Supplementary Material to: “Unfolding additional massive cutback effects of the native vegetation protection law on legal reserves, Brazil”

Article 68 model

The effects of Article 68 are determined in three steps. First, the percentage of pixels with NV in 2008 is determined for each rural property and checked against the LR requirement of the NVPL (Federal Law 12.651/2012) for São Paulo State biomes (i.e., 20%). If this percentage is not reached, the rural property is considered as non-compliant and potentially eligible to access Article 68 benefit. Second, the model verifies if the percentage of pixels of past NV had decreased between the chosen legal benchmark (i.e., 1965 or 1989 depending on the scenario being analyzed) and 2008. If a reduction is observed, the rural property loses the Article 68 benefit and the LR deficit is considered to be the same computed with 2008 NV map (described in the first step). Finally, if no reduction is observed, the rural property is considered eligible to access Article 68 benefit and LR deficit is computed as the area of 1965 NV subtracted by the area of 2008 NV (Table S3, SI).

Table S3. Possibilities of native NV cover at the property (in %) along legal benchmarks and applicability of Article 68 (Federal Law nº 12.651/2012) benefits.

| Past NV (1965 or 1989) | NV between past legal benchmark and 2008 | Art. 68 benefit |
|------------------------|------------------------------------------|-----------------|
| > 20%                  | < 20%                                    | no              |
| 20%                    | < 20%                                    | no              |
| < 20%                  | < NV in 1965                             | no              |
| < 20%                  | = NV in 1965                             | yes             |
| < 20%                  | > NV in 1965 & < 20%                     | yes             |