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Environmental education on wheels: The traveling exhibition of the Rio Islands Project

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ABSTRACT
The Rio Islands Project is a socio-environmental initiative that began its actions in 2011 at the Natural Monument of the Cagarras Islands Archipelago (MONA Cagarras), in the first federal marine conservation unit (UC) of integral protection of the city of Rio de Janeiro. Since then, technical-scientific research activities have been carried out in the local ecosystem, as well as environmental education and scientific dissemination actions aimed at sensitizing children, young people, and adults from various segments of society about MONA Cagarras and the Rio Islands Project. Aiming to foster conscious and sustainable tourism initiatives and the involvement of society for the knowledge of the current regulations related to the conservation unit, itinerant exhibitions were held that facilitate the access of various audiences to the conservationist theme. The present work evidences the results of these itinerant exhibitions in two phases of the Rio Islands Project, under the sponsorship of the Petrobras Socio-Environmental Program: these being, phase 2 (2014 and 2015) and phase 3 (2018 and 2019); carried out in an adapted vehicle equipped with a monitor for the display of audiovisual material, photographic exhibition, exhibition of the didactic-scientific collection of the Teaching Assistance Section (SAE) of the National Museum-UFRJ, diving mannequin equipped for underwater activities, stereoscopic microscope, didactic panels, communication resources such as books, folders, booklet, as well as children's space for recreational activities. The adapted truck reached different locations in the city of Rio de Janeiro and was carried out in different public spaces (municipal parks, public square, Copacabana Beach), museums, universities, technical schools, public and private schools. Depending on the location of the exhibition, different audiences were evidenced, and the attendance list records inform about 7,089 participants who knew the actions of the River Islands Project in the Natural Monument of the Cagarras Islands over the four years of carrying out the activity.

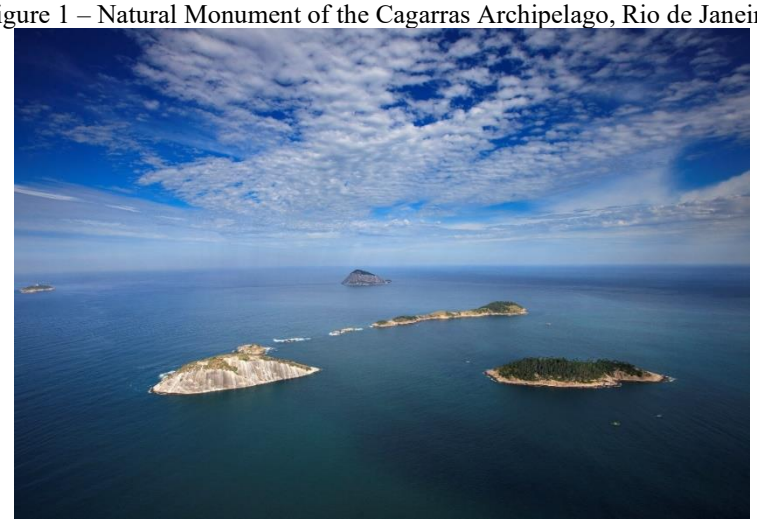
Keywords: Itinerancy, Marine conservation, Biodiversity, Didactic collection, National Museum.

1 INTRODUCTION

1.1 HISTORY OF OPERATION OF THE RIO ISLANDS PROJECT

The history of the River Islands Project is intrinsically linked to the creation of the Natural Monument of the Cagarras Islands Archipelago (MONA Cagarras). Selected in the Petrobras Environmental Program/2010, the Project was carried out by the Mar Adentro Institute and developed several researches over three phases: 2011 to 2013, 2014 to 2015 and 2018 to 2019. Although located only 5 km from Ipanema beach, on the coast of Rio de Janeiro, scientific studies, until then, were insipient in this island ecosystem that was decreed a UC in 2010 (BRASIL, 2010).

Figure 1 – Natural Monument of the Cagarras Archipelago, Rio de Janeiro.



Source: Áthila Bertoncini (2015).

MONA Cagarras aims to preserve the remnants of the Atlantic Forest, the refuges and nests of migratory seabirds and the scenic beauty of the islands Cagarra, Filhote da Cagarra, das Palmas, Comprida, Redonda and Filhote da Redonda. The UC presents an area of 87 hectares, including both the terrestrial part and the marine environment in a radius of 10 meters in the surroundings of each island. It recently joined a list of "Hope Spots" awarded by Mission Blue, the World Alliance for Marine Conservation. With this recognition, MONA Cagarras and the surrounding waters are a special and essential place for the health of the ocean (https://storymaps.arcgis.com/stories/73d432983e9d49d18b457778d9108149).

The Rio Islands Project aims to subsidize decision-making bodies with research data and long-term monitoring, aiming at the protection of the islands of Rio de Janeiro, as well as to raise awareness of the importance of environmental preservation and sustainable use of resources, as well as the impact of pollution on marine life. As a result of the Project's research, the biological survey recorded more than 600 species of marine and terrestrial fauna and flora, including some rare, endemic, endangered and even new to science. The UC still houses one of the largest nests of seabirds in Brazil (MORAES et al., 2013). The results of scientific research in the area are made available in the form of scientific communication and dissemination products, such as books (AGUIAR et al., 2015; BERTONCINI et al., 2019), and videos. These results also subsidized the MONA Cagarras Management Plan (2020).

