



Conservation Finance

Moving beyond donor funding toward
an investor-driven approach

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Foreword

Valuable ecosystems are today undergoing rapid degradation and depletion in many parts of the world. Natural capital and the services that ecosystems provide are still poorly understood and rarely monitored. Unlike in the case of traditional commodities, the value of these natural resources is not recognized by today's markets. It is, however, crucial that we understand the interrelationship between environmental quality and economic profitability. This information needs to be integrated into macroeconomic analysis and included in decision-making processes in the areas of financing and investment.

To preserve the health of natural ecosystems, a significantly larger amount of capital investment is required than the sums currently being allocated to conservation. Private sector investment is needed, not to replace but to supplement traditional sources of conservation capital such as public funding or philanthropy, which have been impacted by the global economic downturn. Against this backdrop, WWF and Credit Suisse have joined forces in the area of conservation finance to identify the conditions needed to attract and redirect private capital toward conservation.

This report shows that there are many unexploited private sector investment opportunities to increase conservation finance and deliver maximum conservation impacts while, at the same time, generating returns for investors. In order to develop appropriate financing structures and ensure that private sector conservation finance results in measurable conservation outcomes, financial institutions and non-governmental organizations must experiment and define their respective roles and approaches. If both sides concentrate on their main areas of expertise – with banks focusing on the alignment of capital resources, risks, and maturities, while NGOs identify measures to protect the natural environment – we can create a new opportunity for collaboration that will help to preserve natural capital for future generations. Provided it delivers measurable results, investor-driven conservation finance can create powerful incentives for truly sustainable development.

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Definition of conservation finance

For the purposes of this report, conservation finance is understood to be a mechanism through which a financial investment into an ecosystem is made – directly or indirectly through an intermediary – that aims to conserve the values of the ecosystem for the long term. This report focuses on investment mechanisms that activate one or more cash flows generated by the sustainable management of an ecosystem, which in part remain within the ecosystem to enable its conservation and in part are returned to investors. Such mechanisms can be based on direct conservation strategies (e.g., service payments, compensation payments or fees, permit trading, and offsets) or linked approaches such as certified natural commodity markets like the Forest Stewardship Council (FSC) or the emerging climate funds (e.g., the World Bank Climate Investment Funds and the UNFCCC Green Climate Fund) that seek to incentivize private investment through public finance.

The report emphasizes the matching of a number of direct conservation finance strategies with available investable funds with the long-term intent of creating a conservation finance asset class. While important for conservation, this report does not focus on the additional, linked topics noted above, including the improvements of industry supply chains (beyond those directly related to conservation, such as agriculture and fishing), commodity finance and carbon/climate finance. Further, the report does not take a normative approach to the question of what conservation finance is or should be and bases its approach on mainstream definitions such as those of Global Canopy Programme (2012) and WWF (2009). Finally, the term *conservation* in this report is used mostly in the sense of *preservation*, although it is acknowledged that *restoration* will likely be a critical driver of conservation in the future and will equally require significant financing.

Executive summary

Conservation finance is not a new idea, and over the years many mechanisms have been developed and tested. Yet, for most of the last 25 years, the discussion has been geared toward the conservation objective and focused on how to meet the financing *demand* for conservation programs and strategies, i.e., finding investments to activate particular conservation mechanisms and scaling them up to broader programs and eventually whole markets. To that end, rigorous approaches have been developed to determine, validate and monitor the conservation impact of such efforts, such as the *Theory of Change Approach* promoted by WWF.

What has received less attention in the literature so far is the *supply* side of conservation finance, namely the perspective of investors and their investment approaches. Certain aspects of the supply side have been studied in the wider context of impact investing, in particular in Imprint Capital (2012), JPMorgan Chase/GIIN (2013) and World Economic Forum (2013). This report further analyzes the investor perspective in conservation finance and attempts to bring together the demand side (i.e., the need for conservation funding) and the supply side (i.e., the availability of investments with conservation impact). We believe that linking these sides through a deeper mutual understanding between investors and providers of conservation projects is critical to enable:

- Scalability, both of the investment vehicles or products being offered to financial markets and of the ecosystem-related cash flows into which funds are invested and that are often geographically and topically fragmented.
- Mechanisms to ensure measurable and verifiable financial and conservation impacts.

