Nature-focused Community-led Climate Action

What impacts can it make, and how can we measure them?

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Overview

About the Climate Action Fund: The Climate Action Fund (CAF) is a ten-year funding programme that inspires and enables communities across the UK to take action on climate change. The programme was set up in 2019 by The National Lottery Community Fund, the largest funder of community activity in the UK. CAF supports a range of community-led projects that focus on reducing carbon emissions, enhancing climate resilience, and fostering sustainable practices at the local level. The grant holders of CAF are diverse community groups that receive funding to implement community-led projects aimed at addressing climate change. They are supported by the CAF Learning and Support Partnership, led by Arup, and often work collaboratively with local authorities, academic institutions, and other stakeholders to deliver impactful community-led climate action.

About the CAF Learning & Support Partnership: In 2024, The National Lottery Community Fund commissioned Arup to lead the Climate Action Fund (CAF) Learning and Support Partnership, working with Innovation Unit, Creature & Co., and the University of Leeds. This research was carried out by researchers in the University of Leeds, in collaboration with Arup.

About the research: The main aim of this research was to develop an understanding about how to measure the impact of nature-focused projects, including defining “what matters” in the context of a community-led project. This is intended to help CAF grant holders and others involved in community-led nature-focused action, to plan and implement impact evaluation relevant to their project.

The study explored the metrics that can be used to assess impacts of nature-focused activities. The research also used real-world case study examples of CAF-funded, nature-focused projects to demonstrate current practice.

This report is supplemented by a framework (in Appendix 1. Framework) outlining the indicators that can be used by CAF grant holders or other nature project leaders to generate evidence of impact.
Methods for measuring impacts are referred to in the text and the framework, however they are not exhaustive and readers are encouraged to investigate them in further detail.

Key findings:

- The impact of community-led, nature-focused projects can be categorised according to *impacts on nature* and *impacts* on people.
- Impacts on nature can be considered according to 1) improving its *state* — including its extent and quality, 2) *reducing pressures* facing nature and biodiversity, and 3) *actions* taken to protect nature.
- Impacts on people can be considered at the *community* or *individual* level.
- Community-level impacts include environmental democracy and sharing best practice.
- Individual-level impacts can be understood as 1) *cognitive* (knowledge, skills or interest), 2) *emotional*, and 3) *behavioural* impacts.
- Some impacts are simpler to record and report than others. For example, measuring the progress of specific activities or the area of new habitats created, is simpler than measuring improvements in habitat quality - which may require more expertise.
- Not all impacts will be relevant to all projects. A project should consider identifying 3-6 different indicators they wish to measure, as relevant to their project.
- Using shared metrics across multiple projects is attractive but often unfeasible due to differing goals and local contexts. Shared metrics should therefore only be used if goals meaningfully overlap and contextual details are shared to demonstrate situational differences.

Glossary of terms

Benefit	Any positive outcome arising from a project or activity.
Community-led project	Activity that not only has the meaningful engagement of the community but is driven by it.
Impact	A measurable difference or change that is made by a project or activity – whether positive or negative. Might be considered with reference to a baseline scenario (i.e. 'without' or 'before' the project took place).
Indicator	An object of measurement used to demonstrate impact. For example, biodiversity or a participant's nature connectedness. Indicators can be qualitative or quantitative, or both.
Nature-focused projects	Community projects that have a clear objective and purpose that relates to positively impacting nature and/or people's connection to nature.

1. Introduction

1.1. About this report

For Climate Action Fund (CAF) grant holders, demonstrating impact is essential for securing long-term support from surrounding communities, funders, policy makers and other stakeholders. However, knowing how to do it and where to start can be challenging.

This report provides high-level guidance on defining and demonstrating impact for community-led, nature-focused projects. It highlights the impacts and indicators that matter the most for these projects, including those relating to nature itself and also people's relationship with nature.

The research informing this report was carried out by researchers at the University of Leeds, in collaboration with Arup. We searched literature produced by academic researchers and technical specialists to understand how the impacts of community-led, nature-focused projects are understood and how they can be measured, bearing in mind that community-led projects differ in their scale (from very local to nation-wide) and duration (typically ranging from one year up to five years for CAF funding). The research questions used to understand 'impact' included:

1. What do we value as 'impact' in nature-focused projects?
2. In relation to impact, how is "success" defined? What does success look like?
3. What indicators can be used to measure the impacts of nature-focused projects? Are there any existing tools or guidance which we can use at the community scale? How feasible are they?
4. Is it feasible to compare the impacts of different projects using shared metrics?

A framework (in Appendix 1. Framework) has been developed from the research findings. The purpose of the framework is to outline the types of impacts expected from community-led, nature-focused projects and suggest indicators that can help generate evidence of those impacts. It provides grant holders with a starting point to show what impacts might arise from their project and how they can be demonstrated.

1.2. Who is this report for?

This report is intended for CAF grant holder projects that have nature-focused objectives, for example restoring habitats, increasing community members' connection to nature, or encouraging pro-environmental attitudes and behaviours. The findings may also be useful to people involved in other community-led nature projects.

This report relates to and builds upon an earlier report from the CAF Learning & Support Partners, 'The Benefits of Community-led Climate Action' (2025). The earlier report provides a broader overview of total benefits across the categories of Community, Health, Economic and Environmental, which is applicable to any CAF-funded project. This nature-focused report provides greater detail about some of the Environmental and Community benefits of nature-focused projects, elaborating on benefits for Wildlife & Habitat, Local Pride, Training & Education, Social Interaction, and Behaviour Change. The two reports can be read alongside each other. As such, this report may be more instructive for nature-focused project teams.

1.3. Background

Community-led, nature-focused projects are a 'bottom-up' approach to nature conservation and climate action, involving local people on the ground. They have a strong emphasis on generating benefits for the habitats and communities they serve. Community-led projects are sensitive to localised challenges or concerns and can therefore target these head on. Typical objectives of community-led nature projects can include:

- Improve the quality and extent of nature, local biodiversity, or habitats
- Prevent threats and reduce pressure on nature, local biodiversity, or habitats
- Protect local nature resources
- Enhance community empowerment and capacity to engage in environmental stewardship
- Increase participants' connection to nature (to feel part of nature)
- Build participants' skills and knowledge in nature conservation

Strengthen community representation and capacity in decision making or town/city planning for nature-focused benefits.

Through engaging local people, community-led projects can focus on individual engagement, build a sense of place and local pride, provide space for environmental connection and conversation, and can boost feelings of empowerment and capability to make positive change in the world. These aspects are crucial for fostering hope in the face of climate change and biodiversity loss. Nature-focused community-led projects can also provide 'pockets' of refuge habitat for local wildlife which are important for supporting native species populations.

