

## **SUPPLEMENTARY MATERIAL: Brites et al**

We provide details about: (i) meetings process and discussions; (ii) the research team, (iii) evaluation surveys, (iv) initially proposed scenarios, (v) scenarios outcomes, and (vi) the 1934 scenario.

### **1) Meetings process and discussions**

We describe the main issues, and the attending stakeholders of the open and technical meetings carried out by the science-based stakeholder dialogue group between March 2017 and February 2019 and the scenarios for Article 68 effects according to different legal interpretations.

The first open meeting was held in March 2017 with the primary objective of starting a dialogue between stakeholders from the diverse sectors involved in the discussion of the Native Vegetation Protection Law (NVPL) (Federal Law 12.651/2101) in São Paulo State. During this initial meeting, we raised questions relevant to stakeholders' agendas and to which science could contribute.

After presenting the project objectives and the research team, participants were invited to work in pairs, preferably with someone from another sector. The pairs had 20 minutes to raise the questions they considered as the most relevant for the NVPL implementation in the State (Table S1). After, the research team analyzed and quantified each question's main issues (Table S2, Figure S1). Assuming that each issue's frequency is a proxy of its importance, we chose the central theme that the research team should work on this project, bringing data and scientific information as feedback for the group. In total, 44 questions were raised (Table S1). The questions related to diverse articles and chapters from the NVPL and the need for a more substantial liaison among the stakeholders, a more robust scientific background, and tools for systematic and objective analysis of some of the NVPL mechanisms (Table S2). It is important to note that each question could relate to more than one issue. Thus, the number of issues raised (n=70) is larger than the number of questions (n=44).

A solution for Article 68 from the NVPL was the most frequent issue (Figure S1). This legal mechanism stipulates that native vegetation suppressed, according to the legislation in place at the time of the conversion, does not need to be restored or compensated to the

extent required by the 2012 NVPL. This fact stressed the Legal Reserve regulation as the main issue to be discussed and negotiated in São Paulo State.

In the second meeting, we presented the multiple legal and technical scenarios for Article 68 effects over Legal Reserve areas to show the complexity of the theme and contribute to the discussion about the NVPL implementation in São Paulo State (Table S3). During this meeting, we conducted a dynamic where participants should answer the question: which scenario I stand up for and why? Participants who agreed with the position of the speaker should place himself/herself near to him/her. Participants who disagreed should step farther. The process was repeated at each speech and, in the end, the group decided that the research team should model all the scenarios.

In the following meetings, we give feedback for Article 68 effects over Legal Reserve, raise other questions from the group, and strengthen networks and dialog among stakeholders. Details about each issue can be found in Table S4.

---

**Table S1.** Transcription of the questions raised during the first open meeting

---

It is essential to have a consensual and official map about the priority areas for native vegetation restoration.

Stakeholders should join forces to restore São Paulo State Environmental Restoration Program.

Which are the criteria for Legal Reserve compensation and use.

Which are the criteria (environmental/legal) for Legal Reserve compensation.

Which type of Legal Reserve management allows economic gains and, at the same time, the protection of environmental services.

How consolidated Areas of Permanent Protection can be used.

How to turn the Native Vegetation Protection Law in a positive goal instead of a burden.

Which are the native vegetation types and the legal references for the application of Article 68 at São Paulo State.

To define which are the São Paulo State native vegetation types.

To generate spatial data to identify land use and native vegetation cover in São Paulo State according to the past legislations.

To define the legal benchmarks for Cerrado conservation.

A solution for Article 68, legal benchmarks and Cerrado geography.

How to apply Article 68 for past legislations when there were not spatial images for reference.

How to consider ecological equivalence for environmental compensation.

Which spatial reference should be used for mapping Areas of Permanent Protection.

How to reach a consensus about native vegetation types and distributions at São Paulo State.

How to assure that Legal Reserve compensation will happen in similar areas.

How can we show the dependence between agriculture, society, and environment.

Which is the productivity of land used for agriculture.

Which legal benchmark should be used to interpret Article 68.

How to stimulate large scale restoration.

How to disentangle São Paulo State Environmental Restoration Program.

Which are the costs (financial, social) of Legal Reserve compensation or restoration.

---

**Table S1.** Transcription of the questions raised during the first open meeting

How to associate economic and environmental benefits in the Native Vegetation Protection Law implementation.

How to ensure a geographic balance of the Native Vegetation Protection Law implementation.

How to analyze and validate the Rural Property Register.

Criteria for Legal Reserve compensation.

How to untangle the São Paulo State Environmental Restoration Program mechanisms.

How the Environmental Restoration Program can be implemented in settlements.

How to reach consensus among the stakeholders engaged in the Native Vegetation Protection Law implementation.

Define clear criteria for environmental regularization to reduce legal insecurity.

How ambitious the Native Vegetation Protection Law could be.

Regulations of the environmental compensation market.

A consensus map of priority areas for restoration.

