WILDLIFE'S CONTRIBUTIONS TO PEOPLE: CONSIDERATIONS FOR PROTECTED AND CONSERVED AREA MANAGERS AND SYSTEMS MANAGERS

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ABSTRACT

Nature's Contributions to People (NCP) are increasingly incorporated into conservation policy and highlighted in protected area systems and site-management frameworks. Climate instability is a major driver for use of these ecosystem services. Frequently omitted from this discourse is wildlife's contributions to people (WCP) which has recently been examined and identified as a driving force in pollination services, seed dispersal, carbon and nutrient cycling, water regulation, soil formation, habitat maintenance, and for their role in supporting cultural identities. The growing global emphasis on equity and the inclusion of Indigenous peoples and local communities in protected area decision-making underscores the role of these benefits in maintaining livelihoods and the necessity of collaboratively mapping and maintaining NCPs.

However, as protected area managers endeavour to integrate NCP into their practices, knowledge about the practical implications for wildlife management is far less known. This article examines how managers might identify and map WCP in their protected area, qualify and quantify the conditions necessary to protect and optimise these contributions and how to structure these optimal conditions through a management system.

Keywords: Wildlife; Protected area management; Ecosystem Services; Extinction; Abundance

INTRODUCTION

Protected and conserved areas (PCAs) are the cornerstone of global conservation efforts, safeguarding critical habitats, biodiversity and the ecological processes that underpin life on Earth (Maxwell et al., 2020). Yet, anyone managing a PCA today faces a convergence of financial, political and ecological pressures that threaten their long-term effectiveness and survival. Rising costs from climate change impacts (Beever et al., 2024; Parry et al., 2010), invasive species (Courchamp, 2024) and habitat degradation, combined with chronic underfunding and resource allocation challenges (Coad et al., 2019; Dudley et al., 2025; Waldron et al., 2020), require new approaches that go beyond traditional conservation narratives. One such approach is integrating Wildlife Contributions to People (WCP) into management planning, aligning conservation outcomes with sustainable development, public well-being, and global environmental goals.

Nature's Contributions to People (NCP) – a framework developed by IPBES (2019) – offers a structured and evidence-based way to link biodiversity to human needs. Building off NCP, WCP highlights the specific roles that wildlife play in delivering ecosystem functions and services: from pollination, seed dispersal and carbon storage to water purification, disease regulation, disaster mitigation and cultural inspiration. However, while many ecosystem assessments highlight these services, they rarely identify wildlife explicitly as service providers. This omission can undermine wildlife-focused conservation or restoration within management plans and understate the full value of biodiversity (Timmins et al., 2024). As services like water provision or climate regulation are evaluated in isolation from the species that sustain them, critical conservation opportunities may be lost.

Recognising WCP helps to fill this gap. It gives PCA, and PCA systems managers[1] (hereby "managers") the tools to link species conservation directly to ecosystem resilience

1 Note that the word 'manager' is used as a shorthand for the management authority, which might be a single person in a state-run or private PCA, or a more collective process in one under the governance of Indigenous peoples, local communities or trusts.

