

IIED and IUCN-SULi

September 2019



People
Not Poaching



Community-led approaches to tackling illegal wildlife trade

Case studies from Latin America



Acknowledgements

This compilation of case studies has been published in advance of the First Regional Conference on the Illegal Trade in Wildlife in Latin America, to be held in Lima, Peru, on 3 and 4 October 2019. The IUCN CEESP/SSC Sustainable Livelihoods Specialist Group (SULi), with the International Institute for Environment and Development (IIED), and La Fundación para el Desarrollo Agrario of Universidad Nacional Agraria La Molina, will hold a 'Community Voices' workshop immediately prior to the conference to discuss community perspectives from across the region on impacts of illegal wildlife trade on local communities and how best to tackle it. This compilation provides important background to both events. In particular, IUCN-SULi and IIED would like to thank Olivia Wilson-Holt, Francesca Booker and Marina Rosales for sourcing the case studies. Special thanks also go to those individuals and organisations who submitted case studies to us.

Disclaimer

These case studies were initially submitted or sourced for publication on the People Not Poaching learning platform (www.peoplenotpoaching.org). They represent the views of the case study submitters or the views presented in original source material. The material has not been verified by IIED or IUCN-SULi.

More information and contact

Find out more about People Not Poaching: the Communities and illegal wildlife trade Learning Platform at www.peoplenotpoaching.org. It fosters learning and experience-sharing on supporting and engaging communities in initiatives to reduce poaching and illegal wildlife trade. It is a joint project between the IUCN CEESP/SSC Sustainable Use and Livelihoods Specialist Group (SULi), the International Institute for Environment and Development (IIED) and TRAFFIC, the wildlife trade monitoring network.

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International Institute for Environment and Development
80-86 Gray's Inn Road, London WC1X 8NH, UK
Tel: +44 (0)20 3463 7399
Fax: +44 (0)20 3514 9055
www.iied.org

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The scale of illegal wildlife trade (IWT) internationally is a conservation crisis and tackling it is seen as a race against time. As a quarter of the world's land is owned or managed by communities, they must be central to conservation efforts – and community engagement is already internationally recognised as important to the global effort to tackle IWT. But because community engagement strategies are complex and take time to implement, not enough initiatives are being supported.

This compilation of case studies seeks to address this problem. Prepared to coincide with the regional conference on IWT in Peru in October 2019, it showcases a wide range of successful initiatives from Latin America that have engaged communities in tackling IWT in different ways. However, these need to be scaled up and scaled out, learning from experience and adapting approaches to fit specific contexts and to meet specific challenges.

Contents

Acronyms	5
1 Introduction: background to this report	6
2 Case studies	10
Project for the conservation and sustainable use of the yellow anaconda, Argentina	11
Conservation and sustainable use of wild vicuña in Andean communities, Argentina	14
Binational collaboration to eradicate wildlife trafficking, Belize and Guatemala	16
Technology and community-based forest crime prevention in the Brazilian Amazon	19
ASOCAIMAN community association, Colombia	21
Community-based conservation programme for three endangered Amazon River turtle species with Peruvian and Colombian indigenous communities	24
Empowering local communities to help reduce the destruction of coastal marine habitats and species, Costa Rica	27
Community conservation of river turtles in Ecuador	29
Protecting endemic lizards in Guatemala	31
Law enforcement and anti-smuggling conservation actions for endangered wildlife of the dry forests of Guatemala	33
The Hawaii integrated coastal zone management project, Guatemala	36
Sustainable wildlife management in Guyana	38
The arapaima management plan, Guyana	42
Guarding guaras, Honduras	45
Cactus nurseries and conservation, Mexico	46
Community bird monitoring programme, Mexico	48
Yellow-naped parrot conservation in the Ometepe Island Biosphere Reserve, Nicaragua	51
Conserving marine turtles in the eastern Pacific of Nicaragua	54
Sustainable management of the arapaima, Peru	58
Participation of the Lucanas community in the sustainable use of vicuña fibre, Peru	60
Protecting the rainforest and its wildlife through sustainable livelihoods, Suriname	62
Caribbean sharks education programme, Venezuela	64
References	67

Acronyms

ARCAS	Wildlife Rescue and Conservation Association, Guatemala
CBMP	Community bird-monitoring programme
CEW	Community environmental worker
CITES	Convention on International Trade in Endangered Species
CONANP	National Commission of Natural Protected Areas, Mexico
CRBA	Community rights-based approach
DFID	UK Department for International Development
DEFRA	UK Department for Environment, Food and Rural Affairs
EPP	Experimental pilot programme
ETC	Equipo Tora Carey, Costa Rica
FFI	Fauna & Flora International
FPIC	Free, prior and informed consent
FUNDESGUA	Foundation for the Endangered Species of Guatemala
GPS	Global Positioning System
GWCMC	Guyana Wildlife Conservation and Management Commission
HNR	Heloderma Natural Reserve, Guatemala
IBAMA	Brazilian Institute of the Environment and Renewable Natural Resources
IWT	Illegal wildlife trade
IIED	International Institute for Environment and Development
IGOBA	Incidence and Environmental Governance, Mexico
IUCN-SULi	International Union for Conservation of Nature Sustainable Use and Livelihoods Specialist Group
NGOs	Non-governmental organisations
NRDDB	North Rupununi District Development Board, Guyana
OSPPA	Community Organisation of Small-Scale Fishers and Fish Processors, Peru
RBBM	Barranca de Metztitlán Biosphere Reserve, Mexico
SWM	Sustainable Wildlife Management programme, Guyana
WCS	Wildlife Conservation Society

Introduction: background to this report

At numerous international policy forums – from the African Elephant Summit in Botswana, 2013 to the Illegal Wildlife Trade Conference in London, 2018 – governments from a wide range of countries have made commitments to support community engagement as part of their efforts to tackle international illegal wildlife trade (IWT). Community engagement covers a wide range of approaches including, but not limited to:

- Involving communities in law-enforcement efforts, for example as community game guards
- Generating incentives for community-based conservation, for example through tourism
- Involving communities in decision-making on IWT project design and implementation
- Recognising and supporting community rights to manage and benefit from wildlife, and
- Reducing conflict between communities and wildlife to reduce motivation to support poaching.

Table 1 summarises the wide variety of approaches that have been advocated.

Despite the commitments made to community engagement, the major focus of anti-IWT strategies has been on law enforcement, often including military tactics, personnel and equipment (Duffy 2014). For example, analysis by the World Bank shows that US\$1.3 billion donor funding was committed to tackling IWT between 2010 and 2016 (Wright *et al.* 2016). The analysis shows that approximately 46 per cent of the funding was allocated to protected area management to help prevent poaching, and a further 19 per cent went to law enforcement including intelligence-led operations and transnational coordination. Only 15 per cent, by contrast, was allocated to initiatives intended to support sustainable use and alternative livelihoods.

Similarly, an analysis of progress made against government commitments made at international illegal wildlife trade conferences held in London in 2014, Kasane in 2015 and Hanoi in 2016 shows that of the four overarching strategies for tackling IWT (eradicating the market for illegal wildlife products, building effective legal frameworks, strengthening law enforcement and supporting sustainable livelihoods and economic development) least progress had been made against the commitments under the livelihoods

pillar. Indeed, each of the progress reports produced between each conference flagged that this had been an area with poor implementation of commitments made (Roe *et al.* 2019).

One explanation for the lack of attention to community engagement is that the current spate of IWT is viewed as a conservation ‘crisis’ requiring a quick, direct, on the ground response – a race against time (eg Hammer 2014, Vidal 2016). Community engagement strategies, however, take time and are complex. Communities are diverse. Socioeconomic, political, legal and environmental factors influence the nature of their interactions with wildlife and hence different perceptions of and attitudes towards IWT (Biggs *et al.* 2015). There is, therefore, no blueprint approach to community engagement and thus uncertainty on the part of the designers and implementers of initiatives intended to tackle IWT as to how best to proceed.

This compilation of case studies of community engagement seeks to address this problem, by showcasing a wide range of initiatives that have engaged communities in tackling IWT in one way or another. Prepared to coincide with the regional conference on IWT in Peru in October 2019, this publication provides examples of approaches from Latin America. These are drawn from a broader, global database of case studies hosted by the International Institute for Environment and Development (IIED) and the International Union for Conservation of Nature Sustainable Use and Livelihoods Specialist Group (IUCN-SULi).¹

Community-based approaches to tackling illegal wildlife trade are not a silver bullet that will end the current poaching crisis. The sheer scale of the illegal wildlife trade, not to mention the involvement of highly organised and heavily armed criminal gangs points to the need for effective law enforcement on the ground. However, top-down (and particularly militarised) enforcement strategies, unless carefully managed, can produce a range of other (sometimes unanticipated) impacts that can collectively undermine local incentives to protect wildlife (Challender and MacMillan 2014). Community-based interventions can complement formal law-enforcement efforts if local people have a motivation (whether financial or non-financial) to protect wildlife (Cooney *et al.* 2017).

¹ See www.peoplenotpoaching.org.

Table 1. Examples of international commitments to engage communities in tackling illegal wildlife trade²

EVENT/POLICY STATEMENT	COMMITMENTS MADE/RECOGNITION GIVEN
African Elephant Summit (December 2013)	Engage communities living with elephants as active partners in their conservation
London IWT Conference (February 2014)	Increase capacity of local communities to pursue sustainable livelihood opportunities and eradicate poverty Work with, and include local communities in, establishing monitoring and law-enforcement networks in areas surrounding wildlife
Kasane Conference on IWT (March 2015)	Promote the retention of benefits from wildlife resources by local people where they have traditional and/or legal rights over these resources. Strengthen policy and legislative frameworks needed to achieve this, reinforce the voice of local people as key stakeholders and implement measures which balance the need to tackle the illegal wildlife trade with the needs of communities, including the sustainable use of wildlife.
International Conference on Illegal Exploitation and Illicit Trade in Wild Flora and Fauna in Africa, Brazzaville (April 2015)	Recognise the rights and increase the participation of indigenous peoples and local communities in the planning, management and use of wildlife through sustainable use and alternative livelihoods and strengthen their ability to combat wildlife crime.
UN General Assembly Resolution 69/314 on Tackling Illicit Trafficking in Wildlife (July 2015)	Support [...] the development of sustainable and alternative livelihoods for communities affected by illicit trafficking in wildlife and its adverse impacts, with the full engagement of the communities in and adjacent to wildlife habitats as active partners in conservation and sustainable use, enhancing the rights and capacity of the members of such communities to manage and benefit from wildlife and wilderness.
Hanoi Conference on IWT (November 2016)	Recognising the importance of supporting and engaging communities living with wildlife as active partners in conservation, through reducing human-wildlife conflict and supporting community efforts to advance their rights and capacity to manage and benefit from wildlife and their habitats; and developing collaborative models of enforcement. The active participation of local people is critical to effective monitoring and law enforcement as well as sustainable socioeconomic development.
London IWT Conference (October 2018)	It is important to highlight the impact of the illegal wildlife trade on the sustainable livelihoods of communities, and the importance of countries' obligations to uphold agreements made with indigenous and local communities [...] We will work to support sustainable livelihoods which provide an alternative to engagement in the illegal wildlife trade. We recognise the essential engagement role and rights of local communities and indigenous people to ensure a sustainable solution to addressing the illegal wildlife trade. We also recognise the importance of local communities acknowledging the value of protected species and habitats, and the benefit this value can bring.

² Source: Roe and Booker (2019).

The case studies show that there are plenty of examples of successful approaches to engaging communities in tackling illegal wildlife trade. These need to be scaled up and scaled out, learning from experience and adapting approaches to fit specific

contexts and meet specific challenges. But the core principles remain the same: a quarter of the world's land is owned or managed by communities (Garnett *et al.* 2018), and they need to be central not peripheral to conservation efforts.

We are the people who are the most affected by the illegal wildlife trade and can be the most powerful force to address this problem. But this will only happen if communities are empowered and can benefit from wildlife.

Community statement to the London Conference on IWT, 2018.³

³ See IIED *et al.* (2018).

Case studies

Project for the conservation and sustainable use of the yellow anaconda, Argentina

Ministry of Production and the Environment and the Argentina Biodiversity Foundation

Summary

Uncontrolled and unregulated trade in yellow anaconda skins led to declines in numbers of the species. In 2001, a new regulatory and administrative framework was drawn up that focused on an approach based on sustainable development. This provided a promising basis for truly fair management of the species and has led to a massive reduction in poaching and a new conservation ethic among local communities.

COUNTRY	Argentina
LOCATION	The Bañado La Estrella public-access nature reserve, in Formosa province. The project involves Creole communities as well as members of the Pilagá and Qom indigenous peoples living on the edges of the wetlands in the west of the province.
SPECIES AFFECTED	Yellow anaconda (<i>Eunectes notaeus</i>)
PRODUCTS IN TRADE	Skins

The poaching problem

From the mid-1940s to the late 1980s, between 10,000 and 60,000 yellow anaconda skins were exported from Argentina every year primarily to the United States and Europe. The species was usually hunted by local people, who sold the skins very cheaply to estate owners or unofficial dealers. There were no restrictions on the size of snakes hunted, no official hunting season and no regulations aimed at organising or monitoring the hunting of the yellow anaconda.

Finally, in 1986 the national government prohibited the hunting, interprovincial traffic and trade of yellow anacondas within Argentina, leading to a decline in poaching. Since 2001, the species has been managed by a national and regional conservation and sustainable use plan.

The approach

In 2001, a prefeasibility study was carried out in Formosa province with a view to assessing the status of yellow anaconda populations and the traditional methods of stewardship practised by local communities. A project proposal subsequently led to the development of the 'Programme for the Conservation and Sustainable Use of the Yellow Anaconda in Argentina'.

At the same time, the Argentine national government passed regulations providing funding for research into and management of wildlife species. They also regulated the involvement of the private sector in programmes of this kind. With this support, an

experimental pilot programme (EPP) was established with the following aims: to carry out an in-depth study of the reproductive biology and natural history of the yellow anaconda, to establish experimental management rules and control criteria, and to examine ecological and economic aspects of resource exploitation, while at all times taking into account the traditional approach adopted by the local community.

Following the completion of the EPP, an exploitation programme was officially launched. The aim was to organise, regulate and facilitate the commercial exploitation of the yellow anaconda, offering major economic incentives, clear management rules, the commitment of the authorities and a central focus on the socioeconomic development of local communities.

Today, Formosa province is the only administrative territory in Argentina where yellow anaconda hunting is legal and regulated. Local populations who were previously involved in an illegal and unregulated activity with few economic incentives now play an active role in conservation. Over 300 families throughout the Bañado La Estrella Nature Reserve are now obtaining improved, legal incomes. At the same time, the programme is contributing to the conservation of the environment and of other wetland species.

From the onset, local communities have been encouraged to work alongside the Argentina Biodiversity Foundation researchers and staff to directly provide information about the species and their traditional stewardship techniques. Prior to the start of each hunting season, meetings are held with hunter

groups, who are encouraged to voice their views and make suggestions. Similarly, at the end of each hunting season, every hunter is asked to take part in a survey, in order to record their opinion on the implementation of the programme. The purpose of these meetings is to strengthen community ownership and stewardship.

The programme has indirectly enabled the implementation of other parallel projects linked to ecotourism, environmental education and the exploitation of natural resources. A number of NGOs, as well as companies involved with tourism and nature photography, have worked jointly with the Argentina Biodiversity Foundation in the area, contributing directly or indirectly to a range of activities.

The strategy

- Strengthening disincentives for illegal behaviour
 - Raising community awareness about wildlife crime penalties and sanctions
 - Strengthening and supporting traditional norms and sanctions against IWT
- Increasing incentives for wildlife stewardship
 - Tourism
 - Subsistence resource access/use
 - Legal trade
 - Policy/regulatory change to enable communities to benefit (national/international)
- Increasing livelihoods that are not related to wildlife
 - (Non-wildlife-based) enterprise development/support
 - Provision of community-level benefits
- Building and/or supporting a sense of community ownership or stewardship
- Improving education and awareness

What has worked and why?

Poaching of this species has declined drastically and now virtually ceases to exist in Argentina. Local people receive clearly regulated economic incentives that reflect the effort involved in hunting. The hunting season coincides with a period of the year in which little other temporary employment is available for local people.



Natural habitat, Bañado La Estrella, Formosa, Argentina.
Credit: Mariano Barros.

