Science Communication Plan of the COST Action: 10kLepGenomes, CA23122

Each Action MC shall adopt a Science Communication Plan including a communication, dissemination, and valorisation strategy, as well as a plan to implement this strategy. The Science Communication Plan shall reflect the MoU in particular connecting to the aims and objectives of the Action. It is recommended that the Science Communication Plan is approved by the Management Committee not later than 6 months after the start date of the Action. It is recommended that the Science Communication Plan, including progress on implementation, is discussed on a yearly basis by the Action MC and reviewed or amended where necessary. *(Annotated Rules for COST Actions, article 5)*

This template is provided to COST Actions as a support for developing the Action Science Communication plan. Actions can adapt the plan structure and content according to their needs.

VERSIONS AND HISTORY OF CHANGES

Version	Date of adoption by MC	Notes (e.g. changes from previous versions)	Lead author(s)*
2025_1	4 June 2025		Marta Vila, Pável Matos, Jadranka Rota

** The Science Communication plan is developed, updated and its implementation monitored under the overall supervision of the Science Communication Coordinator, and in close collaboration with other relevant contributors.*

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1. SUMMARY

The 10kLepGenomes COST Action is designed to harness the extensive genomic data generated by current and future sequencing efforts to address critical societal challenges such as biodiversity loss, sustainable pest control, and the effects of climate change on ecosystems. With complete genome assemblies soon available for approximately 1,000 Lepidoptera species—and growing momentum to sequence an additional 9,000 species across Europe—this Action will position butterflies and moths as a model group for establishing best practices in genome research, and cross-disciplinary applications that can be effectively communicated across scientific and public sectors.

The Action will facilitate knowledge exchange among genome researchers and Lepidoptera experts through workshops, training schools for Early Career Researchers, fieldwork, conferences, and short-term scientific missions (STSMs), all coordinated across five interdisciplinary Working Groups (WG). To ensure the impact of the Action extends beyond academic circles, we have developed a thorough science communication and dissemination strategy, which includes outreach activities, each targeting stakeholders, such as amateur entomologists, policymakers, industry representatives, and the general public.

To coordinate our communication and dissemination activities, a dedicated Science Communication team has been established within 10kLepGenomes. This team is supervised by the Science Communication Coordinator and Co-Coordinator, who are responsible for implementing the overall communication plan. Their work is supported by other COST Action participants contributing to specific tasks, such as developing website content, managing social media outreach, and coordinating press materials and public engagement strategies.

Within the 10kLepGenomes Action, responsibilities are organised as follows:

- Management Committee, responsible for decision-making, which includes representatives from every country participating in the Action.
- Core Group, responsible for the coordination and management of the Action, which includes the following subgroups:
    - Action Chair, responsible for overseeing the Action and representative of the Action.
    - Vice-Chair, responsible for supporting the coordination and management of the Action.
    - WG Leaders and Co-Leaders, responsible for the management of activities, including training workshops, conferences, workshops, and fieldwork.
    - Grant Awarding Coordinator, responsible for the coordination of the Grant Awarding Committee and management of grants for STSMs and conference participation.
    - Science Communication Coordinator and Co-Coordinator, responsible for implementing communication and dissemination activities.
- Within the Science Communication team, other Action participants are involved in the following tasks:
    - Website content
    - Social media
    - Mass communication

2. GENERAL AIM AND TARGET AUDIENCES

The communication, dissemination and valorisation strategy of the 10kLepGenomes COST Action is designed to ensure that the knowledge, resources, and outputs generated by genome sequencing initiatives across Europe are effectively shared and applied by a diverse range of audiences to foster innovation. The overarching aim is to maximise the scientific, societal, and policy impact of the Action by enhancing its visibility, facilitating knowledge transfer, career development, and promoting engagement at both European and global levels.

Specific Objectives

- To raise awareness of the scientific and societal relevance of large-scale genomic data in Lepidoptera among stakeholders, including researchers, policy-makers, conservationists, and the general public.
- To promote the adoption and implementation of best practices in genome sequencing, annotation, and application across different sectors.
- To ensure timely and open dissemination of results, tools, training resources, and guidelines produced by the Action.
- To support the valorisation of results by identifying use cases in biodiversity monitoring, sustainable pest control, climate resilience strategies, and education.
- To engage citizen scientists and build bridges between expert communities, public agencies, and private stakeholders.
- To engage the public by sharing information about the importance of biodiversity loss, climate change, sustainable pest control, and biological conservation.

