



Blue Rivers
Foundation



Network
Nature



EcoField Tracker App: Field Data Collection for Citizen Science and Environmental Research

Final Report – Network Nature Contract



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1. Introduction

This report presents the activities and outcomes on the development and promotion of citizen science tools for freshwater ecosystem monitoring within the EU funded project Network Nature, with the support from IUCN European Regional Office. The project led to the adaptation of the [AMBER Barrier Tracker](#) into a new open-source application, **EcoField Tracker**, designed to support the collection of field-based environmental data by both experts and non-experts. The tool expands beyond barrier tracking to include freshwater features, biodiversity indicators, and environmental stressors such as vegetation and pollution. The purpose of this project was to adapt existing tools, develop new functionalities, engage stakeholders, and produce guidance for the use of citizen science in freshwater biodiversity monitoring.

In parallel, a stakeholder engagement process was conducted, including a workshop at the Network Nature Task Force Cluster Meeting in Brussels in September 2025. In addition, a survey targeting stakeholders across Europe was disseminated to better understand potential synergies and identify the factors that make the application effective and engaging for users. These activities informed the development of a wishlist of features and priorities for future tool development.

In the framework of EcoField tracker, we have developed additional ideas to complement the ecosystem of tools, including Blue River Advisor and River Watch. The project contributes to open science, data accessibility, and participatory environmental monitoring, with clear next steps identified for further development and deployment.

2. Workshop at Network Nature Meeting

- **Task Force:** Data and Knowledge Sharing
- **Workshop title:** “Developing the EcoField Tracker Citizen Science App”
- **Date:** 17 September 2025
- **Participants:** 9
- **Place:** Brussels, Belgium

2.1. Purpose of the workshop

The workshop focused on exploring how to make the EcoField Tracker app both useful and impactful as a citizen science tool. It was a moderated and structured brainstorming session designed to explore and prioritise key aspects for improving the app. Participants were guided through a set of prompts to ensure focused discussion while still leaving room for open input.

To start, the group discussed the key factors they considered important for the app’s success. Participants were asked to identify and discuss key factors influencing the app’s success, using a combination of predefined criteria on post-it notes and blank notes to capture additional ideas. This approach combined structured evaluation with the emergence of new ideas during the discussion. The aim was to jointly prioritise the most relevant features, ensuring the app is user-friendly and accessible, while also being scientifically robust and suitable for high-quality data collection and knowledge sharing.

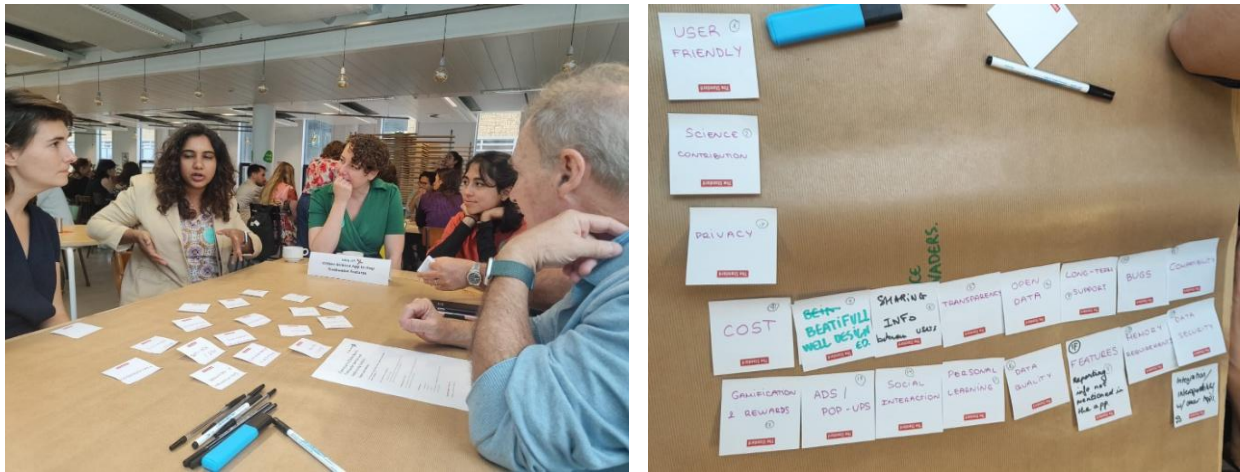


Figure 1. Identification and prioritization of factors that determine the success of a citizen science app to map biodiversity with the help of stakeholders.

After discussing and prioritizing each parameter (**Figure 1**), participants collaboratively developed the following ranked list, from most to least important for the app's success:

- | | |
|--------------------------------------|---------------------------------|
| 1. User-friendly | 11. Compatibility |
| 2. Science contribution | 12. Gamification and Rewards |
| 3. Privacy | 13. Ads/Pop-ups |
| 4. Cost | 14. Social Interaction |
| 5. Beautiful, well designed | 15. Personal Learning |
| 6. Sharing information between users | 16. Data Quality |
| 7. Transparency | 17. Features |
| 8. Open Data | 18. Memory requirements |
| 9. Long-term support | 19. Data Security |
| 10. Bugs | 20. Integration with other apps |

2.2. Correlations between the parameters

The second part of the session focused on exploring how the identified parameters influence one another. Certain factors showed positive relationships while others revealed potential trade-offs (**Figure 2**).

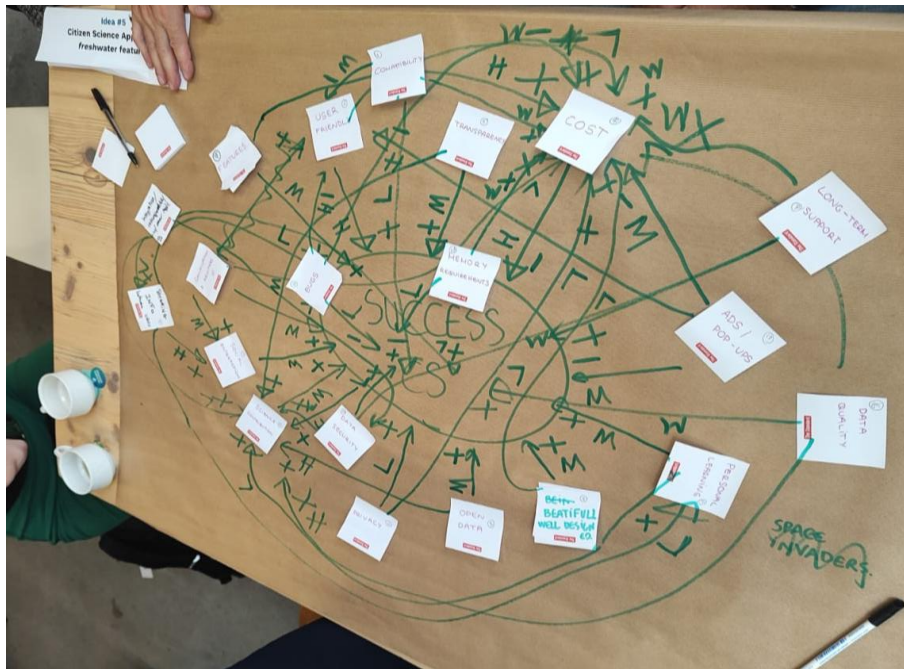


Figure 2. Causal relationships between factors that determine the success of a citizen science app to map biodiversity.