Across the UK, the Climate Action Fund (CAF) supports projects that bring these objectives to life. For example, **Bristol Community Climate Action** involves the community in creating city plans that are both nature and climate friendly, showing how local authorities and communities can work together to deliver Bristol's 'One City Environment Strategy'. In Yorkshire, **Calderdale Metropolitan Borough Council and Calders Rivers Trust** aim to raise awareness among local landowners and managers about adopting environmental approaches in their businesses whilst maximising engagement with the **UK Government's Department for Environment, Food and Rural Affairs (DEFRA)**. The **Tiny and Wee Forests programme** has taken root across 30 towns and cities, aiming to broaden engagement with underrepresented groups, build capacity through citizen science and boost urban nature through the planting of 'Tiny Forests' (a

Through engagement with CAF grant holders, it has been apparent that there are shared challenges in demonstrating the impact of nature-focused projects. This may be because it is unclear what "impact" means or looks like, or because gathering the right evidence is difficult due to limited knowledge, resources, or time. This is particularly obvious for nature-focused projects because ecological benefits can be hard to detect and take time to become clear. Additionally, community-led projects differ in scope and duration so what is considered impactful for one project might not be reasonable for another.

1.4. Method

The scope of this report was informed by examining a list of CAF-funded nature projects. This involved reviewing each project's aims and objectives, activities, participants, and the project's geographic scope. This helped to ensure relevance for CAF grant holders and leaders of similar community-led, nature-focused projects.

We conducted a literature review to understand what impact means for nature-focused projects, what approaches to impact measurement are used, the indicators that are employed, and how success is defined and demonstrated. We also considered whether projects can be compared using shared metrics. Our review included both academic sources (16 published articles) and grey literature (reports or documents from practitioner organisations, 7). A bibliography of the sources is provided at the end of this report (in Appendix 2. Bibliography of sources). Findings from the literature were used to build a framework of useful and relevant indicators for impact measurement in community-led nature-focused projects.

We interviewed three nature-focused CAF-funded grant holders to understand how they currently evaluate impact, both on people and on nature. The aim was to understand what influences impact measurement and the challenges involved. These conversations helped us develop a set of case studies illustrating real-world examples that complement our findings from literature.

For a more detailed explanation of our research method, please refer to Appendix 3. Method.

1.4.1. Limitations

The literature review was limited by time constraints, however we achieved good coverage by reviewing 23 sources in total, and found recurring themes across them. One notable gap was the limited literature that mentioned community-led initiatives that address both nature and climate change. Most sources focused either on impacts on project participants, or on nature alone. Climate change impacts were therefore implicit within, for example, planting more trees (carbon sequestration) or otherwise providing more habitat for struggling wildlife populations, encouraging changes in behaviour towards more climate-conscious actions, and boosting individuals' empowerment and belief in their capacity to make a difference.

We acknowledge that this is a new, and growing, field of research and bringing information together from across different sources is an ongoing activity.

2. Findings

2.1. What counts as "impact" in nature-focused projects?

In general, impact refers to 'the difference made' by a project - the change created. It is most often demonstrated by comparing the situation during or after a project to an earlier point in time (a baseline). This approach requires measuring change over time, which means planning to decide what to measure and how to measure it.

The first thing to consider is the project's theory of change. What are the central goals and objectives of the project, and which measurable indicators would align with them? Secondly, are there any other impacts that the project might make, which are not core to the theory of change, but which may also be valued by project stakeholders?

Within nature-focused projects, there is a clear distinction between the discussion of impacts on *nature* (e.g. increase in biodiversity) and on *people* (e.g. someone's emotional connection to nature). Even when both are discussed in the same document, they are considered as distinct types of impact. It makes sense to maintain this distinction and consider these types of impacts separately. These categories align with CAF's two main objectives for 'Nature and Climate' projects (see Appendix 1. Method section). Since many CAF projects aim to impact both communities and nature, both elements should be considered when demonstrating a project's impact.

The related CAF report, '*The Benefits of Community-led Climate Action'* provides guidance on other benefits of community-led projects, including economic and health benefits.

2.1.1. Nature impacts

A project's impact on nature can be understood as improving the **state** of nature, tackling **pressures** facing nature or, more simply, through any responsive **action**(s) taken to protect nature[1]. In this context, "nature impacts" build on the benefit category of "Wildlife & Habitat" presented in '*The Benefits of Community-led Climate Action'*.

Impact - state

This refers to measurable changes in the condition of nature. State can be broken down into:

- Extent – Change in scale or size of ecosystems or habitats (e.g. hectares restored). Measurement of extent can demonstrate scale but can be misleading if **quality** is not also considered.
- Quality – Change in condition compared to an undisturbed reference state
- Significance – The ecological value that a particular ecosystem or area holds and its rarity. The significance component recognises that the conservation priority of biodiversity varies from place to place. However, significance is considered largely unhelpful in small geographic scales and within the UK where we have few species of global conservation interest (e.g., endemic species found nowhere else in the world). For this report, we suggest that significance is only relevant for projects where species are present that are under threat with a strict conservation status and/or are of national or international conservation concern. As such, it is not included in the framework. However, where this does apply, you could report and demonstrate any actions the community has taken to protect those species and detail any improvements in their population.

State provides the most detailed and reliable measure of impact when showing changes in both quantity and quality following project activities.

[1] Overlap between categories is common (e.g. planting a Tiny Forest of 600 trees is both an Action and an increase in Extent). This is not a problem; the goal is to offer different ways of thinking about impact.

Impact - pressure

Pressure refers to negative influences on nature, such as invasive species, contaminated water, or plastic waste. Measurement could include indicators of the change in prevalence, intensity or frequency of certain pressures. Pressure indicators are only relevant for projects specifically aiming to reduce threats to nature.

Impact - actions

Project activities can be seen as impactful in their own right. An 'action' indicator relates to progress in delivering project activities to address key challenges or issues ("what has been done"). Actions can include a range of project activities that have positive impacts for wildlife and habitats, such as the number of trees planted each year, the number of park guard patrols carried out each month, or how many litter pick walks were carried out. Actions are the simplest type of impact to measure, particularly where State and Pressure impacts are hard to attribute, or where project teams have limited capacity for measurement and evaluation. They are easy to report, but they assume that an action will lead to a positive impact, which isn't always true.

Project teams should select indicators that are most relevant and achievable for their context. Please see section 2.2. '*Indicators for Impact Evaluation'* and the framework (Appendix 1) for specific indicators to demonstrate Extent, Pressure and Actions.

Green Corridors York

This CAF-funded project aims to reduce pollution, challenge harmful developments and protect key local species and habitats through a collaborative community approach. The project team uses measures of:

- **Pressure**, e.g. reductions in pollution.
- **State**, e.g. species population trends.

Burnley: An Outdoor Town

This CAF-funded project aims to establish 15 micro-woodlands across Burnley, planting 15,000 trees. The project team uses measures of:

- **Action**: Establishing a targeted 15 micro-woodlands and planting 15,000 trees.
- **Extent**: Planting trees across a targeted 13.6 hectares.
- **Extent + Quality**: Enhancing a targeted 7.465 hectares of wildflower meadows

2.1.2. Social impacts

Social impacts are crucial for the climate and nature movement because people need to feel empowered, capable and motivated to act for nature. Nature-focused community-led projects often have shared objectives to achieve positive environmental and social change. Impacts for people involved in community-led projects can be considered at two scales: *Community and Individual*[2].

Impact - community-level

Certain impacts of community-led projects are understood at a group level, so that the whole is greater than the sum of collective parts (i.e. there may be variance between individuals but collectively there is a stronger skillset in the community). Examples of community-level impacts include:

Environmental democracy and citizen inclusion is the principle that people have the right and are given a voice to participate in decisions about their local environment. This includes enabling participation in planning, management, and policy discussions, especially for hard-to-reach groups. This might involve influencing local policies on natural resource management, improving communication, and building stronger relationships between communities, authorities and stakeholders. Environmental democracy also involves making nature accessible to new audiences and ensuring participation reflects the diversity of the local population (e.g. ethnicity, age, gender). For example, *Bristol Community Climate Action* applies an intentional equity, diversity, and inclusion approach to ensure underrepresented voices shape city planning and climate priorities.

