

Aligning business success with conservation: a case study from the Lao PDR

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Introduction

Growing demand for both renewable and non-renewable natural resources, along with increased investment in their exploitation through development of large infrastructure projects, is intensifying pressures on species, habitats, and environmental services. In many countries new project development is occurring in more remote areas and having both direct and indirect impacts on sensitive areas and threatened species. These investments and impacts are contributing to loss of biodiversity and ecosystem services that are important to sustain the economies and quality of life of millions of people. As a result, companies are facing greater pressure to respond to stakeholder demands to balance investment with environmental concerns.

The growing pressures on biodiversity and ecosystem services have led to significant changes in the ways that companies do business. Changes in company approaches reflect both an internal assessment of potential business risk and increased pressure from financial institutions. Many companies that are investing in infrastructure have decided to adopt more progressive conservation measures as a way to address their risk and to improve their business opportunities. For these companies, the business case is clear. Poor practices can lead to a loss of support or negative publicity with the result that companies lose their social license to operate. This may occur in a specific country, but also extend to other countries where licenses or concessions become more difficult to obtain due to reputation. In addition there is operational risk: inadequate consideration of biodiversity and ecosystem services can increase future vulnerability to risk for example through decline of water quality and quantity as a result of poor watershed management practices. Such companies recognize biodiversity loss as a significant business risk and have adopted internal policies that aim to achieve no net loss of biodiversity, or a net positive impact on biodiversity.

Another important driver for changes in business practice is access to financing. With the passage of revised International Finance Corporation performance standards in 2012, and notably of Performance Standard 6 (PS6), which addresses biodiversity and sustainable management of natural resources, companies need to demonstrate no net loss for impacts in natural areas and a net positive impact where those impacts occur in critical habitat. PS6 has also been adopted by the Equator Principles Association, which informs the lending policy of almost 80 lending institutions. Whether through a voluntary approach or a need to meet lender requirements, companies can achieve positive results by committing to a mitigation hierarchy that avoids and minimizes project impacts in project design and implementation, and can also achieve no net loss or a net gain of biodiversity by compensating for or offsetting project residual impacts. For most projects, offset implies conservation of similar biodiversity in another area in the vicinity of the project. Conservation is achieved through financing and implementing a management plan for the offset area and providing that financing at least as long as the impact lasts, and preferably in perpetuity.

Companies have begun to identify important business benefits from these approaches, including growing access to a seat at the policy table in countries considering changes to their EIA regulations to include adherence to the mitigation hierarchy. Moreover, some companies have begun to view PS6 as a standard for guiding best environmental practice and many have made a commitment to apply PS6 guidance in the design and implementation of their projects as an effective way to avoid risk and demonstrate a commitment to best environmental practice. In following best practice, companies are increasing their investment in conservation actions as a way to compensate for or offset their impacts.

In this case study we present an example from the Lao PDR in which a hydropower developer and the government have engaged in a partnership with a non-governmental organization to assist with best practice implementation. This partnership is the first of its kind in the Lao PDR for a hydropower project, and demonstrates a model for compensation of impacts that can be applied both locally and in the region for hydropower or other extractive industry developments.

The location

The Lao PDR is a small, tropical, landlocked country in Southeast Asia. The geography of the country is characterized by the Mekong River, which forms the majority of the western boundary, and the Annamite mountain range along the eastern border with Vietnam. With a forest cover ratio of 40% despite losing forest at a rate of approximately 0.5% per annum, the Lao PDR remains one of the most heavily forested countries in the region. The country is one of the most biodiversity rich in Southeast Asia, containing four ecoregions of global significance. More than a quarter of its fauna (319 of 1140 animal species) is considered of national and global significance. Biodiversity and ecosystem services are under threat from a variety of sources. A recent threat is the expansion of large scale agro-industry, commercial extraction and hydropower. Whether sited within key biodiversity areas or in their vicinity, these developments are either directly, through forest and habitat loss, or indirectly through increased population pressure, impacting the resource base of forests and modifying ecosystem services.

Forestry management areas in the Lao PDR are divided into three categories: conservation, protection and production forests. Conservation forests, or protected areas as they are commonly called, represent 20% (4,777,680 ha) of the country's land area with a total of 234 areas currently declared. These protected areas are designated to protect the unique biodiversity of the country. Protection forests are primarily designated for their specific roles in providing ecosystem services, such as hydrological functions, and represent, 34% (7,987,707ha) the country's land area.

