

Pervasive legal threats to protected areas in Brazil

ANA ALICE BIEDZICKI DE MARQUES and CARLOS A. PERES

Abstract Brazil safeguards a vast network of parks and reserves, termed conservation units. The creation of conservation units follows a rigorous legal protocol that grants them long-term stability under varying degrees of formal protection against land-use change. Degazettement, downsizing or downgrading any conservation unit requires a law to be passed. Recent shifts in Brazilian conservation policy have, however, favoured infrastructure projects and agricultural land conversion, even when these initiatives are in direct conflict with established conservation units. Several bills have been proposed by the National Congress, threatening 27 conservation units and bringing the long-term political stability and legal immunity of hitherto sacrosanct reserves into serious question.

Keywords Brazil, degazettement, downgrading, downsizing, law, political pressure, protected areas, public policy

Brazil contains the largest tracts of native tropical vegetation, including over half the remaining tropical forests (FAO, 2013) but during the last 3 decades these have been rapidly converted to other uses (Gibbs et al., 2010). To counteract this continuing conversion of land into farmland, forestry and mining enterprises, a large and complex system of protected areas has been gradually established. The complete protected area network in Brazil includes indigenous lands, *quilombola* territories (Afro-Brazilian communal lands), and various categories of parks and reserves, called conservation units, managed by the state or federal government. Law 9,985/2000 established the National System of Conservation Units and consolidated the regulations for creating and managing protected areas. The total area of conservation units in Brazil increased three-fold from 785,536 km² in 1990 to 2,284,235 km² in 2010 (IUCN & UNEP–WCMC, 2011). Although this is a remarkable achievement there is a strong bias towards sustainable-use reserves rather than strictly-protected areas (Peres, 2011). These figures, however, mask the often insufficient implementation (lack of management or no de facto establishment) of these units and the growing political

backlash by lobbyists and policy makers promoting the erosion of formal management restrictions against anthropogenic activities within protected areas, reductions in size, and in extreme cases the complete legal annulment of existing reserves.

The Brazilian Constitution requires that any change in a conservation unit that reduces its degree of protection or redefines boundaries must be sanctioned formally by law, following the appropriate legislative process; i.e. it must pass the two-tiered system of the Brazilian National Congress (the Chamber of Deputies and the Senate). Here we examine the bills that have been passed or that are under consideration by the Congress to revoke currently existing protected areas or to reduce their area and/or relax formal restrictions against extractive activities and patterns of land use. We identify the main political drivers of such proposals and recent trends in public policy related to contradictions between nature conservation and economic development. Definitions largely follow those proposed by Mascia & Pailler (2011): downgrading is a reduction in the legal constraints to human activities, downsizing involves redrawing boundaries and resulting in a net decrease in protected area size, and degazettement is the formal revocation of the original legal act that created any given protected area.

We retrieved all 132 federal bills that were formally proposed from 1949 up to July 2014 regarding the creation, extirpation, resizing and reclassification of conservation units. Most of these, however, failed to pass through the National Congress, mainly because bills expire at the end of the legislature's 4-year term. We found 31 cases of federal protected areas affected by 21 bills in the current legislative proceedings, 27 of which argued for downgrading, downsizing or degazettement, and four for either upgrading the status or expanding the size of a protected area. All affected areas are listed in Table 1 and their locations indicated in Fig. 1, with site-specific information about attempts to downgrade or downsize established protected areas and the legislator's rationale to justify such changes. Most of the cases involve downsizing (17); downgrading and degazettement were proposed in only six and four cases, respectively.

Our assessment uncovered three main reasons for the proposed alterations: planned development of infrastructure projects, such as hydroelectric dams and roads, local demands to relax restrictions on land use and/or natural resource use (including agriculture), and conflicting interests with the wider private sector. In some cases these sources of attrition result from de facto circumstances, such as

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TABLE 1 Protected areas (Fig. 1) affected by bills enacted or still under consideration by the Brazilian National Congress (data from the Senate, 2014, and Chamber of Deputies, 2014); causes follow definitions used in WWF (2014).