Strict controls by the provincial authorities have turned poaching into a high-risk activity, while local dealers have discouraged fraud. The value of anaconda skins in the legal supply chain is several times higher than in the former illegal chain, meaning hunters prefer to market their skins through the programme. An additional advantage is that hunters now need fewer skins to meet their economic needs, exerting less pressure on the species.

The programme has raised local awareness of the issues of conservation, illegal trafficking and sustainable exploitation. As a result, local people have taken ownership of the programme and now realise that sustainable exploitation of resources also ensures the protection of other species sharing the same ecosystem. This enhanced awareness has spread to other species traditionally exploited in the Bañado La Estrella reserve.

The yellow anaconda remains common throughout its range, indicating that the hunting season is ecologically and biologically appropriate. The environment in general has benefitted considerably and in 2019 the Bañado La Estrella reserve was officially declared one of the Seven Natural Wonders of Argentina.



Bañado La Estrella, Formosa, Argentina.

Credit: Mariano Barros.

Factors for success

- Supportive national policy/legislation on sustainable use of natural resources
- Transparent and accountable distribution of benefits to local communities
- Clear and tangible benefits to local communities from wildlife (financial and/or non-financial)

The joint efforts of provincial and national organisations together with private-sector bodies involved gave rise to an efficient regulatory and administrative framework, which enabled local people to optimise benefits, while ensuring the sustainability of legal hunting.

Working and interacting with local people, as well as involving them in research and in project decision-making processes, was an essential step in gaining their confidence and in enabling local communities to value and assume ownership of the programme. Working with indigenous community leaders or with their designated representatives made it easier to reach agreement on shared activities, to ensure appropriate knowledge transfer within the community and to settle conflicts.

Challenges

In some years, hunters suffered from a delay in the official announcement of the hunting season by the provincial authorities, leading to a drop in the number of skins obtained. Shrinkage of the capture areas owing to environmental factors also influenced the final number of skins obtained. Where prices proved unattractive to hunters, the number of participants in the project reduced, which again prompted a drop in the number of skins legally obtained.

It has proved impossible to build multistakeholder external partnerships in support of the programme, perhaps because insufficient time has been invested by the various parties. Failure to build such partnerships may also be due to the fact that local associations are solely interested in livestock raising, and therefore have no interest in becoming involved with non-traditional pursuits. Also, as a result of local cultural traditions, it is difficult to bring certain indigenous groups together to form associations to focus on issues in which they are not directly involved.

Weblink

www.peoplenotpoaching.org/project-conservation-and-sustainable-use-yellow-anaconda

With thanks to Mariano Barros of the Programme for the Conservation and Sustainable Use of the Yellow Anaconda in Argentina, and Obdulio Menghi of the Argentina Biodiversity Foundation for submitting this case study.

Conservation and sustainable use of wild vicuña in Andean communities, Argentina

Ministry of the Environment, Jujuy province

Summary

The vicuña is a very valuable natural resource for the people who live in the Andean communities of Jujuy province, Argentina. A government-implemented sustainable management plan has supported local communities to catch, shear and set free vicuñas so that they may generate an income from the sale of vicuña fibre. The project has reduced hunting, which is prohibited throughout the vicuña's range, and improved livelihoods for the communities involved.

COUNTRY	Argentina
LOCATION	Andean communities of Jujuy province
SPECIES AFFECTED	Vicuña (<i>Vicugna vicugna</i>)
PRODUCTS IN TRADE	Vicuña fibre

The poaching problem

Illegal hunting has been identified throughout the province, carried out by both local community members (who are not involved in the project) and those from neighbouring countries.

The approach

Since 2013, the Secretariat of Biodiversity from the Ministry of the Environment in Jujuy province, alongside the Family Farming Secretariat and the National Institute of Agricultural Technology, have implemented the Provincial Plan for the Conservation and Sustainable Management of Wild Vicuña. This has involved working with indigenous communities in Jujuy to prepare local management plans for the vicuña.

The aim is to ensure the sustainability of the vicuña for economic development by supporting communities in the *chaccus* (the process of catching vicuñas, shearing them and then setting them free), in the hope that they will soon cease to depend on government assistance. The implementation of the *chaccus* of vicuña is carried out in communities who have requested assistance, and where illegal hunting has been detected.

Vicuña fibre fetches between US\$350–450 per kilogramme on the international market, representing significant income for local communities. To ensure that vicuñas are not illegally hunted, control measures have been strengthened and a system developed that allows the wool to be traced. As well as training on the *chaccus* of vicuñas, workshops have been carried out to inform communities on how to report incidents of illegal hunting.

The strategy

- Strengthening disincentives for illegal behaviour
 - Raising community awareness about wildlife crime penalties and sanctions
 - Strengthening and supporting traditional norms and sanctions against IWT
- Increasing incentives for wildlife stewardship
 - Tourism
 - Subsistence resource access/use
 - Legal trade
 - Policy/regulatory change to enable communities to benefit (national/international)
- Decreasing the costs of living with wildlife
 - Physical separation of people/livestock and wildlife
- Building and/or supporting a sense of community ownership or stewardship
- Improving education and awareness

What has worked and why?

The project has strengthened the sense of unity between communities and empowered them to take responsibility for the vicuña, resulting in a considerable reduction in incidents of illegal hunting. Training workshops have prompted communities to play a leading role in patrolling their territories. The

number of *chaccus* have increased each year and the communities have started to implement land-use plans, leaving some areas unfenced for the vicuña. These areas often coincide with sites of high ecological interest and illustrate that the communities understand the importance of conservation.

The success of the project has led to the introduction of handicraft production. Communities are trained in crafting products from vicuña fibre and it is hoped that a market can be established in Buenos Aires to generate further income.

Factors for success

- Supportive, multistakeholder partnerships with a shared vision
- Sufficient time investment in building relationships and trust between the project and local communities

The range of different professionals working at each institution involved in the project has allowed appropriate support to individual communities.



Making plans. Credit: José Manuel Segovia.



Shearing the vicuna. Credit: José Manuel Segovia.

Challenges

A challenge has been not spending enough time working with and teaching the communities to understand that the *chaccus* is only part of the process towards conservation and sustainable use of the vicuña. The limited time spent with one community resulted in a lack of understanding on the difference between domestic and wild animals, resulting in a number of vicuña deaths. Monitoring each community properly with sufficient field staff is therefore very important.

Not having long-term donor support means there are limited technical field staff and so the project cannot expand to work with new communities.

Weblink

www.peoplenotpoaching.org/conservation-and-sustainable-use-wild-vicuna-andean-communities

With thanks to José Manuel Segovia from the Ministry of the Environment for submitting this case study.



Monitoring and surveillance. Credit: José Manuel Segovia.

Binational collaboration to eradicate wildlife trafficking, Belize and Guatemala

Wildlife Conservation Society (WCS)

Summary

This project was developed to eradicate the flow of scarlet macaws from Belize to Guatemala, through a partnership between governmental and civil society institutions in both countries. The project engaged a multi-faceted, integrated approach including law enforcement, field protection, community engagement and education to reduce the threats to macaws, capture and prosecute traffickers, and develop a foundation for continued engagement in the future.

COUNTRIES	Belize, Guatemala
LOCATION	The initiative is located within the Belize–Guatemala Adjacency Zone and covers an area of 1,236 km ² . Protected areas include Chiquibul National Park (CNP) in Belize and Montañas Mayas-Chiquibul Biosphere Reserve (MBR), in northern Guatemala.
SPECIES AFFECTED	Scarlet macaw (<i>Ara macao</i>)
PRODUCTS IN TRADE	The initiative primarily focuses on illegal trade of the scarlet macaw, which is in high demand to supply the national, and increasingly international, pet market

The poaching problem

The area is a hotspot for poaching, with the North Central American scarlet macaw subspecies population reduced to less than 1,000 individuals. Of these, around 300 individuals occur within the Maya Biosphere Reserve of Guatemala, and as few as 200 are found in Belize.

The population has been reduced largely due to demand for the illegal pet trade. Smuggled macaws that originate from both Guatemala and Belize are worth on average US\$300–600 per individual at local community level. The community members who are involved in poaching scarlet macaws are typically engaged by second-tier contacts who commercialise the species for profit.

Most local people get involved in poaching due to a lack of alternative income and the extremely low risk of enforcement in remote frontier areas. Given the cultural legacy of raising wild pets in households, most pet poaching continues to be destined for national elite pet markets, but project personnel also suspect some exportation for larger international markets.

In addition to macaws, high-value timber species, such as mahogany, rosewood or cocobolo are also illegally harvested to supply primarily Asian timber markets. Organised gangs (including Chinese timber cartels) provide seed capital and support local people

to extract timber from protected areas and private property, while also paying bribes to police, relevant national authorities and customs officials to move large shipments of timber across the country for eventual exportation from major ports. The jaguar is also considered to be at high risk of poaching, though less information is available about the extent of trafficking of this species in the area.

The approach

This initiative was funded by the UK's Department for International Development/Department for Environment, Food and Rural Affairs (DFID/DEFRA) IWT Challenge Fund: a three-year project that aimed to improve government capacity and collaboration in Belize and Guatemala to eradicate cross-frontier wildlife trafficking in the Chiquibul–Maya Mountains ecoregion, by:

- Improving enforcement to detect and arrest poachers in Belize
- Improving intelligence and prosecution of wildlife traffickers detected in Guatemala
- Improving cross-border and cross-sector coordination on wildlife trafficking
- Improving livelihoods alternatives for men and women in rural communities along wildlife trafficking routes in the Guatemalan Adjacency Zone, and

- Increasing awareness in rural Guatemalan communities adjacent to Belize and among authorities in Guatemala City about the impacts of wildlife trafficking on endangered species such as the scarlet macaw.

The ultimate goal was to recover macaw populations.

Local communities, including women, were involved in the design and development of the alternative-livelihoods initiative, through consultations seeking to identify preferred types of economic investments. However, they were not consulted during project design, nor on how to best halt trafficking of macaws across the border. This was because there was no working relationship with most of the target communities at the beginning of the project, and in fact, many were highly opposed to the presence of NGOs when the project began. Also, the state retains all formal decision-making in this area, which limits community decision-making. Now that access to the area is viable and relationships have been established, it is entirely possible that a more inclusive approach may yield equal or perhaps even more impactful results than those obtained in the original project.

In Guatemala, to avoid elite capture of the economic benefits of the project – and to maximise participation and transparency – project partners worked through local community development councils, the formal community-level institution recognised by municipal governments. These councils include the local mayor and 12 other community members including women.

The strategy

- Strengthening disincentives for illegal behaviour
 - Raising community awareness about wildlife crime penalties and sanctions
- Increasing incentives for wildlife stewardship
 - (Non-wildlife-based) enterprise development/support
 - Provision of community-level benefits
- Build/and or support sense of community ownership or stewardship
- Improving education and awareness



Northern Central America scarlet macaw in a nesting cavity in Laguna del Tigre National Park, Guatemala. Credit: Roan Balas McNab/WCS Guatemala.

What has worked and why?

There has been a significant reduction in poaching of the scarlet macaw population in Belize, with a third consecutive year at zero poaching in 2017 for monitored nests. In 2018, two poachers were caught and the chicks returned to the wild. However, there have been reports of macaws for sale in Guatemalan markets, indicating that poachers might be targeting nests that are not currently monitored, and in 2017 poachers were caught with five macaws from three different nests.

The initiative had a considerably positive impact on rural development in the highly impoverished communities of the Belize–Guatemala Adjacency Zone. Eighty per cent of surveyed beneficiary households improved their income, based on reported increases in access to goods and services considered as basic necessities.

In 2017, following the culmination of the programme, rangers succeeded in capturing two Guatemalan poachers who were subsequently arrested and charged by the Belizean authorities. Four wildlife trafficking cases were brought to court during the project, leading to the successful prosecution of five individuals in Guatemala.

The initiative made great efforts to support the involvement of women, who made up 42 per cent of alternative livelihood beneficiaries. In addition, 20 women started managing agroforestry plots and 122 women became members of women's groups managing community bakery and hen farm microenterprises. Investing in and supporting basic education provided new opportunities for young people, reducing their dependence on natural resources in the future.



Breeding pair of scarlet macaws resting near their nesting site, Laguna del Tigre National Park, Guatemala.

Credit: Roan Balas McNab/WCS Guatemala.

Factors for success

- Supportive, multistakeholder partnerships with a shared vision
- Devolved decision-making power so local communities have a voice in creating or co-creating solutions (as part of the initiative)

Challenges

With three years of support from the UK DFID/DEFRA IWT Challenge Fund, the project was able to begin to demonstrate impact. However, for true transformation to occur support will be required over a decade or more. WCS currently lack funding to continue the initiative although some low-cost and/or basic activities continue to be implemented by project partners and WCS to sustain some key aspects of the approach.

Limited formal, high-level governmental collaboration reduced the degree to which this initiative was able to build bridges for more effective interventions spanning national frontiers.

Weblink

www.peoplenotpoaching.org/bi-national-collaboration-eradicate-wildlife-trafficking-belize-and-guatemala

With thanks to Roan McNab from the Wildlife Conservation Society for submitting this case study.

Technology and community-based forest crime prevention in the Brazilian Amazon

Forest Forces

Summary

Brazil is facing the joint problem of deforestation combined with threatening activities – and even murder – targeted at those resisting illegal logging. With the aid of technology, this initiative exemplifies how local forest protection, even in remote areas without electricity and telephones, can be carried out effectively and inexpensively by supporting communities with access to trusted law-enforcement actors.

COUNTRY	Brazil
LOCATION	The Brazilian Amazon
SPECIES AFFECTED	Timber
PRODUCTS IN TRADE	High-value timber species such as the Brazilian walnut (<i>Ocotea porosa</i>) are commonly exported and used for a number of purposes

The poaching problem

Globally, Brazil experiences the greatest rate of deforestation, losing 4.5 million hectares of forest in 2017 alone. Brazil also suffers from a high number of land and environmental-defender murders. A significant proportion of these crimes are committed in the Brazilian Amazon, where gunmen threaten and kill those resisting illegal logging. Illegal logging is usually carried out by organised criminal groups, who trespass on indigenous territories to harvest large, high-value timber trees such as the Brazilian walnut which are then exported to international markets.

Brazil's forest protection system uses a sophisticated rapid-response satellite system that can automatically detect and locate large-scale deforestation. Unfortunately, perpetrators adapted to the system by shifting to small-scale deforestation, acting during the night and more frequently during the rainy season, when clouds block the view of the main satellites.

The approach

While international agreements and regulations exist to stop deforestation in the Amazon, the reality on the ground is that illegal logging continues. In 2014, to compensate for the lack of local forest monitoring, Forest Forces set up a Global Positioning System (GPS) forest community-watch project. This pilot project aimed to test whether remote forest communities could take GPS-referenced pictures of illegal forest activities and pass them onto law enforcement and justice actors located in a distant town.

The project started by distributing some waterproof GPS cameras among forest communities, including indigenous people, that live near deforestation hotspots. Those who did not have access to electricity and mobile phone networks were given power banks and portable solar chargers. GPS pictures of illegal logging and deforestation allowed local people to collect information without fear of reprisal by the illegal loggers. Photographic evidence was then passed onto local law enforcement agencies, who welcomed the possibility of receiving and using these pictures as proof to take appropriate action.

The strategy

- Strengthening disincentives for illegal behaviour
 - Non-monetary, in-kind incentives for community intelligence
 - Strengthening and supporting traditional norms and sanctions against IWT

What has worked and why?

The project had a positive impact on several of the involved communities and their territories, with success dependent on the level of community organisation and leadership. For example, a GPS camera allowed one indigenous surveillance team to collect evidence of illegal activities within their territory. Photographic evidence with GPS coordinates was sent to the



Brazilian walnut. Credit: Mauro Halpern, Flickr (CC BY 2.0).

Brazilian Institute of the Environment and Renewable Natural Resources (IBAMA). The pictures showed stocks of logs and buildings of timber companies. IBAMA's satellite system confirmed the location of the pictures, leading to helicopter surveillance the same day. As a result, eight logging concessions were cancelled and several timber companies were expelled.

Factors for success

- Supportive, multistakeholder partnerships with a shared vision
- Effective and trusted community leaders

Challenges

The project was dependent on cooperation, support and trust from law-enforcement agents.

Weblink

www.peoplenotpoaching.org/forest-forces-technology-and-community-based-forest-crime-prevention-brazilian-amazon

Case study sourced online from www.forestforces.org and www.illegalwildlifetrade.net/2018/11/22/gps-supported-community-based-forest-crime-prevention-in-the-brazilian-amazon in January 2019.