Despite this significant allocation of forestry areas in Lao PDR, resources for managing these areas are minimal. Most government investments are focused on more immediate social and economic development. For 2013 the government budget allocated to the department responsible for protection forest management and biodiversity conservation was USD 156,000, excluding bilateral investments and donor financing from international organizations. For this reason, only protected areas and protection forests that receive external financial support have been able to implement any meaningful management interventions to date. Furthermore, the capacity of government staff allocated to implement forestry and biodiversity management actions is still very limited. For example, the government department responsible for protection and conservation forest management and biodiversity conservation has a total of 604 staff nationwide. On the whole the technical capacity of these staff is diverse but limited.

Relying upon externally, donor-funded projects to achieve biodiversity conservation goals is neither sustainable in the long run nor realistic. In the absence of more reliable financing for protected areas, it is unlikely that the trends impacting this sector will change. A large number of hydropower and mining projects are being proposed in the Lao PDR, and these activities have the potential to impact policy in the country and to serve as regional examples of sustained financing for forestry management and conservation action.

Bolikhamxay province, in central Laos, is uniquely positioned ecologically, with all major rivers in the province flowing into the Mekong. The Nam Theun/Nam Kading riverbasin has a catchment area covering more than 92% of the province. Bolikhamxay can be divided into two main ecological areas – the unique evergreen forests of the high Annamite Mountains in the east, and the mixed semi-tropical forests to the west. These ecosystems are a primary livelihood resource for local people and also provide crucial ecosystem services. The overwhelming majority of people depend on natural resources for food, medicine, income, and fuel. For example, a recent study in one particular area of Laos shows that two-thirds of all meat and over half of the all vegetables consumed by families were collected from the wild.

The Theun-Hinboun Expansion Project project area contains several forestry areas of high biodiversity value that provide critical ecosystem services in Bolikhamxay. These include areas downstream of the

hydropower project such as the Nam Kading National Protected Area (NKD NPA), and areas in the wider watershed such as the Phou Sithone Endangered Species Conservation Area (PST ESCA) and the Phou Chom Voy Provincial Protected Area (PCV PPA). The Nam Gnouang South Protection Forest Areas (NGS PFA), is particularly critical to the long term success of the THPC hydropower scheme as it forms the immediate watershed area for the extension project (Figure 1).