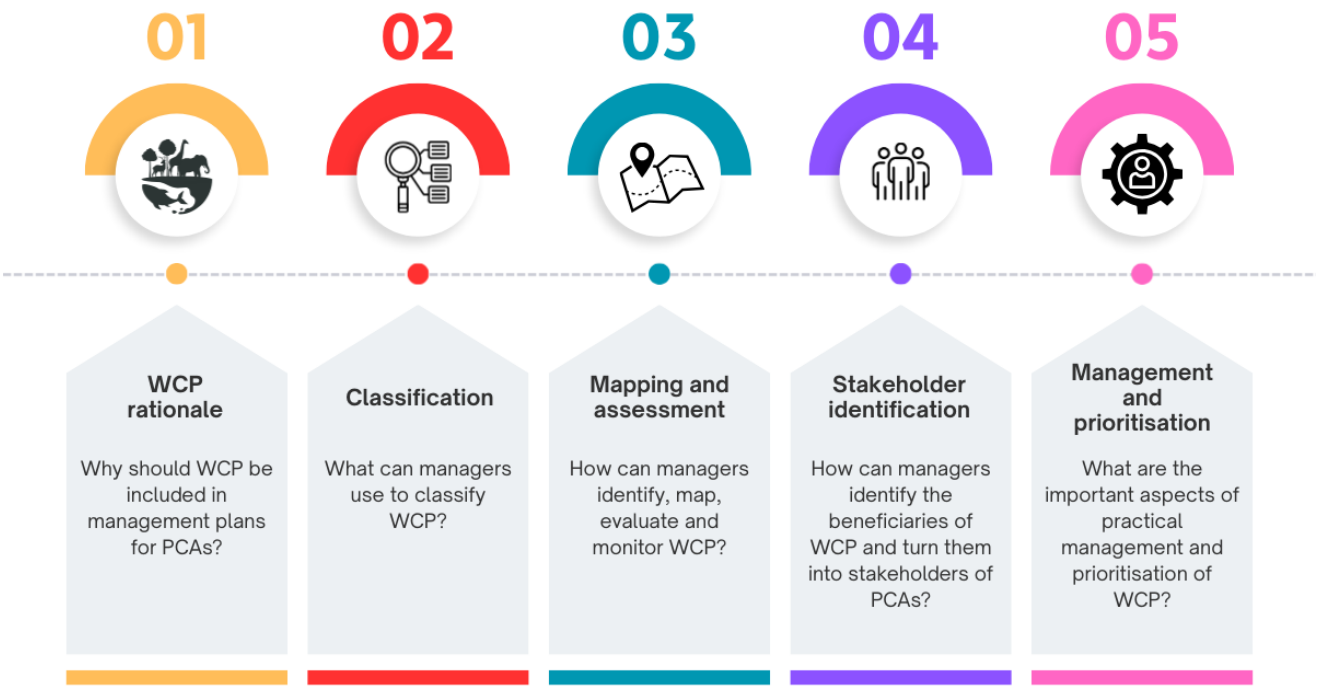

Figure 1. Five step process for WCP management

and societal benefit, thereby broadening support across sectors and making a stronger case for funding, protection and restoration. Tools like the Protected Area Benefits Assessment Tool (PA-BAT+; Ivanić et al., 2020) and the Toolkit for Ecosystem Service Site-based Assessment (TESSA; Peh et al., 2013) provide accessible methodologies for mapping and assessing these contributions and their beneficiaries, making WCP a practical and policy-relevant approach for PCA governance.

While it is essential to communicate the utilitarian value of wildlife to stakeholders, it is equally important to recognise the intrinsic value of species. Too often, conservation is forced to justify itself in economic terms, answering the common questions "Why should we care?" or "What does this species do for us?" This reduces biodiversity to ecosystem service accounting. While this is effective for some audiences, it risks entrenching the idea that species must "pay to stay", as infamously framed by Robert Mugabe at a 1997 CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) meeting. Monetising nature alone, as Kenter (2018) and others argue, distorts our moral relationship with the natural world. It cannot replace the ethical, cultural and spiritual imperatives that compel people to protect the wild. Leopold's "land ethic" reminds us that our bonds with nature are as much about reverence as utility (Leopold, 1968), and some conservation thinkers now argue that biodiversity itself should be granted rights, as biodiversity has inherent value as part of the fabric of life on Earth (Dudley, 2023).

Recognising the intrinsic value and inherent rights of species and ecosystems provides a necessary ethical foundation for conservation – complementing, rather than competing with, utilitarian arguments. Ultimately, connecting people with nature requires both approaches. Cultivating affection and respect must go hand in hand with communicating clear evidence of relevance. By explicitly identifying and managing WCP in PCAs, managers can better engage stakeholders, justify investment, and build lasting support for the species and ecosystems at the foundation of our collective future.

ANALYSIS

Veenstra (2018) recommends five questions to ask to integrate ecosystem service management into PCA management planning. We have refocused and redesigned these five questions to centre on WCP in a management process (Figure 1).

WCP rationale

PCAs face escalating funding shortfalls due to limited public budgets (Coad et al., 2019; Waldron et al., 2020), political pressures and reallocation of public funding (Dudley et al., 2025) and increasing costly pressures from the compounding threats of climate (Beever et al., 2024; Parry et al., 2010), invasive species (Courchamp, 2024) and unsustainable harvesting (Schulze et al., 2017). Appealing to public and political support, making the case for the extrinsic values of PCAs and securing innovative financing mechanisms, including payments for ecosystem services, are increasingly essential to

ensure sustainable management and long-term ecological and social outcomes (Besançon et al., 2021).