How much São Paulo State needs its forests.

Which legal benchmark should be used for Article 68.

How to implement Article 68 based on scientific data.

The approval of São Paulo State Environmental Restoration Program.

How to stimulate Rural Property Register and Environmental Restoration Program adherence.

Which are the obstacles for restoration.

Define rules for compensation.

How to regulate small farms and settlements.

Define technical and economic issues about restoration.

Regulate management systems in protected areas to give legal security for farmers.

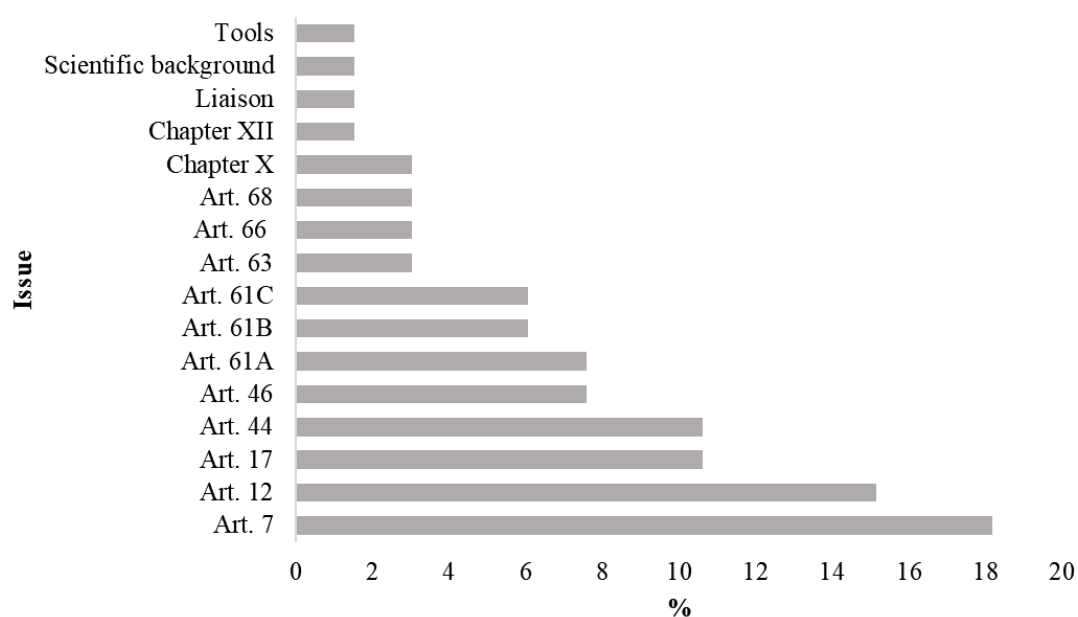
**Table S2.** Main issues identified in the questions raised by participants during the first open meeting

Issue	Description
<b>Art. 7 Federal Law 12.651/2012*</b>	Protection of native vegetation inside Areas of Permanent Protection
<b>Art. 12 Federal Law 12.651/2012</b>	Percentage of native vegetation that should be protected by Legal Reserves
<b>Art. 17 Federal Law 12.651/2012</b>	Obligation of maintaining and preserving the native vegetation inside Legal Reserve by the landholder
<b>Art. 44 Federal Law 12.651/2012</b>	Establishes the Environmental Reserve Quota
<b>Art. 46 Federal Law 12.651/2012</b>	Defines that the Environmental Reserve Quota should correspond to one hectare of land with native vegetation or with a plan of restoration with native species
<b>Art. 61A Federal Law 12.651/2012</b>	Areas of Permanent Protection size requirements for rivers and water streams according to the farm size
<b>Art. 61B Federal Law 12.651/2012</b>	Areas of Permanent Protection restoration requirements for farms up to 10 Fiscal Modules and with agricultural land use consolidated before 2008
<b>Art. 61C Federal Law 12.651/2012</b>	Areas of Permanent Protection requirements for settlements
<b>Art. 63 Federal Law 12.651/2012</b>	Land use regulation for Areas of Permanent Protection
<b>Art. 66 Federal Law 12.651/2012</b>	Legal Reserve regularization options

**Table S2.** Main issues identified in the questions raised by participants during the first open meeting

Issue	Description
<b>Art. 66 §6° Federal Law 12.651/2012</b>	Specifications for areas used for Legal Reserve compensation
<b>Art. 68 Federal Law 12.651/2012</b>	Establishes that native vegetation suppressed, in accordance with the legislation in place at the time of the conversion, do not need to be restored or compensated to the extent required by the 2012 NVPL
<b>Chapter X Federal Law 12.651/2012</b>	Environmental Restoration Program
<b>Chapter XII Federal Law 12.651/2012</b>	Smallholder agriculture
<b>Liaison</b>	Liaison among stakeholders to create a consensus about São Paulo State PRA to avoid future legal inquiries
<b>Scientific background</b>	Scientific data and information to show the importance of the Native Vegetation Protection Law establishment
<b>Tools</b>	Development of tools to create a systematic Rural Environmental Register analysis

Notes: † (Brasil 2012)

**Figure S1.** Main issues identified in the questions raised by participants during the first open meeting (%)

**Table S4.** Description of the main events held throughout the project: event goals, attending stakeholders, the main issues discussed, requests and task assignments.

