



**A new institutional and normative structure:
Urban and housing policy in São Bernardo do Campo/SP**

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SUMMARY

This article carried out an analysis of the urban and environmental legislation applicable to the protection spaces in the water sources of the Billings Reservoir in the face of the institutionalization of the water protection laws, highlighting the management process and its developments in the face of the emergence of the socio-environmental recovery of the APRMs. In this region, the connection between the accelerated process of industrialization, disorderly urbanization and the increase in population concentration observed over the years, devoid of adequate planning and territorial ordering actions, is notorious in this region, which contributed to the intensification of socio-spatial inequalities. sustained by a pattern of exploitation and dilapidation of uses and degradation of ecosystems. For this purpose, the main environmental and urban regulations were analyzed, as well as the actions resulting from legislation and urban and environmental public policies implemented in São Bernardo do Campo. For its development, we started with the object of study chosen by this research, the APPs (essential components of spring ecosystems), considering the geophysical attributes that characterize the municipality of São Bernardo do Campo, where 52% of its territory is located, inserted in areas protecting the water sources of the Billings Dam. Thus, we sought to identify aspects related to the treatment of watershed protection and recovery areas, specifically those that aim to achieve urban sustainability.

KEYWORDS: Water sources. Land use planning. Master plans.

1. INTRODUCTION

This study was part of a broader research, developed as part of a doctoral thesis. It contextualized the dynamics of the process of urban occupation of protective spaces in the water sources of the Billings Reservoir in the face of the institutionalization of water protection laws, highlighting the management process and its developments in the face of the emergence of the socio-environmental recovery of the APRMs.

In this region, the existing connection between the accelerated industrialization process, disorderly urbanization and the increase in population concentration observed over the years, devoid of adequate planning and territorial ordering actions, contributed to the intensification of socio-spatial inequalities sustained by a pattern of exploitation and dilapidation of uses and degradation of ecosystems.

It is in tackling such issues that a new institutional and political structure emerges to attempt the overcome structural problems, though, among others, new planning and territorial management mechanisms, with the aim of mitigating and reversing the high levels of existing biophysical vulnerability, in fragile areas for the protection of water sources, which presented, among other aspects, the compromise of environmental services essential for the balance of the urban and regional ecosystem.

For this purpose, the main environmental and urban regulations were analyzed, as well as the actions resulting from legislation and urban and environmental public policies implemented in São Bernardo do Campo.

Within the scope of the normative arrangement applicable to the territory under study, the research considered that the Master Plan is the legal and administrative instrument capable of guiding the implementation of protective measures, especially those aimed at the specificities presented by these spaces, thus contributing to the water sources can perform their role as water producers – in quality and quantity. Based on these assumptions, we sought to identify aspects aimed at treating watershed protection and recovery areas, specifically those that aim to achieve urban sustainability. Thus, without the intention of exhausting this issue, the instruments aimed at the territorial organization of São Bernardo Campo were presented, in this case, its master plans.

Informal occupations in watershed areas of the Billings Dam are strictly related to the dynamics of the production of urban space, arising from an economic (land market), social (socio-spatial segregation and social vulnerability) and environmental (environmental impacts) interface. However, it must be understood that the right to housing should not take precedence over the right to a balanced environment, which is up to the public authorities to address the issue to promote the sustainable development of these spaces. In this sense, Leff (2008, p. 67) explains that the “necessary changes for the transition to sustainable development will result from the adoption of a complex political strategy”, which must be guided by democratic management, “driven by State reforms and the strengthening civil society and its organizations”. In view of this position, it is important to analyze the Master Plans of the municipality of São Bernardo do Campo, understanding that this instrument has its foundations based on the principle of democratic management. For this reason, the legal developments resulting from its applicability for planning the municipality’s territory were analyzed.

2 OBJECTIVE

Analyze the main environmental and urban regulations, as well as the actions resulting from legislation and urban and environmental public policies implemented in São Bernardo do Campo, with the purpose of understanding the management process and its consequences in the face of the emergence of socio-environmental recovery of APRMs.

3 ANALYSIS METHOD

The proposed research was developed using a qualitative method, in which the procedures had a logical basis, divided into three stages: “open or exploratory”, “data collection” and “systematic data analysis and interpretation” (LÜDKE; ANDRÉ, 1986, p. 21). In its first stage - open or exploratory, it consisted of examining specific literature, particularly urban and environmental legislation, scientific works, and bibliographic references on the subject (books, theses, dissertations, articles, etc.). In the second stage, data collection activities were carried out under controlled conditions, to obtain systematized data, such as those made available by governmental and non-governmental bodies. In its final stage - third - it consisted of inserting the research object (APPs - areas of permanent preservation) within a framework of theoretical references, concomitantly with the empirical construction, which allowed the definition of the methodological procedures necessary to carry out an analysis criticism of the environmental and urban legislation applicable to the spatial scope defined for this study.

4 RESULTS

4.1 Master Plans of São Bernardo do Campo

4.1.1 First Master Plan of São Bernardo do Campo – Ordinary Law No. 4.434, of May 15, 1996.

The first Master Plan for the municipality of São Bernardo do Campo was established by Ordinary Law No. 4.434, of May 15, 1996, where its validity extended for ten years in the establishment of territorial planning guidelines. Although the Master Plan (Law No. 4.434/1996) attributed certain importance to the environmental issue in its guidelines, it must be considered that its legal effects were not very effective in planning the territory, as will be presented below.

The environmental issue was treated in this Master Plan (Law nº 4.434/1996) as a conditioning element for themes such as economic development (section V, art. 16 and art. 93), Urban Policy (section III, art. 28), infrastructure (section IV, art. 33), solid waste management (section VII, art. 43), Housing Policy (section III, art. 60), Environmental Policy (arts. 70 to 87 and 95), whether to propose preservation and conservation measures or the adoption of sustainable practices.

With regard to the protection of the water sources of the Billings Reservoir, the Master Plan pointed out the need to control water pollution, establishing guidelines to mitigate possible impacts on the water source ecosystems, such as actions aimed at “control and inspection of the release of sewage domestic and industrial effluents in bodies of water, with the eventual establishment of more restrictive standards than current legislation”, both at the federal and state levels (item I, art. 81, of Law nº 4.434/1996).

As an administrative measure, the need to implement a sewage treatment system that prevented the direct release of untreated effluents into water bodies was emphasized (section II, art. 81 of Law No. 4.434/1996). To make the established goals viable, the Master Plan pointed out the need for technical and operational support with the “state concessionary company responsible for the ABC System Sewage Treatment plant” (section III, art. 81, of Law No. 4.434/1996).

IV – the recovery of the Billings Dam in its function as a source of drinking water, including urging the State Government to present solutions that allow the immediate depollution of the dam, through the interruption of pumping from the Pedreira Elevatory, until the Depollution Program of the Tietê Basin presents effective results. (section IV, art. 81 of Law no. 4.434/1996, SÃO BERNARDO DO CAMPO, 1996).

