

# WATERSHED AND BIODIVERSITY PROTECTION DUE TO LEGISLATION IMPROVEMENT ON AGROFORESTRY AREAS, SÃO PAULO STATE, BRAZIL

Abdo Maria Teresa Vilela Nogueira<sup>1</sup>, Barcellos Isabel Fonseca<sup>2</sup>, Amorim Danilo Angelucci<sup>2</sup>, Magalhães Jean Luiz Andrade<sup>3</sup>

<sup>1</sup> SAA, APTA Polo Centro Norte, Pindorama, São Paulo- SP, <sup>2</sup> SIMA, Coordenadoria de Fiscalização de Biodiversidade, São Paulo-SP, <sup>3</sup> CEF, ULISBOA, Lisboa, Portugal.

Correspondence author: mtvilela@terra.com.br

## INTRODUCTION

Brazilian new legislation, the New Forestry Code Law No. 12.651(May,25th, 2012) protects some areas that provide protection to native vegetation, soil and water resources the so called Permanent Preservation Areas(PPA).

They should be covered by native vegetation to maintain their environmental function of preserving water resources, landscape, geology and biodiversity, facilitate genetic flow of fauna and flora, protect the soil, ecosystems services and ensure the wellbeing of human populations.

Those PPA areas are located continuous to river, pounds, springs or lakes edges or under high declivity areas. Also the Legal Reserve, are protected areas located inside a rural property.

There area many PPA areas without vegetation in Brazil and in the state of São Paulo that need to be vegetated (Figure 1 and 2)



Fig.3. Native trees plantation to revegetate permanent protected areas, Pindorama, SP, Brazil (Source:: authors)

## FINAL CONSIDERATIONS

Agroforestry system should be planted in preservation areas to promote environmental protection and offer extra income to farmers. Monitoring of AFS plantation areas have been done by an electronic registration system ruled by the New Forest law, the Rural Environmental Registry. More than 259,000 properties that have 4 rural modules or less were registered.

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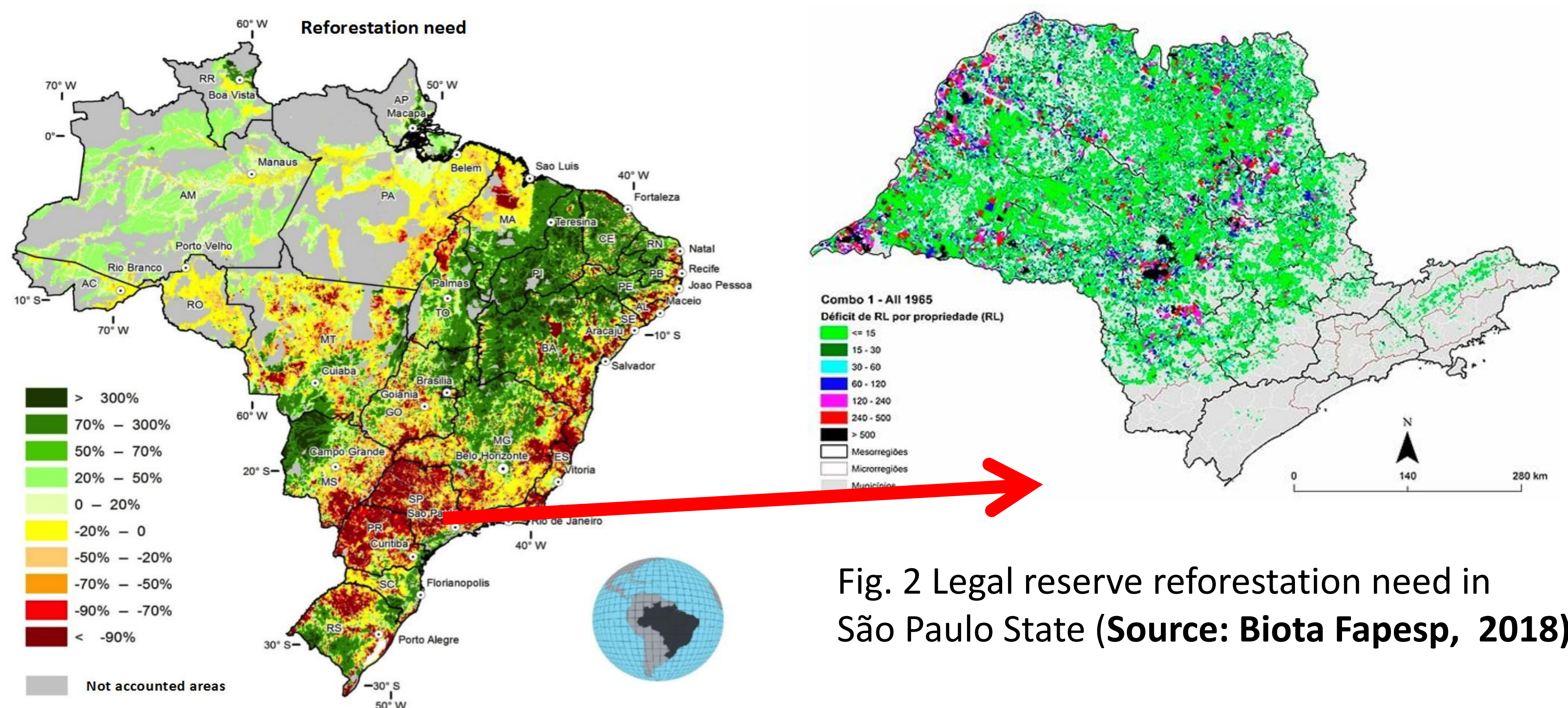


