



CONSERVATION POLICY IN BRIEF

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SUPPORTING THE DESIGN OF A NEW FOREST COMPENSATION LAW IN BRAZIL

Biodiversity offset policies seek to prevent development projects from generating net biodiversity losses, so that gross losses must be offset by ecologically equivalent gains. In spite of its good intentions, the current Forest Compensation Law of the Brazilian state of Distrito Federal (Decree nº 23,510, as of December 31st, 2010) has been criticized for imposing high costs on the agents responsible for land clearing, while its environmental benefits may not be guaranteed. In this context, a new forest compensation law was proposed by the Environmental Department of the state of Distrito Federal (SEMA-DF) together with the Legislation Working Group of Aliança Cerrado (Cerrado Alliance). The analysis presented here shows that the new law can dramatically reduce its costs, while maximizing environmental gains - a win-win situation for conservation and business.



The Cerrado. Photo credit: Pedro Gasparinetti

The proposed new compensation policy includes two changes to the current law. The first one is the possibility of compensating land clearing not only by restoration, as previously, but also by conserving areas with native vegetation. The second change is the use of variable compensation ratios, which vary according to the ecological importance of the suppressed and compensated areas depending on the: soil conservation state, proportion of exotic vegetation, rarity of native vegetation and proximity to water resources.

In order to ensure that the total deforested area is ecologically equivalent to the restored or conserved area, the study calculated the relative importance (weights) of the ecological criteria used to define the compensation ratios. The weights were calculated based on the economic valuation method called the Choice Experiment, in which scenarios composed by ecological criteria in different configurations are compared in choice sets, where each experiment participant points out the alternative that would be more important to be conserved or restored. The answers are then statistically interpreted to assign weights to the criteria, as a result of 600 scenario comparisons made by the participants of this study, specialists in the Cerrado biome.

Weights were calculated separately for “priority for conservation” and “priority for restoration” – contrary to the priority for conservation, environmental quality

is negatively related to “priority for restoration” (areas with poor quality have greater potential for ecological gain). The results show that, in both cases, soil conservation state is the attribute with greatest weight – an expected result due to the importance of the soil to the support of other ecosystem services. The proportion between native

to R\$750,000 per deforested hectare, demonstrating a significant cost reduction that at the same time guarantees environmental gains. Equally important, flexible compensation ratios generate economic incentives to prioritize deforestation in low ecological areas and to prioritize compensation in areas with high potential for

Scenarios Examples for Conservation Prioritization				
Attributes				Relative Values*
Soil	Vegetation	Rarity	Hydrolog. Res.	
Conserved	>70% native	Yes	Yes	5
Conserved	>70% native	No	Yes	4
Conserved	>70% native	Yes	No	3
Conserved	>70% native	No	No	2
Eroded	30% < Exotic < 70%	Yes	Yes	1
No soil	< 30% native	No	No	

ecological gains, which can lead to even lower costs.

The study was annexed as a technical input to the proposed decree by the Environmental Department of the state of Distrito Federal. Thus, CSF has been actively contributing to the formulation of an innovative public policy in Brazil, capable of guaranteeing environmental

vegetation and exotic species, and the proximity to water resources appear in sequence, with different magnitudes for conservation and restoration. The rarity of native vegetation was the criterion with lower weight among the four attributes evaluated.

From the results, it is possible to construct a priority area ranking list for restoration and conservation¹ according to combinations of ecological characteristics, allowing direct comparison of ecological gains

gains, reducing economic costs, and encouraging the use of areas of good ecological quality for compensation

Number of hectares required for compensation according to the ecological values of cleared and compensation areas						
		Cleared Area Ecological Value				
		5	4	3	2	1
Compensated Area Ecological Value	5	7.0	5.5	3.2	1.8	1.1
	4	8.9	7.0	4.0	2.3	1.3
	3	15.4	12.1	7.0	4.0	2.3
	2	26.9	21.1	12.2	7.0	4.1
Beyond limit for conservation	1	46.2	36.3	21.0	12.0	7.0

related to avoided deforestation of conserved areas and ecological gains of restoring degraded areas.

The flexible ratios concept would in principle allow that, for example, one hectare of low-value area would be exchanged for less than one hectare of area of high ecological value. It would go against the policy objectives, that previously required 30 new trees to be planted for each tree removed. In order to address this issue, the study proposes that all gross compensation rates obtained by ecological equivalence could be multiplied by 7, which also contribute to additional environmental gains.

The proposal is economically feasible. Considering an example of a compensation for the deforestation of 1 hectare, the cost of restoring an area with equivalent ecological potential through seedlings would be R\$175,000 (for the 7 hectares required). The compensation cost through conservation would be R\$133,000. For purposes of comparison, the cost of the previous policy is equal

through conservation and use of areas with low quality for compensation through restoration.

¹Here are presented only the tables with the results of the scenarios of conservation via compensation. Similar tables were made for compensation via restoration.

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