Although the Master Plan (Law No. 4.434/1996) proposed actions that had the clear purpose of recovering the water source for the production of drinking water, it should be noted that they were strictly related to the infrastructure condition of the settlements.

In addition to proposing guidelines for cleaning up water sources from the Billings Dam, the research found that in art. 86 of Law No. 4.434/1996, this regulation already envisaged at that time the implementation of an ecological park in the area surrounding Rio das Pedras, Rio Grande and Rio Pequeno, with the objective of preserving the characteristics of the historical, landscape and environmental heritage and, at the same time, offer equipment for recreational and tourist practices for the benefit of the metropolitan population.

Another point that draws attention in this Master Plan (Law No. 4.434/1996) when observing its content, it appears that it was concerned with irregular and predatory occupations in water source protection areas, presenting, even if in a palliative way, the increase the supply of lots and housing units (section I, art. 60). However, when observing the progressive increase of families living in watershed protection areas (Table 1) in the following years after its entry into force, it was found that such measures did not present the expected results, that is, the mechanisms proposed by Law no. 4.434/1996 were of little effectiveness.

Table 1 - Population in watershed protection areas by neighborhood, São Bernardo do Campo, 1980 to 2009

NEIGHBORHOOD	1980	1991	1996	2000	2008 ⁽¹⁾	2009 ⁽¹⁾
Alves Dias (part)	872	2.631	3.372	3.908	4.226	4.151
Balneária	441	451	623	606	647	643
Batistini	6.742	12.089	24.581	27.655	31.893	31.117
Botujuru (part)	1.500	2.278	3.022	2.970	3.610	3.790
Cooperativa (part)	-	763	8.114	9.024	12.331	12.969
Demarchi (part)	-	2.807	4.636	4.711	5.203	5.295
Dos Alvarenga	7.781	27.974	43.569	54.585	69.025	71.391
Dos Casa (part)	22.802	24.910	36.159	38.559	44.174	45.150
Dos Finco	2.229	5.738	7.988	9.435	11.504	11.841
Montanhão (part)	257	3.934	7.351	9.504	13.008	14.228
Rio Grande	4.210	4.894	5.379	6.429	7.914	8.138
Total Urban Area	46.834	88.469	144.794	167.386	203.535	208.713
Rural Area	3.290	5.604	10.900	12.169	13.863	13.980
General Total	50.124	94.073	155.694	179.555	217.398	222.693

(1) Estimate. Sources: IBGE/Demografia Census; PMSBC/Budget and Participatory Planning Secretariat (estimates).
Extracted from Data Summary 2010 – São Bernardo do Campo, p.78.
Source: Ferrara (2013, p. 157), adapted by the author.

As can be seen in Table 1, despite the protective guidelines provided for in this legal institute (Law No. 4.434/1996), there was an increase in density of 30.09% between the period from 1996 to 2009, that is, 66.999 people passed living in an area protecting the water sources of the Billings Dam. These data allow us to identify the socio-environmental vulnerability existing in the watershed protection areas, given the ineffectiveness of the Master Plan in promoting the necessary spatial planning.

4.1.2 Second Master Plan of São Bernardo do Campo – Ordinary Law No. 5.493, of October 5, 2006

There are several studies related to the process of informal occupation in watershed areas (JEMURA, 2000; CAPOBIANCO, 2002; FRACALANZA, 2002; ALVIM, 2003; FILARDO, 2004; MARTINS, 2006; WHATELY, 2008; POLLI, 2010; FERRARA, 2011), attributing, among several factors, the 1976 Watershed Protection Law (Law No. 1.172/1976) to an adverse situation resulting from precarious housing occupation.

In more recent studies, when addressing this issue, Alvim (2014, p. 178) reiterates that the “conception of legal freezing of the territory aimed at environmental preservation was not able to contain the force of real occupation processes”, notably by recognizing the dimension of the divergences between urbanization and the environment in São Bernardo do Campo, where they are confronted in demographic growth with institutional restrictions aimed at the expansion of the urban area.

The complexity of this situation highlighted the importance of achieving a level of compatibility between the various normative instruments applicable to its territory, in particular, urban planning and development laws.

By virtue of the City Statute (Federal Law No. 10.257, of July 10, 2001), on October 5, 2006, through Ordinary Law No. 5.493¹, the second Master Plan for the municipality of São Bernardo do Campo was approved, with the purpose of disciplining the “economic-social, spatial, physical, environmental and administrative-institutional aspects” (art. 3).

When observing the guidelines of the City Statute, the environmental theme is recurrent in several articles of Law nº 5.593/2006. Although it was published in a period prior to the approval of Law No. 13.579/2009 – APRM-Billings Specific Law, its text already stated aspects related to environmental sustainability. Therefore, it was designed with the aim of establishing guidelines that could ensure the preservation and recovery of the environment. For this reason, the environmental issue is recurrent in its normative text, for example, the Economic Development Policy, which recognized the importance of environmental legislation and the need to adopt practices that promote sustainable development:

Art. 22 The general objectives of economic development policy are:

[...]

c) respect environmental legislation and promote the recycling of industrial and domestic waste.

§ 1 The performance of economic activities must include:

[...]

b) preservation of the environment, notably water resources and vegetation of environmental interest; (Law nº 4.434/1996, SÃO BERNARDO DO CAMPO, 1996).

The wording presented in paragraph “c”, of item XVII of art. 22, of Law No. 5.593/2006, waste recycling is one of the common practices, as a proposal for the applicability of sustainable development, as in addition to encouraging income generation, it helps to significantly reduce the impact of waste disposal on the environment, as well how it contributes to combating the proliferation of vectors responsible for various pathologies. Likewise, the adoption of practices by companies such as socio-environmental responsibility, constituted excellent examples of actions aimed at preserving the environment. With the same intention, the same article, § 1, paragraph c, explained that the performance of economic activities should include the preservation of the environment, especially water resources and vegetation of environmental interest, in this case, APPs.

Still in relation to the Environmental Development Policy, within the scope of chapter IV, art. 23, general objectives dedicated to the watershed protection areas were defined, highlighting the importance of promoting the “appropriate use and occupation of soil, especially in the Watershed Protection and Recovery Area (APRM) of the Billings Dam”, in order to that the “characteristics of the Municipality and its social and economic activities be made compatible, with the preservation, recovery and maintenance of environmental quality”, which should be made possible through “adaptation to the environmental parameters necessary for the APRM defined by state legislation”. Within the scope of environmental protection measures, proposals for the creation and expansion of APPs and Conservation Units were also incorporated, specific to the protection, recovery and conservation of biodiversity, with the intention of guaranteeing satisfactory conditions for the production of water in quantity and quality.

¹ It should be clarified that the second Master Plan (Ordinary Law No. 5.493/2006) was analyzed in this research considering the changes provided for in Ordinary Law No. 6.021/2010.