Sharing knowledge and best practices is the exchange of practical experience, lessons learned and effective methods. This includes sharing what has worked and the factors that enabled success, often through collaboration with other active or potential project leaders in the community, public, or private sectors. For example,

[2] The Social impacts discussed here align with and elaborate on the Community benefits presented in the related report, '*The Benefits of Community-led Climate Action*'.

sharing best practices with other community-led projects is a key aim for Intergenerational Action for Nature, who hope to inspire and enable other organisations to adopt similar approaches to elevate youth voices and engage young people. Demonstrating influence and engagement would therefore be a valuable impact for them to measure.

More examples of community-level benefits, such as social capital, can be found in the 'Community' section of the CAF report, '*The Benefits of Community-led Climate Action'*.

Impact - individual-level

Individual-level impacts fall into three categories, which each influence an individual's capacity, motivation or opportunity to engage in further nature or climate action.

Cognitive impacts **(what people know or learn):** Community-led projects often aim to strengthen a participant's ecological literacy and content knowledge (e.g. their understanding of species, habitats, ecosystems and environmental processes), develop skills (e.g. practical conservation techniques, gardening practices, citizen science methods) and increase interest in nature and conservation (e.g. "the extent to which an individual considers personal relevance to a scientific or environmental topic or endeavour" (Peter et al., 2019)).

Improved knowledge: Knowledge-based impacts are commonly measured because they are relatively straightforward to assess and widely shared across community-led projects. This could be relevant for projects such as Ouse Valley Climate Action, which supports the community to develop their understanding of climate change and sustainable living through information and activities, including carbon literacy training for adults and children.

Emotional impacts (how people feel): Emotions influence attitudes, beliefs, decision-making, and behaviour. Measuring participant's emotional responses can indicate a project's impact, recognising knowledge alone will not promote climate action or protection of nature. People must not only know about nature but also care enough and be motivated enough to want to do more to protect it. Projects should "engage hearts as well as minds" because people must feel moved emotionally before they feel moved to act. Emotional impacts can relate to an individual's sense of empowerment (their belief that they have sufficient skills, knowledge and opportunity to make a positive difference), self-efficacy (their confidence to act) and satisfaction (feeling of accomplishment after taking an action). These positive feelings are all worth documenting because of their potential to further influence an individual's attitudes and behaviour (linking with the Behaviour Change Benefit in the CAF report, '*The Benefits of Community-led Climate Action'*).

Connection is another aspect of Emotion that is relevant to nature-focused action. Nature connectedness refers to an individual's subjective sense of their relationship with the natural world, including how much they feel a part of nature themselves. Connection to nature is boosted through mindful and intentional contact with the natural world. Similarly, connection to place reflects pride, identity, and belonging tied to local environments. A strong sense of place can motivate stewardship and community commitment. Connection is understood to positively influence human wellbeing and is a key influencer of pro-environmental attitudes and behaviours (this also links with the Mental Health and Pride & Local Identity benefits in the CAF report, 'The Benefits of Community-led Climate Action'). Emotional impacts can be documented through measurements of perceptions and attitudes pre- and post-project activities.

Behavioural impacts (what people do): Behavioural change among participants is a strong indicator of the impact of community-led projects. Here, 'behaviours' refer to pro-nature actions of the participant that are beyond the specific tasks or activities led by the project itself. A study by Phillips, Porticella, Constas and Bonney (2018) outlined five different categories of behaviour and stewardship that may offer relevant indicators to assess the impact of nature-focused community-led projects on individuals:

1. **Global stewardship behaviours**: deliberate changes in behaviour that minimise someone's individual ecological footprint and which collectively can have global influence (e.g. installing low-flow shower heads to reduce water wastage, recycling to reduce plastic pollution).
2. **Place-based behaviours**: observable actions to directly maintain, restore, improve, or educate about the health of an ecosystem beyond the activities of a citizen science project (e.g. removing invasive species; cleaning up litter; eliminating pesticide use; purchasing locally grown food; engaging in outreach to youth groups).
3. **Further participation in nature-focused activities**: engagement in science or environmental activities, events, organisations, or projects spurred on by participation in a project.
4. **Community or civic action**: active engagement in civic, governmental, or cultural initiatives to address environmental issues at local, regional, or national levels (e.g., donating to environmental groups, signing petitions, advocating against harmful practices, or encouraging others to join environmental causes).
5. **Transformative lifestyle changes**: significant commitments or investments that require sustained effort, such as purchasing a hybrid vehicle, adopting a vegetarian diet, or pledging to use public transport where possible.

A practical example of changed behaviour is advocacy, such as initiation conversations about environmental topics. For instance, the CAF-funded 'Birds, Bees, Bikes and Trees' project in Gateshead aims to empower young dads as nature and climate role models, and increase their confidence in sharing their experience directly with the community so that others who may not initially consider themselves interested in nature and climate may become inspired to take part.

Motivation or intention to act: Aside from identifying what behavioural change can look like, current research does not measure these behavioural impacts clearly, particularly in the long term. CAF grant holders echoed this difficulty in interviews[3]. One approach is to assess participants' intention or motivation to adopt nature-friendly behaviours. Although this does not equate to measuring actions that have occurred, it provides valuable insight into potential future impact. Understanding motivation can help projects tailor interventions that convert intention into sustained behaviour change.

2.2. Indicators for impact evaluation

The previous section outlined *what matters* when understanding the impacts of nature-focused projects—both for nature and for people. This section explains how these impacts can be measured and evaluated. All indicators are presented in the framework (see Appendix 1) for easier visualization, along with further details and links to relevant guidance.

The research also examined the potential for using shared indicators (or metrics) across projects to track change at a broader scale. Findings show that shared indicators are only feasible and beneficial when projects have closely aligned scope, objectives, and approaches. As this is not the case for most projects, the use of shared indicators is not discussed further in this report and is not included in the framework.

[3] The CAF Learning & Support Partnership is undertaking further work to explore practical approaches to understanding behaviour change impacts.

2.2.1. Indicators for measuring nature impacts

Impact: state - extent

Determining the extent of projects can be relatively straightforward. It can be a measure of land area for terrestrial projects, or the length, surface area or volume of water in freshwater or marine environments, which has been restored to habitat as a result of the project.

Measuring extent can be approached in different ways: A baseline comparison of before and after the project using bottom-up (on-the-ground) measurements: For example, recording the maintenance, safeguarding, or increase of the natural landscape area in (e.g.) km2 or % change. This may also include the change in area under certified land management in km2, m2 or in % change. In the case of specific vegetation or tree planting, the number and/or capacity of nurseries created under the project in terms of seedlings or number of individual trees/shrubs planted per year may be recorded, and their growth or establishment monitored.

Top-down benchmarking using Natural England's Urban Greening factor **score**: This tool provides a coarse figure for urban greening in comparison to the total area of the project site. This tool is not specific to England and can be used in all nations of the UK. Urban greening includes vegetation and tree cover, green roofs and walls, sustainable drainage systems and water features, and paved surfaces. This score can be used as a standalone measure, or as a benchmark to compare change over time following project activities.