To make the case for WCP, and the PCAs that support them, managers should consider different advocacy strategies for the various stakeholders (from local people to national government, as well as national and global constituencies) that benefit from WCP. Wildlife contributes to matters important to various stakeholders in different ways. For governments, the ecosystem services from wild animals contribute to a range of global obligations under treaties and conventions.

Wildlife plays a pivotal role in mitigating climate change, contributing to the Sustainable Development Goal (SDG) 13; the Paris Agreement and Kunming-Montreal Global Biodiversity Framework (GBF) Target 8, by enhancing carbon sequestration (Berzaghi et al., 2025) through browsing and grazing, seed dispersal, and carbon cycling (Mahli et al., 2022; Schmitz et al., 2020). Megafauna and predators also reduce wildfire risks and maintain ecosystem albedo effects (Mahli et al., 2022). In marine systems, whales and sea otters boost carbon storage via nutrient recycling and plankton and kelp regeneration respectively (Lavery et al., 2014; Pearson et al., 2023; Smith et al., 2013; Wilmers et al., 2012). Contrary to previous thinking, Burrell et al. (2024) suggest that herbivore browsing pressure in rewilded landscapes encourages vegetation to invest more in root growth, likely enhancing landscape carbon storage.

Healthy wildlife populations can significantly improve water purification and hydrological regulation (Lynch et al., 2023), contributing to SDG 6 and the Water Convention. Beaver dams and canals enhance water retention, sediment capture and nutrient cycling, reducing erosion and improving downstream water quality (Brazier et al., 2021; Ronnquist & Westbrook, 2021). Soil engineers like small mammals and termites increase water filtration in the soil, decreasing risks of drought (Cheik et al., 2022; Fleming et al., 2014). Filter feeders such as bivalves (Holovkov et al., 2023) and net-spinning caddis fly larvae (Hood et al., 2018) capture chemicals and sediments, purifying polluted waters. Salmon nest-building influences sediment sorting and likely reduces erosion (Montgomery et al., 1996). Animals that disrupt stagnant pools, like crocodiles and antelopes, reduce the risk of oxygen depletion (Gereta & Wolanski, 1998). The evidence goes on.

Wildlife protect against floods, storms, wildfires, erosion and landslides. Coral reefs reduce storm damage by billions annually (Beck et al., 2018), supported by reef-maintaining fish species (Woodhead et al., 2019). Bivalve molluscs aid mangrove growth, enhancing coastal

Parrot fish simultaneously graze choking algae from corals and excrete important algae back onto corals © Hannah L. Timmins

defence (Gagnon et al., 2020). Herbivores maintain grassland diversity, reducing erosion (Berendse et al., 2015), while seed dispersers like birds and bats assist in slope stabilisation (Mayta et al., 2024; Shiels & Walker, 2003).

Wildlife directly contribute to human food security (SDG 2, GBF 5) by providing protein through fish and game harvests (ChaplinKramer et al., 2025) but also through enhanced pollination boosting agricultural yields (IPBES, 2016; Peixoto et al., 2022) and nutrient cycling (Otero et al., 2018; Timmins et al., 2024), essential functions often overlooked in food systems. Such food system support also reduces poverty (SDG 1) and can underpin sustainable livelihoods (SDG 11), along with the tourism benefits (World Travel & Tourism Council, 2021).

The One Health approach links wildlife, ecosystems and human health, promoting integrated management in PCAs to prevent zoonotic disease emergence (Destoumieux-Garzón et al., 2018). Disturbances and biodiversity loss increase human contact with wildlife pathogens (Jones et al., 2008). Predators and scavengers, like vultures and birds of prey, support SDGs by providing disease control, decreasing spillover risks of zoonotic diseases such as rabies, and Lyme disease (Myers et al., 2013). Wildlife also provides significant benefits to human health through recreation, tourism, enhancing mental health, cognitive function and emotional well-being (Cox & Gaston, 2018).