Alvim (2014) clarifies that the protective measures for the environment that are part of the legal text of the Master Plan (Law No. 5.493/2006), in general, that signal to

[...] creation and expansion of Permanent Preservation Areas and Permanent Conservation Units, aiming at the protection, recovery and conservation of ecosystem biodiversity; the aim is to ensure and expand water production, in quantity and quality, in a preventive manner and through coordinated actions, as well as the adequate collection, transportation and treatment of sewage and solid waste, through the expansion and implementation of sanitary infrastructure. (ALVIM, 2014, p. 181).

In the context of protective measures, it should be highlighted that art. 25 of Law No. 5.493/2006 explains the need for such measures to be complemented by the institutionalization of a municipal environmental policy (§ 1) and a municipal environmental system (§ 2), composed of the City and Environmental Council of São Bernardo do Campo, through the Technical Chamber of Environment and Sanitation (item I, § 2). Thus, chapter IV of the Master Plan, when dealing with the Environmental Development Policy of the right to a sustainable city, expressed the importance of “recovering the environmental quality” of the municipality (item V, art. 24, of Law nº 5.593/2006), presenting this proposal as one of the guidelines for managing the territory of São Bernardo do Campo.

In its text, the Master Plan (Law No. 5.593/2006) conditioned urban development to the implementation of actions that made it possible to achieve the city's social functions simultaneously, through actions that ensure social justice, as well as improving the quality of urban life. In this logic, the research found that in § 2, art. 16 of Law No. 5.593/2006, it was established that the watershed protection areas should have “the production of water for public consumption as a social function”.

From this perspective, Law No. 5.593/2006 proposed that territorial space be used in an environmentally appropriate manner, “observing the conservation and rational use of natural resources, notably water and forestry” (section VI, art. 24). To this end, it became important to define goals aimed at raising awareness among the population, enabling the adoption of practices that promote sustainable development and the universalization of “non-formal environmental education, with the participation of society” (section XVIII, art. 24, Law No. 5.593/2006). In a water source protection area, the planning of urban land and its uses should observe the rules of intermunicipal interest, prescribed in state and federal legislation, such as the environmental parameters established in state legislation for APRM (item “e”, item XIX, article 24, Law nº 5.593/2006).

When dealing with the principles that address the protection of life and dignity of the human person, its text included guidelines made up of propositions and actions that would contribute to “avoid the generation of environmental pollution in any of its forms, and the occurrence of damage and environmental risks” (item VIII, art. 25 of Law nº 5.593/2006), among which the following are highlighted:

- a) environmental management of solid waste (domestic and industrial);
- b) environmental management of water and sewage;
- c) promotion of environmental inspection;
- d) application of applicable penalties to offenders or those responsible;
- e) actions aimed at monitoring “permanently irregular occupation, especially environmentally fragile and risky areas” (section XVI, art. 25 of Law no. 5.593/2006).

Regarding the application of these actions to expand protective protection in watershed areas in the municipality of São Bernardo do Campo, item II, of the first paragraph of art. 25 of Law No. 5.593/2006, the creation of the Municipal Environmental Recovery Fund (FMRA) was proposed. This regulation also provided for the strengthening of tourism in the APRM as a strategy for generating income and environmental conservation (section XI, art. 22).

In relation to the Housing Policy (art. 31, of Law No. 5.593/2006), the environmental issue was addressed together with themes that addressed land regularization, urban planning and sustainability in precarious, irregular and clandestine settlements, as well as the implementation of actions for inadequate occupation of environmental preservation and conservation areas in risk areas.

As a strategy to intensify protective actions in watershed areas, due to the needs for the development of economic activities, for fair adaptation, the Master Plan (Law nº 5.593/2006) determined the territorial division of the municipality of São Bernardo do Campo into four macrozones. Thus in art. 40, the Urban Vocation Macrozone (MVU) was established; Urban Macrozone for Environmental Recovery (MURA); Macrozone of Managed Occupation (MOD); and the Macrozone of Occupation Restriction (MRO), with parts of its territory included in watershed protection areas.

For this purpose, its arts. 42 to 44 sought to define the aspects and purposes for each macrozone included in APRM-B. Thus, for the Urban Macrozone of Environmental Recovery (MURA), designed to facilitate the environmental recovery of the protection area of water sources that suffered impacts from human actions (section II, art. 42, Law nº 5.593/2006); For the Managed Occupation Macrozone (MOD), the territorial portion destined to maintain the water production potential was delimited, with the purpose of carrying out the environmental recovery of the APRMs, and also areas where densification of the urban area of the district of Riacho Grande, one of the alternatives to the municipality’s strategic development; Occupation Restriction Macrozone (MRO) for this territorial portion was intended for the maintenance of physical-territorial characteristics, recovery of APRMs, areas where urban occupation should be restricted with the intention of protecting the Atlantic Forest and conserving the biosphere reserve – green belt from the city of São Paulo.

This territorial compartmentalization into macrozones made it possible for each unit of its territory to be subdivided into zones, considering the vocational characteristics based on the definition of specific land use and occupation criteria for each one. Still within the scope of this territorial organization, there are arts. 51 to 67 of Law No. 5.593/2006, which define the specificities necessary for the establishment of the different zones, as well as their functions.

For the Urban Development Zone (ZDU), identified by the territorial portions marked by densification, occupation and other urban activities, predominantly regularized, where the guidelines should be observed with the purpose of balancing the process of production of urban space, implementing and complementing the infrastructure and urban equipment aiming to enhance densification in compliance with environmental restrictions when it is delimited in the Billings Dam Hydrographic Basin Watershed Protection and Recovery Area (APRM Billings) (arts. 51 and 52 of Law No. 5.593/2006).

The arts. 53 and 54 of Law No. 5.593/2006 determined that the ZRU should receive urban interventions for the implementation of infrastructure and public equipment, in order to

promote sustainable economic development, as well as improving the population's quality of life.

In accordance with this systematization, the ZRUA was delimited by territorial sectors inserted in watershed protection areas, specifically those located to the north of the dam (Bairro dos Alvarengas), where urban reordering and densification could be made possible, if the parameters were observed with applicable legislation. Another aspect to be observed refers to the ZRA, which differ from the ZRUA in that its guidelines sought to define restrictions on occupation formulated based on environmental recovery and preservation actions, considering that they are concentrated to the south of the dam, in spaces with preserved vegetation. In relation to the other typologies proposed by this regulation (ZAOD, ZOSSES), they were intended for sustainable use and low-density occupation.

In general terms, restrictions on inappropriate uses with the need for environmental preservation were proposed for these zones, establishing permanent preservation spaces in two categories: the sections of art. 66 of Law No. 5.593/2006, which deals with the Occupation Restriction Zone 1 (ZRO 1), specifying guidelines aimed at preserving the biodiversity of the Atlantic Forest, as well as seeking to encourage socioeconomic and environmental sustainability, mainly curbing urban occupation. For these purposes, art. 67 determined that Occupation Restriction Zone 2 (ZRO 2), preventive measures should cover the Serra do Mar State Park area, given the importance of its environmental attributes.

