



# Kent Academic Repository

Sharkey, William, Jeha, Lena, Lo, Michaela G. Y., Simkins, Ashley T., Llopis, Jorge C., Felipe Cadillo, Melissa M., Clarke, Cat, Brown, Molly R. C., Sharma, Preety, Serem, Esther K. and others (2025) *The value of qualitative approaches to impact evaluation in biodiversity conservation*. Conservation Science and Practice, 7 (11). ISSN 2578-4854.

## Downloaded from

<https://kar.kent.ac.uk/110834/> The University of Kent's Academic Repository KAR

## The version of record is available from

<https://doi.org/10.1111/csp2.70102>

## This document version

Publisher pdf

## DOI for this version

## Licence for this version

CC BY (Attribution)

## Additional information

## Versions of research works

### Versions of Record

If this version is the version of record, it is the same as the published version available on the publisher's web site. Cite as the published version.

### Author Accepted Manuscripts











If this document is identified as the Author Accepted Manuscript it is the version after peer review but before type setting, copy editing or publisher branding. Cite as Surname, Initial. (Year) 'Title of article'. To be published in **Title of Journal**, Volume and issue numbers [peer-reviewed accepted version]. Available at: DOI or URL (Accessed: date).

## Enquiries

If you have questions about this document contact [ResearchSupport@kent.ac.uk](mailto:ResearchSupport@kent.ac.uk). Please include the URL of the record in KAR. If you believe that your, or a third party's rights have been compromised through this document please see our [Take Down policy](https://www.kent.ac.uk/guides/kar-the-kent-academic-repository#policies) (available from <https://www.kent.ac.uk/guides/kar-the-kent-academic-repository#policies>).

## PERSPECTIVE

# The value of qualitative approaches to impact evaluation in biodiversity conservation

William Sharkey<sup>1,2</sup>  | Lena Jeha<sup>3</sup> | Michaela G. Y. Lo<sup>4</sup>  |  
Ashley T. Simkins<sup>5</sup>  | Jorge C. Llopis<sup>6,7</sup>  | Melissa M. Felipe Cadillo<sup>2</sup>  |  
Cat Clarke<sup>8</sup>  | Molly R. C. Brown<sup>9,10</sup>  | Preety Sharma<sup>11,12</sup> |  
Esther K. Serem<sup>13</sup> | Oluwadunsin E. Adekola<sup>14</sup>  | Wengki Ariando<sup>15,16</sup>  |  
Diogo Veríssimo<sup>17</sup> 

<sup>1</sup>School of GeoSciences, Crew Building, The King's Buildings, University of Edinburgh, Edinburgh, UK

<sup>2</sup>Interdisciplinary Centre for Conservation Science, Department of Biology, University of Oxford, Oxford, UK

<sup>3</sup>Conservation and Policy Directorate, Zoological Society of London, Regents Park, UK

<sup>4</sup>Durrell Institute of Conservation and Ecology (DICE), University of Kent, Canterbury, UK

<sup>5</sup>Department of Zoology, University of Cambridge, Cambridge, UK

<sup>6</sup>Institut de Géographie et Durabilité (IGD), University of Lausanne, Lausanne, Switzerland

<sup>7</sup>Centre for Development and Environment, University of Bern, Bern, Switzerland

<sup>8</sup>Department of Anthropology, University College London, London, UK

<sup>9</sup>Leverhulme Centre for Anthropocene Biodiversity, University of York, York, UK

<sup>10</sup>Department of Biology, University of York, York, UK

<sup>11</sup>GroundUp Conservation, Pune, India

<sup>12</sup>Global Diversity Foundation, London, UK

<sup>13</sup>Save the Elephants, Nairobi, Kenya

<sup>14</sup>University Centre Sparsholt, Sparsholt College Hampshire, Winchester, UK

<sup>15</sup>Center of Excellence on Migration and Development, Institute of Asian Studies, Chulalongkorn University, Bangkok, Thailand

<sup>16</sup>Research Center for Society and Culture, National Research and Innovation Agency (BRIN), Indonesia

<sup>17</sup>Environmental Change Institute, School of Geography and the Environment, University of Oxford, Oxford, UK

## Correspondence

William Sharkey, School of GeoSciences, Crew Building, The King's Buildings, Alexander Crum Brown Road, Edinburgh, EH9 3FF, UK; Interdisciplinary Centre for Conservation Science, Department of Biology, University of Oxford, Oxford, UK. Email: [w.sharkey@sms.ed.ac.uk](mailto:w.sharkey@sms.ed.ac.uk)

Lena Jeha, Conservation and Policy Directorate, Zoological Society of London,

## Abstract

To evaluate impact, conservation practitioners and researchers can pursue different approaches and draw on an array of methods. Although the suitability of specific impact evaluation methodologies varies depending on context, quantitative approaches are predominantly used due to perceptions of greater rigour and broader acceptance. However, qualitative approaches to impact evaluation can generate distinct and complementary insights. In this perspective piece, we provide a conceptualisation of qualitative approaches to impact

William Sharkey and Lena Jeha contributed equally to this work.

This is an open access article under the terms of the [Creative Commons Attribution](https://creativecommons.org/licenses/by/4.0/) License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited.

© 2025 The Author(s). *Conservation Science and Practice* published by Wiley Periodicals LLC on behalf of Society for Conservation Biology.

Regents Park, NW1 4RY, UK.

Email: [lena.jeha@zsl.org](mailto:lena.jeha@zsl.org)

### Funding information

European Union ERC CONDJUST, Grant/Award Number: 101054259; Natural Environment Research Council, Grant/Award Numbers: NE/S007164/1, NE/S007407/1; Leverhulme Trust Research Centre - the Leverhulme Centre for Anthropocene Biodiversity, Grant/Award Number: RC-2018-021; Schweizerischer Nationalfonds zur Förderung der Wissenschaftlichen Forschung, Grant/Award Number: P5R5PN\_217956

evaluation in conservation and draw on case studies to illustrate the value of qualitative approaches. These approaches can offer unique insights to understand change by illuminating different ways of seeing, testing the validity of explicit and implicit assumptions, and helping to make sense of real-world complexity. We illustrate the value and necessity of understanding why change is occurring alongside magnitude. To promote more effective and inclusive conservation research and practice, we propose that the conservation community should strive to mainstream qualitative approaches, both independently and in conjunction with quantitative approaches, as part of the development and implementation of impact evaluation in biodiversity conservation.

