

Territorial implications between different categories of nature conservation units in Brazil and the political- pedagogical conceptions of environmental education

Marcio Ricardo Ferla

Universidade Estadual de Ponta Grossa.
Ponta Grossa. Paraná. Brasil
mrferla@yahoo.com.br

 0000-0003-2423-9780

Almir Nabozny

Universidade Estadual de Ponta Grossa.
Ponta Grossa. Paraná. Brasil
almirnabozny@yahoo.com.br

 0000-0001-8723-9134

e-167226

revista

Geo 
USP
espaço e tempo

Volume 26 • n° 1 (2022)

ISSN 2179-0892

How to cite this article:

FERLA, M. R.; NABOZNY, A. Territorial implications between different categories of nature conservation units in Brazil and the political-pedagogical conceptions of environmental education. **Geosp**, v. 26, n. 1, e-167226, abr. 2022. ISSN 2179-0892. Available at: <https://www.revistas.usp.br/geosp/article/view/167226>. doi: <https://doi.org/10.11606/issn.2179-0892.geosp.2022.167226>.



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Territorial implications between different categories of nature conservation units in Brazil and the political-pedagogical conceptions of environmental education

Abstract

The Nature Conservation Units (UC) are territories established by the Brazilian State. They involve power relations related to the control of natural resources. The environmental education (EE) is placed as a strategic dialogue with the agents involved with the CU territorialization. The EE, from the perspective of a social field, presents three macro-trends of political-pedagogical conceptions: the critical one, the conservationist one and the pragmatic one. An amount of 254 federal UC were investigated through online questionnaires, aiming at articulating the patterns of regulation of UC territories with the territorialities of EE practices. It was verified that despite the existence of an unique institutional guideline, the UC related to the Integral Protection Group presented an inclination towards the critical conservationist political-pedagogical conception, whereas the UC of the Sustainable Use tended towards the critical political-pedagogical conception. This means that different forms of UC territorialization tend to certain political-pedagogical conception of EE, regardless the institutional guidelines.

Keywords: Environmental education. Political-pedagogical macro-trends. Nature conservation units. Territorialities.

Implicações territoriais entre as diferentes categorias de unidades de conservação da natureza no Brasil e as concepções político-pedagógicas da educação ambiental

Resumo

As unidades de conservação da natureza (UC) são territórios instituídos pelo Estado brasileiro. Envolvem relações de poder relativas ao controle dos recursos naturais. A educação ambiental (EA) é posta como uma estratégia de interlocução com os

agentes envolvidos na territorialização das UC. Na perspectiva de um campo social, a EA apresenta três macrotendências político-pedagógicas: crítica, conservacionista e pragmática. Foram investigadas 254 UC federais, com o objetivo de verificar como os modelos de regulação dos territórios de UC constituem as territorialidades da EA. Constatou-se que, apesar de haver uma diretriz institucional única, as UC do grupo de proteção integral se inclinam à concepção político-pedagógica conservacionista, ao passo que as UC do grupo de uso sustentável tendem à concepção político-pedagógica crítica. Isso significa que diferentes formas de territorialização das UC são propensas a determinadas concepções político-pedagógicas de EA, independentemente da diretriz institucional.

Palavras-chave: Educação ambiental. Macrotendência político-pedagógica. Unidades de conservação da natureza. Territorialidades.

Implications territoriales entre les différentes catégories d'unités de protection de la nature au Brésil et les conceptions politico-pédagogiques de l'éducation environnementale

Résumé

Les unités de conservation de la nature (UC) sont des territoires créés par l'État brésilien pour protéger les ressources naturelles et promouvoir le développement socio-environnemental. Ils impliquent les relations de pouvoir liés au contrôle des ressources naturelles. L'éducation environnementale (EE) est présentée comme une stratégie d'interlocution avec les agents impliqués dans la territorialisation de l'UC. L'EE, du point de vue d'un champ social, présente trois macro-tendances de conceptions politico-pédagogiques: critique, conservacionniste et pragmatique. Ont été examinés 254 UC fédérales visant à articuler les modèles de réglementation des territoires des UC avec les territorialités des pratiques d'EE. On a vérifié que malgré l'existence d'une unique directive institutionnelle, l'UC du groupe Protection Intégrale (PI) présentaient une tendance vers la conception politico-pédagogique de la conservation, alors que les UC du groupe Utilisation durable (UD) tendaient vers la conception politico-pédagogique critique. Cela signifie que différentes formes de territorialisation sont soumises à certaines conceptions politico-pédagogiques de l'EE, au détriment de la ligne directrice institutionnelle.

Mots-clés: Education environnementale. Macro-tendances politico-pédagogiques. Unités de conservation de la nature. Territorialités.

Introduction

This article aims to discuss how regulatory models for conservation units under Chico Mendes Institute for Biodiversity Conservation's management are articulated with environmental education territorial practices. Through 254 federal conservation units gathered information, particular conservation units groups and categories of analysis were related to Brazilian environmental education political-pedagogical perspectives, specifically those quoted in Layrargues and Lima (2014) and ICMBio (2016).