For Special Zoning, to guarantee the effectiveness of superior legislation relating to the right to housing, it was necessary to create the Special Zone of Social Interest (ZEIS) and the Special Zone of Environmental Interest (ZEIA). The first aims to designate areas that could receive housing units of social interest, as well as promoting land regularization, enabling the implementation of infrastructure, as well as urban equipment and furniture. In turn, ZEIA was proposed with the objective of protecting and recovering the landscape and the environment, whether in urbanized areas, through the implementation of public green areas intended for leisure, as well as in natural remnants, aiming to protect springs and water bodies.

Even considering that the analysis of this instrument was carried out briefly, it was possible to verify that it is a document formulated by a text, although extensive, it still presents an innovative character in the mechanisms and actions that are proposed for the complex existing demands in its territory. However, it must be highlighted that, although the publication of the specific APRM-Billings law had been previously conceived, it became necessary as a requirement that its instruments be implemented through complementary laws.

However, for three years only the Land Use and Occupation Law was approved, establishing in detail the criteria for each zone within the scope of each Environmental Planning and Management Unit (UGPs), through Law No. 5.716/2007. However, due to the need to adapt the instruments, guidelines and actions provided for in PDSBC/2006, a significant incompatibility with the parameters established by the specific Billings law was identified, making its review essential.

Therefore, when analyzing the Master Plan (Law nº 5.593/2006), the brief notes presented were aimed at meeting the focus of this research; however, it still identifies greater detail related to the definition of typologies with the intention of defining criteria for the territorial planning and disciplining of the municipality.

4.1.3 Third Master Plan of São Bernardo do Campo – Ordinary Law No. 6.184, of December 21, 2011

The approval of the third Master Plan occurred with the publication of Ordinary Law No. 6184, on December 21, 2011², later modified by Law No. 6.238, of December 13, 2012, due to the need to make territorial planning compatible in harmony with the State Law No. 13.579/2009 (APRM-Billings Specific Law). Considering the methodology recommended by the Ministry of Cities, its new version brought a normative structure composed of the Municipal Planning and Management System, which provided for coordination with other sectors of the city in compliance with the principles of democratic and participatory management. In this sense, Alvim clarifies that

The Master Plan proposed to establish the Municipal Planning and Management System, linked to the sectoral municipal councils, the City and Environment Council and adopting democratic management instruments such as the Municipal City Conference, public hearings, and consultations as a mechanism to always make the planning and decision-making process about the city is participatory for everyone. (ALVIM, 2014, p. 187).

Starting from the ideal of building a socially fair, democratic and inclusive city, the content of the text explains a concern with achieving urban development in line with the preservation of environmental resources, for which guidelines dedicated to tackling the enormous asymmetries were prescribed socio-spatial elements that mark their territory. Faced with this challenge, it listed urban sustainability as an ideal level to be achieved, among other principles, by effective democratic management. Within the scope of the new Master Plan, themes such as environmental sustainability are highlighted as a requirement for maintaining the functions and components of ecosystems. In turn, **the social function of the city** gains the status of diffuse law, which means that the environmental issue is implied in this concept as it establishes a condition of sustainability to be achieved, in accordance with art. 6th, of Law No. 6.184/2011.

Therefore, in Chapter II, art. 4th, the fundamental principles were listed when choosing sustainable development and the social function of the city. In line with its art. 8th, establishes as general objectives of the urban-environmental policy, the priority of preserving areas classified as APRM-B, the disciplining and control of land use and occupation in order to avoid negative impacts on the natural environment, the application of urban instruments aimed at to ensure the social function of property, the implementation of actions aimed at minimizing socio-territorial inequalities, among other actions that seek to ensure socio-environmental justice.

With this approach, issues such as environmental sanitation become a prerogative on the government's agenda, to ensure not only the quality of life of its inhabitants, but the environmental quality of the territory. Thus, as can be seen in art. 21 of the same law, the Basic Sanitation Policy must be articulated with the Urban and Regional Development Policies, as well as Housing, Environmental Protection, Health Promotion, and other public policies that are

² It should be clarified that the third Master Plan (Ordinary Law No. 6.184/2011) was analyzed in this research considering the changes provided for in Ordinary Law No. 6.374/2014 and Ordinary Law No. 6.432/2015.

relevant to social interest and contribute to the improvement of sanitary conditions of settlements.

This new approach incorporated by the new PDSBC can be seen in art. 12 (Law No. 6.184/2011), by proposing that the Municipal Economic Development Policy will be linked to the Environmental Protection and Social Inclusion Policies.

In this logic, both the Urban-Environmental Policy and the Municipal Environmental Policy address issues related to protective measures of actions to be implemented within the scope of APRM-Billings, such as **item I, of art. 9th, of Law No. 6.184/2011, which explain that improving environmental quality will only be achieved if the limitations and vulnerabilities of ecosystems are considered.** This section represents an advance in the edition of legislation in São Bernardo do Campo, as for the first time the legislator begins to consider the dynamics of the geosystem³, that is, he begins to understand the environment in a systemic way.

This vision adopted by the new legislation is now expressed throughout the legal text, as guidelines for implementing the Environmental Policy are proposed, as is seen in the guidelines described in its art. 10.

Art. 10 The following are guidelines for implementing the Municipal Environmental Policy:

I – develop action plans to encourage the adoption of environmentally sustainable practices and behaviors;

II – promote environmental education and public awareness for the preservation, conservation and recovery of the environment;

III – control and supervise works, activities, production processes and enterprises that may cause environmental degradation, adopting preventive or corrective measures in order to protect the environment;

V – encourage industries to adopt innovative and environmentally sustainable techniques for conserving energy and combating climate change; (SÃO BERNARDO DO CAMPO, 2011).

To implement the guidelines described in art. 10, the Master Plan proposes the adoption of instruments for the preservation of natural environmental heritage, environmental quality management, environmental impact assessment, environmental licensing, environmental inspection and the provision of infractions and administrative sanctions.

Within the scope of this Master Plan, the Municipal Housing Policy presents as a **structuring pillar the Constitutional Principle of the Right to Decent Housing**, to ensure “**basic standards of habitability**, infrastructure, environmental sanitation, mobility and access to urban and social equipment and services, constituting a vector of social inclusion and quality of life in the City” (art. 15, of Law nº 6.184/2011).

Among the various objectives for implementing this policy, the following stand out as **quality parameters: a) the legal provision of item II, of art. 17, of Law No. 6.184/2011, which established the duty to ensure “environmental sustainability in planned housing solutions”; and b) that urban planning and land regularization interventions must ensure safety, health, and environmental sustainability.**

To ensure the social function of the property in a manner compatible with environmental balance, the Master Plan instituted macrozoning, which included the Environmental Protection

³ “The Geosystem is a singular, complex system, where human, physical, chemical and biological elements interact, and where socioeconomic elements do not constitute an antagonistic and opposing system but are included in the functioning of the system itself” (MONTEIRO, 2001).