Event	Goals	Attending sectors/Total of attendees	Main issues	Requests/Assignments
1. First open meeting 16/03/17	<p>To start the dialogue among stakeholders engaged in the establishment of the NVPL<sup>†</sup> at SP<sup>‡</sup></p> <p>To raise the main issues at stakeholders' agenda with which science can contribute</p> <p>To raise how each stakeholder can support the SP NVPL establishment</p> <p>To settle the group functioning</p>	<p>Academia</p> <p>Agribusiness</p> <p>Environmentalists</p> <p>Government</p> <p>Researchers from governmental institutions</p> <p>SP Public Prosecution</p> <p><i>Total = 39</i></p>	<p>A solution for Art. 68<sup>§</sup> from the NVPL was the most frequent claim made by participants, stressing the LR as the main issue to be discussed and negotiated at SP</p>	<p><i>Scientific team:</i> to search and work on data to support the discussion about Art. 68, including:</p> <p>(i) time track the Brazilian NV<sup>†</sup> main protection laws</p> <p>(ii) search for cartographic data on past NV cover with accuracy at the farm scale</p> <p>(iii) generate models of the NVPL, accounting for Art. 68 effects</p> <p>(iv) identify priority areas for LR offsetting and design possible strategies for its implementation</p>
1. SP NV meeting 11/04/17	<p>To raise and discuss with experts the availability of maps that classify the different types of NV at SP Atlantic Forest and Cerrado regions</p>	<p>Academia</p> <p>Researchers from governmental institutions</p> <p><i>Total = 9</i></p>	<p>There are at least four distinct combinations (scenarios) of legislation interpretation and data on NV classification that can be used to model Art. 68 effects on LR deficits</p>	<p><i>Scientific team:</i></p> <p>(i) to explain and discuss the four possible scenarios for Art. 68 effects with stakeholders on a new open meeting</p> <p>(ii) to research the availability of digitalized maps for SP NV past cover</p> <p>(iii) to pursue the collaboration with institutions, or researchers, who may have data on SP NV past cover</p>

**Table S4.** Description of the main events held throughout the project: event goals, attending stakeholders, the main issues discussed, requests and task assignments.

Event	Goals	Attending sectors/Total of attendees	Main issues	Requests/Assignments
2. Second open meeting 02/05/17	To show and discuss the steps/tasks needed to model Art. 68's effects: (i) time track Brazilian NV protection legislation (ii) spatialization of such laws (iii) availability of maps for NV past cover the farm scale (iv) the four possible scenarios of legislation interpretation and NV vegetation spatialization for Art. 68 effects, proposed by the experts from the meeting 1.1	Academia Agribusiness Environmentalists Government Researchers from governmental institutions  <i>Total = 29</i>	The group agreed that it was not the time nor the place to choose between one of the four scenarios. They decided that it would be better to model all four scenarios and, then, analyze the outcomes and discuss the pros and cons of each one	<i>Scientific team:</i> (i) to pursue and negotiate access to data/information needed to develop models of Art. 68 effects that were not public available (ii) to develop a model for each one of the four scenarios (iii) to analyze the suitability of FBDS <sup>¶</sup> database for the development of an APP <sup>#</sup> spatialization map (iv) to strengthen the connection of the project team with SAA <sup>††</sup> and SIMA <sup>‡‡</sup> to align the guidelines used on the NVPL models and the ones used by both secretariats
2.1. SIMA meeting 18/05/17	To introduce the project and project team to SIMA, create a unique database, raise SIMA claims and discuss a common agenda	Academia Government  <i>Total = 13</i>	There is a need to better articulate the state and national government agencies responsible by CAR <sup>§§</sup> analysis	<i>Scientific team:</i> (i) coordinate a meeting with SFB <sup>  </sup> , WWF Brazil <sup>¶¶</sup> , UFPA <sup>##</sup> so they present their CAR automated model for SIMA (ii) verify if SFB could provide 2008's data on land use for SIMA <i>SIMA:</i> (i) verify if they could share a commented report about the NVPL made by SIMA and PGE <sup>†††</sup> with the project team <i>Project team and SIMA:</i> (i) decide if the FBDS database should be used for SP APP spatialization map

**Table S4.** Description of the main events held throughout the project: event goals, attending stakeholders, the main issues discussed, requests and task assignments.