Fig. 1 Refotation need in brazilian states (Source: Soares-Filho 2014)

Fig. 2 Legal reserve reforestation need in São Paulo State (Source: Biota Fapesp, 2018)

Vegetation recovery projects in PPA should include native forest tree species (Figure 3).

According to São Paulo State Resolution SMA 32(2014) small landowners with less than 4 local rural modules are able to install agroforestry systems in these areas. And they are encouraged to plant agroforestry system with the purpose of ensuring environmental gains but also the sustainable economic use of those areas (Figure 4). They can plant only 50% or less of nonnative species and at least 1000 plants/ha what results in a high biodiversity promotion according to SMA resolution SMA 44 (2008). In the Legal Reserve the plantation should include at least 600 plants/ha.

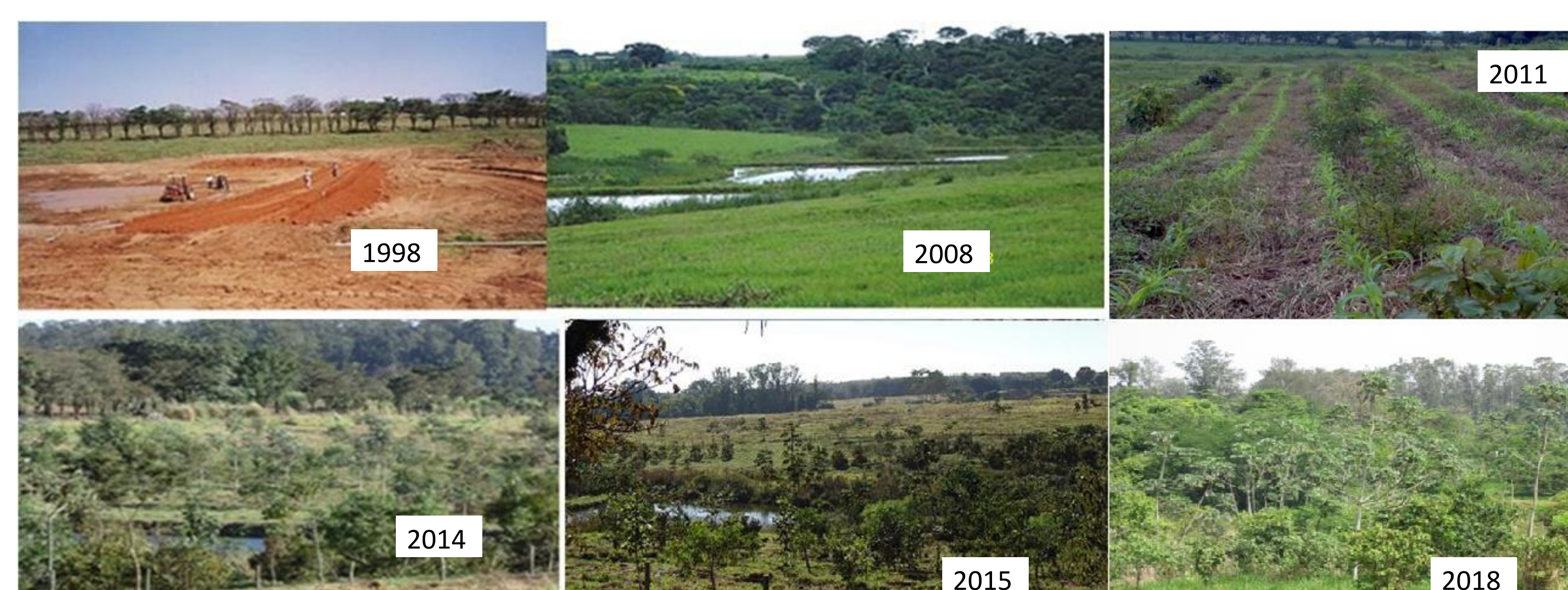


Fig.4 Changes in a degraded PPA area that had an agroforestry system plantation in 2011, Pindorama, SP, Brazil (Source: authors)