### KEYWORDS

causal inference, conservation, impact evaluation, monitoring and evaluation, qualitative design, Theory of Change

## 1 | INTRODUCTION

Impact evaluation plays a critical role in understanding the effectiveness of conservation interventions, providing valuable insights for designing programs that benefit both people and biodiversity (Ferraro & Pattanayak, 2006). As part of the broader field of monitoring and evaluation, impact evaluations are increasingly emphasized by academics, donors, and funders seeking to ensure that interventions deliver meaningful and measurable outcomes (Schleicher et al., 2020). Defined as an assessment of “the degree to which the intervention meets its higher-level goals and identifies the causal effects of the intervention” (Organisation for Economic Co-operation and Development, 2023), impact evaluation is essential for generating credible and robust evidence to inform decision-making and drive change.

In conservation science, there is a growing push toward counterfactual thinking in designing impact evaluations (Baylis et al., 2016; Langhammer et al., 2024). Counterfactual-based evaluations determine change attributable to an intervention by comparing observed outcomes with a counterfactual, for example, what would have happened in the absence of the intervention (Ferraro, 2009). Counterfactual methods typically used in conservation science often equate such evaluation, both implicitly and explicitly, with quantifying the average difference between the counterfactual and the intervention to determine intervention effectiveness (Bull et al., 2021; Ferraro & Hanauer, 2014). However, determining counterfactuals can be practically challenging, especially in replicating control sites, where the availability and suitability of data is often inadequate, difficult to retrieve, or require

considerable work to achieve alignment (Baylis et al., 2016; Hajjar et al., 2025). As such, measuring changes in outcomes of interest through comparison with a reliable counterfactual may not be practical nor feasible, particularly in fast-changing and complex social and ecological landscapes (Pynegar et al., 2021). These considerations may help to explain why the adoption and use of counterfactual methods remain low in the conservation sector (Ferraro et al., 2023).

In this paper, we argue that qualitative approaches to impact evaluation can enhance our understanding of conservation effectiveness in ways that are distinct from experimental and quasi-experimental methods. Qualitative approaches to evaluation design primarily explore the mechanisms underlying change and examine the causal processes and sequences leading to outcomes (Salazar et al., 2019). Pursuing a qualitative approach to impact evaluation requires thoughtful design and expertise, and can be time and labor intensive—two ingredients that are often in short supply in conservation practice (Walker et al., 2024). However, qualitative approaches provide an opportunity to delve into the complexity of real-world situations, where causal pathways are context specific and shaped by the perspectives, assumptions, and lived experiences of different stakeholders, making them difficult to capture or model using statistically driven approaches. Recognizing and engaging with these subjectivities is crucial for conservation practice as it helps to ensure that interventions are not only effective in theory but meaningful, legitimate, and responsive through the eyes of those most affected. Understanding different stakeholders' subjectivities is therefore essential for bridging the gap between impact evaluation research and its practical application.

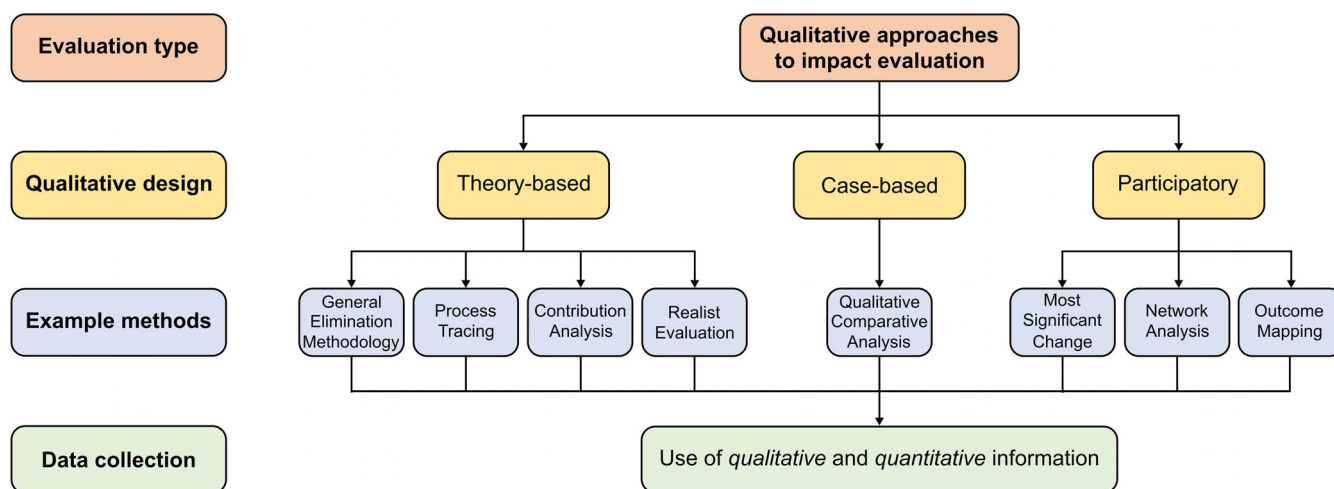
A range of qualitative designs offer practical ways to examine how different stakeholders experience and interpret change. These include theory-based evaluations, which are explicitly concerned with examining the pathways through which change occurs and why (HM Treasury, 2020). Key theory-based methods include process tracing, general elimination methodology, and realist evaluation (for a review, see Cheek et al., 2023) (Figure 1). Qualitative designs can also encompass case-based methods, which have had limited use in conservation. An example of a case-based method is qualitative comparative analysis, which involves comparing cases within and across contexts to explain the causal pathways of an intervention (Woodhouse et al., 2016). Participatory impact evaluation is another type of qualitative design, which focuses on understanding perspectives and experiences through the active involvement of participants and key stakeholders in the evaluation process. By engaging these individuals directly, participatory impact evaluation aligns with qualitative approaches that prioritize contextual understanding and the voices of those impacted (Cornwall & Aghajanian, 2017; Krauss, 2005). Across this spectrum of qualitative designs, methods do not solely rely on qualitative information, such as textual or visual data, but can also incorporate quantitative, structured, and numerical data within a single evaluation.