ASOCAIMAN community association, Colombia

ASOCAIMAN

Summary

ASOCAIMAN (Association for the Conservation of the Crocodiles of the Bay of Cispatá) operates as a community-led cooperative to protect the American crocodile in Cispatá Bay, Colombia. It runs as a conservation strategy based on meeting the development needs of the local population, and aims to improve the lives of local people by offering an alternative livelihood and greater capacity to generate income through the legal and sustainable use of the crocodile.

COUNTRY	Colombia
LOCATION	Bay of Cispatá
SPECIES AFFECTED	American crocodile (<i>Crocodylus acutus</i>)
PRODUCTS IN TRADE	Skins which are highly valued by the luxury clothing and apparel industry. The meat and eggs are used for food, fat is used for medicinal purposes and teeth and bones are used for ceremonies in witchcraft and shamanism.

The poaching problem

Across its range, the American crocodile has suffered from intense hunting due to demand for its skin and meat. In Colombia, a prolonged period of heavy trade in skins (beginning in 1928) was particularly severe on the population. Consequently, the crocodile was almost completely eliminated from its natural habitat, which was, and continues to be, degraded and destroyed by significant coastal development, making natural recovery of the species difficult.

In an effort to protect the species, the crocodile was listed on CITES Appendix I, with the government of Colombia banning hunting of the species. However, despite these measures, illegal trade of live crocodiles and eggs continued in the Bay of Cispatá.

San Antero is a typical village in the bay, where local people rely to a large extent upon natural resources. However, overexploitation and subsequent depletion of the local environment has impacted upon the quality of life of local people, as well as further endangering the crocodile.

Most poachers are local people, and although Cispatá Bay is a protected area there has been a prevailing culture where wildlife crime is not treated as serious, with little law enforcement or protection of crocodiles.

The approach

In 2003, as part of a wider management plan for the area's mangroves, a group of 15 ex-hunters became active participants in a programme for the management of the crocodile, which included research, monitoring, management and environmental education activities directed towards the recovery and conservation of the species. In 2006, this community group formed ASOCAIMAN. ASOCAIMAN seeks to consolidate, build and sustain the crocodile management programme.

Support for community development and empowerment lies at the heart of the initiative. It aims to build the capacity of local people to manage and benefit from wildlife. This started with training for former crocodile hunters so that they could instead become skilled managers of the crocodile and effective conservationists. The training programme was further extended with help from the National Learning Service to include ecotourism training.

The conservation strategy was based on scientific research, education and ancestral knowledge. Management has been adaptive and representative of over 20 years of increasing knowledge and experience of local communities. Working closely with Colombia's environment authority from the outset, the programme has developed a standard methodology for crocodile research and management which covers

the following: census and monitoring of wildlife populations, habitat management, egg harvesting, artificial incubation and raising and re-release of juveniles into the wild. Community members receive an incentive for participating in scientific research and monitoring activities

Based on the success of the initiative in improving the conservation status of the crocodile in the bay, in 2016 CITES agreed to move the local population of crocodiles from CITES Appendix I to Appendix II.

Ultimately, the sustainable use of the crocodile will generate social, economic and ecological benefits for local communities through participation in legal international trade in crocodilian skins and ecotourism. However, as yet this is not fully realised. Although the Ministry of Environment lifted the ban on hunting crocodiles in Cispata Bay in December 2018, the regional authority has still not made progress in adopting the species management plan. This has led to delays in sustainable use activities for local communities. The regional authority is however expected to commit to the initiative and its ongoing management.

Continued local engagement is largely motivated by the prospects of a legal crocodile industry and the ability to sell a controlled number of skins and meat both locally and internationally.

The strategy

- Increasing incentives for wildlife stewardship
 - Tourism
 - Legal trade
 - Policy/regulatory change to enable communities to benefit
 - Other
- Building/and or supporting a sense of community ownership or stewardship

What has worked and why?

The conservation and monitoring actions implemented by the local community led to the recovery of the bay's population of American crocodiles. The abundance of the crocodiles has increased steadily with all size classes represented in natural proportions, reducing pressure on the species and making it possible to sustainably use and manage the population. Overall, there has been a 200 per cent increase in the population in the Bay of Cispata. In addition, 9,000 crocodiles have been released into the wild.



Collecting eggs from a raised platform. Credit: ASOCAIMAN.

The number of animals that could be sustainably harvested each year is currently in the range of 1,000–1,500 animals. This is enough to develop a local industry based on legal trade in crocodile skins, while contributing to the conservation of the species. This will eventually contribute to improving the lives of people from local communities by the creation of an alternative and sustainable livelihood, which is key to maintaining the enthusiasm and engagement in the programme.

The programme has provided one of the highest levels of stewardship to a crocodilian population in the country. It is owned by local people, has improved their livelihoods, and they are now arguably the most skilled managers of wild crocodile populations in the country.

Many former hunters are now strong advocates for the conservation and sustainable use of the crocodile and no longer engage in illegal hunting. As a result, incidents of poaching have decreased. In addition, ex-hunters now earn income from tourist activities.

Factors for success

- Supportive national policy/legislation for devolved governance of natural resources
- Coordinated and coherent sectoral policies/legislation (for example, land-use planning, agricultural planning etc)
- Supportive, multistakeholder partnerships with a shared vision
- Sufficient time investment in building relationships and trust between the initiative and local communities
- Clear and tangible benefits to local communities from wildlife (these may be financial and/or non-financial)

The inclusion of ex-hunters proved to be critical for the recovery of the population, as no one else had the level of local knowledge that they had about the crocodile and its ecology. If the crocodile poachers of the bay had not assumed responsibility for recovering the species, it is considered highly likely that this population would have continued to decline.

Challenges

The prevailing government policy and the legislative framework limit the benefits to local communities from the scheme. The low technical capacity of national and local environmental authorities to undertake practical management actions to restore crocodile populations, as well as their poor ability and reluctance to recognise and validate the knowledge of communities, has been a challenge.

Although the Ministry of Environment lifted the hunting ban to exclude the population of crocodiles in the Bay of Cispatá, the regional authority has not yet advanced the adoption of the management plan. This has prevented the sustainable use of the species by the community and highlighted the weakness of institutional management between national and regional levels.

Weblink

www.peoplenotpoaching.org/asocaiman-community-association

With thanks to Clara Lucia Sierra Diaz and Giovanni A. Ulloa Delgado from the Mangrove Conservation Project, Colombia for submitting this case study.

Community-based conservation programme for three endangered Amazon River turtle species with Peruvian and Colombian indigenous communities

Biodiversa Foundation Colombia

Summary

Since 2008, the programme has been supporting local conservation groups in indigenous communities of Colombia and Peru in the conservation of three endangered Amazon River turtle species. The programme focuses on training and empowerment for conservation, environmental education and awareness raising in the communities in the area, especially children, as well as the generation of economic alternatives based on conservation and sustainable use of natural resources.

COUNTRY	Colombia, Peru
LOCATION	The Amazon River along the Colombian–Peruvian border, near the Corea Island, in the buffer area of the Amacayacu National Park
SPECIES AFFECTED	Six-tubercled Amazon River turtle (<i>Podocnemis sextuberculata</i>), South American river turtle (<i>Podocnemis expansa</i>), yellow-spotted river turtle (<i>Podocnemis unifilis</i>)
PRODUCTS IN TRADE	Meat, particularly of nesting females, and eggs

The poaching problem

In proximity to the major ports of the Amazon, indigenous communities are subject to high economic dependence based on exploitative commercial practices. This has led to the overexploitation of natural resources with many populations of wild plants and animals driven towards extinction. As a result, three species of turtles found in the Amazon River are currently on the IUCN Red List of Threatened Species (IUCN). Local inhabitants are well aware of the times and nesting places of the river turtles, taking advantage of this to poach the nesting mothers and the nests primarily for commercial trade at the main ports, although sometimes for self-consumption.

The approach

The programme was initiated after the Curuinsi Huasi indigenous association, concerned about the rapid decline of the turtle population, contacted the Biodiversa Foundation Colombia to propose patrols on community conservation beaches to protect the turtles. In 2018, the programme had already involved five communities from both Peru and Colombia with 90 turtle guardians. It is expected this will expand to six communities and about 100 guardians this year.

The development of the programme was organised to a large extent by local conservation groups. Using their traditional knowledge, the guardians protect the main nesting beaches in the area. At the same time, they raise awareness in neighbouring communities, particularly among children, about the importance of preserving natural resources and the environment as their own natural and cultural heritage.

During the first year of participation the local conservation groups received collective incentives, generally a motor for mobility for the following season. During the second year, they received an individual and collective symbolic incentive and in the third year (since they now have a greater responsibility to train new members and record data) they have received individual incentives.

Tourism also helps to protect the species by providing additional income for the programme. Through continuous monitoring and protection of the turtles, it is hoped that community management guidelines can be established that will allow the sustainable use of the eggs for subsistence without affecting the turtle populations. Finally, it is hoped that the sustainable use and fair trade of acai⁴ will lead to sustainability of the programme and improve the income of local communities through self-generated funds.

⁴The acai palm is mainly cultivated for its berries.



Guardians in a conservation beach with yellow-spotted turtle mother after nesting. Credit: FBC.

The strategy

- Strengthening disincentives for illegal behaviour
 - Paid-in-money community scouts
 - Performance-based payments/incentives for patrolling or guarding
 - Unpaid (voluntary) community scouts
 - Paid-in-kind community scouts
 - Raising community awareness about wildlife crime penalties and sanctions
 - Strengthening and supporting traditional norms and sanctions against IWT
- Increasing incentives for wildlife stewardship
 - Tourism
 - Subsistence resource access/use
 - Lease payments
 - Policy/regulatory change to enable communities to benefit
 - Other
- Increasing livelihoods that are not related to wildlife
 - Provision of community-level benefits
- Building/and or supporting a sense of community ownership or stewardship
- Improving education and awareness

What has worked and why?

From 2008 to 2018, the programme protected nearly 540 mothers, 470 nests and more than 12,000 hatchlings of the three species. Turtle conservation has not only provided an economic alternative to poaching for the communities, but also a means of empowering them as fundamental actors in conservation.

This is one of the most continuous turtle conservation programmes in the Colombian Amazon and the only current one that includes the six-tubercled river turtle. During the last three years, neither a nest nor a mother has been lost from the conservation beaches, with each season exceeding historical records in terms of protected nests, mothers and hatchlings.

The level of awareness of neighbouring communities has also increased so that currently only the guardians visit conservation beaches at night. This represents the respect and recognition that the guardians' work has gained among the communities in the area. This programme emphasised the importance of:

- Designing conservation programmes based on the needs of communities
- Involving traditional knowledge and highlighting the cultural link of the species in conservation and environmental education programmes
- Generating community empowerment and economic alternatives
- The need for continuity in conservation processes and to seek self-sustainability
- Involving different groups (women, adults, youth, children) in conservation programmes to maximise their effectiveness, and
- The need to create alignment between the communities of both countries for the conservation of common border resources.

Factors for success

- Sufficient time investment in building relationships and trust between the initiative and local communities
- Devolved decision-making power so local communities have a voice in creating or co-creating solutions (as part of the initiative)
- Clear and tangible benefits to local communities from wildlife (these may be financial and/or non-financial)



Local children symbolically adopt a hatchling. Credit: FBC.

Building trust was fundamental in reducing the stigma attached to short-term projects that lack continuity. Trust was built through transparent, concerted and tangible management of the benefits of the programme. Overall, success was achieved by giving power to communities in decision-making and the design of activities, as this ensured their participation.

Challenges

The first year of the programme involved non-local volunteers, which ended up being counterproductive. It was decided that it was much better to involve external parties only after generating local support.

Several economic alternatives to poaching were tested, for example the trade of handicrafts and ethno-

tourism. However, these initiatives, although based on local proposals, did not generate enough direct benefits to make them sustainable. It was also difficult to maintain consistent and long-term funding, due in part to a lack of coordinated and coherent national policies to support sustainable use of natural resources by communities.

Weblink

www.peoplenotpoaching.org/community-based-conservation-program-three-endangered-amazon-river-turtle-species-peruvian-and

With thanks to Fernando Arbelaez of the Biodiversa Foundation Colombia, for submitting this case study.

Empowering local communities to help reduce the destruction of coastal marine habitats and species, Costa Rica

Equipo Tora Carey

Summary

Equipo Tora Carey (ETC) is an NGO working in Costa Rica to mobilise and empower local communities to help reduce the destruction of coastal marine habitats and species. ETC uses a combination of science, education and conservation to work with and raise awareness among local communities about threats to key species such as turtles, sharks and parrots. Their approach has involved the development of a sustainable tourism operation with local employment, beach patrols, marine science research and education.

COUNTRY	Costa Rica
LOCATION	El Jobo, a small community made up of mainly subsistence fishermen in northwest Costa Rica
SPECIES AFFECTED	Hawksbill sea turtle (<i>Eretmochelys imbricate</i>), olive ridley turtle (<i>Lepidochelys olivacea</i>) and yellow-naped Amazon parrot (<i>Amazona auropalliata</i>)
PRODUCTS IN TRADE	The hawksbill sea turtle is commercially exploited for its shell as well as other products, including leather, oil, perfume and cosmetics. All turtle eggs are vulnerable to poaching for consumption. The yellow-naped Amazon parrot is threatened by illegal chick extraction for the pet trade.

The poaching problem

Turtle eggs and parrot chicks are often poached by local residents in return for cash.

The approach

ECT have implemented a multi-faceted programme to ensure the protection of sea turtle and parrot populations against the effects of IWT.

Patrolling

Fishermen patrol the beaches to ensure that turtle nests remain unharmed, which deters poachers from stealing eggs. Once eggs have been laid, they are moved to safe sites where it is difficult for poachers to find them. Patrollers play an invaluable role and are incentivised through financial rewards from local businesses. In addition, a large local hotel pays the wages of two ECT patrollers to avoid any hatchlings accidentally crawling into their swimming pool. Volunteers also patrol the yellow-naped parrot habitat and perform bird counts in order to educate and raise awareness in local communities.

Education

ETC runs a children's club known as Environmental Protectors to educate children on matters related to the conservation of coastal marine resources, sustainable practices and other similar topics.

The strategy

- Strengthening disincentives for illegal behaviour
 - Paid-in-money community scouts
 - Unpaid (voluntary) community scouts
- Increasing incentives for wildlife stewardship
 - Tourism
- Improving education and awareness

What has worked and why?

The parrot-protection patrols have been particularly successful, with some years recording no poaching incidents. Similarly, efforts from the beach patrollers has greatly reduced the number of turtle nests poached by locals. The integration of local fishermen and their families into ECT activities has brought additional income.

Community engagement has really made a difference to the children involved in the education programme. The children are excited by conservation and are developing an environmental ethic, with many students emerging as passionate ocean advocates. Before



Hawksbill sea turtle. Credit: Caroline S. Rogers, Flickr.

ETC's presence, children were far less concerned with environmental issues and the programme shows the importance of educating the youth as key to successful conservation.

The founder of ECT worked for years to build an effective relationship with local fishermen in the area and to teach them about the importance of turtles to ocean ecosystems and present them with an alternative form of income. As part of this, ECT worked with the local fishermen to develop a strategy for protecting turtle eggs.

Challenges

ECT is led by non-Costa Ricans and it has been a challenge to develop positive relationships with all local residents. They can be wary of strangers and have

an established way of life. Incidents where residents pretend not to understand foreign speakers and where they ignore recommendations from scientists are not uncommon. It is believed this stems from local pride but may also be the result of mistrust in the government and NGOs.

Weblink

www.peoplenotpoaching.org/equipo-tora-carey

Case study sourced online from equipotoracarey.org in April 2019, and Miller E and G Meindl (2019) The Importance of Education and Community Engagement Towards Sea Turtle Conservation. *Alpenglow: Binghamton University Undergraduate Journal of Research and Creative Activity*, 5: 1.

Community conservation of river turtles in Ecuador

Wildlife Conservation Society

Summary

In 2008, the Wildlife Conservation Society (WCS) Ecuador started collaborating with nine indigenous communities and the Ministry of the Environment to protect river turtle populations in Yasuní National Park. The project has overall reduced the commercial collection of turtles and their eggs, with local people now more aware of the importance of the turtles in maintaining healthy aquatic environments.

