

A photograph of a leopard resting on a rock in a natural, brushy environment. The leopard is the central focus, looking slightly to the left. The background consists of dry, brown branches and some green foliage. The image is framed by a dark blue wavy border at the top and bottom.

Advancing Well-Being for All Beings

OneNature is working to create a future where people, animals, and the planet exist in a state of well-being and ecological sustainability.

We develop measures that connect wildlife conservation to human well-being in order to make community-based wildlife conservation more effective and sustainable and provide the tools to change global policies and practices, with the overall goal of improving the well-being of animals, people, and the planet. Today, the world faces a crucial moment of social upheaval, similar to the Industrial Revolution and World Wars I and II. We are racked by a global pandemic that has not only taken millions of lives, but also demonstrated the inequality of healthcare access across the globe and within individual nations. We are reckoning with social injustice and its ugly manifestations and repercussions. And the planet itself is threatened by human-driven climate change and a catastrophic loss of biodiversity, both of which pose an existential threat to life on Earth. Well-being and ecological sustainability for all seem like a distant dream.

At OneNature, we view this moment of crisis as an opportunity to rebuild our society and economy in a way that makes people happier by protecting abundant wildlife and a thriving planet. We believe the key to a new and better future lies in shifting away from an economy based on unsustainable and inequitable economic growth toward one that values well-being. We argue that wildlife conservation must be central to this vision of well-being because animal diversity is crucial to sustaining the natural world and human flourishing. And we aim to put these beliefs into practice in partnership with Indigenous and local communities, using the shared values that emerge from the concept of well-being as the foundation of effective and equitable wildlife conservation.

Our vision of a new, more sustainable future does not demand sacrifice. Instead, it invites us to reorient our policy and action around what really matters: A thriving natural world with flourishing well-being for all.

OneNature aims to build on and link existing movements toward this vision. We have written the following report in order to better understand three key trends: the reorientation of policy priorities away from a short-term economic frame toward measures of well-being, the deepening understanding of the holistic value of wildlife to ecosystems and human communities, and the



Beth Allgood
President, OneNature

growing role that community conservation plays in the conservation movement today. We believe that we can catalyze positive change by linking these movements, and in this report, we have identified specific ways these movements can be enhanced and connected in order to improve both well-being and species conservation. Most importantly, we believe that we must learn from, empower, and support the communities that steward some of the most endangered species still remaining, if we are to account for the role of wildlife in human well-being.

OneNature works to precipitate a shift toward well-being metrics by conducting research, sharing knowledge and findings, and advocating for policies that support wildlife conservation as central to equity and well-being. By redefining economic success to include well-being, valuing wildlife as an integral element of sustainable ecosystems and human flourishing, and centering local communities in economic and environmental decision-making, we can help people become happier and more fulfilled, improve personal satisfaction, and secure the well-being of all beings for the future.

Beth Allgood

Beth Allgood
President, OneNature

Table of Contents

1	Welcome Letter
3	Executive Summary
7	Introduction
11	A Shift Toward Well-Being
15	Valuing Nature and Wildlife
16	Evidence for Wildlife and Well-being
17	Economic Values
19	Ecosystem Values
21	Health Values
23	Cultural and Spiritual Values
25	Linking Community Well-Being and Wildlife Stewardship
26	The Value of Indigenous and Traditional Knowledge and Local Perspectives
26	The Role of Holistic Community Well-Being in Conservation
29	OneNature's Solutions
31	Community Well-being-Centered Conservation
32	Innovative Research
33	Changing Policy and Practice
34	Conclusion
35	Endnotes
IBC	Board of Directors OneNature Advisory Council



Executive Summary

OneNature offers the following report in response to the social, economic, and environmental crises confronting the world today, including pandemic, disease, social injustice, economic inequality, climate change, and biodiversity loss.

Although the last few centuries have seen unprecedented advances in the standard of living over much of the globe, these crises demonstrate that our current way of life—and the systems we have built to sustain it—are inequitable, unsustainable, and economically precarious.

We advocate for three key system changes in response to these crises:

- 1** A new emphasis on holistic well-being measures instead of exclusively short-term, economic metrics in societal decision-making
- 2** A deeper understanding of the intrinsic, extrinsic, and relational values of wildlife in order to better inform that decision-making
- 3** A reorientation of conservation decision-making and practice in order to center the Indigenous and local communities stewarding the world's wildlife

In this report, we provide an overview of current trends and research in these three areas, and we identify opportunities to link and strengthen them. By promoting progress in these areas of change and bringing them together, we can help create a world where people, animals, and nature flourish together.

See our Key Findings of this report on the Pages 4 and 5

Key Findings

Gross Domestic Product as an indicator of economic progress is limited.

1

Researchers, organizations, and governments increasingly recognize the limits of Gross Domestic Product (GDP) as an indicator of economic progress, and believe there is a need for more holistic measurements of well-being.

Alternative measures—including Gross National Happiness, the Genuine Progress Indicator, the Happy Planet Index, and the Inclusive Wealth Index—have been developed and are being implemented in communities around the world. It is important that these new holistic well-being measures be inclusive of diverse worldviews and values.

Research into the value of nature is growing exponentially.

2

In the last decade, there has been a growing body of research into the value of nature and methodologies and indicators that can account for it more accurately and holistically.

This research incorporates not just the instrumental value of nature but also its intrinsic and relational values. Similar attempts to value wildlife holistically are less advanced but no less important.

Wildlife and ecosystems are economically and spiritually valuable.

3

There has been substantial research into the economic and ecosystem values of wildlife.

Research into the links between wildlife and human health has increased after COVID-19. There is less research into wildlife's cultural and spiritual values, but advancing this research would be beneficial for the conservation of species and the advancement of human well-being.

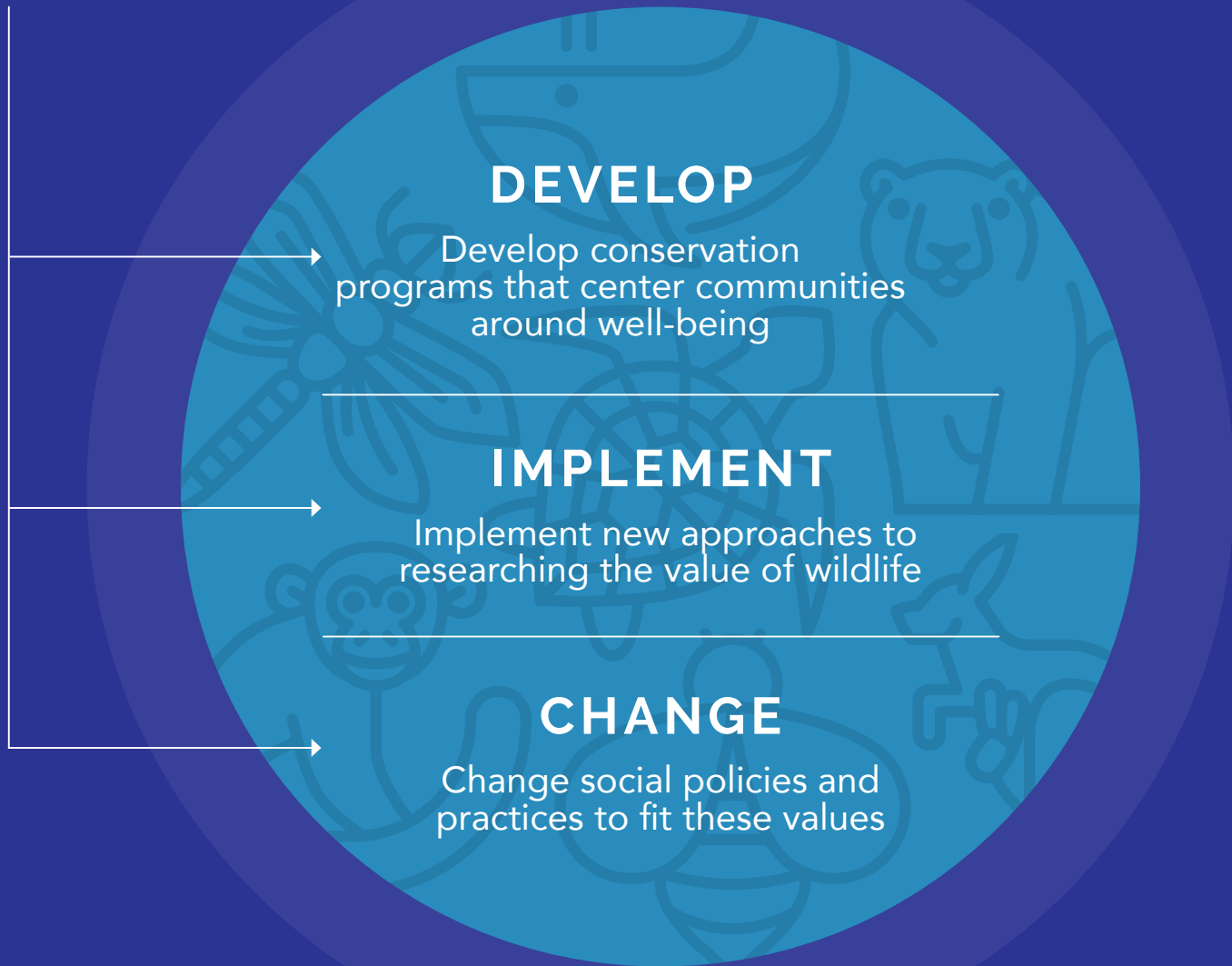
Indigenous peoples & local communities can create successful connections for conservation.

4

Conservation practitioners and policy-makers have begun to recognize the importance of Indigenous and Traditional Knowledge and local perspectives to their work.

Centering these communities and using a holistic, well-being approach to decision-making are determining factors in successful and sustainable conservation projects.

OneNature has identified three areas of work to help address the current species and well-being crises:



We believe that OneNature can catalyze positive change by linking and amplifying ongoing societal shifts within these areas. In so doing, we can broaden society's understanding of well-being to include the role of wildlife by learning from, empowering, and supporting communities that steward some of the most endangered species still remaining. By addressing well-being and wildlife conservation together, we can help people become happier and more fulfilled, improve personal satisfaction, and secure the well-being of all beings for the future.



Introduction

As we take stock of the social, environmental, and economic crises facing the world today, it is clear that our current way of life and the systems we have built to sustain it are inequitable, unsustainable, and economically precarious.

In the midst of the COVID-19 global health crisis, with over 5.5 million dead worldwide as of January 2022 (Alacantha et al., 2022), mental health challenges and loneliness have left many people feeling disconnected from one another. Economic inequality in the United States has increased at rates not seen since the Gilded Age in the late 19th century (Rothman, 2018). And research suggests that Americans, by and large, are deeply unhappy: as a matter of fact, Americans are feeling more isolated, lonely, and worried about their children's future than at any other time in the last 50 years (Lush, 2020). By all these measures, the mental and physical health of too many Americans is reaching a breaking point.

Our prevailing economic models, which take economic growth as a reliable indicator of social well-being, are unable to account for this unhappiness, inequality, and unsustainability. During the COVID-19 pandemic, in fact, the US stock market reached all-time highs (Stewart, 2021). This market buoyancy clearly does not reflect the true state of societal well-being (Merrefield, 2021). Although the last centuries have seen incredible advances in science, food security, medical care, and standard of living for most people on the planet (Nye, n.d.), unhappiness, inequity, and unsustainability are byproducts of our current methods of measuring success solely in economic terms (Stiglitz, 2020). These economic models are based on the concept of infinite growth potential, but our planet, lives, and resources are, indeed, finite (Jones, 2021). By aiming at impossible growth, these models take an unsustainable and unacceptable toll on human society and planetary health. Moreover, research and experience have shown that favoring the health of the economy over the health of the environment is counterproductive; a healthy environment is the necessary foundation of a healthy economy (Bruyninckx, 2021). There is a desperate need for economic models that can supplement our current measures of economic productivity with new measures of equity, sustainability, and well-being.