Event	Goals	Attending sectors/Total of attendees	Main issues	Requests/Assignments
2.2 SAA meeting 30/05/17	To introduce the project and project team to SAA, raise the SAA claims and discuss a common agenda	Academia Government  <i>Total = 3</i>	There is a need to better articulate the state and national government agencies responsible by CAR analysis	<i>Project team:</i> (i) coordinate a meeting with SFB, WWF Brazil, UFLA so that they present their CAR automated model for SAA (ii) create a database for APP deficit of small rural properties and compare it with CAR database <i>Project team and SAA:</i> (i) to resume the agenda on the implementation of a CRA <sup>†††</sup> system for SP
2.3 SFB meeting 04/07/17	To present to SIMA and SAA the SICAR <sup>§§§</sup> system developed by UFLA and SFB, to share information and strategies for CAR analysis	Academia Agribusiness Environmentalists Government Researchers from governmental institutions  <i>Total = 29</i>	Explanation of the automated filters used by SFB in CAR analysis; database used by SFB for CAR analysis and procedures related to specific CAR contexts (e.g. traditional communities' areas)	<i>Scientific team, SIMA, SAA, SFB, and UFLA:</i> (i) to keep and strengthen the dialogue between SFB and the secretariats to share information, methodologies and CAR data

**Table S4.** Description of the main events held throughout the project: event goals, attending stakeholders, the main issues discussed, requests and task assignments.

Event	Goals	Attending sectors/Total of attendees	Main issues	Requests/Assignments
3. Third open meeting 14/08/17	To present and discuss the outcomes obtained by the project regarding: (i) the updated version of SP land use map (ii) SP environmental deficit for LR and APP, including Article 61 from the NVPL, but do not including Art. 68 yet (iii) SP environmental deficits per land use (iv) the pros and cons of using each APP database available for developing SP APP map	Academia Agribusiness sector Environmentalists Government Researchers from governmental institutions SP Public Prosecution  <i>Total = 79</i>	The accuracy of SP CAR is higher than expected, however, it still with some areas of missing data Public policies should focus on large farmlands to solve a higher percentage of SP LR deficit with a lower effort None of the available APP databases alone have all the needed qualities for the development of SP APP map	<i>Scientific team:</i> (i) to set up space in the next meeting agenda for SIMA present how they make their CAR analysis (ii) to negotiate the access to NV database from 1965 and 1989 with UNICA <sup>III</sup> (iii) to start a workgroup about SP APP database and spatialization map
3.1. SIMA meeting 25/08/17	Discuss the need and the strategies to develop a reference map for the hydric APP at SP	Academia Environmentalists Government  <i>Total = 10</i>	The database used by SIMA for SP APPs Missing database that could help in the development of a reference map for SP APPs. Assignments for the beginning of the working group about SP APPs	<i>Scientific team, SIMA, and SAA:</i> (i) produce a conjoint requirement asking for digitalized SP 1965 NV coverage maps for IAC <sup>III</sup> <i>All the attendees:</i> (i) start a pilot study to estimate the difficulty, cost, time and people needed to develop a reference map for SP hydric APP



**Table S4.** Description of the main events held throughout the project: event goals, attending stakeholders, the main issues discussed, requests and task assignments.

Event	Goals	Attending sectors/Total of attendees	Main issues	Requests/Assignments
4. Fourth open meeting 16/11/17	<p>To present and discuss the outcomes for the LR deficit models, for the four scenarios, using the updated land use map and including Art. 68 effects</p> <p>Discuss the votes of the NVPL constitutionality queries (ADIs<sup>###</sup>) by the Supreme Court</p> <p>Provide a space for SIMA present the new resolution (SMA N° 146/2017) that establish SP biomes map</p>	<p>Academia</p> <p>Agribusiness sector</p> <p>Environmentalists</p> <p>Government</p> <p>Researchers from governmental institutions</p> <p>SP Public Prosecution</p> <p><i>Total = 64</i></p>	<p>Discussion about the necessity of performing only scenarios that have strong legal support</p> <p>The accuracy of data obtained is unique and enough for the decision makers act</p> <p>PGE interpretation of Art. 68 is not the same the project team used for the four scenarios</p>	<p><i>Scientific team:</i></p> <p>(i) adapt the scenarios models using Art. 68 interpretation from SP PGE</p> <p>(ii) start to design strategies and models for LR offsetting priority areas</p>

**Table S4.** Description of the main events held throughout the project: event goals, attending stakeholders, the main issues discussed, requests and task assignments.

Event	Goals	Attending sectors/Total of attendees	Main issues	Requests/Assignments
5. Fifth open meeting 12/04/2018	Discuss the concept of "ecological identity" introduced by the Supreme Court	Academia Agribusiness sector Environmentalists Government Researchers from governmental institutions SP Public Prosecution  Total = 87	The concept of "ecological identity" will continue to induce several doubts and legal insecurities about the LR offsetting until the Supreme Court publish the full version of its decision.	<i>Scientific team:</i> (i) improve the model discussed at the meeting separating the NV surplus from areas with low agriculture productivity/potential and pastures (ii) consider incentives already used by SIMA, e.g. "Programa Nascentes" <i>All stakeholders:</i> (i) stated that the concept of "ecological identity" for LR offsetting needs to be clarified by the Supreme Court, to avoid legal insecurities and irreversible damages for the PRA <sup>†††</sup>

**Table S4.** Description of the main events held throughout the project: event goals, attending stakeholders, the main issues discussed, requests and task assignments.