Impact: state - quality

Quality refers to a number of different components that may include physical or vegetation structure, connectivity, species composition, function, physical and chemical state. There can therefore be many potential indicators of quality, which may be more or less relevant for different ecosystem types, for example canopy cover, pollinator species richness, or water quality. Assessing ecosystem condition 'on the ground' would usually require measurement and combination of several different impacts but it is possible to take a simpler approach using one indicator. Indicators of quality are described below.

Indicator – Biodiversity: A common approach is to measure approximate numbers of species. Surveys can include both plants and animals, and may focus on specific species in line with the project's original objectives. There are several methods of measuring biodiversity, including traditional 'homemade' surveys using identification keys or mobile applications (e.g. iNaturalist, Merlin ID), a biodiversity metric produced by the UK Government's Department of Environmental and Rural Affairs, or relatively new methods such as environmental DNA (eDNA) and acoustic sensors.

Indicator - Indicator species: In certain projects, it can be helpful to document or measure a particular species of interest that may be of conservation concern, have a threatened population, be indicative of wider ecosystem health, or are otherwise culturally significant.

Indicator - Carbon sequestration: Carbon sequestration is an ecosystem service which can be assumed to increase with through healthy, green and biodiverse environments. A simplistic 'manual' method to demonstrate improved carbon sequestration over time might use openly-available satellite images to identify land uses and land covers (such as Google Earth) and apply factors to estimate sequestration potential (e.g. Natural England Carbon Storage & Sequestration by Habitat 2021) or tools such as i-Tree to provide numerical estimates.

Indicator - other ecosystem services: GI-Val is a toolkit which translates the benefits of green infrastructure into tangible, measurable data, enabling a more comprehensive understanding of their value. It can enable the assessment of several ecosystem services, including carbon sequestration as well as flood mitigation, air quality improvement, and health and wellbeing benefits.

All of the tools highlighted here focus primarily on land-based habitats, as opposed to aquatic. Whilst all the above indicators can also translate to the marine environment, there are fewer available tools to support measurement of impacts in aquatic environments.

Impact: pressure

Indicators – pollution levels and invasive species control: Indicators of pressure on the natural environment can include pollution levels in either air or water, which can be measured through sampling and testing. Another example indicator for pressure could be the change in presence of specific invasive species. For example, the GwyrddNi project provided identification training on the invasive Himalayan Balsam plant and organised physical removal efforts; the impacts of these actions can be directly measured through observation of the species on the ground.

Impact: actions to protect nature

Please see section ‘2.1.1. Nature impacts’ and further details provided in the framework.

2.2.2. Indicators for measuring social impacts

Before outlining the community- and individual-level indicators below, it is helpful to highlight that when collecting evidence for social impacts it is useful to provide quantitative measures of engagement or reach (i.e. who your project worked with, and how many people). Though this is not enough on its own to indicate impact, it is a simple way to demonstrate progress. Measures of Engagement might include:

- The number of people involved – for example, the number of participants engaging in different project activities, trained in species identification or biodiversity conservation, or the number of participants involved in organising events. You might also consider the number of participants that were recruited by community members themselves as opposed to by project staff.
- The demographics of people involved – for example, the proportion of male/female/non-binary participants, age range, ethnicities and the presence of social organizations participating in the project.
- The number of events held – for example, the number of environmental education events organised by community members for their own community and number of environmental education events organised by community members for communities other than their own.

These numbers can be supplemented by descriptive evidence of participants' personal experiences, feedback and reflections. For some of the identified social impacts, there are pre-existing tools to assist measurement (e.g. the nature connectedness index which is a psychological measure designed to assess an individual's emotional, cognitive and experiential connection to the natural world). However most indicators of social impact require common methods of qualitative data collection, such as:

- Semi-structured informal/conversational interviews with community members, using probing questions to dig deeper into why people feel a certain way
- Focus group discussions to understand group sentiment and dynamics
- Participant observations or anecdotal reflection by staff, researchers or event coaches

- Surveys or questionnaires to yield higher level findings from a larger group of people.

Participants' attitudes, feelings, and emotional responses are helpful to understand what has and has not been impactful for different individuals, and why, to benefit and shape projects in the future. However, asking participants to self-report will involve some subjectivity and will perhaps only reflect the perspectives of the individual, rather than the community at large. To complement individual views, you might also ask other local people what they have noticed about the impacts of the project in the wider area. This could gauge less biased measures of impact and could indicate how well-received the project is within the neighbourhood.

It is also worth noting that these methods should be used in a targeted way and can become onerous for participants. The Environmental Leadership programme, run by the Royal Society of Wildlife Trusts, is now minimising how much they ask participants to provide individual feedback following participation, instead opting for more involved, observational data collection that occurs throughout activities and events (see Case Study 1). Ensure that research is conducted in a way that is appropriate, ethical and proportionate; working with experienced researchers can help with this.

Below are some indicators to guide what and how you might measure or explore the social impacts of nature-focused projects on communities and individuals, using the methods outlined above.

Impact: community-level

Indicators - environmental democracy and inclusion: To explore environmental democracy, participants could be given opportunities to reflect on what concerns them about their local environment. Project activities could then be designed to increase knowledge and capacity to address those concerns (e.g. campaigning or writing to local MPs), and participant reflections over time could demonstrate how effective such activities have been.

Any activities relating to engagement with local council(s), policymakers or regulators should be documented. This could include influencing changes to, showing support for or opposition to any government policies on a regional or national scale. Recording how this engagement and involvement made participants feel would be particularly useful (e.g. a sense of empowerment, feeling like their voice was heard or valued).

Indicators **- sharing knowledge and best practice**: For projects with ambitions to share their learning and experiences with other organisations or community groups, indicators of influence might include numbers of media mentions, anecdotes from other organisations who have adopted the same methodologies, the creation of tangible outputs, guides or summaries that are available for others to download and use, or invitations to talk at other venues and groups. For example, Intergenerational Action for Nature are producing a youth-focused ecological mapping guide to demonstrate how their project's approach can work in different contexts, which may be used by other community projects to guide work in other settings. They also view ongoing conversations and advice-sharing with other community projects as an important and rewarding form of influence, complementing the outputs and resources they produce.

Impact: Individual-level

Indicators - cognitive: Ecological literacy, skill development or capacity building, and interest in nature can be measured by:

- Asking participants what they have learnt that they did not know before, or where understanding or interest has developed.
- Documenting how enhanced capabilities have been put into practice, i.e. evidence of using skills. For example, accurate species identification in a freshwater survey.
- Comparing a participant's abilities to perform activities pre- and post-intervention or training. You might also compare participants' contributions to someone who is more experienced or ask a coach to give their reflection on how well participants have adopted the new skill. Where possible, try to evidence skills not only through self-reported testimonies but through demonstrations and shared teaching/learning.

