

2024

# SUSTAINABILITY REPORT Nº3

MUSEO DE  
HISTORIA NATURAL  
DE VALPARAÍSO







### Report of Sustainability N°3

Museo de Historia Natural de Valparaíso. Year 2024

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### Cover

Fungi: Yellow fairy cups, *Bisporela ciitrina*; Field bird's Nest, *Cyathus olla*; Smoky polypore, *Bjerkandera adusta*.

Sclerophyllous forest: Northern acorn tree, *Beilschmiedia miersii*; Mayten, *Maytenus boari*.

Animals: Wolf spider, *Lycosa erythrognatha*; Pill bug, *Armadillidium vulgare*; Common earthworm, *Lumbricus terrestres*.

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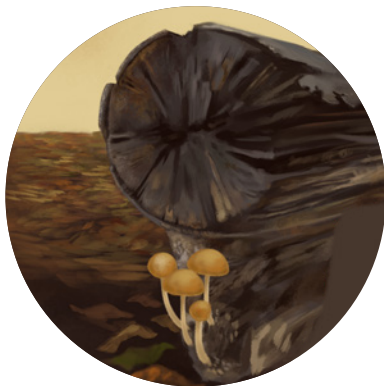
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# Prologue

As the Museo de Historia Natural de Valparaíso (MNHV), we are pleased to share our third sustainability report with the community, collaborators, and the staff of the Servicio Nacional del Patrimonio Cultural (Serpap, by its initials in Spanish). This third edition provides a summary of our progress throughout 2024 across various sustainability areas. We have made steady progress, highlighting initiatives aimed at energy and water efficiency, carbon footprint, the promotion of natural and cultural heritage, and environmental engagement, among others. In the same way, this new edition presents the main results of audits performed by the Ministry of the Environment through the Oficina Verde, along with the achievement of quantification seals from the Huella Chile program, making us the first museum in Chile to measure its carbon footprint.

In October 2024, the Chilean museum committee (by its initials in Spanish, ICOM Chile) launched the call for application for the fourth edition of the Grete Mostny Award for Good Museological Practices, with the topic "Towards a Sustainable Museum: Experiences and Reflections." For this occasion, the Museo de Historia Natural de Valparaíso submitted its [Sustainability Report No.2](#) (2023), earning the second Honorable Mention. The award was presented during the XVI Chilean Museological Conference, held in October 2024, which was organized in conjunction with the Regional Meeting of Museum Professionals of Latin

America and the Caribbean, hosted by ICOM LAC.

As a cultural institution, this report emphasizes the museum's commitment aligning its work with the United Nations Sustainable Development Goals (SDGs) and complying with the Programa de Gestión (PMG) Sistema Estado Verde, which supports the commitments assumed by the Chilean State in matters related to climate change.

We believe that to make progress in promoting a mature and successful environmental and sustainable culture, collaboration through partnerships—with public and private institutions, academia, NGOs, foundations, community, among others—is essential to generate synergy and move toward a more sustainable future that benefits individuals, society, and environment alike.

In June, the month in which World Environment Day is celebrated, under the leadership of the United Nations Environment Programme (UNEP), we published our third sustainability report as a symbol of our convictions and ongoing commitment.

**Cinthia Mora Troncoso**  
Environmental Management Officer  
Museum of Natural History of Valparaíso



# Introduction

Since 2019, under the leadership of Sergio Quiroz Jara, efforts have been made to develop a sustainability program, which included rethinking the museum's institutional culture. In this review, it became evident that the annual production of 500 printed copies of the museum's official journal, *Anales del Museo de Historia Natural de Valparaíso*, was counterproductive to our sustainability goals. The use of paper, water, and postal distribution—which involved different means of transport in Chile and abroad—had a significant environmental impact. Soon after, *Anales del Museo de Historia Natural de Valparaíso* (Online) was created. Additionally, the first environmental management area within a museum of the National Cultural Heritage Service was established, and an unprecedented Environmental Self-Management Policy was implemented—marking a milestone in the Chilean museum sector.

These paradigm shifts have presented major challenges both internally and externally, while also strengthening the Museo de Historial Natural de Valparaíso as one of the first institutions under Serpat to adopt outstanding environmental and sustainability practices. Among these practices are the promotion of waste recovery through a community-accessible recycling and reuse station, the advancement of the local circular economy, carbon footprint measurement, the implementation of a weather station with real-time online data, the installation of green infrastructure, among other initiatives.

For 2024, the Museum developed an editorial approach based on the concepts of Museum + Science, with the main objective of promoting scientific and educational development. The goal is to inspire new generations in learning, knowledge acquisition, and vocational interest in scientific fields, incorporating environmental and sustainability perspectives aligned with the Sustainable Development Goals (SDGs).

Among the SDG-related activities that stand out include the 9th School Innovation in Science and Technology Contest, an initiative with a scientific focus that fosters and promotes reading, research, and knowledge in various scientific disciplines, and the 5th Scientific Book Fair, held during National Cultural Heritage Day. The fair seeks to promote the dissemination of scientific literature by bringing knowledge of natural and cultural heritage closer to the community, emphasizing local circular economy as a remarkable milestone, and creating an open space for various forms of expression in collaboration with neighboring institutions and communities.

User services are designed for both school and non-school groups and are delivered from a cross-cutting and inclusive perspective that considers the diverse audiences who visit the museum. Activities are oriented towards participation and critical reflection, through guided mediation and workshops that explore natural and cultural heritage from a socio-environmental perspective, with the goal of fostering positive changes in perception, appreciation, and protection.

Wood blewit,  
*Clitocybe nuda*





Golden cassia,  
*Senna Candoleana*

### Programa de Mejoramiento de la Gestión de los Servicios (PMG)

The museum continues to comply with the Programa de Mejoramiento de la Gestión de los Servicios - Estado Verde (PMG), and has achieved “Excellence Level” accreditation under the Programa Oficina Verde of the Ministry of Environment. This recognition reflects a deep commitment to sustainable museum management, conveying this dedication both internally within the institution and externally to the broader community.

Additionally, the museum stands out for its work in safeguarding its diverse collections through both conservation and its connection to scientific research. In 2024, it published the first Collections Policy of the Museo de Historia Natural de Valparaíso, an initiative aimed at the responsible and ethical preservation and management of its valuable collections, ensuring the integrity and accessibility of this natural and cultural heritage for future generations.

Through these efforts, the museum reaffirms its commitment to addressing the climate crisis and advancing the SDGs by promoting scientific outreach, fostering innovation and technology to enhance community education, encouraging the local and neighborhood circular economy, and advancing environmental care and protection, thereby positioning itself as a leader in sustainability within the Valparaíso Region.

All the above are reflected in the outcomes achieved through the implementation of the 2024 Environmental Self-Management

Plan, which includes over 50 actions and measures. We warmly invite you to explore and consider replicating these initiatives in the chapters that follow.

This report has been designed in an interactive format, enabling direct access to each chapter and to supplementary information via embedded links. We encourage you to discover further details about the environmental and sustainability initiatives undertaken by the Museo de Historia Natural de Valparaíso.

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Northern acorn tree,  
*Beilschmiedia miersii*



# About Us

The Museo Natural de Valparaíso is a public institution under the Servicio Nacional del Patrimonio Cultural (Serpat). At the local level, it operates in coordination with the Dirección Regional de Valparaíso of the same service and is connected to the Government of Chile through the Ministry of Culture, Arts, and Heritage.

The museum is housed in the Palacio Lyon, a building that was declared a National Monument in 1979. The institution holds a significant collection of museological pieces related to natural sciences, history, archaeology, and anthropology, comprising an estimated 80,000 objects.

## Mission

To preserve, conserve, research, and disseminate heritage—ranging from biological to socio-cultural—in order to inspire positive change in its perception, appreciation, and protection. Our work is guided by international agreements on biodiversity protection and management, ensuring the proper safeguarding of the region's flora, fauna, archaeological, and historical heritage. As the legal and official repository for the Valparaíso region, we are responsible for safeguarding heritage originating from discoveries, archaeological sites, or donations, in compliance with administrative and legal mandates under the National Monuments Law.

## Vision

To work towards a sustainable museum by fostering a spirit of community service and inclusivity, acting as a mediating agent between the State's socio-cultural policies and the promotion of natural and cultural heritage. This includes encouraging research, conservation, and educational dissemination.

By the end of 2024, the Museum maintained a staff of 25 employees, organized into 10 work teams: Management; Administrative Area (secretary and document management officer); Operations Area; Science and Research Department;

Environmental Management Area; Education Department; Museum LAB-Learning Department; John Juger Silver Scientific Library; Communications and Outreach; and Security and Surveillance.

A significant part of the museum's staff also participates in the Comité Oficina Verde (COV), which includes representatives from all areas and departments. Undoubtedly, this participatory body has been essential in driving progress and achieving the results that are now reflected in an internal culture of sustainability—one that is actively shared and promoted among collaborators, partners, and the broader community.

Field bird's nest,  
*Cyathus olla*



Museo de Historia Natural de Valparaíso staff. Photography: Joaquín Nebel Oñate



The principles established by the Ministry of the Environment have been consistently applied, as they form part of the shared conviction and commitment embraced by the entire museum team and its permanent collaborators.

The principles are:

- 1) *collaborative-participation*, instance that aims to share opinions and active involvement in the process of integrating environmental and sustainability factors into the institution's daily operations,
- 2) *responsibility and conviction*, which extends to all personnel and management levels- everyone is expected to participate actively to modifying work habits and behaviors,
- 3) *prevention*, which is integrated into every stage of work, this principle emphasis anticipation and early action to prevent problems or environmental damages,
- 4) *coordination*, understood as intersectoral and transdisciplinary, a principle that is essential for effective environmental management, which aims to foster synergy and cross-functional collaboration among internal personnel, collaborators, allied institutions, and the community, building meaningful partnerships that strengthen environmental efforts,
- 5) *realism*, which allows acknowledges the importance of understanding the organization's actual capacity. Planning and management must be based on achievable goals, considering available resources, feasibility, and institutional capabilities. And finally,
- 6) *gradualism*, which must be taken into account in all processes, this principle supports progressive and permanent improvement that allow for the steady construction or reform of the institution's environmental management systems.







# Sustainability Pillars and SUSTAINABLE DEVELOPMENT GOALS

The Museo de Historia Natural annually carries out numerous actions aimed at the community that directly or indirectly contribute to the United Nations 2030 Agenda and its Sustainable Development Goals (SDGs).