The conservation units are territories created by Brazilian State through public policies aiming at protecting natural resources and fostering socio-environmental development. These protected areas are territorialized through institutional practices and form a social field (Bourdieu, 1989, 2004) which comprises a space of social relations with special rules relating to civil society and other fields or subfields at different scales.

In this article, nature and environment are to be considered a broader and complex theoretical and conceptual field. Nevertheless, we opted for the materialist conception of *natural resources*, that is, assuming it as the grounds of any *environmental policies* in a capitalist class state, which comprises the physical and biological environment.

That requires an understanding of any social relations established in the destination, access, and use of natural resources, with the State acting as the great mediator of this relationship. It is proposed, considering the territorialization of federal conservation units, that environmental education assume a strategic dialogue in the ongoing unequal processes of appropriation of natural resources in Brazil. ICMBio conceives environment education as a management tool for Federal conservation units. Drawing on its own theoretical-methodological framework and institutional locus, environmental education takes the form of specific projects, programs, and plans. These are prepared and developed at different moments in each conservation unit, mostly according to demand, requirements, financial and human resources, and implementation stage.

But in practice, for these territories, different forms of State regulation are perceived, a process carried out by different groups and categories of conservation units' management. These regulation approaches generally reflect, at least in terms of legal aspects, greater or lesser restrictions in the use of natural resources and the presence or absence of human populations. Concerning environmental education, it has to be noted it is not unequivocal, and when it is taken from Bourdieu's field perspective, variations and different political-pedagogical linkages are observed.

Natural resource conservation territories

According to Souza (2000) and Haesbaert (2004), *territory* is the spatial projection of power, expressing from political domination and social control to the symbolic appropriation of space. For Raffestin (1993, p. 143-144), space precedes territory:

[...] territory is formed from space, it is the result of an action carried out by a syntagmatic actor (an actor who carries out a program) at any level. It is a space where work was projected, be it energy or information, consequently expressing some power relation.

Analyzing the agrarian question¹, Fernandes (2005, p. 27, emphasis in original), highlights:

The territory is the space appropriated by certain social relations which, in turn, are responsible for producing and maintaining it from a specific form of power [...] is simultaneously a convention and a confrontation. And it happens precisely because the territory has limits, it also presents borders, constituting a space where conflicts take place. Territories are formed in geographic space from different social relationships. It is also a fraction of geographic space or other material or immaterial spaces. However, it is important to bear in mind that territory, as well as the region and the place, represents the geographic space, and has the *structural and complementary* qualities of spaces. It is essential to stress that, from this principle, the immaterial territory is also a political, therefore abstract space. Its configuration as a territory is determined by its inherent dimensions of power and social control. From this understanding, the territory is also multidimensional, even if it represents only a fraction of space. These qualities of spaces show in their parts the same characteristics of the totality.

In line with the above-mentioned authors (Raffestin, 1993; Souza, 2000; Haesbaert, 2004; Fernandes, 2005), and together with Santos (1999), the conceptual perspective adopted in data analysis considers the material and immaterial dimensions of territory, which contemplates the place of residence, material and spiritual exchanges, sense of belonging and life itself.

There is a dimension that goes beyond the politically established delimitation carried out by the State for a conservation unit because if it is politically defined from the beginning it extrapolates the material dimension. The territory where a conservation unit is located is not restricted to the physical dimension or social relations, since it is “at the same time and necessarily, in different combinations, both functional and symbolic, as we exercise dominion over space both to execute ‘functions’ and to produce ‘meanings’” (Haesbaert, 2004, p. 3).

Thus, when examining a conservation unit, taking it from a perspective that is restricted to their physical limits, only by their material and concrete dimension, in other words, the flaws and limitations of this type of analysis come to the fore. The same is true if the analysis is restricted to physical, biological, and normative elements, which ends up covering up concrete reality and making conservation units to be perceived as natural and not human inventions set up to deal with human problems and needs, therefore creating meanings and functionalities. The case of traditional populations, whose residences were “outside” the conservation unit limits when it was created, traditionally exercise their territoriality irrespective of these normative units through work, like extractivism, or by means of spiritual and immaterial exchanges “within” the limits established by public power, thus presenting functional and symbolic implications.

In the territorial state planning, protected natural areas were organized through Law n. 9,985/2000, which regulated article 225 of the Federal Constitution and instituted the National System of Nature Conservation Units (SNCU) (Brasil, 2000). The building process of SNCU was “filled with controversies and impasses coming from the diversity of forms to protect and

¹ We concluded that the *agrarian question* face similar problems as for *environmental conflicts* if we analyze from Acselrad's perspective.

conserve nature perceived by the different groups involved” (Talbot, 2016, p. 38). The debate among preservation supporters, conservationists, socio-environmentalists, and ruralists in the construction of a national system for protected areas focused, above all, on traditional populations, with priority given to social participation in this process and the expropriation of areas (Peccattiello, 2011).

As an outcome of these disputes, two major groups of conservation units were instituted by the SNCU Law: those of Full Protection, of Indirect Use, and those of Sustainable Use. According to the text (item VI) 2, the first one aims at “maintaining ecosystems free from alterations produced by human interference, only allowing indirect use of their natural attributes”, and Indirect Use law was defined (item IX) as “that which does not involve consumption, collection, damage or destruction of natural resources” (Brasil, 2000).