The Islands of Rio Project has important partnerships such as the Chico Mendes Institute for Biodiversity Conservation (ICMBio) – Ministry of the Environment (MMA), the National Museum – Federal University of Rio de Janeiro (UFRJ), the Botanical Garden Research Center of Rio de Janeiro (JBRJ) and the Copacabana Fishermen's Colony (Z-13).

1.2 ENVIRONMENTAL EDUCATION AND SOCIAL MOBILIZATION

Since Brazil enacted the National Environmental Education Policy (BRASIL, 1999) and elaborated the National Environmental Education Program (ProNEA/MMA, 2005), there are still few socio-environmental projects developed based on marine and coastal environments. In addition to the ecological importance and biodiversity itself, these environments directly or indirectly influence people's lives, through the economy, tourism, sports, leisure, food and work, among others. In this sense, initiatives of Marine and Coastal Environmental Education (EAMC) are important, since more than 50 million people inhabit municipalities in the coastal zone (IBGE, 2011).

According to Pedrini (2010), "the EAMC is the only managerial option that can provide conditions to the common citizen to plead his place as a protagonist in coastal management". For the UCs, such as MONA Cagarras, EAMC actions can be fundamental in the prevention of environmental crimes and in the planning of public use, contributing to the effective management and management of the protected area. For Henry-Silva (2005), the participation of society in the creation and maintenance of preservation areas is an aspect of great relevance for the success of conservation units. Pimentel et al. (2019) suggest the development of partnerships between public institutions (museums, schools and UCs), civil society and other social actors for the development of EAMC initiatives and actions in UCs. Auricchio (2003) commented on the importance of environmental education in non-formal education spaces "such as NGOs, conservation units, zoos, botanical gardens, as well as museums of natural history, science and technology, the latter with subsidies for research and collection".

The Social Mobilization activities of the Rio Islands Project promoted the access of the population of Rio de Janeiro to the scientific information generated by researchers and technicians for environmental conservation and quality of life. Throughout the three phases, qualification courses were held for volunteers, educators, tourism and sports professionals, forming multiplier agents; as well as exhibitions and environmental education actions. This chapter presents data from the traveling exhibition of the Rio Islands Project, initiated in phase II (2014-2015) and completed in phase III (2018-2019), as a resource that facilitates the geographical accessibility of environmental education and scientific dissemination in the context of the conservation theme for different audiences in the city of Rio de Janeiro.

2 METHODOLOGY

All the results obtained in MONA Cagarras during the research activities of the Rio Islands Project are made available to society through the Environmental Education and Scientific Dissemination program that translates the scientific data into an easy-to-understand language. The actions of Social Mobilization are guided according to the Treaty of Environmental Education for

Sustainable Societies and Global Responsibility, a document produced during Eco-92, which states in its action plan that we must "encourage the production of knowledge, policies, methodologies and practices of Environmental Education in all spaces of formal, informal and non-formal education, for all age groups", in addition to "promoting and supporting the training of human resources to preserve, conserve and manage the environment, as part of the exercise of local and planetary citizenship" (JIEA-GLOBAL FORUM, 1992). The concept of Environmental Education employed in the Rio Islands Project follows article 10 of law 9795 of the National Environmental Education Policy, which defines it as:

> Processes through which the individual and the collectivity build social values, knowledge, skills, attitudes and competencies aimed at the conservation of the environment, a good of the common use of the people, essential to the quality of life and its sustainability (Brasil, 1999).

And still in his in his article 20:

> Environmental education is an essential and permanent component of national education, and should be present, in an articulated way, at all levels and modalities of the educational process in formal and non-formal character (Brasil, 1999).

Starting in circulation in 2014, the Itinerant Exhibition consists of facilitating the public's quick access to knowledge about MONA Cagarras and the Rio Islands Project through an adapted vehicle (Figs. 2-5). Requests for the visit with the truck arrived through the *website* (www.ilhasdorio.org.br) of the Rio Islands Project, and were passed on to environmental education by the person responsible for communication; or they arrived by the email of environmental education, disseminated in digital media and in printed disclosures such as philippines and folders.

Seeking to reach a significant number of visitors to the exhibitions, all actions are previously reported in print and digital, including the channels of dissemination of the Project itself (*website* and virtual communities) and spontaneous media (radios, newspapers and magazines), obtained through the contact of the Press Office and presentation *of releases* of the actions of the River Islands Project.

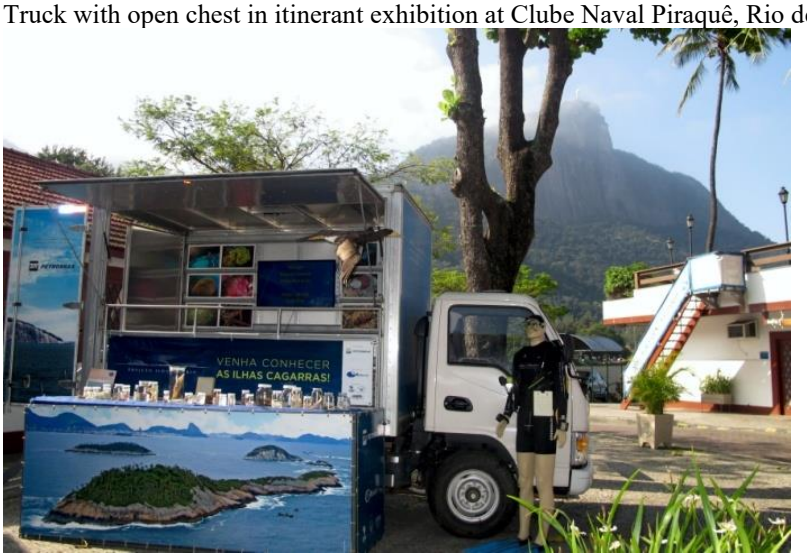
The requests for scheduling came from various initiatives and were marked according to the availability of the team and within a perimeter whose travel time made it possible to carry out the activity, as well as the assembly and disassembly of the exhibition. In the contact for scheduling, the applicants were informed about the structure of the exhibition and height of the vehicle (2.80m), for parking in the internal courtyard, and consequently, greater security to carry out the activity. When the structure made it impossible to hold the event, lectures for elementary school and high school were part of the environmental education actions, as well as the realization of exhibitions in another format. The Project was structured to offer activities in the city of Rio de Janeiro, without budget for daily expenses with the team in detachment and realization of events in other states of Brazil.