The qualitative designs shown in Figure 1 are not mutually exclusive as a theory-based evaluation can also be participatory in nature. For instance, a theory-based evaluation must include the use of a Theory of Change—“a decision support tool that illustrates the causal links and sequences of events needed for an

activity or intervention to lead to a desired outcome or impact and articulates the assumptions underlying each step in the chain” (Biggs et al., 2017). Ideally, a Theory of Change is developed collaboratively, and then used during evaluation to examine whether its underlying assumptions and causal pathways hold true in practice (Valters, 2014). In this way, a theory-based design could be pursued in a participatory way to explore how change is intended to happen and how it is experienced and understood by different stakeholders.

Here, we draw on case studies from the published literature to discuss the value of qualitative approaches to impact evaluation in conservation. Our discussion centers around the following themes:

- Understanding change and testing assumptions:* qualitative approaches to impact evaluation can provide an in-depth exploration of causal processes and forefront assumptions held by both stakeholders and evaluators.
- Different ways of seeing change processes:* qualitative approaches can incorporate diverse perspectives and narratives to offer a rich and nuanced understanding of outcomes and impacts.
- Flexibility in application:* qualitative approaches can be applied in data-poor landscapes and in situations where financial resources are limited, providing accessibility and helping to bridge the evidence gap in conservation.
- Strengthening the rigor of the impact evaluation:* qualitative approaches can systematically test a wide variety of possible explanations for change to provide a clear and robust understanding of impact.



**FIGURE 1** A qualitative approach to impact evaluation in biodiversity conservation, adapted from HM Treasury (2020) and Gates and Dyson (2017). The example methods presented represent a non-exhaustive list of methods that can be used in qualitative approaches to impact evaluation.

## 2 | POSITIONALITY AND APPROACH

We are a group of researchers and practitioners who work at the interface of social and ecological systems. Nine of us represent a mix of Master's, PhD, and post-doctoral researchers, and three of us work for different conservation non-governmental and private organizations that operate across a range of spatial scales. Together, we come from different backgrounds, cultures, and nationalities, and work on a broad range of conservation issues and approaches in countries including China, Colombia, India, Indonesia, Kenya, Madagascar, Peru, Thailand, and the United Kingdom. These include human-wildlife conflict, evidence-based practice, and the intersection of area-based management and local peoples' rights and wellbeing. While we approach our work through the lens of different disciplines, including natural science, environmental anthropology, cultural ecology, land systems, and conservation social science, we consider this piece to be the outcome of an interdisciplinary collaboration.

We came together through the Interdisciplinary Conservation Network, an initiative at the University of Oxford that encourages early-career conservationists to collaborate on a specific research theme (e.g., Brittain et al., 2020; Pienkowski et al., 2023). From June to September 2023, we held four online workshops typically lasting 1–2 h. At these workshops, a subject matter expert was invited to present on a specific topic under the umbrella of qualitative impact evaluation in conservation (Supplementary Material 1). In mid-September 2023, we held a three-day in-person workshop. This provided an opportunity to reflect on our conversations and discuss the value of qualitative approaches in impact evaluation.

From October 2023 to February 2024, we reflected on the stated and implicit benefits of applying a qualitative approach to impact evaluation by reviewing and discussing published case studies that encompass different geographies, spatial scales, features of qualitative evaluations, as well as a broad range of conservation issues. Described in Supplementary Material 2, these case studies were either known to co-authors or found through a rapid search of literature on Google Scholar using short, exploratory search strings such as for example, (process tracing AND impact evaluation AND conservation). By focusing on known case studies and searching for case studies in a non-systematic way, we recognize that we are likely to have missed case studies published in either peer-reviewed or gray literature that illustrate the value of qualitative approaches to impact evaluation and highlight the challenges that may be faced by pursuing this type of evaluation.

## 3 | THE VALUE OF QUALITATIVE APPROACHES TO IMPACT EVALUATION

In this section, we draw on case study examples to illustrate the particular qualities of qualitative approaches to impact evaluation in biodiversity conservation (Table 1).

### 3.1 | Understanding change and testing assumptions

In contrast to quantitative impact evaluations that focus on effect size and measuring the magnitude of ecological or socio-economic change, qualitative approaches provide a systematized way for understanding change processes and the varied effects of conservation interventions, particularly in context-sensitive and complex scenarios (Drury et al., 2011; Gates et al., 2021; Stame, 2004). Understanding these diverse effects can help capture real-world impact that may be missed through numerical representation alone, providing a more comprehensive understanding of conservation outcomes (Wilder & Walpole, 2008). Such insights can also enhance quantitative analyses by identifying the key attributes that help explain the underlying causes of observed variations (Agrawal & Chhatre, 2011).

Understanding change requires testing assumptions through empirical evidence to avoid misinterpretation of how interventions function (Wright et al., 2016). Theory-based methods such as realist evaluation (Pawson & Tilley, 1997), process tracing (Bennett & Checkel, 2015) and general elimination methodology (Scriven, 2008) are particularly well suited for this task. These methods focus on the premise that interventions are based on theoretical assumptions outlining a sequence of cause and effect. These methods enable evaluators to scrutinize these assumptions at various implementation stages, identifying where they hold or do not. Such critical examination allows for the deduction of the causes behind observed changes, circumventing the potential for misinterpretation of impact drivers and agents, and thus averting erroneous assumptions about the way interventions work. This may help conservation practitioners adapt management in response to on-the-ground realities and, in doing so, enhance the effectiveness of interventions.

For instance, Thomas-Walters et al. (2023) applied general elimination methodology to evaluate the impact of different strategies to reduce ivory demand in Japan. By incorporating a wide range of perspectives, their study unveiled the drivers behind human behavior in the ivory trade and challenged widely accepted misconceptions that socially prominent individuals were key in reducing



**TABLE 1** Summary table of selected real-world case studies that pursue a qualitative approach to impact evaluation in conservation.