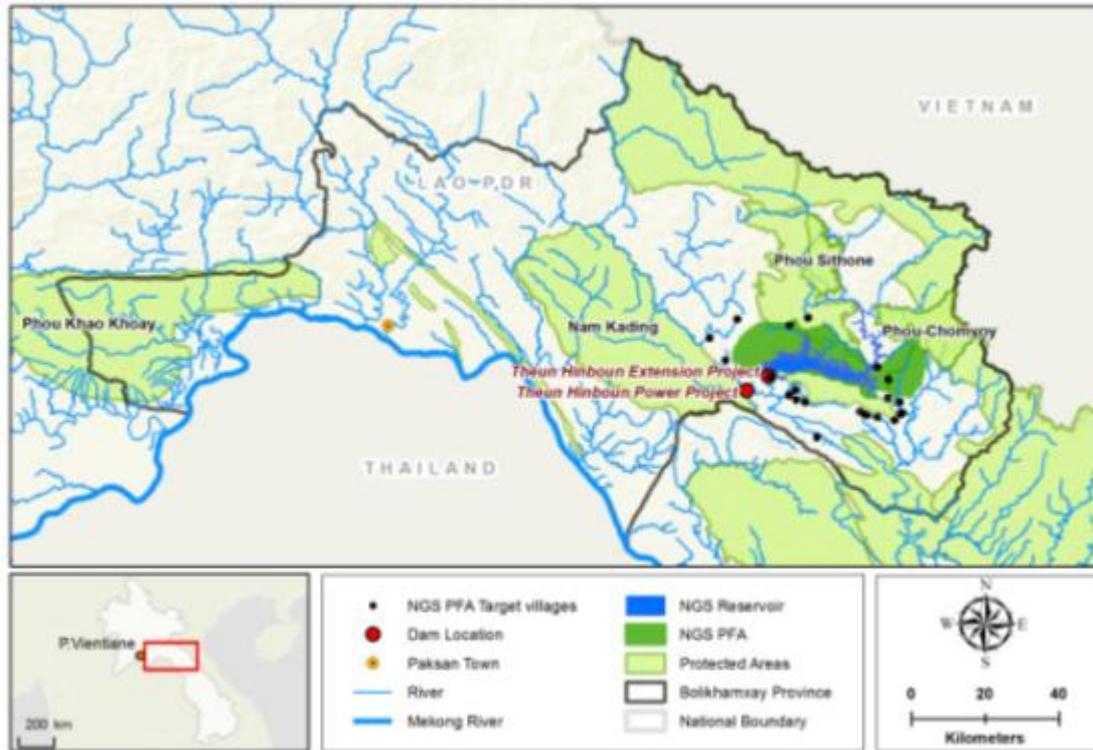


Figure 1. Location of the Theun-Hinboun Hydropower Project and Extension in relation to declared forestry management areas in Bolikhamsay Province.

The NGS PFA is a mosaic of habitats and forest types containing many small rivers and streams. Despite the fact that a large amount of the area has been used for upland agriculture (Figures 2a and b) the northern areas contain good quality forests (Figure 2c). This is most likely due to their distance from villages and relative inaccessibility. In areas of original forest cover, mixed deciduous forest (Figure 2b) is the most prominent cover type. Patches of evergreen forest persist in gullies at higher elevations and there are stands of deciduous and bamboo forest. The area also contains impressive limestone outcrops covered in mostly deciduous species. Though less species-rich than protected areas in the province, the NGS PFA nonetheless contains a vast array of wildlife species including the critically endangered Saola, the endangered Red shanked douc langur and the near threatened Asian Golden cat.



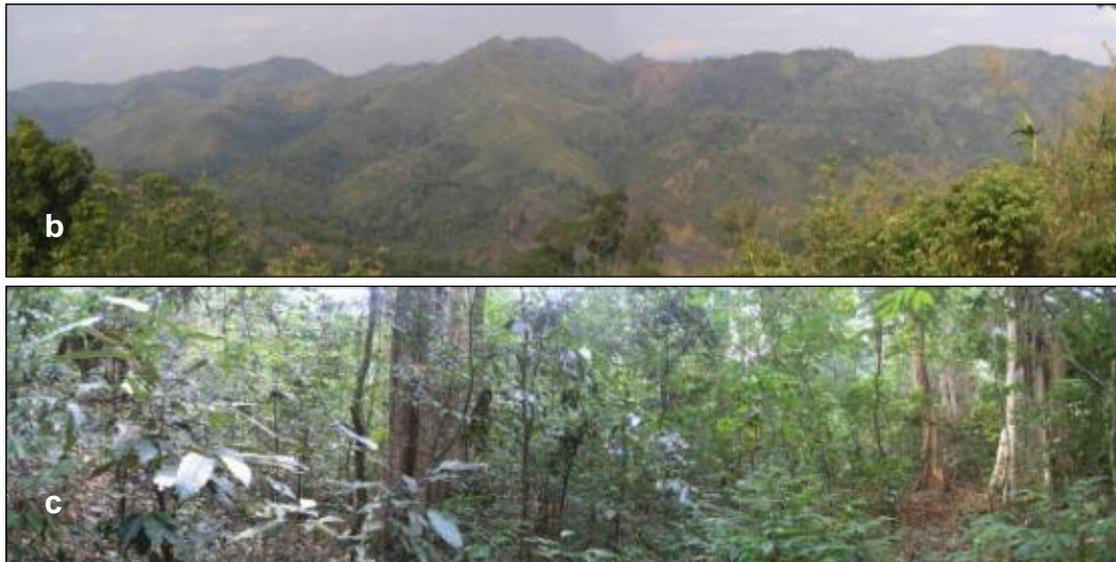


Figure 2. Varying habitat types in the Nam Gnouang South Protection Forest Area

The most relevant direct threats in the NGS PFA include:

- (a) Area encroachment for agriculture and livestock grazing – this is the number one threat to forest cover and biodiversity. The PFA is still widely used by local people for agricultural production, livestock grazing, NTFP collection and hunting of wildlife.
- (b) Logging – illegal timber extraction still exists within the area due to high timber value. This poses a direct concern to the protection of forest habitat.
- (c) Uncontrolled burning – parts of the area are burnt to hunt wildlife or for agriculture. It is a destructive hunting method that will not only wipe out species of wildlife, but also degrade forest habitat in the NGS PFA.