Sustainable development incorporates economic, social, cultural diversity and environmental dimensions, meeting present needs without compromising the ability of future generations to meet theirs.

According to Chile's 2030 agenda for Sustainable Development (2025), development is global, universal and holistic. It is also a historic-political agreement, signed by 193 UN Member States in September 2015, providing a comprehensive framework for environmental, social and economic development. The agenda is constituted by 17 goals (17 SDGs), 169 goals and 230 indicators, which collectively seek to eradicate poverty and establish ambitious commitments in areas such as health, education, and gender equality, among others. The Sustainable Development Goals (SDG) seek to transform society by promoting sustainable economic development through a fair, inclusive, participatory, and collaborative strategy in harmony with the environment. Below is a breakdown of the specific

Sustainable Development Goals in which the Museo de Historia Natural de Valparaíso carries out actions with a direct and indirect impact:

• **Nº 3 Good Health and Well-being:**  
**Ensure healthy lives and promote well-being for all at all ages**

**3.d Strengthen the capacity of all countries, particularly developing countries, in early warning and risk reduction, and the management of national and global health risks.**

The museum promotes changes in habits toward healthier and more sustainable lifestyles, contributing to the overall well-being of the community. One example of this is the workshop Science Beyond the Classroom, an initiative led by the person responsible for the MuseoLab-Learning Room, together with collaborator Giannina Rojas, a kinesiologist specialized in various areas of health care. This workshop, aimed at educational institutions, explored healthy lifestyles, by examining the products that students consume daily, and reflecting on their impact on nutritional health. The sessions were supported by visual aids, educational material and key concepts, creating an enriching experience that broadened





Prickly myrtle,  
*Rhaphithamnus spinosus*

students' perspectives. This program aimed to promote a new approach to scientific learning through theoretical and practical activities, complementing traditional education and promoting scientific, communicative, and collaborative attitudes from a well-being perspective. On the other hand, Internally, two initiatives related to employee health and well-being were implemented. The first involved the introduction of "active breaks" through the Labor Safety Institute (ISL, for its Spanish acronym), which aimed to mitigate the stress burden experienced by team members in their daily routine, and to prevent musculoskeletal disorders through simple physical exercises performed in a pleasant and relaxed work environment. The second initiative consisted of sharing self-care tips via email, focusing on healthy eating, physical exercise, and mental health prevention, allowing employees to learn this important information and take action to improve their health.

• **Nº 4 Quality Education:**  
**Guaranteeing an inclusive, equitable and quality education, and promoting lifelong learning opportunities for all**

**4.7 By the year 2030, ensure that all students acquire the necessary theoretical and practical knowledge to promote sustainable development. This includes, besides other aspects, education for sustainable development and lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship, and appreciation of cultural diversity and the contribution of culture to sustainable development.**

The museum, through its areas and departments, provides theoretical and practical knowledge via informal education with a scientific, environmental, social and cultural approach. The Education Department plays a role in engaging with all types of audiences, and in the dissemination and mediation of the heritage preserved by the museum. However, the essential part of its job is to create an emotional bond with visitors, offering memorable experiences that allow them to connect emotionally. The museum becomes a space for participation, collaboration and learning, rather than a container of heritage.

Other areas and departments of the museum also contributed to educational activities, with a particular highlight in September, through a special program under the motto of "Science, Culture and Education for Everyone." In this context, the "Education, Science and Environment"

training cycles were carried out, and a new educational card game was introduced, titled "Naturalist Collections of the Natural History of Chile". Additionally, the third discussion: "The Chilean Circus in the Territory of Valparaíso" took place alongside the inauguration of the exhibition "Chilean Circus as Intangible Cultural heritage." Furthermore, the school science fair celebrated its IX edition within the framework of the "Innovation, Science and Technology Competition", showcasing sixteen school projects that focused on finding sustainable solutions to current socio-environmental challenges in their territories. The projects addressed relevant topics such as waste management, renewable energy, biodiversity and social well-being, demonstrating the creativity and commitment of young people to building a better future for the planet.

On the other hand, the museum is very clear about its mission of preserving, conserving, researching, and disseminating heritage. In this spirit, it inaugurated the exhibition "The Submerged Memory", which sought to raise community awareness about the importance of protecting and preserving underwater archaeological sites, such as shipwrecks and other environmental vestiges, as stated in the Convention on the Protection of the Underwater Cultural Heritage (2001) in Latin America and the Caribbean. This convention, however, has not yet been ratified by the State of Chile. This exhibition brought with it the opportunity to talk about the importance of protecting our underwater cultural heritage. This was complemented by a lecture presented by the archaeologist Diego Carabias, who emphasized the value of submerged heritage and the urgent need for its preservation.



• **Nº 5 Gender equality:**  
**To achieve gender equality and empower all women and girls**

**5.5 To ensure the full and effective participation of women and equal opportunities for leadership at all levels of decision-making in political, economic and public life.**

In planning the activities carried out by the museum in its annual program, the museum incorporated gender equity perspective, featuring various initiatives focused on this objective. These included conversations with women scientists panelists and motivational talks in which they shared personal experiences, aimed at promoting the empowerment of women and girls in scientific topics.

The launch of the book “The Multidimensionality of Plants” by author Jocelyne Rodríguez Droguett stands out as a work that, in its presentation, connects ancestral knowledge, Western botany and women’s artistic practices. The seminar “Space, Bodies and Emotions: Feminist Methodologies for Socio-spatial Research” brought together leading academics to reflect on gender, intersectionality and social inequalities from a feminist perspective. Through presentations based on recent research, the event addressed the relationship between space, emotions and innovative methodologies, offering a space for interdisciplinary dialogue among students and researchers interested in socio-spatial analysis and social justice. On the other hand, in commemoration of International Women’s Day, the discussion “Women in Science, Roles and Challenges” was held, providing a space for prominent scientists from various disciplines to reflect on the fundamental role of women in science, sharing their own experiences in order to inspire and empower girls and women in the pursuit of scientific knowledge.



Chilean nasturtium,  
*Tropaeolum tricolor* Sweet

• **Nº 7 Clean and affordable energy:**  
**To guarantee access to affordable, reliable, sustainable, and modern energy for all**

**7.1 By 2030, guarantee universal access to affordable, reliable, and modern energy services.**

**7.3 By 2030, doubling the global rate of improvement in energy efficiency.**

The museum has implemented a pilot plan in energy efficiency, with its main focus on encouraging behavioral changes among staff regarding the use of electrical energy in offices and shared spaces such as kitchens and hallways. The objective is to turn off unused electrical devices, contributing to energy savings. Moreover, electricity consumption records were analyzed in different periods for the Palacio Lyon building, with input from museum collaborators. This analysis made it possible to request for a change in the electricity rate, resulting in a lower cost of consumption. Furthermore, a comparison of electricity consumption (kWh) between the periods of 2018-2019 and 2023-2024, showed a reduction in both buildings: there was an overall reduction of 45%, the Palacio Lyon of 51%, and the Carlos Porter administrative building of 24%.

• **Nº 8 Decent Work and Economic Growth:**  
**Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all**

**8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity, and innovation, and encourage the formalization and growth of micro, small, and medium-sized enterprises, including through improved access to financial services.**

**8.9 By 2030, devise and implement policies to promote culture, sustainable tourism and local products. Several of the museum’s activities contribute indirectly to the development of skills that support employment and economic growth.**

One example is the organization of fairs featuring local startups aligned with the principles of circular economy. On Oceans Day, the museum hosts the “Oceanic fair” which includes educational and informational stands from various regional organizations. Similarly, in May, in the context of the “Cultural Heritage Day”, the museum holds



the “V Science Book Fair” that includes the participation of publishing houses, bookstores, and vendors from both local and central regions. This event provides the community with access to a wide range of publications and products related to natural sciences, heritage, research, and the environment. In addition, the museum has a protocol of sustainable procurement and circular economy, which includes internal guidelines to take into consideration for the acquisition of electronic devices, such as computers and printers, print paper, and catering services, avoiding single-use products.

In the same vein, for public procurement and tender processes, the museum includes a sustainability-related evaluation criterion in the terms of reference for requested services. The goal is to celebrate and promote good sustainable practices among suppliers, who must submit documentation proving that their companies or individual applicants hold certifications such as Huella Chile, Sello Empresa Mujer, or Sello Pro Pyme, or demonstrate that they implement environmentally friendly practices. This criterion accounts for 5% of the total evaluation score.



Chilean Calamint,  
*Satureja gilliesii*

## • Nº 11 Sustainable Cities and Communities: To make cities inclusive, safe, resilient and sustainable

### 11.4 Strengthen efforts to protect and safeguard the world's cultural and natural heritage.

The mission and vision of the museum are to safeguard both cultural and natural heritage by promoting the values of ‘knowing, respecting, and protecting’.

The museum’s permanent exhibition titled “Biodiversity of the Valparaíso Region” showcases the natural heritage of the area through educational activities. It explains the region’s geography and the variety and uniqueness of its habitats, including local plants, animals, and fungi.

Likewise, throughout the year, various activities were carried out with partners and collaborators, focusing on specific themes to protect and conserve biodiversity, some of these activities included: “Humedales y bienestar humano”, the “Programa educativo”, which deepened learning and knowledge about the sea in partnership with the Secretaría Regional de Ciencia Macrozona Centro, Fundación Cidemar y Slep Valparaíso, World Oceans Day (celebrated in June), an event with various educational activities intended to promote its conservation and highlight its vital importance within the framework of sustainable development, highlighting the urgent need to change our relationship with the ocean. Another activity was the family workshop “La Basura Marina - Viajando del Problema hacia las Soluciones”, held during “Children and Adolescents Heritage Day”, which invited the community to discover how the garbage we generate impacts the marine ecosystems.

## • Nº 12 Responsible Production and Consumption: To ensure sustainable consumption and production patterns

### 12.5 By 2030, significantly reducing waste generation through prevention, reduction, recycling, and reuse activities.

### 12.7 Promote public procurement practices that are sustainable, in accordance with national policies and priorities.

### 12.a Support developing countries in strengthening their scientific and technological capacities to move towards more sustainable consumption and production patterns.

The museum’s Ana Ávalos Central Hall features a recycling and reuse point available to the community, where materials such as clothing, PP5, PET1, and HDPE plastics, and electronic waste can be deposited. In addition, the John Juger Scientific Library has a container for the donation of books in good condition, promoting the recirculation of reading materials.