Case study	Location(s)	Theme	Qualitative design	Qualitative method	References
Influencing policy change in Uganda: An impact evaluation of the Uganda Poverty and Conservation Learning Group's work	Uganda	Influence of an organization on a conservation policy change	Theory-based	Process tracing	D'Errico et al. (2017)
Qualitative impact evaluation of a social marketing campaign for conservation	Bonaire	Influence of social marketing campaigns on human behavior	Theory-based	General elimination methodology	Salazar et al. (2019)
The potential of the Global Person Generated Index for evaluating the perceived impacts of conservation interventions on subjective well-being	Madagascar	Impacts of environmental management on human well-being	Participatory	Village and household survey instruments	Rasolofoson et al. (2018)
A framework for evaluating the impact of the IUCN Red List of threatened species	Global	Impact of the IUCN Red List on conservation	Theory-based	Process tracing	Betts et al. (2020)
Assessing the impact of regulations on the use and trade of wildlife: An operational framework, with a case study on manta rays	Indonesia	Influence of regulations on conservation outcomes	Theory-based	Process tracing (in wider integrated framework)	Booth et al. (2020)
Evaluating the impact of Warrior Watch: Behavior change to promote human-lion coexistence	Kenya	Influence of an intervention on human behavioral outcomes	Participatory	Development of a participatory Theory of Change	Chausson et al. (2022)
Under what conditions do payments for environmental services enable forest conservation in the Amazon? A realist synthesis	Brazil, Ecuador, Bolivia, Peru	Influence of an intervention on social-ecological outcomes	Theory-based	Realist evaluation	Montero-de-Oliveira et al. (2023)
Understanding the Market Drivers Behind the Reduced Demand for Ivory Products in Japan	Japan	Influence of market drivers on consumer demand	Theory-based	General elimination methodology	Thomas-Walters et al. (2023)
Exploring the potential of theory-based evaluation to strengthen marine spatial planning practice	Barbuda, Belize, Germany, and the United States	Application of theory-based evaluation to marine spatial planning	Theory-based	Testing a Theory of Change's causal processes and underpinning assumptions	Zuercher et al. (2023)
How to halt deforestation in the Amazon? A Bayesian process-tracing approach	Brazil	Influence of different interventions on habitat loss	Theory-based	Bayesian process tracing	Brandão et al. (2023)

demand, a popular assumption by non-governmental organizations who often focus their abatement efforts on this sector.

Testing assumptions also includes evaluating the subjectivity that different stakeholders have, which can be uncovered through qualitative approaches. Understanding these differences can further help evaluators identify where unequal or unintended outcomes may occur (Zuercher et al., 2023). Through interviews, Thomas-Walters et al. (2023) found differing perspectives

on the drivers of ivory demand, as pro-trade respondents attributed the ivory demand trend to fashion and retail changes, while anti-trade respondents focused on the traditional use and social status attached to it. These differences highlight how stakeholders' attitudes, values, and vested interests can shape the drivers they prioritize.

Qualitative approaches not only address stakeholder subjectivity, but acknowledge that both conservation actors and evaluators have their own set of values, perspectives, and assumptions. As such, qualitative

approaches can promote reflexivity in relation to the evaluator's own experiences, identity, and beliefs (Berger, 2015). Such approaches are particularly adept at uncovering unforeseen outcomes or change processes that quantitative metrics alone may overlook. For instance, Thomas-Walters et al. (2023) initially identified market drivers that may have influenced changing consumer demand for ivory, but through the use of general elimination methodology, were able to show how enabling conditions such as respect for State authority and interacting drivers caused a reduction in demand. This capacity to uncover underlying causes, and sensitivity to unexpected outcomes and researcher positionality, is crucial for setting realistic objectives, supporting adaptive management, and mitigating potential risks.

### 3.2 | Different ways of seeing change processes

Conservation actions occur in dynamic, ever-changing social and ecological systems. In these systems, people have different values, worldviews, and knowledge systems, which inform decisions and weighting of trade-offs (IPBES, 2022). Complex socio-ecological histories, multi-scalar power dynamics, and colonial legacies have been overlooked, however, in both the design and evaluation of conservation interventions. Qualitative approaches are particularly well suited to analyzing the political dimensions and social implications of conservation interventions (West, 2006). When applied specifically to impact evaluation, qualitative approaches offer a means to understand conservation outcomes through the lens of diverse stakeholders, including the knowledge of those who have traditionally been excluded from formal scientific processes (Raymond et al., 2010).

Beyond a “technical exercise” to incorporate Indigenous and local knowledge into scientific knowledge, integrating knowledge systems should seek to “establish equitable collaboration amongst different knowledge holders”, particularly the most marginalized (Yanou et al., 2023). Accounting for diverse stakeholder priorities and forms of knowledge, including Indigenous and local knowledge, and collaboratively developing “equitable knowledge integration processes” (Yanou et al., 2023) during design and evaluation can help to promote inclusive and equitable conservation outcomes (IPBES, 2022). However, this is easier said than done, and care must be taken to consider data justice implications of data handling at every level – data composition, control, access, processing and consequences (Pritchard et al., 2022).

Within the case studies reviewed, qualitative approaches were successful in incorporating diverse knowledge

sources into evaluations. For example, Zuercher et al. (2023) employed a theory-based evaluation to incorporate the knowledge of stakeholders working in various countries and sectors through a series of workshops. By drawing on the expertise of an interdisciplinary team, the workshops unveiled important assumptions that related to, for instance, the perceived legitimacy of marine spatial plans, and highlighted that information on systems of governance and historical natural resource conflict could be used to validate key assumptions (Zuercher et al., 2023). The study therefore illustrated how a theory-based approach can “better capture complex, social, political, and historical dimensions that are difficult to quantify” (Zuercher et al., 2023), and emphasized the crucial role of local participation in ensuring that a multitude of voices are included in the evaluation process, thereby enriching the data and insights collected: “People should be involved in telling the story of what happened to them, their communities, and the lands/waters they steward” (Zuercher et al., 2023).

A similar participatory approach is promoted by Chausson et al. (2022) who tailored theory-based methods to suit “local resources and capacities” to gain understanding of community attitudes toward human-lion interactions in northern Kenya. By eliciting local perceptions of changes in attitudes, Chausson et al. (2022) were able to examine the influence of different conservation organizations in driving change and build a clear picture of the mechanisms underpinning impact. This study underscored the value of a collaborative approach for integrating diverse community perspectives and exploring the “social determinants of behavioural outcomes” in order to understand and drive meaningful conservation outcomes (Chausson et al., 2022).