COUNTRY	Ecuador
LOCATION	Yasuní National Park
SPECIES AFFECTED	South American river turtle (<i>Podocnemis expansa</i>), yellow-spotted river turtle (<i>Podocnemis unifilis</i>)
PRODUCTS IN TRADE	The turtles are threatened by increasing exploitation and marketing of their eggs for human consumption, as well as wildlife trafficking of adult animals

The poaching problem

The eggs and meat of turtles constitute a major component in the diet of both rural and urban people in the region. In particular, the eggs of turtles can fetch up to half a US dollar each, which is a significant sum to impoverished indigenous communities.

The approach

Implemented by WCS Ecuador, with the collaboration of Ecuador's Ministry of Environment and other agencies, indigenous communities along the banks of the Napo and Tiputini rivers launched an initiative to conserve river turtles by creating an environment that would encourage egg laying and protect newly hatched turtles.

Actions include monitoring and protecting nesting sites, analysing movement patterns, population monitoring, and awareness building and education. Indigenous people manage five artificial beaches where the turtles lay their eggs as well as 10 pools where hatchlings are raised until they are big enough to be released into the wild.

To help offset the short-term loss of turtles as a culturally valued source of food, WCS has also been supporting community efforts to develop alternative sources of animal protein that are ecologically sustainable, culturally acceptable, and 'private' rather than open-access public goods, such as improved backyard chicken production, and native species aquaculture.

To ensure the programme's continuity and the long-term conservation of the turtles, project leaders are involving local school children in training and environmental education programmes on the management and conservation of the turtles and their habitat. In addition, the formal River Turtle Adoption Programme has been implemented in two indigenous communities by international tourism operators as a mechanism to generate funds for turtle conservation and ensure long-term financial stability.

The strategy

- Strengthening disincentives for illegal behaviour
 - Paid-in-money community scouts
- Increasing incentives for wildlife stewardship
 - Subsistence resource access/use
 - Legal trade
- Increasing livelihoods that are not related to wildlife
 - (Non-wildlife-based) enterprise development/support
- Improving education and awareness

What has worked and why?

Turtle populations

The turtle population has been recovering well, with a 340 per cent increase from 2009 to 2015 in sightings along the Napo River and a 260 per cent increase along the Tiputini River. In the 2017 nesting season, six participating Kichwa communities collected nearly 5,000 turtle eggs, and in February 2017, 87 per cent of the eggs had hatched and were released back into the wild. This was a 20 per cent increase in hatching success from 2015 and a 45 per cent increase from 2009. In two communities on the Tiputini River, community members also collected 170 turtle eggs, 119 of which hatched and were later released. During the 2015 and 2016 nesting seasons, community members protected the two largest nesting sites along the Napo and Tiputini rivers. As a result, not a single river turtle nest was destroyed by poachers.

The project has overall reduced the commercial collection of turtles and their eggs, with local people more aware of the importance of the turtles in maintaining healthy aquatic environments. This has contributed to progress in restoring healthy populations of both species of river turtles, whose recovery will enable the indigenous communities to decide whether or not to set community quotas for the sustainable harvest of turtles in the future.



Yellow-spotted river turtle. Credit: Mark Bowler.

Governance

All six Kichwa communities used a participatory approach to develop and implement territorial management plans, which included specific strategies for wildlife (harvest quotas) and habitat (land-use zoning) conservation. Nineteen park rangers from Yasuní National Park worked together with WCS to revise and update their approach to turtle conservation, implementing night patrols and supporting the community monitoring of human activity in the two largest nesting sites in northern Yasuní. Combined, this collaboration of indigenous communities, civil society and a government agency has improved governance of vulnerable river turtle populations in the wild.

Education

Since inception, the programme has conducted environmental awareness workshops with nearly 800 students from nine indigenous communities. Thirty park rangers have also been trained in river turtle management and conservation techniques. By the end of 2016, 1,000 yellow-spotted river turtles were symbolically adopted and released through the River Turtle Adoption Programme.

Factors for success

- Devolved decision-making power so local communities have a voice in creating or co-creating solutions (as part of the initiative)

This initiative was successful due to community participation, which facilitated effective natural resource management in a situation where law enforcement is limited and ineffective.

Weblink

www.peoplenotpoaching.org/community-conservation-chapara-river-turtles-ecuador

Case study sourced online from programs.wcs.org/metrics/Metric-Details/m/40 in March 2019, and Naveda-Rodríguez A, Zapata-Ríos G and R Cueva (2017) Management and conservation of Yellow-spotted River Turtle in Yasuni National Park, Ecuador. Conference Paper, 28th International Congress for Conservation Biology, Cartagena, Colombia.

Protecting endemic lizards in Guatemala

The Foundation for the Endangered Species of Guatemala (FUNDESGUA)

Summary

FUNDESGUA and partners are working with communities to protect highly endangered Guatemalan reptiles. For species that occur in very low populations and are close to extinction, such as the Campbell's alligator lizard and the Guatemalan beaded lizard, even low levels of poaching pose a major threat. This initiative takes a comprehensive approach to the protection of these species and includes targeted social programmes and conservation education. These strategies are proving to be very effective and rates of poaching are decreasing.

COUNTRY	Guatemala
LOCATION	Nationwide
SPECIES AFFECTED	Campbell's alligator lizard (<i>Abronia campbelli</i>), Guatemalan beaded lizard (<i>Heloderma charlesbogerti</i>)
PRODUCTS IN TRADE	Live animals for the pet trade

The poaching problem

Guatemalan endemic reptiles are one of the most endangered and unprotected species groups in the country, with lizards in particular very sought after as pets. As local people are poor and lack alternative sources of income, they are often involved in poaching, largely for the international illegal pet trade. Although the level of poaching is low, it is high in proportion to overall lizard population size, meaning the loss of any individual lizard can be devastating. In addition, continuing habitat destruction and the complete absence of any prior conservation action had put these species, and many other Guatemalan reptile species, in critical danger of extinction.

The approach

The initiative combines field research with habitat protection and restoration, captive breeding for reintroductions, community development and a comprehensive programme of environmental education targeted at local communities located within the natural range of the Campbell's alligator lizard.

From the start, community members were involved in the development of the initiative. Feedback from the consistent and regular communication between the programme leaders and the communities near the implementation sites was used to improve and expand the programme. Generally, more effort is made to involve men and community leaders in the initiative due to social and cultural norms.

The strategy

- Strengthening disincentives for illegal behaviour
 - Raising community awareness about wildlife crime penalties and sanctions
- Increasing incentives for wildlife stewardship
- Increasing livelihoods that are not related to wildlife
 - (Non-wildlife-based) enterprise development/support
 - Provision of community-level benefits
- Improving education and awareness

What has worked and why?

The initiative has reduced poaching rates. For the Campbell's alligator lizard there has been little to no evidence of poaching inside project areas over the last two years. However, there are still adult individuals available to buy at the market (although they may have been bred in captivity). For the Guatemalan beaded lizard there is no evidence of poaching in project areas and it appears that there are no individuals at the market. Overall, the involvement of local communities in education programmes has proved to be very effective.

Factors for success

- Supportive national policy/legislation for devolved governance of natural resources
- Long-term donor support that is flexible, adaptive and/or based on realistic time goals
- Sufficient time investment in building relationships and trust between the initiative and local communities

Challenges

Stronger partnerships with national wildlife authorities are lacking.

Weblink

www.peoplenotpoaching.org/protecting-endemic-lizards-iwt-guatemala

With thanks to Brad Lock from Oklahoma City Zoo for submitting this case study.

Law enforcement and anti-smuggling conservation actions for endangered wildlife of the dry forests of Guatemala

Zootropic

Summary

The Guatemalan beaded lizard was feared extinct as a result of the illegal pet trade until 2002, when a local Guatemalan NGO called Zootropic began a wide-ranging conservation project to help the country's lizard populations. The beaded lizard was eventually located via a local poacher, who then became one of the projects biggest supporters. Zootropic has since undertaken a number of different activities, many of which involve local communities, to help safeguard the beaded lizard and other species against illegal capture and trade.

COUNTRY	Guatemala
LOCATION	The Heloderma Natural Reserve (HNR), a 58-hectare protected area and one of the best-preserved dry forests in Central America. The reserve is managed by Zootropic and is located near the town of El Arenal, in the Cabañas municipality
SPECIES AFFECTED	Guatemalan beaded lizard (<i>Heloderma charlesbogerti</i>), Guatemalan spiny-tailed iguana (<i>Ctenosaura palearis</i>), Talia airplant bromeliad (<i>Tillandsia xerographica</i>)
PRODUCTS IN TRADE	Live animals for the pet trade and plants for the ornamental trade

The poaching problem

Across Central America there is a high demand for many species, a lack of enforcement, common bribery and immense poverty, which causes people to poach wildlife for little profit. The remaining population of the Guatemalan beaded lizard is believed to be around 500 individuals. From 1993 to 2003, at least 10 per cent of the population was taken from the wild to supply the illegal pet trade in the USA and Europe. In addition, it has been reported that 240 wild-caught Guatemalan spiny-tailed iguanas were taken for commercial purposes in 2008. The illegal trade involves local villagers who collect wildlife and sell them to local buyers, who then resell to a main trader, before being imported to Europe or the USA.

The approach

In 2002, Zootropic began a wide-ranging conservation initiative to safeguard the future of Guatemala's reptiles. Zootropic manages the Heloderma Natural Reserve (HNR), an area where some of the remaining populations of reptiles can be found. Local forest guards are employed to patrol the area and serve as promoters of wildlife conservation. Zootropic also collaborates with the local government at the National

Council for Protected Areas (CONAP) for gathering intelligence data on wildlife trade.

The project has undertaken a number of different activities to safeguard the reptiles from extinction:

- **Reinforcement of international laws including CITES listings:** The Guatemalan beaded lizard is now included on CITES Appendix I (in 2007), and the Guatemalan spiny-tailed iguana is included on CITES appendix II (in 2010) (CITES).
- **Development of national laws:** Zootropic developed and promoted the national strategy for Guatemalan beaded lizard conservation, the national strategy for dry forest conservation, and the national strategy for iguana conservation. Zootropic has also promoted changes in regulatory policies to ensure the short and mid-term development of community-based sustainable use programmes for bromeliads and iguanas.
- **Community outreach:** Zootropic worked for more than 12 years with local villagers to incorporate them into the legal framework on wildlife conservation, and to include them in active conservation actions for these endangered species, such as community monitoring. They receive non-monetary incentives such as the right to name the reptiles they find or a bag of groceries for their family.



Zootropic education programme. Credit: Zootropic.

- **Scientific tourism:** HNR is now a tourism hub for birdwatchers and herp-watchers (reptiles and amphibians) in the region, receiving on average 800 visitors per year. Using this income, local villagers are hired as forest guards, guides and other services. This has increased the economic impact of the reserve for the local communities.
- **Education:** The education programme aims to diminish hunting pressures on the wild populations of beaded lizards and spiny-tailed iguanas. Over 10 years, Zootropic has reached more than 8,000 children in the region.

In addition, along with the National Forestry Institute, Zootropic has promoted payments for ecosystem services to landowners who still have dry forest cover on their properties. Currently, around 250 hectares of land surrounding HNR is included within this programme. As part of the national strategy for dry forest restoration, Zootropic is working on the development of community greenhouses for the production of local dry-forest timber trees. These will be used in reforestation programmes and the sale of trees will provide an income for local villagers.

The strategy

- Strengthening disincentives for illegal behaviour
 - Paid-in-money community scouts
 - Non-monetary, in-kind incentives for community intelligence
 - Raising community awareness about wildlife crime penalties and sanctions
 - Strengthening and supporting traditional norms and sanctions against IWT
- Increasing incentives for wildlife stewardship
 - Tourism
 - Payments for ecosystem services
 - Policy/regulatory change to enable communities to benefit
 - Other
- Increasing livelihoods that are not related to wildlife
- Building/and or supporting a sense of community ownership or stewardship
- Improving education and awareness



Guatemalan beaded lizard. Credit: Zootropic.

What has worked and why?

The project had been very successful, with no record of wildlife smuggling of the beaded lizard since 2010. Hunting for bushmeat of the spiny-tailed iguanas has decreased significantly, and in the mid-term, Zootropic expects to develop a sustainable harvest programme for the species, including captive propagation managed by locals in a way which promotes conservation and food security in the villages.

Habitat loss has largely stopped since 2015, with most of the habitat surrounding HNR now within forestry incentives for conservation, granted by the Guatemalan government. Initially law reinforcement was promoted, along with incentives to get local villagers involved in the programme. As time has passed, locals are now firmly committed to the project and are spreading the word to new generations.

Factors for success

- Supportive, multistakeholder partnerships with a shared vision

- Sufficient time investment in building relationships and trust between the initiative and local communities
- Effective and trusted community leaders

The success of the project was primarily due to the involvement of local villagers. The development of a long-term relationship with government agencies and locals was also crucial for building trust.

Challenges

Key challenges include a lack of long-term donor support that is flexible, adaptive and/or based on realistic time goals, and a lack of clearly defined tenure or resource use rights.

Weblink

www.peoplenotpoaching.org/law-enforcement-and-anti-smuggling-conservation-actions-endangered-wildlife-dry-forest-guatemala

With thanks to Daniel Ariano from Zootropic for submitting this case study.

The Hawaii integrated coastal zone management project, Guatemala

Wildlife Rescue and Conservation Association, Guatemala (ARCAS)

Summary

ARCAS implemented a scheme based on the sustainable harvesting of turtle eggs in Guatemala. This has contributed to a conservation success story in spite of a lack of government resources and weak legislation.

COUNTRY	Guatemala
LOCATION	Hawaii beach, Santa Rosa, on the Pacific coast
SPECIES AFFECTED	Olive ridley turtle (<i>Lepidochelys olivacea</i>), leatherback sea turtle (<i>Dermochelys coriacea</i>), green turtle (<i>Chelonia mydas</i>)
PRODUCTS IN TRADE	Illegal harvesting of eggs

The poaching problem

Turtle eggs are harvested and sold to local buyers who transport them to restaurants and egg stalls in the capital and other large towns. In the context of high rates of poverty in coastal communities in Guatemala, turtle eggs are important for subsistence, and prized by locals as a supplement to their income and diets.

The approach

- Sustainable harvesting of turtle eggs in Guatemala has contributed to a conservation success story in spite of a lack of government resources and weak legislation.
- Eggs may only be taken from olive ridley turtle nests, and collectors must donate 20 per cent of their harvest to the hatcheries. Taking the eggs of all other species, or any adult turtles, is banned. Under the project, egg collectors who donate are given a receipt which gives them the right to sell and transport the rest of the nest.
- Donated eggs are then buried in hatcheries and after a 45–55-day incubation period, the hatchlings are released into the sea.
- As the ability to continue harvesting the eggs is important to them, local communities assist in enforcing the turtle egg donation system.

The strategy

- Increasing incentives for wildlife stewardship
 - Subsistence resource access/use

What has worked and why?

Getting local communities interested and involved in turtle conservation based on sustainable use was generally easy, because it is in their interests. Ironically, the lack of government resources and the informal system of egg donation spurred ARCAS to implement the initiative. The ARCAS volunteer programme was particularly crucial for the project's sustainability.

In the absence of any official direction, the private sector has been more willing to contribute more to conservation. As a result of collaboration between different NGOs and the private sector, the number of turtle eggs rescued on a national level has risen dramatically from 60,000 in 2003 to almost 270,000 today.



Turtle hatchlings on the beach. Credit: ARCAS.

In 2013, 40 per cent of the eggs laid on the Pacific coast were rescued and incubated. The number of olive ridley turtles nesting have doubled in the past ten years in the Hawaii area.

Challenges

A lack of government resources and leadership has led to lost confidence in the egg collection system and made data gathering difficult. More government facilitation of private sector participation is needed to improve conservation efforts and help to ensure that best hatcheries management practices are used.

More data is needed to give a better picture of turtle population status and trends in the country as a whole.

Weblink

www.peoplenotpoaching.org/hawaii-integrated-coastal-zone-management-project

With thanks to Colum Muccio from Wildlife Rescue and Conservation Association, Guatemala for submitting this case study.

Sustainable wildlife management in Guyana

A partnership between locally based organisations, the Guyana Wildlife Conservation and Management Commission (GWCMC) and the Center for International Forestry Research (CIFOR)

Summary

The Sustainable Wildlife Management (SWM) Guyana programme seeks to ensure that the Rupununi region can continue to offer sustainable options for food security and livelihoods in accordance with traditional lifestyles, while maintaining healthy fish and terrestrial wildlife populations at the landscape level. It has been locally recognised since the early development of the programme that the sustainable use of wildlife in the Rupununi region will only be possible if action is taken to reduce the illegal wildlife trade.