The museum is the first institution of the Servicio Nacional del Patrimonio Cultural (Serpat) to quantify its organizational carbon footprint. This effort reflects its strong commitment and responsibility of understanding and being aware of what is consumed in terms of energy, water, and goods procurement, as well as the volume of waste generated in daily operations. The sustainability efforts are actively shared with museum staff, collaborators, and visitors, through the ongoing information that encourage responsible and conscious habits during visits to the museum.



• **Nº 13 Climate Action:**  
**To take urgent action to fight climate change and its impacts**

**13.2** *Incorporate measures related to climate change into national policies, strategies and planning.*

**13.3** *Improve education, awareness-raising, human and institutional capacity on climate change mitigation, adaptation, impact reduction, and early warning.*

The museum stands out for having obtained quantification selas from the 'Huella Chile' programme of the Ministry of the Environment, corresponding to the measurement of its organisational carbon footprint. In addition, it has implemented measures to reduce and mitigate greenhouse gas emissions in the medium and long term, through the execution of environmental management plans, and at the same time, these actions contribute to the commitments adopted by the State of Chile to address climate change.

Additionally, the museum offers lectures for public employees, collaborators, and also to the community throughout the year, emphasizing climate change and its impacts. These sessions provide information on mitigation and adaptation strategies, aiming to strengthen the relationship between humans and nature.

A significant milestone in the museum's climate-related efforts was its designation as an Urban Climate Shelter. This recognition highlights the museum's commitment to the community by participating in a program that offers protection during extreme weather events, while also promoting climate change education. This is achieved through lectures, exhibitions, and guided activities, particularly those linked to the museum's permanent exhibition on climate change, reinforcing its role as both a safe haven and an educational space.

Additionally, a weather station was installed at the museum, providing publicly accessible online data that allows real-time monitoring of climate variables, including temperature, rainfall (mm), humidity, UV radiation, wind speed, and atmospheric pressure.

• **Nº 14 Marine Life:**  
**Conserve and sustainably use the oceans, seas, and resources.**

**14.2** *By 2030, sustainably manage and protect marine and coastal ecosystems to prevent significant adverse impacts, strengthen their resilience, and take measures to restore them to maintain healthy and productive oceans.*

**14.3** *Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels.*

The museum recognizes the importance of the role of marine life and, in this sense, seeks to raise awareness within the community about the need to conserve and protect marine and coastal ecosystems through a series of scientific initiatives organized by the SEALS Ring Project. The talks were held within the framework of the "Museum + Sciences" program, a space dedicated to scientific dissemination that aims to create dynamic learning environments, fostering knowledge, and encourage career exploration among young people. The program covers a broad range of topics, from basic sciences to highly specialized disciplines. Some of the talks presented included: "The Ocean: Our Natural Shield Against Climate Change", "Fish Diversity in the Cape Horn Current: Spatial Patterns", "Exploring the Marine Menu: Methods for Studying the Diet of Marine Mammals", "Threats and Challenges to the Conservation of Marine Mammals in Chile", "Ocean Voyages: A Journey with Elephant Seals in Chile."



Pitcher sage,  
*Lepechinia salviae*

Along the same lines, the project "The Role of Chile's Scientific Diplomacy as a Development Partner of ASEAN: Challenges and Opportunities for the Country's Positioning as a Bridge to Southeast Asia" was presented. The event began with reflections on how science and technology can become strategic tools to strengthen relations between Chile and the countries of Southeast Asia. The discussion focused on the challenges and opportunities of this collaboration, highlighting the role of Chile's marine resources, protected areas, and blue corridors as key elements in the face of climate change.

The museum, with its collaborators, carries out numerous activities on World Oceans Day, reaffirming its commitment to the dissemination and appreciation of marine ecosystems. Among the featured events included: a conversation on "Oceanic Culture: from Emotion to Conservation," talks and conferences: "Science and Knowledge for Sustainability," "Navigate the Natural Marine Heritage," "Chile, a Country of the Sea: Let's Learn about Our Ocean and Its Importance in Our Lives," a launch of the book *Rostros nativos de Chile, mamíferos de agua y aire* by Mairene Palacios, accompanied by a creative workshop, this celebration concluded with a costume party under the Minke whale.



• **Nº 15 Life of Terrestrial Ecosystems:**  
**To sustainably Manage Forests, Combat Desertification, Halt and Reverse Land Degradation, and Halt Biodiversity Loss**

**15.2** *By 2030, promote the sustainable management of all types of forests, halt deforestation, restore degraded forests and increase afforestation and reforestation globally.*

**15.4** *By 2030, ensure the conservation of mountain ecosystems, including their biological diversity, in order to enhance their capacity to provide essential benefits for sustainable development.*

Three years ago, the museum launched an initiative to establish a green space within its interior grounds, thanks to the generous donation of five native trees from the sclerophyllous forest by the company Chilquinta. This project was successfully implemented, transforming the area into a green lung with community access, and marking a significant step toward sustainability and environmental stewardship. In this fascinating space, activities on native species are carried out, such as the talk “Recognizing the Sclerophyllous Forest” given by Valparaíso Trekking, contests on “National Tree Day” in which several native species donated by the company Agunza were given away, among other initiatives.

• **Nº 17 Partnerships to achieve objectives:**  
**Revitalizing the Global Partnership for Sustainable Development.**

**17.16** *Improve the Global Partnership for Sustainable Development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology, and financial resources to support the achievement of the Sustainable Development Goals in all countries, particularly developing countries.*

**17.17** *Encourage and promote effective public, public-private, and civil society partnerships, building on the experience and resourcing strategies of partnerships.*

Undoubtedly, the promotion of alliances for the museum has been fundamental to achieve progress in the various sustainability initiatives and in the day-to-day operations. It is vital to articulate a strategy based on cooperation and collaboration with a diverse array of actors such as academia, municipalities, educational institutions, museums, NGOs, foundations, private companies, civil society, etc., to strengthen and promote sustainable development in the territory.



Quintral,  
*Tristerix verticillau*



# Environmental Management Plan 2024

The Museo de Historia Natural de Valparaíso has made solid progress on the path of sustainability, demonstrating concrete actions and strong convictions that are reflected in the commitments achieved through the 100% compliance with the annual Environmental Management Plan. This plan is the result of the internal work of the institution together with the collaboration of external partners, whose support, through establish alliances, has enhanced and strengthened the paradigm shift with the community to move towards sustainable development.

After three years of major challenges and goals achieved, the museum was motivated to apply to the level of excellence of the "Green Office" program of the Ministry of the Environment. According to Exempt Resolution No. 0005, new operating framework for the "Oficina Verde or Green Office" program, previously called "Estado Verde or Green State", defines this program as an accreditation system. It aims to ensure that the physical facilities and administrative processes of the State offices, whether they come from administrative, legislative or judicial bodies, as well as private entities's offices, implement environmental care policies, principles, and practices, along with resource conservation measures.

In parallel, the museum is part of the Sistema Estado Verde or Green State Management Improvement Program (PMG), created under Supreme Decree No.347,

of November 14, 2022, from the Ministry of Finance, which was approved in 2023 to support the institutional performance incentives of Article No.6 of Law No. 19.553. This PMG aims to mobilize public services toward institutional management that incorporates environmental and climate change criteria, promoting an adjustment in the organizational culture, including different stages of development, highlighting the creation of a Green State Committee within the services, which is responsible for reviewing and raising awareness about environmental policy, together with monitoring the environmental impact and institutional performance, in particular, carbon footprint. Likewise, this "Green State System" contains various areas from the Estado Verde Program, such as the consumption of electricity, natural gas, water management, waste management, and sustainable procurement, among others.

In this sense, the Museum has been a pioneer in promoting a culture of sustainability by voluntarily adhering to the Oficina Verde program in 2021. This milestone promoted the creation and implementation of a self-managed environmental policy, along with the creation of internal protocols of energy efficiency, sustainable purchasing and circular economy, and waste management. The museum has also stood out by obtaining certifications for organizational carbon footprint quantification and implementing various initiatives in gender equity, green infrastructure, good neighbor policy, communication campaigns, and more. Effectively, this paradigm shift has positioned the museum

Cururo,  
*Spalacopus cyanus*






as a regional model for responsible environmental practices, emphasizing its commitment to sustainable development and environmental preservation.

The members of the Green Office Committee have a fundamental role in the proposal of measures and actions presented in the annual management plan. During regular meetings, the document is reviewed and approved in a participatory and collaborative manner, and follow-up is conducted to ensure fulfillment of the commitments made. All goals proposed in the Environmental Management Plan are determined responsibly, taking into account the reality of the organization. They must be achievable and feasible, considering available resources, capacity, and the practicality of the objectives. The measures proposed in this plan included 49 with 48 assigned goals, which were fully achieved. In fact, a greater number of actions were carried out in social, environmental, circular economy and cultural matters.

The objectives and goals achieved in the Environmental Management Plan developed during the year 2024 are detailed below.

Resource consumption

The museum’s resource consumption has three categories, each with its own objective, goals and measures to control and/or reduce resource usage.

 <div>1 • Paper consumption</div>	 <div>2 • Energy consumption</div>	 <div>3 • Water consumption</div>
<div>Objective: Use of paper in an efficient and responsible manner.</div> <div>Goals:<ul style="list-style-type: none"><li>• Use 100% sustainably managed paper.</li><li>• Do not exceed one ream of paper per employee annually.</li><li>• Include another Serpat institution in the recycling initiative.</li></ul></div> <div>Timeline: Annual</div> <div>Compliance Status:<div>100%</div></div>	<div>Objective: Use electricity efficiently and responsibly.</div> <div>Goals:<ul style="list-style-type: none"><li>• Monitor behavior changes.</li><li>• Maintain electricity consumption consistent with previous years.</li><li>• Maintain communication with the team on positive progress.</li><li>• Promote efficient use of economic resources.</li><li>• Monitor energy consumption, at least 2 temporary exhibitions.</li></ul></div> <div>Timeline: Annual</div> <div>Compliance Status:<div>100%</div></div>	<div>Objective: Use water efficiently and responsibly.</div> <div>Goals:<ul style="list-style-type: none"><li>• Ensure all water-using devices in both buildings function properly and prevent misuse.</li><li>• Make a comparative report of water consumption across periods.</li><li>• Require the use of biodegradable cleaning products in the janitorial service bidding process.</li></ul></div> <div>Timeline: Annual</div> <div>Compliance Status:<div>100%</div></div>











Chilean slender snake  
*Galvarinus chilensis*



Emissions

Four emission sources were identified within the museum, these, as well as consumption, each has objectives, goals, and actions for control.