Using the **Mental Modeler** tool (www.mentalmodeler.com), a Fuzzy Cognitive Map was created to visualise and analyse the relationships between the identified factors.

FCMs are a systems-thinking method used to represent how different concepts influence each other within a system. In this case, the workshop outputs (e.g. usability, accessibility, data quality, engagement) were translated into nodes, while the relationships between them were defined as connections with a direction (positive or negative influence) and a relative strength. The Mental Modeler tool then structures these qualitative inputs into a semi-quantitative network based on participant knowledge and perceptions.

- **Blue lines** represent **positive relationships**, improving one component benefits another.
- **Red lines** represent **negative relationships**, improving one factor negatively affects another.

The strength of each correlation was categorized as:

- **Low strength:** 0.25
- **Moderate strength:** 0.5
- **High strength:** 0.75

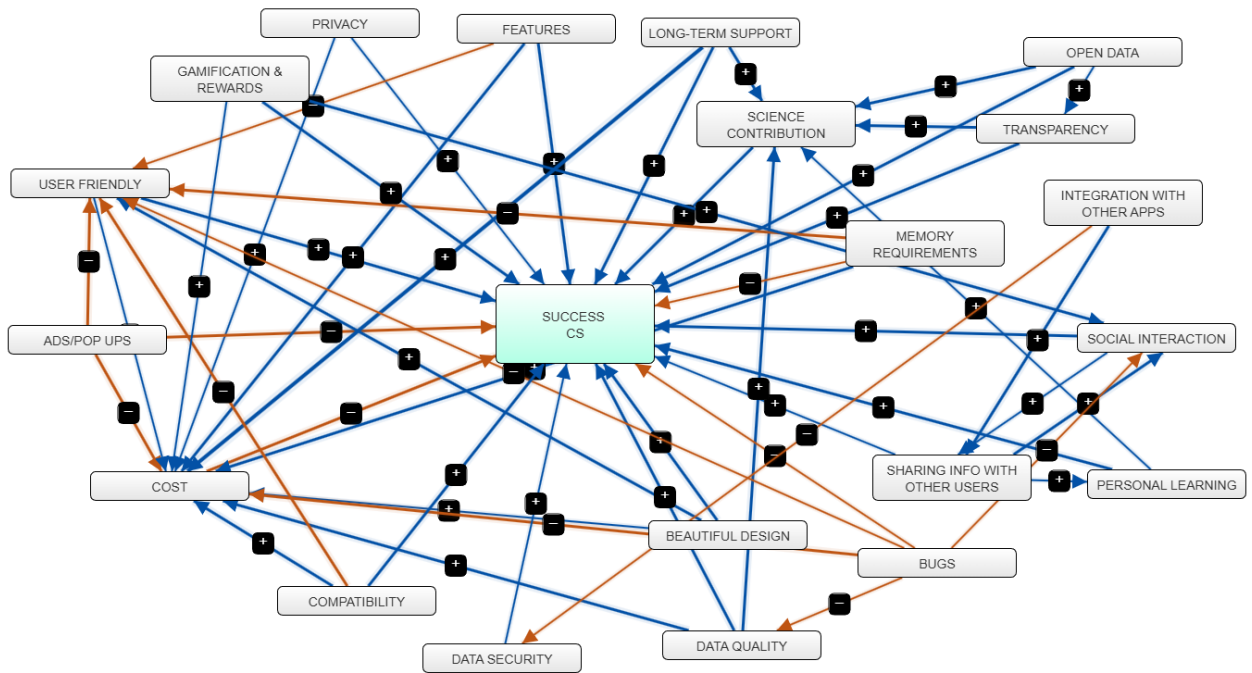


Figure 3. Fuzzy cognitive map showing relationships between factors that determine the success of a citizen science app to map biodiversity.

Total Components	21	Component	Indegree	Outdegree	Centrality	Preferred State	Type
Total Connections	49	PRIVACY	0	0.5	0.5		driver
Density	0.116666667	ADS/POP UPS	0	1.75	1.75		driver
Connections per Component	2.333333333	USER FRIENDLY	2.75	1	3.75		ordinary
Number of Driver Components	11	COST	5.25	0.75	6		ordinary
Number of Receiver Components	1	SUCCESS CS	9.25	0	9.25		receiver
Number of Ordinary Components	9	OPEN DATA	0	1.5	1.5		driver
Complexity Score	0.0909090909	SCIENCE CONTRIBUTION	2.75	0.5	3.25		ordinary
		BEAUTIFUL DESIGN	0	1.25	1.25		driver
		SOCIAL INTERACTION	1.25	0.75	2		ordinary
		PERSONAL LEARNING	0.25	0.75	1		ordinary
		TRANSPARENCY	0.25	1	1.25		ordinary
		SHARING INFO WITH OTHER USERS	0.75	1.25	2		ordinary
		FEATURES	0	1.5	1.5		driver
		DATA QUALITY	0.25	2.25	2.5		ordinary
		LONG-TERM SUPPORT	0	2	2		driver
		MEMORY REQUIREMENTS	0	1.25	1.25		driver
		BUGS	0	1.25	1.25		driver
		DATA SECURITY	0.25	0.25	0.5		ordinary
		COMPATIBILITY	0	1.5	1.5		driver
		INTEGRATION WITH OTHER APPS	0	0.75	0.75		driver
		GAMIFICATION & REWARDS	0	1.25	1.25		driver

Figure 4. Key metrics that help characterize the fuzzy cognitive map on factors that determine the success of a citizen science app to map biodiversity.