Introduction

The well-being economy movement has arisen in response to this need. Well-being, which can be defined as “the combination of feeling good and functioning well” (Ruggeri et al., 2020), includes satisfaction with life, affect, psychological health, community, culture, education, environment, government, economy, time balance, and work, among other dimensions (Musikanski et al., 2021). Measuring well-being thus means measuring values and priorities beyond economic growth and productivity that many people across countries and cultures share. For this reason, the well-being economy movement offers models for understanding the value of the natural environment to collective human well-being and the importance of sustaining natural resources to protect a healthy economy and environment (Chrysopoulou, 2020). When nature is not recognized as an economic priority, by contrast, it is largely left out of decision-making and policies.

Experience shows that human well-being is dependent on wildlife, in ways both large and small. While people experienced feelings of social isolation and loneliness during the worldwide COVID-19 lockdowns in 2020 and 2021, many also experienced joy from being with their companion animals and witnessing wild animals return to places where they hadn't been seen in years (Kasriel, 2020). Research shows that people experience greater well-being while in nature and experience “nature deficit disorder” when deprived of it (Louv, 2019). The role that companion animals play in human well-being is also well documented (Allgood et al., 2016). The pandemic has made it clear that connecting with nature and animals is an essential aspect of human happiness and fulfillment. Recovering from our social, environmental, and economic crises will entail building on these newly rediscovered sources of happiness.

But the direct importance of wildlife to human well-being has received relatively little attention, even in the well-being economy movement. Wild animals are an integral part of the ecosystems that regulate the climate and natural processes, sustain human life, and contribute to human happiness (Kelby, 2021). With as many as a million species at risk of extinction in the coming centuries (IPBES, 2019), it is urgent to act now to value wildlife in policy and practice. There are many ways to value wildlife, including measuring its intrinsic value, the tangible benefits humans receive from it, and the non-material, non-economic benefits that relationships to wildlife provide to people. Valuing wildlife in these ways is difficult using our current valuation systems, but it is urgent and necessary to do so if we are to prevent a catastrophic loss of biodiversity.

“But there must be the look ahead, there must be a realization of the fact that to waste, to destroy our natural resources, to skin and exhaust the land instead of using it so as to increase its usefulness will result in undermining in the days of our children the very prosperity which we ought by right to hand down to them amplified and developed.”

Indigenous societies have led the way in developing practices to sustain wildlife, and conservationists increasingly recognize that many Indigenous societies have long-standing traditions and current practices of living sustainably with nature that have allowed wildlife to flourish in the lands they manage (UNEP, 2017). Indigenous practices for forest fire management and protected area management, for example, are being revisited and demonstrate better results than modern methods (Robbins, 2018). There is also a growing movement to center decision-making in local and Indigenous communities, and to support and learn from their worldviews. The knowledge gained through this kind of decision-making can help ground policy metrics and practices in what works for people and animals (UNEP, 2017). Working effectively and respectfully in partnership with local communities also means grounding conservation projects in the places they value most.

Rather than relying solely on models that equate economic growth with social health, we should instead use common values grounded in well-being—as well as an understanding, appreciation, and inclusion of diverse worldviews—to reassess what really matters to people and society, acknowledge the systemic issues we face, and develop new policies, practices, and budgets that promote well-being for people, non-human animals, and the planet (Chrysopoulou, 2020).

In support of this goal, we offer here a set of new ideas and interwoven solutions to help us better understand how wildlife can be valued, how wildlife can be included in the well-being movement, and how to learn from and support communities at the front lines of wildlife stewardship to protect both their well-being and the species they steward. By linking and enhancing these areas of work, we can move forward to a better future and increased well-being for all beings.



We can move forward to a better future and increased well-being for all beings.



A Shift Toward Well-Being

OneNature is working to create a future where people, animals, and the planet exist in a state of well-being and ecological sustainability.

For decades, policy-makers have used Gross Domestic Product (GDP) as a leading indicator of the general health of the economy (Kramer, 2021). But GDP as a single metric cannot meaningfully assess the overall standard of living or well-being of a country (Callen, 2020). Even the creator of the GDP measurement, Simon Kuznets, warned, "The welfare of a nation can scarcely be inferred from a measurement of national income" (European Commission, n.d.). No single metric can tell decision-makers everything they need to know to create policies that are economically, socially, and environmentally sustainable (Stiglitz, 2020; Rylander, 1996).

GDP is a limited metric because it does not consider inequality in economic activity. A nation's dramatic increase in economic productivity might only contribute to the well-being of the richest in society (Cerf, 2020). In fact, a widening income gap has been correlated to unhappiness. The Harvard Business Review reports that "the higher the share of national income that is held by the top 1%, the lower the overall well-being of the general population" (De Neve & Powdthavee, 2016). GDP is unable to fully recognize the impact of policies on well-being, and in some cases, even encourages policies that negatively impact well-being and sustainability (Costanza et al., 2009).

GDP is not only a limited metric, it can also be a detrimental one. Since GDP was introduced, an increasing GDP has become not just the standard metric for gauging the strength of the economy but a goal in itself. Policy-makers and the public often use increases in GDP as evidence that policies are successful and life has improved for people (Sorensen, 2016). In fact, the reverse is often true.

For instance, GDP models of economic growth have been based on the demonstrably false assumption of unlimited underlying natural resources to support that growth (Jones, 2021). Through habitat loss and resource extraction for the sake of increasing GDP, our planet has lost 60% of its wildlife population since the 1970s, and our trajectory of increasing global temperature seems difficult to reverse (though possible to limit with concentrated global effort) (WWF, 2018; Herring & Lindsey, 2021). The results of an exclusive prioritization of GDP growth are not only costly to our economy but devastating to people, animals, and ecosystems around the world.

A Shift Toward Well-Being

Clearly, GDP is not a reliable measure of sustainable economic growth and is certainly unable to measure crucial elements of human happiness and well-being. In fact, different cultures and societies have different values and approaches to what they consider a good quality of life. Richard Eckersley, a researcher and author of the book *Well & Good: Morality, Meaning and Happiness*, posits that the “dominant worldview of material progress, which gives priority to economic growth and a rising standard of living, is being challenged by a worldview based on sustainable development, with its aim of balancing social, economic and environmental goals to create a high, equitable and lasting quality of life” (Eckersley, 2006). GDP reflects only one way of understanding human well-being.

Gross National Happiness

Fortunately, the limits of GDP for measuring well-being and informing policies that promote sustainable well-being have not gone unnoticed. In 1972, King Jigme Singye Wangchuck of Bhutan coined the phrase “gross national happiness” (GNH) to refer to an alternative to GDP, emphasizing that sustainable development ought to take a holistic approach. Bhutan’s GNH Index includes measures of psychological well-being, health, education, time-use, cultural diversity and resilience, good governance, community vitality, ecological diversity and resilience, and living standards (OPHI, n.d.). Since Bhutan began using this measurement tool, other countries and communities have begun to develop alternative metrics to measure well-being and inform decision-making as well. For instance, in 2007 Iceland included public mental well-being measures in a national survey impacting health and broader social policies (Suttie, 2019); today, all nations in the European Union are measuring aspects of well-being (SDSN, 2020).

Inclusive Wealth Index

The Inclusive Wealth Index (IWI) is another example of a more holistic way of measuring whether a nation is on a sustainable well-being trajectory and able to secure current and future well-being. IWI measures a country’s wealth in terms of progress, well-being, and long-term sustainability. It is based on a calculation of the aggregate value of all capital assets (Rolasky et al., 2015) as measured by calculating the social worth of each capital type in a country: built capital, natural capital, and human capital. IWI’s key premise is that, if inclusive wealth is positive, then well-being across generations is also positive (International Human Dimensions Programme on Global Environmental

“We have an economy where we steal the future,
sell it in the present, and call it GDP.”
Paul Hawken

Change, n.d.). IWI is based on a simple concept, but it is not easy to calculate: like other well-being-based indicator systems, it is much more difficult to calculate than GDP. Some challenges include the difficulty in assigning economic values to different types of capital, appropriately weighing current vs. future well-being, and allowing for the diverse values of these capitals that result from differing worldviews and local contexts (Géraldine & Philippe, 2014).

Genuine Progress Indicator

A number of US cities and states have also begun to look “beyond GDP” at broad economic, social, and environmental well-being indicators. Vermont was the first state in the United States to pass a law introducing the Genuine Progress Indicator (GPI). GPI is a metric that includes the economic factors measured by GDP, accounts for income inequality, includes values of non-market benefits like volunteerism and higher education, and subtracts negative impacts like environmental degradation and human health effects (Maryland Department of Natural Resources, n.d.). GPI is a more complete metric of well-being than GDP because it “nets the positive and negative results of economic growth to examine whether or not it has benefited people overall” (Hayes, 2021). GPI has since been adopted in Maryland, Washington, and Hawaii as well (Ceroni, 2014). These kinds of metrics have led to new policies and revised budget priorities: In 2017, the United Arab Emirates established a Happiness Ministry (UAE, 2021), while in 2019 New Zealand adopted a well-being budget that increased investments in mental health and education as well as environmental protection (Charlton, 2019). By putting new alternatives to GDP into practice, the well-being economy movement has enabled policy-makers worldwide to measure and increase human well-being more effectively than by focusing on GDP alone.

The transition toward well-being metrics as an adjunct to GDP has revealed that sustainable economic growth is not at odds with human happiness. Costa Rica provides an example. In 2015, Costa Rica pledged to become carbon neutral and has since spearheaded numerous techniques for land management and reforestation, as well as alternatives to fossil fuels and nonrenewable energy (Cook, 2021). At the same time, Costa Rica was the highest-ranked country in the Happy Planet Index (a well-being index linked with planetary sustainability) for 2021 (Abrar, 2021). Clearly, it's possible to have a low ecological footprint and a high quality of life. In fact, sustaining the natural environment, including wildlife, is foundational to human well-being.



*GDP is not only a limited metric,
it can be a detrimental one.*



Valuing Nature and Wildlife

The growing global movement to recognize well-being measures in addition to economic productivity has led to calls for change—through policies that support sustainable development over boundless economic growth, and via research that better explores the value of nature.

There are diverse ways of understanding the value of nature. The instrumental value of nature refers to how nature directly helps people—by providing food, energy, and raw materials, for example (Sandler, 2012). By contrast, the intrinsic value of nature is the inherent value of nature, independent of people (IPBES, n.d.). These first two values are often seen to be at odds. The relational value of nature emphasizes the interactions and connection between people and nature and includes aspects of “physical, mental and emotional health, security and livelihoods, cultural identity, heritage and stewardship, and perceptions of equity and sense of fairness and justice,” as well as the role of nature in people’s identities and moral values like care, responsibility, and stewardship (Schröter et al., 2020). Understanding and appreciating all these values of nature is critical to establishing a more complete valuation of nature in policy and practice (IPBES, n.d.).