<div></div> <div>1 • Waste Generation</div>	<div>Furniture Disposal Management</div>	<div></div> <div>2 • Emissions from transportation</div>	<div></div> <div>3 • Carbon Footprint Huella Chile</div>	<div></div> <div>4 • Noise generation</div>
<div><b>Objective:</b> Add value to waste by promoting recycling and reuse.</div> <div><b>Goals:</b><ul style="list-style-type: none"><li>• Carry out 4 recycling campaigns per year. Goal exceeded.</li><li>• Coordinate 5 recycling pickups per year. Goal exceeded.</li><li>• Quantify the hazardous waste generated per year.</li><li>• Carry out at least two activities on waste valorization.</li><li>• Formalize a new cooperation agreement for clothing and accessories.</li><li>• Share with the team the updated waste protocol.</li></ul></div> <div><b>Timeline:</b> Annual.</div> <div><b>Compliance Status:</b><div><div>100%</div></div></div>	<div><b>Objective:</b> Prevent waste generation and extend the life cycle of materials or equipment during the decommissioning of furniture and assets.</div> <div><b>Goals:</b><ul style="list-style-type: none"><li>• Manage at least one donation of decommissioned goods (if applicable).</li><li>• Make sure that decommissioned goods are recycled and avoid their destruction (if applicable).</li></ul></div> <div><b>Timeline:</b> Annual.</div> <div><b>Compliance Status:</b><div><div>100%</div></div></div>	<div><b>Objective:</b> Mitigate carbon footprint.</div> <div><b>Goals:</b><ul style="list-style-type: none"><li>• Maintain bicycle parking for museum personnel and external staff attending meetings</li><li>• Make at least one informative poster on efficient car use.</li></ul></div> <div><b>Timeline:</b> Annual.</div> <div><b>Compliance Status:</b><div><div>100%</div></div></div>	<div><b>Objective:</b> Implement carbon footprint measurements.</div> <div><b>Goals:</b><ul style="list-style-type: none"><li>• Report 100% of the COV about the methodology for carbon footprint quantification.</li><li>• Apply for the quantification seal of the Huella Chile program for the years 2022 and 2023.</li><li>• Socialize with the team the 2022 and 2023 inventories of organizational carbon footprint measurement inventories.</li><li>• Keep visitors informed about the carbon footprint process through the museum's entrance TV and social networks.</li></ul></div> <div><b>Timeline:</b> february - march - first semester - annual.</div> <div><b>Compliance Status:</b><div><div>100%</div></div></div>	<div><b>Objective:</b> Implement actions to avoid exposure to noise that could cause occupational illnesses among staff.</div> <div><b>Goals:</b><ul style="list-style-type: none"><li>• Manage noise measurement due to water pump damage, while its maintenance is being arranged, through the administrator of the labor insurance system.</li></ul></div> <div><b>Timeline:</b> Annual.</div> <div><b>Compliance Status:</b><div><div>100%</div></div></div>




Pill bugs,  
*Armadillidium vulgare*



## Sustainability

Sustainability is an essential pillar in the internal management of the museum, organized through eleven aspects with established objectives, goals and measures.



### 1 • Internal Environmental Self-Management Policy

**Objective:**  
Ensure the environmental variable is present in all work processes.


**Goals:**

- Review and update the Environmental Self-Management Policy through a participatory process involving the COV, and make the organization known.
- Apply at least in three departments/areas of the museum components of the environmental policy in their internal protocols
- Maintain the Environmental Self-Management Policy permanently visible on the *Oficina Verde* banner.
- Continuously share the updated Environmental Self-Management Policy with staff and visitors through various communication channels.

**Timeline:** Annual

**Compliance Status:**

100%



### 2 • Sustainable procurement and circular economy

**Objective:**  
Promote sustainable procurement and circular economy

**Goals:**

- At least one area of the museum applies the protocol for the acquisition of goods/services in purchase or tenders.
- Conduct at least three activities with local entrepreneurs to promote the circular economy.
- Ensure that at least 90% of coffee break activities held throughout the year are healthy.

**Timeline:** Annual

**Compliance Status:**

100%



### 3 • Community

**Objective:**  
romote the recognition of natural and cultural heritage on museum grounds on a permanent basis.

**Goals:**

- Conduct at least two on-site activities.

**Timeline:** Annual

**Compliance Status:**

100%



### 4 • Promoting SDGs

**Objective:**  
Identify Sustainable Development Goals (SDGs) that are being developed in the museum.

**Goals:**

- Take at least 5 actions that respond to climate action or other relevant identified SDGs.

**Timeline:** Annual

**Compliance Status:**

100%



Panda ant,  
*Euspinolia militaris*





5 • Environmental  
Education

**Objective:**  
To provide knowledge and practices  
related to sustainable issues.

- Goals:**
- Manage staff participation in at least 4 with 100% participation from the COV.
  - Conduct talks or inductions for at least 5 interns, trainees, or collaborators. Goal exceeded.
  - Generate at least 5 digital posters or infographics annually.

**Timeline:** Annual

**Compliance Status:**



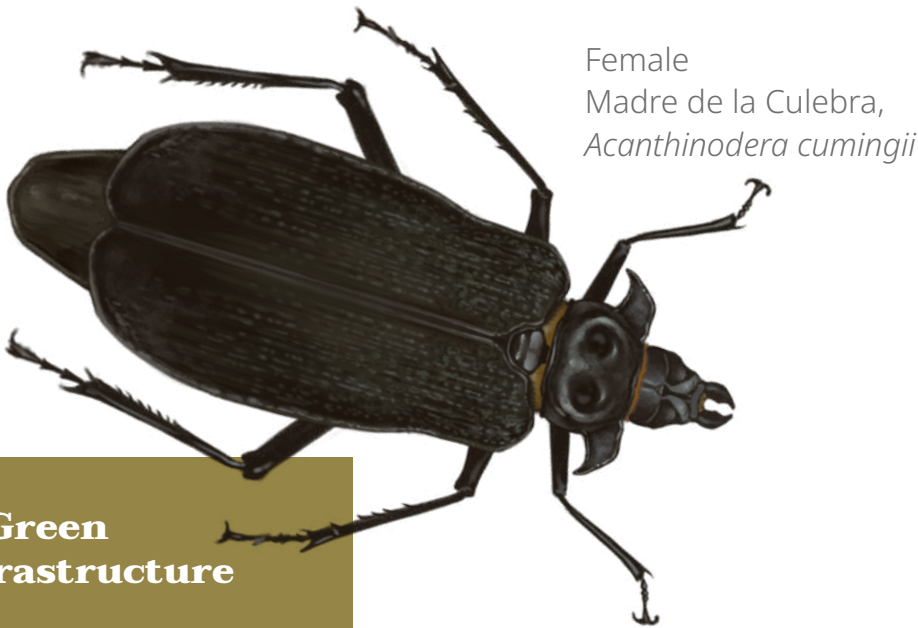
6 • Green  
Infrastructure

**Objective:**  
To enhance and transform spaces into  
green areas.

- Goals:**
- Carry out two actions aimed at generating green areas within the museum.

**Timeline:** Annual

**Compliance Status:**



Female  
Madre de la Culebra,  
*Acanthinodera cumingii*



Male  
Madre de la Culebra,  
*Acanthinodera cumingii*



7 • Oficina Verde  
Committee (GOC)

**Objective:**  
To maintain the formal operation of  
the Oficina Verde Committee (GOC).

- Goals:**
- Meet periodically (4 times a year)
  - Determine democratic actions with the participation of all members.

**Timeline:** Annual

**Compliance Status:**



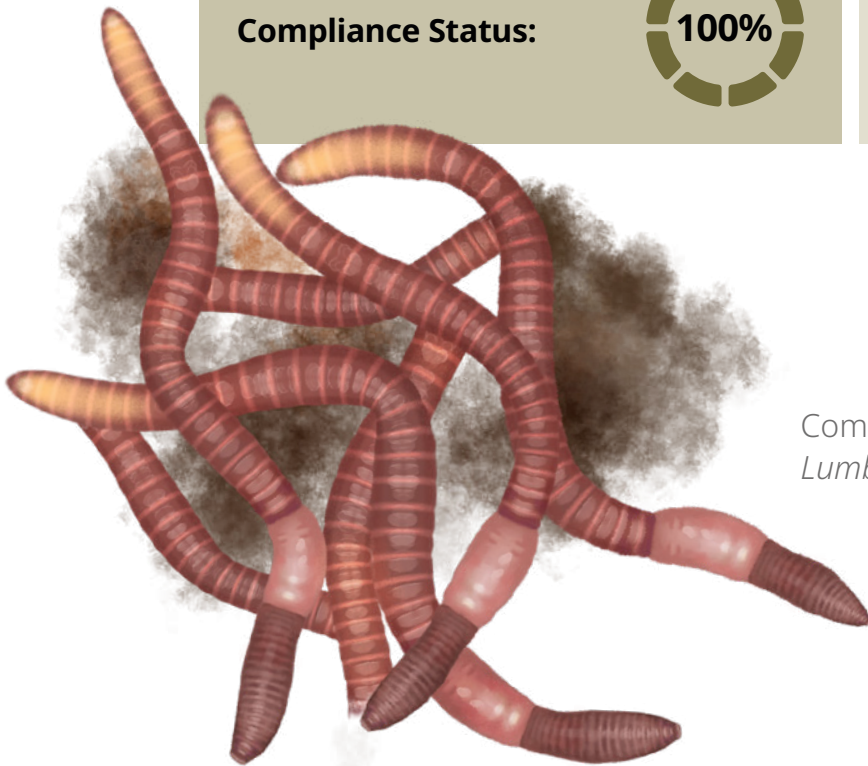
8 • Gender Equity  
Perspective

**Objective:**  
To carry out actions that consider a  
gender perspective among museum  
staff in the short, medium and long  
term.

- Goals:**
- Carry out at least 2 actions that promote gender equity. Goal exceeded.

**Timeline:** Annual

**Compliance Status:**



Common earthworm,  
*Lumbricus terrestris*





### 9 • Communication Campaign

**Objective:**

Keep staff and visitors informed about the processes and challenges to be implemented.