Wildlife experiences inspire awe, support cultural identity and enrich spiritual life (Leopold, 1968; Taylor, 2009). Many Indigenous cultures, spiritual beliefs, traditional knowledge, livelihoods and identities have been shaped by wildlife (Hill et al., 2020). Species like

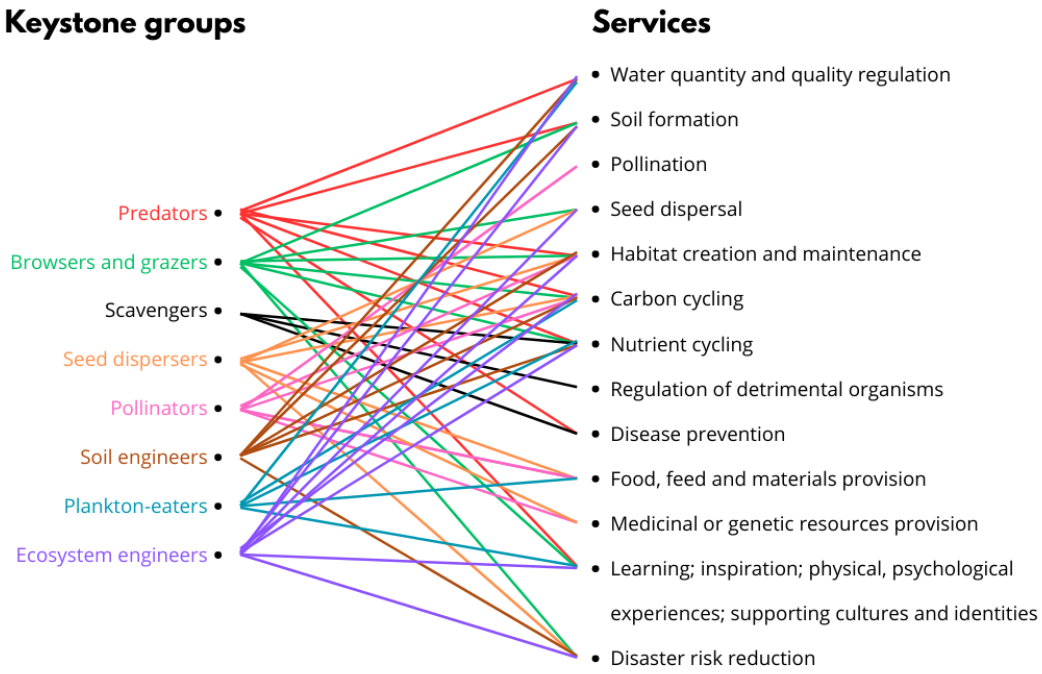

Figure 2. WCP identification lists and connections between guilds and services

the caribou for Inuit or the jaguar for Amazonian peoples embody cultural continuity, ecological understanding and sacred relationships. Thus, many species of wildlife also play a role in underpinning **Indigenous peoples' rights** to culture and identity.

In addition to the above contributions, WCP also play essential roles in achieving SDGs 14 and 15 on Life below water and Life on land, the GBF more broadly, the Convention on Wetlands, the Convention on Migratory Species, the Nature Positive by 2030 target, the Green New Deal for Nature and People, and in advancing objectives under the UN Convention to Combat Desertification's Land Degradation Neutrality target, the UN Framework Convention on Climate Change and the UN Decade on Ecosystem Restoration. In order to make the case for protection, effective management and adequate funding, it is essential that managers are aware of the WCPs that their PCA protects and delivers and both their local and global implications.

Classification

First, managers need to familiarise themselves with the materials available, building an understanding of the theories of, and evidence for, WCP. Next, they can begin to identify what WCPs their PCA delivers. Several typologies exist to support the mapping of WCP at various levels, each with a slightly different approach to classification. Timmins et al. (2024) define the guilds of wildlife and outline the various contributions that these guilds deliver. Another approach would be to begin with the services themselves. Chaplin-Kramer et al. (2025) map the IPBES's original NCP typology (2019) onto wildlife to outline a broad framework of wildlife functions. Combining the related Timmins et al. (2024) and Chaplin-Kramer et al. (2025) systems, we propose the following umbrella typology (Figure 2) aiming to support managers to identify all mechanisms at play whether starting from the species present or the services delivered:

The above two lists are designed to be comprehensive, rather than simplified, to support managers in identifying as many functional groups as possible and mapping out the services and contributions they provide that may otherwise go overlooked.

Mapping and assessment

Mapping WCP should involve two parallel processes:

- Identifying wildlife species present (both permanent and migratory) and deducing their functions and services;
- Identifying the ecosystem services of the PCA and deducing their dependence on wildlife present.