Indirect threats to forest cover in the NGS PFA are divided into primary and secondary, with the secondary threat leading to the development of the first. Identified indirect threats include:

- (a) High timber value caused by strong market demand
- (b) Population growth within and around the area, leading to unsustainable natural resource exploitation.
- (c) Unclear regulations and weak law enforcement, leading to land grabbing and uncontrolled use of the landscape.
- (d) Lack of specific local regulations for management of the NGS PFA
- (e) Limited capacity and resources of protected area and protection forest staff
- (f) Local authorities and communities lack knowledge of the objectives of forest management, particularly watershed management.

The partners

The Theun-Hinboun Hydropower Company (THPC): THPC is committed to contributing to economic and social development in Laos while preserving the environment. Hydropower operations are designed to conform to the laws and regulations of the Lao PDR, and to meet at minimum the standards of the Equator Principles and Asian Development Bank Safeguard Policies. The company is dedicated to developing Lao hydropower resources in the most efficient and sustainable way to help the country expand its development possibilities.

The Wildlife Conservation Society (WCS) is an internationally recognized organization dedicated to preserving the Earth's wildlife and wild landscapes and seascapes. WCS currently oversees a portfolio of more than 500 conservation projects in 60 countries in Asia, Africa, Latin America, and North America, and the oceans between them. With a commitment to protect 25% of the world's biodiversity, we address four of the biggest issues facing wildlife and wild places: climate change; natural resource exploitation; the connection between wildlife health and human health; and the sustainable development of human livelihoods. While taking on these issues, we manage more than 200 million acres of protected lands around the world, with more than 200 scientists on staff.

WCS first began working with the Lao Government in 1990 before establishing a permanent WCS Lao program in 1994. Over the last 20 years the WCS Lao PDR country program has expanded and developed leading models of natural resource management in the country, focusing on long-term investment in landscapes of high biodiversity and ecosystem service value. WCS's long-term commitment to these sites has allowed excellent working relationships with local governments and communities in and around these landscapes, and engaged support for the implementation of biodiversity conservation activities. For over six years WCS has partnered with the government and multiple donors to implement the Integrated Ecosystem and Wildlife Management Project. This project works in the wider Bolikhamxay landscape with a focus on conservation and protection forests as well as on the human landscapes around these designated forest management units. Extensive experience in developing innovative protected area financing measures in Bolikhamxay and the wider region uniquely positions WCS to develop long-term financing mechanisms for conservation, while its scientific work allows it to assist businesses with implementing best practice.

The Government of the Lao PDR has identified the environment as one of the key pillars upon which to further socio-economic development to lift the country. The Lao economy has performed well in recent years, even in the midst of the recent global financial crisis. In 2012 the Gross Domestic Product growth rate was 8.3%. Over half of the Lao PDR's wealth is in the form of natural assets – water and hydropower potential, agricultural land, forests and minerals. The government plans to harness these natural resources to further growth and, in the case of hydropower, to become the “battery of Southeast Asia”. As of 2013 the country had 16 operational HPPs (with a total capacity of 2,948 MW), 14 under construction, 24 in planning stages, and a further 32 in the process of feasibility assessment. The government has established an ambitious goal for forestry management in the country, seeking to increase forest cover from 40% in 2010 (DoF 2011) to 70% by the year 2020.

The operational modality

The obligations in the THPC License Agreement signed in July 2008 were based on a government-approved Environmental Mitigation and Monitoring Plan. The License Agreement states that THPC, with the support of the government, is responsible for establishing a protection forest above Nam Gnouang reservoir. THPC is committed to providing financing for the management of this forest area until 2017. The total financial value of this commitment is USD 1.4 million. It is noteworthy that THPC is providing significantly greater funding than is required in the License Agreement.