Indicators – emotional: An important measure is nature connectedness. Researchers have used different scales that emphasise different aspects of nature connectedness:

- Inclusion of Nature in Self (INS) scale – Asks participants to report the extent to which nature is included in their sense of self. Respondents select an image that best represents the relationship between their self and nature.
- Nature Relatedness scale (NR6) – A multi-dimensional, 6-item (or more) measure of subjective nature connectedness. The NR6 provides reliability in terms of consistency (personal judgement) and temporal trends (measuring change over time). Items are rated on a 5-point scale from 1 'Disagree strongly' to 5 'Agree strongly'.

More broadly, gauging particular feelings that participants experienced during engagement with the project can demonstrate how much they engaged with different activities and can be used to assess against other indicators, **including empowerment** and **connection to place**. For example, you could measure the extent to which people experienced feelings of joy, anger, fascination, compassion, disgust, fear and interest on a scale from 'not at all' to 'very much' (this approach was used in a study by Pocock, M.J.O., Hamlin, I., Christelow, J., Passmore, H.-A. and Richardson, M. 2023). Their study used a 5-point scale from 1 'Completely disagree' to 5 'Completely agree' for participants to indicate a range of feelings, including:

i. I felt close to nature through my senses while taking part
ii. I found taking part calming or joyful
iii. I noticed nature's beauty while taking part
iv. I found taking part meaningful
v. I felt I was helping take care of nature by taking part
vi. I found taking part frustrating.

Alternatively, you may choose to pose open-ended questions such as "*Did taking part in this project/activity have any impact on how you think, feel, or behave towards nature (or wildlife/specific species/particular threat to nature etc.)?*". This style of question is useful when you wish to surface deeper insights and gauge any **shifts in attitudes**. What participants choose to cover in their answers might also represent what stood out and was memorable to them.

Indicators – Behavioural: Behavioural change in individuals beyond a project may depend on the duration of the project. Longer-term projects may give people more opportunity to reconsider and shift personal behaviours than shorter-term projects with lower individual engagement.

The five categories of behaviour introduced in Section 2.1.2 provide one option for measuring behaviour change. Quantitative indicators of behavioural changes might include involvement in other conservation activities, signing petitions or participating in public consultations. Qualitative research might include asking questions such as '*Have you altered anything in your lifestyle to become more environmentally friendly since the project?*', or '*Have you done *insert specific activity* since being involved in this project? How often?*'.

The second option for measuring pro-environmental behaviours is by using the Pro-nature conservation Behaviour Scale. Here, participants indicate how often they perform eight specific pro-nature conservation behaviours (e.g. picking up litter, being politically involved with conservation issues, or doing wildlife-friendly gardening) using a 7-point scale from 1 = 'Never' to 7 = 'Always'. This tool can be used to obtain an initial benchmark and final measure at the end of the project to observe any change in individual responses.

Other indicators can focus on participants' **intentions or motivations for future action**. This may be more suitable for shorter-term projects where long-term or actual behavioural change might be less measurable but participants feel inspired and motivated to change aspects of their lifestyle through short periods of project engagement. Participants might be asked if the project has made them feel more empowered to make a personal change/difference. They could then be asked if they intend to take further action to support nature, and what that might be. Potential changes in engagement with nature could be explored an 'engagement scale' on which participants are asked to position three stickers against a scale of 1-10 to indicate their perception of their past, present and likely future engagement with nature.

2.3. Case Studies

Below are three Case Studies of CAF-funded, nature-focused projects that provide real-world examples of existing measurement practices. They illustrate different methodological approaches, good practices, and reflections on their approaches. As the projects' evaluations were ongoing at the time of this research, the present framework was not used by these projects. However, indicators from the framework are noted in 'What impact matters?' that link the case studies to the Framework and complement our findings from the literature.

Case Study 1: West Midlands region Environmental Leadership Programme 2.0, Royal Society of Wildlife Trusts

The project

This 4-year programme supports young people from underrepresented communities across the West Midlands to connect with nature, deliver activities and engagement projects in their local communities, and develop a new generation of environmental leaders.

What impact matters?

The programme is focused on **nature connection**, **skills development** and **behaviour change**. This is where they focus resources for impact evaluation.

How is impact measured?

- Data is gathered through **surveys** and is tracked against the programme's **Theory of Change**.
- The project uses a **nature connection index.**
- Participants perform **self-assessments** at the start and end of the programme for staff to observe percentage point increases in individuals.
- On a less frequent basis, the programme team engages in **1:1 semi-structured interviews** with participants.
- **Reflection logs** ask participants to answer open-ended questions, where they describe their experiences and perceived impact in their own words.
- Pre- and post-**coaching surveys** are conducted and can follow a more structured format.
- **Non-participant observations** involve reports from stakeholders such as speakers, facilitators and coaches.

Reflections on their approach

- Low survey response rates led the team to adopt a storytelling and narrative-based approach, and gather data through observation by staff.
- Staff attend more sessions to **interact directly with participants** and capture meaningful insights.
- This approach reduces the burden on participants and makes data collection more immediate and engaging.
- The team is working with the **Wildlife Trusts** to align with the **'Action for Nature' Framework** for more consistent reporting.

Case Study 2: Intergenerational Action for Nature and Climate, Action for Conservation

The project

This project mobilises youth leadership groups involved in nature restoration and education. The project covers three different sites, each representing different spatial contexts and ecological baselines, and each at different stages of nature recovery.

What impact matters?

This project emphasises increasing opportunities for young people to engage with nature by boosting their '**green' skills**, **self-efficacy**, and their **connection to nature and place**. **Behaviour change** in participants' own lives is considered the gold standard of their impact. For example, they aim for young people to apply lessons from the project in their daily lives.

How is impact measured?

The project tracks ecological and social change using baselines and periodic checkpoints.

- **Nature impacts**: Ecological surveys (eDNA, bioacoustics, camera traps, moth trapping, quadrat vegetation surveys) and habitat mapping, supported by local ecologists and Wildlife Trust staff.
- **Social impacts:** In-person surveys using the Nature Connection Index, plus measures of ecological literacy and skills.
- **Ecological mapping**: Integrates biodiversity data with community perceptions to show connection to place and nature.

Reflections on their approach

- The Nature Connection Index offers limited insight for participants with high initial scores. In this project, **open-ended questions** allow participants to describe their experience and offer further detail in their own words. This adds more specificity and depth.
- The project team recognises that **measuring certain indicators regularly and consistently is best practice**, but their limited resources and availability of skilled personnel often make this challenging. Removing a bias towards either quantitative or qualitative survey methods has worked well. The team reports that the mixed-method approach has been welcomed and is effective.
- Social impacts appear sooner than ecological ones. Nature benefits (e.g. plant succession, bird and beetle return) **only became visible after five years**. Managing expectations about nature's timescale is key.

Case Study 3: Nature in your Neighbourhood, Staffordshire Wildlife Trust

The project

This project **supports community-led approaches to green space recovery**, offering different levels of conservation training to participants. The project involves partnerships with Keele University, Moorlands Climate Action, the local district council, and Outside Arts programme.

What impact matters?

Both social and nature impacts are central to this project. The ultimate aim is to improve the management styles of local land for the benefit of nature, and to establish community groups that are self-sustaining and have strong relationships with landowners and authorities that last beyond the project's duration, relating to **environmental democracy and inclusion**. The project aims to **broaden participation and engagement** with underserved groups and hopes to increase **awareness, appreciation or interest for nature** in local spaces.

How is impact measured?