In line with this goal, researchers are working to develop indicators that reflect the diverse values of nature, including its relational value. Indicators are measurable facts that can be used to synthesize or summarize a more complex set of data for the purpose of decision-making, so developing good indicators is crucial for communicating the values of nature to decision-makers (von Schirnding, 2002). In order to more fully understand the various roles that nature plays, it is useful to select biophysical indicators (reflecting the biological, physical, and chemical ways that animals and plants contribute to the environment and other systems), socio-cultural indicators (reflecting the importance that nature holds for societies and cultures), and economic indicators (reflecting the material and non-material monetary values of nature) that are comparable across communities and that indicate trends over time (Schröter et al., 2020; Polasky et al., 2015). One example of the use of relational indicators to assess multiple values of nature can be found in Schröter et al. (2020), which used indicators connected to three different contributions of nature to humans—the regulation of freshwater quantity and quality, food and feed, and physical and psychological experience—to consider different relational values of nature, including security and sovereignty, health, equity and justice, and heritage identity and stewardship. This kind of research can enable decision-makers to better understand and represent the multiple values of nature in policy.

Valuing Nature and Wildlife

While indicators are valuable tools, their selection and use come with important caveats. For example, over-emphasizing a specific indicator might cause one to lose sight of a project's original objective, while other indicators may need to be modified and made more locally and contextually relevant (Church & Rogers, 2006). In other cases, diverse types of values of nature may be difficult or impossible to compare or rank with other values. (For example, the cultural value of an animal that is sacred to a particular society cannot be easily ranked against the monetary value of that animal's hide.) In these cases, values can be considered in parallel or by using other techniques that allow diverse values and views of nature to be meaningfully compared (Martín-López, n.d.). These caveats underscore the importance of creating metrics that are inclusive and sustainable by ensuring that they encompass a multitude of worldviews and reflect the diverse goals and values of a society. Research suggests that, because stakeholders often hold distinct values, it is important to understand the influence of worldviews in the design of methodological approaches and policy processes and to be transparent about which worldviews are adopted or taken into account (IPBES, n.d.).

Evidence for Wildlife and Well-Being

Though species conservation has been an important focus of conservation efforts for decades, wildlife has not been a key part of the conversation about well-being measurements, even within research that attempts to capture non-economic values of nature and develop more holistic frameworks for decision-making. In the modern conservation movement, the multiple values of wildlife to communities have been less well understood than the economic values of wildlife in conservation projects (Allgood et al., 2019), and the most robust research on wildlife values has been conducted through an economic lens. There are certainly examples of communities and countries where wildlife conservation and ecotourism are vital to the economy and livelihoods strategy of a nation. For example, wildlife tourism is estimated to directly contribute 3% of the GDP of Botswana, and the government has designated 38% of Botswana's total area to national parks, reserves, and wildlife management areas (The Gaborone Declaration for Sustainability in Africa, n.d.). In Namibia, a community-based management system has contributed to a sharp increase in wildlife populations, and community conservancies generated about \$40 million for the Namibian economy in 2009 (Conniff, 2011). But faced with the difficulty of isolating the value of wildlife from nature as a whole, attempts to assign value to wildlife have often relied on an economic frame in which wildlife parts and products are assigned a higher value than living, thriving animals contributing to a flourishing ecosystem (Heal, 2001; van Uhm, 2018).

“Each year sees the disappearance of thousands of plant and animal species which we will never know and which our children will never see, because they have been lost forever. The great majority become extinct for reasons related to human activity. We have no such right.”

Pope Francis

While the instrumental values of wildlife have been emphasized in policy, the intrinsic and relational values of wildlife are more difficult to capture, so less emphasis has been placed on understanding these values. But research on broader values of wildlife is ongoing and ideally will lead to more accurate and holistic ways to value wildlife (Allgood et al., 2019). There is mounting evidence that healthy habitats and robust wildlife contribute to individual and community well-being (Bell et al., 2018; Allgood et al., 2016). Animals play a key role in preserving healthy ecosystems and a stable climate. They also make vital contributions to humans' physical and mental health, and are central to humans' cultural and spiritual traditions (Methorst et al., 2020). For these reasons, the well-being of many human communities is directly dependent on local wildlife. Likewise, the survival of wildlife populations depends on the stewardship of local communities (Gross et al., 2021).

By contrast, overlooking the value of wildlife has led to a critical research gap in our understanding of human well-being that may be detrimental to both people and wildlife. The extinction crisis is accelerating at dangerous rates, and if we continue to put off understanding and measuring the value that wildlife holds, there won't be any wildlife left to measure (IPBES, n.d.). Wildlife conservation is a central issue for both sustainability and less tangible forms of well-being, and well-being metrics can enable a more accurate and holistic valuation of biodiversity than has previously been possible.

Economic Values

As it has become clear that markets do not properly value biodiversity and ecosystem services, researchers have attempted to put a dollar value on the benefits nature provides to people and the global economy (Nunes & Van den Bergh, 2001). For example, the Intergovernmental Platform on Climate Change (IPCC) has estimated that the value of terrestrial ecosystem services is equivalent to the annual global GDP (IPCC, 2019). Another report from the World Economic Forum posits that approximately \$44 trillion of economic value generation is moderately or highly dependent on nature. Industries highly dependent on nature generate 15% of global GDP (\$13 trillion), while moderately dependent industries generate 37% (\$31 trillion) (World Economic Forum, 2020). On a smaller scale, the 2017 Banking on Nature report analyzed recreational visits to over 100 national wildlife refuges throughout the United States in order to estimate the impact of these refuges on local economies. The report found that refuge recreational spending brought in roughly \$229 million in tax revenue at the local, county, and state levels, while supporting over 41,000 jobs and an estimated 53.6 million visitors in the 2017 fiscal year (James & Carver, 2019).



The Intergovernmental Panel on Climate Change has estimated that the value of terrestrial ecosystems is equivalent to the annual global GDP.

(IPCC, 2019)

Valuing Nature and Wildlife

Looking forward, the Dasgupta Review has attempted to integrate principles of finance and economics with ecology, calling for changes to our measures of economic success (Dasgupta, 2021), while the Aligning Accounting Approaches for Nature project by Capitals Coalition aims to develop accepted tools, methods, indicators, and criteria to value and measure biodiversity that can be used by businesses, financial institutions, and other stakeholders (Capitals Coalition, n.d.). The United Nations is developing an accounting framework that links economic and environmental statistics and is connected to the UN System of National Accounts. The UN System of Environmental Economic Accounting: Ecosystem Accounting (SEEA EA) measures the value ecosystems provide to society (Eurostat, 2021). Ecosystem accounts have already been used in more than 34 countries. In Uganda, for instance, species accounts were used to show the value of the indigenous shea tree to the Ugandan economy and ecosystems (UNEP-WCMC & IDEEA, 2017; System of Environmental Economic Accounting, n.d.). These past studies and ongoing projects illustrate the value of economic valuations of wildlife and nature for policy-makers; such research can be used to demonstrate that the conservation of nature and biodiversity yields tangible economic benefits (Carrasco et al., 2014).

Attempts to place an economic value on nature, however, also prompt concerns about “commodifying” nature. In a critique of natural capital valuation in a lecture to the Sheffield Political Economy Research Institute, George Monbiot asserts that even attempting to put an economic value on nature is “pushing the natural world even further into the system that is eating it alive.” (Monbiot, 2014). Valuation of biodiversity through market systems is foundational to the concept of biodiversity offsets: a market-based solution to wildlife conservation based on the idea that the exploitation of biodiversity in one place can have a “net-0” cost to the planet if it is offset by the protection or restoration of a different place with equivalent biodiversity (IUCN, 2021). Such a policy would theoretically integrate conservation into economic growth, but it also raises thorny questions: Can the value of nature to one local community really be equitably offset in another place? Is it ethical or practical to treat individual animals and ecosystems as fungible? If we don’t yet understand the multiple values of biodiversity, how can we choose equivalent offsets? And aren’t biodiversity offsets a temporary solution, at best, if the drive toward economic growth continues unabated? Although necessarily imperfect, the more completely biodiversity offsets are analyzed and designed from a biophysical and social perspective, taking into account the full range of instrumental,

*Wildlife keeps ecosystems functioning
by helping to keep them in balance.*

(World Bank, 2014)



relational, and intrinsic values of nature, the better chance they have at meeting the goal of a “net-0” cost to the economy while still allowing development to occur (Björnberg, 2020). They are the best solution we have at the moment to balance these needs.

As seen above, capturing the non-material, non-economic values of nature and wildlife—including their social, cultural, and intrinsic values—is difficult under current frameworks (World Economic Forum, 2020). Because there is currently no way to capture the true multiple values of nature, it is necessarily undervalued in decision making (Nunes & Van den Bergh, 2001). This is especially true for the values of wildlife in particular, which are difficult to distinguish from the values of nature as a whole. But well-being measurements can help capture other values of wildlife: its value to ecosystems, human health, and human culture and spirituality. Well-being metrics can thus provide a means of balancing the utility of economic valuations for policy solutions against valid concerns that assigning an economic value to biodiversity might miss the non-economic values of nature and wildlife, both intrinsically and to human well-being.

Ecosystem Values

Ecosystems provide a vast range of services that are fundamental to human well-being, health, and survival (FAO-UN, n.d.). Healthy ecosystems provide us with water, food, and fertile soil. They also regulate the oxygen we breathe and the carbon dioxide we emit. Without ecosystems to provide for us, humans would quickly cease to exist. Wildlife, in turn, keeps ecosystems functioning by helping to keep them in balance (World Bank, 2014). Protecting and conserving wildlife is thus critical to ensuring sustainable reductions in climate change and preserving the ecosystems humans depend on for survival.

Changes in the population of a single species of wildlife can have a profound effect on an entire ecosystem. For instance, research shows that the reintroduction of wolves into the Yellowstone ecosystem resulted in a positive “trophic cascade” in the ecology of the park: a healthy population of predators led to a reduction in elk overpopulation and a return to elk behaviors that are more sustainable for the ecosystem (Farquhar, 2021). These changes in wolf and elk populations and elk grazing behaviors also resulted in an increase in beaver populations and significant changes to the vegetation of the ecosystem (Smith et al., 2016; Farquhar, 2021). Beavers contribute significantly to stream restoration, which can enable aquifers to trap water and sediment, thus improving habitats for other species in the ecosystem, including fish. In Yellowstone, the resurging beaver population also contributed to the regrowth of willow stands, providing a habitat for songbirds (Smith, 2021). Ecosystem health depends on species diversity.

“Humankind has not woven the web of life. We are but one thread within it. Whatever we do to the web, we do to ourselves. All things are bound together...all things connect.”

Chief Seattle

Valuing Nature and Wildlife

Just as biodiversity is critical for ecosystems, thriving ecosystems are critical for a stable climate, because terrestrial and marine ecosystems absorb about 50% of the carbon dioxide released into the atmosphere (UNEP, 2021; Science on a Sphere, 2015). Elephants, for example, are engineers of their ecosystem. Forest elephants can increase the amount of carbon stored by the rainforest by facilitating the growth of larger trees. Ralph Chami of the International Monetary Fund estimates that historic populations of forest elephants would have been able to capture as much carbon as 250,000 trees or \$150 billion worth of carbon capture services (Chami et al., n.d.). Since elephants roam vast distances, they also play a crucial role in spreading tree seedlings, and researchers have found that areas with fewer elephants also have lower forest diversity (Hance, 2011). Whales play a similar role in the marine ecosystem, circulating nutrients as they come to the ocean's surface to breathe and dive back down again (Whale and Dolphin Conservation, 2019). A single whale will also capture 33 tons of carbon over its lifespan (Roetzel, 2022). When whales die, they sink to the ocean floor, and the carbon they have stored remains there for centuries (Yeo, 2021). As with elephants, the more whale populations are restored to their historic levels, the higher their contribution will be to mitigating the impacts of climate change on the planet, and thus for the people living on the planet.