According to the same article (item XI), it was determined that Sustainable Use represents the “exploitation of the environment to guarantee the perpetuity of renewable environmental resources and ecological processes, maintaining biodiversity and other ecological attributes under a socially fair and economically viable model”. And Direct Use is that “one that involves collection and use, commercial or not, of natural resources” (item X) (Brasil, 2000). The two groups comprise 12 conservation units categories which are distinguishable according to their goals and reflect the type of protected area management. They generically can be understood in terms of greater or lesser restriction on access and use of natural resources, though expropriation levels of private properties in this area, and by monitoring presence or absence of human populations, among other aspects defined in the legal article (9 to 21).

Peccattiello (2011, p. 79) calls “society’s perception of nature” the disputes involving the formulation of SNCU and considers that:

The division of conservation units made by SNUC into two large groups – those for Integral Protection and those for Sustainable Use – ends up encompassing both society’s perceptions of nature, privileging both the untouchability of renewable resources and the concept of social inclusion in the management of protected areas. This Law thus reflects an advance in Brazilian environmental policy while strengthening the perspective of sustainable use of natural resources, compensatory measures, and a more controlled decentralization of environmental policy in Brazil.

According to the SNCU Law, conservation units are territorial spaces, which include their environmental resources just like jurisdictional waters, with conservation goals and defined limits legally established by the State, and running under a special administration regime to which adequate safeguards are applied (Brasil, 2000). With this system established by public policy in Brazil, which has one of the greatest biodiversity on the planet, this country assumes a leading role on the world stage in terms of numbers, quantity, and extent of protected natural areas. In 2017, the country accounted for 324 federal conservation units (9% of the national territory), covering approximately 79 million hectares, without computing Private Natural Heritage Reserves (PNHR)².

2 Private natural heritage reserves are conservation units and part of the SNCU, although they have private owners, and this subject played no part in the study that originated this article.

Table 1 shows the number and area of federal conservation units distributed across the management categories established in SNCU.

Table 1 – Number and areas of federal conservation units, except PNHR, distributed by category

group/category		
Integral Protection	number	area (ha)
ecological station (Escec)	32	7,494,700
natural monument (Mona)	03	44,300
national park (Parna)	73	26,486,700
wildlife refuge (Revis)	8	269,200
biological reserve (Rebio)	31	4,267,700
total of full protection	147	38,562,500
sustainable use	number	area (ha)
national forest (Flona)	67	17,822,500
extractive reserve (Resex)	62	12,472,400
sustainable development reserve (RDS, in Portuguese)	02	102,600
wildlife reserve (Refau)	00	0
environmental protection area (APA, in Portuguese)	33	10,173,100
area of relevant ecological interest (Arie, in Portuguese)	13	34,100
total of sustainable use	177	40,604,700
Grand total	324	79,167,200

source: SNCU (update: 10 Jul. 2017).
organization: Marcio Ferla, 2018.

In this context, it appears that Brazil has adopted the creation, implementation, and management of conservation units as the main conservation strategy for its natural resources, exercising multiple territorialities to achieve this purpose. Sack (2011) understands that territoriality comprises a primary geographic expression related to social power in historical relations. Thus, these different conservation unit conceptions put into practice through different groups and management categories, aim to typify distinct territorial practices of nature conservation, expressing territorialities through, for example, the planning and execution of environmental education as a dialogue strategy with the actors involved in the destination, access, and use of natural resources.

The investigation of environmental education model(s) proposed by the State and the environmental education practices in conservation units results in knowing whether such aspects:

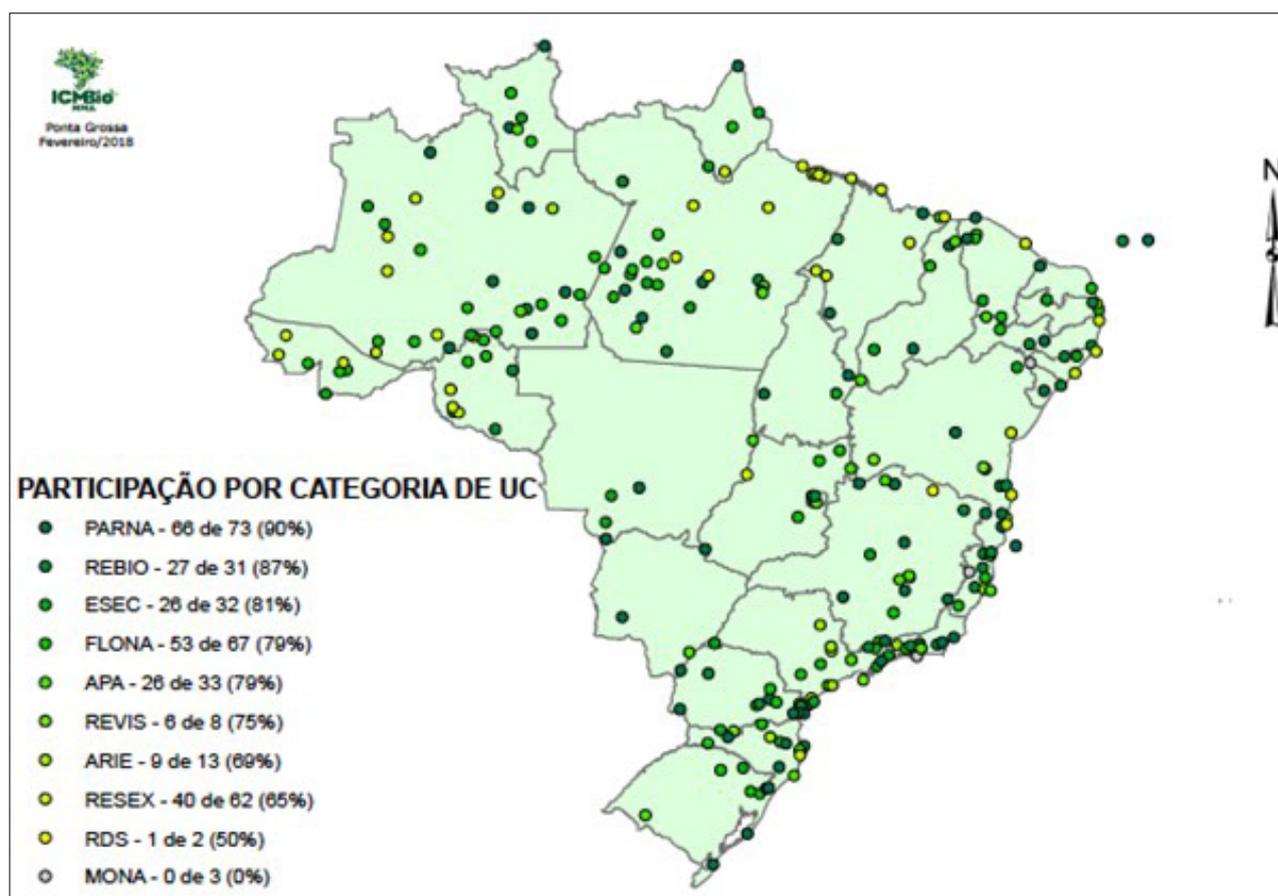
[...] brings social problems closer to environmental ones or distances them, making explicit or omitting reciprocal influences of economic exploitation and income concentration, increasing social injustice, environmental degradation, and narrowing the value and meaning given to nature (Loureiro; Layrargues, 2000, p. 16-17).

Political-pedagogical conceptions of environmental education actions

With ICMBio permission and support (SISBio n. 55.905-1/2016), significant information was requested from all federal conservation units (324) in 2017. An *online* survey with 26 predominantly objective questions was used as a collection instrument. A number of 254 conservation units or 78% of the total (Figure 1) replied to our requests.

To understand environmental education types of territoriality in federal conservation units, we sought to grasp the more representative characteristics of conservation units. We chose to classify them analytically, relating them to the political-pedagogical key trends of Brazilian's environmental education: those with conservationist, pragmatic or critical practices (Layrargues; Lima, 2014). These three trends can be distinguished precisely by their specific practical attributes and conceptions regarding the appropriation of natural resources. And for this purpose, characteristics recognized and published by the institution running conservation units were taken as a reference. Regarding the many branches of environmental education, ICMBio (2016, p. 25) differentiates three groups that didactically cover the main lines that can be found in Brazil today (Chart 1).

Figure 1 – Location of participating UCs by category



source: Research data.

organization: Jorge Luiz de Almeida Marques and Marcio Ferla, 2018.

acronyms: Parna = national park, Rebio = biological reserve, Esec = ecological station, Flona = national forest, AEP = area of environmental protection, Revis = wildlife refuge, AREI = area of relevant ecological interest, Resex = extractive reserve, SDR = sustainable development reserve, Mona = natural monument.

Chart 1 – Characteristics of environmental education key trends

conservationist	pragmatics	critique
<ul style="list-style-type: none"> • Conservationist, behaviorist, ecological literacy and self-knowledge currents. • Far from the social and political dynamics. • It is based on ecology principles, in giving prominence to the affective dimension and changing individual behavior. • It does not question existing social structure as a whole, but focuses in promote reform its parts or social sectors. 	<ul style="list-style-type: none"> • It educates for sustainable development and sustainable consumption. • It gives compensations to redress imperfections in the production system. • It perceives the environment as a pure collection of natural resources in the process of being depleted. • It promotes sectoral reforms in society without questioning its ground foundations. • It disregards the unequal distribution of costs and benefits on the appropriation of natural assets. 	<ul style="list-style-type: none"> • Currents of popular, emancipatory, transformative environmental education and part of the environmental management process. • It makes a critical review of the foundations that provide the domination of human beings. • It undertakes political confrontation of inequalities and socio-environmental injustice. • It opposes conservative and behavioral tendencies. • It has a strong sociological and political bias.

source: Adapted from ICMBio (2016).
organization: Marcio Ferla, 2018.