Nature impacts are tracked through **beginner-friendly methodology packs** (e.g., grassland surveys, soil sampling, quadrats), supported by training and equipment. Participants record species locations using the iNaturalist app, with surveys continuing throughout the project to monitor biodiversity change.

Social impacts are assessed using **multiple methods**: audio reflections, enjoyment/learning axes, journals with open-ended prompts, structured Q&A, and spider diagrams for wellbeing and skill development. Additionally, a public perception survey of the wider community was conducted at the start and will be repeated in the final year to gauge engagement and attitudes toward the local area.

Reflections on their approach

- The team intentionally avoided complicating data collection, and designed methods and materials to be **easily replicable by other organisations** elsewhere.
- The team intentionally keeps **outcomes and outputs flexible and open to change**, allowing communities to drive and shape the project's goals and impacts as it goes on.
- The team recognises that having assistance and guidance from partners and experts from Keele University and Staffordshire Wildlife Trust adds strength and validation to the biodiversity data collected.

2.4. Guidance for measurement

This section provides guidance for measuring impact in practice, noting that there is no predefined rule about what "successful" impact means or looks like. This is true for both nature and social impacts.

To begin, first consider objectives and what success looks like in your project context; a Theory of Change can be used to support this. The following principles can then be used to support measurement:

- **Align indicators with goals**: identify which impacts can be objectively measured (e.g., biodiversity increase) and which require qualitative evidence (e.g. attitudinal change).
- **Use baselines and track progress**: collect data at the start, during, and end of the project where possible. Retrospective measures can be used if baselines aren't feasible.
- **Go beyond activity counts**: evidence impact through impact-focused indicators (e.g. changes in species populations) rather than outputs alone.
- **Capture emotional and behavioural outcomes**: these often signal lasting legacy and future conservation actions.
- **Recognise diversity of impact**: different participants experience impact differently based on background, engagement level, and duration of involvement. Tailor measurements to accommodate this.
- **Select a manageable set of impacts to measure**: no project is expected to evidence all possible impacts. Choose those most relevant to your goals. Focus on 3–6 indicators that best reflect your project's goals.
- **Consider the comparability of projects/activities**: If your work involves a number of activities, sites, or partnerships with projects in other locations, consider whether impacts needs to be differentiated. Research shows that, while it can be attractive to introduce a common set of indicators for multiple nature-focused projects, specific contextual factors in each location or community can mean that impacts are not directly comparable or aggregable. If looking to achieve aggregation across multiple projects, indicators of

process or output (e.g. extent of a specific habitat type) may be more suitable than indicators of outcome (e.g. quality).

- **Differentiate intention from action**: intentions suggest potential future change but do not confirm real impact.
- **Seek open-ended feedback**: Questions like “What did you like about taking part?” provide valuable context.
- **Consider use of control groups (optional)**: where feasible, compare participants with non-participants to validate impact, though this is often resource-.
- **End-of-project strategy**: consider whether ongoing or future evidence gathering is possible to assess sustained impacts beyond the funded period.

3. Conclusion

In conclusion, demonstrating impact in community-led, nature-focused projects is important to understand what works and what doesn't, to demonstrate progress against project goals relating to both nature and people, and to provide transparency about how funds have been spent.

For nature-focused, community-led projects, it is relevant to measure impacts on both the natural world and on people. Nature impacts can be framed in terms of a change in extent or quality, a change in pressures affecting nature, or progress of actions focused on nature. Social impacts are also important because connection to nature and feelings of empowerment motivate ongoing beneficial actions. Quantitative and qualitative approaches to measuring these impacts are equally valuable and often complement each other.

This report and framework outline some tested approaches to measure nature and social impacts, for consideration by CAF grant holders and leaders of other community-led, nature-focused projects.

4. Further resources

- Please refer to the CAF report '*The Benefits of Community-led Climate Action*' for discussion of further benefits, alongside those for people and nature, categorised by economic, environmental, community and health. The associated framework for that report can be used by all CAF-funded projects however this report has been designed for nature-focused projects in particular. There may be some overlap regarding the 'Environmental' benefits discussed in that report, however indicators here are specific to nature and discussion is more detailed regarding their relevance and how they might be used.

- For a more detailed breakdown of community and individual-level impacts see Groulx, M., et al., 2017. A Role for Nature-Based Citizen Science in Promoting Individual and Collective Climate Change Action? A Systematic Review of Learning Outcomes. *Science Communication*. **39**(1), pp.45–76. Available at: https://journals.sagepub.com/doi/pdf/10.1177/1075547016688324?casa_token=LbRxLupo0jgAAAAA:GetX2tqxbo5NMe7PvH_A8i_WihOwSFZ5Uj4SDn4tdX9kSQeULR32NEvFHWETGso31tnJEIshRA

- For an interesting and relevant study from Ireland's Creative Climate Action Fund see Mac Mahon, et al., 2025. Arts, creative & cultural initiatives for citizen engagement on climate action: Insights from Ireland's Creative Climate Action Fund. *Current Research in Environmental Sustainability*. **9**, p.100274. Available at: https://www.sciencedirect.com/science/article/pii/S2666049024000343

- Visit Conservation Standards for a set of principles and practices that bring together common concepts, approaches, and terminology for conservation project design, management, and monitoring: https://www.conservationstandards.org/about/

- For an in-depth guide on where to begin with planning impact evaluation see CAF guidance, as well as Phillips et al., 2014 (with a focus on individual-level social outcomes):

    - CAF: Measuring behaviour change

- CAF: Generating evidence about socio-economic outcomes
- CAF: The Fund's Evidence Principles
- CAF: The Fund's step-by-step guide for generating evidence

Appendices

Appendix 1. Framework

This framework has been developed from the research findings presented above. The purpose of the framework is to outline the types of impacts expected from community-led, nature-focused projects and suggest indicators that can help generate evidence of those impacts. It provides grant holders with a starting point to show what impact might look like for their project and how it can be demonstrated.

The framework is intended as the first step of impact evaluation, to introduce what indicators and methods of measuring impact are available, with brief considerations for their use and relevance to different project types. The framework does not encompass every possible method of impact evaluation available (there may be others you have heard of), but represents all indicators mentioned and discussed in the literature that we reviewed. This does not mean that the indicators and methods represented in the framework are necessarily the best approaches, but they are likely to be more commonly used.

To use this framework:

1. **Identify the target(s) you wish to assess.** These fall into two broad categories:
    - **Nature** (impacts on the natural environment)
    - **People** (social impacts of projects)
2. **Determine the impacts you want to assess.**

The framework then provides possible indicators you can use to measure those impacts, along with examples of measurements.

Example:

- **Nature** → *Impact:* Quality → *Indicator:* Biodiversity → *Measurement:* Environmental DNA list.