Bill ¹	Year	Protected area	Status (July 2014)	Effect	Cause ²	Justification
PL 4589	2001	Parque Nacional de São Joaquim	Under consideration by Chamber of Deputies	Downsizing	Land claims	Continuity of ongoing agricultural activities
PL 5821	2005	Área de Proteção Ambiental de Jericoacoara	Enacted as Law 11486/2007	Upgrading/upsizing	Conservation planning	Incorporation to the homonymous park, & loss of an area to a waste treatment system, which is compensated by boundary expansion
PL 6409	2005	Estação Ecológica de Anavilhanas	Enacted as Law 11799/2008	Downgrading	Other	Reclassification as park to allow ecotourism & boat traffic
PL 6479	2006	Estação Ecológica da Terra do Meio	Under consideration by Chamber of Deputies	Redesign/downgrading	Land claims	Partial reclassification as park, compensated with a net gain in area
PL 6479	2006	Parque Nacional da Serra do Pardo	Under consideration by Chamber of Deputies	Redesign	Land claims	Retention of resident population through loss of area, offset by lands within Estação Ecológica da Terra do Meio
PL 7708	2006	Parque Nacional dos Pontões Capixabas	Enacted as Law 11686/2008	Downgrading	Land claims	Reclassification as a Natural Monument to ensure maintenance of agricultural activities of traditional communities
PL 206	2007	Reserva Extrativista do Rio Ouro Preto	Under consideration by Senate	Downsizing	Industrial agriculture	Continuity of ongoing agricultural activities
PL 1448	2007	Parque Nacional da Serra da Canastra	Passed in Chamber of Deputies, under consideration by Senate	Downsizing	Land claims	Continuity of ongoing agricultural activities & mining
PL 1517	2007	Área de Proteção Ambiental da Serra da Canastra	Passed in Chamber of Deputies, under consideration by Senate	Establishment	Land claims & mining	Land claims & mining within current boundaries of Parque Nacional da Serra da Canastra
PDC 1148	2008	Floresta Nacional do Jamanxim	Under consideration by Chamber of Deputies	Degazettement	Land claims	Continuity of ongoing agricultural activities
PL 4083	2008	Floresta Nacional do Bom Futuro	Under consideration by Chamber of Deputies	Degazettement	Land claims	Continuity of ongoing agricultural activities
PL 4083	2008	Floresta Nacional do Jamari	Under consideration by Chamber of Deputies	Degazettement	Land claims	Continuity of ongoing agricultural activities
PL 4083	2008	Parque Nacional dos Campos Amazônicos	Under consideration by Chamber of Deputies	Degazettement	Land claims	Continuity of ongoing agricultural activities
MPV 462	2009	Floresta Nacional de Roraima	Enacted as Law 12058/2009	Downsizing	Rural settlements	Establishment of agrarian reform settlements
MPV 462	2009	Reserva Extrativista Marinha da Baía do Iguape	Enacted as Law 12058/2009	Upsizing	NA	Area compensation to offset a large shipyard project
MPV 472	2009	Estação Ecológica de Cuniã	Enacted as Law 12249/2010	Upsizing	NA	Enhance connectivity with other protected areas
MPV 472	2009	Floresta Nacional do Bom Futuro	Enacted as Law 12249/2010	Downsizing	Land claims	Continuity of ongoing agricultural activities
PL 258	2009	Reserva Biológica Nascentes da Serra do Cachimbo	Under consideration by Senate	Downgrading/downsizing	Land claims	Continuity of ongoing agricultural activities via loss of area & reclassification as park & Environmental Protection Area
PL 6927	2010	Parque Nacional da Chapada das Mesas	Under consideration by Chamber of Deputies	Downgrading	Land claims	Reclassification as extractive reserve to ensure legal occupation of local residents