Based on this institutional reference, one of the questions in the survey was elaborated (Chart 2) shuffling the characteristics and omitting this acknowledged link between the characteristics and trends at the macro level. With this procedure, we ought not to influence or induce any environmental education political-pedagogical current. Fifteen characteristics of environmental education actions were chosen, five of them linked to conservationist current, five to pragmatic, and the last five to the critical approach, all held alternately to respondents.

Chart 2 – Question about the characteristics of environmental education

CHARACTERIZATION OF ACTIONS DEVELOPED AND/OR UNDER DEVELOPMENT Of the characteristics below, mark at least 3 that most represent actions taken in the UC:	
A	<input type="checkbox"/> Dissemination of ecological and technological knowledge, individuals awareness of the need to change their attitudes and behaviors regarding nature and natural resources
A	<input type="checkbox"/> Perception of the environment as a set of natural resources being depleted due to their irrational and unbridled use
A	<input type="checkbox"/> Democratization of access and use of natural resources and reduction of vulnerability of certain social groups facing environmental risks, according to the principle of socio-environmental justice
B	<input type="checkbox"/> It is based on ecology principles, in giving prominence to the affective dimension and changing individual behavior.
B	<input type="checkbox"/> Does not prioritize addressing the unequal distribution of costs and benefits of the appropriation of natural assets
B	<input type="checkbox"/> Currents of popular, emancipatory, transformative environmental education and part of the environmental management process.
C	<input type="checkbox"/> Believes in maintaining the current social structure as a whole, but proposes to change some aspects and practices so that the current structure can work better

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Chart 2 – Cont.

CHARACTERIZATION OF ACTIONS DEVELOPED AND/OR UNDER DEVELOPMENT	
Of the characteristics below, mark at least 3 that most represent actions taken in the UC:	
C	() Education for sustainable development and sustainable consumption – “each one to do their share” –as a citizen’s contribution to facing an environmental crisis
C	() It seeks to promote awareness of socio-environmental imbalances and conflicts and the possibilities of subjects to organize themselves to defend their social and environmental rights
D	() Pedagogical practice should provide knowledge about how ecological systems works, teaching about ecology and about technological means capable of reducing or overcoming environmental damage related to “human’s action”.
D	() Promotion of sectoral reforms in society, seeking to maintain its basic elements
D	() Focused on the global understanding of power relations within society and how these relations are reflected on the environment and how it influences the use of natural resources
E	() The unfamiliarity with biogeochemical cycles and the global dynamics of living ecosystems ends up yielding an inaccurate and intensive use of natural resources that results in their depletion and degradation
E	() Compensation to correct the imperfection of whole production system, through sustainable consumption and adoption of “clean” technologies
E	() Strong bias is given by humanities and social sciences in covering a political and sociological understanding of environmental issues
	() None of the foregoing.

source: Research data.

organization: Marcio Ferla, 2018.

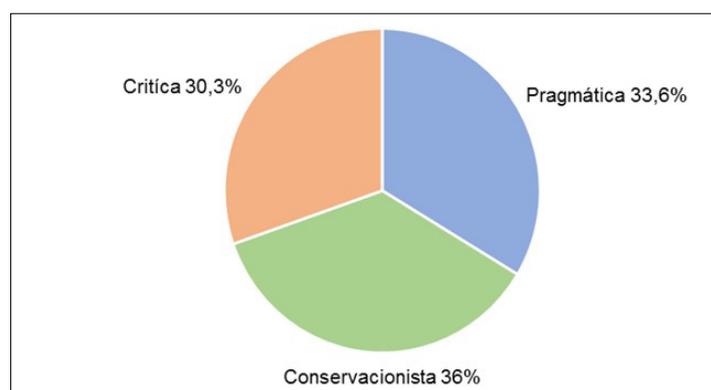
note: Colors were not presented to respondents. The chart was then colored as an analytical procedure to relate it to Table 1 and Graphs 1-3.

It was found in the general analysis of all respondents conservation units, regardless of any groups and management categories, that despite small percentage differences, there is no dominant political-pedagogical macrotrend occupying a hegemonic position in this field. The three political-pedagogical macro trends of Brazilian’s environmental education selected to understand particular actions performed by each federal’s conservation units, represent, simultaneously, around 1/3 of the answers to this question.

After the initial organization of responses, it was observed that the mentioned question had 205 responses. Then, after distributing the political-pedagogical conceptions of Brazilian’s environmental education, Graph 1 was obtained.

The characteristics of the conservationist political-pedagogical conception of environmental education were marked 273 times. This selected option is what the respondent conservation units believe most represents their actions, with 156 conservation units marking these alternatives. The pragmatic political-pedagogical conception of environmental education was marked 255 times, with 159 conservation units indicating alternatives linked to this approach. As for the characteristics of the critical political-pedagogical conception, there were 230 occurrences, with 109 conservation units understanding that the characteristics of critical environmental education best represent their actions.

Graph 1 – Percentage of UC responses referring to the different characteristics of environmental education practices linked to political-pedagogical macro trends



source: Research data.

organization: João Paulo Leandro de Almeida and Marcio Ferla, 2018.

From this general approach, the following step was to carry out detailing of the results, checking the occurrences of political-pedagogical macro trends by management groups of conservation units of integral protection (IP) and sustainable use (SU). This separation resulted in Graphs 2 and 3.