The interdependence of different species in the Yellowstone ecosystem underscores that it isn't only the largest and most charismatic animals that contribute to thriving ecosystems and facilitate carbon capture. In North America, opossums eat ticks, mice, rats, snails, slugs, cockroaches, and dead animals, all critical contributions to ecosystem health (Kirchner, 2017), while raccoons disperse seeds, feed on dead animals carcasses, and keep rodent, small snake, grub and wasp populations down (Mueller, 2020). Species as small as phytoplankton can be critical to ecosystems and climate health: According to NASA, "phytoplankton are responsible for most of the transfer of carbon dioxide from the atmosphere to the ocean" (Lindsey & Scott, 2010). Conserving and restoring ecosystems and habitats for wildlife is one of the most effective ways to reduce the total amount of greenhouse gasses in the atmosphere and ensure the stability of these ecosystems in the future. And a stable climate and balanced ecosystems are both essential to human survival (Orradóttir & Aegisdóttir, 2015).

“Ultimately, we depend on the natural world for every mouthful of food that we eat, and indeed every lung full of air that we breathe...I think that people are discovering that they need the natural world for their very sanity.”

Sir David Attenborough

Human Health Values

Besides maintaining healthy ecosystems, wild animals also impact humans' physical and mental health in more direct ways. The framework of "One Health" emphasizes that, for people to be healthy, the planet and wildlife must also be healthy, and has become increasingly recognized and supported by conservation organizations and public health experts in recent decades (Centers for Disease Control and Prevention, 2018). When animals are exploited or their health and habitats disrupted, they can pose threats to human safety and health. Conversely, human health benefits from animals in a variety of tangible and intangible ways, including forms of knowledge and feelings of affinity that animals offer.

The COVID-19 pandemic offers a powerful example of how the failure to ensure the health of wild animals can devastate human health outcomes. When humans encroach on wildlife habitats through activities such as deforestation for development and agriculture, it can not only disrupt ecosystems and harm wild animals but can also encourage people and domestic animals to come into direct contact with wildlife. This creates opportunities for wildlife-borne zoonotic diseases to spill over into human populations. Domestic food animals often serve as a bridge between wildlife-borne diseases and human beings; this is especially true of domestic animals raised in intensive farming operations where there is little genetic diversity among the animals and they are housed in cramped, highly stressful, and often inhumane conditions (Jones et al., 2013). As of the publication of this report, the exact train of transmission that resulted in COVID-19 is not definitively known. We know, however, that, like other SARS viruses and the Middle East respiratory syndrome (MERS), COVID-19 most likely originated in a wild animal and eventually spread to humans (Bhargava, 2021). Avian flu, Ebola, HIV, and swine flu also originated in wildlife and later spread to humans (Reperant & Osterhaus, 2017). It is important to note that it is human actions that create the possibility for the deadly spread of diseases between humans and animals (Guynup, 2021). The solution to this problem is not to eliminate wildlife species, which play such a crucial role in maintaining planetary and human health, but to adopt healthy practices in which both humans and wildlife are able to coexist and thrive.



*A single whale will capture 33 tons
of carbon over its lifespan.*

(Roetzel, 2022)

Valuing Nature and Wildlife

When humans and animals coexist, animals benefit not only the ecosystems humans depend on but also humans' physical health directly. Bees are a great example: They are tiny superstars of pollination within their ecosystems, and humans have depended on them for the growth of food crops for thousands of years (Food and Agriculture Organization of the United Nations, 2018). At the same time, humans have also long used honey medicinally, and many people still swear by its health benefits, whether in cough drops, tea, as a sugar alternative, in skincare products, or used topically for burns and wounds (Combe, 2017). The scientific study of animals may also have direct health benefits. For instance, due to their physiological similarity to humans, whales may be able to serve as effective sentinels for public health crises, allowing scientists to observe zoonotic diseases found in coastal areas and minimize their spread (Bossart, 2011). Bees, whales, and other animals help to promote human health both as key parts of the ecosystems humans depend on and directly, through their products and contributions to research.

Animals also promote humans' mental health. Many people understand what it means to feel an affinity for animals because of their love for household pets. These bonds are often stronger than policy-makers realize: A survey taken after Hurricane Katrina in 2004 revealed that, among people who chose not to evacuate from their homes, almost half of them based their decision partially on their desire to stay with their pets (Zeitlin, 2019). The deep-rooted affinity many people feel with animals and nature is sometimes referred to as "biophilia," or "love of life," and can have powerful mental effects. Scientists who have studied the effects of exposure to nature on humans' mental health have noted improvements in mood, attention, and cognitive function, as well as reductions in depression, stress, and anxiety (Delagran, n.d.; Robbins, 2020; Weir, 2020). Still, more research is needed into the particular benefits of wildlife on mental health.

Initial research has suggested that experiencing wildlife in a safe and respectful manner, in a habitat where animals feel free to engage with humans on their own terms, may have positive effects on mental health. A study in the UK examined the impact on participants of a short walk through a lemur enclosure in which the lemurs had the freedom to hide in the trees or approach visitors on the path. Participants showed a statistically significant improvement in cortisol (stress hormone) and mood levels, with the most positive outcomes associated with lemur proximity and the number of lemurs seen. Researchers attributed these outcomes to the participants' feeling privileged upon being willingly approached by an animal (Sumner & Goodenough, 2020).

Similar outcomes have been noted in less structured environments. The Galapagos are considered one of the most "celebrated wildlife-watching destinations in the world," where "most first-time visitors just stand and stare in awe" (Carwardine, 2021). It is theorized that wildlife here exhibit little fear of humans because they evolved without close proximity to people and other predators (Ricks, 1988). The opportunity to experience high biodiversity and relatively close contact is identified among the top reasons tourists visited the Galapagos (Mazur et al., 2018). Participants in a 2018 survey conducted in five European cities revealed an overall preference for areas rich in biodiversity rather than empty green spaces (Fisher, 2018). Likewise, data from the 2012 European Quality of Life Survey, which contained responses from over 26,000 adults in 26 different countries, revealed that a 10% increase in the number of bird species in a person's surrounding area increased their life satisfaction as much as a 10% increase in their bank account (European Foundation for the Improvement of Living and Working Conditions, n.d.; GCIBR, 2020). These findings suggest that people benefit mentally from exposure to animals, and perhaps especially from the native wildlife they find in their homes, neighborhoods, and cities.

Cultural and Spiritual Values

The cultural and spiritual significance of nature—and wildlife in particular—offers new perspectives on why and how to protect animals that scientists, policy-makers, economists, and conservationists are only beginning to recognize. Numerous religions and belief systems value specific animal species and natural landscape features: not only the countless belief systems of Indigenous peoples worldwide, but the so-called “world religions” of Judaism, Christianity, Islam, Hinduism, Jainism, Buddhism, and Daoism as well (Gross, 2017). Other belief systems emphasize animal welfare as inherently valuable, regardless of animals’ formal spiritual status (Szücs et al., 2012). These forms of value that communities assign to wildlife are connected to the value that animals provide to ecosystems and health, but also go beyond them.

Prominent conservation organizations, such as the International Union for Conservation of Nature (IUCN), are beginning to produce literature to help conservationists recognize and make space for the cultural and spiritual significance of nature within existing conservation frameworks, especially in protected spaces (UNEP-WCMC & IUCN, 2016). For instance, the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) Conceptual Framework outlines six main elements that link people and nature. The sixth element is a “a good quality of life,” which IPBES proposes can be understood as “living in harmony with nature” and “living well in balance and harmony with Mother Earth” (as well according to metrics like the Genuine Progress Index, Gross National Happiness, and the Inclusive Wealth Index, all discussed above). As one report on the framework goes on to state, “Balance and harmony refers to individuals in the context of a wider human community, including ancestors and descendants, and also between humans and Mother Earth, which is seen as a holistic entity that sustains all living things, and of which humans are an inextricable part, physically and spiritually” (Diaz et al., 2015). This general idea of balance and harmony within a cross-temporal and cross-species community takes distinct forms in different cultural and spiritual traditions.

While there is significant literature outlining the importance of cultural belonging and spirituality to human well-being, there is only a very small body of work addressing the effects of spiritual and cultural ties to wildlife on conservation. The importance to communities of specific species, such as snow leopards and elephants, has been documented, but further study is required to determine how to strengthen these cultural and spiritual relationships for better conservation outcomes (Carnow, 2019; *The Elephant Men*, 1997; Mukul et al., 2012). Learning directly from and supporting local and Indigenous communities is one way of filling these gaps in our understanding of the cultural and spiritual values of wildlife to human well-being and developing effective and equitable wildlife conservation programs.

“When the last tree is cut, the last fish is caught, the last river is polluted and when to breathe the air is sickening, you will realize, too late, that wealth is not in bank accounts and that you can't eat money.”

Alanis Obomsawin



Linking Community Well-Being and Wildlife Stewardship

In North America, the conservation movement developed in response to industrialization during the 1800s, in order to protect natural environments and wildlife from increasing resource exploitation.

This movement resulted in the incredibly beautiful and biodiverse parks that remain in the National Park System in the US; the concept was also exported internationally for conserving important natural areas from human encroachment (Chapman, 2020). But the conservation movement in the West has also historically contributed to the disenfranchisement and displacement of Indigenous peoples (Goyes & South, 2019), because creating protected lands entailed separating local people from the use and management of those lands. Ingrained in the conservation movement is the reality that the connection of local and Indigenous people to their lands has historically been ignored, and the value of local community knowledge and experience in managing these lands has been dismissed.

Indigenous communities differ widely from one another, and their beliefs and practices are not monolithic, so it is important to consider a variety of experiences and views when describing Indigenous and traditional knowledge (ITK). Many Indigenous and traditional communities, however, preserve local knowledge about human dependence on biodiversity and recognize the impact of nature in their lives and livelihoods (Drissi, 2020). With increasing pressure on natural resources, climate change, population growth, and a global extinction crisis, ITK has become increasingly important for the conservation movement to acknowledge.

Likewise, as the conservation field wrestles with its own history, conservationists worldwide are endeavoring to make conservation work more accessible, equitable, and culturally respectful. Forward-thinking researchers are exploring new ways to integrate conservation into local communities and emphasize existing bonds between people and their natural surroundings (Infield & Mugisha, 2010).

The Value of Indigenous and Traditional Knowledge and Local Perspectives

Although Indigenous peoples make up less than 5% of the world's population, Indigenous lands contain 25% of the world's terrestrial ecosystems and support 80% of the world's biodiversity (Robbins, 2018). Though still declining, wildlife populations on these lands are doing so at a slower rate than global averages (IPBES, 2019). Based on this evidence, researchers have suggested that collaborating with "indigenous land stewards" will be essential to ensuring that wildlife species survive and thrive (Cereceda, 2019). According to anthropologist Eduardo Brondízio, Indigenous land management practices succeed because they "look at the function of landscapes and what is important to keep in terms of connectivity, how different habitats can be managed to complement each other" (Sneed, 2019). In Australia, for example, land managers have successfully partnered with Indigenous Australians to enhance fire control practices (Robbins, 2018).

Governments and conservation organizations are beginning to value the role of ITK in the long-term monitoring of ecosystems as well. Partnerships with local communities in remote locations can be especially valuable because communities living within these ecosystems notice small changes over time. For example, Indigenous communities in Canada and the United States have collaborated with the Local Environmental Observer Network, sharing information on wildlife sightings and temperature (Sneed, 2019). Many studies have also shown how ITK can enhance conservation success: Reid et al. (2020), for instance, focused on the application of an Indigenous framework called "Two-Eyed Seeing" to fisheries management. The future of both conservation research and practice lies in partnership with Indigenous and other local communities (Reid et al., 2020).