**Goals:**

- Carry out at least 5 actions to raise awareness and promote information about vulnerable native species.
- Publish at least 5 notes per year on the official MHNv website.

Both goals exceeded.

**Timeline:** Annual

**Compliance Status:**



### 10 • Buen Vecino Policy

**Objective:**

The museum proposes environmental management commitments in the short, medium and long term, in accordance with its specific activities.

**Goals:**

- Carry out at least three actions aimed at the community that align with the museum's mission. Goal exceeded.

**Timeline:** Annual

**Compliance Status:**



### 11 • Healthy Living and Workplace Well-being

**Objective:**

To facilitate and promote information on healthy living and well-being during the workday.

**Goals:**

- Generate at least four actions that promote healthy living and well-being both in and outside the workplace. Goal exceeded.

**Timeline:** Annual

**Compliance Status:**



### 12 • Public report on environmental and Sustainability matters

**Objective:**

To communicate the museum's actions that have both internal and external impact.

**Goals:**

- Produce and share Sustainability Report No. 2 in a downloadable format.
- Keep the community informed about environmental topics through website articles.

**Timeline:** Annual

**Compliance Status:**



Chilean rose tarantula,  
*Grammostola rosea*



# Environmental Management Plan Results

This chapter highlights the quantitative results obtained by the Museo de Historia Natural de Valparaíso in terms of Water Management, Energy Management, Waste Management, Decommissioned Assets, and Carbon Footprint. Additionally, it outlines progress made in other áreas, such as the update of the Environmental Self-Management Policy, Audits, Urban Climate Refuge, Meteorological Station, and the Management Improvement Program (PMG) *Sistema Estado Verde*.

## Water Management

One of the measures carried out was an assessment of the condition of the artifacts of the public restroom fixtures and those used internally by the staff, located in the Palacio Lyon (museum) and Carlos Porter (administrative building).

The fixtures checked included toilets and sink, faucet, shower, and patio taps. When carrying out the check, it was identified that in total there are 54 water fixtures across both buildings, 88% in good condition, and 12% are defective. Also, it is necessary to mention that toilets are equipped with dual flush systems for liquids and solids.

Another action was to analyze water consumption in both buildings, including visitors to the museum, to compare the consumption of the year 2024 with previous periods. To comply with this measure, a report was made in which the consumption of both buildings was considered.

First, due to administrative issues, separate bills were obtained for each building; previously, only a single bill covered both properties.

Secondly, since December 2023 the museum has declared itself an “Urban Climate Refuge”, promoting the refilling of reusable water bottles at public restrooms. To support this, faucet-type taps were installed. Given the context of the region, some areas lack portable water and rely on water trucks, this campaign also focused on how important it is to raise awareness about the use of this resource among visitors.

The education team reinforced responsible water usage protocols in public restrooms and in the MuseoLab-Learning Room, especially during organized group visits.

For the analysis of water consumption, the number of staff members in the Carlos Porter building was considered, and a comparison was made of water usage in cubic meters (m³) with previous years. In the case of the Palacio Lyon (museum), the visitor statistics for the year 2024 were considered, since there are no account records from previous years, making a comparative analysis impossible. When comparing the water consumption of the Carlos Porter building (administrative building) between the periods 2023 and 2024, a 23% reduction was observed in the latter year.

Chilean wine palm coconuts, *Jubaea chilensis*; Litre tree fruits, *Lithraea caustica*



Below is the table showing water consumption for the Carlos Porter building (administrative building) from 2018 to 2024:

Carlos Porter Building		
Year	Total Annual Value m³	Average Monthly Value m³
2018	379,00	31,58
2019	345,00	28,75
2020	458,00	38,17
2021	221,00	18,42
2022	365,00	30,42
2023	620,00	51,67
2024	478,00	39,83

According to the comparison table, the 2020–2021 period reflects the context of the pandemic, which explains the greater reduction in water consumption compared to other years, amounting to 52%.

Comparisons	Total Annual Value m³	Average Monthly Value m³
2018-2019	-9%	-9%
2019-2020	33%	33%
2020-2021	-52%	-52%
2021-2022	65%	65%
2022-2023	70%	70%
2023-2024	-23%	-23%

Below is a table with the consumption of both buildings:

Month	Carlos Porter Consumption m³	Museum Consumption m³	Visitors Number
January	52	36	20781
February	42	49	9458
March	43	45	9717
April	54	0	5275
May	40	0	14702
June	35	122	6167
July	26	41	7888
August	51	39	6151
September	64	42	3393
October	40	35	10900
November	30	54	6549
December	1	76	4289
Total	478	539	105270

The museum staff in 2024 consisted of 23 people, and the annual water consumption in the Carlos Porter building was 478 m³, which corresponds to 21 m³ per staff member. Most of the offices are in this building, and they have restricted access, except for the scientific library that is on the first floor, which is open to the public from Tuesday to Friday (the public was not considered in the calculation of this consumption.) It is important to mention that during the period there were problems with the pump system that allows water to

circulate through the building, so there was a month of low consumption corresponding to December. In relation to the consumption of the Palacio Lyon (museum), it is considered acceptable given the number of visitors to the museum. When making this analysis, it was hypothesized that a significant portion of visitors use the public restrooms—particularly organized groups, most of which are school delegations. Additionally, the possibility of refilling water bottles during hot periods was considered, as these actions are part of promoting the urban climate refuge initiative.

It is concluded that, although the reinforcements carried out by the Education Department and the person in charge of the MuseoLab-Learning Room have been effective, it is necessary to continue permanently providing information aimed at promoting responsible and conscious water use. This information should be directed both to museum staff and to the visiting public.



Chilean wine palm coconuts,  
*Jubaea chilensis*

### Energy Management

The museum continues to apply an energy efficiency plan in place since 2022, which focuses on changes in the habits of the staff, such as turning off lights and PC screens when leaving the office, as well as disconnecting electrical appliances from the kitchen

after use, turning off hallway and common areas lights, among other actions. To obtain accurate data during monitoring, inspections of the Carlos Porter building were carried out without notifying the staff during the month of August.

The habits being evaluated are:

Habits to evaluate	YES	NO
Are the hallway lights on when no staff are present?		
Are office lights on when no staff are present?		
Are computer screens on when no staff are present?		
During the workday, are office lights on when not necessary?		
Are the windows clean, allowing for natural lighting?		
Are the central hall lights on because it is necessary (considering the season - fall, winter, spring, or summer - including the presence of coastal fog)?		
In the kitchen and dining area, are electrical appliances (microwave, coffee maker, etc.) unplugged after use, except for the refrigerator?		

The results indicated that responsible and conscious habits should continue to be reinforced, particularly regarding turning off hallway lights and PC screens when staff are not present, as well as unplugging kitchen appliances after use.

The second measure was to manage the change of the electricity rate for the Palacio Lyon (museum). With the help of collaborators such as experts from Chilquinta, electrical specialty teachers from the Manuel de Salas School in Casablanca and industrial civil engineering students from



the Federico Santa María Technical University (UTFSM), an analysis of electrical consumption was made based on the needs of the museum. This provided data that allowed better use of financial resources in this area.

Another measure consisted of comparing current electricity consumption with previous years, highlighting the rate change for the Palacio Lyon (museum) together with the checklists evaluations mentioned in the previous point.

A comparison was made between the periods 2018–2019 and 2023–2024 (2020 and 2021 were excluded due to the pandemic context.) A 45% reduction in consumption was observed across both buildings. The Palacio Lyon (museum) saw a 51% reduction, while the Carlos Porter building (administrative building) saw a 24% reduction.

Below are the tables with electricity consumption data in kWh for each building and the combined total.

The fourth measure focused on calculating the electricity consumption of temporary exhibitions, with the aim of establishing protocols in the short term that prioritize the use of energy-efficient technologies in lightings, TVs, sound equipment, among others.

In this area, the electricity consumption of two temporary exhibitions was evaluated: “Skulls: Essential for Life” and “Dinosaurs: Beyond Extinction”. For this, the consumption of the electrical appliances of each exhibition and the duration they were available to the public were considered.

While the analysis of quantitative data shows that the museum has improved in terms of energy efficiency, it also revealed further opportunities for improvement—both in organizational habits and in investments in more energy-efficient equipment.

LYON		
Year	Total Annual Value kWh	Average Monthly Value kWh
2018	78498,00	6541,50
2019	83287,20	6940,60
2020	39763,10	3313,59
2021	20381,00	1852,82
2022	34996,90	2916,41
2023	39776,90	3314,74
2024	39266,00	3272,20

PORTER		
Year	Total Annual Value kWh	Average Monthly Value kWh
2018	21775,00	1814,58
2019	21028,00	1752,33
2020	10809,00	982,64
2021	11089,00	924,08
2022	12701,00	1058,42
2023	15514,00	1292,83
2024	17140,00	1428,30

BOTH BUILDINGS	
Year	Total Annual Value kWh
2018	100273,00
2019	104315,20
2020	50572,10
2021	31470,00
2022	47697,90
2023	55290,90
2024	56406,00

Chilean pepper tree,  
*Schinus latifolius*



## Waste Management

The museum stands out in the city of Valparaíso for having a recycling and reuse point open to the community on a permanent basis. This point seeks to promote waste valorization through reuse and recycling, promoting the local circular economy thanks to the collaboration of local base recyclers. The museum has strengthened sustainable partnerships and alliances with organizations that promote waste valorization and that have helped through their management to extend the life cycle of materials, preventing their direct disposal in landfill. Undoubtedly, the collaborative work with Ecoandes, Museo Marítimo Nacional, Asociación Sembra, Coaniquem, Universidad de Valparaíso, Entel and Midas has been essential.