COUNTRY	Guyana
LOCATION	The Rupununi region consists mostly of large tracts of primary forest, with about 20 per cent of its land area covered by natural neotropical savannah and seasonally flooded wetlands. The region is home to approximately 24,000 inhabitants, where indigenous groups maintain traditional lifestyles of subsistence hunting, fishing and farming
SPECIES AFFECTED	Various
PRODUCTS IN TRADE	Live animals, skin, teeth and meat

The poaching problem

Wildmeat and fish trade

Commercial hunting within national boundaries is currently unregulated. While most hunting for meat is currently for subsistence purposes or local markets, the influx of external hunters from the coast who illegally hunt in indigenous lands is perceived as a big threat and source of conflict. Illegally hunted wildmeat is transported to the coast to feed the national demand in urban areas and mining hubs or carried to neighbouring countries where wildmeat is sold at a higher price. Species in demand include tapir, white-lipped peccary, iguana, capybara, caiman, turtles and tortoises.

Fish species with high commercial value, such as the arapaima, are also illegally targeted for the Brazilian markets. Although in 1952 the Fisheries Act prohibited the capture of arapaima, the practice in the Rupununi was unaffected. Poaching continues despite the implementation of a management plan for the arapaima.

Illegal wildmeat and fish traders are often urban dwellers from the coast or from Lethem with connections to Brazil, who illegally hunt and fish within indigenous lands or in ranches. Locals are involved as short-term guides, but no permission is sought from local indigenous authorities nor from ranch owners. Despite internal rules, indigenous guides accept the work as a quick source of income.

Pet and skin trade

Guyana is one of the largest exporters of wild-caught animals in South America and the Rupununi is one of the main sources in Guyana. Species traded from the Rupununi include parrots, macaws, parakeets, songbirds, reptiles, arthropods and jaguars.

The main export markets are Mexico, Singapore and the USA. The full extent of the illegal trade is not known, but permeable borders mean illegal trade across Brazil, Venezuela and Suriname is common.

Intermediaries involved in the illegal pet and skin trade are often urban dwellers from Lethem or the coast who deal with traders in cities or in neighbouring countries. Community members may be involved as trappers or hunters, contributing to both legal and illegal wildlife trade, sometimes without knowing if it is one or the other. Trapping and hunting is a competitive source of income locally, although this never been financially quantified.

The approach

The SWM Guyana programme seeks to ensure that the Rupununi region can continue to offer sustainable options for food security and livelihoods in accordance with traditional lifestyles, while maintaining healthy fish and terrestrial wildlife populations at the landscape level. The programme builds upon existing community-driven initiatives and is implemented through active partnerships with local organisations and indigenous groups.



Indigenous hunter in the Rupununi. Credit: FAO / David Mansell-Moullin.

Acknowledging the complexity of achieving positive outcomes that work both for people and wildlife, the programme is based on a multiple-entry approach that combines:

- Revising legal frameworks to ensure clarity, reduce gaps and overlaps, ensure that regulations on wildlife use are harmonised across sectors, and promote integration of national and local efforts to reduce unsustainable use.
- Supporting existing community driven efforts to manage wildlife and reduce threats to wildlife.
- Supporting locally adapted initiatives to increase access to domestic sources of meat that can support food security.
- Ensuring that wildlife and wildmeat markets operate within the legal boundaries and do not lead to unsustainable use.

The programme takes a community rights-based approach (CRBA). This means putting people's rights at the centre of wildlife management. To achieve this objective, the CRBA places a strong emphasis on aspects that are key to achieving sustainable development goals, such as public participation and gender equality. CRBA ensures the right to

self-determination and the right to free, prior and informed consent (FPIC). By recognising the rights of indigenous people and local communities as owners and managers of their customary territory, FPIC supports the realisation of this right as well as of other rights in assuring them a decisive voice at every stage of development planning and implementation of any projects that affect them.

The SWM Guyana programme strategy uses its multiple-entry approach at local, regional and national levels. At the national and regional level, and in close coordination with the Guyana Wildlife Conservation and Management Commission (GWCMC) and local communities, the programme is currently analysing the legal and illegal wildlife/wildmeat trade chains to understand the actors involved, the trade routes, the economic importance of this trade and the impacts of the trade on wildlife. In addition, the programme is supporting the GWCMC to ensure that new hunting and trade regulations are aligned with local ecological and social realities.

At the local level, the programme is supporting locally driven initiatives that contribute to reducing illegal trade. The South Rupununi District Council has put in place a wildlife committee in charge of responding

to wildlife issues in indigenous lands. As part of the committee activities, the following activities have been undertaken:

- Monitoring of illegal wildlife trade using modern technology
- Implementation of environmental education campaigns to inform about the impacts of illegal and unsustainable wildlife trade
- Monitoring wildlife population in key and culturally important sites, and
- Supporting community councils for the development of hunting rules following the Wapichana⁵ development plan.

The programme is also working closely with Caiman House, a local indigenous NGO, to reduce the illegal trade of reptiles. Activities include:

- **Turtles:** Monitoring turtle populations, protecting hatching sites, increasing turtle survival in ex-situ hatching sites, monitoring consumption and trade.
- **Caimans:** Understanding human conflicts with caiman and monitoring caiman populations.

The whole philosophy of the programme is to support existing local organisations in the Rupununi region with funding, network opportunities, organisational capacities and technical skills. In addition, the programme has a very important environmental education component and works closely with the North Rupununi District Development Board and the South Rupununi Conservation Society to implement an

environmental education plan, based on a curriculum specifically designed to tackle wildlife issues as perceived by local communities.

The strategy

- Strengthening disincentives for illegal behaviour
 - Paid-in-money community scouts
 - Raising community awareness about wildlife crime penalties and sanctions
 - Strengthening and supporting traditional norms and sanctions against IWT
- Increasing incentives for wildlife stewardship
 - Tourism
 - Subsistence resource access/use
 - Legal trade
 - Policy/regulatory change to enable communities to benefit (national/international)
- Decreasing the costs of living with wildlife
- Increasing livelihoods that are not related to wildlife
- Building and/or supporting a sense of community ownership or stewardship
- Improving education and awareness



The Rupununi. Credit: FAO / David Mansell-Moullin.

⁵ The Wapichana are a local indigenous group.

What has worked and why?

The programme has put in place a monitoring and evaluation process to measure progress and impact. As the year one evaluation process has only recently started it is too early to measure impacts. However, the programme has already re-motivated local community members interested in wildlife issues and given new hope to locally led structures. In addition, highly increased collaboration, sharing and trust across locally led organisations and between them and governmental institutions has been observed.

The early successes of the programme are based on three key elements:

- Transparency and trust between the programme, the government and local community organisations
- An in-depth understanding of local motivations, dreams and plans for the future, to ensure that activities are aligned with already existing efforts, and
- Strengthening of existing locally led institutions instead of creating programme-related structures that would not be sustainable after the end of the programme.

Factors for success

- Supportive national policy/legislation for devolved governance of natural resources

- Supportive national policy/legislation on sustainable use of natural resources
- Long-term donor support that is flexible, adaptive and/or based on realistic time goals
- Supportive, multistakeholder partnerships with a shared vision
- Sufficient time investment in building relationships and trust between the project and local communities
- Devolved decision-making power so local communities have a voice in creating or co-creating solutions (as part of the project)
- Effective and accountable community-based natural resources management institutions
- Effective and trusted community leaders
- Clearly defined tenure or resource use rights
- Clear and tangible benefits to local communities from wildlife (financial and/or non-financial)

Weblink

www.peoplenotpoaching.org/sustainable-wildlife-management-guyana

With thanks to Nathalie van Vliet of the SWM Guyana Project for submitting this case study.

The arapaima management plan, Guyana

North Rupununi District Development Board (NRDDB)

Summary

In the Rupununi wetlands of central Guyana, illegal fishing of arapaima dramatically reduced its numbers. In an effort to reverse this trend, a local NGO – the North Rupununi District Development Board – worked closely with local communities to develop the Arapaima Management Plan. The plan is co-managed with the community and consists of a number of community-based conservation strategies that have been successful in terms of recovery of arapaima and the development of a new conservation ethic.

COUNTRY	Guyana
LOCATION	The North Rupununi Wetlands area covers approximately 8,000km ² and its rivers are home to the arapaima, as well as several other threatened species. The people of the North Rupununi are distributed among 14 primary communities, consisting of approximately 3,500 people
SPECIES AFFECTED	Arapaima (<i>Arapaima gigas</i>)
PRODUCTS IN TRADE	The arapaima is highly prized for its meat and is among the most sought-after fish species in South America

The poaching problem

The livelihoods of local people in North Rupununi are primarily based on subsistence farming and fishing, with fish being the primary source of protein. Aside from its subsistence value, fish are also traded within and between the communities. This trade includes the arapaima, which began initially as a commercial activity and was harvested for both subsistence and income generation.

Arapaima harvest was once taboo in traditional culture. However, this taboo broke down due to outsider harvesting, and by the 1970s and 1980s communities had begun to notice a dramatic reduction in the number of the species. Most villagers recognised overharvesting as the major cause of disappearance because although it was illegal, there was no formal government enforcement and adherence to the ban was mostly voluntary.

The approach

In 1998, during a series of community-wildlife workshops, communities identified the state of the local arapaima population as a major local concern. Iwokrama International Centre for Rainforest Conservation and Development (Iwokrama) acted on these concerns by bringing experienced fishers from Brazil to Guyana to train Guyanese fishermen in methods to survey arapaima. This gave the project a means of monitoring the impact of conservation efforts.

Further consultations with the local communities led to the North Rupununi District Development Board

(NRDDB) agreeing to enforce a local harvest ban, the formation of fisheries committees at the regional and community levels, and in 2002, the development of an Arapaima Management Plan.

The plan's objectives were to increase the local arapaima population, improve local organisation institutions and increase local fishers' income. Structures created to implement the plan included a community-imposed harvesting ban, the formation of fisher groups at village and regional levels, a local monitoring programme with checkpoints, and a community education and awareness campaign. There were a number of actions which were key to implementing the plan, including:

- Continuous assessment of the arapaima population
- Continuous community engagement in the management processes
- Patrols to reduce illegal harvesting, and
- Development of plans to build a business from legally harvested arapaima.

In 2003, as part of the plan, a community-based aquarium fisheries business was also initiated to create alternative income-generating opportunities for indigenous communities. The project concentrated on loricariid catfish which are of high value on the international aquarium trade. The high value of these species meant that harvesting levels could be kept within sustainable limits. Harvesting was carried out by members of the local community, for which they were paid a daily wage, and employment was shared evenly between interested parties.

A community environmental workers (CEW) programme originated when community representatives raised the idea of community rangers. Each CEW was paid a stipend by Iwokrama and tasked with raising awareness and carrying out local research, as well as to be the face of any environmental education programmes, particularly for the arapaima fishing ban and management. The outreach and awareness activities of the CEWs, and their presence within all of the communities, played a significant role in the social enforcement of the arapaima fishing ban.

After an initial donor-funded phase, the project developed into a self-sustaining community-based business headed by the NRDDDB. During 2005, the project reached financial sustainability and continued to export fish to international markets, with profits fed back into the NRDDDB trust, where it was either reinvested into the project or used to support other NRDDDB projects.

In 2009, harvesting of the arapaima to create profits for local communities was granted by the government. The system relies on determining the number of individual fish to be harvested based on annual counts of arapaima. Individuals harvested are shared between fishermen and the harvest is then sold to local and Brazilian markets.

The strategy

- Strengthening disincentives for illegal behaviour
 - Strengthening and supporting traditional norms and sanctions against IWT
- Increasing incentives for wildlife stewardship
 - Subsistence resource access/use
 - Legal trade
- Improving education and awareness

What has worked and why?

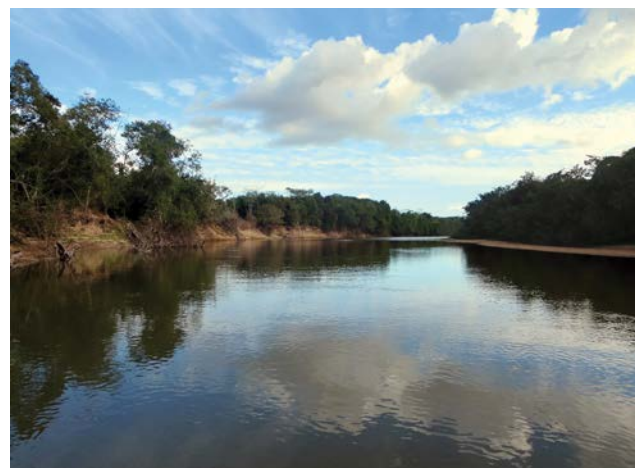
Surveys show fluctuations in arapaima population numbers although there have been overall increases:

- Four different surveys have been undertaken in the management area since 2001, with the total count of adult and juvenile arapaima increasing from 425 in March 2001, to 1,200 in December 2003.
- In 2009, a population count showed there were 3,062 arapaima of at least one metre in length.
- A survey in 2011 suggested there were over 3,300 individuals. However, the most recent estimates from 2014 indicate a 31 per cent depletion of stocks over two years due to overfishing.

Although income generation from arapaima harvesting did not begin until 2009, an average of 17 people per year from within the communities earned a salary from annual surveys in 2001–2003. Alternative income based on the collection of small numbers of high-value species for the international aquarium trade also provided increased income security and eased the pressure on the arapaima. This activity, initiated in 2003, generated both community wages as well as profit for the NRDDDB and potentially improved the ability of households to adapt to changes.

In addition to income, a new positive conservation ethic developed among the communities, mostly resulting from the re-emergence of informal social mechanisms, including community sanctions against poaching. For example, three instances of illegal fishing of arapaima were reported to the NRDDDB by both the local CEW and other villagers. As most North Rupununi communities are small, the CEW activities and other in-situ education and awareness campaigns were able to tap into their informal network, benefiting significantly from interpersonal, word-of-mouth communication. This led to increased community-level monitoring and social pressure to adhere to the ban and were very effective means of monitoring and enforcing the moratorium on arapaima harvesting.

Although the traditional arapaima taboo is no longer effective among the Makushi of the North Rupununi, the social mechanisms that made it so effective are still critical to contemporary efforts at community-based conservation. The first step in attempting to incorporate these mechanisms in current management is understanding the local culture and the legacy of traditional restrictions. In the case of the North Rupununi, the taboo and the lack of a strong arapaima fishing culture presented a very receptive environment for certain management interventions. In addition, using local knowledge of the species as an entry point proved very effective in gaining initial local support and



Rupununi River. Credit: David Stanley, Flickr (CC BY 2.0).

buy-in to the management process. Secondly, a strong outreach and awareness-raising campaign based in the community and run by community members was critical in employing the social mechanisms in contemporary conservation initiatives.

What began as a somewhat top-down, externally driven project has become strongly dependent on bottom-up support. In the end, it is the change in community attitudes towards harvesting, combined with social enforcement of the ban, which has been the true success of the project.

Factors for success

- Sufficient time investment in building relationships and trust between the initiative and local communities
- Devolved decision-making power so local communities have a voice in creating or co-creating solutions (as part of the initiative)
- Effective and accountable community-based natural resources management institutions
- Effective and trusted community leaders
- Clear and tangible benefits to local communities from wildlife

Iwokrama's participatory approach resulted in the development of a very positive relationship with the NRDDDB and communities. Local input was also critical in modifying the institutional structures from the initial Brazilian project to better cope with the multi-community conditions in the Rupununi region. Iwokrama played a key role in both the formation of the NRDDDB and the development of the project and dedicated substantial funding and effort to the development and strengthening of local institutions.

The need for arapaima conservation was recognised by important community leaders prior to the project and they supported the initiative from the beginning, resulting in local support and buy-in from many community members. The monitoring regime, and its use of both local and transferred knowledge, also increased community participation and support.

Although harvesting of arapaima took longer to permit than originally intended, local communities received indirect income from annual surveys, as well as direct income from the international aquarium trade. This has been distributed in the form of salaries to individuals, as well as used by NRDDDB to fund further community-enhancing developments.

