



OUTREACH AND EDUCATION IN FIELD RESEARCH STATIONS

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INTRODUCTION

COLLABORATION ACROSS INTERNATIONAL BOUNDARIES FOR OUTREACH AND EDUCATION

In 2021, the OBFS launched their Matching Program, which is an opportunity to pair stations to collaborate on topics of their choosing. Our stations, the [Field Research Centre](#) (Hasselt University, Belgium), [Finca las Piedras Field Station](#) (Alliance for a Sustainable Amazon, Peru), and [Gault Nature Reserve](#) (McGill University, Canada), participated in this program.

This international collaboration provided a wealth of benefits for our stations, which include:

- **Exchange of ideas and experiences**, allowing you to tap into the collective knowledge of partner stations.
- **Expanded reach and impact**, as you can collectively address global challenges.
- **Strengthened relationships with partner institutions**, fostering a sense of camaraderie and common purpose.

One of the outcomes of this collaboration is this guide, which describes our best practices in outreach and education. We are excited to share this knowledge with other stations, as it was incredibly valuable to us. Whether you are in Canada, Belgium, Peru, or anywhere else around the world, we hope that this guide will provide useful insights on how to target your audience, create memorable experiences, and evaluate your programs.

THE ROLE OF FIELD RESEARCH STATIONS

Field research stations play a pivotal role in environmental education. They offer a unique and immersive environment where individuals can connect with nature and deepen their understanding of the natural world. By serving as educational hubs, research stations provide opportunities for students, researchers, and the public to engage with scientific research and develop a sense of stewardship for the environment.

Learn more: bit.ly/4dsmYZt

Sharing best practices and experiences

Through collaboration, you can harness the collective wisdom of international partners and share resources and expertise to create more impactful and effective educational activities.



ALIGNING WITH INSTITUTIONAL GOALS

Identifying the Purpose of Educational Programs

It's crucial to identify the role your educational programs play in achieving your mission. Some research stations that are part of a larger institution, such as a university, also have to align with that institution's goals and objectives. Here's how we did it:

- If your organization does not yet have a mission and strategic vision, define it.
- Collaborate with institutional leaders to understand their overarching mission and priorities.
- Clearly define how your educational programs contribute to these objectives. For example, they may support the institution's commitment to community engagement, environmental sustainability, or scientific research.
- Communicate the educational programs' role in advancing the institution's values and reputation.

By aligning your programs with your station's purpose, you strengthen the case for their support and resources.

Demonstrating Value to the Institution's Stakeholders



Collect and present data that illustrates the impact and success of your programs. Use metrics like participation numbers, educational outcomes, and community engagement levels.



Share success stories and testimonials from participants, highlighting the transformative experiences your programs provide through communication channels (e.g., social media, annual reports, newsletters).

DEFINING TARGET AUDIENCES

CLEAR IDENTIFICATION OF TARGET AUDIENCES

Identifying your target audiences is a critical first step in designing effective educational programs. By understanding who you are trying to reach, you can tailor your activities to their specific interests and needs. To do so, consider **conducting surveys** to gain insights into your potential participants.

Tip – Focus on one target audience in the beginning before broadening the reach of your program.

UNDERSTANDING AUDIENCE NEEDS (AND YOUR OWN!)

Once you've identified your target audiences, take the time to understand their needs, preferences, and motivations. It is important to consider both the expectations and aspirations of you participants and your station's own goals for your educational program. This way, you increase the chances of creating meaningful and impactful experiences while respecting your mission and your capacity.

Tip – When working with school, being aware of the curriculum is important. It can help to:

- Adapt the level of difficulty of your program
- Connect better with the teachers
- Help garner interest in your program at the school leadership level



ADAPTING PROGRAMS FOR DIFFERENT AUDIENCES

Different audiences have varying levels of familiarity with environmental concepts and outdoor activities. Tailoring programs to the knowledge and comfort levels of participants is crucial. Flexibility in program design ensures that each audience gets the most out of their visit.

Tip – Programs for school children might focus on basic ecology, while those for university students may delve into advanced scientific topics. Sometimes, groups of the same age or academic level can have very different levels of experience or may have special needs.

Including a simple assessment at the beginning of your activity is a great way to adjust to the participants' level. Make it part of your protocol so that every staff member can do so in a sensitive way.