Waste valorized by the community includes:

- **Plastics:** PET1 (soft plastics), HDPE (rigid plastic) and PP5 (plastic caps)
- **Textiles:** Unused clothing
- **Small electronic waste**
- **Books** in good condition to recirculate reading

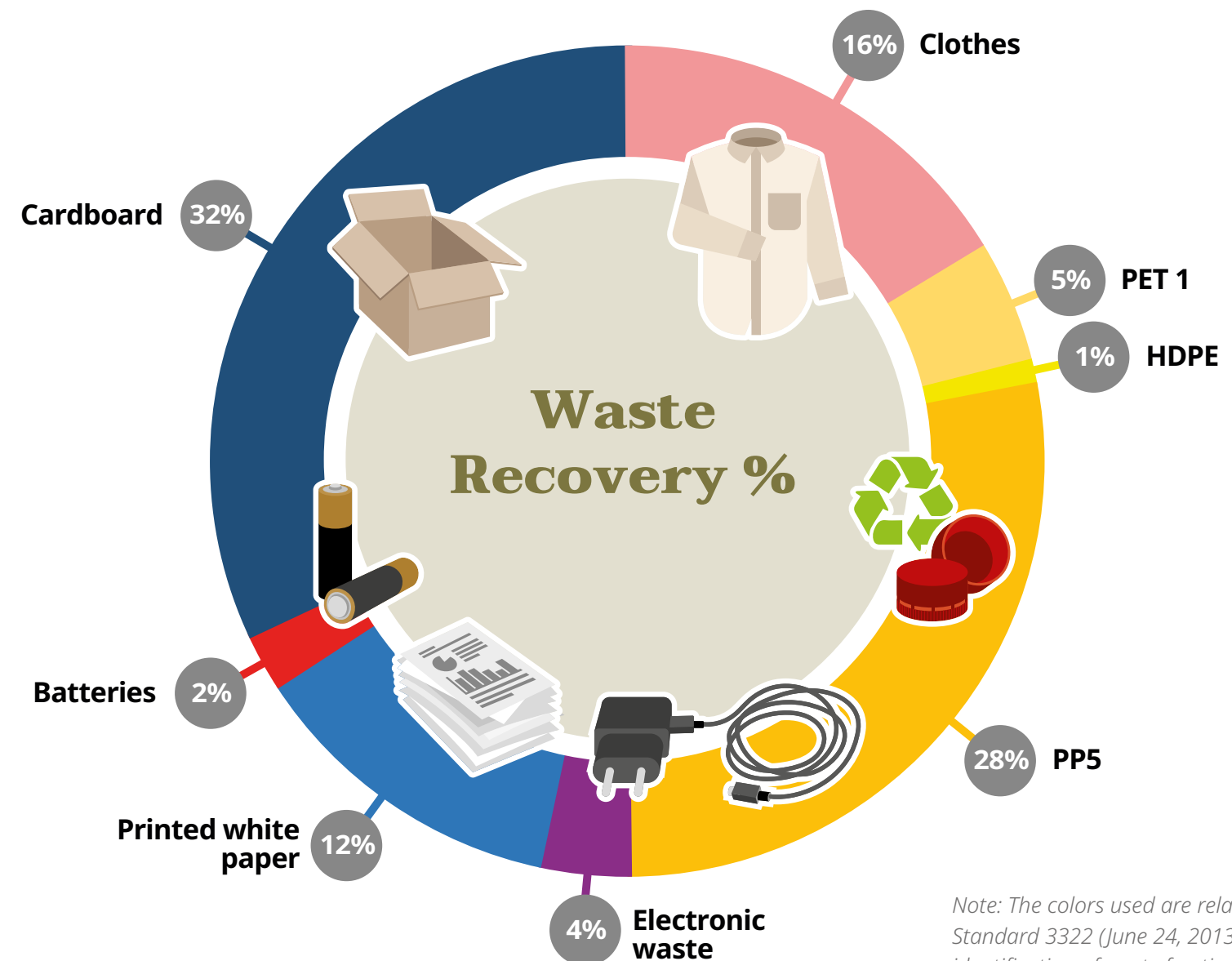
Waste exclusively valorized by museum staff includes:

- **Used vegetable oil**
- **Printed paper**
- **Cardboard**
- **Batteries**

In 2024, a total of 568.7 kg of solid waste, and 50 liters of used vegetable oil were valorized by the community and museum staff, destined for reuse and recycling. A total of 117 books were donated to promote reading recirculation: 91 of them were delivered to the Troleteca community project, a

library installed in a restored trolleybus in the Playa Ancha hill; and 26 books were donated to the campaign led by the Santiago Severin Public Library, benefiting children and youth hospitalized at Gustavo Fricke Hospital in Viña del Mar.

Below is the percentage chart showing waste valorization by category:



*Note: The colors used are related to Chilean Standard 3322 (June 24, 2013) for color identification of waste fractions, issued by the National Standardization Institute.*





Mayten,  
*Maytenus boaria*

## Decommissioned Assets

The assets correspond to materials that are purchased with state funds for the institution's workspaces, such as: desks, shelves, chairs, computers, printers, and others.

Since 2022, an internal protocol was established within the framework of sustainability. This protocol stipulates that decommissioned items in good condition may be reused or donated, preventing their destruction or disposal in landfills.

At the same time, decommissioned items that were no longer usable but still recyclable were processed accordingly. In 2023, arrangements were made for their removal by an electronic waste recycling company. This effort successfully led to the valorization of a total of 294.5 kg, which were collected in early February 2024.

## Carbon Footprint

Since 2019, the museum has carried out actions and measures that contribute to the mitigation of the carbon footprint. The first milestone was the change in format of the journal Anales, which dates back to 1968. Until 2018, 500 printed copies were distributed in Chile and in several countries around the world. Since 2019, the journal became digital, with various editions now available for download on the museum's [website](#).

At the beginning of 2024, the museum continued quantifying the tons of CO<sub>2</sub> equivalent generated by its daily institutional activities. The organizational carbon footprint for the year 2023 was measured, and certification seals for the years 2022 and 2023 were obtained through the Huella Chile program of the Ministry of the Environment. To obtain the seals, the inventories entered into the Huella Chile platform had to be verified by an external company, in accordance with ISO14064:1 standards and the GHG Protocol for GHG quantification. This process was made possible through the collaboration and funding from Chilquinta, allowing the museum to become the [first state-run museum to obtain these quantification seals](#).

During the process of quantifying emissions, applying for, and getting certification through the Huella Chile program, the information was socialized with both the museum staff and the public. Among the actions carried out was a training session for the Oficina Verde Committee (COV) and the presentation materials, including the 2022 and 2023 inventories, were shared with all museum staff. The community has also been permanently informed through notes on the museum's [website](#) and via the entrance hall TV.

## Update of the Environmental Self-Management Policy

The Oficina Verde Committee, which has representations from all areas and departments of the museum, held its first meeting in March 2024. The technical coordinator and environmental management officer announced the renewal of the cooperation agreement with the Ministry of the Environment, aimed at advancing toward the accreditation level of "Excellence." In this sense, the environmental management plan was presented, and one of its first measures was the [review and update of the environmental self-management policy](#). In a democratic process, all members agreed to broaden the policy's scope to include not only museum staff but also collaborators, interns, trainees, researchers, and visitors.



Mayten,  
*Maytenus boaria*

Here are some updated goals:

- a) Comply with current environmental regulations applicable to the activities carried out in the museum.
- b) Empower staff, interns, trainees, collaborators, and researchers in environmental and sustainable issues, promoting habits focused on respect, well-being, and environmental care.
- c) Promote the responsible and efficient use of electricity, water, and materials.
- d) Promote the circular economy by implementing sustainable criteria in procurement and service tendering processes.
- e) Promote reduction, reuse, repair and recycling, through agreements and alliances, aimed at internal staff and visitors.
- f) Implement environmentally friendly technologies.

This update of the policy responds to the growing maturity of the museum's staff in integrating environmental considerations across all internal processes. It also incorporates social, circular economy, and cultural themes, aiming to contribute to the development of sustainable cities and communities.

## Audits

The Museum is currently accredited at the "Intermediate" level in the *Oficina Verde* program of the Ministry of the Environment. During 2024, it was decided to continue advancing towards the "Excellence" level. For this, the execution of the 2024 Environmental Management Plan, along with comparable actions carried out under the 2023 plan.

The procedure to advance in the accreditation levels of the *Oficina Verde* program is through audits carried out by professionals from the Department of Local Environmental Management, within the Division of Environmental Education and Citizen Participation of the Ministry of the Environment. These audits involved follow-up on the measures and targets set out in the 2024 Environmental Management Plan (PGA, in Spanish.) The first audit was conducted remotely, while the second was done on-site.

Excellent results were obtained in both processes. The expected progress rate set by the MMA ranged from 40% to 60%, while the museum achieved 92% in the first audit. In the second audit, progress was greater, achieving 97% compliance.

Key findings from the MMA professionals' report included:

- "Current management is solid, with only two processes remaining to be completed, both of which are already underway."

- "The work of the *Oficina Verde* Committee is acknowledged and commended, highlighting the initiatives carried out, the demonstrated commitment, and the efficient management in collaboration with various institutions and organizations."
- "Sincere thanks are extended for the advance presence of the Director and the entire Green Office Committee team, whose dedication and enthusiasm—as reflected in the audit report—have been instrumental in increasing the likelihood of achieving the Excellence level."

After the results of both audits, the museum team hopes with great enthusiasm and optimism to obtain the level of Excellence accreditation during 2025, and then pursuing "Outstanding Excellence" level in 2026.



Litre tree,  
*Lithraea caustica*





Urban Climate Refuge

In the summer of 2024, the Natural History Museum of Valparaíso announced the availability of potable water refill stations in its public restrooms, encouraging the use of reusable water bottles. This initiative reflects the museum’s ongoing commitment to environmental protection and to the health and well-being of its visitors. In the context of climate change that we are facing, we are witnessing that climatic events are affecting us more frequently, which reinforces our mission to serve as a safe and free-access refuge for anyone in the city of Valparaíso needing shelter during episodes of heat or cold. The designation as an Urban Climate Refuge is not only about providing physical shelter and comfort but also about raising awareness and sharing preventive measures and tips to help people safely and healthily cope with heat waves.

Weather Station

During the year 2024, the museum is a monitoring site through the donation of a [weather station](#), thanks to the Fondecyt research project “Urban Climate in Coastal Conurbations of Chile: A Proposal for Socio-Environmental Justice through Climate-Sensitive Planning”. This has shown the museum as a reference point located in the lower part of Valparaíso. This project provides real-time data on both indoor and outdoor climatic conditions, offering a permanent public service to visitors, who can access daily weather updates for the municipality of Valparaíso.



Click on the image for further information

When verifying the information online, it shows that significant temperature differences (in degrees Celsius) are recorded between the exterior and interior of the museum premises, both during hot and cold seasons. On May 5, 2024, a temperature difference of 5.6 C was recorded between the external and internal environments. Additionally, there was a notable difference in humidity levels. Also, the weather station provides additional parameters, such as precipitation levels (in millimeters), wind speed, UV radiation levels, among others.