The analysis of the fuzzy cognitive map (FCM) yielded the following results (**Figure 4**):

- No. components (N = 21).** This is a simple metric used to evaluate the size of the FCM. A higher number of components indicates a larger model (Özesmi and Özesmi, 2004). The citizen science FCM developed during the workshop was reasonably large.

- b) **No. connections or relationships ($C = 49$).** This measures FCM complexity, and more connections imply a more complex model. A higher number of connections indicates higher degree of interaction between components (Özesmi and Özesmi, 2004). The citizen science FCM developed had moderate complexity.
- c) **Density ($d = 0.117$).** This is the number of connections compared to the total number of possible connections. It helps assess how close the FCM is to a fully connected network. A higher density indicates a more interconnected system, where more components directly influence each other, which can also suggest a wider range of possible intervention points or management strategies (Hage and Harary, 1983; Özesmi and Özesmi, 2004). In this case, the density was moderate to low.
- d) **No. of connections per component ($C/N = 2.33$).** The lower the C/N score, the higher the degree of connectedness in a system (Özesmi and Özesmi, 2004). In this case the C/N score indicated a relatively well-connected map.
- e) **No. of Drivers (Transmitters, $T = 11$).** Input components which have “forcing” functions, meaning they influence other components but are not influenced by any others (i.e. they have outgoing links but no incoming links). They act as starting points in the system, transmitting information without being affected by feedback from other components (Eden et al., 1992). A relatively large number of driver variables were identified in the model, indicating several key factors that initiate influence within the system.
- f) **No. of Receivers ($R = 1$).** Output components that have parents but no children, they are affected by other components but have no effect on other components (Eden et al., 1992), i.e. they are outputs that receive information. In this case there was only one receiver (“success of the citizen science programme”) by design, as this was the purpose of the exercise.
- g) **No of Ordinary Components ($O = 9$).** Components with both transmitting and receiving functions (have parents and children); influence and are influenced by other components (Eden et al., 1992). In this case there were a relatively large number of ordinary components, indicative of a high flow of information.
- h) **Complexity score (R/T ratio = 0.09).** The complexity score or receiver-transmitter ratio (R/T) can be used to assess FCM complexity and adequacy (Schuerkamp and Giabbanelli, 2024). A high R/T with many receivers and few transmitters indicates a complex map. A low R/T with many inputs acting on few outcomes can be indicative of an overly simplified system in which there may be missing receivers and causal relationships are not fully elaborated. In this case the complexity score is low by design as only one receiver was considered. The FCM is driver dominated system.
- i) **Number of Feedback loops.** It can also be used to judge the complexity of a FCM, the more loops there are the more complex the system is (Schuerkamp and Giabbanelli, 2024). In this case, there were three feedback loops.
- j) **Indegree** measures how much a component is directly influenced by others. The component with the largest indegree was app success (indegree = 9.25).
- k) **Outdegree** measures how much a component influences other. The component with the largest outdegree was data quality (outdegree = 2.25).

- l) **Centrality** describes the total influence (positive and negative) of a component (Kosko, 1986) and is defined as the sum of the component's indegree and outdegree. Components with a high centrality are directly involved in several strong relationships, whereas those with low centrality are involved in a few weak relationships. The three components with the largest centralities (other than app success) were cost (centrality = 6), user friendly (centrality = 3.75), and data quality (centrality = 3.25); these represent the most important features of a citizen science app according to the stakeholders.

Overall, the fuzzy cognitive map shows a system where most factors act as drivers, meaning they mainly influence other elements rather than being influenced themselves. This is partly due to the design, since the analysis focuses on a single main outcome (app success). As a result, most relationships point towards that outcome rather than forming many feedback cycles. There are only a few feedback loops, so the system is not highly circular or self-reinforcing. Instead, it mostly shows direct cause–effect links. The most important and connected factors in the network are **cost, usability, and data quality**, meaning they have the strongest overall influence on how the success of the citizen science app is shaped.

2.3. Scenario analysis

Lastly, the workshop explored different scenarios to see how changes in certain factors could affect the app's overall success. The Mental Modeler tool offers two types of models: the Sigmoid model, which only uses positive values, and the Hyperbolic Tangent model, which allows both positive and negative effects. The Tangent model was chosen because it better reflects how factors can both support and limit each other.

a) Scenario 1: Minimize the costs

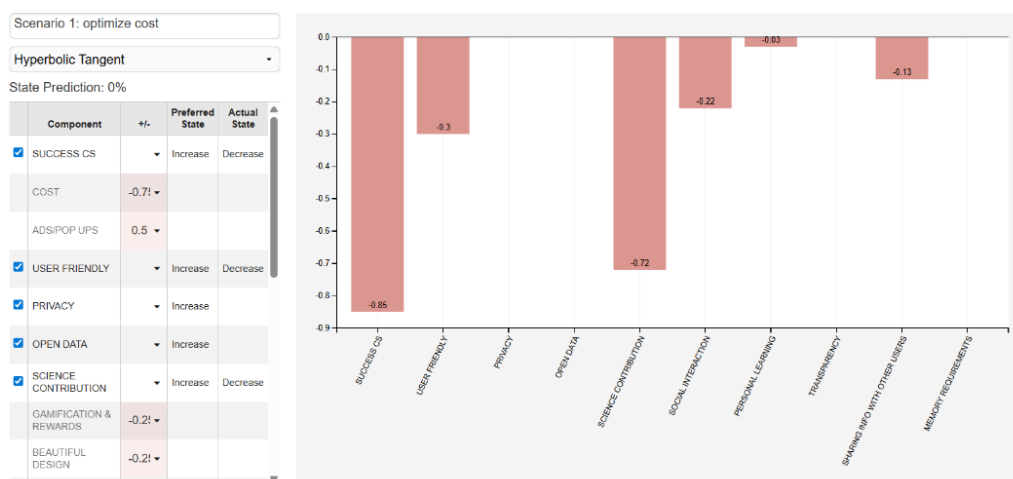


Figure 5. Scenario 1: Minimum cost.

Our simulation indicates that aggressively minimizing costs leads to significant trade-offs that substantially limit the app's overall potential.