The itinerant exhibitions held in events with spontaneous visitation were mostly related to the partner institutions of the Rio Islands Project, such as the Botanical Garden Research Institute of Rio de Janeiro (JBRJ), the Chico Mendes Institute for Biodiversity Conservation (ICMBio), the Federal University of Rio de Janeiro (UFRJ), the Faculty of Teacher Training - UERJ and the National Museum - UFRJ, in the latter, being part of annual circuits such as the Anniversary of the National Museum, Cultural Tourism in the neighborhood of São Cristóvão and the National Week of Science and Technology. The autonomy of the truck to carry out the exhibition and the adapted chest, which enabled the displacement of expographic and didactic-pedagogical resources for the activities, stimulated the requests for large events with spontaneous visitation public. The proposal with the truck was initiated in 2014, the year in which the city of Rio de Janeiro hosted the FIFA World Cup of Soccer, and then the Olympic Games of 2016, being in evidence on the world stage.

Most of the requests for schools arose from the initiative of the public who previously had access to the information through digital and printed media, inside or outside the project; or in person, in the social mobilization activities that form multiplier agents of the theme (qualification courses for educators and volunteers). Attendances in schools were higher in the third and fourth year of activity of the Itinerant Exhibition. The demand for scheduling was not limited to formal education spaces; Educators and managers of municipal parks, cultural centers and sporting events also sought the activity.

Of the schedules for traveling exhibitions held in schools, the height of the vehicle was considered a barrier for parking in the inner courtyard in the Beatriz Vicência Bandeira Ryff Child Development Space and in the Gabriela Mistral municipal school. On these two occasions the truck was parked outside the gate, at the end of a dead-end residential street with no heavy flow of cars and pedestrians.

Figure 2 – Truck with open chest in itinerant exhibition at Clube Naval Piraquê, Rio de Janeiro.



Source: Own authorship (2014).

The traveling exhibition is a thematic truck (urban cargo vehicle model JAC T-140, JAC Motors) with chest equipped with TV with 3D technology, audiovisual material, photographic exhibition, diver doll equipped, didactic-scientific collection of the Teaching Assistance Section (SAE) of the National Museum-UFRJ, scientific equipment (stereoscopic microscope) for observation of biological material; Communication resources: books, folders, booklet. The activities in the traveling exhibitions lasted on average 6 hours, with assembly and disassembly estimated at 1 hour each, before and after the activities, in a total of 8 hours of mobilization. In the events with a large audience, added to the structure already described in the exhibition, a playful space formed by a tent, with tatami mats, chairs and children's tables, where painting, drawing and cutting activities were offered, stimulated by the volunteers and supervised by the parents.

In the exhibitions with public of spontaneous visitation, including in this group the technical schools and institutions of higher education, which despite being a space of formal education, were on these occasions, place of non-formal educational actions, the public was at ease to interact in the space according to their interests and curiosities. The resources were mediated by volunteers and interns, who not only talked about the scientific research and actions of the Rio Islands Project at MONA Cagarras, but also addressed under a critical eye, the impacts of proximity to a large urban center and the importance of biodiversity preservation and marine conservation. The awareness actions addressed environmental practices for a healthy marine environment, leading the public to reflect, and perhaps carry out, transformations for individual and collective benefit in the environment to which it was inserted. For Loureiro (2005), "the main indicator of success of an environmental educational action is, not in achieving previously defined goals, but in establishing a learning process that is participatory, emancipatory and transformative".

Figure 3 – Itinerant exhibition with children's space at the event #MuseuVive in the Park of Quinta da Boa Vista, Rio de Janeiro.

Source: Own authorship (2018).

The public of spontaneous visitation of the major events was invited to sign, voluntarily, a list of attendance at the end of the interaction with the resources of the exhibition. In a certain way, the availability for signature was directly related to the lived experience in relation to the theme, the resources and the dialogue established with the mediators. The attendance list was structured with the following questions: name, signature, e-mail, profession/occupation and city/state. From this form, two tables were elaborated: a table of profession/occupation and another of origin, with data of relative and absolute abundance of the information generated for each of the itinerant exhibitions. From these tables, graphs 1 were generated: relative abundance for profession/occupation; and 2: origin of the public participating in the 33 traveling exhibitions in 4 years of activities.