Target Audiences

The strategy targets a wide range of specific audiences, including:

- **Scientific community**: researchers in genomics, entomology, ecology, evolution, conservation, agriculture, and related fields.
- **Policy-makers and governmental agencies**: especially those involved in biodiversity conservation, environment restoration, and bioeconomy.
- **NGOs and conservation organisations**: working in habitat protection, species monitoring, and citizen science.
- **Industry stakeholders**: particularly in agriculture, biotechnology, and environmental consulting.
- **Educators and students**: to foster awareness and integration of genomic tools in curricula.
- **General public and citizen scientists**: to draw attention to the importance of biodiversity, increase genomic literacy and engagement in data collection.

Implementation Plan and Communication Activities

The implementation of the communication plan will be led by the **Science Communication Coordinator and Co-Coordinator**, in collaboration with a **Science Communication Team** composed of Action participants with relevant expertise. This team will work closely with the Core Group and Working Groups to align communication actions with scientific and training goals.

Key activities will include:

- **Website development and maintenance**: serving as a central hub for sharing updates, publications, training and short-term scientific mission (STSM) opportunities.
- **Social media outreach**: using platforms such as Bluesky and LinkedIn to reach broader audiences, disseminate milestones and promote participation.
- **Press releases**: to inform stakeholders and media outlets about major developments and findings.
- **Conferences and workshops**: presenting the achievements of 10kLepGenomes, to facilitate direct engagement, training, and dissemination.
- **Field-based public outreach events and citizen science campaigns**: involving NGOs and local actors in data collection and awareness-raising.

Communication and Timing

Clear, audience-specific key messages will be developed for each communication activity:

- For **scientists**: specialized mailing lists (e.g., reference genomes, population genomics) and the use of online platforms as discussion forums (e.g., Discord, virtual seminars) will be used to communicate technical advances, data sharing opportunities, and collaborative initiatives.
- For **policy-makers**: emphasis will be placed on the relevance of genomic data to environmental monitoring and species and ecosystem resilience planning.
- **NGOs and industry stakeholders** will be invited and involved in discussions and planning during workshops dedicated to applying research findings in biodiversity conservation and pest management (WG1 and WG5).
- For the **amateur lepidopterologists and biology students**: storytelling, visuals, and accessible language will be used to highlight the importance of Lepidoptera genomics for biodiversity.
- For the **general public and citizen scientists**: the focus will be on the biodiversity of butterflies and moths, their overall importance to the ecosystem, and how genomics can help maintain this biodiversity.

Activities will be rolled out in line with the Action's milestones described in the Memorandum of Understanding (MoU). The strategy will remain adaptive, regularly reviewed by the

Science Communication Team, and responsive to feedback from both internal members and external stakeholders.

3. PLAN FOR THE COMMUNICATION OF ACTION RESULTS

The 10kLepGenomes COST Action will implement an inclusive, proactive, and strategic communication plan aimed at raising public awareness and promoting the Action and its outputs among a broad audience, including civil society organisations, educators, and the general public. Our communication efforts (translated into the different languages of our network) will prioritise clarity, accessibility, and engagement, using plain language and compelling visual tools to make genome research on Lepidoptera and its societal relevance understandable and appealing.

Key Messages

To communicate effectively, the Action will focus on several core messages:

- **Aim**: 10kLepGenomes seeks to sequence and analyse the genomes of 10,000 Lepidoptera species in Europe to support biodiversity conservation, sustainable pest control, and climate change resilience.
- **Approach**: The Action fosters cross-disciplinary collaboration across genomics, ecology, taxonomy, and data science through working groups, fieldwork, and knowledge-sharing platforms.
- **Expected Results**: High-quality genomic datasets, protocols for sampling, sequencing and assembly, training resources, stakeholder engagement models, and recommendations for applying genomic data.
- **Impact**: Enhanced understanding and management of biodiversity, strengthened research and policy infrastructure, and broader public and stakeholder awareness of the value of genomic data in environmental decision-making.

Communication Tools and Channels

To ensure broad visibility and accessibility, the Action will use the following tools and channels:

- **Action website**: Central platform for hosting news, publications, training materials, stakeholder resources, and event information.
- **Messaging tools for internal communication**: Discord will be used to coordinate communication among WGs members and the sharing of documents. Internal communication is facilitated by online meetings where WG leaders coordinate their actions and evaluate outputs. Two general online meetings are planned every year, one at the beginning of the year (planning) and the other in the early autumn

(evaluation).

- **Social media platforms**: Bluesky and LinkedIn will be used to reach different audiences , including younger demographics, amateur experts in Lepidoptera, and citizens interested in biodiversity.
- **Press releases and media briefings**: Distributed to science journalists and relevant news outlets to highlight key milestones, publications, and events.
- **Public outreach events**: Various in-real-life events linked to the field workshops.