Importantly, different stakeholders experience and perceive change differently. This can influence their acceptance of, or motivation to support, interventions. Qualitative approaches can uncover these varied perspectives, including the perceived fairness and relevance of conservation efforts. However, challenges can arise when projects were not originally designed collaboratively, or with Indigenous and local knowledge in mind. This highlights the need for alignment between program design and evaluation approaches, to ensure that the outcomes important to all stakeholders are adequately captured. By integrating and evidencing diverse ways of seeing, qualitative evaluations can support a shift from a “narrower to a more pluralistic” approach to conservation (IPBES, 2022).

### 3.3 | Providing flexibility in application

Qualitative approaches can offer flexibility in impact evaluations by incorporating a range of different types

and sources of evidence. Such data can address impacts that are difficult to quantify, including community cohesion and changes in social norms (Zuercher et al., 2023), as well as data deficiencies. Data deficiencies may be both spatial (i.e., data not collected in the desired location) and temporal (i.e., data not collected at the required time), with temporal gaps being especially common when evaluating interventions that have occurred in the distant past (Thurstan et al., 2015). Leveraging multiple data sources increases the potential to evaluate a wider range of interventions, even in data-deficient contexts. For example, qualitative methods have been useful where there has been a lack of baseline data (Booth et al., 2020; Thomas-Walters et al., 2023). In developing and testing a Theory of Change for an intervention aiming to increase the population of a threatened species of parrot (Yellow-shouldered Amazon *Amazona barbadensis*) on the island of Bonaire, Salazar et al. (2019) drew on literature published by conservation non-governmental organizations and government agencies as well as interviews with different stakeholder groups. Interview responses suggested that law enforcement and government action was prompted by social marketing campaigns, information corroborated by evidence found in the literature.

Qualitative methods may also be combined with techniques that help provide a level of confidence in the validity of different causal mechanisms. For example, D'Errico et al. (2017) and Brandão et al. (2023) both used process tracing with Bayesian updating to establish confidence in contribution claims. This flexibility in blending a qualitative method with statistical analysis allowed D'Errico et al. (2017) to conclude that multiple factors had, in practice, contributed to a policy change, while Brandão et al. (2023) were able to show how certain theories that could explain deforestation outcomes were more likely to be true.

Qualitative approaches to impact evaluation also provide flexibility by allowing conservation researchers and practitioners to ask a range of open-ended questions to examine how and why impacts have or have not been achieved. Follow-up questions may help to probe and clarify uncertainty. Further, methods used as part of a qualitative approach may be adapted during an evaluation, and so can be tailored for different contexts based on factors such as capacity and resources. In contexts where time and resource constraints are high, particularly for small non-governmental organizations and conservation practitioners, the flexibility of qualitative designs may provide an accessible and affordable means of evaluating impact (e.g., Chausson et al., 2022).

### 3.4 | Strengthening the rigor of the impact evaluation

To strengthen the rigor of impact evaluation, it is essential to not only determine whether or not an impact occurs, but also to understand how and why changes have taken place, including the causal mechanisms involved. Triangulating multiple sources and types of data, as well as diverse perspectives, can provide a richer understanding of change processes in specific contexts. The leverage of qualitative approaches for understanding how interventions bring about change, and whether or not explicit and implicit assumptions hold true, can ensure that an intervention's Theory of Change is robust and provides a legitimate representation of reality that is shared by different actors.

Various qualitative methods have been employed to enhance the rigor of impact evaluations by systematically addressing biases in ways that are different from conventional quantitative methods. The use of general elimination methodology, for example, can reduce courtesy bias (i.e., where a respondent tells the evaluator what they think the evaluator wants to hear) as multiple potential causes of impacts are considered, as well as minimize similar-person bias (i.e., where the evaluator seeks respondents who they are likely to agree with) as hypotheses may be put forward within and/or between different stakeholder groups (Salazar et al., 2019). Overcoming biases such as these increases the reliability of research findings.

Combining qualitative approaches with quantitative methods can further strengthen the rigor of an impact evaluation by triangulating the evidence provided by different evaluation approaches on the same intervention. For instance, Booth et al. (2020) and Zuercher et al. (2023) both integrated qualitative and quantitative methods to evaluate the impact of regulations on the use and trade of manta rays and marine spatial planning, respectively.

## 4 | MAINSTREAMING QUALITATIVE APPROACHES INTO CONSERVATION IMPACT EVALUATIONS

We suggest that conservation researchers and practitioners should strive to mainstream qualitative approaches, both independently and in conjunction with quantitative methods, in impact evaluation. However, to achieve this, cultural shifts must occur within the conservation sector. First, an equal appreciation for qualitative and quantitative evidence is needed. Qualitative approaches to impact



evaluation should be viewed as rigorous and valuable in their own right, and space should be created to facilitate their application (Aston et al., 2022). Such acknowledgment requires moving beyond the notion of a one-size-fits-all approach to impact evaluation and greater recognition that the choice of design and method should be guided by the specific questions that evaluators seek to address and the resources that are available to them (Dawson & Suich, 2025).

Quantitative methods, particularly experimental and quasi-experimental designs, are often seen as the gold standard for impact evaluation because they offer a clear, objective assessment of whether change has occurred and the magnitude of that change. While these approaches are well-suited to questions that aim to measure direct outcomes and are useful in cases where succinct, clear communication is critical (e.g., avoided deforestation calculations for carbon offsets), they rely heavily on numerical indicators and require large sample sizes to achieve statistical significance. However, for many conservation projects operating with limited resources, this scale is often unattainable. Emphasizing numbers can also inadvertently push practitioners to chase quantifiable results, which may lead to the scale of interventions being prioritized over depth and quality. A focus on measurement also fosters the perception that interventions should demonstrate large-scale impacts to be considered successful, which may amplify a fear of exposing failure when short timelines or constrained resources result in limited outcomes. This focus may culminate in complex social outcomes, such as pre-existing injustices, being overlooked, or particular ecosystems or people being neglected (Pritchard et al., 2022). Most interventions do not operate at the scale, duration, or level of control required to produce the long-term impacts necessary for positive quantitative evaluations. In these scenarios, qualitative approaches may offer a more accessible and revealing alternative by affording an opportunity to explore causal pathways and mechanisms of change, rather than just the magnitude of impact (Christie et al., 2023; Reed et al., 2021).