Challenges

Lack of government support

With the delay in government approval, the plan to engage in the sustainable harvest and trade of arapaima had to remain on hold, delaying the economic benefits for the communities. Furthermore, the institutions created to implement the plan began to break down. For instance, many of the community-level fisheries committees were dormant or non-functional as these structures were created primarily to manage quota harvesting, which had not yet taken place. However, although inactive, many local fishers still identified themselves as 'fisher committee members', and felt that once harvesting was approved, they would perform their roles in harvesting and monitoring.

Local capacity

Although on the increase, the lack of local capacity was a limiting factor in achieving true community-based natural resource management in the North Rupununi. The capacity needed to implement the management and other such systems have to be built and community members need to be further empowered to take ownership for managing their resources. The project implementation has also shown that some amount of decentralisation is needed from the NRDDDB to the communities for the system to work.

Marketing

There are limitations for marketing the arapaima beyond local and Brazilian markets. Communities need to build the business prior to expanding into unknown markets.

Illegal fishing

Illegal commercial fishing continues to be a problem, suggesting that strong management, support and involvement from government and other stakeholders is needed to ensure the health of this species and its environment.

Weblink

www.peoplenotpoaching.org/arapaima-management-plan

Case study sourced from Fernandes D and the NRDDDB (2004) Lessons from the Equator Initiative: Community-based Arapaima conservation in the North Rupununi, Guyana. Centre for Community-Based Resource Management, University of Manitoba, and Fernandes D (2005) "More eyes watching..." Community-based management of the Arapaima (*Arapaima gigas*) in Central Guyana. Natural Resources Institute, University of Manitoba.

Guarding guaras, Honduras

One Earth Conservation

Summary

Scarlet macaw (*guaras* to locals) populations have fallen drastically across Central America as poachers steal the chicks to sell on to wealthy foreigners overseas. In 2015, One Earth Conservation incentivised local villagers in Mabita, Honduras, to protect the nests of *guaras* by offering them a cash payment. The project has resulted in increased numbers in the region, created a cash economy in Mabita and has instilled a sense of stewardship among local villagers. The project area is now the largest community-patrolled parrot conservation area in Latin America.

COUNTRY	Honduras
LOCATION	Mabita is a hamlet four hours' drive from the coast in Honduras
SPECIES AFFECTED	Scarlet macaw (<i>Ara macao</i>)
PRODUCTS IN TRADE	Live chicks for the international pet trade

The poaching problem

Poachers climb the pine trees (*Pinus*) where the macaws nest and steal the chicks before they are able to fly. The birds fetch up to US\$6,000 online.

The approach

In 2010, One Earth Conservation enlisted the residents of Mabita to patrol the forest. Over the years, they built trust and engaged with the local communities, and in 2015 launched paid community patrols to monitor and protect nests. They also established a rescue centre for confiscated birds.

The strategy

- Strengthening disincentives for illegal behaviour
 - Paid-in-money community scouts



Scarlet macaw emerging from its nest in the trunk of a tree. Credit: Ben Cherry.

What has worked and why?

The macaws have increased in numbers and in 2018, 103 nests were left undisturbed in the area with about 150 chicks surviving. Money made from patrolling has created a cash economy in Mabita and inhabitants have used it to build a small stone church. A further five villages have since joined the scheme and communities receive great pleasure from watching the birds.

Factors for success

- Transparent and accountable distribution of benefits to local communities
- Clear and tangible benefits to local communities from wildlife (these may be financial and/or non-financial)

The income provided to communities to conserve the macaws, rather than poach them, has been a key factor in changing the trend, as well as the trust built in protecting an iconic species for the community.

Weblink

www.peoplenotpoaching.org/guarding-guaras

Case study sourced online from www.economist.com/the-americas/2019/01/12/protecting-hondurass-national-bird in February 2019.

Cactus nurseries and conservation, Mexico

Mexico's National Commission of Natural Protected Areas (CONANP)

Summary

In response to the uncontrollable harvest of cacti, the Mexican federal agency in charge of conservation, CONANP, set up plant nurseries in the Barranca de Metztitlán Biosphere Reserve (RBBM) with the explicit purpose of conserving cacti through cultivation and sustainable trade. The nurseries are managed individually by local people who know how to grow and care for these plants, and for some legal trade in cacti has provided an income. The nurseries have helped to reduce illegal trade in cacti and are helping ex-situ conservation of over 20 species.

COUNTRY	Mexico
LOCATION	Four cacti nurseries within RBBM, a 2 million hectare area that includes arid tropical scrub, tropical deciduous forest, sub-montane scrub, pine forest, pasture and riparian woodland ecosystems
SPECIES AFFECTED	Various species of cactus
PRODUCTS IN TRADE	Whole plants

The poaching problem

The RBBM faces uncontrolled and unsustainable extraction of cacti due to demand from international markets. Local people are usually involved as day labourers to extract the plants.

The approach

In response to the illegal trade in many threatened cactus species, CONANP set up nurseries within the RBBM, utilising the skills and knowledge of local people to manage and propagate the plants. The idea was that these cultivated cacti could then be sold legally for national and international trade. The underlying logic was that raising species that can be marketed as well as used for reforestation and/or restoration reduces the likelihood that these species will be removed from their natural environment. Local people were invited to become nursery managers, and in doing so received support from the reserve administration to attend courses in production methods, cactus care, germination and marketing.

The nurseries provide an opportunity to raise awareness among the local residents of the fact that removing cacti is a federal offence, leading them to report incidents. The nurseries are separately managed and provide a number of different benefits, including local jobs that enable managers to make a living, although this does vary as not all nurseries generate an income.

The strategy

- Strengthening disincentives for illegal behaviour
 - Raising community awareness about wildlife crime penalties and sanctions
- Increasing incentives for wildlife stewardship
 - Legal trade
- Improving education and awareness



Cacti raised in nurseries. Credit: Max Pixel.

What has worked and why?

The biosphere reserve has enhanced awareness of the cacti, with various stakeholders influencing the generation of knowledge and practices of cactus conservation at the local level. The managers are highly knowledgeable about cactus propagation, with some teaching the reserve officials about cactus management.

It is generally agreed that the nurseries benefited from the existence of the biosphere reserve, because they have been able to conserve cacti, while also creating a source of income. In particular, both nursery and reserve management consider that the reserve stopped much of the illegal extraction, which was reduced by 80 per cent. Furthermore, local residents now understand that removing cacti is a federal offence and they have started to report incidents.

Overall, the change in cactus conservation practices in the RBBM has been a result of the efforts of the local population, resident groups, federal agencies and other stakeholders.

Factors for success

- Supportive, multistakeholder partnerships with a shared vision
- Devolved decision-making power so local communities have a voice in creating or co-creating solutions (as part of the initiative)

Challenges

Not all the nurseries were able to generate an income due to a lack of effective marketing. Managers of the reserve did consider undertaking a market study and forming a production chain to help market the plants. However, this initiative failed to successfully proceed, leading to difficulties in getting enough buyers and maintaining long-term business relationships.

Weblink

www.peoplenotpoaching.org/cactus-nurseries-and-conservation

Case study sourced from Pulido M and C Cuevas-Cardona (2013) Cactus Nurseries and Conservation in a Biosphere Reserve in Mexico. *Ethnobiology Letters*, 4: 96-104.

Community bird monitoring programme, Mexico

Incidence and Environmental Governance (IGOB)

Summary

Since 2013, the organisation Incidence and Environmental Governance (IGOB) has been working with the Sierra del Abra Tanchipa Biosphere Reserve management board to design a community bird-monitoring programme (CBMP). The programme is intended to generate mechanisms to involve neighbouring communities in conservation activities implemented in the reserve.

COUNTRY	Mexico
LOCATION	Sierra del Abra Tanchipa Biosphere Reserve
SPECIES AFFECTED	Six species of parrot: military macaw (<i>Ara militaris</i>), yellow-headed Amazon (<i>Amazona oratrix</i>), red-crowned Amazon (<i>Amazona viridigenalis</i>), red-lored Amazon (<i>Amazona autumnalis</i>), green parakeet (<i>Psittacara holochlorus</i>), olive-throated parakeet (<i>Eupsittula nana</i>)
PRODUCTS IN TRADE	Live animals illegally traded as pets

The poaching problem

In Mexico, parrots have historically been subjected to overexploitation due to poaching, driven by the heavy demand in the pet market at local, national and international levels. Individual birds are captured, often by local people. In local communities, between one and three parrots and/or parakeets are commonly found per household.

The approach

The CBMP specifically works to raise awareness of the importance of conserving parrots in their wild state. Community partners were invited from the beginning to take part in the various stages of programme design.

A number of courses have been held, covering training on data collection as well as the importance of avian biodiversity, key factors in bird identification, monitoring techniques and data processing. Participants have also been trained in the use of citizen science portals. At the same time, conservation activities have been publicised and awareness has been raised on the importance of avoiding, and reporting, any illegal trade in parrots at the local level. Educational outreach programmes have focused on sustainability and on promoting a conservation culture. In 2015, a website was developed to promote the CBMP and share the outcomes of research and monitoring activities. The website functions as a citizen science portal, enabling online consultation of monitoring records.

The programme has encouraged the training of youth groups in environment-related activities, and as a result some young people have taken part in monitoring activities. In these cases, the provision of materials

for field activities serve as an incentive (such as bird-watching guides and binoculars given on indefinite loan to users).

Awareness-raising activities among local communities aim to stress the importance of getting involved in actions to combat the poaching of birds and to set out the fines and penalties to which poachers are liable. Information is provided on how to anonymously report poachers, together with the contact details of programme staff to facilitate rapid interventions. Other activities include:

- The possible implementation of a bird-watching tourism programme in the region
- A payment for ecosystem services scheme
- A livestock insurance programme, intended to cover loss of livestock due to predation by jaguars and other species



Yellow-Headed Amazon (*Amazona oratrix*). Credit: IGOB / Francisco Javier Sahagún Sánchez.

- Economic activities with a low environmental impact such as honey production, and
- Other projects currently in a preliminary development phase, including an initiative of a women's group to embroider fabrics.

All activities have been implemented with the purpose of building a sense of identity and ownership within local communities, and encouraging the adoption of a conservation culture in and around the reserve.

Work is currently underway to develop mechanisms to enhance biodiversity governance in order to further strengthen the sense of community ownership and empowerment. A recently created Reserve Advisory Council seeks to ensure the engagement of all actors in conservation and management decisions affecting the reserve, which will help to raise awareness and stimulate joint stewardship with community partners. A recently drafted project proposal for an environmental-education agenda aimed at communities in the reserve focuses on sustainability and conservation culture, and will be implemented in the remainder of 2019.

The strategy

- Strengthening disincentives for illegal behaviour
 - Performance-based payments/incentives for patrolling or guarding
 - Unpaid (voluntary) community scouts
 - Non-monetary, in-kind incentives for community intelligence
 - Raising community awareness about wildlife crime penalties and sanctions
- Increasing incentives for wildlife stewardship
 - Tourism
 - Payments for ecosystem services
 - Other
- Decreasing the costs of living with wildlife
 - Financial mitigation measures
- Increasing livelihoods that are not related to wildlife
 - (Non-wildlife-based) enterprise development/support
 - Provision of community-level benefits
- Building and/or supporting a sense of community ownership or stewardship
- Improving education and awareness



Red-Crowned Amazon (*Amazona viridigenalis*). Credit: IGOBA / Francisco Javier Sahagún Sánchez.

What has worked and why?

The CBMP has provided important information on the richness and diversity of bird species in the reserve. Monitoring activities have shed considerable light on the ecology of parrots, for example their feeding habits, and perching and nesting areas. This information has been used for a publication aimed at the general public, which sets out numerous reasons why communities should commit themselves to the conservation of these species.

Ranch owners have been encouraged to maintain any lands that have not been environmentally degraded and urged to turn them into voluntary conservation areas (ADVC). It is hoped that this approach will enhance habitat connectivity for these species.

Local communities are working together to keep out poachers who previously invaded their lands in search of parrots, reducing poaching rates in some communities. However, there is still some poaching by local people, whose peers are afraid to report them for fear of possible reprisals.

Technical and promotional material has helped to share knowledge and enhance awareness-raising activities among local people. Overall, the impact of the programme has been particularly apparent among local children, whose attitude towards wildlife conservation has improved significantly.

Factors for success

- Sufficient time investment in building relationships and trust between the project and local communities
- Devolved decision-making power so local communities have a voice in creating or co-creating solutions
- Transparent and accountable distribution of benefits to local communities

The development of the programme required a considerable investment of time and resources, to ensure a smooth working relationship between the various actors and representatives of the sectors which influence land use. Active participation and leadership of the programme has been crucial to its smooth running, with the commitment of IGOBA and the reserve's board of management essential to progress.

The production of documents containing relevant information helped to raise awareness and elicit a positive response in local communities. Daily wages paid through community authorities and in accordance with rules drawn up by the district committee have helped to guarantee transparency and accountability with regard to the way funds are used.

Challenges

The lack of regular, reliable funding has had a marked impact on the continuity of programme activities, at times limiting implementation. Changes taking place within institutional structures, such as the rotation of district authority officials add to this challenge. In some cases, partners and programme leaders have been deprived of support due to changes in institutional policy. In 2017, the Endangered Species Conservation Programme, which provided funding for the conservation of the reserve's parrots, was cancelled. This meant resources were devoted entirely to one particular flagship species at the expense of all other species which had previously benefitted from funding through that programme.



Children at a monitoring workshop. Credit: IGOBA / Francisco Javier Sahagún Sánchez.

There is a lack of institutional capacity (insufficient staff, financial and organisational resources etc) for responding to complaints regarding trafficking in the area and community monitors are unable to intervene directly in cases of flagrant poaching. An alternative model or regulatory framework is required, which should allow other authorities to intervene and make it possible to arrest and subsequently charge active poachers.

There is still a need to involve more people in conservation-related issues and in the fight against poaching. In particular, more effort should be made to implement collective learning processes with a view to raising awareness of the benefits from conserving habitats and the species living in them.

Weblink

www.peoplenotpoaching.org/community-bird-monitoring-programme

With thanks to Francisco Javier Sahagún Sánchez, General Project Coordinator and Member of the Reserve Advisory Council, for submitting this case study.

Yellow-naped parrot conservation in the Ometepe Island Biosphere Reserve, Nicaragua

BIOMETEPE, Fauna & Flora International and One Earth Conservation

Summary

Recognising the emerging and growing threats to the population of yellow-naped parrots, a Nicaraguan ornithological group, BIOMETEPE, partnered with Fauna & Flora International (FFI) and One Earth Conservation to implement a protection programme on Ometepe Island. The programme aims to improve the existing knowledge about the size, health and reproductive success of the population of the parrots, as well as protect the species through community-led patrols and education campaigns.

COUNTRY	Nicaragua
LOCATION	Formed by two volcanoes rising from Lake Nicaragua, Ometepe is the one of the largest freshwater islands in the world. The island boasts a diverse mosaic of forest and wetland habitats within its 276km ² area and supports a wide array of species. Today, the island has nearly 40,000 residents, who mainly rely on subsistence and commercial agriculture, fishing and tourism for their livelihoods
SPECIES AFFECTED	Yellow-naped parrot (<i>Amazona auropalliata</i>)
PRODUCTS IN TRADE	Live chicks and eggs

The poaching problem

Between 1980 and 2000, yellow-naped parrot populations declined by an estimated 50 per cent, reportedly disappearing from more northern parts of their historic range, including El Salvador, Guatemala, Honduras and Mexico. The current global population is estimated to be as low as 10,000 mature individuals.

This charismatic species is among the most popular parrot for the pet trade, as they are intelligent, sociable, and able to mimic human speech. Levels of poaching of parrot chicks have been found to be as high as 100 per cent in some areas of Guatemala, El Salvador and Costa Rica.

In Nicaragua, all capture and trade in the parrot has been illegal since 2013. However, the birds continue to be offered as pets on road sides, are available for sale in urban markets, and are transported to markets in El Salvador, Guatemala, Mexico, the United States and China. Known nesting sites are targeted and the parrots are taken directly from the nests either as chicks or as eggs in a practice that is escalating alarmingly.

An FFI-supported 2018 study into the form and extent of the illegal trade in parrots on Ometepe island confirmed that the trafficking network includes outsiders working together with local people to extract chicks and/or eggs, to meet both national and

international demand. There is also local demand for the parrots as pets on Ometepe.