In the schools, the two school shifts were contemplated: morning and afternoon for early childhood education, elementary and secondary education. The activities were organized by a group of 20-30 children and lasted about 40 minutes. The circuit, divided into 4 stages, began with the contextualization of the insular environment represented in the photographic exhibition and in the skirt of the truck bench: "what is an island?", "how do we get there?" "What is a unit of conservation?" were questions that guided this first approach to the project. In the second stage, the submerged scientific work and the necessary equipment for the professional to deal with the permanence, for a period of time, in the marine environment were explored: "what would the seabed look like?" Glasses, fins, thickness of the wetsuit and submerged breathing, were questions raised for early childhood education and elementary I next to the mannequin of the equipped diver. In the third stage, the children's public knew the biodiversity of the islands with the didactic-scientific collection of SAE. Although most of the specimens were kept in a wet way, the accessible collection, available for touch, was part of the activity and so the public handled "the residents of the islands": sponges, corals, shells, stars, beach crackers; Hammerhead shark, penguin, taxidermied booby and frigate were also part of the exhibit. At that time, for early childhood education, the collection was within reach of children at children's tables or the group was invited to sit in a circle on the mat. Often the preserved animals were compared to the images in life that were part of the photographic exhibition or appeared in the audiovisual in progress on the TV monitor, as well as in the books of the project.

It was common for the school public to bring references from cartoons and from their own daily lives, such as fish, which were part of the food menu, to the conversation. In the last stage, the students observed biological material (sponge, coral or plankton) under the stereoscopic microscope, interacting with the scientific equipment. The team raised questions about the importance and challenges of marine conservation throughout the activity.

The proposal presented here, of course, had adaptations in complexity in the content, according to the participating age groups. Teachers, mediators, coordinators and principals of the schools, at

some point, joined the activity; most of the time encouraging their students to actively participate in the proposal.

The activities were carried out during the week, previously inserted in the school calendar and communicated to parents. From this arose the need for a circuit where different classes were guided throughout the day, with comfort and enjoyment by the public. In the Child Development Space, Beatriz Vicência Bandeira Ryff and in the municipal school, Gabriela Mistral, the truck was parked outside the school wall. In these educational spaces, parents and guardians had the opportunity to get to know the exhibition and interact with the child in the intervals of exit and entry of the shifts, but this public of spontaneous visitation, on these occasions, was not counted, only the participating students.

In the exhibitions in the Municipal Park Chico Mendes, on Animal Day, where the park received several schools for the visit; and in the Municipal Park of Marapendi, in the Sementes do Marapendi Holiday Colony, where the children were divided into classes according to the age group, the activities were organized as in the spaces of formal education.

Figure 4 – Itinerant exhibition in the Child Development Space (EDI) Beatriz Vicência Bandeira Ryff with the mediation of the equipped dipped doll

Source: Cássia Carvalho (2019).

The team consisted of professional coordinators, interns and volunteers. The professionals and trainees were from the Mar Adentro Institute, as well as volunteers qualified by the Rio Islands Project through a course offered at the beginning of each phase and invited to participate in social mobilization actions throughout the two years of each phase. The activities with the Itinerant Exhibition also counted on scholarship trainees from the Faculty of Teacher Training (FFP) of the State University of Rio de Janeiro (UERJ), who worked with the Rio Islands Project through the Interdisciplinary Environmental Studies Group (GEIA). This team carried out the assembly and disassembly of the exhibitions, support

the activities and mediations of the expographic and didactic-pedagogical resources available to the public, and also the control of the attendance lists.

The term of institutional collaboration of GEIA with the Mar Adentro Institute for the project "Islands of Rio: Partnership for the Elaboration of Scientific Dissemination and Environmental Education on the Sociobiodiversity of the Cagarras Islands" generated technical-scientific publications inside and outside the scientific days of UERJ (COSTA P. G. et al., 2015; Peixoto et al., 2018; VICENTE and GOMES, 2019; VICENTE and PIMENTEL, 2019) and monograph (COSTA, P. G., 2018), in different stages throughout the two phases of the Itinerant Exhibition.

The partnership of the Islands of Rio Project with the National Museum-UFRJ through the research actions resulted in testimonies of the biodiversity of MONA Cagarras in the scientific collections and in the didactic collection of the Institution. Together with SAE, about 300 lots of the didactic-scientific collection were collected at MONA Cagarras and its surroundings, in the period that comprises the first phase of the Rio Islands Project (2011) until the end of phase III (2019). This loan collection is used as a didactic-pedagogical resource in schools and non-formal education spaces, bringing the public closer to the collection of the National Museum, the research of the River Islands Project and the biodiversity of MONA Cagarras.

Currently the zoological collection of the didactic-scientific collection of SAE is formed by 2,000 lots of marine, terrestrial and freshwater animals representing different Brazilian biomes, used in different initiatives of scientific dissemination and popularization of science. Much of the collection is preserved in wet (alcohol 70%) while a smaller portion of the biological material is preserved in dry form (sponges, corals, shells of molluscs, echinoderms, skeleton of cetaceans) or taxidermied (reptiles, birds and mammals), being part of the accessible collection of the collection and are objects that promote tactile interaction with the public. The collection is listed and computerized in a spreadsheet with 19 large zoological groups. Each of the fallen animals, with as much information as possible, is classified within its large group, identified with a scientific and popular name, and photographed for later online availability of the digital record.