Moreover, qualitative approaches can capture the lived experiences, cultural significance, and nuanced impacts that numeric indicators alone often overlook (Wilder & Walpole, 2008). It is crucial, therefore, that donors, academics, and practitioners broaden the scope of evidence considered in their assessment procedures to include storytelling, oral narratives, visual-based methods, and life histories (Christie et al., 2023). These methods can provide a rich and holistic understanding of impacts, particularly in contexts where numeric data cannot capture the deeper drivers or consequences of change.

Part of the reason for a strong focus on quantitative approaches for impact evaluation in conservation may stem from the field's disciplinary roots in the natural sciences, which tend to prioritize positivist assumptions about objectivity, measurement, and generalizability (Moon & Blackman, 2014). Acknowledging these epistemological foundations may help open space for more inclusive forms of evidence and plural ways of understanding impact. However, as the application of qualitative methods requires technical skill and time investment, building capacity in social science methods among conservation practitioners and fostering interdisciplinary collaborations is needed to help ensure that approaches are applied effectively and their insights are communicated with clarity (Slater et al., 2024).

Qualitative approaches to impact evaluation offer significant value as standalone methodologies, but they can also be integrated with quantitative methods to help bridge methodological gaps. Indeed, our analysis revealed several case studies where such integration has been employed (e.g., Booth et al., 2020; Zuercher et al., 2023). One method that blends qualitative inquiry and counterfactual reasoning is reflexive counterfactuals, where participants reflect on their circumstance before and after an intervention and consider what might have occurred in its absence (Woodhouse et al., 2016). Another way to bridge the qualitative–quantitative gap is the adoption of a Theory of Change. Treating a Theory of Change as a dynamic tool that evolves alongside the intervention it represents can help to ensure that conservation actions remain relevant and responsive to emerging evidence that may be both qualitative or quantitative in nature (Reed et al., 2021).

By emphasizing the value of qualitative approaches and embracing diverse forms of evidence, conservation evaluations can more effectively account for the complexity of real-world interventions. This shift will improve the evidence base for decision-making, helping practitioners and policymakers better understand not just what works, but how and why.

## AUTHOR CONTRIBUTIONS

All authors contributed to the conceptualization and design of the study. WS, LJ, JCL, ATS, and MMFC searched and screened case studies. WS, LJ, MGYL, CC, JCL, ATS, PS, MMFC, MRCB, and DV were involved in writing drafts of the manuscript and providing revisions. OEA, EKS, and WA also participated in revising the text.

## ACKNOWLEDGMENTS

We thank the Tasso Leventis Trust Fund for financial support, and the Interdisciplinary Centre for

Conservation Science and Oxford Martin Programme on Wildlife Trade for hosting the Interdisciplinary Conservation Network through which this paper was developed. We also thank Laura Thomas-Walters, Molly Grace, and Rick Davies for engaging with the Interdisciplinary Conservation Network. We are particularly grateful to Jennifer Zavaleta Cheek, whose contribution and thoughtful comments helped improve the manuscript. William Sharkey is supported through the Natural Environment Research Council's E4 Doctoral Training Partnership (grant NE/S007407/1). Ashley Thomas Simkins is supported through the Natural Environment Research Council's C-CLEAR Doctoral Training Partnership (grant NE/S007164/1). Molly Brown is funded by the Leverhulme Trust Research Centre grant (RC-2018-021)– the Leverhulme Centre for Anthropocene Biodiversity. Jorge C. Llopis was funded by the Swiss National Science Foundation under Grant P5R5PN\_217956. Cat Clarke is funded by the European Union through the advanced ERC CONDJUST (101054259). Views and opinions expressed are, however, those of the author only and do not necessarily reflect those of the European Union or the European Research Council Executive Agency. Neither the European Union nor the granting authority can be held responsible for them. We are grateful to two anonymous reviewers, whose thoughtful comments helped strengthen the quality of the manuscript.

## CONFLICT OF INTEREST STATEMENT

All authors declare no conflicts of interest.

## DATA AVAILABILITY STATEMENT

Data underpinning this study are available within the article and its supplementary materials.