Many PCAs will have species inventories (to varying degrees of completeness); those that do not should aim to collect basic species data. Species inventories would best be developed by amalgamating data from various sources including management-led surveys (such as Spatial Monitoring and Reporting Tool patrol lists), citizen science surveys (for example, iNaturalist) and Traditional Ecological Knowledge (TEK). These can be cross-checked against existing national and regional checklists, standardised taxonomies and global databases such as

Figure 3. Examples of different goals, evidence for communication and audiences in WCP benefits awareness-raising

The IUCN Red List of Threatened Species™. Developing a comprehensive species inventory can be a near-limitless exercise; it is recommended that managers be pragmatic and focus on species, relatives or guild members that have already been documented in providing WCP in the broader literature.

The species inventory can then be used to deduce WCP based on literature available for the particular species present, for other members of their guilds or close relatives (see the first two columns in the example matrix in Table 1).

In parallel, the manager can work backwards to identify the ecosystem services delivered by a PCA and then deduce which wildlife species are providing the underlying WCP that maintain the ecosystem services. In reality, ecological systems have evolved much redundancy (Keyes et al., 2021). Meaning that whilst one or a group of species may be disproportionately responsible for delivering a service, fundamentally ecosystems rely on countless invisible connections between species.

Numerous integrated tools exist to help managers identify ecosystem services from PCAs including the Toolkit for Ecosystem Service Site-based Assessment (TESSA, 2013) or the PA-BAT+ (Ivanić et al., 2020). Managers can use the PA-BAT+ to map key benefits for various stakeholder groups (including local communities, government, civil society, the economic sector and academia), a key exercise for the manager to answer question four (below). Once the services and benefits of the area have been identified, the manager can then assess which wildlife species may be contributing to these services, further developing the matrix in Table 1. Managers should integrate species inventorying and ecosystem service mapping into adaptive management cycles to monitor changes in species populations, threats and contributions.

Stakeholder identification

The PA-BAT+ describes how to run a participatory, consensus-led evaluation, to generate an analysis of PCA benefits for stakeholders both local and distant. Managers can use the PA-BAT+ to map key benefits for local communities, government, civil society, the economic sector, academia, the national and international public, etc. Managers can use this data to fill in the fourth column in Table 1, indicating which stakeholders are benefitting from the WCP. The fifth column in Table 1 can be used to describe communications tools for outreach to key stakeholders.

Of course, WCP can be positive or negative for local stakeholders (Chaplin-Kramer et al., 2025). Negative contributions, namely human–wildlife conflict, include crop damage, competition with and predation on livestock, and may threaten human life and property. Impacts like these can hamper species conservation and undermine WCP benefit awareness-raising. Integrating coexistence measures into management plans can help managers mitigate these negative effects, for example, supporting local people with improved livestock protection (Gross et al., 2025). Managers also may want to target awareness-raising communications on the evidence of benefits of WCP to specific audiences to achieve specific goals (see Figure 3).

Recovering populations of wildebeest have shifted the Serengetti ecosystem from a carbon source into a carbon sink. © Hannah L. Timmins

Management and prioritisation

Managers should consider the conditions necessary for species to deliver and optimise WCP. For maximum ecosystem functionality delivering optimal services, intact faunal assemblages need to operate with abundant populations over large, connected landscapes and seascapes (Timmins et al., 2024). Abundant and widespread wildlife enhances resilience to natural and human-induced disturbances by increasing the chances of survival, adaptation and recovery (Loreau & Mazancourt, 2013). Larger populations are more likely to have the genetic, behavioural and cultural plasticity to adapt to changing conditions and ensure the continued provision of ecosystem services. Larger populations are also more likely to deliver ecosystem services at a meaningful scale (Gaston et al., 2018). Greater species richness, particularly including larger-bodied animals and ecosystem engineers, and a larger geographic extent are critical for resilience and WCP delivery (Harrison et al., 2014).

In order to optimise the above factors, managers should consider a number of wildlife vital signs at the ecosystem and species levels (focusing on the species of particular importance for WCP identified in the above exercise and the data that they have available and prioritising species with substantial evidence):

- Ecosystem richness: how many species are present? Is this decreasing/increasing?
- Assemblage intactness:
  - ◇ are there any species missing or reduced in number?
  - ◇ are there any ecosystem engineers / keystone species missing or reduced in number?
  - ◇ are there any large-bodied species missing or reduced in number?
  - ◇ are there any invasive species disrupting the functioning of the ecosystem?
- Population and species abundance: Has the density or population size changed? Is there any historical data for comparison?
- WCP-species diversity: How healthy is the genetic diversity of the population (dependent on the data available)?
- WCP-species extent: How large is the range of the population? Does it connect to neighbouring populations? If it is a species of importance for nutrient cycling, does it have access to the relevant ecotypes to move nutrients?
- WCP-species habitat quality and complexity: Does the species have access to important habitats (e.g. spawning areas, winter feeding grounds, etc.) to sustain a healthy population?