- **Overall Success (-0.85):** The main goal of the project is greatly compromised.
- **Science Contribution (-0.72):** Cutting costs in this way undermines the app's core purpose. This isn't just about budgeting—it impacts quality in a fundamental way. A cheaper, rushed

app would be less user-friendly, potentially frustrating for users, and most importantly, it would generate low-quality data. Such data would be unreliable for scientific research, which defeats the primary objective of the project.

b) Scenario 2: Increase Science

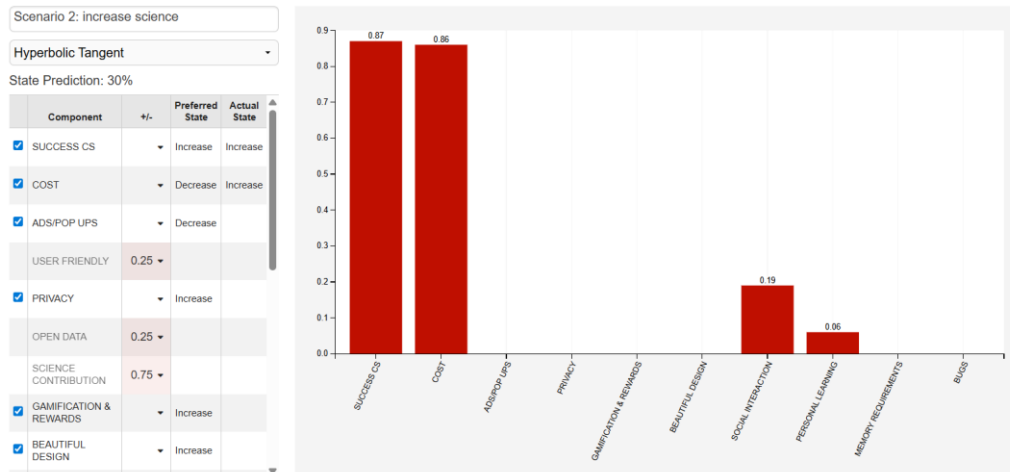


Figure 6. Scenario 2: Increased scientific contribution.

Success CS increased significantly (+0.87), showing that enhancing scientific output is a key driver of the main goal. This improvement comes with a substantial cost (+0.86), reflecting the investment needed to ensure high-quality data, thorough validation, and effective research integration.

c) Scenario 3: Increase attractiveness

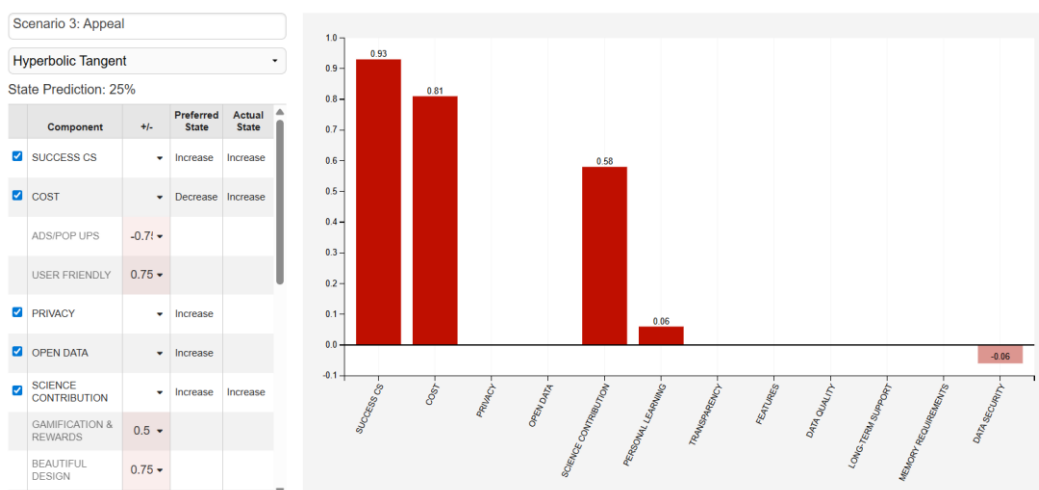


Figure 7. Scenario 3: Increased app attractiveness.

The scenario shows that investing in the app's scientific output and attractiveness is a highly effective strategy for driving overall success, with strong positive effects on both the project's main goal and scientific contribution.

However, this approach comes with substantial costs (+0.86) and a slight decrease in data security (-0.05), highlighting a potential risk that would need careful management.

d) Scenario 4: Emphasis security

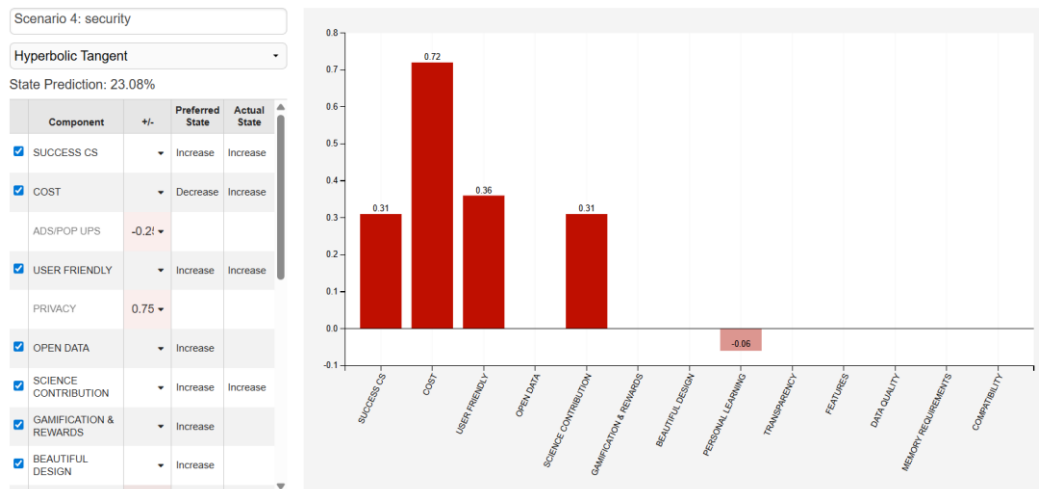


Figure 8. Scenario 4: Increased app security and data protection.