The report is divided into four chapters, and its main findings can be summarized as follows:

1. There is a significant unmet demand for the funding of conservation programs to preserve ecosystems at a global scale. Conservation finance, in particular from for-profit investors, has to date been small-scale and so possesses large unrealized potential.
2. Conservation finance can activate and scale up cash flows from conservation activities. To meet the global need for conservation funding, investable cash flows from conservation projects need to be at least 20-30 times greater than they are today, reaching USD 200-300 billion per year, if we assume that current government and philanthropic funding at least doubles.
3. There would be sufficient financial capital available to meet conservation investment needs if the main investor segments (i.e., HNW/UHNW individuals, retail and institutional investors) globally allocated 1% of their new and reinvested capital to conservation.
4. Both private and institutional investors have an appetite for conservation finance, in particular for those financial products that offer wealth preservation. This type of investment could be critical in establishing a 'lockstep' approach that mutually reinforces conservation impact and financial return. However, such investment opportunities do not yet exist at sufficient scale.
5. Banks and asset managers have an opportunity to incorporate conservation finance into their impact investment offering, by making the topic of conservation a fixed part of the advisory process and by developing new conservation-related investment products for their clients. Equally, the field would profit from the same rigorous approach to project diligence and selection, as done in standard portfolio management.
6. The primary reasons why conservation projects are underinvested in include the facts that (i) the monetary and conservation benefits of conservation programs are not sufficiently well identified or standardized; (ii) that environmental benefits are, without regulatory intervention, often externalities for the investors involved; and (iii) that conservation projects are not set up with the same focus on return/impact maximization and replication as are traditional business models.
7. The effort to establish conservation finance as a mainstream asset class would benefit from versatile early-stage venture-type conservation investments that unlock and establish profitable business models that rely on simple cash flow mechanisms and measurable conservation benefits. Venture philanthropists and conservation-oriented foundations can play a significant role in this respect.
8. Scaling up conservation projects into investable programs will require a professional management approach that fosters connectivity, sharing of best practice and rapid replication. Organizations experienced at financial management of large for-profit projects will have opportunities here and should make good use of expert non-governmental organization (NGO) support. Finally, the local communities involved in such projects often need to develop more business acumen and financial literacy to roll out projects at scale and be able to participate in their development.
9. To establish conservation as an asset class, a simple structuring into investable modules is proposed: (i) investments into the underlying ecosystems with the objective of capital protection; (ii) investments into establishing and maintaining infrastructure and business models of sustainable management of these ecosystems, in order to achieve a financial return; and (iii) investments into additional mechanisms centered on environmental markets or regulatory arbitrage for return enhancement.

10. Investors should first target priority areas where investable conservation asset classes yield the biggest potential conservation impact and where conservation projects have a chance to offer viable investment returns given the prevailing regulatory and political environment.

This report finds that the scaling up of conservation finance poses significant challenges, for both the conservation project and the financing side, but also represents a major private sector investment opportunity so far not fully developed. In fact, conservation finance represents a rare opportunity – and obligation – for the NGO community and the financial services industry to work closely with each other, each bringing their specific skills to bear:

- NGOs should aim to provide a sufficient supply of large-scale conservation projects that have clearly defined environmental and financial benefits and local regulatory backing. They can act as verifiers of conservation project impact, which investors will value as a ‘seal of approval’ for their investments. They can also work to further develop conservation impact measurement techniques, allowing to

further standardize the practice and other organizations to engage in such certification. Finally, NGOs can act as facilitators of large-scale conservation programs by using their skills in working with governments, financial institutions and providers of early-stage finance to build trust among the participants.

- The finance community has the opportunity to develop conservation products and distribute them to its clients. Asset and fund managers can structure wealth-preserving conservation products for HNW/UHNW segments – a largely unexplored opportunity – and look at return-generating conservation products alongside more traditional alternative investments. The projects or portfolio companies into which such structures will invest would benefit from professionalization driven by the process of project selection, due diligence and portfolio management as applied in other areas of investment. Finally, private banks and asset managers could make conservation finance part of their standard advisory services, much like philanthropy, impact investing more broadly and alternative investments are today.