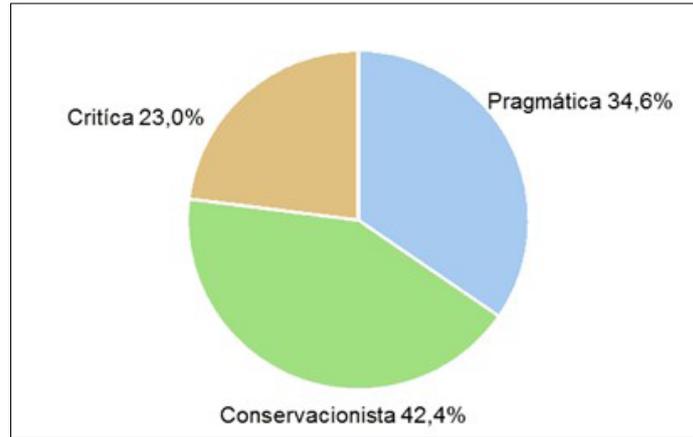
Once this first difference between the groups was verified, the detailing was expanded to the different categories that compose them. As a result, this step made it clear whether the general pattern was held or whether the different conservation unit management categories presented different environmental education practices under different political-pedagogical macro trends. It was thus decided to represent these data in radar graph type, which allows us to see the measured relationship between environmental education currents present in each different category of conservation unit.

As shown in Graph 2, the integral protection group presented a higher percentage of conservationist political-pedagogical macro trend (42.4%), followed by pragmatics (34.6%) and, finally, critical conception (23.0%). In radar graphs (Graph 4), you can see how macro trends are distributed within the group by the analyzed categories: Esec, Rebio, Parna, and Revis.

According to Graph 3, in the sustainable use group, the critical environmental education conception obtained the highest percentage (36.8%), followed by the pragmatic conception (32.8%) and, finally, the conservationist one (30.3%). Graph 5 shows how macro trends are distributed within the sustainable use group by examined categories: environmental protection area (EPA), area of relevant ecological interest (AREI), national forest (Flona), extractive reserve (Resex), and a reserve of sustainable development (RDS).

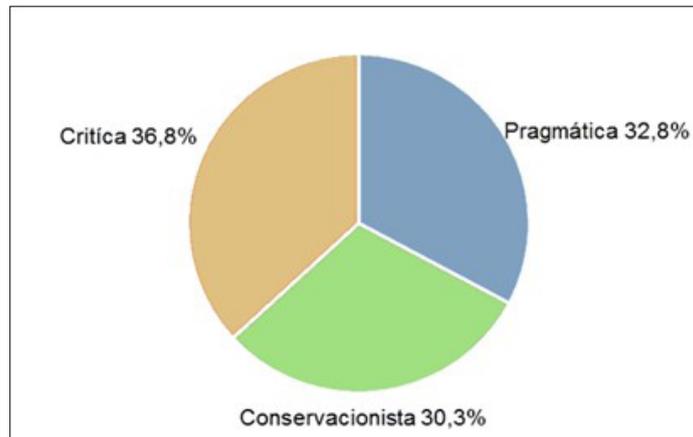
It is observed that the tendency of the conservationist macro trend in the integral protection group was mainly leveraged by the Esec and Rebio categories, the two most restrictive SNCU parameters. The Parna category showed a slight emphasis on the conservationist trend, although the 3 currents registered around 30%. Concerning Revis, despite its norm ensuring lands of private ownership and domain, it was the category that most distanced itself from the critical current, staying more in line with the pragmatic one.

Graph 2 – Political-pedagogical macro trends of environmental education present in the integral protection group



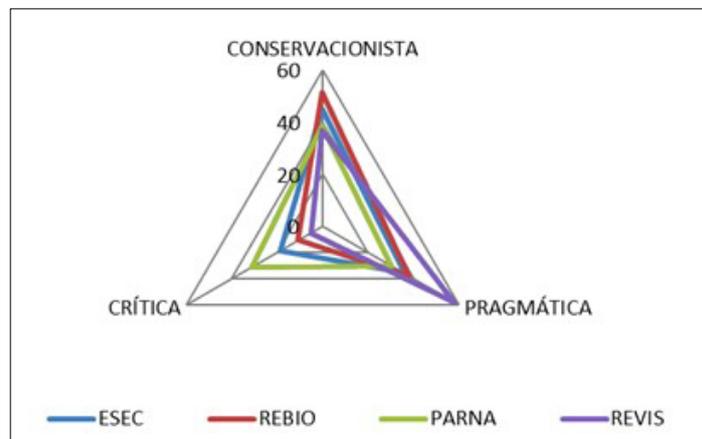
source: Research data.
organization: João Paulo Leandro de Almeida and Marcio Ferla, 2018.