In each traveling exhibition an average of 35 lots from the collection were loaned from SAE to the River Islands Project. Among the specimens chosen, sponges with important bioactives for the production of drugs; invertebrates and vertebrates endemic and exotic to the region; starfish that have been on the endangered species list; molluscs, crustaceans and fish of commercial interest; venomous species and the emblematic seabirds of MONA Cory's Shearwaters. This biological material was organized for exposure by means of exchanges of preservative liquid, refinement of identification data and preparation of labels and packaging for protection against mechanical accidents. Each output from the Institution generates a tab that is added to SAE's annual loan statistics. During the activity, the lots were arranged on the bench in evolutionary order according to Brusca and Brusca (2007).

Figure 5 – Taxidermied collection (frigate) of the didactic-scientific collection of SAE in the traveling exhibition of the Rio Islands Project at the Rio Educational Center (CER)

Source: Own authorship (2018).

3 RESULTS AND DISCUSSION

The IBECC (Brazilian Institute of Education, Science and Culture) created on the recommendation of UNESCO, promoted actions to carry out itinerant activities in Brazil from the mid-twentieth century (ROCHA and MARANDINO, 2017). Although the itinerant initiatives with adapted vehicle are relatively recent in the country and cover a series of challenges faced by the Rio Islands Project itself, such as human resources, vehicle maintenance expenses, activity subject to inclement weather; Rocha (2018) listed 34 itinerant museums and science centers that have vehicles as their main structure running Brazilian roads. In a smaller format than the itinerant initiatives in museums such as "Mobile Science: Life and Health for All" of the Oswaldo Cruz Foundation and "Caravan of Science" of the CECIERJ Foundation; and initiatives of NGOs such as SOS Mata Atlântica1 that operate in different cities in Brazil, the traveling exhibition of the Rio Islands Project scaled its actions for the city of Rio de Janeiro (Table 1).

Table 1 – Number of public (both spontaneous and school visitation) in the neighborhoods and regions of the city of Rio de Janeiro where the traveling exhibition took place.

Administrative Region (RIO CITY HALL, 2018)	Local	Public
III LONG RIVER	Rio Comprido	133
IV BOTAFOGO	Glória	242
V COPACABANA	Urca	41
VI LAGOON	Copacabana	1701
VII SAINT KITTS	Jardim Botânico	2889
VIII TIJUCA	Lagoa	629
IX VILA ISABEL	Leblon	112
XVI JACAREPAGUÁ	São Cristóvão	244
XX GOVERNOR'S ISLAND	Praça da Bandeira	458
XXIV BARRA DA TIJUCA	Tijuca	300

Source: Adapted from DATA RIO (2020).

Over the course of four years, 33 Itinerant Exhibitions were held in the city of Rio de Janeiro (total audience: 6,749) and in three municipalities in the metropolitan region: Niterói, São Gonçalo and Nilópolis (total audience: 340). Figure 8 shows 23 geographically located spaces of Itinerant Exhibitions. In some of these places there was more than one Itinerant Exhibition event, such as the Quinta da Boa Vista Park in the seven events in partnership with the National Museum (196 Years of the National Museum, National Week of Science and Technology, VII Cultural Tourism, X Cultural Tourism, 200 Years of the National Museum, #MuseuVive, and 201 Years of the National Museum); the Botanical Garden Research Institute of Rio de Janeiro with 3 events (Viva a Mata - in partnership with SOS Mata Atlântica, National Week of Science and Technology and event in partnership with the Museum of the Environment) and; two events at the headquarters of the Clube Naval on the Island of Piraquê in Lagoa (Piraquê Club and Popeye Children's Paradise School).

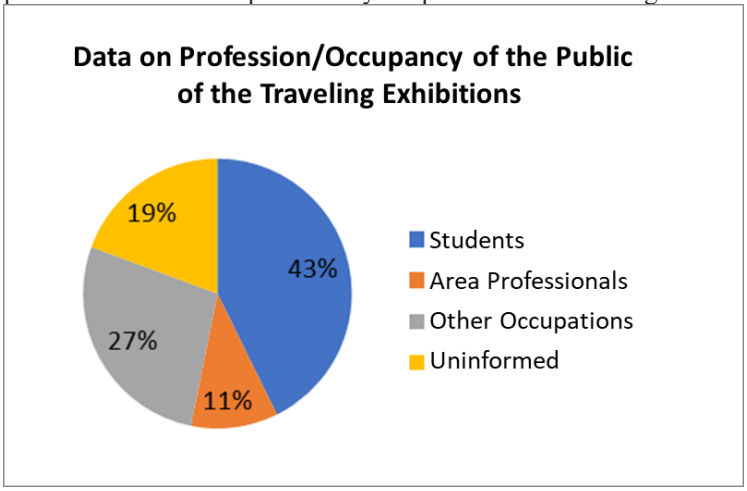
Figure 5 – Map showing the locations of itinerant exhibitions in the city of Rio de Janeiro and metropolitan region: Nilópolis, São Gonçalo and Niterói

Source: Modified from Google Earth Pro (2021).

The reading of the data of the structured form, filled out by the public, provided figures of relative and absolute abundance on the categories profession/occupation and origin of the public in each of the 33 traveling exhibition events, totaling 7,089 participants. Graphs 1 and 2 show the compilation of relative abundance data for the two categories (profession/occupation and origin) in all events.

In Graph 1 the category "Student" covers not only elementary and secondary education, but also early childhood education and undergraduate students. For "Professionals in the area" were considered professionals linked to the natural sciences, educators, environmentalists and turismologists. "Other occupations" were considered all other professions not related to the area. In the field "Not informed" for those who did not want to reveal the information or when it was not possible to do the reading, since the filling was done by hand.

