to develop and implement comprehensive national forest biosecurity systems.

19. Recently, FAO completed two Global Environmental Facility (GEF) projects that target forest health management, and more specifically issues related to Forest Invasive Alien Species (FIAS). These are: "Strengthening of Governance for the Protection of Biodiversity through the formulation and implementation of the National Strategy on Invasive Species (NIAS)"[17] in Argentina, and "Strengthening and development of instruments for the management, prevention, and control of beaver (*Castor canadensis*), an invasive alien species in the Chilean Patagonia"[18] in Chile.

20. In the recent years, there have been two prominent efforts in the region to tackle forest health and invasive species related issues. These are the Regional forest health strategy for Central America and the Dominican Republic 2016-2026 with the participation of Guatemala, Belize, Costa Rica, Honduras, EL Salvador, Nicaragua, Panama and the Dominican Republic, and Sub regional action plan

[12] https://www.researchgate.net/publication/262825946_Landscapes_with_Araucaria_in_South_America_Evidence_for_a_cultural_dimension
[13] https://www.fao.org/one-health/en
[14] https://www.fao.org/3/cb2953en/cb2953en.pdf
[15] https://www.fao.org/documents/card/en/c/d8862477-6085-5123-a222-e280a144b5e5/
[16] https://www.fao.org/documents/card/en/c/CA3677EN
[17] https://www.fao.org/gef/projects/detail/en/c/1056804/
[18] https://www.fao.org/gef/projects/detail/en/c/1056842/

for forest pest management 2021 – 2024 resulting from the joint efforts of FAO and the International Regional Organization for Agricultural/Animal Health (OIRSA).

21. In addition, FAO is mobilizing resources to review and re-establish the "Southern Cone Countries Network on Invasive Alien Species in Forest Ecosystems. This is a platform for forest practitioners and scientists to share information, experiences related to forest health and forest invasive species, and influence joint decision-making in the region.

22. The network will work together with Andean Community, the Inter-American Coordinating Group in Plant Protection (GICSV), the Plant Health Committee (COSAVE), and the Inter-American Biodiversity Information Network (IABIN) to address forest invasive species issues and enhance forest health in the region.