Next, the manager should consider the threats and pressure that might be influencing these qualities, and the actions they can take to reverse losses, reduce threats and bolster ecosystems, populations and WCP. For example, if there are keystone species or large-bodied species missing, consider reintroductions following IUCN good practices available (IUCN/SSC, 2013). If genetic diversity is low in a WCP-species, reinforcement releases might be key. If insect richness is decreasing due to insecticides in the surrounding landscape, a targeted campaign to highlight these losses and their impacts on pollination services may help. Similarly, working with landscape stakeholders to increase connectivity to other ecosystems can help reconnect populations and re-establish lost nutrient cycles.

Managers will notice that many of the above actions will require landscape-level collaboration, political will and local support. Whilst PCAs are critical to the survival of wildlife and the preservation of WCP (Maxwell et al., 2020), the services that wildlife provide, along with the issues threatening them, often transcend PCA boundaries. Moreover, in many cases locally-extinct keystone and large-bodied species, needed to restore WCP, will require local support and government permits to re-establish. For these reasons, it is essential that managers are familiar with WCP and can readily communicate to stakeholders not only about the services wildlife deliver but also about the ecological mechanisms at play and the human actions that bolster and protect or threaten them.

CONCLUSIONS

Integrating WCP into PCA management planning is critical to address the growing challenges of biodiversity loss, funding shortfalls and any reduced support for conservation, and to ensure optimal delivery of WCP (Coad et al., 2019; Dudley et al., 2025; Waldron et al.,

Table 1. An example matrix inventorying species present; confirmed and potential WCP; management actions to protect and restore WCP; key beneficiaries; and communications tools to reach them, for a fictional Southern African PCA

Species present	WCP (deduced through literature on this species, close relatives or guild members)	WCP management	Key beneficiary	Communications tool/s
Spotted Hyena (*Crocuta crocuta*)	***Confirmed:*** Nutrient cycling (Abraham et al., 2021); Disease prevention (Sonawane et al., 2021). ***Potential:*** Similar to other species in their guild (large predators that hunt in groups), hyena may play a role in carbon storage, sequestration and water regulation (Timmins et al., 2024).	Human–hyena coexistence; prey population management.	Local communities; politicians and national policymakers; multilateral organisations involved in healthcare.	Local outreach. Policy briefs, high profile media stories.
Hottentot Golden Mole (*Amblysomus hottentotus*)	***Potential:*** Similar to related species, likely plays a role in soil aeration and formation; carbon storage; vegetation health and carbon sequestration; water filtration; disaster risk reduction (droughts and flooding).	Livestock overgrazing mitigation; sustainable fuelwood collection.	Local communities; politicians and national policymakers; insurance companies; carbon markets.	Local outreach, discussion with disaster insurance companies and national carbon companies.
Blue Wildebeest (*Connochaetes taurinus)*	***Confirmed:*** Numerous studies exist detailing the role of migratory wildebeest in carbon storage and sequestration (Holdo et al., 2009) and nutrient cycling (Timmins et al., 2024).	Livestock overgrazing mitigation; livestock disease management; landscape connectivity.	Carbon markets; local arable farmers.	Advocacy and discussion with carbon companies. Landscape-level planning and stakeholder engagement.
Cape Vulture (*Gyps coprotheres*)	***Confirmed:*** Numerous studies exist detailing the role of vultures in disease prevention, particularly for pathogens like botulism and anthrax, and nutrient cycling (Jalihal et al., 2022; Skotnes-Brown, 2021).	Coexistence; reduce poisonings and death from powerlines.	Local communities; livestock farmers; multilateral organisations involved in healthcare.	Educational outreach.
Various bee species	***Confirmed:*** Numerous studies exist quantifying the value of bee pollinators (Requier et al., 2019).	Reducing pesticide use regionally; maximising landscape nectar sources.	Local arable farmers.	Educational outreach.

2020). By identifying, protecting, restoring, managing and communicating the services that wildlife provide, managers can strengthen the ecological effectiveness, financial sustainability and public relevance of PCAs.