The Role of Holistic Community Well-Being in Conservation

Indigenous perspectives are valuable not just because of the knowledge these communities preserve but because the participation of local communities throughout the world is essential to effective and equitable conservation projects. Local participation and partnership in community decision-making and land and species management have been shown to be important factors in the success of conservation projects. A 2019 study of nine successful community conservation projects concluded that community-based approaches benefit "every step of a project, from design, to planning, to

“We have lived our lives by the assumption that what was good for us would be good for the world. We have been wrong. We must change our lives so that it will be possible to live by the contrary assumption, that what is good for the world will be good for us. And that requires that we make the effort to know the world and learn what is good for it.”

implementation” (Allgood, 2019). Likewise, economist Elinor Ostrom demonstrated that the involvement of local community members in all stages of resource management can help avoid the “tragedy of the commons,” the neglect of holistic well-being in pursuit of self-interest (Ostrom, 1990). The takeaway from this research is intuitive: People are more invested in conservation projects if they are full partners in decision-making.

Well-being research can make critical contributions to the work of conservation in this area because successful conservation partnerships depend on the shared values that underpin human well-being. When local people feel that conservation efforts are not aligned with their values and priorities, these efforts will likely not succeed (Noga et al., 2018; Shelley, 2018). For this reason, it is critically important that conservation practitioners work to improve the lives of people living near wildlife and support the integration of communities and nature. Careful communication and co-creation of conservation planning, with improvement in the economic and non-economic aspects of the lives of local stakeholders, can improve project outcomes in these areas (Sterling et al., 2017).

By contrast, framing development projects around the exclusive goal of economic growth rather than well-being can lead to tension between wildlife conservation and community objectives (Kapoor & Debroy, 2019). The conservation and development field has decades of experience helping local and Indigenous communities increase their economic livelihoods based on wildlife conservation. But the sharp decrease in global travel and tourism as a result of the COVID-19 pandemic offers a salient example of the dangers of depending exclusively on the economic value of wildlife as an incentive to conserve species. Well-being research, on the other hand, offers a framework for incorporating other, non-economic factors into conservation projects: Allgood et al. (2019) found that successful conservation projects “incorporated one or more non-traditional factors into planning and implementation that are not often measured or included in standard sustainable development or conservation portfolios.” Accounting for well-being factors not only helps conservationists build stronger partnerships with local communities, it also helps projects avoid the pitfalls of purely economic approaches.

A holistic well-being framework for valuing wildlife can also help manage conflicts in goals between conservation organizations and local community partners. In their study of the varying views of the Maasai peoples toward local wildlife species, (Western et al., 2019) they demonstrate the challenges for decision-making that can arise when the priorities of Indigenous groups come into conflict with protected wildlife. In these situations, it is vital that both groups understand and appreciate the holistic values of the other when developing solutions. Understanding and supporting the broad well-being of communities and appreciating the value that healthy wildlife can bring to that well-being can be a valuable source of common ground (Wali et al., 2017). Once the underlying values of both the community and the other stakeholders are uncovered and discussed, the partners can prioritize projects that decrease negative well-being impacts of wildlife and enhance the most important connections. This process can help create shared goals and positive results for communities and the wildlife they live alongside.

Indigenous and local groups are more than just a source of valuable knowledge; they are also conservation leaders and pioneers. They need support—including access to information, resources, and land tenure rights—to be able to take the lead in effectively stewarding their local wildlife (Jones, 2021). Their stewardship, in turn, not only benefits themselves, but is a crucial element in global well-being and sustainability as well (Summers et al., 2012).



OneNature's Solutions

OneNature believes that the three distinct movements discussed in this report—a shift toward well-being metrics in economic policy, an attempt to assign holistic values to wildlife and nature, and an increasing recognition of the vital role of local communities in conservation—are linked and mutually supportive.

If well-being is to be adopted as a goal of policy, it is crucial that policy-makers and well-being organizations recognize that wildlife conservation is central to both sustainability and other, less tangible forms of human well-being. Likewise, the conservation movement’s adherents must take well-being seriously in order to better understand and include the multiple values of wildlife in their work and move toward holistic conservation practices in partnership with Indigenous and local communities. Taking well-being seriously as a policy aim and a measure of success means bringing wildlife conservation into the conversation, while successful conservation efforts will make holistic communal well-being central to their aims and methods.

OneNature’s proposed solutions recognize that learning and development in each of these areas will benefit the others. If we can understand and support positive community relationships with wildlife, we can stem species loss and increase community well-being in those places at the same time. By learning from communities that value and protect wildlife, we can inform national and global policies that support the link between well-being and wildlife. By combining a community-based understanding of wildlife values with other pieces of well-being and conservation research and global data, we can inform the concept of well-being and the role of wildlife in that well-being. And when we create new ways of understanding the link between wildlife and well-being, we can support a shift in the policy environment to better support well-being for all.

Theory of Change

IMPACT

Community well-being, wildlife and habitats are secure

GOALS

Improved well-being linked with species conservation for the benefit of people, animals and nature

OUTCOMES

Integrated conservation and well-being approaches become part of broader community of practice

Community-fed wildlife stewardship is supported and integrated with interventions to improve well-being

Interconnections of wildlife and human well-being is recognized in metrics and policy frameworks

Increased understanding of links between wildlife and human well-being

STRATEGIES

Cutting-edge research
Community-led conservation
Strategic partnerships



Community Well-Being-Centered Conservation

OneNature believes it is possible to transform conservation by linking holistic community well-being and wildlife stewardship. As we have seen, holistic human well-being is enhanced in many ways by healthy, thriving wildlife. In some cases, TIK holders and local communities already recognize these connections between wildlife and well-being. Nevertheless, conflicts between communities and wildlife can decrease human well-being and imperil species. The solution to these conflicts is to better understand each community's perception of their holistic well-being, their understanding of the values of wildlife (instrumental, intrinsic, relational), and their feelings about how the presence of wildlife enhances or diminishes well-being.

Conventional social safeguard approaches in conservation projects typically expect that projects "do no harm" to the community. But this approach does not go far enough to ensure community rights, protect donor and organizational reputations, and achieve sustainable outcomes. Many conservation projects have missed the critical element of assessing life satisfaction, the many domains of well-being, and communities' feelings about these outcomes. Even projects created with the best of intentions can have negative consequences that are less likely to be understood and corrected without a holistic approach. For example, a community conservation project that increases livelihoods for some community members may deeply strain social structures, feelings of community vitality, and trust in neighbors. Without reviewing and monitoring project impacts on these factors, we cannot understand the holistic impact of wildlife conservation and development projects on the well-being of community members.

As human rights, diversity, and inclusion increasingly become recognized as critical factors in successful and equitable conservation work, a systematic and adaptable well-being-based approach for community interventions is vital. If well-being information is collected, data is shared with the community, and common values are used to create, monitor, and evaluate project success (alongside species impacts), then the rights of the community will be better represented, understood, and respected. As with the societal shift to well-being, a shift away from a single measure of success in a community—like increases in livelihoods, or even numbers of people accessing health care or education—can provide a more complete picture of what success looks like for that community.

Conservation projects can link holistic well-being measures to other, quantitative indicators, such as social and economic indicators and species outcomes, which can reveal how specific changes in project outcomes impact the perception of well-being in the community. These might include specific indicators from the Sustainable Development Goals (SDG), Reducing Emissions from Deforestation and Forest Degradation (REDD+) indicators, and other biocultural indicators that assess social, cultural, economic, and ecological resilience (Deroy et al., 2019). These tools enable organizations to report on project indicators, referencing appropriate national and international standards, and add the element of holistic community well-being to the monitoring and evaluation of a project.

Based on research and practical experience, OneNature is creating systems and processes to understand the well-being of communities and community perceptions of the wildlife around them in order to put holistic human well-being and wildlife conservation at the center of development and conservation conversations. We are partnering with communities, conservation partners, and donors

OneNature's Solutions

to pilot these approaches with the aim of making conservation projects more successful, sustainable, equitable, and inclusive, while ensuring the rights of community members are respected over the course of a project. This approach also has the potential to reduce the likelihood of negative, unintended consequences of conservation projects that may harm community members, and to allow for an early warning system for unintended negative impacts on the well-being of a community.

Piloting these new methods in communities will create the evidence base that is needed for large-scale adoption of these principles, tools, and practices. Our peer-reviewed survey instrument and community empowerment process integrate cutting-edge well-being research with extensive conservation expertise and will be combined into a community well-being conservation certification that will be awarded to projects that demonstrate this integrated approach to communities and conservation.

Innovative Research

As discussed above, existing research around the values of nature does not adequately account for the value of wildlife within natural systems and to human well-being. To contribute to filling this research gap, OneNature, partnering with conservationists in the field and leading academics and researchers, is undertaking studies and research projects aimed at better demonstrating the importance of wildlife and biodiversity.

To date, OneNature staff has researched and co-authored academic papers on the use of a well-being lens to assess community conservation projects (Allgood et al., 2019) and the development of a well-being wildlife survey for communities living with wildlife (Musikanski et al., 2021). Our staff has also recently collaborated with academic and conservation partners to conduct research and co-author a series of peer-reviewed academic papers and perspectives articles. These papers, written for community professionals and scholars, demonstrate the link between natural and cultural capital and community well-being by embracing Indigenous wisdom around wildlife conservation and building on scientific momentum for new well-being measures. Cases considered include: nature-based empowerment in a UK country park, the Maa Trust and community-driven wildlife conservation in Kenya, the Navajo Nation and the removal of colonial constructs from natural and cultural capital, and whaling and whale-watching tourism in Iceland, among others. Our research offers insights to help communities and conservation partners reconcile culture and wildlife conservation.

OneNature is currently leading a collaborative research project with academic experts and conservation practitioners in communities around the world to document and assess the importance of spiritual and cultural connections to wildlife in community-based conservation projects. Together, this collaborative group will develop recommendations for conservation policy and practice based on common factors and lessons learned, and will share those recommendations with decision-makers. Upcoming studies from OneNature include a partnership with Gallup to design and implement a wildlife module in their World Happiness Poll, as well as an evaluation of the long-term holistic return on investment from protecting wild animals and habitats, based on a comparison of outcomes among pairs of similar communities.

By using these and other innovative approaches, OneNature aims to better understand the value of wildlife to the well-being of individuals and communities and to provide insights into the consequences of biodiversity loss to human well-being. We will use this data to contribute to an informed discussion of how such values can be better included in policy and decision-making frameworks.

Changing Policy and Practice

OneNature aims to bridge the gap in well-being policy and conservation practice by understanding the value of wildlife and valuing the experiences of those people who live with wildlife. We are launching programs with communities and conservation practitioners, and with research in hand, we will be reaching out to innovators, effective and broad coalitions, opinion-shapers, and the public to build a strong, collaborative knowledge base and coalition of support for fundamental systems change. We will use this work to develop recommendations and best practices for individuals, communities, and corporations based on collaborative input from our coalition partners, combined with our wildlife/well-being research and data and experience from our community partnerships.

OneNature supports global pledges to conserve wildlife and habitats. In September 2020, political leaders participating in the UN Summit on Biodiversity signed a pledge to reverse biodiversity loss and to encourage other stakeholders to make similar commitments (UN Summit on Biodiversity, 2020). Civil society organizations, including OneNature, are partners in this pledge. In September 2021, the IUCN met and issued the “Marseille Manifesto” that captured several important biodiversity and climate commitments from this international body of government, civil society, and Indigenous community representatives (IUCN, 2021). In November 2021, the 26th session of the Conference of the Parties (COP 26) to the UN Framework for the Convention on Climate (UNFCCC) met and made new commitments designed to “protect and restore ecosystems, build defenses, warning systems and resilient infrastructure, and agriculture to avoid loss of homes, livelihoods and even lives” (UN Climate Change Conference UK 2021, 2021). OneNature recognizes the importance of these pledges, and we understand that this is where the work begins, not where it stops.