Using its extensive experience in the country and around the globe, WCS provides technical assistance, program coordination, and capacity development. WCS and the government have partnered in Bolikhamxay province since 2005 and plan to operate through the current Memorandum of Understanding until 2015. WCS also oversees the financial management of funds committed by THPC to implement management actions. The government, through its provincial and district Departments of Forest Resources Management, is the primary implementer of all works on the ground (Figure 3).

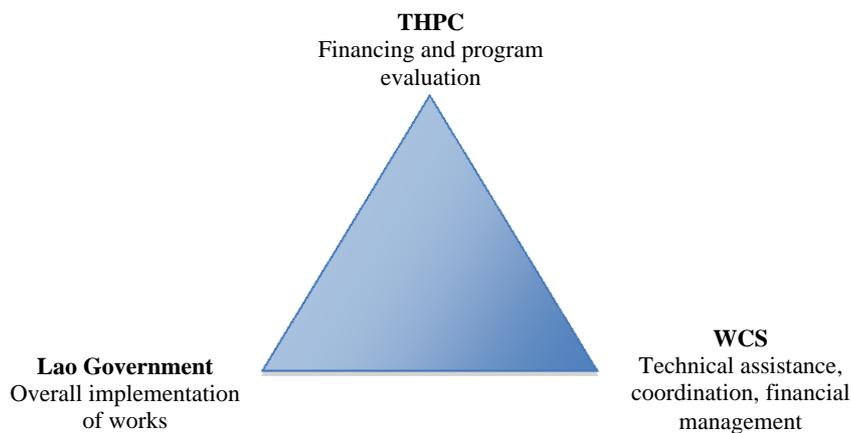


Figure 3. Overview of roles in the THPC/WCS/Government partnership

In partnership with the government, WCS has been collaborating with THPC since 2007 to implement forest management interventions. In 2008 WCS contributed to the THXP Environmental Impact Assessment. This resulted in two sub plans incorporated in the Environmental Management and

Mitigation Plan; catchment protection and catchment rehabilitation. During the feasibility and construction phases between 2009-2012, the government worked with THPC and WCS to implement management actions downstream and upstream of the THXP. This included biodiversity surveys, boundary demarcation of conservation forests, biodiversity protection and enforcement, community outreach and awareness, capacity development including training for government staff and support of undergraduate and post graduate students, and developing models for local community sustainable management of non-timber forest products.

In 2013 the partnership between WCS and THPC was furthered through the signing of an agreement for WCS to provide services until the end of 2015. This agreement focuses on three main landscape areas: the NGS PFA, the NKD NPA, and two other provincial protected areas (PST ESCA and PCV PPA).

Program scope

The scope of works to be implemented in these areas is to improve management of forest resources in the catchment area by: a) conserving the NGS PFA and contributing to its regeneration, b) contributing to the ongoing management of the NKD NPA downstream of THXP, and c) contributing to the establishment of management practices in other provincial protected areas in the catchment. Specific objectives include:

- To increase the capacity of government staff and local communities regarding watershed management and biodiversity conservation
- To maintain ecosystem integrity in the catchment area and preserve the abundance of habitats and forest lands
- To raise community awareness about the significance of watershed protection as it relates to livelihoods
- To improve the ability of communities to sustainably use and manage natural resources
- To enforce Lao law to prevent loss of forest cover, watershed integrity and biodiversity
- To conduct research and monitoring regarding the importance of ecosystems and plant and animal species, thereby informing and guiding management of the NGS PFA.
- To help facilitate rehabilitation of natural ecosystem functions and maintain aesthetic values
- To prevent unsustainable agricultural practices by local communities in target forest areas

Though the scope of works includes several areas, this paper highlights those actions in the immediate watershed areas of the NGS PFA north of the THXP reservoir. Through participatory strategic planning exercises involving stakeholders from THPC, local government, WCS and local communities, a harmonized vision was developed for the NGS PFA program. Specifically the vision is:

“To rejuvenate and protect the NGS PFA in order to maintain and sustain its natural integrity and ensure an adequate water supply to support the Theun Hinboun hydropower project and the improvement of livelihoods of local people.”

Results to date

Implementation of management actions in the NGS PFA began in earnest in January 2013. Since then the partnership between THPC, WCS and the government has established a foundation upon which future interventions can be built. This includes establishing a provincial level government oversight committee, provincial management unit, and assigning government staff to each of the work units.