Event	Goals	Attending sectors/Total of attendees	Main issues	Requests/Assignments
6. Sixth open meeting 20/02/2019	Discuss the new numbers from the NVPL model; present a new model for LR compensation; present the CAR missing data/information	Academia Agribusiness sector Environmentalists Government Researchers from governmental institutions SP Public Prosecution  Total = 88	Include ecosystem services in the trading-up prioritization map Include traditional communities CAR in the NVPL model Include restoration areas in the trading up model	<i>Scientific team:</i> (i) start a dialogue with IPT <sup>††††</sup> to check if it is possible to include ecosystem services factors in the trading-up scheme (ii) start a dialogue with ISA <sup>§§§§</sup> to check if it is possible to include traditional communities CAR data on the NVPL model; (iii) discuss the pros and cons of including restoration areas in the trading-up scheme

Notes: <sup>†</sup>NVPL=Native vegetation protection law; <sup>‡</sup>SP=São Paulo State; <sup>§</sup>Art.68=Article 68 from the NVPL; <sup>||</sup>NV=Native Vegetation; <sup>¶</sup>FBDS=Fundação Brasileira para o Desenvolvimento Sustentável (Brazilian Foundation for Sustainable Development); <sup>#</sup>APP=Area of Permanent Protection; <sup>††</sup>SAA= Secretaria de Agricultura e Abastecimento de SP (Agriculture Secretariat); <sup>†††</sup>SIMA= Secretaria de Infraestrutura Meio Ambiente de SP (Environmental Secretariat); <sup>§§</sup>CAR= Cadastro Ambiental Rural (Rural Environmental Registry); <sup>|||</sup>SFB=Serviço Florestal Brasileiro (Brazilian Forest Service); <sup>¶¶</sup>WWF Brasil=World Wide Fund for Nature Brazil ; <sup>##</sup>UFLA=Universidade Federal de Lavras (Lavras Federal University); <sup>†††</sup>PGE=Procuradoria Geral do Estado de São Paulo (SP Prosecutor's Office); <sup>†††</sup>CRA=Cota de Reserva Ambiental (Environmental Reserve Quota); <sup>§§§</sup>SICAR=Sistema Nacional de Cadastro Ambiental Rural (National System of Environmental Rural Registry); <sup>|||</sup>UNICA=União da Indústria da Cana de Açúcar (Brazilian Sugarcane Industry Association); <sup>¶¶¶</sup>IAC = Instituto Agrônômico (Agronomic Institute); <sup>###</sup>ADI=Ação Direta de Inconstitucionalidade (Constitutionality Inquiry); <sup>††††</sup>PRA=Programa de Regularização Ambiental (Environmental Regularization Program); <sup>††††</sup>IPT=Instituto de Pesquisas Tecnológicas (Institute of Technologic Research); <sup>§§§§</sup>ISA=Instituto Socioambiental (Social Environmental Institute).

## 2) Research team

The research team was interdisciplinary and intersectoral, including researchers and experts in different fields from universities, non-governmental organizations (NGOs), the private sector, and the government (Table S5).

**Table S5.** The transdisciplinary and intersectoral research team

<b>N° of people</b>	<b>Sector</b>	<b>Expertise</b>
1	Academy	Sustainable development
2	Academy	Forest restoration
2	Academy	Landscape ecology
1	Academy	Human ecology
3	Academy	Geographic information system
1	Academy	Public policy
2	Academy	Economic development
1	Academy	Ecological economy
1	Academy/government	Forest conservation
1	Government	Public policy
7	NGO	Geographic information system
1	NGO	Forest management
2	Private	Geographic information system

### 3) Evaluation surveys

#### 3.1.) First survey

##### Invitation e-mail

Dear Sir or Madam,

We prepared this survey to evaluate the project performance until now.

The time for answering the questions is about 10 minutes and we will not have access to your name or e-mail, i.e. the survey is anonymous.

Your participation is very important for us to access the project successes and limitations!

Sincerely,

The project research team

##### Survey

Your answers are very important to evaluate the project successes and limitations so far. The answers are confidential and we do not have access to the respondent name or e-mail.