Macrozone (MPA), with the purpose of achieving the restructuring of deteriorated urban spaces through urban interventions, combined with the implementation of social improvements and environmental balance.

The MPRM (Macrozone for Protection and Recovery of Water Sources) was delimited by APRM-Billings in compliance with State Law No. 13.579, of July 13, 2009, aiming to ensure the preservation of environmental resources, conservation of biodiversity and maintenance of the production potential of water. To achieve these objectives, this regulation highlighted the importance of recovering areas degraded by human actions, implementing sanitation networks, in addition to the importance of making compatible actions aimed at sustainable tourism and stimulating organic agriculture programs.

The Master Plan also created the MPA, where part of its scope is occupied by the Serra do Mar State Park. For this reason, this macrozone was divided into: a) **Environmental Conservation Zone covering the park and permanent preservation areas – APP**; b) Sustainable Management Zone, **added later by the wording of Law No. 6.374/2014**.

Regarding special zoning, the Master Plan created the ZEIS, which were systematized into:

Art. 38 – Special Zones of Social Interest – ZEIS are intended, primarily, for land regularization, urban and socio-environmental requalification and production of housing of social interest and popular market.

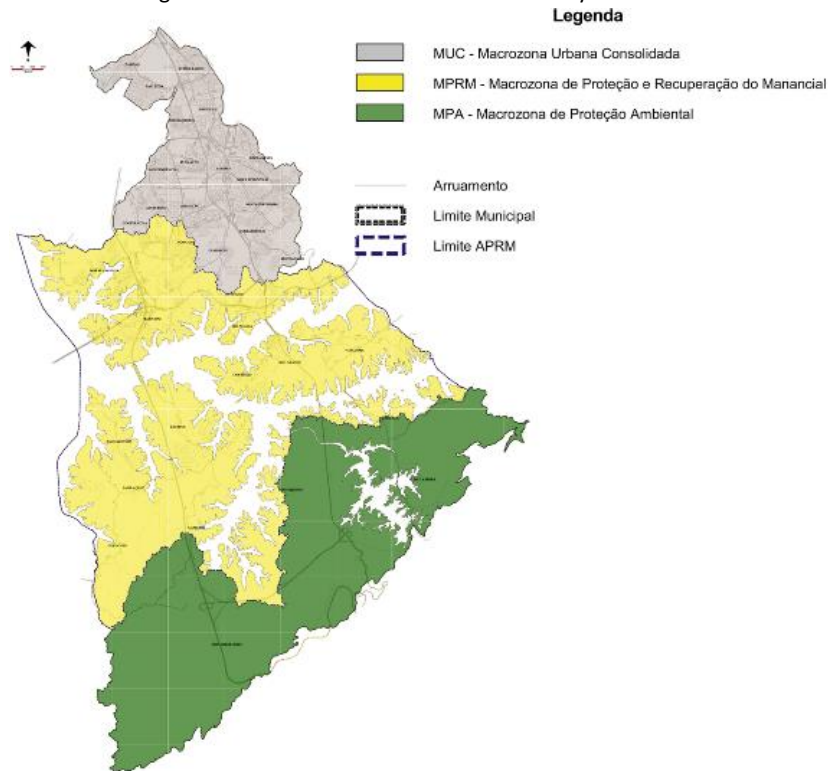
§ 1 The ZEIS are classified into:

I – ZEIS 1 – areas predominantly occupied by low-income populations, including slums, irregular subdivisions and social housing developments, in which there is a public interest in promoting urban-environmental recovery, land regularization or production of Social Interest Housing – HIS; It is

II – ZEIS 2 – consisting of unbuilt or underused areas, intended to produce Social Interest Housing (HIS) and Popular Market Housing (HMP). (SÃO BERNARDO DO CAMPO, 2011).

Within the scope of this systematization, it is worth highlighting that the ZEIS included in the MPRM (Figure 1) will be subject to PRIS. However, it must be clarified that until PRIS is approved, areas demarcated as ZEIS must comply with the parameters defined in the APRM-Billings Specific Law (State Law nº 13.579/2009).

Figure 1 - Watershed Protection and Recovery Macrozone – MPRM



Source: São Bernardo do Campo (2011)

Another aspect to be highlighted refers to the ZEIS located in the area of the Serra do Mar State Park as it is classified as an Environmental Protection Macrozone, every settlement located in this territorial portion will be subject to total removal⁴, as provided for in the Environmental Recovery Program of the Serra do Mar (§ 4, art. 38 of Law No. 6.184/2011).

As can be seen, the current Master Plan (Law nº 6.184/2011) of the Municipality of São Bernardo do Campo offers several subsidies for the exercise of guardianship in areas protecting the water sources of the Billings dam. However, the great challenge for public management is to apply these provisions to the specific case in view of the divergences and gaps still found in this law.

This entire context highlighted the urgency of trying to adapt the Master Plan to the Billings Specific Law. For this purpose, PMSBC prepared an in-depth study⁵ with the objective of adapting the Master Plan to the Billings Specific Law. Based on the map of Billings' specific law, the tax register, and the overlay of aerial photos of the municipality, divergences were identified regarding what determines the specific law and the reality found in the settlements that occupy each environmental compartment.

⁴ § 4 The existing ZEIS over the Serra do Mar State Park, in the Environmental Protection Macrozone, will be subject to total removal, as provided for in the Serra do Mar Environmental Recovery Program (wording added by Law nº 6.238/2012).

⁵ In a study carried out by PMSBC between 2010 and 2011, entitled “Compatibility of the Master Plan of the municipality of São Bernardo do Campo with State Law No. 13.579, of July 13, 2009”, the parameters established by the specific Law, as well as the delimitation of areas and subareas, were subject to detailed analysis by the city hall team (ALVIM, 2014, p. 188).

Thus, after an exhaustive process of discussions between the different sectors, in January 2015 PMSBC finalized the adaptation of its Master Plan to the guidelines established in the Billings Specific Law, from which all enterprises inserted in areas of protection and recovery to Billings water sources for licensing must comply with the guidelines set out in state legislation, specifically when it comes to subdivisions, land use and occupation, in addition to other instruments previously included in the Master Plan.

4.2 Legislation published based on master plans.

As previously presented, the municipality of São Bernardo do Campo had three editions of Master Plans, with the second and third editions being revised based on urban dynamics, seeking to offer mechanisms aimed at territorial planning in line with economic development, in addition to establish guidelines for the elaboration of other legal provisions (Table 1) that could contribute to territorial planning.