ADAPTING PROGRAMS FOR DIFFERENT CULTURAL PERSPECTIVES

When working with diverse audiences, it's essential to be culturally sensitive. Tailoring programs to align with different cultural perspectives can greatly enhance the effectiveness of your educational activities. Consider the following strategies:

- Research and understand the cultural backgrounds of your participants. **Example: Get acquainted with the level of inherent comfort / experience with nature of your participants. At Gault, some students coming from the city have never or rarely been in a forest. Giving them time to ease in the activity before starting is therefore important.**
- Collaborate with local experts or community leaders to gain insights into cultural nuances and expectations. **Example: Identify and invite friendly stakeholders to an informal focus group before developing your program.**
- Incorporate elements from different cultures into your programs, such as traditional storytelling, folklore, or rituals related to nature. **Example: In Finca las Piedras, we always use local common names for animals and plants in educational materials. If it has an indigenous name, we will use that instead.**
- Ensure that your activities respect and resonate with the values and beliefs of the communities you serve. **Example: If your community's primary economic activity is logging, frame your contents in a way doesn't judge the activity itself, but that makes the participants think critically about that activity in the contexts of the contents you are trying to convey.**

EXAMPLE – GREATER INCLINATION TOWARD NATURE EXPERIENCES

Cultural attitudes toward nature vary by country. In places like Canada and Belgium, a significant portion of the population actively seeks out nature experiences independently. In countries like Peru, however, nature experiences are less popular. Attracting an audience for educational programs in a field station there demands a different approach.

Self-guided vs. guided activities

Self-guided activities offer flexibility, allowing visitors to engage with educational experiences at their own pace, while also requiring fewer resources to manage. This approach may work well in countries where people have a stronger inclination toward outdoor experiences.

However, in regions where this inclination is lower, programming must adapt. Field stations may need to invest more in guided activities to attract participants, and in some cases, may even need to subsidize the cost of these activities.



CREATING MEMORABLE EXPERIENCES

Making Learning Fun and Engaging

As field research stations, our two most important assets are the natural environment surrounding our facilities and the research that we carry on. These components have been the focal points of our educational programs.

We recognize that memorable experiences need to be interactive, hands-on, and enjoyable. While designing these experiences, we have included the following elements:

OUTDOOR EXPLORATION

- **Games:** Creating a scavenger hunt with our local fauna and flora or adapting concepts from board games.
- **Experiments:** Using the forest surrounding our station to create simple experiments for your participants using common flora and fauna.

SHARING SCIENCE

- **Training park rangers:** Provide training to public-facing staff such as rangers on the research that you are doing.
- **Direct contact with researchers:** Organize events where the public can meet researchers on-site and have an opportunity to ask questions and learn from each other.



Providing Takeaways for Participants

Offer participants something tangible to remember their experience. Whether it's an informative brochure, a certificate, or a small memento related to the research station, providing takeaways ensures that participants have a physical reminder of their visit. This connection to their experience can reinforce their environmental identity.

For examples of takeaways we have used, see the resource section.



Encouraging Participants to Leave Something Behind

Encourage participants to contribute to the research station's mission. Whether it's through voluntary service, participating in citizen science projects, or sharing their experiences through social media, involving participants in meaningful ways ensures they leave a positive mark and feel a sense of belonging to the research station's community.

ASSESSING YOUR CAPABILITIES AND LIMITATIONS

When setting goals for your educational programs, it is essential to be specific and realistic. You need to know what you are capable of doing. The first step is therefore to assess your own station's capabilities and limitations. Good questions to ask yourself are:

- How many **people** can help you with this programming (staff or volunteers)?
- Do they already have **experience** with outreach and education?
- How many **hours** can they devote to this program? (Don't forget the time needed to prepare the activity and deliver it.)
- Can you carry this activity throughout the year, or only seasonally?

Once you know what resources are available to you, then you can decide what type of programming you can offer to your target audience. A project does not need to be perfect right away. It is better to start 'small' in a sustainable way, than not do anything.



Tip – Selecting and Training Educators

- **Define Responsibilities Clearly:** Be detailed when assigning responsibilities during recruitment. If your team isn't exclusively focused on educational efforts, assess strengths and ensure skills are complementary.
- **Tailor Training:** Customize training based on team needs. For experienced staff, focus on enhancing delivery. For less-experienced members, provide detailed guidance on program implementation.

Effective program management drives successful educational activities and fosters positive participant relationships.

FOSTERING AN INCLUSIVE AND WELCOMING ENVIRONMENT

Making your space welcoming

Creating a welcoming environment at your research station is vital to building positive relationships with participants. Here are some practical steps:

- To the best of your ability, ensure that your research station is physically accessible. Make pathways, trails, and facilities wheelchair-friendly and accommodate visitors with special needs.
- If you have a visitor center, make it informative, inviting, and culturally inclusive.
- Provide clear signage and information in multiple languages, when necessary.

A welcoming space will encourage participants to return and engage with your programs repeatedly, as they feel comfortable and appreciated.