## Management Improvement Program “Sistema Estado Verde”

According to Exempt Decree No. 395 (2023), which approves the framework program for the Management Improvement Programs (PMG, in Spanish) of public services for the year 2024 (in relation to the performance-based institutional bonus under Article 6 of Law No. 19.553). This program is based on the principles of effectiveness, efficiency, and service quality for users. It sets goals related to effective management, institutional efficiency, and service quality. In the case of the PMG Green State System, it is related to Objective No.2 Institutional Efficiency, which consists of encouraging public institutions to carry out their processes in a sustainable manner and improve financial performance.

The main objective is to progressively implement sustainable management in the administrative processes and strategic outputs of institutions, to reduce negative environmental impacts and contribute to Chile’s climate change commitments. This objective aligns with what has already been implemented since 2021 through the *Oficina Verde* Program of the Ministry of the Environment, to which the museum voluntarily subscribed. Currently, the museum has made significant advances in environmental

and sustainability matters compared to other institutions under the National Cultural Heritage Service (SERPAT, by its Spanish acronym), as part of its strong commitment to environmental conservation and addressing the climate crisis.

To comply with the PMG *Estado Verde* System, the museum annually submits data through the Gestiona Energía platform, including: Electricity and water consumption Inventory of water fixtures. Amount of waste valorized for recycling, with corresponding protocols. Paper purchases, if any, and number of printed pages. Air travel by staff. All this information is compiled in detailed reports.

This chapter concludes that the achievements made ultimately motivate the museum to continue promoting measures that mitigate the organizational carbon footprint, such as waste management and its valorization through the implementation of recycling and reuse campaigns, transforming museum spaces into green areas, promoting the responsible and conscious use of water and electricity, continuing efforts for efficient paper use, prioritizing and encouraging the local circular economy, building

partnerships aimed at transforming the museum into an agent of change, helping to create a society more connected with nature and resilient to climate change impacts.

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# Community Engagement

This chapter highlights various initiatives carried out that are directly connected to the museum's vision, which is to "strive for a sustainable museum, to develop a spirit of community service with an inclusive character, by acting as a mediator between the socio-cultural policies of the State, and the appreciation of both natural and cultural heritage; promoting its research, conservation, and educational dissemination" (MHNV, 2025.)

These initiatives were carried out between January and December 2024, with participation from the museum's department and collaborators. They have articulated strong collaborations through a transdisciplinary approach. The themes that approach the community are transversal, focusing on nature conservation, the environment, gender equity, waste valorization, science promotion, innovation and technology, reading encouragement, activities to promote the local circular economy, among others. These efforts are directly and indirectly related to the Sustainable Development Goals, and to the fulfillment of the goals established in the museum's annual environmental management plan.

To learn more about the activities, click on the highlighted images and text.

The event featured numerous fascinating activities, which received a large number of visitors, with a standout being the exhibit "[Dinosaurs Beyond Extinction](#)" (December 2023–March 2024). During the event of Summer Museums, there was a keynote lecture on the evolution of dinosaurs and interactive workshops suitable for all audiences. This celebration is developed at a national level, with the purpose of bringing cultural and scientific heritage closer to the community during the summer season.

Activities included:

*Keynote: Dinosaur Evolution and Fossil Records in Chile;*  
*Workshop: Dinosaurs for Everyone;*  
*Talk: Pterosaurs (Ctenochasmatidae) in Quebrada Monardes (Lower Cretaceous), Atacama Region*

*Click on the image for further information*

## Museums in summer





## “Women in Science, Roles and Challenges”

The panel was organized between the Nanobiomaterials Laboratory at Universidad Técnica Federico Santa María (UTFSM) and the museum, this event featured prominent female scientists.

In the discussion, the role of women in Chilean society and their contribution in the scientific field was emphasized. The progress towards a positive cultural change in relation to the interest of women and girls in scientific issues was highlighted. During the day, there was an enriching dialogue between the participants and the public, where experiences of professional women, mothers, daughters, colleagues, and scientists were shared.

## International Recycling Day

We have implemented in the museum an environmental management policy, focusing on community action and addressing socio-environmental issues like the impact of the fashion industry. Along these lines, recycling and reuse are steps that contribute to mitigating the negative impacts we generate on the environment. In the context of World Recycling Day, the talk titled “Negative Impact of the Textile Industry versus Opportunities and Solutions to Protect Ecosystems and People” was given by Keryma Jiménez Ampuero, a fashion designer, educator, and founder of the brand [Keyem Indumentaria](#). In this regard, we recognize that recycling is not a complete solution, as we must first reduce, reuse, repair, and the last option will be to recycle.



*Click on the image for further information*



[Click on the image for further information](#)



Likewise, the museum promotes the local circular economy by launching a new partnership with COANIQUEM STORE at our recycling and reuse station, through the installation of a new container for donating clothing and accessories in excellent condition. From jeans to hats, everything is welcome. Community contributions not only encourage reuse, but also help generate resources to fund the rehabilitation of children and adolescents with burn injuries.

Gay fire ant,  
*Solenopsis gayi*



## Book Fair

To celebrate Heritage Day, the museum kicked off the event with the fifth edition of the Scientific Book Fair, organized by the John Juger Scientific Library. Attendees had access to various science outreach content, covering research, nature, and the environment. Alongside local publishers, the fair featured nature-themed entrepreneurs and illustrators, as well as the launch of a book, hands-on workshops, and a documentary exploring the auditory systems of owls, bats, and sperm whales.

[Click on the image for further information](#)







# World Oceans Day

On June 8, World Ocean Day was celebrated, with fascinating activities and outstanding exhibitors. Organized by the NGOs Jauken, Fipancu, and the museum, the event culminated with a fun costume party.

The activities carried out made this a powerful event of collaboration among participants to share crucial information about the urgent need to conserve ocean biodiversity, its role in addressing climate change, and the path toward sustainable development. Highlights of the day included book launches, panel discussions, talks, and a local fair focused on environmental education.

[Click on the image for further information](#)

## Lecture Series

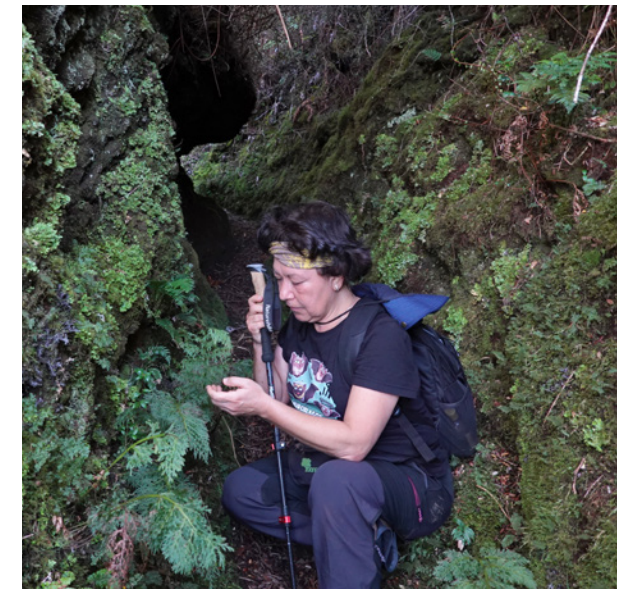
Throughout the year, a wide range of talks are offered to the community, covering topics such as ocean conservation, climate change, waste management, and native and endemic flora of the Valparaíso region, among others. What unites the speakers and collaborators is their shared commitment to conservation, restoration, and scientific outreach—bringing essential knowledge closer to the public to foster a sense of belonging and territorial identity, and to inspire the protection and care of our natural environment.

### Talk: The ocean, our natural shield against climate change



[Click on the image for further information](#)

### Talk: Exploring the natural heritage of the Valparaíso region



[Click on the image for further information](#)

### Scientific talks series on the Anillo Seals project



[Click on the image for further information](#)



## Talk: Threats and Challenges for Marine Mammal Conservation in Chile



[Click on the image for further information](#)

## Talk: Education, science and the environment: tools for pedagogical development in the classroom



[Click on the image for further information](#)

The museum's Education Department promotes pedagogical development tools for the classroom, through subjects in education, science, and the environment, through a strategic collaboration, with the Valparaíso Local Public Education Service (SLEP). This training series was aimed at teachers and designed to encourage the implementation of scientific and environmental tools in the classroom, fostering comprehensive education and sustainable development in the region.

Wolf spider,  
*Lycosa virgulata*



## Festival of Sciences

In collaboration with the Ministry of Science, Technology, Knowledge and Innovation, the museum was part of the organization and creative programming of the Science Festival, held on October 3, 4, 5 and 6 in the Valparaíso region. The festival featured a dynamic lineup including DJs, talks on climate change, circular economy, and nature conservation, workshops on oceanic soundscapes and naturalist illustration, soundscape concerts, yoga classes, guided tours, and a local fair showcasing 40 stands with healthy food ventures, sustainable fashion and accessories, and environmental education. Held in the spacious green areas of the Viña del Mar Botanical Garden, the event concluded with live music performances by



[Click on the image for further information](#)

captivating local and national bands. The main objective of the festival was to encourage reflection and inspire people to reconnect with their environment, promoting a shift toward sustainable living and community-building in the face of climate change.



## Textile workshop with Reused Materials

The negative effects of the fashion industry have a socio-environmental impact, and this concern is increasingly relevant in Valparaíso and across the country. In response, the museum has embraced this issue as part of its annual program, serving as a space for both reflection and creativity to move toward sustainable solutions. Thanks to the collaboration of Keryma Ampuero J., costume designer, the museum held its first-ever bucket hat-making workshop using reused fabrics. The workshop was attended by 11th and 12th grade students from the fashion course at Liceo Técnico N 2 of Valparaíso. The session consisted of a theoretical class and a workshop class, in which the upcycling methodology was applied. Undoubtedly, for all participants, the class was an enriching and innovative experience by taking place in a heritage and cultural setting.



Pill bugs, *Armadillidium vulgare*; Gay fire ant, *Solenopsis gayi*

# Workshops

Click on the image for further information



Click on the image for further information

## Chess Workshop and Donation

Through the efforts of the MuseumLab-Learning coordinator, the museum received the generous donation of a giant chess set from [members of the Viña del Mar National Botanical Garden](#). The donation made it possible to celebrate Children's Month with a series of engaging activities centered around the game of chess.