PL 7123	2010	Parque Nacional do Iguaçu	Passed in Chamber of Deputies, under consideration by Senate	Downsizing	Infrastructure	Permission for road traffic in core areas of park
PL 7999	2010	Parque Nacional de Brasília	Under consideration by Chamber of Deputies	Downsizing	Land claims	Continuity of ongoing agricultural activities
PL 2593	2011	Reserva Particular do Patrimônio Natural Emilio Einsfeld Filho	Passed in Chamber of Deputies, under consideration by Senate	Downsizing	Infrastructure	Establishment of a hydroelectric reservoir
PL 2618	2011	Parque Nacional das Nascentes do Rio Parnaíba	Passed in Chamber of Deputies, under consideration by Senate committee	Downsizing	Land claims	Continuity of ongoing agricultural activities
MPV 558	2012	Área de Proteção Ambiental do Tapajós	Enacted as Law 12678/2012	Downsizing	Infrastructure	Establishment of a large hydroelectric reservoir
MPV 558	2012	Floresta Nacional de Itaituba I	Enacted as Law 12678/2012	Downsizing	Infrastructure	Establishment of a hydroelectric reservoir
MPV 558	2012	Floresta Nacional de Itaituba II	Enacted as Law 12678/2012	Downsizing	Infrastructure	Establishment of a hydroelectric reservoir
MPV 558	2012	Floresta Nacional do Crepori	Enacted as Law 12678/2012	Downsizing	Infrastructure	Establishment of a hydroelectric reservoir
MPV 558	2012	Parque Nacional da Amazônia	Enacted as Law 12678/2012	Downsizing	Infrastructure & rural settlements	Establishment of a hydroelectric reservoir & agrarian reform settlements
MPV 558	2012	Parque Nacional dos Campos Amazônicos	Enacted as Law 12678/2012	Redesign/upsizing	NA	Establishment of a hydroelectric reservoir & continuity of ongoing agricultural activities, with loss of area offset by boundary expansion
MPV 558	2012	Parque Nacional Mapinguari	Enacted as Law 12678/2012	Downsizing	Infrastructure	Establishment of a hydroelectric reservoir
PL 4198	2012	Reserva Biológica Marinha do Arvoredo	Under consideration by Chamber of Deputies	Downgrading	Other	Reclassification as park to allow tourism & fishing
PL 5399	2013	Reserva Extrativista Renascer	Under consideration by Chamber of Deputies	Downsizing	Land claims	Continuity of ongoing agricultural activities

¹PDC, Projeto de Decreto Legislativo (legislative decree bill); PL, Projeto de Lei (ordinary law bill); MPV, Medida Provisória (executive order requiring congressional approval)

²NA, not applicable as not a proximate cause of downgrading, downsizing or degazettement of a protected area as listed in WWF (2014)

environmental degradation and the resulting loss of the management objectives governing the protected area. Such proposals are usually sponsored by members of Congress on behalf of regional developers and local communities. The Executive branch is the author of bills paving the way for proposed infrastructure development. Ten events have passed both legislative houses and been formally sanctioned by the President, thereby rendering any changes undermining the integrity of a given protected area irreversible.

The rapid increase in the number of protected areas worldwide is frequently extolled in the conservation literature as a success story, yet the countercurrent impact of legal attempts to downgrade, downsize or delist protected areas is less discussed. Few comprehensive assessments exist (Mascia & Pailler, 2011; Mascia et al., 2014) although an

open database is now available (WWF, 2014). In addition, an assessment for Brazilian Amazonia identified cases of downgrading, downsizing or degazettement in seven indigenous territories, and 25 state and 16 federal conservation units that are threatened by legislative proposals or pending a judicial process (Araújo & Barreto, 2010), and Bernard et al. (2014) listed 93 events of this nature across the country.

Our assessment does not consider cases outside the federal government arena because to do so would involve retrieving data from the legislative chambers of 27 Brazilian states and 5,570 municipal counties. Nevertheless, federal reserves comprise 48.5% of all Brazilian conservation units and 49.5% of their total area (Ministério do Meio Ambiente, 2014). The extent, patterns and causes of legal

