

## New law endangers Peruvian Forests

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Peru is one of the most biodiverse countries in the world (1), ranking first in the number of species for various taxa (2), many of which are endemic and threatened with extinction. The Peruvian Amazon Biome harbors most of this diversity and provides multiple globally important ecosystem services and benefits to people (3,4,5), many of which have economic and cultural value for indigenous communities (6). However, recent amendments to Peru's law of forestry and wildlife, Law N° 29763, significantly increase the risk of Peruvian forest ecosystems.

10 On January 11, 2024, the Peruvian Congress enacted Law N° 31973, amending Law N° 29763 (7), making the Ministry of Agriculture Development and Irrigation (MIDAGRI) the regulatory body for land use in forested areas instead of the Ministry of Environment (MINAM). These amendments also eliminated the requirement for forestry zoning before obtaining a permit to exploit the forest. Private agricultural companies already owning forest areas can freely convert them to farming, thus facilitating rapid land-use change.

20 Between 2015 and 2017, Peru lost over 4,770 km<sup>2</sup> of forest (8), with 83% transformed for agriculture and livestock (9). Private business groups (e.g. CONFIEP) lobbied to facilitate land-use change in the Amazon rainforest to establish large-scale intensive agriculture (10). However, such land conversions lead to biodiversity loss, alteration of soil properties and the reduction of above-ground carbon pools (11). Not only substantial amounts of carbon will be released into the environment but the hydrological cycle and other natural processes will be impacted as well (12, 13). Finally, indigenous communities may be affected by an increase in criminal activities (e.g. 14). Therefore, we urge the Peruvian Congress to ensure that its legislation serves to preserve and promote the sustainability of the Peruvian forests, as well as protect the country's natural ecosystems and biodiversity.

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## 30 **References and Notes**

1. N. Myers, R. A. Mittermeier, C. G. Mittermeier, G. A. B. da Fonseca, J. Kent, *Nature* **403**, 853–858 (2000).

2. MINAM, *Sexto Informe Nacional sobre Diversidad Biológica* (Ministerio del Ambiente, 2019) [in Spanish].
3. K. Brandon, *Center for Global Development Working Paper 380* (Center for Global Development, 2014).
- 5 4. O. L. Phillips, R. J. W. Brienen, the RAINFOR collaboration, *Carbon Balance Manag.* **12**, 1 (2017).
5. R. Tito *et al.*, *Ecol. Soc.* **27**, 12 (2022).
6. R. Gómez *et al.*, *Sustainability* **15**, 4788 (2020).
7. El Peruano. “LEY N° 31973” (2023); [busquedas.elperuano.pe/dispositivo/NL/2251964-1](https://busquedas.elperuano.pe/dispositivo/NL/2251964-1) [in Spanish].
- 10 8. MINAM, “*Cobertura y pérdida de bosque húmedo amazónico 2021*” (2022); [geobosques.minam.gob.pe/geobosque/descargas\\_geobosque/perdida/documentos/Reporte\\_Cobertura\\_y\\_Perdida\\_de\\_Bosque\\_Humedo\\_Amazonico\\_2021.pdf](https://geobosques.minam.gob.pe/geobosque/descargas_geobosque/perdida/documentos/Reporte_Cobertura_y_Perdida_de_Bosque_Humedo_Amazonico_2021.pdf) [in Spanish].
9. SERFOR, *Cuenta de Bosques del Perú*, (SERFOR, 2021) [in Spanish].
- 15 10. D. Valdivia Blume, “Ley Forestal: ¿quiénes estuvieron detrás de la modificación de la norma que ahora permitirá la deforestación en la Amazonía?” (2023); [www.infobae.com/peru/2023/12/17/ley-forestal-quienes-estuvieron-detras-de-la-modificacion-de-la-norma-que-ahora-permitira-la-deforestacion-en-la-amazonia](https://www.infobae.com/peru/2023/12/17/ley-forestal-quienes-estuvieron-detras-de-la-modificacion-de-la-norma-que-ahora-permitira-la-deforestacion-en-la-amazonia) [in Spanish].
- 20 11. Nunes *et al.*, *PNAS* **119**, e2202310119 (2022).