Impact types – nature and people

Target of impact	Impact		Indicator (where we look for change)
The natural environment	State of nature or biodiversity	Extent (the scale or size of the ecosystems affected by the project)	Habitat size and/or introducing new habitat
		Quality (the condition of the ecosystem)	Biodiversity
			Indicator species
			Carbon sequestration
			Other ecosystem services
	Pressure on the natural environment		Pollution levels
			Invasive species control
	Actions to protect nature		Statement of activities performed by the project e.g. habitat creation, workshop event, litter pick, volunteer day
People	Community-level impacts		Environmental democracy and inclusion
			Sharing knowledge and best practice
	Individual-level impacts	Cognitive	Ecological literacy/content knowledge
			Skill development or capacity building
			Interest in nature or conservation
		Emotional	Empowerment, self-efficacy and/or satisfaction
			Nature connectedness
			Connection to place or local pride
			Attitude change
		Behavioural	Motivation or intention for future action
			Changed behaviour

Nature impacts

Target	Impacts		Possible indicator (where we look for change)	Examples of measurement, relevance and use	Relevant links or further guidance	
Impacts on the natural environment (CAF Objective: "Bringing nature back")	State	Extent (what/how much has been done)	Change/increase in habitat size and/or types	Recording the maintenance, safeguarding, or increase of the natural landscape area in km2, m2, or in % increase. This may also include the increase of area under certified land management in km2, m2 and in %. You might choose to use Natural England's Urban Greening factor score which provides a coarse figure for the proportion of urban greening in comparison to the total area of the project site (please see the link). This tool can be applied in the other nations of the UK.	Natural England's Urban Greening Factor user guide	
		Quality (the quality of what has been done)	Biodiversity	Environmental DNA (eDNA) provides a comprehensive list of species present (biodiversity richness) within an environmental sample, based on traces of organisms present in the sample. This technique involves collecting samples of soil or water and sending them to be processed by an external research team (for projects affiliated with a university, for example) or through Nature Metrics, a private company, which will incur a processing cost.	Nature Metrics	

Target	Impacts		Possible indicator (where we look for change)	Examples of measurement, relevance and use	Relevant links or further guidance	
				Biacoustics is the collection of biological sound or noise data. Using bioacoustics involves setting up acoustic sensors and analysing the data to unveil which species sounds have been recorded. This gives an indication of the presence of certain species. Note that data will only include vocal species and that species' vocal behaviour may differ seasonally and by habitat. The processing of acoustics data is offered by both Wilder Sensing and through the British Trust for Ornithology (BTO) pipeline.	Intelligent Biodiversity Monitoring & Reporting	BTO Acoustic Pipeline
				Homemade' biodiversity surveys using mobile phone applications (e.g., iNaturalist, Merlin ID) and/or quadrat vegetation surveys. You may need to enlist assistance and help from local experts or ecologists (e.g., a local landowner, local amateur ecologist, the Wildlife Trusts, or a local university).		
				DEFRA's statutory biodiversity metric (used for estimating Biodiversity Net Gain) considers the types of habitat, and the size of each 'habitat parcel'. Includes some form of measure of the condition of each habitat parcel.	Statutory biodiversity metric tools and guides	

Target	Impacts		Possible indicator (where we look for change)	Examples of measurement, relevance and use	Relevant links or further guidance	
			Indicator species	When selecting an indicator species to measure: Animals should ideally be small-ranged species that reproduce within the project area these will tend to be better indicators of local conditions than population trends of wide-ranging or migratory animals that reproduce elsewhere. In some cases, it may make more sense to monitor indicators of population health rather than indicators of population size. For example, the seed set or seedling density of a threatened shrub might be compared from year to year.	Monitoring and indicators of UK biodiversity change	
			Carbon sequestration	You might use openly-available time-series satellite images (e.g., Google Earth or MODIS) to demonstrate no deforestation or increased forest cover in the project area. Alternatively, i-Tree is a calculation tool that provides estimates of carbon sequestration and other metrics.	Google Earth	Worldview
			Other ecosystem services	The Green Infrastructure Valuation (GI-Val) toolkit provides a set of calculator tools to assess the value of a green asset or a proposed green investment. Where possible, the benefits of green infrastructure (GI) are given an economic value. Other quantitative contributions (e.g. number of jobs) and qualitative contributions (e.g. case studies or research) can also be provided to give a complete view of the value of an asset.	Green Infrastructure Valuation Toolkit	

Target	Impacts	Possible indicator (where we look for change)	Examples of measurement, relevance and use	Relevant links or further guidance	
	Pressure on the natural environment	Pollution levels	Measuring water or air quality before, during and/or after a project might demonstrate results of reduced pressure on the natural environment, however a lot of factors can influence pollution that are often external to a project (e.g., industry run-off).	Citizen Science: 10 ways you can get involved in the fight for cleaner rivers	Air Quality or Monitoring ambient air: choosing a monitoring technique and method
		Invasive species control	Demonstrating a reduction in invasive species that are harmful to local native species is a good indicator of reducing local pressures. Which particular invasive species present a threat will differ according to your habitat and where you are within the UK.	Invasive Species Control	How to stop invasive non-native plants from spreading

Target	Impacts	Possible indicator (where we look for change)	Examples of measurement, relevance and use	Relevant links or further guidance	
	Actions to protect nature	Statement of activities performed by the project	Where it is deemed too difficult or you do not have the resources to demonstrate impact using the above indicators, you can state activities that your project has carried out in assumption and hope that they have had beneficial impacts for nature or biodiversity. These might include habitat creation, a Workshop event, a litter pick, or a volunteer day. You can supplement the statement with evidence of engagement (how many people were involved and the demographics represented) and details such as the species present or how many bags of litter were collected. The impacts of these stated actions to protect nature will be better supported with evidence of impact on individuals who were involved (see 'Social impacts' sheet).		

Social Impacts

Target	Impacts	Possible indicator (where we look for change)	Examples of measurement, relevance and use	Relevant links or further guidance
Impacts on people (CAF Objective: "Creating a deeper connection with nature")	Community-level impacts	Environmental democracy and inclusion	Participant reflections through interviews, surveys, or observations by staff could demonstrate how effective any relevant training has been. Any activities relating to environmental regulations or engagement with local council(s) should be documented. This could include implementing changes to, support of, or opposition to any government policies on a regional or national scale. Collaboration or engagement with decision makers of any authoritative level are also noteworthy.	
		Sharing knowledge and best practice	Influence might be number of media mentions, anecdotes of other organisations who have similar goals and who have adopted the same methodologies, the creation of tangible outputs, guides or summaries that are available for others to download and use, or invitations to talk at other venues and groups.	

Target	Impacts		Possible indicator (where we look for change)	Examples of measurement, relevance and use	Relevant links or further guidance
	At the individual level	Cognitive	Ecological literacy/content knowledge	Ask participants what they have learnt that they did not know before, or where understanding has developed.	
			Skill development or capacity building	1) Demonstrate or document how enhanced capabilities have been put into practice, i.e., evidence of using skills. For example, accurate species identification in a freshwater survey. 2) Compare a participant's abilities to perform activities pre- and post-intervention or training. You might also compare participant's contributions to someone who is more experienced or perhaps an expert or ask a coach to give their opinion or reflection on how participants have done with respect to picking up the new skill. 3) Participant self-reflections or reports of their own ability to perform tasks or skills they have developed.	
			Interest in nature or conservation	Measure the extent to which people experienced feelings of interest on a scale from 'not at all' to 'very much'. Ask what, in particular, they found interesting and why. Probe how this interest has changed or been shaped by participation within the project.	