Financing conservation

Main conclusions

- There is a significant unmet demand for the funding of conservation programs to preserve ecosystems at a global scale. Conservation finance, in particular from for-profit investors, has to date been small-scale and so possesses large unrealized potential.
- Conservation finance can activate and scale up cash flows from conservation activities. To meet the global need for conservation funding, investable cash flows from conservation projects need to be at least 20-30 times greater than they are today, reaching USD 200-300 billion per year, if we assume that current government and philanthropic funding at least doubles.

A brief history of conservation finance

When the conservation movement started in the 19th century, the main sources of financing were public sector funds. For example, federal funds were used to establish the National Parks Systems in the U.S. In this first phase, the main means of raising money were taxes, fees, stamps and government budgets. Philanthropic capital began to play an important role in the second half of the 20th century, starting a second phase characterized by a mix of public sector and philanthropic finance. Finance mechanisms were developed, including land acquisition and conservation easements, as well as advocacy programs for environmental protection.

In the last 25 years, a third phase has started to emerge, with the growth of private sector involvement in conservation

finance. New mechanisms have been developed to harness private sector capital, such as carbon finance, mitigation banking and nutrient trading. The development of conservation finance mechanisms in the second stage and the increasing private sector involvement in the third stage happened first in the U.S. but are increasingly shifting to the developing world, which hosts most of the world's priority places for biodiversity. In recent years, conservation finance has largely focused on trying to meet conservation needs in these developing countries by trying to overcome the associated challenges and barriers and has therefore continued to be demand-driven. What is now needed to increase scale is a shifting focus to the supply side of conservation finance.

A sector moving from infancy to young adulthood

Conservation finance is 10-15 years behind social impact investment¹ in developing into an asset class or investment style. Despite many natural resources being linked to regular revenue streams, we believe that there are several reasons why too few investable conservation business opportunities have been developed:

- The relative difficulty in designing a mechanism that generates a cash flow from a conservation investment, due to the immediate beneficiaries being hard to identify. In other words, those who manage natural areas are generally not paid for the public goods they provide, such as clean air and water.
- Natural resource-based revenue streams often have a high opportunity cost. Preserving an area of highly biodiverse tropical rainforest is made much more difficult when the same area can be cleared and used to generate profits from, say, a palm oil plantation.
- Even when mechanisms are successfully designed in a way that generates enough revenues to make a conservation investment more attractive than the exploitation of these natural resources, the projects are often small and not run with a commercially viable business model that can attract investors at scale.

A constant challenge of conservation finance is to avoid a situation known as the *Tragedy of the Commons*. As Elinor Ostrom has argued (Ostrom, 2011), this challenge can be overcome by finding the right institutional framework that addresses the relevant environmental problems in a specific setting. Privatization solutions may work in some settings, and regulation or community solutions in others, but each system that works has to fit local circumstances. Any attempt to structure conservation finance mechanisms must give ample consideration to these context-specific framework conditions.

¹ Investment in, for example, providing working capital, healthcare or education to underserved groups, thereby improving social outcomes.

Sizing the conservation challenge is difficult

Estimating the cost of protecting biodiversity and ecosystems at a global scale is very challenging, and it is fair to say that there exists neither a generally agreed-upon methodology (e.g., questions remain, for example, on how to treat supraregional benefits) nor a reference scenario against which the conservation requirement is measured (e.g., agreed-upon rates of desertification or deforestation). There have been attempts to sum the opportunity costs of destroying or depleting environmental assets (see, e.g., TEEB 2008, and TEEB 2010), but because of methodological difficulties, their results have so far been only partial. When assessing the size of the conservation funding demand, major considerations include:

- How much global biodiversity – and how many distinct ecosystems and species overall – should the world be protecting?
- To what extent can the cost of conservation be reduced by finding win-win solutions such as sustainable fishing, which has better economic outcomes than overfishing?
- To what extent are consumers willing to pay direct price premiums (voluntary or mandatory) for sustainable products or indirect payments for ecosystem services (PES) such as a carbon price?
- To what extent will scenarios with even more adverse effects from climate change increase the cost of conserving biodiversity?