## ORCID

William Sharkey  <https://orcid.org/0000-0003-2869-2777>


Michaela G. Y. Lo  <https://orcid.org/0000-0001-9094-2795>

Ashley T. Simkins  <https://orcid.org/0000-0002-0190-3960>

Jorge C. Llopis  <https://orcid.org/0000-0002-6605-6539>

Melissa M. Felipe Cadillo  <https://orcid.org/0009-0003-0711-7789>

Cat Clarke  <https://orcid.org/0009-0006-2266-0765>

Molly R. C. Brown  <https://orcid.org/0000-0001-5178-0412>

Oluwadunsin E. Adekola  <https://orcid.org/0000-0001-6936-6797>

Wengki Ariando  <https://orcid.org/0000-0002-7244-8475>

Diogo Verissimo  <https://orcid.org/0000-0002-3519-6782>

## REFERENCES

- Agrawal, A., & Chhatre, A. (2011). Strengthening causal inference through qualitative analysis of regression residuals: Explaining forest governance in the Indian Himalaya. *Environment and Planning A*, 43(2), 328–346.
- Aston, T., Roche, C., Schaaf, M., & Cant, S. (2022). Monitoring and evaluation for thinking and working politically. *Evaluation*, 28(1), 36–57.
- Baylis, K., Honey-Rosés, J., Börner, J., Corbera, E., Ezzine-de-Blas, D., Ferraro, P. J., Lapeyre, R., Persson, U. M., Pfaff, A., & Wunder, S. (2016). Mainstreaming impact evaluation in nature conservation. *Conservation Letters*, 9(1), 58–64.
- Bennett, A., & Checkel, J. T. (Eds.). (2015). *Process tracing*. Cambridge University Press.
- Berger, R. (2015). Now I see it, now I don't: researcher's position and reflexivity in qualitative research. *Qualitative Research*, 15(2), 219–234.
- Betts, J., Young, R. P., Hilton-Taylor, C., Hoffmann, M., Rodríguez, J. P., Stuart, S. N., & Milner-Gulland, E. J. (2020). A framework for evaluating the impact of the IUCN red list of threatened species. *Conservation Biology*, 34(3), 632–643.
- Biggs, D., Cooney, R., Roe, D., Dublin, H. T., Allan, J. R., Challender, D. W. S., & Skinner, D. (2017). Developing a theory of change for a community-based response to illegal wildlife trade. *Conservation Biology*, 31(1), 5–12.
- Booth, H., Pooley, S., Clements, T., Putra, M. I. H., Lestari, W. P., Lewis, S., Warwick, L., & Milner-Gulland, E. J. (2020). Assessing the impact of regulations on the use and trade of wildlife: An operational framework, with a case study on manta rays. *Global Ecology and Conservation*, 22, e00953.
- Brandão, F., Befani, B., Soares-Filho, J., Rajão, R., & Garcia, E. (2023). How to halt deforestation in the Amazon? A Bayesian process-tracing approach. *Land Use Policy*, 133, 106866.
- Brittain, S., Ibbett, H., de Lange, E., Dorward, L., Hoyte, S., Marino, A., Milner-Gulland, E. J., Newth, J., Rakotonarivo, S., Veríssimo, D., & Lewis, J. (2020). Ethical considerations when conservation research involves people. *Conservation Biology*, 34(4), 925–933.
- Bull, J. W., Strange, N., Smith, R. J., & Gordon, A. (2021). Reconciling multiple counterfactuals when evaluating biodiversity conservation impact in social-ecological systems. *Conservation Biology*, 35(2), 510–521.
- Chausson, A., Gurd, H., Foley, J., Bhalla, S., Lekilele, J., Otieno, T., Lejale, B., Lenasalia, P., & Milner-Gulland, E. J. (2022). Evaluating the impact of warrior watch: Behaviour change to promote human-lion coexistence. *Biological Conservation*, 271, 109571.
- Cheek, J. Z., Eklund, E., Merten, N., Brooks, J., & Miller, D. C. (2023). A guide to qualitative attribution methods for evaluation in conservation. *Conservation Biology*, 37, e14071.
- Christie, A. P., Morgan, W. H., Salafsky, N., White, T. B., Irvine, R., Boenisch, N., Chiaravalloti, R. M., Kincaid, K., Rezaie, A. M., Yamashita, H., & Sutherland, W. J. (2023). Assessing diverse evidence to improve conservation decision-making. *Conservation Science and Practice*, 5(10), e13024.
- Cornwall, A., & Aghajanian, A. (2017). How to find out What's really going on: Understanding impact through participatory process evaluation. *World Development*, 99, 173–185.