Since August, in celebration of Children's Month, the museum has launched a new cycle of science outreach activities in its MuseoLab-Learning room. These initiatives have offered transformative educational experiences through dynamic and interactive methodologies. One of the key highlights was a series of [chess workshops](#) aimed at teenagers, fostering critical thinking and strategy in a playful, engaging environment. Along with the above, during the second semester, different activities of chess-related events were carried out, such as talks by [female players](#) who have competed in national and international tournaments. These participants shared their experiences and challenges, enriching the program with valuable perspectives.



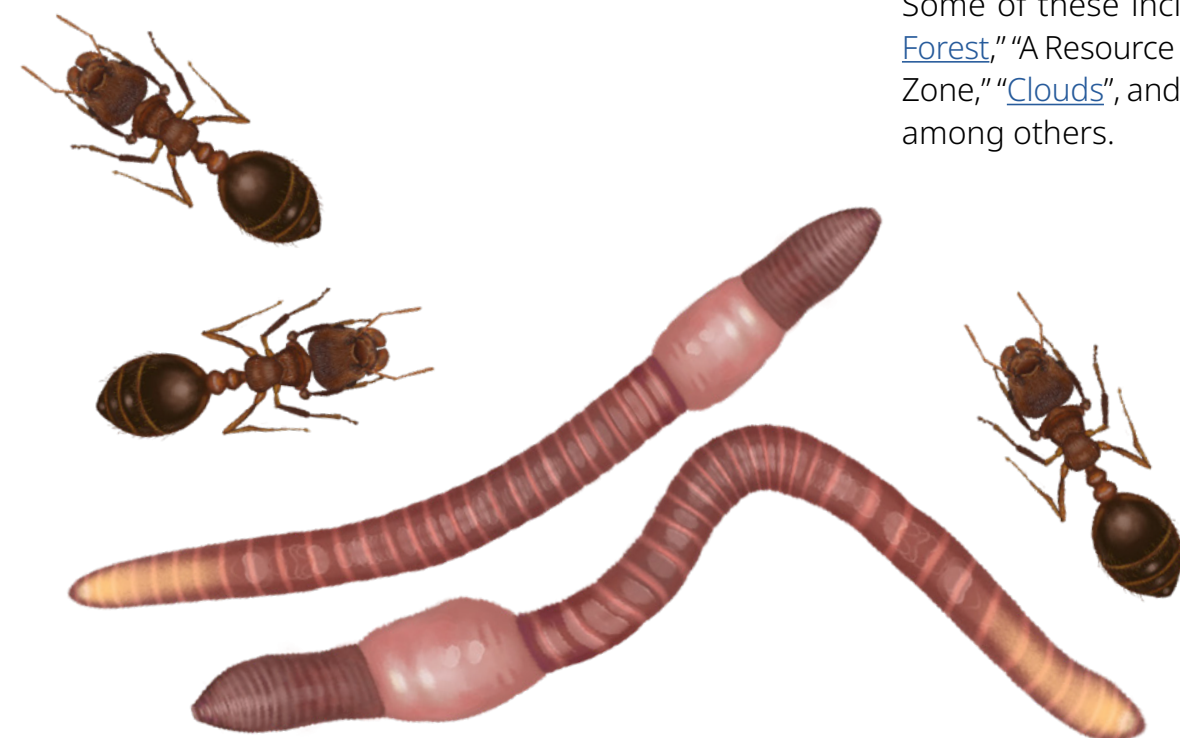




[Click on the image for further information](#)

## The Skull Workshop

As part of the museum's broader educational offerings that combine various scientific disciplines, a memorable activity was the [Skull Workshop](#) for students from Escuela Básica La Greda. Guided by the museum's director, Sergio Quiroz J., in the MuseoLab-Aprendizaje Room, the workshop allowed students to explore the importance of skulls in the development of life. They observed skulls from different species, learning to distinguish dental structures and their specific functions—a fascinating encounter with biology in an immersive learning space.



Gay fire ant, *Solenopsis gayi*;  
Common earthworm,  
*Lumbricus terrestris*



## Valparaíso Trekking Collaboration

The coordinator of the MuseoLab-Aprendizaje Room organized a wide range of workshops on topics such as native flora, clouds, insects, and the intertidal zone, in collaboration with [Valparaíso Trekking](#)—an initiative led by individuals who define themselves as passionate about the natural spaces of Chile and the world.

This is a local initiative that is dedicated to creating educational and tourism materials for the responsible enjoyment of nature. Its founder, Diego Vásquez Corvalán, has extensive experience in the study and dissemination of environmental issues, making him a leading figure in climate education in the region. They currently focus on two main areas of work: hiking (of varying difficulty levels) and the creation of materials for the care of our flora and fauna, such as field guides. In this latter area, they have launched their fascinating guides and held numerous workshops in the MuseoLab-Learning room, attracting large audiences. Some of these include: "[Recognizing the Sclerophyllous Forest](#)," "A Resource to Explore the Biodiversity of the Central Zone," "[Clouds](#)", and the launch of the [Intertidal Zone Guide](#), among others.



[Click on the image for further information](#)

## Recirculating Reading and Book Donations

The museum's John Juger Scientific Library runs annual campaigns to encourage visits to the library and participation in its book reuse station, known as "[Recircula la Lectura](#)" (Recirculate Reading). This initiative invites the public to donate books in excellent condition, which are then distributed to community spaces to promote reading.

In 2024, the campaign collected a total of 117 books, with 26 of them donated to the Book Donation Campaign led by the Santiago Severin Library ([@biblioseverin](#)), aimed at children and young people hospitalized at Gustavo Frické Hospital. The remaining 91 books were donated to [Troleteca](#), a community library installed in a restored trolleybus on Playa Ancha hill. Much of this generous donation came from students of Seminario San Rafael in Viña del Mar, who joined the campaign during their visit to the museum.





[Click on the image for further information](#)

## Green Infrastructure

The commune of Valparaíso is characterized by a lack of public green areas—a concern that resonates within the museum, especially in the context of the climate crisis and the recognized benefits of green infrastructure for both people and the environment. Thanks to a generous donation from the company Chilquinta and the efforts of the museum’s environmental management coordinator, a significant step toward sustainability was achieved with the creation of a [new green area at Palacio Lyon](#). The project became a reality by converting two parking spaces into a green space intended not only for recreation, but also as a venue for workshops and talks with open access to the community.



[Click on the image for further information](#)

## Community

For the museum, it is essential to promote awareness and care of the native forest. One example of this commitment was made possible by a donation of [native sclerophyll forest species](#) from the company Agunza, through its national environmental manager and community relations officer. These plants were distributed through a community contest that highlighted the ecological importance of the sclerophyllous forest. Winners received a native tree, reinforcing the connection between community engagement and environmental conservation.



[Click on the image for further information](#)

## Grete Mostny Honorable Mention

The museum, in October 2024, was awarded the [Grete Mostny Award](#) for Good Museological Practices, the theme was “Towards a Sustainable Museum: Experiences and Reflections”. The museum earned the 2nd Honorable Mention, The award recognized the museum’s submission of its second [Sustainability Report](#), released in June 2024, which outlined its environmental management efforts during 2023. The museum was acknowledged as the first state-run cultural institution to publish its internal sustainability processes in a digital and freely accessible format, documenting the early steps and development of its path toward environmental responsibility. The initiative seeks to invite other institutions and organizations to join together as agents of change for a better future, both for the community and for the planet, especially in times of climate crisis.



## Conclusions

The museum team has spent more than three years, currently reaching a stage of maturity regarding sustainability. We have faced challenges with rewarding results, consolidating the institution as a museum that promotes sustainable development.

We understand that it is a permanent process, of continuous, and never-ending effort that has built strong convictions and commitments, enabling us to progress toward a resilient society that is aware of the climate emergency. We contribute from within the State administration, extending our impact to the community and territories of Valparaíso.

We affirm that the path traveled and the goals achieved have been possible thanks to the articulation and tireless work of the museum staff together with many individuals, organizations, other museums, libraries, academic institutions, companies, and others. These powerful alliances generate synergy and achieve successes through collaboration, benefiting us all as individuals, communities, and the environment.

Our environmental and sustainability strategy directly and indirectly addresses the 17 Sustainable Development Goals (SDGs), as we believe that, as a public institution safeguarding natural and cultural heritage, we have the responsibility to lead and promote positive change on these urgent issues for the common good.

Among our concrete actions on climate change is the quantification of our greenhouse gas emissions and the development of mitigation measures through a comprehensive environmental management plan that runs from January to December each year.

These measures are aimed to reduce our negative impacts, such as:

- Valuing waste to reduce what is sent to landfills and recirculating valued materials through campaigns promoting reuse and recycling ([museum collection point](#)).
- Promoting changes in habits related to the efficient use of electrical energy and water.
- Implementing procurement protocols and bidding protocols that evaluate environmentally responsible actions.
- Encouraging creativity and embracing technological advances.
- Promoting the circular economy by supporting local commerce.
- Transforming museum spaces into green areas.
- Facilitating access to information through activities such as: workshops, exhibitions, documentaries, talks, etc.
- Promoting science among children and adolescents with a gender equity perspective.
- Among many other actions.

Yellow fairy cups,  
*Bisporella citrina*;  
Enoki, *Flammulina  
velutipes*



Looking back on the year, we feel very happy with the results achieved, as we reached goals that were difficult to accomplish when we first began our sustainability journey. One standout achievement was becoming the first museum to obtain Carbon Footprint quantification seals. We will continue in this direction to mitigate greenhouse gas emissions (GHG) and fulfill one of the objectives of Chile's long-term 2050 Strategy.

Another action that gives us great satisfaction was implementing a meteorological station that provides real-time data with open access via the institution's website and contributes to an urban climate study, detailed in previous sections.

Additionally, audit results from professionals at the Ministry of the Environment (MMA) regarding the Green Office program were very positive, bringing us closer to achieving "Excellence" accreditation.

By 2025, we will continue developing an Urban Climate Refuge network within the Valparaíso city center plan, offering visitors safe shelter during extreme weather events.

Alongside these efforts, we will keep building collaborative partnerships that help us transform into an informed society

connected to its territory, better prepared to face climate change challenges and move toward creating sustainable communities.

To conclude this third sustainability report, we invite the visiting community, our neighbors in downtown Valparaíso, nearby institutions, and the National Cultural Heritage Service to take concrete actions and measures that benefit future generations and contribute to ecosystem conservation as we advance toward sustainable development.

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Enoki, *Flammulina velutipes*  
Smoky polipore, *Bjerkandera adusta*



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# Working for a Sustainable Museum

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