Communication Products

The following products will be developed to support consistent and professional communication:

- **Action logo and visual identity**: Developed early in the project to ensure coherent branding across all outputs.
- **Templates**: PowerPoint slides, report and poster templates, and email signatures to unify communication materials across WGs.
- **Infographics**: Used to explain genomic concepts, project milestones, and societal relevance.

Tentative Timeline for Development and Use

Timeline (Months)	Activity/Product	Related Deliverables
M1–M7	Development of logo, branding guide, and website.	Website launch.
M7–M8	Launch of social media channels and templates.	Mailing list, Discord channels, Bluesky and LinkedIn profiles.
M6–M12	First round of communications: first STSMs call, achievement of meetings held by members and working groups, first public outreach event during a field workshop in Italy (WG2).	First public communication package.
M13–M24	Second round of communications: second STSMs call, achievement of meetings held by members and working groups.	White paper. Second public communication package.

M25–M36	Third round of communications: third STSMs call, achievement of meetings held by members and working groups.	Third public communication package.
M37–M48	Fourth round of communications: fourth STSMs call, achievement of meetings held by members and working groups. Dissemination of final outputs and impact summary.	Fourth public communication package.

This timeline will remain flexible to accommodate updates to the Action's research outputs and priorities. It will also be highly dependent on the cooperation of members not belonging to the Science Communication Team.

Integration with e-COST Deliverables

The communication plan is tightly linked to deliverables listed on e-COST, particularly those under the responsibility of the Science Communication Coordinators. These include:

- Establishing and maintaining the **Action website**.
- Producing public-oriented communication materials (e.g., press releases, social media posts).
- Organising communication around **major events** (e.g., stakeholder workshops, training schools, conferences).
- Contributing to the development of the **final report and impact summaries** in accessible formats.

Through coordinated, accessible, and targeted communication activities, the 10kLepGenomes COST Action will raise awareness of the transformative potential of Lepidoptera genomics and ensure that its benefits are shared with and understood by a wide spectrum of society.

4. PLAN FOR THE DISSEMINATION OF ACTION RESULTS

The dissemination strategy of 10kLepGenomes ensures that the knowledge, methods, and results generated throughout the project are made publicly available and reach the target audiences. These include the scientific community, relevant policy and decision-making bodies, conservation practitioners, and associated research and innovation networks.

Dissemination will rely on clearly structured messaging, using tools and channels tailored to each audience, and guided by a strong commitment to **Open Science**, the **FAIR principles** (Findable, Accessible, Interoperable, Reusable), **open access**, and encouraging the proper

credit to collectors and data generators when using the information disseminated through 10kLepGenomes.

Target Audiences and Tailored Dissemination Approaches

Target Audience	Dissemination Approach
Academic researchers working on genomics, taxonomy, evolution, and conservation related to Lepidoptera and insects in general.	Peer-reviewed scientific publications, preprints, genome databases, open protocols.
Policy-makers and environmental government agencies.	Policy briefs, executive summaries, stakeholder roundtables.
Conservation organisations, NGOs, and industry stakeholders.	Technical guidelines, training workshops, stakeholder roundtables.
Bioinformatics and data science communities.	Open repositories, software and standardised pipelines.
European and international research initiatives (e.g., ERGA, DToL, GENOA, EBP).	Joint events.

Open Science and Open Access Policy

The 10kLepGenomes Action is fully aligned with the principles of Open Science. It will:

- Promote **Open Access** publishing in reputable journals (Green Open Access, if Gold or Diamond Open Access are not possible).
- Ensure that data, tools, and protocols generated by the Action adhere to **FAIR principles** and are deposited in appropriate public repositories (e.g., ENA, NCBI, Zenodo, Dryad, protocols.io).
- Encourage the use of **Creative Commons** licensing where possible.
- Respect and comply with relevant **Intellectual Property Rights (IPR)** frameworks, ensuring that innovations are both protected and shared transparently where appropriate.

Planned Dissemination Products and Contributions

Product	Timeline	Lead Contributors	e-COST Deliverable Link
White paper	M5-M12	WG3	Dedicated dissemination deliverable.
Peer-reviewed articles (methods, case studies, best practices).	M12–M48	All WGs, coordinated by WG leaders	Listed under scientific dissemination outputs.
Special issue in a high-impact journal.	M30–M42	WG3 & WG5	Dedicated dissemination deliverable.
Open-access genome assemblies and metadata.	Continuous	WG2, WG3, WG4	FAIR data deliverables.
Best practice guidelines for genome assembly and population genomics.	M18–M36	WG3, WG4	Stakeholder-targeted dissemination output.
Policy briefs and recommendation reports.	M24–M48	WG1, WG5, Science Communication Team	Policy dissemination deliverable.
Contributions to training materials and toolkits.	M12–M36	WG2, WG5 (training and capacity building)	Educational and training dissemination deliverables.

