

The frontline of biodiversity conservation

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The wild once occupied an important part of the inside and outside of who we are as a species. The modern world has allowed us to sever much of this dependency, but the planet is now tipping towards environmental meltdown and once again we are forced to consider the importance of the natural world. Finding ways to do an environmental U-turn is no simple ask. One solution may be exotic skins.

Wilderness is the playbook of life on Earth. It provides habitat for countless species of plants and animals and a stage for ecosystem services to perform their life-giving functions. It offers us spiritual solace, fostering a connection with nature that speaks to mind, body and soul. Protecting it ensures the preservation of our natural heritage and highlights its irreplaceable value. Unfortunately, our efforts to conserve wilderness have largely been a flop. Only about 17% of our land and 8% of our oceans are protected¹. If we are to reach the magical 30% required to suspend environmental meltdown, we have to dismantle vast acreages of deep-rooted agricultural systems, and this is not easy.

Our traditional approach to conservation of fortified wildlife reserves and national parks depends heavily on scarce government funds and fickle philanthropy. To protect biodiversity at the scale required, we need a new approach, one that can rival the land use juggernaut of industrial agriculture. In an ideal world, conservation and agriculture need not be mutually exclusive. By tapping the energy fabric of complex natural ecosystems, we could theoretically convert farms into reserves and allow biodiversity to provide for our needs. This is what environmentalists call living within nature rather than apart from it. It's what our ancestors did before the environmental meltdown began.

Facing global challenges

Global challenges are bearing down on the tropics with apocalyptic fury. Population growth, climate change, and poverty are just some of the complex challenges that are converging into a perfect storm affecting millions of people. Reconciling the needs and aspirations of the most vulnerable people on the planet with the virtuous ideals of conservation can sometimes seem like an impossible ask.





Credit: George Stewart / Unplash.com.

The sustainable harvest of reticulated pythons in Indonesia

Reticulated pythons (*Malayopython reticulatus*) – the world's longest snake – are sustainably harvested in Indonesia as a source of food and income. The species is widespread and common throughout much of Southeast Asia. Although their natural habitat is rainforests, they have successfully adapted to agricultural landscapes where they now prey on rodent pests. Exports have exceeded 100,000 individuals per annum for over half a century with no discernible impact on population viability. An estimated 190,000 Indonesians are involved in the trade. Hunters earn on average US\$25-30 per python. In a country where 23 million people live on less than US\$2 per day, this represents an important source of livelihood, particularly in remote and isolated villages.

Aside from basic food and income, the trade has given vulnerable communities the ability to diversify and strengthen livelihood resilience. Since 2017, the Indonesian government, together with industry stakeholders, has implemented a series of initiatives aimed at improving conservation, traceability, transparency, animal welfare and socio-environmental outcomes. The wild-harvest of reticulated pythons is now recognised internationally as an important contributor towards rural economies while helping Indonesia meet its Sustainable Development Goals.

The wildlife economy² is an effective response to this challenge. It is an idea based on benefits derived from the conservation and sustainable use of natural ecosystems. It necessarily encompasses a diverse array of sectors ranging from eco-tourism through to regulated harvests of wildlife. By valuing the multifarious components of biodiversity as economic assets, the wildlife economy not only generates diverse and resilient incomes for local communities but also promotes environmental stewardship and the protection of natural habitats. Wildlife economies are playing an increasingly important role in fostering conservation efforts in the megadiverse tropics where reptiles are most abundant. They underpin a growing number of high-value nature-based products and are the cornerstone of some of the planet's most ambitious rewilding projects. By steadily increasing the number of species and markets involved, they have become more sophisticated over time, and more powerful.

At scale, wildlife economies now offer a meaningful alternative to conventional land use systems. In effect, they are allowing human systems to operate within nature rather than apart from it. ▶

Credit: D. Natusch.