Table 1 - Legislation published based on Master Plans

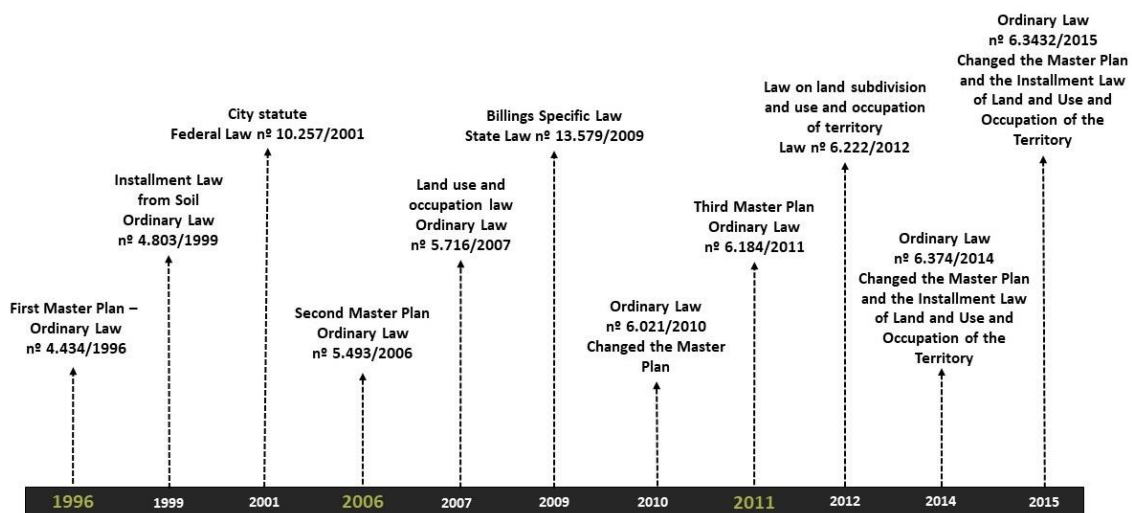
MASTER PLANS	LEGISLATIONS
Ordinary Law No. 4.434, of May 15, 1996	ORDINARY LAW No. 4.803/1999 Provides for Urban Land Parceling Norms, as provided for in Federal Law No. 6.766, of December 19, 1979, with the wording amended by Federal Law No. 9.785, of January 29, 1999, creating Special Sectors for Specific Urbanization in the municipality of São Bernardo do Campo, and provides other measures.
Ordinary Law No. 5.593, of October 5, 2006	LAW No. 5.716, OF AUGUST 23, 2007 Provides for land use and occupation for the municipality of São Bernardo do Campo, defines regulatory parameters, and provides other measures.
	LAW No. 5.892, OF JUNE 26, 2008 Provides for amendments to Municipal Law No. 5.716, of August 23, 2007, which provides for the use and occupation of land for the municipality of São Bernardo do Campo, defines regulatory parameters, and provides other measures.
ORDINARY LAW No. 5.593, of October 5, 2006	DECREE No. 16.534, OF JUNE 13, 2008 Provides for the Constitution of a Working Group to face possible impacts to be generated in the municipality, with the approval of the Draft of the Specific State Law for the Area of Protection and Recovery of Water Sources of the Billings-APRM-B Reservoir and provides other measures.
	LAW No. 6.163, OF NOVEMBER 21, 2011 Provides for the Municipal Environmental Policy, creates the Environmental Authorization and Licensing Fee, and provides other measures.
	LAW No. 5.617, OF NOVEMBER 30, 2006 Establishes the Renda Abrigo Program to enable, on an emergency and transitional basis, housing for low-income residents of the municipality, through the granting of pecuniary benefits for renting residential property and provides other measures.
ORDINARY LAW No 6.184, of December 21, 2011	ORDINARY LAW No. 6,186/2011 Provides for the instrument of compulsory installments, construction or use established by the master plan of the municipality of São Bernardo do Campo and provides other measures.
	ORDINARY LAW No. 6,222/2012 Provides for the subdivision, use and occupation of land throughout the territory of the municipality of São Bernardo do Campo, and provides other measures.
	ORDINARY LAW No. 6,238/2012 Provides for the amendment of Municipal Law No. 6,184, of December 21, 2011 – Master Plan of the Municipality of São Bernardo do Campo; Municipal Law No. 6,222, of September 3, 2012, Law of Subdivision, Use and Occupation of Land; Municipal Law No. 5,959, of August 13, 2009, which provides for Special Zones of Social Interest (ZEIS), Social Interest Housing (HIS) and Popular Market Housing (HMP); of Municipal Law No. 5,714, of August 23, 2007, which provides for the Mandatory Preparation and Presentation of the

	Neighborhood Impact Study – EIV and the Neighborhood Impact Report – RIV, and provides other provisions. DECREE No. 18,437/2013 Regulates Municipal Law No. 6,186, of December 27, 2011, which provides for the instrument of compulsory installments, construction or use, established by the master plan of the municipality of São Bernardo do Campo, and provides other provisions.
ORDINARY LAW No 6.184, of December 21, 2011	ORDINARY LAW No. 6,374/2014 Amends Municipal Law No. 6,184, of December 21, 2011, which provides for the approval of the master plan for the municipality of São Bernardo do Campo; 6,222, of September 3, 2012, which provides for the subdivision, use and occupation of land throughout the territory of the municipality of São Bernardo do Campo; No. 5,959, of August 13, 2009, which provides for Special Social Interest Zones (ZEIS), Social Interest Housing (HIS) and Popular Market Housing (HMP), and provides other provisions.
ORDINARY LAW No 6.184, of December 21, 2011	DECREE No. 18,943/2014 Amends Municipal Decree No. 18,437, of April 16, 2013, which Regulates Municipal Law No. 6,186, of December 27, 2011, which provides for the instrument of compulsory installments, construction or use, established by the master plan of the municipality of São Bernardo do Campo, and takes other measures.
	ORDINARY LAW No. 6,432/2015 Provides for amendments to Municipal Laws No. 6,184, of December 21, 2011 – Master Plan of the Municipality of São Bernardo do Campo; 6,222, of September 3, 2012 – subdivision, use and occupation of land in the territory of the municipality of São Bernardo do Campo; No. 5,959, of August 13, 2009 – Special Zones of Social Interest (ZEIS), Social Interest Housing (HIS) and Popular Market Housing (HMP), and provides other measures.
	DECREE No. 17,824, OF JANUARY 25, 2012 Provides for compensation for intervention in arboreal vegetation and intervention in a permanent preservation area (APP), resulting from the environmental licensing process, in compliance with the provisions of Municipal Law No. 6,163, of November 21, 2011.
	DECREE No. 19,462, OF SEPTEMBER 24, 2015 Provides for environmental compensation applicable to authorization procedures for intervention in arboreal vegetation and in permanent preservation areas (APP), considering the provisions of Municipal Law No. 6,163, of November 21, 2011, and provides other measures.

Source: Organized by the author.