##### Question 1. Please, select your sector:

- ☐ Research
- ☐ Government
- ☐ Public Prosecution
- ☐ NGO
- ☐ Private
- ☐ Independent participant
- ☐ Other. Please specify:

##### Question 2. Please, rate the following statements about the project accordingly to your perception:

Until now the project has been successful in...	Totally disagree	Disagree	Neither agree nor disagree	Agree	Totally agree
... <b>providing scientific information to support decision-making</b> regarding the New Forest Code (Law 12.651/12) implementation in São Paulo State	1	2	3	4	5
... <b>meeting stakeholders' expectations</b> about the New Forest Code (Law 12.651/12) in São Paulo State	1	2	3	4	5
... <b>creating a safe space for dialogue</b> among the multiple stakeholders and sectors engaged	1	2	3	4	5

in the New Forest Code (Law 12.651/12) implementation in São Paulo State					
... being <b>transparent</b> about methods and data used	1	2	3	4	5
... presenting <b>impartial</b> data and outcomes	1	2	3	4	5

**Q3. Please use the space below for suggestions, critiques, and other comments about the project.**

The project team appreciates your participation!  
 If you have any doubts or further comments, please contact us through the e-mail:  
 tematicocodigoflorestalsp@gmail.com  
**Access our site:** <https://codigoflorestal.wixsite.com/tematico>

### 3.2.) Second survey

#### Invitation e-mail

Dear Sir or Madam,

We prepared this survey to evaluate the project performance until now.

The time for answering the questions is about 10 minutes and we will not have access to your name or e-mail, i.e. the survey is anonymous.

Your participation is very important for us to access the project successes and limitations!

Sincerely,

The project research team

#### Survey

Your answers are very important to evaluate the project successes and limitations so far. The answers are confidential and we do not have access to the respondent name or e-mail.

#### Question 1. Please, select your sector:

- ☐ Research
- ☐ Government
- ☐ Public Prosecution
- ☐ NGO
- ☐ Private
- ☐ Independent participant

☐ Other. Please specify:

**Question 2. Please, rate the following statements about the project accordingly to your perception:**

Until now the project has been successful in...	Totally disagree	Disagree	Neither agree nor disagree	Agree	Totally agree
... <b>providing scientific information to support decision-making</b> regarding the New Forest Code (Law 12.651/12) implementation in São Paulo State	1	2	3	4	5
... <b>meeting stakeholders' expectations</b> about the New Forest Code (Law 12.651/12) in São Paulo State	1	2	3	4	5
... <b>creating a safe space for dialogue</b> among the multiple stakeholders and sectors engaged in the New Forest Code (Law 12.651/12) implementation in São Paulo State	1	2	3	4	5
... being <b>transparent</b> about methods and data used	1	2	3	4	5
... presenting <b>impartial</b> data and outcomes	1	2	3	4	5

**Q3. In your opinion what was the importance of the following subjects discussed during open meetings for the New Forest Code implementation in São Paulo State:**

	Unimportant	Low importance	Neither important nor unimportant	Important	Very important
First meeting: Dialogue start, group functioning	1	2	3	4	5
Second meeting: Multiple scenarios for Article 68 modeling	1	2	3	4	5
Third meeting: Methodological progress, partial outcomes	1	2	3	4	5
Fourth meeting: Scenarios outcomes	1	2	3	4	5
Fifth meeting: Ecological equivalence model	1	2	3	4	5
Sixth meeting: New scenario for Article 68 (including the 1934 Forest Code)	1	2	3	4	5

**Q4. Please use the space below for suggestions, critiques, and other comments about the project.**

The project team appreciates your participation!  
 If you have any doubts or further comments, please contact us through the e-mail:  
 tematicocodigoflorestalsp@gmail.com  
**Access our site:** <https://codigoflorestal.wixsite.com/tematico>

### **3.3.) Third survey**

#### **Invitation e-mail**

Dear Sir or Madam,

We prepared this survey to evaluate the project performance until now.

The time for answering the questions is about 10 minutes and we will not have access to your name our e-mail, i.e. the survey is anonymous.

Your participation is very important for us to access the project successes and limitations!

Sincerely,

The project research team

#### **Survey**

Your answers are very important to evaluate the project successes and limitations so far. The answers are confidential and we do not have access to the respondent name or e-mail.

#### **Question 1. Please, select your sector:**

- ☐ Research
- ☐ Government
- ☐ Public Prosecution
- ☐ NGO
- ☐ Private
- ☐ Independent participant
- ☐ Other. Please specify:

#### **Question 2. Please, rate the following statements about the project accordingly to your perception:**



Until now the project has been successful in...	Totally disagree	Disagree	Neither agree nor disagree	Agree	Totally agree
... <b>providing scientific information to support decision-making</b> regarding the New Forest Code (Law 12.651/12) implementation in São Paulo State	1	2	3	4	5
... <b>meeting stakeholders' expectations</b> about the New Forest Code (Law 12.651/12) in São Paulo State	1	2	3	4	5
... <b>creating a safe space for dialogue</b> among the multiple stakeholders and sectors engaged in the New Forest Code (Law 12.651/12) implementation in São Paulo State	1	2	3	4	5
... being <b>transparent</b> about methods and data used	1	2	3	4	5
... presenting <b>impartial</b> data and outcomes	1	2	3	4	5

**Q3. In your opinion what was the importance of the following subjects discussed during open meetings for the New Forest Code implementation in São Paulo State:**