Graph 3 – Political-pedagogical macro trends of environmental education present in the sustainable use group



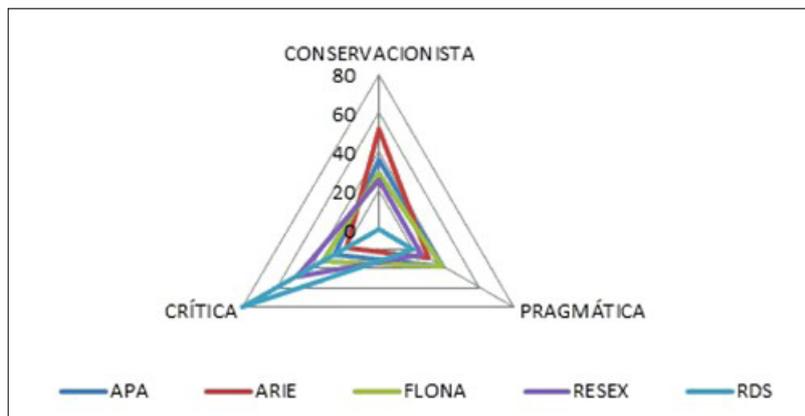
source: Research data.
organization: João Paulo Leandro de Almeida and Marcio Ferla, 2018.

Graph 4 – Orientation of political-pedagogical macro trends in environmental education in the UC categories of the integral protection group



source: Research data.
organization: João Paulo Leandro de Almeida and Marcio Ferla, 2018.

Graph 5 – Orientation of political-pedagogical macro trends in environmental education in the conservation unit categories of the sustainable use group



source: Research data.

organization: João Paulo Leandro de Almeida and Marcio Ferla, 2018.

In the sustainable use group, the critical macrotrend was highlighted in Resex and RDS. This position is coherent, as these two categories have similar rules and are instituted to preserve traditional modes of life, with sustainable use of resources. The ARIE category depicted a clear detachment from the critical current and an emphasis on the conservationist strain. The AEPs showed a slight distance from the critical current and percentages that exceeded or stay close to conservationist and/or pragmatic current. The Flona indicated a close distribution among the three mentioned currents, slightly distancing itself from the conservationist current.

The political-pedagogical macro trends of environmental education that are taken as positions within a social field of dispute for hegemony, in the sense of Bourdieu (1989, 2004), in trying to legitimate the different forms narrating reality, bears a number of parallels and relations with environmental conflicts itself. According to Henri Acselrad (2004, p. 16), environmental conflicts can be understood as:

Those involving social groups with different modes of appropriation and use of the territory. The struggles originate when at least one of the groups comes under threat in its social forms of environment appropriation by undesirable impacts – transmitted by soil, water, air, or living systems – that result from the exercise of other groups’ practices.

Acselrad (2004) states that the very notion of environmental conflict is a social construction and it can have different conceptions and representations of reality. The author presents three approaches to these conceptions: evolutionist, economics-based approach, and a third way called alternative.

Similar to the conservationist approach of the political-pedagogical macro trend of environmental education, Acselrad (2004) presents the evolutionary approach to environmental conflict. This concerns the adaptive forms of humans as an animal species. In this case, there would be an opposition between different forms of adaptation of agents to the natural world. However, such as the conservationist political-pedagogical conception of environmental education, this approach is limited when it tries to dissociate the natural from the social.

The economics-based approach to environmental conflicts presented by the same Acselrad (2004), deals with the difficulty for agents that generate external impacts to assume their responsibilities, as well as the difficulty of defining certain natural resources ownership, thus fostering conflicts over access and resource usage. From this angle, conflicts would be associated with the market's margin of action that, in this case, is bound up with priceless resources and many difficulties to achieve private appropriation. As it would be focused on adaptations despite imperfections in the production system, the economics-based approach can be related to the political-pedagogical macro tendency of pragmatic environmental education.

As an alternative approach to evolutionist and economics-based conceptions, environmental conflicts can be understood in the light of those different interests and strategies of appropriation of the material base of natural resources. The inability to resolve such issues within the unitary logic of the market or strictly through norm is thus recognized. Space is opened for non-hegemonic rationalities to operate in cultural dimensions according to the modes of life of traditional peoples and populations (Acselrad, 2004). "Here, we see how environmental conflicts can be seen as an expression of tensions in reproducing development models" (Acselrad, 2004, p. 11). Based on that, the alternative approach to environmental conflicts is related to the critical political-pedagogical conception of environmental education.

How environmental conflicts are perceived by the society within a historically built development model, therefore, can also be reflected in the way in which environmental education is planned and implemented by the State. In this context, if a given environmental conflict, spatialized in a place with great territorializing potential as conservation units, is not perceived as an outcome of unequal appropriations of material resources and inadequate distribution of decision-making power, it is unlikely that actions of environmental education with a critical political-pedagogical conception become a part of the conservation unit's territorialities.

When investigating the episodes of environmental conflicts and their approach through environmental education actions in the participating conservation unit, it was observed that, of the 254 participating UCs, 233 (91.7%) manifested themselves as follows: 57.8% reported that the socio-environmental conflicts present in their territory are addressed in the environmental education actions, 12.9% said that they are not addressed, and 29.3% that environmental education does not apply to conservation unit at all. This last situation can be interpreted in two ways: the conservation unit does not present any socio-environmental conflicts (less likely) or the conservation unit does not develop any environmental education actions (more likely).