Graph 1 – Profession data provided by the public in 33 travelling exhibitions

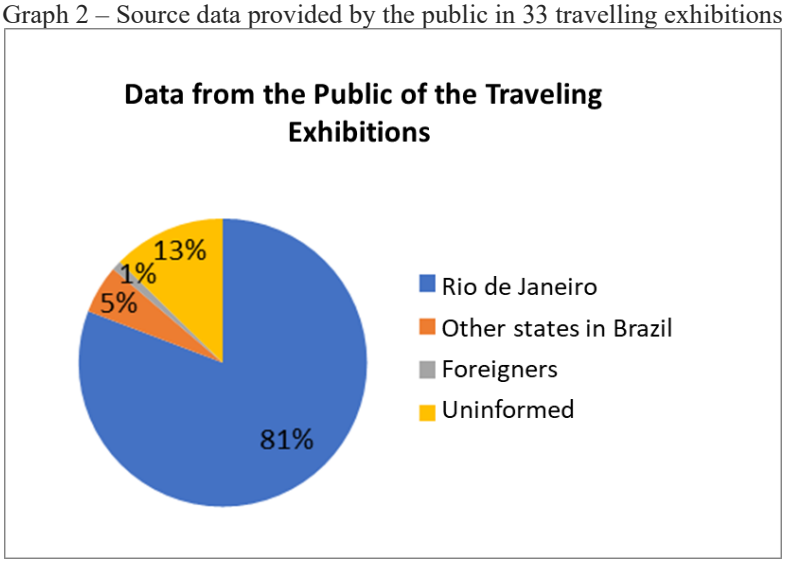


Source: GOMES and AGUIAR (2021).

Data were collected from professionals who were connected to the area or not with the reading of the structured form. Some of the professions that most appeared in the profession/occupation field being considered "Other occupations" were: administrator, lawyer, systems analyst, human resources analyst, architect, administrator, retired, social worker, self-employed, banker, librarian, hairdresser, merchant, accountant, broker, seamstress, designer, unemployed, designer, day laborer, housewife, economist, electrician, nurse, engineer, beautician, pharmacist, civil servant, photographer, waiter, historian, journalist, doctor, military, driver, porter and taxi driver.

In Graph 2 the category "Rio de Janeiro" refers to the residents of the state of Rio de Janeiro, often the municipalities of origin were explained on their own initiative. For "Other states of Brazil" were considered residents of other regions and "Foreigners" for those who are not Brazilian, tourists for sightseeing. In the field "Not informed" for those who did not want to reveal the information or when it was not possible to read the writing since the filling was done by hand.

Graph 2 – Source data provided by the public in 33 travelling exhibitions



Source: GOMES and AGUIAR (2021).

Professionals in the area have always been represented in smaller numbers when compared to professionals in other areas, since it covers a much smaller range of professions. Even so, the only record of the number of "professionals in the area" equivalent to the number of "other occupations" was in the traveling exhibition in the Municipal Natural Park of Bosque da Barra, when concomitantly the traveling exhibition occurred an event in the environmental education center of the Park; and at the event to celebrate the 50th Anniversary of the Institute of Biology - UFRJ, when the exhibition was at the Health Sciences Center serving mostly students and professionals in the area who circulated through the institute.

The reading of the data of each traveling exhibition showed that in large events with the public, the number of profession/occupation "not informed" was higher than in events with a smaller audience. Major events with different attractions (e.g. Anniversaries of the National Museum and #MuseuVive) contributed to faster dispersion of the public that seeks to meet other activities that were also part of the circuit. The discomfort generated in the time of permanence in an outdoor event, in the family and with crowds did not stimulate the filling out of the form until the end. At the same time when we compare these "uninformed" data of profession/occupation with the "non-informed" data of origin for the same events, the latter are more expressive perhaps because it is easier to write, if the public simply refers to the acronym of state, or because they are more comfortable passing on generic information than personal information, in this case, the occupation. Still, we list the answers that appeared in the profession/occupation field (Table 1), showing the diversity of occupations, formal or not, of technical or higher education, of the public that knew the actions of the Rio Islands Project.

In graphs 1 and 2 we can observe that the number of people who did not inform the profession/occupation (or it was not possible to do the reading) is 19% when compared to the data of "non-informed" (or without reading) of origin, which is 13% of the public that participated in the questionnaire in the 33 traveling exhibitions.

Students accounted for almost half of the public sensitized (43%) in the activities. Of the 33 itinerant exhibition events, only 8 were held in a structured way for the school public directly: Gabriela Mistral Municipal School, Popeye Children's Paradise School, Newton Braga Brigadier School, Barão de Itacurussá Municipal School, Rio Educational Center and Beatriz Vicência Bandeira Ryff Child Development School and the two activities in the parks: Animal Day in the Chico Mendes Municipal Park and Marapendi Seeds Holiday Colony in the Municipal Park of Marapendi.

Four itinerant exhibitions were held in Technical and Higher Education Institutions (28th UERJ without Walls, XXIII SEMATEC-IFRJ, 50 Years of IB-UFRJ and Federal Center for Technological Education Celso Suckow da Fonseca), in the other events with public where family visits predominated, children and young people were little encouraged to fill out the form, and it was usually filled out by adult family members. In these events a large number of young adults in groups was

observed, who accounted for undergraduate students, therefore within the "student" field regardless of the academic training in progress.