	Unimportant	Low importance	Neither important nor unimportant	Important	Very important
First meeting: Dialogue start, group functioning	1	2	3	4	5
Second meeting: Multiple scenarios for Article 68 modeling	1	2	3	4	5
Third meeting: Methodological progress, partial outcomes	1	2	3	4	5
Fourth meeting: Scenarios outcomes	1	2	3	4	5
Fifth meeting Ecological equivalence model	1	2	3	4	5
Sixth meeting: New scenario for Article 68 (including the 1934 Forest Code)	1	2	3	4	5

**Q4. Please use the space below for suggestions, critiques, and other comments about the project.**

The project team appreciates your participation!  
 If you have any doubts or further comments, please contact us through the e-mail:  
 tematicocodigoflorestalsp@gmail.com  
**Access our site:** <https://codigoflorestal.wixsite.com/tematico>

#### 4) Initially proposed scenarios

In the second meeting, we presented four possible scenarios for Article 68 application. These scenarios combined different datasets, legal benchmarks, and law interpretations (Table S6). For modeling, methodology details see (Tavares et al. 2019).

**Table S6.** Summary of the scenarios presented in the second meeting comprising distinct combinations of legal benchmarks, legal interpretations, and databases.

Scenario	Description	Modeling rules	Database
1	Since 1965 the requirements are the same for all types of NV	NV outside APP $\geq 20\%$ in 1965 and 1989 Compliance with the Law 12.651/2012 in 2008	IBGE 1:50.000 maps
2	For Atlantic Forest biome the initial legal benchmark is the 1965 Forest Act (Law 4.771/65) and for Cerrado biome is the federal law for Cerrado protection (Law 7.803/89) from 1989	NV outside APP $\geq 20\%$ in 1965 for Atlantic Forest NV outside APP $\geq 20\%$ in 1989 for Cerrado Compliance with the Law 12.651/2012 in 2008	IBGE 1:50.000 maps
3	For Atlantic Forest biome the initial legal benchmark is the 1965 Forest Act (Law 4.771/65) and for Cerrado biome is the federal law for Cerrado protection (Law 7.803/89) from 1989	NV outside APP $\geq 20\%$ in 1965 for Atlantic Forest NV outside APP $\geq 20\%$ in 1989 for Cerrado Compliance with the Law 12.651/2012 in 2008	IBGE 1:50.000 maps IBGE biome map
4	For forested types of NV the initial legal benchmark is the 1965 Forest Act (Law 4.771/65) and for other types of NV e is the federal law for Cerrado protection (Law 7.803/89) from 1989	NV outside APP $\geq 20\%$ in 1965 for forested NV NV outside APP $\geq 20\%$ in 1989 for other types of NV Compliance with the Law 12.651/2012 in 2008	IBGE 1:50.000 maps Project RADAM Brazil

**Notes:**

NV = Native vegetation

APP = Area of Permanent Preservation

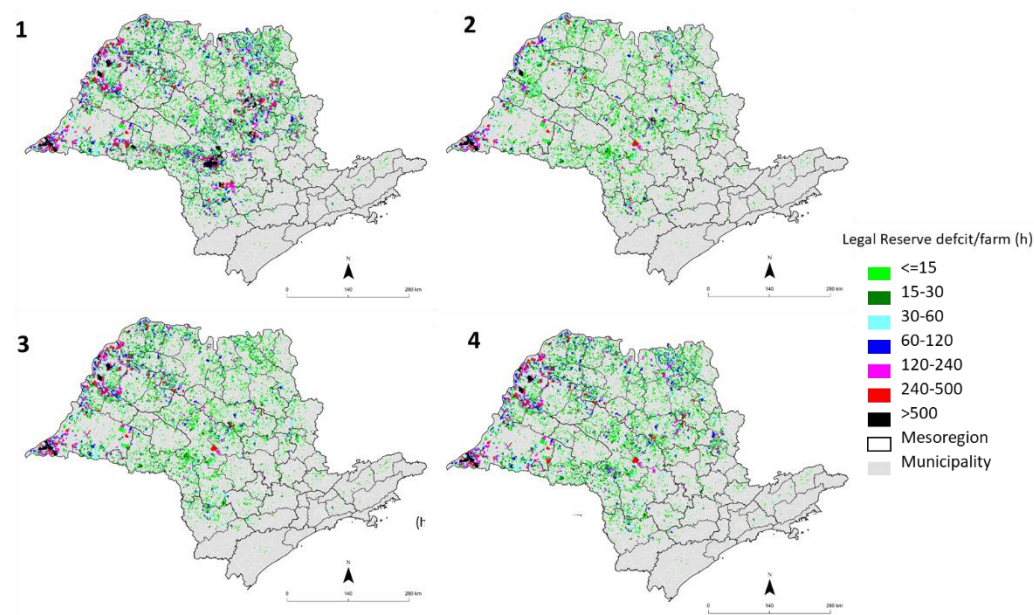
IBGE = Instituto Brasileiro de Geografia e Estatística (Brazilian Institute of Geography and Statistics)