Accessibility for All Participants

Accessibility is not just about physical facilities but also about providing information and activities that cater to diverse needs. Consider these aspects:

- Create materials in formats that are easy to understand and accessible to individuals with varying abilities, such as large-print guides color-blindness aware designs.
- Offer training to your staff and adequate infrastructure (e.g., seating and rest areas) whenever individuals with disabilities are participating in your programming.
- Foster a culture of inclusion, where all participants, regardless of their abilities or backgrounds, feel valued and respected.

By prioritizing accessibility, you can ensure that your research station is a place where everyone has the opportunity to connect with nature and science.

MONITORING AND EVALUATION

Maintaining the quality of your programs is a continuous effort.

Laying out your evaluation strategy while designing a program is key. Regularly assess and evaluate your programs to ensure they align with your goals and participant needs. Seek out areas of improvement and apply them to maintain the relevance and impact of your offerings.



Creating an Evaluation Strategy

BEFORE

While designing new educational activities, consider conducting pilot programs or testing them on focus groups. This enables you to identify potential issues, refine the content, and ensure that your activities align with your goals.

DURING

When implementing your program, it is important to evaluate both the process (how you conduct the activity) and the results (the acquired knowledge). There are many ways to do so. Common methods include surveys, but don't be afraid to be creative! There are many easy and informal ways to evaluate on the spot while your participants are still engaged.

AFTER

Understanding the long-term effects (i.e., impact) of your programs is a challenge, but it's crucial for measuring their success. Consider conducting follow-up studies or surveys to track changes in participants' environmental attitudes and behaviors over time. By assessing the long-term impacts of your programs, you can refine your approach and demonstrate the lasting value of your efforts.



Demonstrating Value to the Institution's Stakeholders



Educational programs are inherently valuable. However, garnering support is crucial to their longevity. To secure support and resources for your educational programs, you need to demonstrate their value to your stakeholders. Here are some strategies:

- **Collect and present data** that illustrates the impact and success of your programs. Use metrics like participation numbers, educational outcomes, and community engagement levels.
- **Share success stories and testimonials** from participants, highlighting the transformative experiences your programs provide through communication channels (e.g., social media, annual reports, newsletters).



A FEW RESOURCES

IN ENGLISH

[Education Resources](#) by Alliance for a Sustainable Amazon

[Education Resources](#) by National Geographic

[Field Station Outreach – Informal Learning at Field Stations](#) by Struminger et al.

[The Virtual Field](#) by the Organization of Biological Field Stations

Found in [Field Station Related Publications and Resources](#) by Paul Foster:

- [Meeting Society's Needs for Education and Discovery: A Survey of Eight Field Stations and Marine Laboratories in the Southeastern United States](#) by Havran et al.
- [The Role of Biological Field Stations in Education and Recruitment into the Biological Sciences](#) by Klug et al.
- [A Framework for STEM Educational Outreach at Field Stations](#) by Struminger et al.
- [Biological Field Stations: A Global Infrastructure for Research, Education, and Public Engagement](#) by Tydecks et al.
- [Building an Online Field Course Using Digital and Physical Tools Including VR Field Sites and Virtual Core Logging](#) by Gregory et al.

IN OTHER LANGUAGES

[Laboratorio Amazonico](#) by Alliance for a Sustainable Amazon

[The Ecotron Mystery](#) by the Field Research Centre (UHasselt)

MEET THE STATIONS



FIELD RESEARCH CENTRE

University of Hasselt, Belgium

The Field Research Centre (FRC) is located on Terhills, the main gate to Belgium's Hoge Kempen National Park, the country's only TEEB region. Hasselt University leads biodiversity research at the FRC, working with volunteers, park rangers, and students. The centre hosts research infrastructure, such as the Ecotron, ecosystem measuring towers and camera trap network within a European framework to enable the long term study the effects of human disturbances on ecosystems.

Learn more: bit.ly/3BwxbGM



FINCA LAS PIEDRAS

Alliance for a Sustainable Amazon, Peru

Finca Las Piedras is the Alliance for a Sustainable Amazon's research and education center in Peru's Madre de Dios region. The site offers access to diverse Amazonian ecosystems, including upland rainforests and aquatic habitats.

We focus on research, conservation, and environmental education, empowering local communities and students to protect the Amazon and reverse deforestation.

Learn more: bit.ly/4eFUVXw

GAULT NATURE RESERVE

McGill University, Canada

The Gault Nature Reserve, located on Mont Saint-Hilaire (414 m) in southern Quebec, protects nearly 1,000 hectares of natural environment, including some of the region's last old-growth forests.

Affiliated with McGill's Faculty of Science, Gault supports research and field courses from numerous universities. It also offers 25 km of trails for public use. Its proximity to Montreal makes it an ideal site for these activities.

Learn more: bit.ly/3TJ9PEc



We are proud members of the Organization of Biological Field Stations, a global consortium of field stations and organization that manage them for research, education, and outreach. This collaboration was made possible by their Matching Program.

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