The public of residents of the state of Rio de Janeiro were 81% of the visitors of the exhibitions (with description of origin for the following municipalities: Rio de Janeiro, Nova Iguaçú, São Gonçalo, Niterói, Duque de Caxias and Nilópolis) and 5% of residents of other states, despite having been carried out activities in places considered tourist attractions of Rio de Janeiro, such as the National Museum, the Botanical Garden Research Institute of Rio de Janeiro and the Tijuca National Park (Parque Lage and Paineiras Visitor Center). In these spaces, foreigners also felt uncomfortable filling out the structured form, since it was necessary to understand the language, but they were very receptive to the mediations of the trainees and volunteers and interested in the conservation theme and local biodiversity, promoting comparisons to their countries of origin.

The team always needed to be formed by at least four members (including the driver also a professional in the area), considering the need to assemble the structure, the time for its execution and intervals for the snack (since the activities had a long duration). These same members (professionals, interns and volunteers) also carried out the activities with the public. In this sense, the volunteer qualification courses of the Islands of Rio Project were important for the training of these mediators of the exhibition. As the logistics and the service to the public in the traveling exhibition, required at the same time, technical knowledge and a lot of physical effort of the team, often the volunteers did not participate in more than one event per phase, which reduced the support of this segment in the activity, restricted to the paid professionals of the team, who also performed other functions in the actions of environmental education and social mobilization. Although the project is inserted in a large urban center, with activities restricted to the city of Rio de Janeiro, human resource was also an issue faced by the project and discussed by Rocha & Marandino (2020) for the traveling exhibitions of museums and science centers that, unlike the Project, travel through several Brazilian cities.

Although at first the traveling exhibition was aimed at the public of spontaneous visitation, the activities were well received in the school environment attracting the attention of teachers and students of basic education, due to the structure that contextualized the proposal, and the proposal itself: marine conservation was an engaging theme both for those who were directly linked to it, depending on the location or experience, both for those who had curiosity, but not geographical proximity or concrete experiences in the environment. Salgado and Marandino (2014, p. 871) comment on man's relationship with the sea until the middle of the nineteenth century as "a mysterious and, consequently, curious terrain". In this context, the images, the audiovisual and the didactic-scientific collection, bring to the public, references of a little known environment and that is limited, for many, to what is visualized on its surface. In addition to the theme of the River Islands Project, the truck brought the public, in general, closer to this universe still distant for some and often restricted to museums and aquariums.

The insular environment may seem distant from the daily lives of residents who do not live in its vicinity; but Morais et al. (2015) and Meireles et al. (2018) working with environmental education in schools very close to UC's (Itinerant Park Project in the Dunas do Natal State Park and UC Rocas Atoll, in Rio Grande do Norte; and environmental education with the Paulo Assis Ribeiro State College in the Serra da Tiririca State Park, in Niterói, Rio de Janeiro), show that even in a continental and terrestrial environment nature is often not known by the residents and regulars of its surroundings.

The traveling exhibition stimulated the involvement of the entire school community in the visits: teachers from different areas, employees and contractors showed interest in the activity, including parents in the two schools where the truck was parked outside. The structure of the exhibition and the truck itself aroused the interest of these people, who probably would not have noticed a lecture, for example, inside a classroom.

Luccas and Bonotto (2020, p. 8) investigating Brazilian dissertations and theses on pedagogical practices in environmental education in early childhood education, observed that "the themes most addressed with young children are water, fauna, flora, pollution and solid waste." In this sense, the ecosystem approach, due to the very theme of the project, on contents of zoology, botany, ecology and conservation, complemented proposals in environmental education, especially in early childhood education, in which the academic training of teachers was not focused on this exercise until a few decades ago (RUFFINO, 2003).

The activities aimed at the Early Childhood public was a pleasant surprise in schools, the proximity to scientific work (diving mannequin), the biodiversity in image and object (didactic-scientific collection) and the observation of biological material, giving protagonism to the child in the interaction with the scientific equipment (microscope) were motivating both for children and teachers, as invitations arose to insert the theme in science fairs, book club and sports practice events.

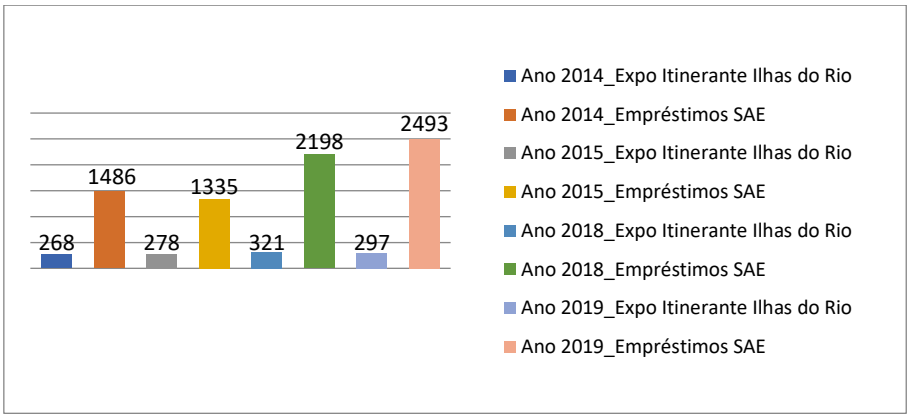
"Environmental education is based on the search for a permanent connection between cultural, political, economic, social, religious, aesthetic and other issues, determinants for our relationship with the environment" (SEGURA, 2007, p. 97). One of the guidelines that emerged from the trajectory of the institutionalization of public policies of Environmental Education in the Ministry of Education was to insert the EA contemplating the ideal of a new organization of knowledge through interdisciplinary practices (MENDONÇA, 2007). We understand the itinerant exhibition of the Rio Islands Project in the school environment as a punctual activity, in that, few times, it was carried out concomitantly with other actions of the project, such as lectures for example; but not devoid of that possibility. This possible unfolding of the practice of the activity in schools was reported by initiatives of the teachers themselves, more enthusiastic of the project, who sought developments of the content, with the use of scientific communication and dissemination resources available in the digital media of the Islands of Rio Project and not necessarily aimed at children and adolescents.