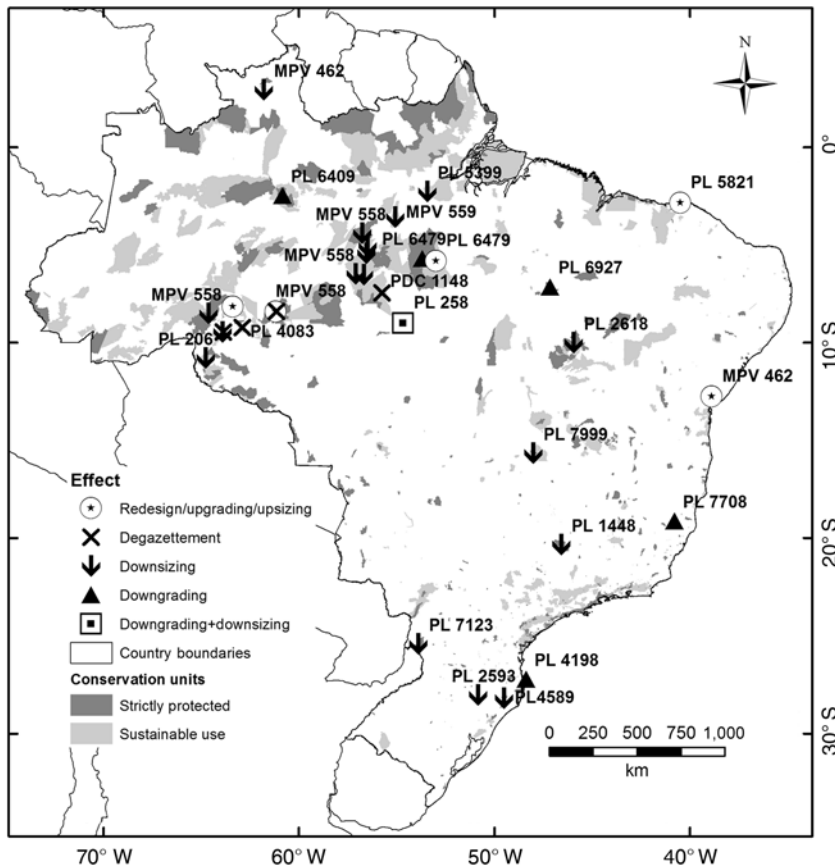


FIG. 1 Locations of Brazilian protected areas affected by bills (see Table 1 for bill numbers) enacted or under consideration by the Brazilian National Congress (PL, Projeto de Lei (ordinary law bill); MPV, Medida Provisória (executive order requiring congressional approval)).

threats to the network of protected areas in Brazil are still poorly understood. Bills can affect protected areas throughout the country and are strongly motivated by both private and public pressures to satisfy the growing economic demands of local communities in both legally and illegally occupied protected areas or to implement large infrastructure projects. Development of infrastructure as a driver of downgrading, downsizing and degazettement in Amazonia has been highlighted in two recent reports (Araújo et al., 2012; Martins et al., 2012).

Although modifying the boundaries of protected areas is arguably one way of achieving better conservation outcomes (Fuller et al., 2010), we found only two of 27 cases in Brazil in which a reduction in area was offset by expansion elsewhere. Downsizing and downgrading are the most common outcomes of bills passed by the Congress and sanctioned by the President. Meanwhile, there is an alarming legislative countercurrent to the conservation movement: in the last decade three proposals to amend the constitution have aimed to prevent high-ranking government officials creating new protected areas by executive decree. These amendments proposed that any new conservation unit would have to be established by law, thereby requiring a legal proposal to pass the appropriate legislative branch, which significantly reduces the chances of legal approval.

The rate of creation of conservation units in Brazil increased from c. 2 million ha per year in the 1980s to c. 7 million ha per year in the last decade, but with a marked prevalence of human-occupied sustainable-use reserves rather than strictly-protected areas that legally exclude local communities (Peres, 2011). Sustainable use and strictly-protected conservation units now represent 65.8 and 34.2% of the total area of conservation units, respectively (Ministério do Meio Ambiente, 2014). Competition between conservation and economic interests is uneven in the policy arena, as can be observed in the case of the recent changes to the Brazilian Forest Law (Law 12651/2012), the expected boost to the mining industry in the new Mining Code (Bill 5807/2013), the opening up of conservation units for mining activities (Bill 3582/2012), and several new legal instruments from the Ministry of Environment to facilitate the fast-tracking of infrastructure projects through a simplified environmental licensing process. Mounting political pressure over protected areas, the well-intentioned but feeble responses from conservation organizations and academia, and severe budget constraints in the National Parks administration are serious drawbacks to conservation. Added to this is the tendency to downgrade existing reserves to accommodate intensive land-use options or downsizing to juxtapose otherwise overlapping energy, mining and infrastructure development. Moreover, the national and state

forests, two major types of sustainable-use reserve that encompass c. 30 million hectares in 104 protected areas, are threatened by industrial, reduced impact logging concessions, with several long-term leases (up to 4 decades).