Focusing on security moderately boosts Success CS (+0.31), User Friendly (+0.36), and Science Contribution (+0.31), showing it enhances overall success, user trust, and scientific value. This comes with a significant cost (+0.72), indicating that strong security is an investment that supports usability and scientific goals but requires adequate funding.

e) Scenario 5: Increase Social Interaction

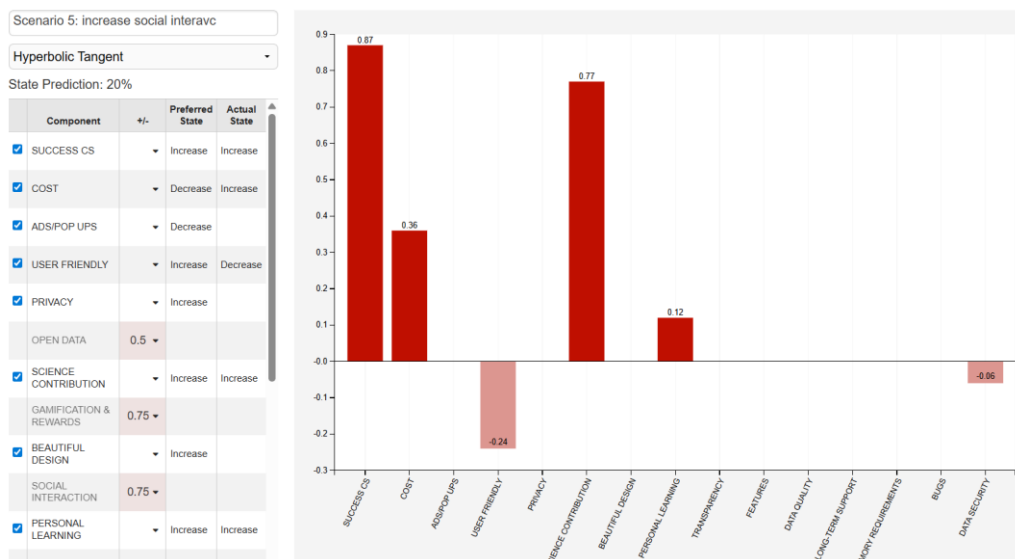


Figure 9. Scenario 5: Increased social interaction within the app.

Boosting social interaction significantly increases Success (+0.87) and Science Contribution (+0.77), showing it effectively drives both overall success and scientific output. The approach comes with moderate cost (+0.36) and slight trade-offs: User Friendly decreases (-0.24) due to added complexity, and Data Security drops slightly (-0.06) from expanded data sharing.

3. Stakeholders Survey

A survey was conducted to assess potential uses and needs for a citizen science application focused on freshwater ecosystems. The aim was to identify which features are most relevant for end users, what types of data are most useful for their work, and which factors contribute to the success of such an application. The idea of the app is to allow users to upload photos and answer simple questions about river condition, biodiversity, and recreational value.

The survey sought to address the following key questions:

- **Which factors are critical for the success of a citizen science app?**
- **How to effectively engage citizens in freshwater conservation?**
- **What types of data would be most valuable for your work or organization.**

The survey was disseminated through social media channels and organisational networks. The target audience included several organisations and professionals working on nature conservation and freshwater management across Europe.

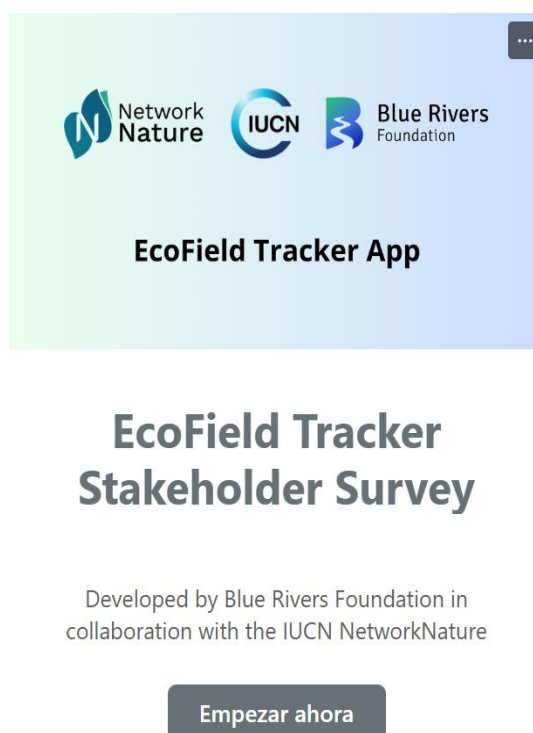


Figure 10. Stakeholder survey on EcoField Tracker app

3.1. Results

A total of 77 responses were collected on entries from people across Europe on a total of 8 question to better understand what are the key factors that people find more interesting on an app and the features as well as parameters to make it user friendly and engaging citizens.

I. Organisations



Figure 11. Responses to Question 1 of the stakeholder survey.

Respondents represented a range of sectors, with the majority working in non-profit organisations (53%). This was followed by academia (17%) and the private sector (10%).

II. Country

Seventy-seven respondents participated in the survey, representing 26 different countries. The highest number of responses came from Spain and Belgium, indicating stronger engagement from these countries compared to others in the dataset.

Country	Participation
Australia	1%
Austria	1%
Belgium	9%
Bulgaria	4%
Chile	1%
Faroe Islands	5%
France	1%
Germany	4%
Greece	6%
Hungary	3%
Ireland	1%
Italy	7%

Kosovo	1%
Latvia	3%
Moldova	6%
Netherlands	1%
Norway	3%
Poland	3%
Romania	5%
Serbia	4%
Slovakia	1%
Slovenia	1%
Spain	18%
Sweden	1%
UK	5%
USA	1%



Figure 12. Percentage distribution of responses by country.

III. Most valuable data

Respondents identified river condition indicators, such as cleanliness, pollution levels, and accessibility, as the most useful type of information. This was followed by observed biodiversity data (e.g., plants, fish, birds). Climate-related information was also considered relevant, while recreational and social value of freshwater sites was ranked as less important in comparison to the other categories.



Figure 13. Responses to Question 3 of the stakeholder survey.

IV. Use of the app to support the work

Responses indicate a strong potential for adoption, with most participants reporting that they are either very likely or somewhat likely to use the application to support their work at a regional level.



Figure 14. Responses to Question 4 of the stakeholder survey.

V. Collaboration opportunities

Most respondents identified clear opportunities for collaboration, particularly in data sharing and joint project development. Outreach and education campaigns were also frequently highlighted as key areas for cooperation among stakeholders.



Figure 15. Responses to Question 5 of the stakeholder survey.

VI. Use of the app data

Most respondents would use the data for public awareness and communication (42%), followed by research (32%) and policy or planning (24%). No one selected “no,” showing the data is seen as useful across all groups.