Figure 2 presents the main legal instruments aimed at territorial planning in the municipality of São Bernardo do Campo, which directly influenced the production of urban space, as well as being designed with the intention of contributing to the protection of watershed areas.

Figure 2 - Timeline of legal instruments aimed at territorial planning.



Source: Prepared by the author

Among the legal instruments presented in Table 1 and Figure 2, it should be highlighted that the Land Parceling Law and the Land Use and Occupation Law deserve special attention to understand the phenomenon of production of urban space, as well as analyzing how these can be used to protect watershed areas in the municipality of São Bernardo do Campo.

4.2.1 Land division

The division of urban land in the municipality of São Bernardo do Campo began to be regulated with the publication of Ordinary Law No. 4.803, of November 4, 1999⁶, in compliance with the legal precepts of Federal Law No. 6.766, of December 19, 1979 (with the wording amended by Federal Law No. 9.785, of January 29, 1999), with the aim of improving the population's quality of life, offering “adequate conditions for the performance of urban activity” (section I, art. 2) as well as “guide urban development appropriate to the preservation and enhancement of the environmental heritage peculiar to the Municipality” (section IV, art. 2) and “recover degraded areas” in its territory (section V, art. 2).

When analyzing Law No. 4.803/1999, the research found that within the scope of this institute, regulations relating to zoning were inserted, subdividing the territory into Urban Environmental Recovery Area (AURA), Urban Vocational Occupation Area (AUV), Conservation Area and Preservation (ACP) (art. 5). Therefore, it should be noted that AURA was characterized by inadequate occupations, lacking basic infrastructure, “sparse or isolated occupation”, as well as “the existence of physical-natural conditions that restrict urbanization. Its delimitation aimed to contain urban expansion” (item “a”, item I, art. 5 of Law No. 4.803/1999), while ACP was characterized by the limitation of occupations, which were systematized with the following wording:

Article 5. [...]

Item II [...]

- a) Occupation Restriction Area (ARO): area defined by the State Constitution and by law as permanent preservation and those of interest for the protection of water sources and the preservation, conservation and recovery of natural resources;
- b) Managed Occupation Area (AOD): area of interest for the consolidation or implementation of sustainable activities, as long as the requirements that guarantee the maintenance of the environmental conditions necessary for the production of water in quantity and quality to supply current populations and future;
- c) Environmental Recovery Area (ARA): area whose use and occupation is compromising the fluidity, potability, quantity and quality of public supply sources and which requires corrective intervention. (SÃO BERNARDO DO CAMPO, 1999).

Thus, when observing Law No. 4.803/1999, it is possible to state that it already offered subsidies for the proper planning of the territory in order to ensure the necessary conditions for the provision of the spring's ecosystem services as a water producer. This intention of the legislator can also be verified in section II of art. 6 of this same law when delimiting as one of the AUOV⁷ special sectors, the Special Sector of Urban and Environmental Heritage (SE2), comprising

⁶ It should be clarified that the text of Law No. 4.803, of November 4, 1999, analyzed in this research, includes the changes provided for in Ordinary Law No. 4.936/2000 of 12/21/2000, Ordinary Law No. 4.949/2001 of 15/03 /2001, Ordinary Law No. 5.185/2003, of 09/10/2003, Ordinary Law No. 5.338/2004, of 09/09/2004, Ordinary Law No. 5.398/2005, of 06/16/2005, and Ordinary Law No. 5.680/2007, of 05/17/2007.

⁷ Urban Vocational Occupation Area (AUV): area characterized by the provision of basic infrastructure, greater density of occupation and the existence of physical-natural conditions that favor urbanization, with the objective of its consolidation” (item “b”, item I, article 5, Law nº 4.803/1999).

“the areas that present architectural complexes or natural elements of historical, landscape, ecological or cultural interest that must be preserved”.

Another important aspect to be commented on in relation to land subdivision refers to art. 14, of Law No. 4.803/1999, for establishing restrictions in areas that presented geological risks (section I), land with a slope equal to or greater than 30% (section II), flooded land subject to flooding (section III), areas of landfill with materials harmful to public health (section IV), “areas of historical, landscape, cultural and ecological preservation or in those where pollution” impeded “bearable sanitary conditions” (section V) and in “spring areas” (section VI).

Still in Law No. 4.803/1999, another point that draws attention in its text is the provision in art. 29 by determining that lots located in the Residential Zone of Specific Urbanization intended for residential purposes could have a “minimum area of 100.00 m² (one hundred square meters) and tested of 5.00 m (five meters)” (item I), while for other uses they could have a “minimum area of 125.00 m² (one hundred and twenty-five square meters) and tested of 5.00 m (five meters)” (section II). This Law No. 4.803/1999 also established a minimum rate of just 10% for green areas and institutional areas (art. 35), in addition to allowing this percentage to be reduced to 5% (five percent) when applied to a Planning Unit. Community (PLACOM) (Single Paragraph, art. 35).

This installment model disseminated by Law No. 4.803/1999 directly contributed to densification, favoring waterproofing in addition to compromising the environmental quality of urban space, harming the rainwater percolation system, and consequently interfering with water production in watershed areas, among other complications.

4.2.2 Land Use and Occupation Law

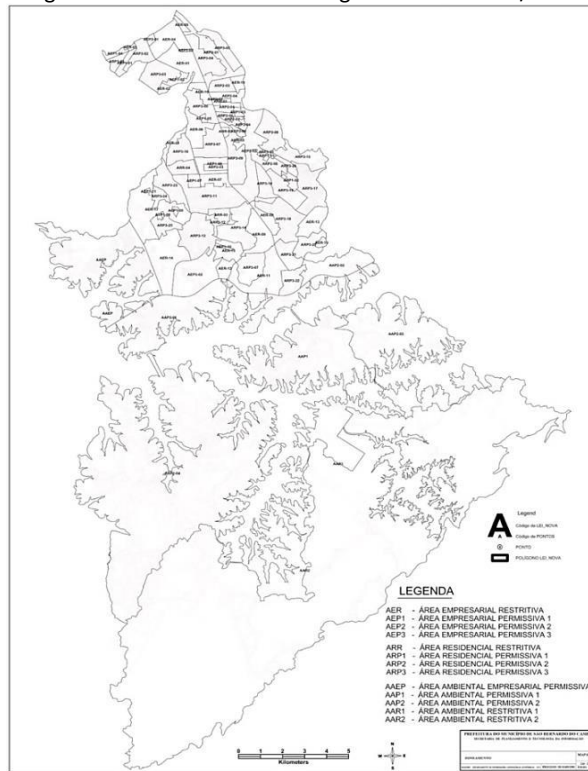
Subsequently, due to the approval of the second Master Plan (Ordinary Law nº 5.593/2006), the municipality of São Bernardo do Campo published Ordinary Law nº 5.716, of August 23, 2007⁸, to deal with the regulation of land use and occupation in its territory.