On the approach, six options were given to conservation units to characterize their practices, obtaining the following result (Table 2):

Table 2 – How environmental conflicts are addressed in environmental education actions – number of times the type of approach appears in the responses

approach	number
Causes and consequences of conflicts	91
Consequences/impacts of the conflict	81
Conflict history	80

Table 2 – Cont.

approach	number
Alternatives to intervene in the conflict	77
Benefited and harmed by the conflict	60
Only information on the existence of the conflict, without addressing the previous alternatives	12

source: Research data.
organization: João Paulo Leandro de Almeida and Marcio Ferla, 2018.

A weakness is perceived in the theoretical-methodological dimension of the environmental education activities since from the answers it was found that the option “benefited and harmed by the conflict” assumes the last but one position among available answers, ahead only to the approach “Only information about the existence of the conflict, without addressing the previous alternatives”. The form and content of approaching an environmental conflict can indeed reveal the real purpose of educational actions, almost always not clear or explicit, although present and positioned in the social field.

Considering that education is not neutral and that the very claim to neutrality implies the conservation of that which is laid, the real intention of educational activities promoted by the conservation unit was also investigated. For this question, the following result was obtained: 49.8% of the analyzed conservation units (105) answered that the leading intention of educational practices is “To promote the development of an eco-consciousness that understand ecological process, and from this standpoint act for the preservation and conservation of natural resources”. And 36.5% (77) reported that the main intention is to “Promote the development of a political and participatory awareness thus acting in the decision-making processes of the destination and use of natural resources”, and 13.7% (29) chose “None of the foregoing”.

In this question, the participating agents were made available to two distinct options for answers, in addition to the option to refuse both. The first, with greater emphasis, highlight the aspect of knowledge and ecology and is related to the conservationist political-pedagogical macro trend of environmental education. The second option focuses on the political and participatory aspects and appeared as a secondary preference. The political and participatory nature of the educational process is directly related to the critical political-pedagogical macro trend of environmental education.

Although ICMBio’s institutional guideline is aimed at a critical-oriented environmental education, according to the analyzed conservation units it can be seen that the practices tend towards the conservationist conception of the environmental field, the pioneer and most traditional one. It also expresses a well-established adherence to the ecological knowledge approach over the action under social and political fields, where relationships with natural resources and their ecological processes are established.

After verifying the different facets of the political-pedagogical inclination of environmental education actions in federal conservation units, it was possible to establish a reading outside of strict segmentation, focusing on the territory and territorialities, making it clear the multiplicity and plurality of forms.

Concluding remarks

A plurality of political-pedagogical conceptions was verified through the characterization of conservation units' actions. Evidence of intense participation of conservationist and pragmatic political-pedagogical conceptions indicates the non-linearity or exclusivity of a certain current, as recommended by institutional orientation.

Critical environmental education is the political-pedagogical concept institutionally adopted to guide educational actions, in general, for all conservation unit groups and categories. However, considering we are dealing with a social field, different implications between different groups and conservation unit categories that make up the SNCU were revealed. Examining the federal system as a whole, a significant predominance of any specific current was not detected, but when changing the scale and splitting into groups or categories the characteristics that compound them, the differences started to emerge more clearly.

In the conservation unit of integral protection type, usually more restrictive in terms of use and occupation of the territory, their territorialities tend to be in line with conservationist political-pedagogical macro trend of environmental education, privileging ecological knowledge as a kind of territoriality. On the other hand, the conservation unit that is part of the sustainable use group, where direct use of natural resources and human occupation are often considered, shows a certain sympathy with the critical political-pedagogical macro trend.

One can infer, therefore, that conservation units are classified based on the norm into groups and management categories and oriented to different territorial practices. Both the formulation and implementation of the rule (which geographic area of interest and which conservation unit category is most appropriate, for example) takes place within a social relation field involving different interests, disputes, and symbolic or material conflicts.

These relationships are established depending on the need to destinate, access, and use available natural resources in the country. In these constant and contradictory activities, the State assumes a mediator role before the disputes in point. The whole apparatus is demanded and used both to operate dominant elite's interests, and general people, including populations in situations of vulnerability. However, this role of conciliator is not always possible. Public policies, in turn, express how State territorializes particular spaces, even when it transforms them into a dichotomous field. Indeed, institutions assume the role of the State's interlocutors when executing public policies.

On this subject, ICMBio as a public institution in charge of the entire federal UC system is structured through several management processes. Its practices are disseminated throughout the country's hundreds of conservation units.

Environmental education is thus understood as one of the practices to conserve nature in conservation units territorial constitution. This practice is distinguished from others by its educational specificity, though. And it presents, therefore, a real potential both to preserve the state of things or transform it. After 2018, these actions were structured under ICMBio's institutional orientation (Normative Instruction n. 19 of December 10, 2018), aiming at elaborating and implementing political-pedagogical projects mediated by environmental education (ICMBio, 2018). Systematic and critical investigation of environmental education actions in federal units can indicate what may lie ahead in terms of nature maintenance in Brazil.

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Authors' contribution:

Marcio Ricardo Ferla: conception, fieldwork, data systematisation and writing.

Almir Nabozny: conception and writing.

Received: March 1, 2020
Accepted: October 21, 2021