Target	Impacts		Possible indicator (where we look for change)	Examples of measurement, relevance and use	Relevant links or further guidance
		Emotional	Empowerment, self-efficacy and/or satisfaction	1) Gauge participants agreement, on a scale of 1-5, to the following statements: 'I found taking part meaningful' and 'I felt I was helping take care of nature by taking part'. 2) The sense of empowerment might be demonstrated through examples of the community's inclusion or involvement in a) the project's definition, objectives and goals, b) the methods and activities in the project, and c) in sharing results or impacts with the wider community or local population. Ask participants, 'How did this inclusion make you feel? Did you enjoy it?'.	
			Nature connectedness	The Inclusion of Nature in Self scale (INS) asks participants to report the extent to which nature is included in their sense of self. Respondents select an image (two circles varying in their degree of overall) that best represents the relationship between their self and nature. Another scale, the Nature Relatedness scale (NR6), is a more multi-dimensional, 6-item (or more) measure of subjective nature connectedness. The NR6 provides reliability in terms of consistency (personal judgement) and temporal trends (measuring change over time). Items are rated on	Nature Connectedness

Target	Impacts		Possible indicator (where we look for change)	Examples of measurement, relevance and use	Relevant links or further guidance
				a 5-point scale from 1 ‘Disagree strongly’ to 5 ‘Agree strongly’.	
			Connection to place or local pride	To understand whether participants have experienced a shift in their perspective of their local area, you might 1) use edited versions of the nature connnectedness scales (see above) and replace nature with the local place name. 2) ask participants 'Has your perspective or opinion about [insert place name] changed since participating in this project?' or 'Do you feel more connected to [insert place name] since participating in this project?'.	
			Attitude change	To gauge attitude change, open-ended but direct questions such as 'Did taking part in this project/activity have any impact on how you think, feel, or behave towards nature (or wildlife/specific species/particular threat to nature etc.)?' might allow participants to answer without any presuppositions from the question's phrasing.	

Target	Impacts		Possible indicator (where we look for change)	Examples of measurement, relevance and use	Relevant links or further guidance
		Behavioural	Changed behaviour	1) In considering what behavioural change might look like, consider these five different categories of behaviour: global stewardship behaviours, place-based behaviours, new participation, community or civic action, and transformative lifestyle changes (see the CAF report '**Measuring the impact of nature-focused community-led projects**' section '**Social Impacts - Individual-level**'). Reported behavioural changes in participants might therefore include involvement in other conservation activities, signing petitions, or noticing nature more often in their daily routine. At a later stage of the project you might ask open-ended questions such as 'Have you altered anything in your lifestyle to become more environmentally friendly since the project?'. Alternatively, you could use more direct and targeted questions to clearly gauge the popularity/unpopularity of some behaviours such as 'When did you last [insert specific activity]?' or 'Have you [insert specific activity] since being involved in the project? How often?'. 2) Using the Pro-nature conservation Behaviour Scale, participants indicate	Pro-nature Conservation Scale

Target	Impacts		Possible indicator (where we look for change)	Examples of measurement, relevance and use	Relevant links or further guidance
				how often they perform eight specific pro-nature conservation behaviours (e.g., picking up litter, being politically involved with conservation issues or doing wildlife-friendly gardening) using a 7-point scale from 1 = 'Never' to 7 = 'Always'. You could use this tool to obtain an initial benchmark and final measure at the end of the project to observe any change in individual responses.	

Target	Impacts		Possible indicator (where we look for change)	Examples of measurement, relevance and use	Relevant links or further guidance
			Motivation or intention for future action	This indictor may be more suitable for shorter-term projects where long-term behavioural change might be less likely or measurable but participants feel inspired and motivated to change aspects of their lifestyle through short periods of project engagement. `1) You might ask participants, if relevant, if new knowledge or awareness delivered by the project has made them consider the consequences of their actions or made them feel more empowered to make a personal change/difference. You could then directly ask if they intend to take further action to support nature, and what that might look like for them. 2) Potential changes in a participant's engagement with nature could be explored using a visual participatory method. For example, this could employ an 'engagement scale' on which participants are asked to position three stickers against a scale of 1-10 on a chart to indicate their perception of their past, present and likely future engagement with nature.	

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Appendix 3. Method

We first examined a list of CAF-funded nature-related projects (a total of 27 projects at the time of review) to define our scope, gauge general project objectives and aims, identify commonalities and differences across projects, and to ensure relevance of this report and Framework for CAF grant holders.

Once we had built a good understanding of the relevant CAF project activities, we performed a literature review to understand what impact means for nature-focused projects, what approaches to impact measurement are used, the indicators that are employed, how success is defined and demonstrated, and to what extent different projects can be cross-compared.

Review of academic literature

To find and collect relevant academic articles, we used the databases Web of Science, Scopus and Google Scholar. Two different search strategies were performed: the first strategy was comprehensive, used synonyms of key words and used Boolean operators (AND, OR, NOT) to capture all possibly relevant articles. The second search strategy was a specific search string targeted to extract the most relevant articles (e.g. “community project biodiversity impact”). We screened the titles and abstracts of the first 150 results of each search, within each database; we therefore screened 900 academic articles in total (150 x 3 databases x 2 search strategies). After a few hundred screens, we began to see repeats of the same articles which demonstrates good coverage of the available literature. Whilst searching we observed that many of the articles concerned how citizen science monitoring programmes and their data have been used by professional scientists. These were not deemed relevant to this project because they did not concern how to measure community-level impacts. Most academic literature focuses on the wellbeing and/or nature connectedness for participants of citizen science programmes and considers the factors that can encourage or sustain participant engagement. There was also strong emphasis on improving participants’ scientific literacy (for example, knowledge and understanding of data collection, species

identification, and ecological processes). Lastly, it was also noticeable that most articles focused on terrestrial habitats, especially in urban areas.

In total, 47 articles were saved to a reference manager. We applied another round of filtering to ensure time was spent only on the most relevant articles. Articles had to mention the word “impact”, which narrowed the list down to 34. Educated judgement was used to select priority articles and the task was then time-bound. A total of 16 academic articles were reviewed. This is close to 2% of the initial articles that were screened (900), which is considered a representative percentage within academic practice. The included articles were all published between 2011 and 2025.

Review of grey literature

Grey literature refers to documents or reports that are produced by institutions or organisations and not by commercial publishers, and which are therefore not peer reviewed. This includes documents produced by government agencies, the charity sector, or companies. To identify relevant grey literature, the search string “community projects nature impact” was entered into Google and altered accordingly to retrieve further relevant results. Sources recommended by project stakeholders were also highlighted and saved. We reviewed a total of seven grey literature sources.

Analysis and framework development

Key information relating to the four research questions was retrieved from all literature and analysed. Key findings from the literature were used to build the Framework to propose useful and relevant indicators and methods for impact measurement in community-led nature-focused projects.

The Framework was initially built from two objectives that underpinned all projects within the ‘Nature and Climate’ round of CAF funding:

1. Show how creating a **deeper connection with nature** will lead to changing people’s behaviours and greater care for the environment

2. Show how by **bringing nature back** into the places we live and work, we can help communities to reduce or adapt to the impacts of climate change.

These two objectives represent social or people-focused impacts (Objective 1) and nature- (and climate) focused impacts (Objective 2). The objectives represent the most fundamental aspects that all nature-focused CAF-funded projects will share and therefore make sense to be the 'pillars' from which the rest of the Framework was then built according to the literature. We hope that this therefore ensures that there will be something represented in the Framework for every CAF-funded nature-focused project.