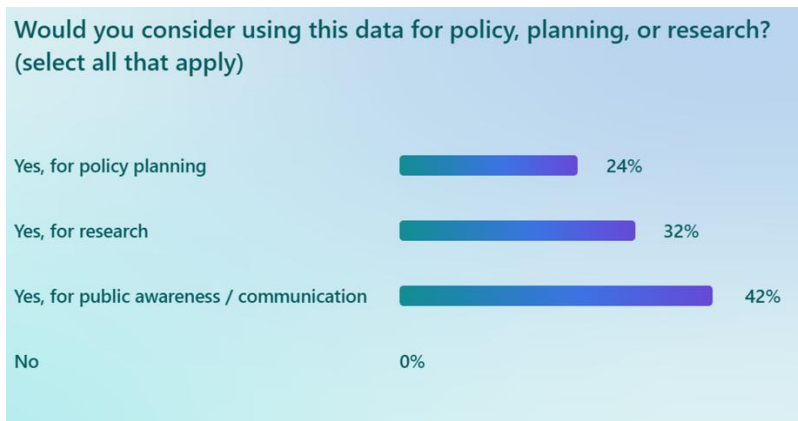


Figure 16. Responses to Question 6 of the stakeholder survey.

VII. Three most important factors for app success

Overall, user experience clearly stands out as the most important factor for the success of a citizen science app, followed closely by scientific contribution and data quality. A second group of mid-level importance includes transparency & open data, cost & accessibility, and long-term support & reliability. Finally, privacy & data security, social interaction & community, and personal learning/education are considered less critical in comparison, while gamification & rewards appears to be the least important factor overall.

4. Development of the app

The project builds on the existing AMBER Barrier Tracker tool, which has been adapted into a broader application: EcoField Tracker. While the original tool focused on river barriers, the adapted version expands its scope to include freshwater features, biodiversity indicators, and environmental stressors such as vegetation and pollution. The current version includes a simple and user-friendly interface for structured field data collection, with core functionality already implemented, including offline data entry, GPS-based georeferencing, photo capture, structured forms, and automatic synchronisation when connectivity is available. This provides a functional foundation that improves both usability and applicability across different environmental monitoring contexts.

4.1. EcoField Tracker idea

EcoField Tracker is developed as an open-source mobile application available on Android and iOS platforms, designed to support citizen science initiatives, environmental monitoring, and research data collection. A key next step is the public release of the code through an open repository, which will enable reuse, adaptation by other organisations, and potential integration into wider EU-funded initiatives.

The Minimum Viable Product (MVP) is already fully functional. In the short term, development will focus on stabilising the current version, improving usability, and expanding language support. In the medium term, more advanced survey customisation and user experience improvements are planned. To achieve this next stage, continued technical development capacity (particularly in mobile and backend systems) will be required, along with active engagement from partner organisations and field users. Regular user feedback will also be essential to ensure the tool remains practical, relevant, and effective in real field conditions.



Figure 19. Some example logo concept for EcoField Tracker app

4.2. Applications and use cases of EcoField Tracker

EcoField Tracker is designed as a flexible platform that can support different applications depending on the monitoring objective. In this context, two main use cases were explored: River Watch, focused on monitoring waste and pollution in freshwater environments, and Blue River Advisor, a review-based approach for sharing and evaluating freshwater sites.

4.2.1. River Watch: river pollution mapping module

A key developed component of EcoField Tracker is the river pollution mapping module. This functionality enables systematic recording, classification, and geolocation of pollution in and around rivers, and is already operational in the current MVP. This functionality, referred to as **River Watch**, represents a more specialised application of the core system, focused on monitoring waste and environmental pressures in freshwater environments. It allows users to collect structured field data, including location, photographic evidence, and key attributes describing each pollution event, supporting more targeted analysis and action within freshwater systems.

Key Objectives

- Build a standardized georeferenced database of river pollution
- Enable real-time field data collection with GPS
- Identify pollution hotspots through spatial analysis and clustering
- Support evidence-based cleanup and management actions
- Track pollution evolution from detection to removal

The module has been designed around a standardised approach to ensure consistency and comparability of data. It already includes a defined pollution typology and a full observation workflow (from recording to validation and closure), which makes it possible to track changes over time and document cleanup actions.

At its core, the system allows users to register pollution sites, classify them using a structured typology, and record essential attributes such as location, scale, condition, accessibility, and potential impact. Each observation includes mandatory photographic evidence and can be updated over time, enabling follow-up and monitoring of cleanup progress.

The pollution classification system is organised into two levels:

- **Level 1 (type):** illegal waste, riverbed accumulation, discharge/effluent, large objects or wrecks
- **Level 2 (content):** specific materials or indicators depending on type (e.g. plastics, construction waste, hydrocarbon slicks, metal structures)

Each record follows a workflow (*pending* → *validated* → *cleaned* → *closed*), including audit history, duplicate detection, and role-based permissions. This ensures traceability and improves data reliability, especially for tracking cleanup actions through before-and-after documentation.

Looking ahead, the system is intended to evolve from the current MVP into a more advanced operational tool. Planned developments include improved hotspot detection and prioritisation maps, better interoperability with external platforms (e.g. OSM and third-party datasets), and the creation of a public API. Other potential features include automated reporting to authorities, mobile notifications, collaborative campaign tools, and optional gamification elements such as user recognition and engagement tracking.

In terms of planning, the module will go into beta testing with field teams over the next 6–8 months before public release, focusing on usability, workflow refinement, and performance in real field conditions. After the V1 launch, further enhancements are planned over the following 8–12

months, depending on resources and stakeholder engagement. These include gamification (stats, leaderboards, achievements), automated alerts and reporting, weather integration, interoperability with external systems, and exploratory features such as predictive analytics and collaborative tools (teams, campaigns, challenges).

