



Policy Forums

Forest-biased terminology does not help to include open ecosystems in conservation policies

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HIGHLIGHTS

- In all conservation debates, terminology needs to adequately describe the ecosystems in questions.
- Using 'Forest Code' for Law 12.651, Brazil's Law for Protection of Native Vegetation, is incorrect and should be abandoned.
- The term 'deforestation' should not be applied to vegetation types other than forest.

GRAPHICAL ABSTRACT



- Deforestation
- Suppression of grassland

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ABSTRACT

Inadequate terminology, in particular the use of the term 'Forest Code' for the main conservation law and of the term 'deforestation' for loss of all types of ecosystems, in the conservation debate in Brazil confuses the public and risks jeopardizing conservation goals. We urge scientists, conservationists and government agencies to use adequate terminology as not to reinforce already existing biases in conservation and to better inform the public about the need to conserve all types of ecosystems.

Recently, the scientific community and part of the Brazilian society were shocked by the approval of bill 364/19 in a Chamber of Deputy commission of the Brazilian Congress (Overbeck et al., 2024). This bill, if finally approved by Congress and signed, would leave about 48 Mha of native grasslands in Brazil unprotected (MapBiomass, 2023), with potentially disastrous consequences for the country's biodiversity and ecosystem services. This would also threaten quality of life of human populations and the achievement of the United Nations goals on Sustainable Development. Although clearly motivated by the interests of the powerful agrobusiness lobby, here we argue that government

agencies, stakeholders working with conservation, such as NGOs, and the scientific community need to improve the terminology used when discussing issues related to conservation and restoration of native vegetation.

Currently, the conservation debate in Brazil circles around the term 'Forest Code' ('Código Florestal', in Portuguese), despite the fact that, in 2012, the Forest Code was replaced by the Law for Protection of Native Vegetation (LPNV, *Lei de Proteção da Vegetação Nativa*, Law 12.651/2012; Brancalion et al., 2016). More than ten years after the implementation of the LPNV, the terms 'Forest Code' or sometimes 'New

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Box 1

Recommendations for use of terminology.

- When talking about the loss of native vegetation in general, i.e., without specifying any particular type of ecosystem, use 'loss of native vegetation' or 'suppression of native vegetation'.
- When discussing the suppression of specific types of ecosystems (e.g., grasslands or any other types of ecosystems), use 'loss of native grassland', 'suppression of native grassland', or similar terms that specifically address the ecosystem in question.
- Use the term 'deforestation' only when referring to the destruction of forest ecosystems.
- Use the term 'Forest Code' ('Código Florestal') only when, in fact, referring to the Forest Code of 1934 or 1965 (Metzger et al., 2019)
- When referring to law 12.651/2012, use the correct name: Law for Protection of Native Vegetation (*Lei de Proteção da Vegetação Nativa*)

Forest Code' ('*Novo Código Florestal*', in Portuguese) continue to be widely used in the general debate, scientific papers, books, and even government agencies' guidelines (e.g. <https://www.embrapa.br/codigo-florestal>). While legislation in fact has broadened the topic of conservation to include all types of ecosystems, the continued use of the term 'Forest Code' perpetuates the idea that forests are the only important, or at least the most important, type of ecosystem, which in turn affects debate and policy. Even if many conservation policies do in fact include the full diversity of ecosystem types, the use of the term 'Forest Code' does not properly communicate this, and the importance of open ecosystems is not recognized.

Beyond the common term for the main nature protection law, other terminological problems complicate the debate, principally the term 'deforestation' ('*desmatamento*', in Portuguese), which is widely applied to loss of native vegetation across Brazil. The term is adopted in government policies, for example in the Program for Prevention and Control of Deforestation (*Programa de Prevenção e Controle do Desmatamento e Queimadas no Brasil/PPCD*; in Portuguese), which includes all Brazilian biomes (Decree n° 11.367/2023), in analyses of land use change (<https://brasil.mapbiomas.org>), in international calls for scientific funding (see e.g. BMWK, 2023) and in scientific papers that discuss the loss of native vegetation in general (e.g. Brock et al., 2021; Soares-Filho et al., 2014; Strassburg et al., 2017). A grassland cannot be deforested, as it does not have trees, which are, by definition, the main component of a forest. So why is the term 'deforestation' used when discussing the loss or suppression of other types of native vegetation such as grasslands or savannas? Even if policy, analyses, funding opportunities, and scientific papers are, in fact, more inclusive and do consider grasslands, savannas and other open ecosystems, the terminology used risks once again, as in the case of the term 'Forest Code', to give the impression, to the public, that forests are the most important type of ecosystem. This is especially critical for programs that aim to prevent and control losses of open ecosystems, indeed the predominant and most threatened vegetation types in the Pampa, Pantanal and Cerrado regions in Brazil. A message targeted to local communities calling to curb "deforestation" will be misunderstood as if these programs are aiming at the relatively small portions of the landscape covered with forests in these biomes, such as riparian areas and upslope forest patches.

Certainly, the reasons for the insufficient consideration of open ecosystems in conservation are manifold and not restricted to the terminology used (see e.g. Parr et al., 2014; Overbeck et al., 2015, 2022). A main problem is the lack of understanding regarding the role of disturbances, such as grazing and fire, in the ecology of open ecosystems. Both are key processes in these ecosystems, with varying levels of relative importance (e.g. Bond, 2018; Overbeck et al., 2022). In the South Brazilian grasslands, for instance, grazing is essential not only for the maintenance and conservation of native grasslands in the present (Baggio et al., 2021), but it has been shown to be an important factor in the evolution of the grassland biota for millions of years (Paruelo et al., 2022). Fire, on the other hand was and is a key process in the evolution and maintenance of biodiversity in savannas, such as the Brazilian Cerrado (Simon et al., 2009; Bond, 2018; Pivello et al., 2021). However, as cattle grazing and fire are important drivers of native vegetation conversion into cultivated pastures and cropland in the Amazon and the Cerrado, the public sees both as generally negative for nature conservation, even though their role in open ecosystems can be completely

different (Baggio et al., 2021; Pivello et al., 2021). Inadequate terminology and lack of ecological knowledge go hand in hand.

Improvement of conservation literacy – and thus of conservation success – depends on our use of terminology: our language, closely linked to our culture, influences our thinking and our actions, from the framing of the problem to the planned conservation interventions (Barua, 2011). Precise terms are essential for effective conservation and may draw a 'fine line' between conservation and neglect, as discussed by Shirai et al. (2024) for the term 'savannization of the Amazon', which in fact refers to the degradation of the Amazon forest. If we continue to use terminology that focuses only on forests in the conservation debate across Brazil, for example by using 'deforestation' when discussing changes in land use in grassland-dominated regions, it is no wonder that a congressman proclaimed, in the debate on bill 364/2019, that 'no tree will have to be cut'¹, as if this meant an environmentally friendly way to increase areas for intensive agricultural use. Quite obviously, it is not. We urge the scientific community, Brazilian government agencies, and all others interested in and working for the conservation of open ecosystems in Brazil and elsewhere, as well as those working with forest conservation, to abandon the forest bias in the terms used when communicating among themselves and with others (Box 1).

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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¹ <https://www.youtube.com/live/BN3JEhWrJeM?si=iFN0DdOciAy8n0fi>

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