OneNature will continue to identify, strengthen, and demonstrate the integral connections surrounding well-being and wildlife. We believe that shifting society’s valuation metrics will help people become happier and more fulfilled, improve access to information on the values of wildlife and nature, and secure the well-being of all beings for the future. Ultimately, the recommendations we develop from our collaborations and research will be distilled into a plan for change—the Greenprint—for use by decision-makers to increase well-being for people, animals, and the planet. Although changing the system seems like a daunting task, it is a step-by-step process. Our strategic partnerships connect the dots between community-based wildlife stewardship, human well-being, and global frameworks for conservation and development. As a result, we believe that global policy and practices will begin to transform, achieving well-being for all beings.

“The health of ecosystems on which we and all other species depend is deteriorating more rapidly than ever. We are eroding the very foundations of our economies, livelihoods, food security, health and quality of life worldwide. Through ‘transformative change’, nature can still be conserved, restored and used sustainably—this is also key to meeting most other global goals.”

IPBES Chair, Sir Robert Watson

Conclusion

As this report has demonstrated, recent years have seen substantial societal shifts toward emphasizing well-being, valuing wildlife, and engaging Indigenous and local stakeholders as true partners in conservation.

These shifts, along with the incentive that the COVID-19 pandemic and climate change have created to address pressing societal and environmental challenges, offer all of us a chance for a better future. OneNature aims to build on, amplify, and link these positive developments.

We firmly believe that creating a more sustainable future for all beings should not be seen as a sacrifice of our current way of life, but as an opportunity to realign our behaviors, decisions, and policies around what matters most: *a thriving natural world with flourishing well-being for all.*

Endnotes

- Abrar, R. (2021, October 25).** Happy planet index 2021 Launch Event - Recap.
<https://weall.org/happy-planet-index-2021-launch-event-recap>
- Alacrantra, C., Youjin, S., Leslie, S., Adam, T., Armand, E. (2022, January 16).** Mapping the worldwide spread of the coronavirus.
https://www.washingtonpost.com/graphics/2020/world/mapping-spread-new-coronavirus/?itid=sn_coronavirus_2%2F
- Allgood, B. (2019, June 12).** Incorporating Animal Welfare Into the SDGs.
<https://impakter.com/incorporating-animal-welfare-into-the-sdgs/>
- Allgood, B., Hofberg, M., Musikanski, L. et al. (2019).** Assessing Community-Based Wildlife Conservation Programs with the Gross National Happiness Framework. *International Journal of Community Well-Being*, 2, 301–337
<https://doi.org/10.1007/s42413-019-00045-7>
- Allgood, B., Ratchford, M., Large, K. (2016).** Measuring What Matters: True well-being for Animals and People (Rep. No. 978-1-939464-05-7).
https://onenatureinstitute.org/wp-content/uploads/2021/01/IFAW_AnimalsAndHappiness.pdf
- Bell, S., Westley, W., Lovell, R., Wheeler, R. (2018).** Everyday green space and experienced well-being: The significance of wildlife encounters. *Landscape Research*, 43(1), 8–19.
<https://doi.org/10.1080/01426397.2016.1267721>
- Bhargava, H. D. (Ed.). (2021, August 15).** Coronavirus history: How did coronavirus start?
<https://www.webmd.com/lung/coronavirus-history>
- Björnberg, K.E. (2020),** What, If Anything, Is Wrong with Offsetting Nature?. *Theoria*, 86, 749-768.
<https://doi.org/10.1111/theo.12287>
- Bossart, G. D. (2011).** Marine Mammals as Sentinel Species for Oceans and Human Health. *Veterinary Pathology*, 48(3), 676–690.
<https://doi.org/10.1177/0300985810388525>
- Bruyninckx, H. (2021, May 11).** Healthy environment is a must for sustainable economy and equitable society.
<https://www.eea.europa.eu/articles/healthy-environment-is-a-must>
- Callen, T. (2020, February 24).** Gross Domestic Product: An Economy's All.
<https://www.imf.org/external/pubs/ft/fandd/basics/gdp.htm#:~:text=GDP%20is%20important%20because%20it,the%20economy%20is%20doing%20well>
- Capitals Coalition. (n.d.).** Aligning Accounting Approaches for Nature.
<https://capitalscoalition.org/project/align/>
- Carnow, S. (2019, December 16).** Reviving Spiritual Ties to Snow Leopard.
<https://wildnet.org/reviving-spiritual-ties-to-snow-leopards/#:~:text=Many%20indigenous%20communities%20in%20Central,-like%20a%20mountain%20or%20river>
- Carrasco, L., Nghiem, T., Sunderland, T., Koh, L. (2014).** Economic valuation of ecosystem services fails to capture biodiversity value of tropical forests. *Biological Conservation*, 178, 163-170.
<https://www.sciencedirect.com/science/article/pii/S000632071400295X>
- Carwardine, M. (2021, December 16).** 'Most visitors stand and stare in awe': The secret to exploring the Galapagos.
<https://www.telegraph.co.uk/travel/destinations/south-america/ecuador/galapagos-islands/visitors-stand-stare-awe-secret-exploring-galapagos/>
- Centers for Disease Control and Prevention. (2018, November 05).** One Health Basics.
<https://www.cdc.gov/onehealth/basics/index.html>
- Cerededa, R. (2019, August 11).** Indigenous peoples can teach us lessons about wildlife and land use.
<https://www.euronews.com/2019/08/08/indigenous-peoples-can-teach-us-lessons-about-wildlife-and-land-use-experts-say>
- Cerf, V. (2020, January 15).** GDP is completely broken. It's time to focus on inequality instead.
<https://www.wired.co.uk/article/gdp-broken-inequality>
- Ceroni, M. (2014, September 23).** Beyond GDP: 20 US states have adopted genuine progress indicators.
<https://www.theguardian.com/sustainable-business/2014/sep/23/genuine-progress-indicator-gdp-gpi-vermont-maryland>
- Chami, R., Fullenkamp, C., Cosimano, T., Berzaghi, F. (n.d.).** The Secret Work of Elephants.
<https://www.imf.org/external/pubs/ft/fandd/2020/09/how-african-elephants-fight-climate-change-ralph-chami.htm>
- Chapman, A. E. (2020, July 07).** Nineteenth century trends in American Conservation.
<https://www.nps.gov/articles/000/nineteenth-century-trends-in-american-conservation.htm>
- Charlton, E. (2019, May 30).** New Zealand has unveiled its first 'well-being' budget.
<https://www.weforum.org/agenda/2019/05/new-zealand-is-publishing-its-first-well-being-budget/>
- Chrysopoulou, A. (2020).** The Vision of a Well-Being Economy. *Stanford Social Innovation Review*.
<https://doi.org/10.48558/9SXJ-C595>

Endnotes

- Church, C., Rogers, M. M. (2006). Designing for results: Integrating Monitoring and Evaluation in Conflict Transformation Programs. Search for Common Ground. 43-59.
<https://www.sfcg.org/Documents/manualpart1.pdf>
- Combe, L. (2017, January 24). 9 Unexpected Uses for Honey.
<https://www.healthline.com/health/9-unexpected-uses-for-honey>
- Conniff, R. (2011, May 12). An African Success: In Namibia, The People and Wildlife Coexist.
https://e360.yale.edu/features/an_african_success_in_namibia_the_people_and_wildlife_coexist
- Cook, J. (2020, September 30). Costa Rica to become the first completely carbon neutral nation – how have they done it?
<https://www.businessleader.co.uk/costa-rica-to-become-the-first-completely-carbon-neutral-nation-how-have-they-done-it/>
- Costanza, Robert & Hart, Maureen & Posner, Stephen & Talberth, John. (2009). Beyond GDP: The Need for New Measures of Progress. The Pardee Papers, 39(4).
<https://www.bu.edu/pardee/files/documents/PP-004-GDP.pdf>
- Dasgupta, P. (2021). The Economics of Biodiversity: The Dasgupta Review. (London: HM Treasury).
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/962785/The_Economics_of_Biodiversity_The_Dasgupta_Review_Full_Report.pdf
- De Neve, J., Powdthavee, N. (2016, January 12). Income inequality makes whole countries less happy.
<https://hbr.org/2016/01/income-inequality-makes-whole-countries-less-happy>
- Delagran, L. (n.d.). How Does Nature Impact Our well-being?
<https://www.takingcharge.csh.umn.edu/how-does-nature-impact-our-wellbeing>
- DeRoy, B. C., Darimont, C. T., Service, C. N. (2019). Biocultural indicators to support locally led environmental management and monitoring. Ecology and Society, 24(4).
<https://doi.org/10.5751/es-11120-240421>
- Diaz, S., Demissew, S., Carabias, J., Joly, C., Lonsdale, M., Ash, N., Larigauderie, A., Ashikari, J. R., Arico, S., Báldi, A., Bartuska, A., Baste, I. A., Bilgin, A., Brondizio, E., Chan, K. M.A., Figueroa, V. E., Duraiappah, A., Fischer, M., Hill, R., Koetz, T., Leadley, P., Lyver, P., Mace, G. M., Martin-Lopez, B., Okumura, M., Pacheco, D., Pascual, U., Pérez, E. S., Reyers, B., Roth, E., Saito, O., Scholes, R. J., Sharma, N., Tallis, H., Thaman, R., Watson, R., Yahara, T., Hamid, Z. A., Akosim, C., Al-Hafedgh, Y., Allahverdiyev, R., Amankwah, E., Asah, S. T., Asfaw, Z., Bartus, G., Brooks, L. A., Caillaux, J., Dalle, G., Darnaedi, D., Driver, A., Erpul, G., Escobar-Eyzaguirre, P., Failler, P., Fouda, A. M. M., Fu, B., Gundimeda, H., Hashimoto, S., Homer, F., Lavorel, S., Lichtenstein, G., Mala, W. A., Mandivenyi, W., Matczak, P., Mbizvo, C., Mehrdadi, M., Metzger, J. P., Mikissa, J. B., Moller, H., Nesshover, C., Mumby, P., Nagendra, H., Nesshover, C., Oteng-Yeboah, A. A., Pataki, G., Roué, M., Rubis, J., Schultz, M., Smith, P., Sumaila, R., Takeuchi, K., Thomas, S., Verma, M., Yeo-Chang, Y., Zlatanova, D. (2015). The IPBES Conceptual Framework — connecting nature and people. Current Opinion in Environmental Sustainability, 14, 1-16.
<https://doi.org/10.1016/j.cosust.2014.11.002>
- Drissi, S. (2020, June 08). Indigenous peoples and the nature they protect.
<https://www.unep.org/news-and-stories/story/indigenous-peoples-and-nature-they-protect>
- Eckersley, R. (2006). Progress, sustainability and human well-being: is a new worldview emerging? International Journal of Innovation and Sustainable Development, Inderscience Enterprises Ltd, 1(4), 304-317.
<https://ideas.repec.org/a/ids/ijisde/v1y2006i4p304-317.html>
- European Commission. (n.d.). Key quotes.
https://ec.europa.eu/environment/beyond_gdp/key_quotes_en.html
- European Foundation for the Improvement of Living and Working Conditions. (n.d.). European quality of life survey 2012.
<https://www.eurofound.europa.eu/surveys/european-quality-of-life-surveys/european-quality-of-life-survey-2012>
- Eurostat. (2021, November 03). UN adopts a new statistical standard to measure the value of ecosystems.
<https://ec.europa.eu/eurostat/web/products-eurostat-news/-/cn-20210311-1>
- Farquhar, B. (2021, June 30). Wolf Reintroduction Changes Ecosystem in Yellowstone.
<https://www.yellowstonepark.com/things-to-do/wildlife/wolf-reintroduction-changes-ecosystem/>
- Food and Agriculture Organization of the United Nations. (2018, May 20). Why Bees Matter. The importance of bees and other pollinators for food and agriculture.
<https://www.fao.org/3/i9527en/i9527en.pdf>