Expected Outcomes

a) For Field Observers

- Intuitive mobile interface for fast data entry
- Offline usage with later sync
- Visual feedback on already mapped areas
- Recognition for validated contributions
- Contribution to real environmental action

b) For Managers

- Standardised georeferenced pollution database
- Evidence-based prioritisation of cleanup actions
- Identification of pollution patterns and sources
- Impact monitoring (including before/after documentation)
- Audit trail and data visualisation for reporting and planning
- Better resource allocation and policy support

c) For Cleanup Organizations

- Access to validated, prioritized pollution sites
- Details on accessibility and required equipment
- Photo documentation for planning
- Ability to track cleanup completion
- Performance metrics and impact reporting



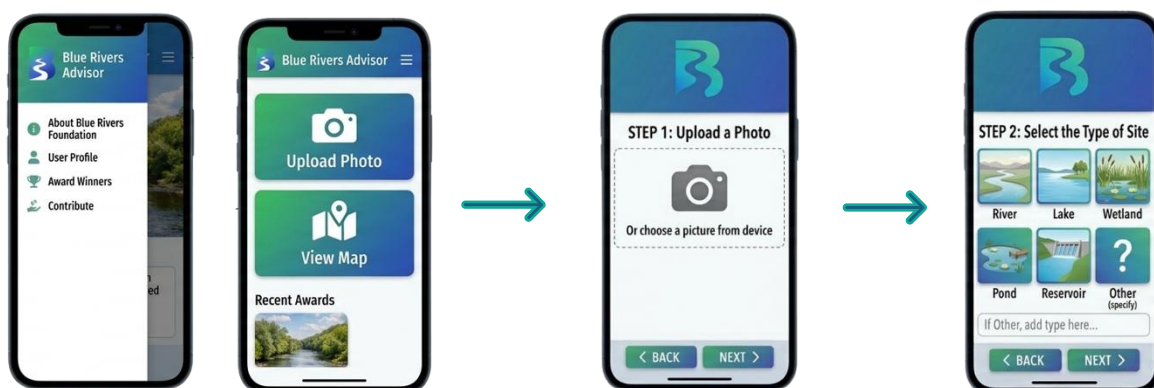
Figure 20. Conceptual framework for the River Watch extension within EcoField Tracker.



Figure 21. Conceptual workflow for River Watch (EcoField Tracker module).

4.2.2. Blue River Advisor: review-based application for freshwater sites

A review-based citizen science platform for exploring and sharing information on freshwater sites. Similar to TripAdvisor, it allows users to upload photos, rate locations, and nominate them for a “Blue Rivers Award.” Sites can receive this recognition as a positive acknowledgement of good ecological condition, highlighting well-preserved or high-quality freshwater environments. At the same time, lower-rated sites remain visible on the platform to draw attention to areas that may require restoration or management action. All entries are displayed on an interactive map showing average ratings and highlighting the best and worst sites.



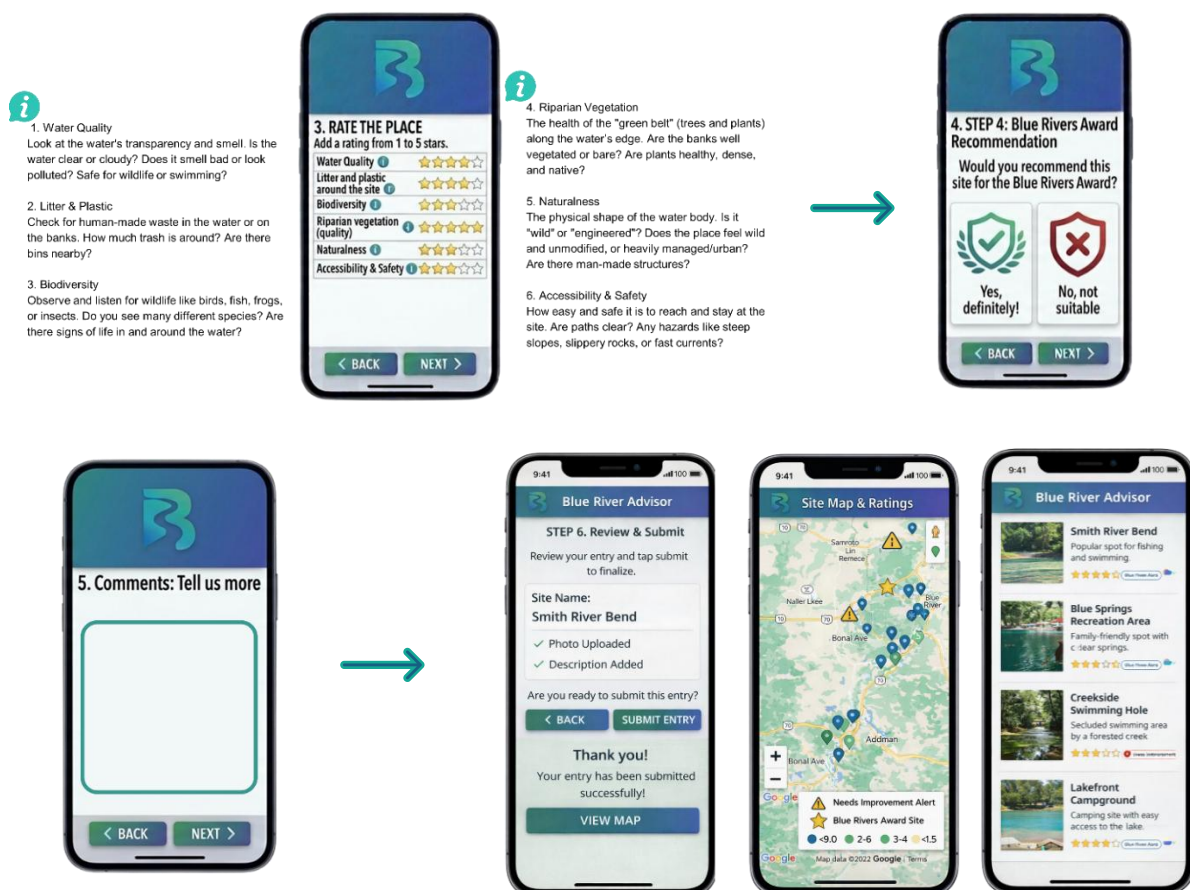


Figure 22. Concept ideas for developing Blue Rivers Advisor App

Users contribute data through a simple step-by-step process:

- Step 1:** Upload a photo of the site
- Step 2:** Select the type of site
- Step 3:** Rate the site
- Step 4:** (Optional) Nominate it for the Blue Rivers Award
- Step 5:** Add comments
- Step 6:** Submit the entry

Once submitted, each site appears on an interactive map as a point, icon-based according to its average rating:

- ⚠️ → needs improvement
- ★ → Blue Rivers Award

Aggregation logic:

- Rivers → average for the entire river basin
- Lakes, ponds, reservoirs → average for the whole site
- Wetlands → average of the area assessed by the user
- “Other” → just display the location, no global average

4.3. Implementation and Uptake

EcoField Tracker is planned to be implemented in upcoming projects, starting with the LIFE project in Bulgaria ([RiverLIFE](#)). This will serve as an initial deployment case to test the tool in real-world conditions, focusing on usability, data quality, and integration into ongoing fieldwork and restoration activities. Further implementation opportunities are already emerging through ongoing initiatives, including the LIFE [Life4Rivers](#) project in Poland and field studies on river barrier removal across Europe conducted by BRF team in collaboration with local partners. These ongoing activities provide a wide range of ecological and operational contexts, which will support iterative testing and refinement of the app under different field conditions.