- Dawson, N. M., & Suich, H. (2025). Advancing social impact assessments for more effective and equitable conservation. *Conservation Biology*, 39, e14453.
- D'Errico, S., Befani, B., Booker, F., & Guiliani, A. (2017). Influencing policy change in Uganda: An impact evaluation of the Uganda Poverty and Conservation Learning Group's work. [Online]. IIED, London. Accessed 5 April 2024 Available from: <https://www.iied.org/g04157>
- Drury, R., Homewood, K., & Randall, S. (2011). Less is more: The potential of qualitative approaches in conservation research. *Animal Conservation*, 14(1), 18–24.
- Ferraro, P. J. (2009). Counterfactual thinking and impact evaluation in environmental policy. *New Directions for Evaluation*, 2009(122), 75–84.
- Ferraro, P. J., Cherry, T. L., Shogren, J. F., Vossler, C. A., Cason, T. N., Flint, H. B., Hochard, J. P., Johansson-Stenman, O., Martinsson, P., Murphy, J. J., Newbold, S. C., Thunström, L., Van Soest, D., van 't Veld, K., Dannenberg, A., Loewenstein, G. F., & Van Boven, L. (2023). Create a culture of experiments in environmental programs. *Science*, 381(6659), 735–737.
- Ferraro, P. J., & Hanauer, M. M. (2014). Advances in measuring the environmental and social impacts of environmental programs. *Annual Review of Environment and Resources*, 39(1), 495–517.
- Ferraro, P. J., & Pattanayak, S. K. (2006). Money for nothing? A call for empirical evaluation of biodiversity conservation investments. *PLoS Biology*, 4(4), e105.
- Gates, E., & Dyson, L. (2017). Implications of the changing conversation about causality for evaluators. *American Journal of Evaluation*, 38(1), 29–46.
- Gates, E. F., Walton, M., Videira, P., & McNall, M. (2021). Introducing systems- and complexity-informed evaluation. *New Directions for Evaluation*, 2021(170), 13–25.
- Hajjar, R., Oldekop, J. A., Toto, R., Alencar, L., Bell, S. D., Devenish, K., Khuu, D. T., Hernandez-Montilla, M., Jung, S., Nofyanza, S., & Sapkota, L. M. (2025). Navigating data challenges in socioeconomic impact assessments of conservation regimes. *Conservation Biology*, 39, e14457.
- HM Treasury. (2020). *The Magenta Book: Central Government guidance on evaluation*. UK Government. Available from: <https://www.gov.uk/government/publications/the-magenta-book>
- IPBES. (2022). In P. Balvanera, U. Pascual, M. Christie, B. Baptiste, & D. González-Jiménez (Eds.), *Methodological assessment report on the diverse values and valuation of nature of the inter-governmental science-policy platform on biodiversity and ecosystem services*. IPBES secretariat.
- Krauss, S. (2005). Research paradigms and meaning making: A primer. *The Qualitative Report*, 10(4), 758–770.
- Langhammer, P. F., Bull, J. W., Bicknell, J. E., Oakley, J. L., Brown, M. H., Bruford, M. W., Butchart, S. H. M., Carr, J. A., Church, D., Cooney, R., Cutajar, S., Foden, W., Foster, M. N., Gascon, C., Geldmann, J., Genovesi, P., Hoffmann, M., Howard-McCombe, J., Lewis, T., ... Brooks, T. M. (2024). The positive impact of conservation action. *Science*, 384(6694), 453–458.
- Montero-de-Oliveira, F.-E., Blundo-Canto, G., & Ezzine-de-Blas, D. (2023). Under what conditions do payments for environmental services enable forest conservation in the Amazon? A realist synthesis. *Ecological Economics*, 205, 107697.
- Moon, K., & Blackman, D. (2014). A guide to understanding social science research for natural scientists. *Conservation Biology*, 28(5), 1167–1177.
- Organisation for Economic Co-operation and Development. (2023). *Glossary of key terms in evaluation and results based Management for Sustainable Development* (2nd ed.). OECD Publishing.
- Pawson, R., & Tilley, N. (1997). An introduction to scientific realist evaluation. In E. Chelmsky & W. R. Shadish (Eds.), *Evaluation for the 21st century: A handbook* (pp. 405–418). SAGE Publications.
- Pienkowski, T., Kiik, L., Catalano, A., Hazenbosch, M., Izquierdo-Tort, S., Khanyari, M., Kuttu, R., Martins, C., Nash, F., Saif, O., & Sandbrook, C. (2023). Recognizing reflexivity among conservation practitioners. *Conservation Biology*, 37(2), e14022.
- Pritchard, R., Sauls, L. A., Oldekop, J. A., Kiwango, W. A., & Brockington, D. (2022). Data justice and biodiversity conservation. *Conservation Biology*, 36(5), e13919.
- Pynegar, E. L., Gibbons, J. M., Asquith, N. M., & Jones, J. P. G. (2021). What role should randomized control trials play in providing the evidence base for conservation? *Oryx*, 55(2), 235–244.
- Rasolofson, R. A., Nielsen, M. R., & Jones, J. P. G. (2018). The potential of the global person generated index for evaluating the perceived impacts of conservation interventions on subjective well-being. *World Development*, 105, 107–118.
- Raymond, C. M., Fazey, I., Reed, M. S., Stringer, L. C., Robinson, G. M., & Evely, A. C. (2010). Integrating local and scientific knowledge for environmental management. *Journal of Environmental Management*, 91(8), 1766–1777.
- Reed, M. S., Ferré, M., Martin-Ortega, J., Blanche, R., Lawford-Rolfe, R., Dallimer, M., & Holden, J. (2021). Evaluating impact from research: A methodological framework. *Research Policy*, 50(4), 104147.
- Salazar, G., Mills, M., & Verissimo, D. (2019). Qualitative impact evaluation of a social marketing campaign for conservation. *Conservation Biology*, 33(3), 634–644.
- Schleicher, J., Eklund, J., Barnes, M. D., Geldmann, J., Oldekop, J. A., & Jones, J. P. G. (2020). Statistical matching for conservation science. *Conservation Biology*, 34(3), 538–549.
- Scriven, M. (2008). A summative evaluation of RCT methodology: An alternative approach to causal research. *Journal of Multidisciplinary Evaluation*, 5(9), 11–24.
- Slater, H., Fisher, J., Holmes, G., & Keane, A. (2024). Mismatch between conservation higher education skills training and contemporary conservation needs. *Conservation Science and Practice*, 6, e13112.
- Stame, N. (2004). Theory-based evaluation and types of complexity. *Evaluation*, 10(1), 58–76.
- Thomas-Walters, L., Morkel, B., Kubo, T., Rolfes, M. S., Smith, R. J., & Verissimo, D. (2023). Understanding the market drivers behind the reduced demand for ivory products in Japan. *Conservation and Society*, 21(1), 1–16.
- Thurstan, R. H., McClenachan, L., Crowder, L. B., Drew, J. A., Kittinger, J. N., Levin, P. S., Roberts, C. M., & Pandolfi, J. M. (2015). Filling historical data gaps to foster solutions in marine conservation. *Ocean & Coastal Management*, 115, 31–40.
- Valters, C. (2014). Theories of change in international development: communication, learning, or accountability? London School of

- Economics, Justice and Security Research Programme, The Asia Foundation.
- Walker, H., Pope, J., Morrison-Saunders, A., Bond, A., Diduck, A. P., Sinclair, A. J., Middel, B., & Retief, F. (2024). Identifying and promoting qualitative methods for impact assessment. *Impact Assessment and Project Appraisal*, 42(3), 294–305.
- West, P. (2006). *Conservation is our government now: The politics of ecology in Papua New Guinea*. Duke University Press.
- Wilder, L., & Walpole, M. (2008). Measuring social impacts in conservation: Experience of using the Most significant change method. *Oryx*, 42(4), 529–538.
- Woodhouse, E., de Lange, E., & Milner-Gulland, E. J. (2016). *Evaluating the impacts of conservation interventions on human well-being: Guidance for practitioners*. IIED.
- Wright, J. H., Hill, N. A. O., Roe, D., Rowcliffe, J. M., Kümpel, N. F., Day, M., Booker, F., & Milner-Gulland, E. J. (2016). Reframing the concept of alternative livelihoods. *Conservation Biology*, 30(1), 7–13.
- Yanou, M. P., Ros-Tonen, M. A. F., Reed, J., Moombe, K., & Sunderland, T. (2023). Integrating local and scientific knowledge: The need for decolonising knowledge for conservation and natural resource management. *Heliyon*, 9(11), e21785.

- Zuercher, R., Motzer, N., Ban, N. C., Flannery, W., Guerry, A. D., Magris, R. A., Mahajan, S. L., Spalding, A. K., Stelzenmüller, V., & Kramer, J. G. (2023). Exploring the potential of theory-based evaluation to strengthen marine spatial planning practice. *Ocean & Coastal Management*, 239, 106594.

## SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

**How to cite this article:** Sharkey, W., Jeha, L., Lo, M. G. Y., Simkins, A. T., Llopi, J. C., Felipe Cadillo, M. M., Clarke, C., Brown, M. R. C., Sharma, P., Serem, E. K., Adekola, O. E., Ariando, W., & Veríssimo, D. (2025). The value of qualitative approaches to impact evaluation in biodiversity conservation. *Conservation Science and Practice*, e70102. <https://doi.org/10.1111/csp2.70102>