- Food and Agriculture Organization of the United Nations. (n.d.). Ecosystem Services & Biodiversity. <https://www.fao.org/ecosystem-services-biodiversity/background/regulating-services/en/>
- German Centre for Integrative Biodiversity Research (iDiv) Halle-Jena-Leipzig (GCIBR). (2020, December 04). Biological diversity evokes happiness: More bird species in their vicinity increase life satisfaction of Europeans as much as higher income. <https://www.sciencedaily.com/releases/2020/12/201204110246.htm>
- Goyes, D., South, N. (2019). Between 'Conservation' and 'Development': The construction of 'Protected nature' and the environmental disenfranchisement of indigenous communities. *International Journal for Crime, Justice and Social Democracy*, 8(3), 89-104. <http://dx.doi.org/10.5204/ijcjsd.v8i3.1247>
- Gross, A. S. (2017). Religion and Animals. <https://doi.org/10.1093/oxfordhb/9780199935420.013.10>
- Gross, E. M., Jayasinghe, N., Brooks, A., Polet, G., Wadhwa, R., Hilderink-Koopmans, F. (2021) A Future for All: The Need for Human-Wildlife Coexistence. (WWF, Gland, Switzerland). https://wwfint.awsassets.panda.org/downloads/a_future_for_all_the_need_for_human_wildlife_coexistence.pdf
- Guynup, S. (2021, October 06). 'Spillover' diseases are emerging faster than ever before— thanks to humans. <https://www.nationalgeographic.com/science/article/spillover-diseases-are-emerging-faster-than-ever-beforethanks-to-humans>
- Géraldine, T., Philippe, R. (2014). The Inclusive Wealth Index. A Sustainability Indicator, Really? <https://halshs.archives-ouvertes.fr/halshs-01011250/document>
- Hance, J. (2011, April 25). Elephants: the gardeners of Asia's and Africa's forests. <https://news.mongabay.com/2011/04/elephants-the-gardeners-of-asias-and-africas-forests/>
- Hayes, A. (2021, July 25). Genuine Progress Indicator (GPI). <https://www.investopedia.com/terms/g/gpi.asp>
- Heal, G. (2001). Biodiversity as a commodity. <https://doi.org/10.1016/B978-0-12-384719-5.00219-7>
- Herring, D., Lindsey, R. (2021, September 07). Can we slow or even reverse global warming? <https://www.climate.gov/news-features/climate-qa/can-we-slow-or-even-reverse-global-warming>
- International Human Dimensions Programme on Global Environmental Change. (n.d.). IWP- Inclusive Wealth. http://www.managi-lab.com/iwp/iwp_iw.html
- Infield, M. Mugisha, A. (2010). Integrating Cultural, Spiritual and Ethical Dimensions into Conservation Practice in a Rapidly Changing World. MacArthur Foundation Conservation White Paper Series. https://www.macfound.org/media/files/csd_culture_white_paper.pdf
- IPBES. (2019). Summary for policymakers of the global assessment report on biodiversity and ecosystem services. <https://doi.org/10.5281/zenodo.3553579>
- IPBES. (n.d.). Contrasting approaches to values and valuation. <https://ipbes.net/contrasting-approaches-values-valuation>
- IPBES. (n.d.). Media release: Nature's dangerous decline 'unprecedented'; species extinction rates 'accelerating'. <https://www.ipbes.net/news/Media-Release-Global-Assessment>
- IPCC. (2019). Summary for Policymakers. Special Report on Climate Change and Land. <https://www.ipcc.ch/srccl/chapter/summary-for-policymakers/>
- IUCN. (2021, February). Biodiversity offsets. <https://www.iucn.org/resources/issues-briefs/biodiversity-offsets>
- IUCN. (2021, September 10). Marseille Manifesto. <https://www.iucncongress2020.org/programme/marseille-manifesto>
- James, C., Carver, E. (2019). Banking on Nature 2017: The Economic Contributions of National Wildlife Refuge Recreational Visitation to Local Communities. U.S. Fish and Wildlife Service, Falls Church, Virginia.
- Jones, B. (2021, June 11). Indigenous people are the world's biggest conservationists, but they rarely get credit for it. <https://www.vox.com/22518592/indigenous-people-conserve-nature-icca>
- Jones, B. A., Grace, D., Kock, R., Alonso, S., Rushton, J., Said, M. Y., McKeever, D., Mutua, F., Young, J., McDermott, J. & Pfeifer, D. U. (2013). Zoonosis emergence linked to agricultural intensification and environmental change. *Proceedings of the National Academy of Science*, 110(21), 8399–8404. <http://www.pnas.org/content/110/21/8399.full.pdf>
- Kapoor, A., Debroy, B. (2019, October 04). GDP is not a measure of human well-being. <https://hbr.org/2019/10/gdp-is-not-a-measure-of-human-well-being>

Endnotes

- Kasriel, E. (2020, May 03). Coronavirus lockdown: Can nature help improve our mood?
<https://www.bbc.com/news/health-52479763>
- Kelby. (2021, September 30). Animals of the Ecosystem.
<https://sciencing.com/animals-of-the-ecosystem-12213537.html>
- Kirchner, J. (2017, June 13). Opossums: Unsung Heroes in the Fight Against Ticks and Lyme Disease.
[https://blog.nwf.org/2017/06/opossums-unsung-heroes-in-the-fight-against-ticks-and-lyme-disease/#:~:text=Opossums%2C%20sometimes%20referred%20to%20just,\(also%20known%20as%20carrion\)](https://blog.nwf.org/2017/06/opossums-unsung-heroes-in-the-fight-against-ticks-and-lyme-disease/#:~:text=Opossums%2C%20sometimes%20referred%20to%20just,(also%20known%20as%20carrion))
- Kramer, L. (2021, April 25). What Is GDP and Why Is It So Important to Economists and Investors?
<https://www.investopedia.com/ask/answers/what-is-gdp-why-its-important-to-economists-investors/>
- Lindsey, R., Scott, M. (2010, July 13). What are phytoplankton?
<https://earthobservatory.nasa.gov/features/Phytoplankton#:~:text=Climate%20and%20the%20Carbon%20Cycle&text=Phytoplankton%20are%20responsible%20for%20most,and%20leaves%20of%20a%20tree>
- Louv, R. (2019, October 15). What is Nature-Deficit Disorder?
<http://richardlouv.com/blog/what-is-nature-deficit-disorder/>
- Lush, T. (2020, June 16). Poll: Americans are the unhappiest they've been in 50 years.
<https://apnews.com/article/0f6b9be04fa0d3194401821a72665a50>
- Martín-López, B. (n.d.). Plural valuation of nature matters for environmental sustainability and justice.
<https://royalsociety.org/topics-policy/projects/biodiversity/plural-valuation-of-nature-matters-for-environmental-sustainability-and-justice/>
- Maryland Department of Natural Resources. (n.d.). Maryland's Genuine Progress Indicator.
<https://dnr.maryland.gov/mdgpi/Pages/what-is-the-GPI.aspx>
- Mazur, C., Galush, T., Moore, R. et al. Primary motivations of tourists visiting Galápagos: do tourists visit the archipelago to learn about evolution? *Evolution: Education and Outreach*, 11 (9) (2018).
<https://doi.org/10.1186/s12052-018-0085-7>
- Merrefield, C. (2021, January 11). The stock market is not the economy. Right? Here's what the research says.
<https://journalistsresource.org/home/stock-market-not-economy/>
- Methorst, J., Arbieu, U., Bonn, A., Böhning-Gaese, K., Müller, T. (2020). Non-material contributions of wildlife to human well-being: a systematic review. *Environmental Research Letters*, 15 (9).
<https://doi.org/10.1088/1748-9326/ab9927>
- Monbiot, G. (2014, July 24). Put a price on nature? We must stop this neoliberal road to ruin.
<https://www.theguardian.com/environment/georgemonbiot/2014/jul/24/price-nature-neoliberal-capital-road-ruin>
- Mueller, M. (2020, October 12). What is a Raccoon's Role in the Ecosystem?
<https://www.skedaddlewildlife.com/blog/raccoons-role-in-the-ecosystem/>
- Mukul, S. A., Manzoor Rashid, A. Z. M., Uddin, M. B. (2012, June). The role of spiritual beliefs in conserving wildlife species in religious shrines of Bangladesh. *Biodiversity*, 13 (2):108-114.
<http://dx.doi.org/10.1080/14888386.2012.694596>
- Musikanski, L., Allgood, B., Hofberg, M. et al. Proposing a Community-Based Wildlife Conservation Well-Being Instrument. *International Journal of Community Well-Being*, 4, 91-111.
<https://doi.org/10.1007/s42413-020-00069-4>
- Noga, S. R., Kolawole, O. D., Thakadu, O. T., & Masunga, G. S. (2018). 'Wildlife officials only care about animals': Farmers' perceptions of a ministry-based extension delivery system in mitigating human-wildlife conflicts in the Okavango Delta, Botswana. *Journal of Rural Studies*, 61, 216-226.
<https://doi.org/10.1016/j.jrurstud.2018.06.003>
- Nunes, P. A., Van den Bergh, J. C. (2001). Economic valuation of biodiversity: Sense or nonsense? *Ecological Economics*, 39 (2), 203-222.
[https://doi.org/10.1016/s0921-8009\(01\)00233-6](https://doi.org/10.1016/s0921-8009(01)00233-6)
- Nye, J. V. C. (n.d.). Standards of Living and Modern Economic Growth.
<https://www.econlib.org/library/Enc/StandardsofLivingandModernEconomicGrowth.html>
- Orradóttir, B., Aegisdóttir, H. H. (2015, September 24). Healthy Ecosystems, Healthy Earth, Healthy People.
<https://unu.edu/publications/articles/healthy-ecosystems-earth-people.html>
- Ostrom, E. (1990). *Governing the commons: The evolution of institutions for collective action*. Cambridge University Press.
- OPHI. (n.d.). Bhutan's Gross National Happiness Index.
<https://ophi.org.uk/policy/gross-national-happiness-index/>
- Polasky, S., Bryant, B., Hawthorne, P., Johnson, J., Keeler, B., Pennington, D. (2015). Inclusive Wealth as a Metric of Sustainable Development. *Annual Review of Environment and Resources*, 40(1), 445-466.
<https://doi.org/10.1146/annurev-enviro-101813-013253>
- Reid, A. J., Eckert, L. E., Lane, J., Young, N., Hinch, S. G., Darimont, C. T., Cooke, S. J., Ban, N. C., Marshall, A. (2020). "Two-Eyed Seeing": An Indigenous framework to transform fisheries research and management. *Fish and Fisheries*, 22(2), 243-261.
<https://doi.org/10.1111/faf.12516>