Wildlife plays vital roles in supporting climate regulation, water purification and hydrological regulation and disaster mitigation. These contributions link directly to global frameworks including the SDGs, the GBF, the Paris Agreement, the Convention on Wetlands, and the UN Decade on Ecosystem Restoration. Wildlife also bolsters food security, reduces poverty and supports sustainable livelihoods and tourism. WCP strengthen public health through regulating disease vectors, purifying air and water, and supporting mental well-being. Wildlife contributes to cultural identity, education, and spiritual values.

To integrate WCP into management planning, managers must classify, identify and evaluate these contributions using typologies such as those proposed by Timmins et al. (2024) and Chaplin-Kramer et al. (2025). These tools help determine what species deliver which services, how they relate to specific ecosystem functions, to what

quality they are delivering WCP, what threats they are facing and what management actions can protect and reinforce them and their services. Mapping WCP requires combining species inventories with data on ecosystem service provision, using tools such as TESSA (Peh et al., 2013) and PA-BAT+ (Ivanić et al., 2020).

Understanding who benefits from WCP allows managers to turn beneficiaries into stakeholders. Tools like PA-BAT+ can guide participatory processes to identify local, regional and international beneficiaries and inform tailored communications strategies to secure their support. Effective outreach can also help mitigate threats to WCP-providing species by raising awareness or influencing policy and behaviour.

Communicating the intrinsic value, inherent rights of biodiversity and the utilitarian arguments for WCP are crucial tools for managers. By explicitly identifying, managing and restoring WCP, they can better engage stakeholders, justify investment, and build lasting support for the biodiversity that underpins human well-being. To do this effectively, managers can take inspiration from Indigenous knowledge systems and embrace the principle of *two-eyed seeing* (or *two-way thinking;* **Cebrián-Piqueras et al., 2020**). This approach values both Western science and TEK, including the power of story and inspiration, acknowledges that different worldviews offer complementary insights into managing biodiversity and ecological relationships, and fosters more inclusive, resilient and ethically grounded conservation practices. By bridging these knowledge systems, managers can better reflect the full spectrum of values – spiritual, cultural and economic – that biodiversity holds for humanity.

Crucially, WCP depend on ecological conditions such as species abundance, intact assemblages and landscape connectivity (Harrison et al., 2014; Loreau & Mazancourt, 2013). Managers should assess trends in these indicators and act accordingly: through reintroductions, connectivity restoration, threat mitigation, and reinforcement of vulnerable populations.

Ultimately, PCAs alone cannot maintain WCP. Landscape-level cooperation, political will and broad-based public engagement are needed to support wildlife populations across their full ecological range. Managers are key to building this support, and by clearly articulating the value of WCP and the ecological processes behind them, they can embed wildlife conservation into the heart of sustainable development strategies.

ABOUT THE AUTHORS

Hannah L. Timmins is a conservation consultant and ecologist based in Istanbul with 12 years' experience working in numerous countries, at various levels from protected areas to landscapes and conservation policy. As part of Equilibrium Research, Hannah has coauthored influential IUCN guidance, reports and policy papers. Hannah is interested in the expansion, effectiveness and connectivity of protected and conserved areas globally, the role of wildlife in ecosystem services, community conservation, rewilding and species restorations.

Sue Stolton set up Equilibrium Research with Nigel Dudley in 1991. Between them Sue and Nigel have authored well over 200 books and reports, worked in over 90 countries worldwide and with over 70 different organisations. Sue is a member of WCPA and the Commission on Environmental, Economic and Social Policy (CEESP), is an Honorary Fellow of the UN Environment Programme World Conservation Monitoring Centre and the Institute for European Environmental Policy.