In early 2013 these government staff, representatives from other relevant government agencies, and local community members participated in a strategic planning workshop. This planning exercise was crucial to development of a management plan to clearly define the project scope before proceeding to specific interventions in each program component. The planning process was guided by the Open Standard for the Practice of Conservation (CMP 2007). Project indicators and targets were developed using criteria adapted from these standards. The results of this strategic planning exercise are currently being incorporated into the first management plan for the area, which will be approved by government in the near future.

Participatory zoning and demarcation has been completed at three villages. The objective of this work is to zone the protection forest into Controlled Use Zones, which allow limited access and use, and Total Protection Zones with no access and use. An important component of this work is to consult with local communities and adequately harmonize local land use, such as non timber forest product usage, with the zoning plan for the protection forest. The zoning and demarcation activities will be completed in a total of nine target villages adjoining or overlapping the currently declared boundary of the protection forest.

To adequately understand local natural resource use the project team has completed Participatory Resource Assessments at six priority target villages. Initial results from two villages show that 41% of income generating activities are derived from natural resource services and products. Of the 115 and 103 species identified as being used at each village, all participants identified declining trends in the availability of these resources. The top ten particular species utilized as livelihood sources were ranked in terms of their importance as a direct source of food, use as materials, and as income through sales. Fish, wild pig, and squirrels were ranked as of the greatest importance as a direct source of food whilst timber was ranked the highest for both use and sale.

During 2013 two outreach and awareness campaigns were conducted. These campaigns apply the principles and methods that have been implemented by WCS and the government for many years in Bolikhamxay. These initial campaigns raise awareness about the existence of the protection forest area, increase community understanding of natural resource management issues and links to local livelihoods, build pride in local communities to protect forest resources, and instill further knowledge of local laws and regulations governing the use of the protection forest area. The two campaigns in 2013 reached more than 5,000 people and were implemented in all target villages as well as primary and secondary schools. These campaigns employ theatre, role play games and radio spots to deliver key messages (Figure 4). The success of each campaign is measured using pre- and post-survey questionnaires testing the knowledge and understanding of participants about key topic areas.



Figure 4. The NGS PFA Community outreach and awareness team deliver a community campaign event.

For example, prior to the implementation of the first campaign local community members were asked if they knew the meaning of conservation and provided with a selection of answers. During the pre survey over 40% of respondents said they did not know. Following the campaign over 92% of respondents chose 'intelligent use' and 'sustainable use' as the most appropriate answer to the question (Figure 5).

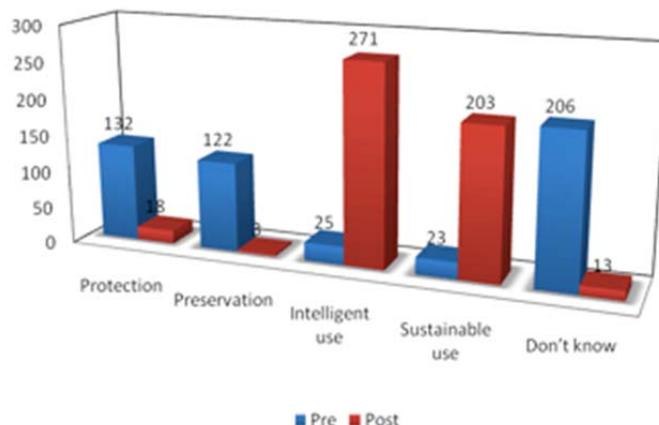


Figure 5. Sum total of responses to a selection of answers provided by local community members during pre and post campaign survey. The question asked was, "What is the meaning of conservation?"

The biodiversity and watershed protection activities implemented in 2013 followed a proven stepwise approach previously implemented in other newly declared forestry management areas in Bolikhamxay province. This includes the formation, training, and deployment of reconnaissance teams in the area to collect information about specific threats, access routes, and logistic constraints in the area of operations (Figure 7). These 'recon' teams consist of both government officers and local community members, with data collection and analysis managed using the Management Information System (MIST). Concurrently local communities and government staff develop local management regulations that complement and better define the implementation of national laws for the specific landscape area. Following these two steps an enforcement strategy is currently being developed with stakeholders, and implementation of the formal strategy will begin in 2014.