- Reperant, L. A., Osterhaus, A. (2017, August 16). AIDS, Avian flu, SARS, MERS, Ebola, Zika... what next? *Vaccine*, 35(35 Pt A), 4470–4474. <https://doi.org/10.1016/j.vaccine.2017.04.082>
- Ricks, D. (1988, October 09). Fear Takes a Holiday: Animals of Galapagos Islands Appear to Lack That Instinct. <https://www.latimes.com/archives/la-xpm-1988-10-09-mn-5403-story.html>
- Robbins, J. (2018, April 26). Native Knowledge: What Ecologists Are Learning from Indigenous People. <https://e360.yale.edu/features/native-knowledge-what-ecologists-are-learning-from-indigenous-people/>
- Robbins, J. (2020, January 09). Ecopsychology: How Immersion in Nature Benefits Your Health. <https://e360.yale.edu/features/ecopsychology-how-immersion-in-nature-benefits-your-health>
- Roetzel, L.J. (2022, January 16). Five animals and how they fight climate change. <https://www.oneearth.org/five-animals-and-how-they-fight-climate-change/>
- Rothman, L. (2018, February 05). The gilded age and how American Income Inequality changed. <https://time.com/5122375/american-inequality-gilded-age/>
- Ruggeri, K., Garcia-Garzon, E., Maguire, Á. et al. (2020). Well-being is more than happiness and life satisfaction: a multidimensional analysis of 21 countries. *Health and Quality of Life Outcomes*, 18 (192). <https://doi.org/10.1186/s12955-020-01423-y>
- Rylander, J. (1996). Accounting for Nature: A Look at Attempts to Fashion a "Green GDP". *Renewable Resources Journal*, 14 (2), 8-13. https://www.academia.edu/14992069/Accounting_for_Nature_A_Look_at_Attempts_to_Fashion_a_Green_GDP_
- Sandler, R. (2012) Intrinsic Value, Ecology, and Conservation. *Nature Education Knowledge*, 3 (10), 4. <https://www.nature.com/scitable/knowledge/library/intrinsic-value-ecology-and-conservation-25815400/>
- Schröter, M., Başak, E., Christie, M., Church, A., Keune, H., Osipova, E., Oteros-Rozas, E., Sievers-Glotzbach, S., van Oudenhoven, A.P.E., Balvanera, P., González, D., Jacobs, S., Molnár, Z., Pascual, U., Martín-López, B. Indicators for relational values of nature's contributions to good quality of life: the IPBES approach for Europe and Central Asia. *Ecosystems and People*, 16 (1), 50-69. <https://doi.org/10.1080/26395916.2019.1703039>
- Science on a Sphere. (2015, November 12). Ocean-Atmosphere CO2 Exchange. <https://sos.noaa.gov/catalog/datasets/ocean-atmosphere-co2-exchange/#:~:text=to%20Notable%20Features-,When%20carbon%20dioxide%20CO2%20is%20released%20into%20the%20atmosphere,certain%20areas%20of%20the%20ocean>
- SDSN and IEEP (2020). The 2020 Europe Sustainable Development Report: Meeting the Sustainable Development Goals in the face of the COVID-19 pandemic. Sustainable Development Solutions Network and Institute for European Environmental Policy: Paris and Brussels. <https://www.sdgindex.org/reports/europe-sustainable-development-report-2020/>
- Shelley, L. I. (2018). *Dark Commerce: How a new illicit economy is threatening our future*. Princeton University Press.
- Smith, D. W., Peterson, R. O., MacNulty, D. R., Kohl, M. (2016). The Big Scientific Debate: Trophic Cascades. *Yellowstone Science*, 24 (1). <https://www.nps.gov/articles/the-big-scientific-debate-trophic-cascades.htm>
- Smith, J. (2021, May 12). Scientists: Beavers latest tool to emerge in rebuilding drought-stricken streams. <https://www.watereducationcolorado.org/fresh-water-news/scientists-beavers-latest-tool-to-emerge-in-rebuilding-drought-stricken-streams/>
- Sneed, A. (2019, May 29). What Conservation Efforts Can Learn from Indigenous Communities. <https://www.scientificamerican.com/article/what-conservation-efforts-can-learn-from-indigenous-communities/>
- Sorensen, C. (2016, August 16). Is it time to ditch the GDP as a measure of growth? <https://www.macleans.ca/economy/economicanalysis/gdp-what-is-it-good-for/>
- Sterling, E. J., Betley, E., Sigouin, A., Gomez, A., Toomey, A., Cullman, G., Malone, C., Pekar, A., Arengo, F., Blair, M., Filardi, C., Landrigan, K., Porzecanski, A. L. (2017). Assessing the evidence for stakeholder engagement in biodiversity conservation. *Biological Conservation*. 209, 159-171. <https://doi.org/10.1016/j.biocon.2017.02.008>
- Stewart, E. (2021, May 10). Why stocks soared while America struggled. <https://www.vox.com/business-and-finance/22421417/stock-market-pandemic-economy>
- Stiglitz, J. (2020, August 01). GDP Is the Wrong Tool for Measuring What Matters. <https://www.scientificamerican.com/article/gdp-is-the-wrong-tool-for-measuring-what-matters/>
- Summers, J. K., Smith, L. M., Case, J. L., Linthurst, R. A. (2012). A review of the elements of human well-being with an emphasis on the contribution of ecosystem services. *Ambio*. 41(4), 327-340. <https://doi.org/10.1007/s13280-012-0256-7>

Endnotes

- Sumner, R.C., Goodenough, A.E. (2020, February 18).** A walk on the wild side: How interactions with non-companion animals might help reduce human stress. *People and Nature*, 2 (2), 395-405.
<https://doi.org/10.1002/pan3.10074>
- Suttie, J. (2019, June 26).** What we can learn about happiness from Iceland.
https://greatergood.berkeley.edu/article/item/what_we_can_learn_about_happiness_from_iceland
- System of Environmental Economic Accounting. (n.d.).** Ecosystem Accounting.
<https://seea.un.org/ecosystem-accounting>
- Szűcs, E., Geers, R., Jezierski, T., Sossidou, E. N., Broom, D. M. (2012).** Animal Welfare in Different Human Cultures, Traditions and Religious Faiths. *Asian-Australasian Journal of Animal Sciences*, 25 (11), 1499–1506.
<https://doi.org/10.5713/ajas.2012.r.02>
- The Elephant Men. (1997, October 29).** Living Gods.
<https://www.pbs.org/wnet/nature/the-elephant-men-living-gods/2310/>
- The Gaborone Declaration for Sustainability in Africa. (n.d.).** Botswana.
<http://www.gaboronedeclaration.com/botswana#:~:text=Wildlife%20contributes%20approximately%203%25%20to%20Botswana%27s%20GDP>
- The World Bank. (2014, March 03).** Why You Should Care About Wildlife.
<https://www.worldbank.org/en/news/feature/2014/03/03/why-you-should-care-about-wildlife>
- UAE. (2021).** Happiness.
<https://u.ae/en/about-the-uae/the-uae-government/government-of-future/happiness>
- UN Climate Change Conference UK 2021. (2021, October 26).** COP26 goals.
<https://ukcop26.org/cop26-goals/>
- UNEP-WCMC & IDEEA (2017)** Experimental Ecosystem Accounts for Uganda.
https://www.unep-wcmc.org/system/dataset_file_fields/files/000/000/445/original/Ecosystem_Accounting_in_Uganda_Report_FINAL.pdf?1494865089
- UNEP-WCMC and IUCN (2016).** Protected Planet Report 2016.
https://wdpa.s3.amazonaws.com/Protected_Planet_Reports/2445%20Global%20Protected%20Planet%202016_WEB.pdf
- UNEP. (2017, April 26).** Indigenous people and nature: a tradition of conservation.
<https://www.unep.org/news-and-stories/story/indigenous-people-and-nature-tradition-conservation>
- UNEP. (2021).** Making Peace with Nature.
<https://www.unep.org/resources/global-assessments-synthesis-report-path-to-sustainable-future>
- United Nations Summit on Biodiversity. (2020, September 30).** Summary of the President of the General Assembly.
https://www.un.org/pga/75/wp-content/uploads/sites/100/2020/11/final_-Summary-Biodiversity-Summit-4-November-clearedFINAL.pdf
- van Uhm D. P. (2018).** The social construction of the value of wildlife: A green cultural criminological perspective. *Theoretical Criminology*, 22 (3), 384–401.
<https://doi.org/10.1177/1362480618787170>
- Von Schirnding, Y. (2002).** Health in Sustainable Development Planning: The Role of Indicators.
<https://www.who.int/mediacentre/events/IndicatorsChapter2.pdf>
- Wali, A., Alvira, D., Tallman, P. S., Ravikumar, A., Macedo, M. O. (2017).** A new approach to conservation: using community empowerment for sustainable well-being. *Ecology and Society*, 22 (4).
<https://doi.org/10.5751/ES-09598-220406>
- Weir, K. (2020, April 01).** Nurtured by nature. *Monitor on Psychology*, 51 (3). 50.
<https://www.apa.org/monitor/2020/04/nurtured-nature>
- Western, D., Nightingale, D. L. M., Mose, V. N., Sipitiek, J. O., Kimiti, K. S. (2019).** Variability and Change in Maasai Views of Wildlife and the Implications for Conservation. *Human Ecology*, 47 (2), 205–216.
<https://doi.org/10.1007/s10745-019-0065-8>
- Whale and Dolphin Conservation. (2019, May 14).** Climate change is one of the biggest threats facing whales and dolphins today.
<https://us.whales.org/our-4-goals/create-healthy-seas/climate-change/>
- World Economic Forum. (2020, January).** Nature Risk Rising: Why the Crisis Engulfing Nature Matters for Business and the Economy.
https://www3.weforum.org/docs/WEF_New_Nature_Economy_Report_2020.pdf
- WWF. (2018).** Living Planet Report. 2018: Aiming Higher.
https://c402277.ssl.cf1.rackcdn.com/publications/1187/files/original/LPR2018_Full_Report_Spreads.pdf
- Yeo, S. (2021, January 19).** How whales help cool the Earth.
<https://www.bbc.com/future/article/20210119-why-saving-whales-can-help-fight-climate-change>
- Zeitlin, M. (2019, November 15).** Hurricane Katrina inspired a national pet evacuation policy. The plan could save human lives, too.
<https://www.vox.com/the-highlight/2019/11/8/20950253/wild-fires-hurricane-katrina-pet-evacuation>

Board of Directors



Anna Rathmann
Executive Director,
Jane Goodall Institute
Board Chair



Heather Haines
Global Event Manager,
International Fund for
Animal Welfare
Board Vice-chair



Kate Wall
Senior Legislative Manager,
International Fund for
Animal Welfare
Board Secretary



Shawn Sweeney
Associate Vice-President
of Communications,
Jane Goodall Institute
Board Treasurer

One Nature Advisory Council

Whitney Beer-Kerr

Executive Producer, Wild Elements

Jennifer Contegiacomo

Counsel, McDermott Will and Emory LLP

Amielle DeWann

Founding Partner and Head of Consulting,
Impact by Design

John de Graaf

Documentary Filmmaker

Stephanie Markan

Executive Director of Research at Gallup

Nadra Nathai-Gyan

Chair of the Environmental Management
Authority of Trinidad and Tobago

Jose Fernando Ochoa Pineda

Executive Director and Founding Member at Defensa
Ambiental del Noroeste (DAN)

Jason Rylander

Public Interest Lawyer

Claire Sterling

Chief Operating Officer at HEART

Professor Sir Robert T. Watson FRS

Former Chair of the Intergovernmental Panel on
Biodiversity Ecosystem Services (IPBES)



About OneNature

OneNature envisions a world where all people, animals, and the planet thrive in a state of well-being, happiness, and interconnection. We improve human well-being and conservation outcomes by conducting research to demonstrate the value of wildlife conservation to healthy and happy human communities. We use this research to support community led wildlife stewardship and build a movement for transformative change where the true values of wildlife and nature are embedded in our policies and practice.

Find out more at www.onenatureinstitute.org

Authors:

Beth Allgood, Kate Wall, Dehara Weeraman, Taylor Mann, Hannah Paavola, Alison Davis

Content Editor:

Timothy Lundy

Design:

SJV|NY Design, www.sjvnydesign.com

Photography provided by:

Douglas Bolt

Special Thanks to:

Molly MacLaren and Sir Robert Watson