## 5) Scenarios final outcomes

Scenarios outcomes in terms of total areas of Legal Reserve deficit per farm and distribution in São Paulo State (Table S7). For more details about outcomes and methods, see Tavares et al. (2019)

**Table S7.** Scenarios outcomes

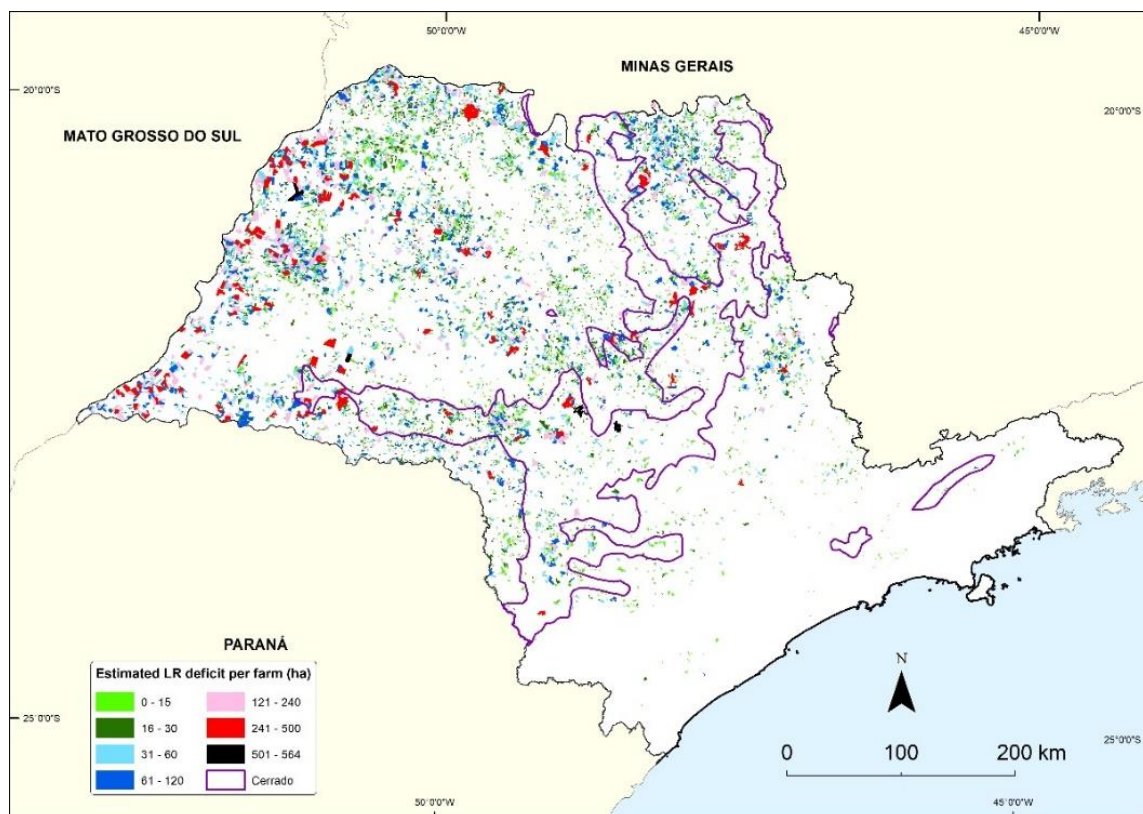
Scenario	Legal Reserve déficit (10 <sup>3</sup> ha)
Without Article 68	879
Scenario 1	339
Scenario 2	121
Scenario 3	184
Scenario 4	241



**Figure S2.** Scenarios outcomes in terms of Legal Reserve deficits spatialization in São Paulo State. Each polygon represents one property.

## 6) 1934 scenario

Probabilistic map including the 1934 Brazilian Forest Code as an initial legal benchmark mark for Article 68 application (Tavares et al, 2018).



**Figure S3.** Scenario 1934 outcomes in terms of Legal Reserve deficits spatialization in São Paulo State. Each polygon represents one property.

## References

- TAVARES, P.A., BRITES, A.D., SPAROVEK, G., GUIDOTTI, V., CERIGNONI, F., AGUIAR, D., METZGER, J.P., RODRIGUES, R.R., PINTO, L.F.G., MELLO, K. de & MOLIN, P.G. 2019. Unfolding additional massive cutback effects of the Native Vegetation Protection Law on Legal Reserves, Brazil. *Biota Neotropica* 19(4).
- TAVARES, P.A.; SPAROVEK, G.; BRITES, A.D. 2018. Historical overview patterns of natural vegetation cover as support for the regularization of the compensation mechanisms from Legal Reserve established by the New Forest Act: Effects of art. 13, 15 67 and 68. In: International Conference on Ecological Sciences (SFECOLOGIE 2018). Rennes, France, 2018.