During interviews with key informants from the communities, it was revealed that many locals have been extracting parrots for several years as it is an easy way to generate income. Recently, socio-political tensions in Nicaragua have led to reduced tourism and employment opportunities, meaning people are resorting to poaching for money.

The approach

BIOMETEPE, FFI and One Earth Conservation have collaborated to target the primary threats to the parrot from illegal wildlife trade. The strategy has involved population counts, surveys and monitoring of parrot nests during the nesting season. Surveys in 2017 identified four priority roosting and nesting areas, which harbour an estimated 60 per cent of the parrot population on Ometepe across a total of 500 hectares of forest. In 2018, the programme began to support community-led protection and monitoring patrols across these four sites. Young people in particular have been targeted for involvement in monitoring and protecting the parrots. Capacity-building activities have included the creation of conservation groups that are responsible for involving community members in wildlife protection. Many of the patrol team are volunteers.



Ometepe Island. Credit: BIOMETEPE.

The programme has collaborated with private farms to create an incentive scheme for protection of nests. Farmers receive goods such as machetes, hammers and nails in return for environmental stewardship. The retaliatory killing of birds due to crop raiding is not uncommon, and the programme has worked with farmers to try and reduce this threat.

The programme has made significant efforts in environmental education and awareness raising, as well as promoting participation and strengthening local capacity for wildlife conservation action on the island.

BIOMETEPE has developed an environmental education plan with primary, secondary and community schools to increase the level of knowledge on the conservation of wild species and natural resources.

Ometepe attracts more than 40,000 tourists each year. BIOMETEPE has proposed implementing tourism alternatives to new sites that are conserved and managed in a sustainable manner such as parrot tours, birdwatching and agroecological farm tours. Part of the income generated from tourism could then support conservation actions.

The strategy

- Strengthening disincentives for illegal behaviour
 - Paid-in-money community scouts
 - Performance-based payments/incentives for patrolling or guarding, (ie in addition to salaries, such as bonuses for number of arrests)
 - Unpaid (voluntary) community scouts
 - Paid in kind community scouts (eg uniforms and equipment)
 - Monetary incentives for community intelligence
 - Raising community awareness about wildlife crime penalties and sanctions
 - Strengthening and supporting traditional norms and sanctions against IWT
- Increasing incentives for wildlife stewardship
 - Tourism
- Decreasing the costs of living with wildlife
 - Preventative measures to deter wildlife
 - Reactive measures to deal with problem animals
- Increasing livelihoods that are not related to wildlife
 - (Non-wildlife-based) enterprise development/support
- Building and/or supporting a sense of community ownership or stewardship
- Improving education and awareness

What has worked and why?

This programme is working to foster strong participation and leadership of the local community in protection and monitoring patrols, and to help deepen local knowledge and commitment to parrot conservation in Ometepe.

- The programme has generated important new data on the nesting ecology of the island population of parrots, leading to enhanced community patrols and protection of nests.
- A focus and recognition within the community of the importance of conserving not only the yellow-naped parrot but also all of Ometepe's biodiversity and natural resources has been strengthened.
- The programme has motivated many other local organisations and NGOs to collaborate with the community and BIOMETEPE to protect and conserve natural resources.

Factors for success

- Supportive, multistakeholder partnerships with a shared vision
- Sufficient time investment in building relationships and trust between the project and local communities
- Effective and trusted community leaders

It is vital for conservation to empower community members and particularly for conservation to empower youth. The creation of community groups (made up of former parrot poachers) who are involved in parrot field protection and research have been particularly essential for success.

Challenges

In Nicaragua there are difficulties in creating synergy and a shared vision between multiple actors. One of the major limitations has been the possession of municipal properties by the community for pastures and coffee plantations in the nesting areas of the parrot. In addition, many community members fear poachers but there is a lack of people and institutional capacity with the authoritative power or means to safely denounce illegal activities.

Weblink

www.peoplenotpoaching.org/yellow-naped-parrot-protection-programme

With thanks to Norlan Zambrana and Emerson Urtecho from BIOMETEPE for submitting this case study.

Conserving marine turtles in the eastern Pacific of Nicaragua

Fauna & Flora International

Summary

Nicaragua is home to globally important populations of threatened marine turtles but poaching of eggs and killing of hawksbills for their shells has been a serious threat to these species. In response, Fauna & Flora International (FFI) and partners are working in collaboration with coastal communities to turn the tide and protect these species. Local people are now involved in beach patrols and build and manage turtle hatcheries. They are also trained in monitoring techniques for data collection. Furthermore, local and national support for these turtles is being catalysed through festivals, education and awareness campaigns.

COUNTRY	Nicaragua
LOCATION	Focused upon five important nesting sites. Nicaragua's coastal and marine ecosystems are recognised as among the most important marine turtle habitats in the Americas.
SPECIES AFFECTED	Hawksbill sea turtle (<i>Eretmochelys imbricate</i>), leatherback sea turtle (<i>Dermochelys coriacea</i>), olive ridley turtle (<i>Lepidochelys olivacea</i>)
PRODUCTS IN TRADE	Turtle eggs for consumption and hawksbill shells for jewellery

The poaching problem

The global hawksbill sea turtle population has collapsed by an estimated 87 per cent over the last three generations and this is particularly apparent in the eastern Pacific. Only approximately 500 nesting females are estimated to remain in this once abundant and distinct eastern Pacific population. Similarly, the distinct sub-population of leatherback turtles in the eastern Pacific has suffered a historic collapse. Long-term analysis indicates that the population has plummeted by 97 per cent over the past three generations, down to fewer than 500 nesting females. The medium-term trend for the olive ridley turtles in the eastern Pacific is positive, although this is yet to be confirmed.

In Nicaragua, turtle eggs are a traditional, seasonal food source among coastal communities. Many coastal people who depend on agriculture and fishing are poor and lack security or sustainable alternatives. They perceive turtles as a source of supplementary income, through poaching eggs or killing hawksbills for their shells, rather than as a valuable living asset of which they are beneficiaries and custodians. The majority of raw hawksbill shells are thought to come from the Caribbean coast, where turtles are commonly poached by coastal community members for their meat.

Improved road access in 1980s catalysed a shift from low-level extraction (by local community members) to intensified trade to supply urban markets (ie poachers arriving from urban areas). Illegal harvesting of eggs is

near 100 per cent at nesting sites without conservation management and this remains the most significant threat to population recovery. Despite increasing awareness and support for turtles, prosecution numbers remain low.

The approach

Working in collaboration with local stakeholders, including coastal communities and local governments, is central to FFI's approach. Key activities include:

- Introduction of beach patrols throughout the nesting season
- Establishment of turtle hatcheries
- Training of community patrol teams in monitoring techniques for data collection, and
- Catalysing local and national support for these marine reptiles through turtle festivals, education and awareness campaigns.

Specific sections of the community have been targeted for involvement, particularly ex-poachers (via incentive schemes) and women (mostly wives of fishermen and former poachers).

FFI engages local community members in project implementation and development, through direct employment, engagement in discrete project activities, sharing of project results through end-of-season workshops, and through participation. For example, the Chacocente Management Committee and the

Hawksbill Committee in the Estero Padre Ramos Natural Reserve, provide community members with an opportunity to influence decision-making around natural resource management at these sites.

The project is generating pride in and commitment to turtle conservation among a range of stakeholders, through community-based protection strategies, the facilitation of community participation in natural resource governance, the use of incentives for protection over poaching, environmental education and awareness-raising activities, and the promotion of sustainable livelihood options related to turtle conservation. Participation in and support for turtle-themed activities and events among coastal community members is high, with many activities now being led by partners and stakeholders.

Economic incentives

FFI provides economic incentives to local community members for their support in collecting turtle eggs and observing adult female turtles. This scheme rewards people for notifying project conservation teams about nests being laid, instead of poaching the eggs, and is proving highly effective in cultivating strong community support for conservation efforts and in reducing residual poaching pressure. Incentives are paid once the eggs are protected in the hatchery. A second payment is then made for hatchlings released to sea, to ensure nests are not damaged before being brought to the attention of patrol teams. Incentives are paid as credits at a local kiosk or general store, to keep the benefits within the local economy.

In addition to financial performance-based incentives, two internet platforms exist for reporting/gathering intelligence on incidences of poaching. A national WhatsApp group also facilitates communication and information sharing between local patrol team members who have mobile phones and other turtle conservationists working in Nicaragua.

Education and awareness raising

Over the last decade, a series of wider public education campaigns are gradually changing public perceptions about eating turtle eggs. Events such as turtle festivals and the Hawksbill Cup (an award for scoring the most hawksbill conservation goals) have generated a deeper local pride in turtles and increased recognition of conservation efforts. Environmental education activities in coastal community schools are teaching children about the importance of turtle conservation.

Wildlife-friendly livelihoods

FFI supports the development of economically viable, 'turtle-friendly' livelihoods strategies, including initiatives to enable community groups to improve or expand economic activities related to coastal tourism.

FFI is working to reduce turtle bycatch by working with artisanal fishers near priority nesting areas to promote sustainable fishing practices and increase knowledge of fisheries legislation. Work includes a three-year initiative to eliminate destructive fishing practices and protect marine habitat within an 80km marine corridor along Nicaragua's Pacific coast.

Through the Weaving for Nature initiative, women collect and clean discarded plastic bags, cut them into long sections, then weave them into attractive bags for sale. Income from weaving offers an important incentive for turtle conservation and is proving successful for three groups of women weavers, who are mainly from households of fishers and/or former poachers.

The strategy

- Strengthening disincentives for illegal behaviour
 - Paid-in-money community scouts
 - Performance-based payments/incentives for patrolling or guarding
 - Non-monetary, in-kind incentives for community intelligence
 - Raising community awareness about wildlife crime penalties and sanctions
 - Other
- Increasing incentives for wildlife stewardship
 - Tourism
 - Subsistence resource access/use
 - Other
- Increasing livelihoods that are not related to wildlife
 - (Non-wildlife-based) enterprise development/support
- Building and/or supporting a sense of community ownership or stewardship
- Improving education and awareness



Help Olive Ridley turtles to live. Credit: Alejandro Cotto, FFI.

What has worked and why?

This approach, alongside effective collaboration with local people, is helping to secure a turnaround from 100 per cent of nests being poached to more than 90 per cent of nests being protected. The protection of nests and production of hatchlings continue to be the most important strategies that can be undertaken to recover leatherback and hawksbill turtle populations in the eastern Pacific.

- Over the past 16 years, FFI and partners have protected 518 leatherback turtle nests (>90 per cent of those recorded) and released 8,324 hatchlings.
- Over the last 9 years of work to protect hawksbill turtles, FFI and partners have protected 1,993 nests, released 164,046 hatchlings and reduced nest poaching rates from 100 per cent to less than 6 per cent.
- Figures for the olive ridley turtle are more complicated to calculate, because of difficulties in estimating nests and fluctuations in poaching pressure.

Although trends in population numbers should be interpreted with caution, thanks to the marine turtle conservation programme the majority (98 per cent) of Nicaragua's nesting leatherback and hawksbill turtles and their nests are now protected, in places where otherwise 100 per cent of these eggs would be poached.

National awareness campaigns led by FFI since 2007 have increased awareness among Nicaraguans (about 80 per cent of the population) that the consumption of turtle products is illegal and about the need for turtle conservation. Turtles are now an increasingly important emblem for the natural environment in Nicaragua and these approaches have contributed to more positive attitudes towards turtle conservation among those living closest to them. Turtles are beginning to become a living asset rather than just a piece of jewellery or plate of eggs.

Research has shown, however, that increased awareness does not always translate into changes in behaviour. The next phase of the programme aims to cultivate measurable behaviour change and make the consumption of turtle eggs and products increasingly socially unacceptable in Nicaragua.

Factors for success

- Long-term donor support that is flexible, adaptive and/or based on realistic time goals
- Supportive, multistakeholder partnerships with a shared vision
- Sufficient time investment in building relationships and trust between the initiative and local communities

FFI's long-term presence and commitment, alongside the fact that the initiative has grown organically and slowly over time, enabled FFI to build trust and relations with local communities. The initiative took into account human needs, including the importance of participatory governance, alongside sustainable livelihoods and worked with local partners when possible. FFI actively networks and shares information with partners and stakeholders and is open to collaboration and avoiding territorialism.

The project has a highly committed, qualified and trained team, made up of technical biologists and community patrol teams, led by a talented programme manager, and supported by regional and cross-cutting staff in the UK.

Since 2010, the incentive scheme has been a key contributor in significantly reducing poaching rates at Padre Ramos and offers comparatively high value for money by mitigating poaching, securing community buy-in to project aims, and in achieving long-term conservation outcomes.

Challenges

Unfortunately, illegal harvesting of eggs is estimated to remain near 100 per cent at sites where conservation activities are not carried out. A culture of consuming turtle eggs persists among coastal communities and urban consumers, while demand for turtle shell products remains considerable, driven often unwittingly by national and international tourists, despite a national ban on consumption of turtle products since 2006.

Nicaragua passed a national ban on trade in marine turtle products in 2005, which represents the strongest national legal framework protecting marine turtles in Central America. The ban is important: it avoids any problems of laundering illegal eggs if the trade was legal, and if eggs are for sale, they are illegal. However, enforcement of this law and international treaties to prevent illegal exploitation and trade is weak.

Weblink

www.peoplenotpoaching.org/conserving-marine-turtles-eastern-pacific-nicaragua

With thanks to Alison Gunn from Fauna & Flora International for submitting this case study

Sustainable management of the arapaima, Peru

Community Organisation of Small-Scale Fishers and Fish Processors (OSPPA), Los Leones

Summary

The sustainable management of the arapaima has been practised in recent years in the downstream area of the Pacaya watershed in the Pacaya Samiria National Reserve. Local communities have been involved in implementing fisheries management programmes for the use and conservation of the species by setting up management groups. The idea is to generate economic benefits for the group members through the sustainable management of natural resources.

COUNTRY	Peru
LOCATION	Pacaya Samiria National Reserve in the department of Loreto, province of Maynas
SPECIES AFFECTED	Arapaima (<i>Arapaima gigas</i>)
PRODUCTS IN TRADE	Live animals, meat, eggs

The poaching problem

Approximately 92,125 people live in the area of the Pacaya Samiria National Reserve, generating significant pressure on natural resources. The arapaima is poached for the high value of its meat and traded in local, national and foreign markets. This has caused a fall in natural populations of the species.

Illegal activities are usually carried out by people from outside the area, although poachers sometimes get local people involved by training them to hunt the species. This is mainly due to a lack of alternative income or for cultural reasons. In the area, 52 per cent of the population are registered as living in poverty.

The approach

Under a fisheries management programme, approved by the Regional Directorate of Production for the commercial fishing of the arapaima, local management groups are responsible for the use and conservation of the species. OSPPA Los Leones is one management group set up in the community of Bretaña, in the Pacaya Samiria National Reserve.

Under the programme, activities are designed to help reduce illegal hunting of wildlife species, contribute to conservation, enable people to earn an income from legal trade, and empower groups by involving them in the local economy and in the management of the reserve.

The arapaima is managed and caught sustainably by OSPPA Los Leones. With the assistance of NGOs and private companies, the reserve management office provides OSPPA Los Leones with advice and technical support so that they can implement the programme effectively and raise awareness of the importance of sustainable use of natural resources.

Activities include establishing fishing quotas, minimum landing sizes and times of the year when fishing is prohibited. OSPPA Los Leones also carries out monitoring and surveillance of the arapaima.



Paiche fishing. Credit: Máxime Aliaga.

The strategy

- Strengthening disincentives for illegal behaviour
 - Non-monetary/in-kind incentives for community intelligence
 - Raising community awareness about wildlife crime penalties and sanctions
 - Strengthening and supporting traditional norms and sanctions against IWT
- Increasing incentives for wildlife stewardship
 - Legal trade
 - Policy/regulatory change to enable communities to benefit (national/international)
- Increasing livelihoods that are not related to wildlife
- Building and/or supporting a sense of community ownership or stewardship
- Improving education and awareness



Paiche fishing. Credit: Máxime Aliaga.

Factors for success

- Supportive national policy/legislation on sustainable use of natural resources
- Long-term donor support that is flexible, adaptive and/or based on realistic time goals
- Clear and tangible benefits to local communities from wildlife (financial and/or non-financial)

Challenges

An ongoing challenge is to strengthen links with the market to achieve a better price for products, in order to support the communities further. Political instability and the absence of public policies have made programme implementation more difficult.