Credit: D Natusch

The sustainable harvest of Nile crocodiles in Zimbabwe

Nile crocodiles (*Crocodylus niloticus*) are sustainably harvested in Zimbabwe for their meat and skins. Crocodiles are common throughout the country with an estimated population of 150,000–300,000 individuals. The species is regarded as one of the most dangerous of all crocodylians, responsible for more fatal attacks on humans than all other African predators combined. Poverty remains a major challenge in Zimbabwe and most of the population still relies heavily on subsistence farming. Crocodiles readily prey on people and their livestock and are considered one of the most controversial of all wildlife species. Crocodile ranching started in the early 1960s as a means of promoting crocodile conservation while supporting the needs of marginalised rural communities. Ranching involves the collection of eggs from the wild to be reared in commercial facilities for their meat and skins.

Over the years, the sector has expanded to support 15,000 livelihoods and generate an annual revenue of US\$30 million. Because crocodile production typically occurs in remote and underdeveloped parts of the country, the industry also helps build much-needed infrastructure, such as roads, schools and clinics. The industry contributes a further US\$700,000 per year towards wildlife conservation in the form of fees for licenses and permits. Strict standards and an international certification scheme govern harvest and production protocols. Today, the Zimbabwean crocodile industry is recognised as an important contributor to the national economy and as an engine for sustainable growth in the wildlife-rich areas surrounding some of Africa's most iconic national parks.



Credit: P Aust

Reptiles are the answer

Reptiles have formed part of the human diet since antiquity. In the tropics, they are as much a part of daily life as sheep or rabbits in Europe. Wherever the climate is tropical, reptiles are considered a source of food, medicine and material. Like fish, many reptiles are ideally suited to sustainable use. Most traded species are common, widespread, and demonstrate a remarkably fast life history, meaning they show a series of ecological attributes that make them resilient to over-harvesting. They are like a terrestrial form of tuna, growing rapidly, producing large clutches of eggs, and living at high densities, even in close proximity to humans³.

Throughout the tropics, pythons, crocodiles, anacondas, alligators and a whole host of lesser-known species are harvested from the wild to supply a growing number of national and international markets. According to a report published in 2024, reptiles are officially the worlds most traded group of animals. An estimated 41 million CITES-listed individuals were traded between 2011 and 2020, about eight times the number of birds and 20 times the number of mammals. These figures may horrify some, but they are also a sign of the extraordinary potential reptiles hold in the context of wildlife economies and biodiversity conservation.

The ease with which reptiles can be sourced, processed, stored and transported lends supply chains to the challenges faced by communities living in remote and biodiverse landscapes. Few other livelihoods can deliver the same socio-economic benefits, with such low environmental impact, to such isolated geographies. The trade provides a source of food, income, and medicine to parts of the world where they are needed most. Hunting reptiles imbues a sense of pride and identity and allows communities to perpetuate the dying art of bushcraft while celebrating unique professional skills and culinary traditions. In some cases, it may even undermine the temptation to poach threatened species like tigers and rhino.

Such success has depended heavily on ethical practices, effective governance and maintaining a balance between economic interests and ecological preservation, and admittedly this has been a challenge in the past. However, these issues are now being systematically and effectively addressed in accordance with the principles of a sophisticated wildlife economy (more about this later in the series). Like all livestock systems, the situation is not perfect. Mistakes are made and animals will always have to die. However, from the social and environmental perspective, and compared to the controversial health and welfare realities of factory farming, the benefits now far outweigh the drawbacks.

The harvest and trade in wild reptiles represents an important contributor to biodiversity conservation and rural development. The use of reptile leathers in luxury fashion is helping to shift views and values to recognise the interconnectedness of our planet. When joining the dots that link reptile leathers to rainforests and indigenous people, catwalks and fashion influencers, it becomes clear that the exotic skin industry is doing more than most to help transform education and promote a more robust understanding of what “the wild” really means for our intermingled futures. |

References

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