3.1 THE RIO ISLANDS PROJECT AND THE TEACHING ASSISTANCE SECTION OF THE NATIONAL MUSEUM

The Islands of Rio Project, a partner of the oldest Scientific Institution in the country, the National Museum-UFRJ, and in particular, of its educational sector (SAE), proposed an Itinerant Exhibition with a look at the conservationist theme, promoting, at the same time, a dialogical model of scientific communication with the use of the didactic collection of loan in its activities. The Teaching Assistance Service of the National Museum (later Teaching Assistance Section) created by Edgard Roquette Pinto in 1927, had as one of its missions to support educational practices that collaborated with learning and with the school curriculum (IBRAM, 2018). "Although the educational function of museums has been strengthened and more valued since the twentieth century, it can be said that the National Museum has maintained this function since the time of its creation" (SOUZA, 2020, p. 212); the loan and circulation of the collection by the Royal Museum (later National Museum), for the Military Academy and Pedro II College, date from 1822 and 1839 (SOARES, 2016), and were intensified in 1959 along the lines of what SAE currently performs (COSTA, 2018), especially in the post-fire scenario of the National Museum when the itinerant project "The National Museum Lives in Schools" was initiated (COSTA, 2020).

During phases II and III of the Rio Islands Project, 1,164 lots from SAE's collection were used in 33 traveling exhibitions. In graph 3 we can see the absolute number of lots lent for activities with the traveling exhibition of the Project and number of lots lent annually by SAE. In 2015, the Project's roaming accounted for 20% of total loans.

Graph 3 – Number of lots of the didactic-scientific collection in the traveling exhibitions and number of lots loaned annually by SAE



Source: GOMES and AGUIAR (2021).

Most of the users of the collection are teachers from public and private schools in Rio de Janeiro. In addition to schools, higher education institutions, NGOs such as the Mar Adentro Institute, producers, other museums and science centers make use of the collection of the didactic-scientific collection. The collection proved to be an important resource for raising awareness in the activities of

the River Islands Project, representing local biodiversity and facilitating the public's understanding of research and the scientific process. Many people reported never having seen an animal up close, others did not know that there was so much biodiversity in the sea so close to the city. For Marandino et al. (2014) the didactic collections stimulate the visitors of exhibitions in the formation of knowledge, since they build new experiences linking memory to these new images of the object. Lima (2020, p. 212) comments on the greater involvement of students with the content from these "objects" “zoos" suggesting an "involvement of an emotional and affective nature" with the collection. Woomer (2013) considered biological collections a strategic resource for raising awareness in environmental education in formal education.

4 FINAL CONSIDERATIONS

Although the first marine conservation unit of full protection of the city of Rio de Janeiro is part of the postcard of the city, the importance of its conservation is largely promoted by actions that dialogue with the public about the scientific knowledge generated by research in the region; In this context, a mobile unit of scientific dissemination was strategic to sensitize an audience of 7,089 visitors from different locations in Rio de Janeiro, and even from nearby municipalities, formed mostly by students and residents of the city.

In the activities with spontaneous visitation public, the filling out of the form showed that although three itinerant exhibitions were held in neighboring municipalities (Niterói, São Gonçalo and Nilópolis), the public reported origin for the following municipalities: Nova Iguaçú, São Gonçalo, Niterói, Duque de Caxias and Nilópolis showing the scope of the theme of the Rio Islands Project in major events. Geographical accessibility expands the Project's area of influence and takes knowledge about UC and marine conservation away from the coastal region. The itinerancy of the Islands of Rio Project also expands the reach of the National Museum itself, to the extent that it sensitizes the public about the theme, through the didactic-scientific collection of SAE.

In addition to the River Islands Project, the results of the forms at the events and attendance lists in the schools add data to the other itinerant initiatives with vehicle. Bevilaqua et al. (2013) commented on the importance of data of this nature in the Brazilian itinerancy for the establishment of mediation strategies, form of welcoming, themes of the exhibition and the improvement of museum-school relations.

The realization of differentiated proposals for the schools, arose due to the demands in the scheduling. The students in the events and the school public, who were the majority of the participants in the traveling exhibitions, deserve a more in-depth analysis in the next moment, by segments, activities offered and degree of interaction with the exhibition resources.

The traveling exhibition, as a strategy of scientific dissemination, sensitized both the public around the UC and residents of more distant regions; For them, the approach to the island environment may be a novelty, but at the same time it makes them reflect on how much responsibility we have in its conservation and how, even distant, we are influenced by it. In schools, the traveling exhibition has the potential for continued actions, given the ecosystem character of the Rio Islands Project and the multidisciplinary approach to environmental education, especially at this time when marine conservation is at the center of debates in the Decade of the Ocean (2021-2030), instituted by the UN, and centered on the generation and dissemination of knowledge related to the Ocean and its sustainable use.

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