Weblink

www.peoplenotpoaching.org/sustainable-management-arapaima

With thanks to Eva Maria Loja Aleman from the Pacaya Samiria National Reserve and Fermin Arimuya, President of OSPPA Los Leones, for submitting this case study.

What has worked and why?

The programme has been positive for both local communities and the recovery of the arapaima. The involvement of local people in surveillance and management activities has led to a reduction in incidents of trafficking and illegal hunting. A census carried out by the association found a significant increase in the population of both juvenile and adult arapaima.

The use of the arapaima under the programme is producing economic benefits for the local population, improving the livelihoods of the families in the communities involved. Direct benefits have been achieved for approximately 240 family members, with income generated from the sale of legally caught fish.



Ready to go to work. Credit: Máxime Aliaga.

Participation of the Lucanas community in the sustainable use of vicuña fibre, Peru

The Lucanas rural community and the board of directors of the Pampa Galeras Bárbara D'Achille National Reserve, part of the state-operated National Service of Protected Natural Areas (SERNANP)

Summary

The Lucanas community, located in the south of the Ayacucho region of Peru, has played a pioneering role in the sustainable management of vicuña populations, once threatened with extinction due to poaching. Vicuña fibre is now the chief source of livelihood for the members of the Lucanas community, and a crucial element in their socioeconomic development.

COUNTRY	Peru
LOCATION	The Pampa Galeras Bárbara D'Achille National Reserve (RNPGBD), in the department of Ayacucho and province of Lucanas. The reserve is around 6,500 hectares and the main ecosystem comprises High Andean grasslands
SPECIES AFFECTED	Vicuña (<i>Vicugna vicugna</i>)
PRODUCTS IN TRADE	Vicuña fibre

The poaching problem

By the 1960s, Peru's vicuña population had shrunk to 5–10,000 individuals due to extensive poaching. Not only was the vicuña hunted for its valuable fibre, but it was also displaced by competition for land for livestock. This brought the species to the brink of extinction.

Following government's decision to authorise the use of vicuña fibre by rural residents, local communities grew interested in conserving the species, particularly since it provided a way of ensuring income. Although there is now no evidence of poaching within the reserve, it persists in unprotected areas within the department of Ayacucho by outsiders of the Lucanas community.

The approach

In order to manage the sustainable use of vicuña fibre, a plan was authorised and approved by the reserve's board of directors. Under a contract signed as part of the plan, both the communities and directors must respect certain rules and meet certain requirements governing the sustainable management of the vicuña. One commitment is that the community must carry out monthly surveillance and monitoring activities to combat poaching.

Members of the community are involved as park rangers, with capacity-building and awareness-raising activities implemented. These focus on making the communities fully aware of the punishments for wildlife

offences. Environmental education and community activities are carried out to raise local awareness of the importance of the vicuña to the lives of local people.

Community members capture and shear vicuñas in return for a daily wage. A rotation system ensures that all community members have access to this work and the fibre is traded in national and international markets. Alongside this, local communities are also working to develop tourism, with a view to ensuring a further source of income in addition to conservation activities.



Staff of the Lucanas Rural Community and SERNANP inspecting the quality of fibre obtained by capturing and shearing wild vicuñas. Credit: SERNANP – Reserva Nacional Pampa Galeras Bárbara D'Achille.



Vicuñas being penned for subsequent shearing. Credit: SERNANP – Reserva Nacional Pampa Galeras Bárbara D'Achille.

The strategy

- Strengthening disincentives for illegal behaviour
 - Paid-in-money community scouts
 - Unpaid (voluntary) community scouts
 - Raising community awareness about wildlife crime penalties and sanctions
- Increasing incentives for wildlife stewardship
 - Tourism
- Decreasing the costs of living with wildlife
 - Physical separation of people/livestock and wildlife
- Increasing livelihoods that are not related to wildlife
 - Provision of community-level benefits
- Improving education and awareness

benefitting over 200 families. This has been invested in infrastructure, health, education and safety for both people and wildlife. A regulatory framework is now in place favouring the sustainable management of natural wildlife resources, both within and outside natural protected areas.

Factors for success

- Transparent and accountable distribution of benefits to local communities
- Clear and tangible benefits to local communities from wildlife (these may be financial and/or non-financial)

Challenges

It is difficult to improve environmental quality standards without resulting in increased fibre costs. Another challenge is to reduce the stress caused to wild vicuñas.

Weblink

www.peoplenotpoaching.org/participation-lucasas-community-sustainable-use-vicuana-fibre

What has worked and why?

Poaching has been eradicated in the reserve and the economic needs of the local population have been met. An official market has been established for legally harvested vicuña fibre, with increased income

With thanks to Santiago Paredes Guerrero from the Pampa Galeras Barbara D'Achille National Reserve and Aldo Espinoza Rojas, President of the Lucasas Rural Community, for submitting this case study.

Protecting the rainforest and its wildlife through sustainable livelihoods, Suriname

A coalition of conservation organisations including Conservation International Suriname, the Worldwide Fund for Nature Guianas and the Amazon Conservation Team

Summary

In November 2017, Conservation International Suriname and an indigenous village called Alalapadu in southern Suriname signed a conservation agreement for the protection, conservation and sustainable use of the forest and to enhance economic development. The villagers are involved in monitoring illegal activities in the forest, and a project to generate income from Brazil nut trees has improved livelihoods.

COUNTRY	Suriname
LOCATION	Alalapadu, south Suriname
SPECIES AFFECTED	Brazil nut (<i>Bertholletia excelsa</i>), jaguar (<i>Panthera onca</i>), red-rumped agouti (<i>Dasyprocta leporina</i>), songbirds
PRODUCTS IN TRADE	Nuts, jaguar teeth, meat from agoutis, live songbirds

The poaching problem

The agouti is illegally hunted in the Alalapadu area. There have also been reports of illegal trade and poaching of jaguars. In addition, live songbirds are captured throughout Suriname for the illegal pet trade.

The approach

The Brazil nut tree is one of the key species protected by the agreement. A monitoring team from Alalapadu has been trained in monitoring the tree, as well as the forest in general. The team has also been trained in monitoring conservation actions identified by the village as important. These actions include several restrictions such as a ban on hunting agoutis in certain areas, a ban on wildlife trade for pets and a ban on gold mining activities. Each member of the monitoring team receives monthly payments for information and awareness-raising movie nights have been held in the village. The process to determine these actions was carried out in accordance with the traditions of the Trio culture of Alalapadu, with village members involved throughout the design of the agreement.

To generate income for the village, Conservation International Suriname built a Brazil nut oil-processing facility in Alalapadu. The oil produced from the nuts is sold to a nearby cosmetics producer and provides an incentive to the village to protect the trees and the forest in general.

The strategy

- Strengthening disincentives for illegal behaviour
 - Performance-based payments/incentives for patrolling or guarding
 - Paid-in-kind community scouts
 - Raising community awareness about wildlife crime penalties and sanctions
- Increasing incentives for wildlife stewardship
 - Payment for ecosystem services
- Decreasing the costs of living with wildlife
- Increasing livelihoods that are not related to wildlife
 - (Non-wildlife-based) enterprise development/support
- Building and/or supporting a sense of community ownership or stewardship
- Improving education and awareness

What has worked and why?

In the first year, over 60 people received direct benefits from Brazil nut facility. People from the village now have a sustainable income, meaning they are less dependent on outsiders. There has been a considerable drop in habitat loss because the village does not allow gold mining or commercial timber concessions. Due to the conservation agreement, songbirds are no longer captured in the area surrounding the village.

Factors for success

- Supportive, multistakeholder partnerships with a shared vision
- Sufficient time investment in building relationships and trust between the project and local communities
- Devolved decision-making power so local communities have a voice in creating or co-creating solutions (as part of the project)
- Effective and trusted community leaders

The chief of the village has been very involved and has pushed for sustainable development, streamlining project implementation. The movie nights created a sense of trust and engagement which led to the villagers being much more open and willing to work with Conservation International Suriname.

Meetings were prepared and held with the involvement of the village to ensure the right messages were being discussed. This resulted in a better understanding of the project and more input from the village. To help build trust, Conservation International Suriname also carried out house visits so that all villagers knew their input was important to the design of the conservation agreement.



The factory. Credit: Conservation International Suriname.

Challenges

Language barriers have been a challenge throughout, as Trio (the language spoken in Alalapadu) is very different to western languages and words often cannot be directly translated. A lack of supportive national policies for devolved governance of natural resources and for the sustainable use of natural resources was an additional challenge.

Weblink

www.peoplenotpoaching.org/protecting-rainforest-and-its-wildlife-through-sustainable-livelihoods

With thanks to Shiralynn Hirosemito and Els van Lavieren from Conservation International Suriname for submitting this case study.



Brazil nut. Credit: Conservation International Suriname.

Caribbean sharks education programme, Venezuela

Shark Research Centre and Ocean Care

Summary

The Caribbean sharks education programme is aimed at fishing communities reported to be involved in the killing and illegal trading of whale sharks in Venezuela. It seeks to provide these communities with alternative, sustainable, biodiversity-based sources of income, while recognising their difficult living conditions. The programme includes school-based activities, public workshops and house-to-house visits with a view to raising awareness regarding the conservation status of whale sharks, and the need to participate actively, as a society, in protecting the species and marine ecosystems.

COUNTRY	Venezuela
LOCATION	Various sites
SPECIES AFFECTED	Whale shark (<i>Rhincodon typus</i>), hammerhead sharks (<i>Sphyrna</i>), plus various other shark species
PRODUCTS IN TRADE	Fins, jawbones, vertebrae, liver and meat

The poaching problem

Poaching is carried out by members of fishing communities, who are attracted by offers from Asian citizens who have recently moved to Venezuela under economic cooperation agreements. Various private groups are involved in illegally trading shark products.

Communities are encouraged to poach sharks because it provides them with additional income. Most of these communities are very poor, plus there is no surveillance and monitoring by the authorities. In the four years prior to the project's implementation, a total of 21 adult whale sharks were illegally killed for their fins and other products.

The approach

The project is being led by the Shark Research Centre, via a grant from the international organisation Ocean Care. The project's main strategy consists of countering the offer of illegal income with other legitimate sources of income through the development of tourism-related activities as well as the provision of other services. The project also seeks to raise awareness of ecological issues in fishing communities.

Training workshops are run for fishing communities on the importance of ecosystem services and in particular the role played by sharks in marine ecosystems. In addition, educational and awareness-raising programmes are carried out in local schools, at workshops for fishermen's associations and through personal visits made to communal meeting places, unloading ports and even individual homes.

The project focuses on promoting marine products and sustainable ecotourism. Ecotourism activities have been launched in areas where no such activities were previously available. Support has been provided to communities to design plans and services adapted to local conditions, and for subsequent implementation and promotion at a national level. In addition, free advertising, including covering graphic design costs, is provided for all community entrepreneurs wishing to use the whale shark as a logo.

Further income has been generated by the sale of red lionfish, an invasive species causing considerable damage in the Caribbean. This has been achieved by contacting high-end restaurants in the capital, where the red lionfish is considered a delicacy and has recently begun to command high prices.

Teams of volunteer scientists have been formed to help collect information of scientific value. Incentives for volunteers include the chance to attend national scientific events, free uniforms, recognition on social media and involvement in activities run by the Shark Research Centre.

Compensation is sometimes paid to fishermen for nets ruined or damaged by whale sharks. This has encouraged them to keep photographic and audio-visual records, and also helps to avoid the use of prohibited nets, which are not subject to compensation.

Local communities receive health support, and food and clothing have been distributed among the most in need, especially those actively involved in shark conservation.

The strategy

- Strengthening disincentives for illegal behaviour
 - Paid-in-kind community scouts
 - Non-monetary/in-kind incentives for community intelligence
- Increasing incentives for wildlife stewardship
 - Tourism
 - Subsistence resource access/use
 - Lease payments
 - Legal trade
- Decreasing the costs of living with wildlife
 - Financial mitigation measures
- Increasing livelihoods that are not related to wildlife
 - (Non-wildlife-based) enterprise development/support
- Building and/or supporting a sense of community ownership or stewardship
- Improving education and awareness



Fishermen drying shark fins for collection by illegal traders. Credit: Raquel Márquez.

Free advertising for tourism services has helped to build a sense of community stewardship of sharks, and at the same time has transformed the local image. The result is a forthcoming meeting to allow fishing communities to share personal experiences.

Education has played crucial role, since most members of the target communities are largely uneducated. Some people have commented that taking part in this project has been the most important achievement of their lives, and they are very proud to be part of an international conservation movement.

What has worked and why?

The project has been very effective, primarily because it has worked directly with communities that were previously involved in the illegal killing of whale sharks. No whale sharks have been captured in Venezuela in the last 17 months, nor has any intentional mass capture of hammerhead sharks been reported over the same period. The fins of other shark species are still traded across the national parks where the project operates, however.

The project has been able to change community attitudes to nature. This has been particularly noticeable in schoolchildren, although many fishermen have also understood the importance of conservation in order to ensure the survival of the resources from which they derive their livelihoods. They have become aware of the value of live sharks given they now receive financial benefits from their presence.

By the end of the first year of project implementation, the first communities had started to receive income in exchange for shark-linked ecotourism services. Fishermen are beginning to devote one or two days a week to taking tourists out to newly discovered diving areas, assuming responsibility themselves for surveillance and biodiversity protection. Increased demand for these services, despite the current economic depression in Venezuela, has brought hope to many people.

Factors for success

- Long-term donor support that is flexible, adaptive and/or based on realistic time goals
- Sufficient time investment in building relationships and trust between the project and local communities
- Effective and trusted community leaders

The long-term support of donors has proved essential, with ongoing support vital to ensuring long-term community commitment to the project. Flexible resource management has also been valuable, as each community faces different challenges, which may require unforeseen actions and expenses.

The best results were achieved in the communities where the project had the greatest presence. Even though the same methods were used in all project areas, the presence of project officials proved to be an incentive for people. In addition, the support of community leaders is very important, especially in areas with high poaching rates. Some of the ports visited under the project are used by small-scale smugglers and drug rings, so visitors are not welcome. In these cases, accompanying local leaders enabled authorisation to work in the area, under the protection of internal security.

Communal brainstorming had a crucial impact on project implementation, with the most successful ideas put forward by the community itself. As bullying is common in the communities, it was essential to involve all members to avoid collective pressure from project opponents.

One of the main factors for success was the generation of alternative sources of income that were directly linked to the protection of the whale shark. Although the immediate economic benefits of ecotourism are lower than those expected from the illegal sale of sharks to traffickers, people are now aware that illegal income can only be received once, whereas the income derived from live sharks is sustainable over time and benefits many families.

Challenges

An initial strategy, which attempted to reach out to everyone at the same time, proved ineffective as each group had different issues, which needed to be tackled individually. Intimidation has had no effect on traffickers. In fact, if traffickers feel threatened, they are likely to react negatively.

Offering compensation for nets damaged by sharks proved to be a major challenge. It was difficult to establish whether or not the nets were prohibited, leading to some fishermen being unhappy because they were not receiving compensation. Although compensation may save numerous whale sharks in certain areas, it can also prompt conflict with local communities.

A further challenge is the need to maintain the impetus of the project within communities where project officials cannot visit very often. In such cases, permanent channels of communication have to be established as it is difficult for a community to maintain motivation without outside support. Although a legal framework exists, it is not applied in practice, because the authorities share financial and private interests with the traffickers.

Weblink

www.peoplenotpoaching.org/caribbean-sharks-education-programme

With thanks to Leonardo Sánchez from the Shark Research Centre for submitting this case study.



Planning. Credit: CIT.

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Biodiversity

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The scale of illegal wildlife trade (IWT) internationally is a conservation crisis and tackling it is seen as a race against time. As a quarter of the world's land is owned or managed by communities, they must be central to conservation efforts – and community engagement is already internationally recognised as important to the global effort to tackle IWT. But because community engagement strategies are complex and take time to implement, not enough initiatives are being supported.

This compilation of case studies seeks to address this problem. Prepared to coincide with the regional conference on IWT in Peru in October 2019, it showcases a wide range of successful initiatives from Latin America that have engaged communities in tackling IWT in different ways. However, these need to be scaled up and scaled out, learning from experience and adapting approaches to fit specific contexts and to meet specific challenges.



International Institute for Environment and Development
80-86 Gray's Inn Road, London WC1X 8NH, UK
Tel: +44 (0)20 3463 7399
Fax: +44 (0)20 3514 9055
email: info@iied.org
www.iied.org



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