Bills cannot be sanctioned by members of parliament alone, as the executive branch can use presidential veto to reject a proposal. Failure to veto such proposals, however, indicates special interests with government support, bringing the long-term political stability and legal immunity of hitherto sacrosanct reserves into question. We believe that recent downgrading, downsizing and degazettement proposals initiated by members of Congress or the President are only the beginning of forthcoming policy and legal shifts regarding protected areas, and we are further concerned that lobbying has sometimes influenced changes to the conservation status of federal and state conservation units (Araújo et al., 2012; Martins et al., 2012; Bernard et al., 2014). Brazilian civil society, including conservationists, need to be alert in the interest of nature conservation, ready to lobby in favour of protected areas and prepared to counteract the notion that Brazil has already set aside too much protected land.

References

- ARAÚJO, E. & BARRETO, P. (2010) Ameaças formais contra as Áreas Protegidas na Amazônia. *O Estado da Amazônia*, 16, 1–6.
- ARAÚJO, E., MARTINS, H., BARRETO, P., VEDOVETO, M., SOUZA, JR, C. & VERÍSSIMO, A. (2012) *Redução de Áreas Protegidas para a Produção de Energia*. Imazon, Belém, Brazil.
- BERNARD, E., PENNA, L. & ARAÚJO, E. (2014) Downgrading, downsizing, degazettement, and reclassification of protected areas in Brazil. *Conservation Biology*, 28, 939–950.
- CHAMBER OF DEPUTIES (CAMARA DOS DEPUTADOS) (2014) <http://www.camara.gov.br> [accessed 10 July 2014].
- FAO (2013) *FAOSTAT*. <http://faostat.fao.org> [accessed 20 September 2013].
- FULLER, R.A., McDONALD-MADDEN, E., WILSON, K.A., CARWARDINE, J., GRANTHAM, H.S., WATSON, J.E.M. et al. (2010) Replacing underperforming protected areas achieves better conservation outcomes. *Nature*, 466, 365–367.
- GIBBS, H.K., RUESCH, A.S., ACHARD, F., CLAYTON, M.K., HOLMGREN, P., RAMANKUTTY, N. & FOLEY, J.A. (2010) Tropical forests were the primary sources of new agricultural land in the 1980s and 1990s. *Proceedings of the National Academy of Sciences of the United States of America*, 107, 16732–16737.
- IUCN & UNEP–WCMC (2011) *The World Database on Protected Areas (WDPA): January 2011*. UN Environmental Programme–World Conservation Monitoring Centre, Cambridge, UK.
- MARTINS, H., VEDOVETO, M., ARAÚJO, E., BARRETO, P., BAIMA, S., SOUZA, JR, C. & VERÍSSIMO, A. (2012) *Áreas Protegidas Críticas na Amazônia Legal*. Imazon, Belém, Brazil.
- MASCIA, M.B. & PAILLER, S. (2011) Protected area downgrading, downsizing, and degazettement (PADDD) and its conservation implications. *Conservation Letters*, 4, 9–20.
- MASCIA, M.B., PAILLER, S., KRITHIVASAN, R., ROSCHANKA, V., BURNS, D., MLOTHA, M.J. et al. (2014) Protected area downgrading, downsizing, and degazettement (PADDD) in Africa, Asia, and Latin America and the Caribbean, 1900–2010. *Biological Conservation*, 169, 355–361.
- MINISTÉRIO DO MEIO AMBIENTE (2014) Tabela consolidada das Unidades de Conservação. <http://www.mma.gov.br/areas-protegidas/cadastro-nacional-de-ucs> [accessed 21 July 2014].
- PERES, C.A. (2011) Conservation in sustainable-use tropical forest reserves. *Conservation Biology*, 25, 1124–1129.
- SENATE (SENADO FEDERAL) (2014) <http://www.senado.gov.br> [accessed 10 July 2014].
- WWF (2014) PADDDtracker: *Tracking Protected Area Downgrading, Downsizing, and Degazettement [Beta version]*. <http://www.PADDDtracker.org> [accessed 25 July 2014].

Biographical sketches

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