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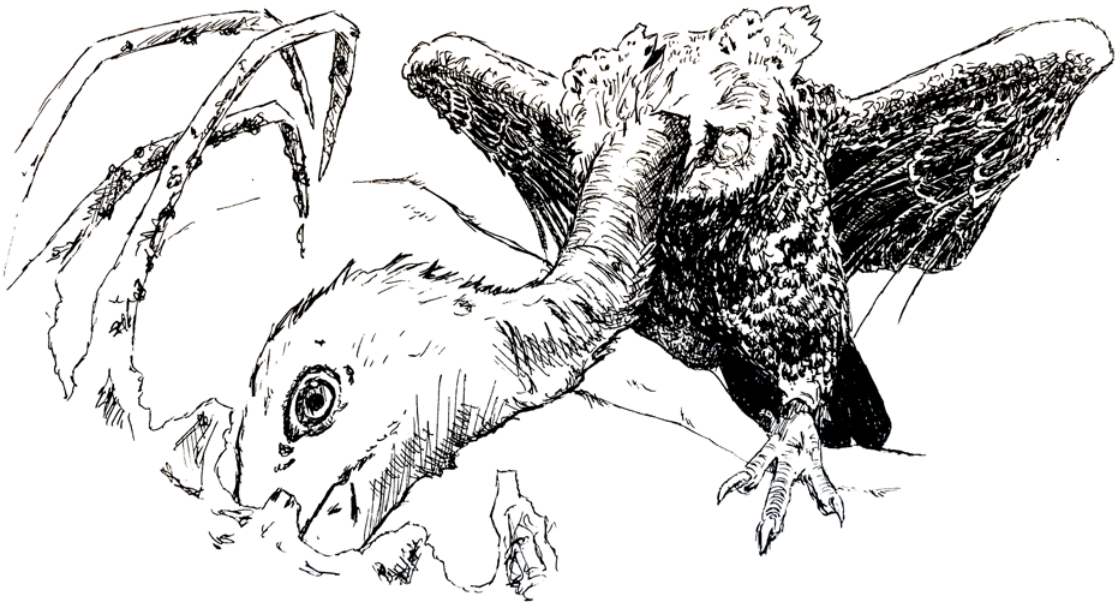

Through their carrion clean-up, vultures are capable of protecting us from rabies, anthrax, botulism and more. © Hannah L. Timmins

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RÉSUMÉ

Les contributions de la nature à l'homme (CNH) sont de plus en plus intégrées dans les politiques de conservation et mises en avant dans les systèmes de zones protégées et les cadres de gestion des sites. L'instabilité climatique est un facteur majeur de l'utilisation de ces services écosystémiques. Les contributions de la faune sauvage à l'homme (CFS), qui ont récemment fait l'objet d'études et ont été identifiées comme un moteur des services de pollinisation, de dispersion des graines, du cycle du carbone et des nutriments, de la régulation de l'eau, de la formation des sols, du maintien des habitats et de leur rôle dans le soutien des identités culturelles, sont souvent omises de ce discours. L'importance croissante accordée à l'équité et à l'inclusion des peuples autochtones et des communautés locales dans la prise de décision relative aux aires protégées souligne le rôle de ces avantages dans le maintien des moyens de subsistance et la nécessité de cartographier et de préserver les NCP de manière collaborative.

Cependant, alors que les gestionnaires d'aires protégées s'efforcent d'intégrer les PCN dans leurs pratiques, les connaissances sur les implications pratiques pour la gestion de la faune sauvage sont beaucoup moins connues. Cet article examine comment les gestionnaires peuvent identifier et cartographier les PCW dans leur aire protégée, qualifier et quantifier les conditions nécessaires pour protéger et optimiser ces contributions, et comment structurer ces conditions optimales à travers un système de gestion.

RESUMEN

Las Contribuciones de la Naturaleza a las Personas (PCN) se incorporan cada vez más en las políticas de conservación y se destacan en los sistemas de áreas protegidas y los marcos de gestión de sitios. La inestabilidad climática es un factor clave para el uso de estos servicios ecosistémicos. Con frecuencia se omiten en este discurso las Contribuciones de la Vida Silvestre a las Personas (PAV), que recientemente se han examinado e identificado como un factor impulsor de los servicios de polinización, la dispersión de semillas, el ciclo del carbono y los nutrientes, la regulación hídrica, la formación del suelo, el mantenimiento del hábitat y su papel en el apoyo a las identidades culturales. El creciente énfasis mundial en la equidad y la inclusión de los pueblos indígenas y las comunidades locales en la toma de decisiones sobre áreas protegidas subraya el papel de estos beneficios en el mantenimiento de los medios de vida y la necesidad de mapear y mantener de forma colaborativa las PCN.

Sin embargo, a medida que los administradores de áreas protegidas se esfuerzan por integrar las PCN en sus prácticas, el conocimiento sobre las implicaciones prácticas para la gestión de la vida silvestre es mucho menor. Este artículo examina cómo los administradores pueden identificar y mapear el WCP en su área protegida, calificar y cuantificar las condiciones necesarias para proteger y optimizar estas contribuciones y cómo estructurar estas condiciones óptimas a través de un sistema de gestión.