The development of EcoField Tracker also builds directly on the experience of the Blue Rivers Foundation team with the AMBER Barrier Tracker. That work demonstrated how simple, open tools can scale effectively across countries and organisations when they are designed with field usability, data consistency, and long-term maintenance in mind. These lessons, particularly around user engagement, standardised data collection, and sustained uptake, are being carried forward and directly inform the design and rollout strategy of EcoField Tracker.

At a broader level, the BRF network plays a key role in dissemination and adoption. Platforms such as Network Nature provide additional opportunities for knowledge exchange and collaboration, connecting NGOs, researchers, and practitioners working on river restoration and environmental monitoring across Europe. Together, these networks support promotion of the tool, continuous feedback collection, and wider uptake.

As an open-source platform, EcoField Tracker is designed to scale through reuse and adaptation. It can be applied by NGOs, research institutions, and public authorities, and integrated into European and international initiatives depending on project needs.

In the short to medium term, implementation will focus on:

- Publishing the open-source code repository to enable wider access and collaboration
- Deploying the app in pilot projects (e.g. RiverLIFE and other field studies)
- Improving usability, multilingual support, and customisable survey features
- Strengthening the mapping and data management platform
- Continuing stakeholder engagement to refine the tool based on user feedback

In the longer term, the aim is to consolidate EcoField Tracker as a shared platform for freshwater monitoring, supported by an active user community and integrated into multiple projects and networks across Europe.

ECOFIELD TRACKER IMPLEMENTATION TIMELINE

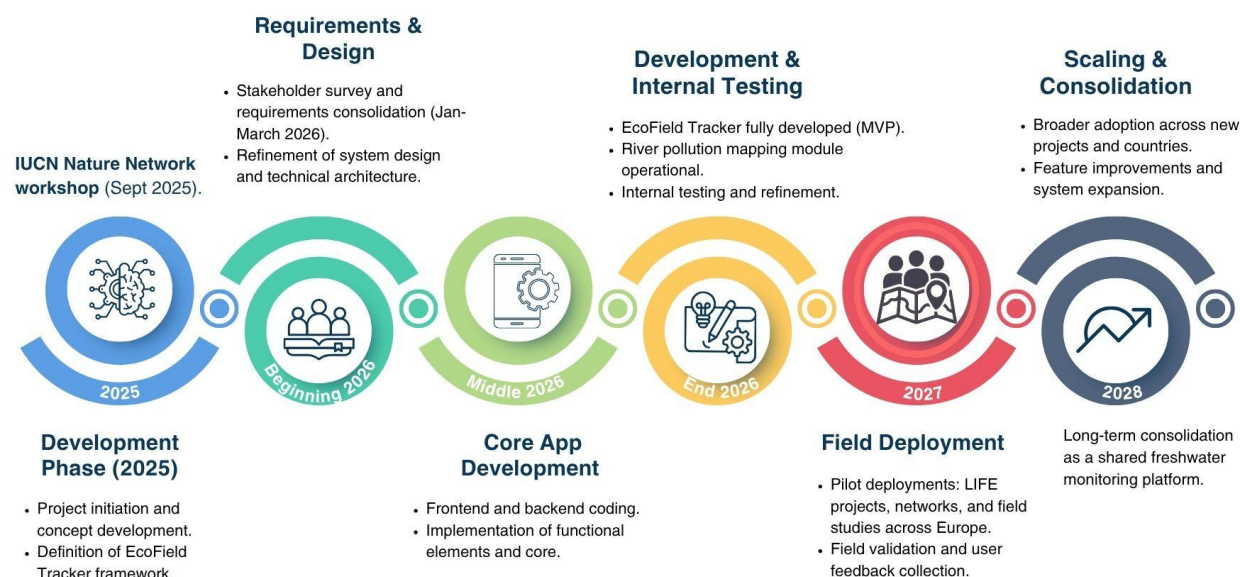


Figure 23. EcoField Tracker implementation timeline

5. Conclusions

The aim of this project was to develop a functional, open-source tool for freshwater data collection, built through a structured and iterative stakeholder engagement process. EcoField Tracker and its outputs support citizen science activities, improve data availability, and contribute to freshwater monitoring and conservation efforts. The results show strong interest and clear potential for uptake and further development, aligning with the objectives of Network Nature (NN), an EU-funded initiative that strengthens the implementation of nature-based solutions by improving knowledge exchange, building capacity across sectors, and fostering collaboration between science, policy, and practice. NN places particular emphasis on making knowledge operational through stakeholder engagement, technical Task Forces, and applied outputs designed for real-world use.

Within this framework, EcoField Tracker is directly aligned with NN objectives by translating stakeholder and expert input into a practical, field-ready tool developed through iterative co-design. It supports the generation of structured, usable environmental data and reflects NN's focus on turning knowledge into practice. Engagement with Task Forces and workshops was central to this process, ensuring cross-sector collaboration and keeping development grounded in operational needs. A key added value of the NN context was the opportunity for continuous refinement through structured collaboration. Task Force input provided targeted feedback on data structure, field usability, and compatibility with existing monitoring systems, directly shaping key design decisions such as simplified workflows, clearer data entry logic, and improved data consistency to support interoperability.

Feedback from both the Brussels workshop and the stakeholder survey is largely consistent. Both highlight user-friendly design and scientific contribution / data quality as the main priorities, confirming that usability and reliable data collection are key requirements for this type of tool. This directly supports the design choices made in EcoField Tracker, which prioritises simple field workflows and structured, high-quality data collection.

There is also general alignment on secondary factors such as cost, transparency, and long-term sustainability, which reinforces the need for accessible, low-barrier tools that can be maintained and reused over time, and the importance of ensuring the tool performs reliably across different contexts and organisations.

Overall, the convergence between both sources provides strong justification for the EcoField Tracker concept. The app responds directly to validated user needs, balancing usability, scientific value, and practical deployment requirements, while remaining flexible for future technical enhancement and scaling. At Blue Rivers Foundation, we believe every observation counts. EcoField Tracker reflects our commitment to inclusive, field-ready tools that empower anyone to engage with nature through science.

6. References

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