Figure 6. Biodiversity and watershed protection personnel conduct reconnaissance activities in the NGS PFA area identifying key threats such as illegal timber extraction and wildlife trade.

During 2013 the forestry and ecosystem monitoring team developed key indicators and targets against which to measure management performance. Methods to monitor indicators were also confirmed. Specific indicators include percentage of forest cover in the NGS PFA as well as the number of forest clearance activities recorded. The program will conduct forestry monitoring using remote sensing and GIS methods both on a monthly basis to monitor threats such as slash and burn agriculture and forest fires. The program will monitor forest cover on an annual basis and is currently reviewing the necessity and feasibility of a further species-based monitoring protocol.

Conclusion

Though in its early stages, this model of private sector, government, and NGO partnership is already providing a strong example of the quality outcomes that can be achieved. By engaging an NGO such as WCS, THPC gains access to a wealth of local implementation experience and already-established relationships with the government agencies responsible for forestry management. Further to this, WCS brings a global knowledge base of best practice developed over 100 years of conservation experience. Engaging an NGO in this way is more cost effective than developing in house capacity. The Lao government also benefits from this experience as the capacity of staff responsible for management interventions is developed through constant and daily engagement with WCS technical staff.

Although the project is not designed to achieve no net loss of biodiversity (there was no measurement of loss or gain), it has been designed to compensate for adverse impacts on the environment, and seeks a high level of compensation by protecting important forest ecosystems. Critical to the long-term success of the NGS PFA program and thus the longevity of the THPC hydropower projects will be sustained financing from the private sector to ensure the long-term management and protection of the new conservation areas and their biodiversity. Before the end of the current agreement between WCS and THPC in 2015 it will be important to develop sustainable financing options for the program and WCS will assist THPC with development of those options during the coming years.

The private sector recognizes the importance to earn and maintain a social license to operate, and understands the potential for long-term costs to go up as a result of poor environmental management. The significance of these risks is growing and many companies are adopting best environmental practices to specifically address them.

This is particularly true for companies seeking financing with stronger safeguards now required, especially by the IFC or Equator Principles banks. Unless measurements are taken to compare losses of biodiversity to gains, companies will not be in a position to demonstrate no net loss or a net gain, as required by the Equator Principles for impacts to natural and critical habitats. Companies therefore require expertise to measure biodiversity losses and determine the gains resulting from investment in compensation. Here NGOs such as WCS can play an important role, providing the scientific capability to design and implement protocols needed to understand impacts, and to put in place monitoring schemes to ensure that a project meets its requirements. Companies that have not committed to a no net-loss can in any case develop plans to compensate for their impacts on a scale that rivals those investments required to achieve no net loss. This case study demonstrates such an effort.

The scope and length of investments is vital to project planning, and NGOs can not only help to determine the costs of conservation management and monitoring, but can also assist with putting together long-term financing schemes for conservation by working with companies to design funding streams that ensure successful conservation actions. As more financial institutions demand compliance with biodiversity and ecosystem service conservation plans, and more companies adopt such commitments, NGOs have a greater role to play in providing technical support for conservation actions and in contributing to building systems for the transparent management of financial resources.

The Authors

Alex McWilliam completed his studies in Zoology at the Australian National University. Following this he was involved in behavioral ecology studies. In 2005 Alex moved to the Lao PDR, where he began work on ecological pest species management. Alex then began several years' work on wild Asian elephants, specifically related to human-elephant conflict management. He has extensive experience in developing and implementing models for protected area management, and in working with communities and local government to achieve this objective. Alex is currently the Deputy Director of the Wildlife Conservation Society Lao PDR Program.

Ray Victorine directs the Wildlife Conservation Society's Business and Conservation Initiative, working with the public and private sectors to promote best development practice to mitigate and compensate for impacts to biodiversity, ecosystem services and livelihoods. He also serves as the Director of Conservation Finance, leading global efforts to develop sustainable financing mechanisms that contribute to positive conservation and sustainable development outcomes. Globally he has contributed to the design and development of a variety of endowment funds and conservation funding institutions, and to development of market mechanisms for conservation.

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