Dissemination Channels and Forums

The Action will actively seek visibility at key scientific and policy-oriented events. It will prioritise dissemination in the following forums:

Scientific Journals:

- Open access priority (Green, Gold, Diamond),
- Avoiding predatory journals,
- Reputable publications (e.g., well-known scientific societies' journals).

Conferences and Symposia:

- Congress of the Society for European Lepidopterology (SEL),
- International Congress of Entomology (ICE),
- Earth BioGenome Project-related meetings,
- European Society for Evolutionary Biology (ESEB),
- Biodiversity Genomics Conference,
- COST Action mid- and end-term events (organised by the Action itself).

Collaborative Projects and Networks:

- 10kLepGenomes will facilitate cross-collaboration among WGs and enhance the potential for developing new collaborative projects/initiatives for funding among members of the COST Action.
- Earth BioGenome Project (EBP),
- European Reference Genome Atlas (ERGA),
- BIOSCAN Europe,
- Global Biodiversity Information Facility (GBIF),
- Genetic Nature Observation and Action (GENOA).

Digital content: Where results of WGs meetings and STSMs will be disseminated through website posts and photos.

Expected Impact and Alignment with e-COST Deliverables

The dissemination activities will contribute significantly to Action deliverables listed in e-COST, notably:

- Scientific publications and open data sets,
- Open Access research protocols and guidelines,
- Training materials and stakeholder engagement outputs,
- Policy and decision-making support tools.

Each WG will contribute to the generation of specific dissemination products according to their thematic focus and expertise. Oversight will be provided by the Core Group in coordination with the Science Communication Coordinator to ensure integration with the broader communication and stakeholder engagement strategies.

Through this comprehensive dissemination plan, the 10kLepGenomes COST Action will ensure its results are not only visible but also usable and impactful across scientific, policy, and practical domains.

5. PLAN FOR THE VALORISATION OF ACTION RESULTS

The outlined communication plan will help to extend the reach of all of the deliverables as explained above and, in addition, we expect a number of other positive outcomes that will increase the overall value of the actions.

Building a Lasting Community

A key goal is to establish a durable core network of scientists, stakeholders, and users committed to continued collaboration after the Action concludes. By fostering strong partnerships, we aim to create a self-sustaining community that will advance research, share knowledge, and innovate in Lepidoptera genomics for years to come.

Promoting Gender Equality in STEM

The 10kLepGenomes Action is committed to promoting gender inclusivity in research across all career stages. Despite the current male-skewed ratio within the consortium, we are actively working towards a more balanced and equitable environment by:

- Ensuring transparent decision-making,
- Encouraging women to take leadership roles,
- Facilitating cross-team collaborations.

Aligned with the EU Gender Equality Strategy 2020–2025, we strive to create flexible, supportive environments that especially benefit researchers with caregiving responsibilities. Through mentorship programs, STSMs, visibility at public events, and active promotion of female achievements, we aim to inspire the next generation and foster a more inclusive scientific community.

Addressing European Research Inequalities

The European research landscape is marked by disparities, particularly affecting Inclusiveness Target Countries (ITCs). Recognizing this, the 10kLepGenomes Action is committed to bridging these gaps by:

- Raising awareness of existing inequalities,
- Facilitating knowledge exchange through mobility grants and joint field events,

- Prioritising training for young researchers from ITCs.

We acknowledge the challenges faced by colleagues and collaborators with fewer resources and different research traditions. By building capacity and fostering equal collaboration, we not only strengthen our project but also contribute to a fairer, more inclusive research environment across Europe.

Fostering an Inclusive Consortium Culture

Effective communication and collaboration within the consortium are important. We are committed to making our meetings accessible, inclusive, and welcoming by, for instance, supporting members with caregiving responsibilities and avoiding compulsory meetings on weekends. By creating a safe, supportive environment, we empower our consortium to thrive, leading to better science and more meaningful outcomes.

Reaching Broader Audiences and Building Capacity

Science communication beyond academia is central to our strategy. A first step is working with the amateur entomologist community, as indicated before. In addition, we will engage the broader public by sharing our findings through social media, accessible translations of key outputs, and public events (e.g., field trips in rural areas). In doing so, we demonstrate the value of the investment made by COST and the EU, and ensure that our research is transparent, relevant, and widely understood.

Conclusion

By embedding principles of collaboration, open science, inclusivity, gender equality, and fairness into all aspects of our work, the 10kLepGenomes Action ensures that its outputs have a meaningful and lasting impact. Through this approach, we advance Lepidoptera genomics while also building a more equitable and resilient scientific community, in line with the broader goals of the COST programme and the European Research Area.