When analyzing this instrument, it is noted that one of the legislator's concerns in its formulation and regulation was to draft a law that was in accordance with the City Statute (Federal Law nº 10.257/2001), enabling the elaboration and implementation of urban policies that would ensure the “social functions of the city and property”, without departing from the precepts of “sustainable development” (items I and II, article 2, Law nº 5.716/2007). Regarding protective measures for watershed areas, the research found that art. 39, Law No. 5.716/2007, defined the Environmental Planning and Management Units (UPGs-A), whose purpose was environmental preservation and water production, with the possibility of making other uses compatible, such as:

- a) Permissive Business Environmental Area (AAEP), which allowed the implementation of business uses and activities, including industrial ones, that were ecologically sustainable and would preserve the environment (§ 1);
- b) Permissive Environmental Area (AAP 1 and 2) that allowed the implementation of ecologically sustainable uses that would preserve the environment (§ 2) (Figure 3).

⁸ It should be clarified that the text of Law No. 5.716, of August 23, 2007, analyzed in this research, includes the changes provided for in Ordinary Law No. 5.892/2008, of 06/26/2008 and Ordinary Law No. 5.959/2009, of 08/13/2009.

Figure 3 - Annex VII of the Zoning of Law No. 5.716/2007



Source: Jornal Notícias do Município (2007, p. 14)⁹.

However, art. 39, Law No. 5.716/2007, also established restrictions regarding occupations in areas protecting water sources, delimiting the Restrictive Environmental Area (AAR 1 and 2) (§ 3) and the Restrictive Environmental Areas (AAR), which were characterized as ecosystems “environmentally fragile and strategic to environmental conservation” (§ 4).

4.2.3 Law on Land Parceling and Use and Occupation of Territory

With the approval of the third Master Plan (Ordinary Law No. 6.184/2011) in compliance with the Billings Specific Law (State Law No. 13.579/2009), the municipality of São Bernardo do Campo in a single legal instrument (Law No. 6.222, of 3 September 2012) regulated the subdivision of land and the use and occupation of the territory¹⁰, imposing restrictions on the subdivision of new plots of land in flooded lands subject to flooding, contaminated areas, land with slopes greater than 30%, areas of geological risk and in conservation units (sections from I to V, art. 5), in addition to prohibiting construction in areas of permanent preservation, especially along running and dormant waters and around springs, even if intermittent, and in the so-called water holes (art. 19).

⁹ Jornal editado pela Prefeitura Municipal de São Bernardo do Campo. Disponível em: <<http://www.saobernardo.sp.gov.br/documents/10181/60130/NM+2007+1409+1+a+25.pdf/pdf/bc9631e3-f9b5-46a3-ab59-c6548b39738f?version=1.0>> Acesso em: 22 jul. 2015.

¹⁰ It should be clarified that the Land Parceling and Territory Use and Occupation Law (Ordinary Law No. 6.222/2012) was analyzed in this research, considering the changes provided for by Ordinary Law No. 6.374/2014 and Ordinary Law No. 6.432/2015.

It should also be noted that Law No. 6.222/2012, despite having been drawn up based on the guidelines of State Law No. 13.579/2009 (Billings Specific Law), which aims to protect spring areas for water production, the legislator presents controversial points such as:

a) Consolidated Urban Macrozone (MUC) that allows 100% occupancy on basement floors for multi-family residential and non-residential uses (§ 1, art. 76), which would compromise the process of percolation of rainwater to recharge contributing groundwater spring areas;

b) exemption from the permeability fee for multi-family residential and non-residential uses if a rainwater collection system is implemented (§ 2, art. 77). In this last item, the legislator's concern with the urban drainage system can be observed but, considering the dynamics of the hydrological cycle process presented in the first chapter of this research, ecosystem services are compromised.

Regarding urban parameters, Alvim (2014, p. 207-208) points out that there is an evident “differentiation of minimum lot in the Consolidated Urban Macrozone (where lots smaller than 125.00 m² (one hundred and twenty-five square meters) are prohibited), in the Diversified Use Zone 1 (ZUD 1); 500.00 m² (five hundred square meters), in the Restrictive Business Zone 1 (ZER 1)” in compliance with the sizing established by the specific APRM-B law.

The research found that Law No. 6.222/2012 also provides for integration with the environmental management processes established by the Alto Tietê River Basin Committee – CBH-AT relating to the matter, among which the following can be mentioned:

a) analysis of regularization requests;
b) business licenses;
c) uses and activities that can be classified as traffic generating hubs;
d) activities and undertakings that may significantly compromise the quality and quantity of water resources (caput of art. 126).

However, regarding issues related to watershed areas, Law No. 6.222/2012 is strict in sharing responsibilities with other spheres of government.

In short, it appears that there has been significant progress in environmental protection in the municipality of São Bernardo do Campo. However, given the current scenario, it is necessary that the proposals of the normative text can transcend paper and materialize into social and environmental benefits to improve the quality of life of the population through the implementation of actions that promote the recovery of areas of water sources, especially their environmental functions.

5 FINAL CONSIDERATIONS

Within the scope of this study, the analysis carried out on the legislation applicable in the delimited region, reiterated the existing connection between the accelerated process of industrialization, disorderly urbanization and the increase in population concentration observed over the years, and its consequences for the intensification of socio-spatial inequalities sustained by a pattern of exploitation and dilapidation of uses and degradation of ecosystems. In response to such questions, a new institutional and political structure emerges to overcome structural problems, through new planning and territorial management mechanisms.

Faced with this situation, the municipality of São Bernardo do Campo had three editions of Master Plans, with the second and third editions being revised based on urban dynamics, seeking to offer mechanisms aimed at territorial planning in line with economic development, in addition to establish guidelines for the elaboration of other legal provisions that could contribute to territorial planning. In this context, the studies carried out found that the subsequent regulations formulated, in addition to seeking alignment with the guidelines of the specific Billings Law, also sought to achieve the discipline and control of land use and occupation, the application of urban planning instruments aimed at ensuring the social function of property, the implementation of actions aimed at minimizing socio-territorial inequalities, among other actions that seek to ensure socio-environmental justice.

However, it also identified the occurrence of relaxation of protective measures in areas of the Billings Dam water sources in favor of urban policy, and this position of the State was evidenced in the development of empirical research. This positioning shows the emergency need for government actions, specifically the implementation of public policies aimed at improving the quality of life of social segments in vulnerable situations, without disregarding the importance of preserving spaces of environmental fragility necessary to protect water sources.

In general terms, given the issues addressed, the study carried out identified an effort in different fields of action that directly and indirectly emerges from the current legislation in the three governmental spheres. When it comes to state legislation, there is a concern in offering adequate mechanisms for greater effectiveness in public policies. This denotes a context in which actions aimed at tackling it constitute a process still under construction - showing that there is an arduous reflection to be deepened and better understood in its various interfaces, considering the incipient results presented by government actions aimed at housing issue in Brazil, which gain greater visibility at the municipal level.

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