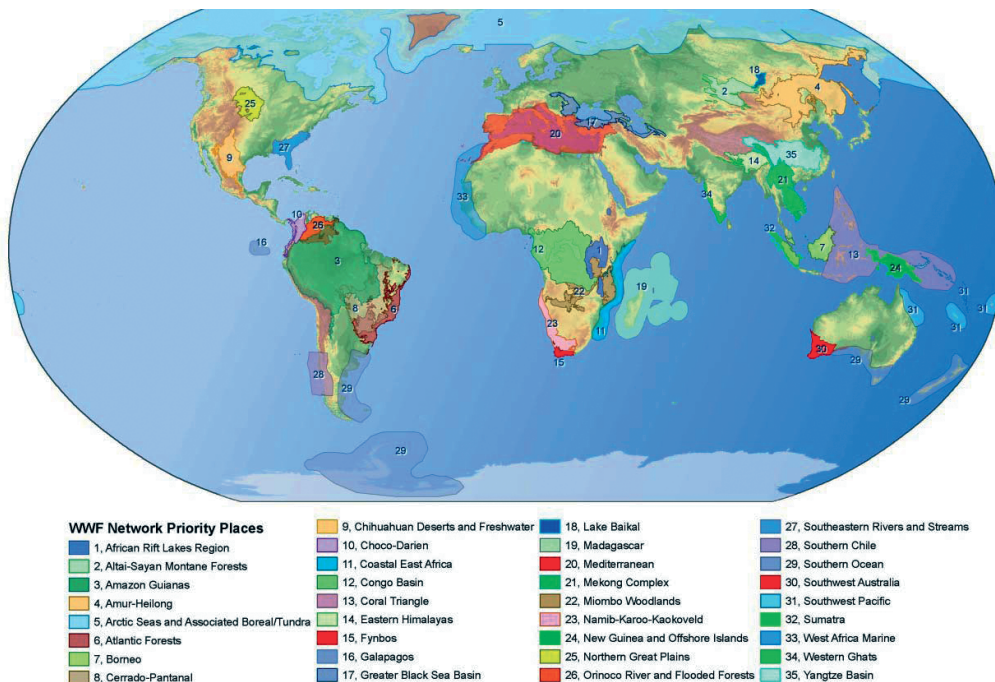
In this report we have taken an estimate of USD 300-400 billion as a reasonable working figure of the projected annual costs for global biodiversity protection, based on the most-cited research results.²

The report recognizes that due to the methodological difficulties, these approximations can only be indicative and further acknowledges that conserving biodiversity is not just a question of money. Political willingness, expressed in the views and actions of civil society as well as government regulation, is a prerequisite to make conservation investable. The recent striking success of the Brazilian state of Acre, for example, in reducing deforestation could not have happened without the support of government (local and national), business (especially food production and retail), environmental NGOs and public opinion.

Finally, there are several ways to think about global biodiversity, ranging from the highest-priority areas of the world, which can be as specific as an individual lake or an island archipelago, to broad regions of the earth that are home to a great range of species.

Figure 1 below shows the 35 priority ecoregions in the world defined by WWF (2013).³ They can be considered an important (arguably the most critical) part of global demand for conservation and finance needs, to which the supply of conservation finance, if we are able to grow it, can be matched.

Figure 1: WWF network priority places



Source: WWF

2 USD 300 billion: comprehensive conservation and the adoption of sustainable agriculture practices worldwide (Gutman 2010); USD 290 billion: protection of all biodiversity outside protected areas (James, Gaston, & Balmford 2001); USD 350-385 billion: total ecosystem protection in the context of climate change (Berry 2007).
 3 It should be noted that the cost of protecting the priority places listed by WWF does not correspond to the estimates for the total cost of global biodiversity protection, which will necessarily be higher.

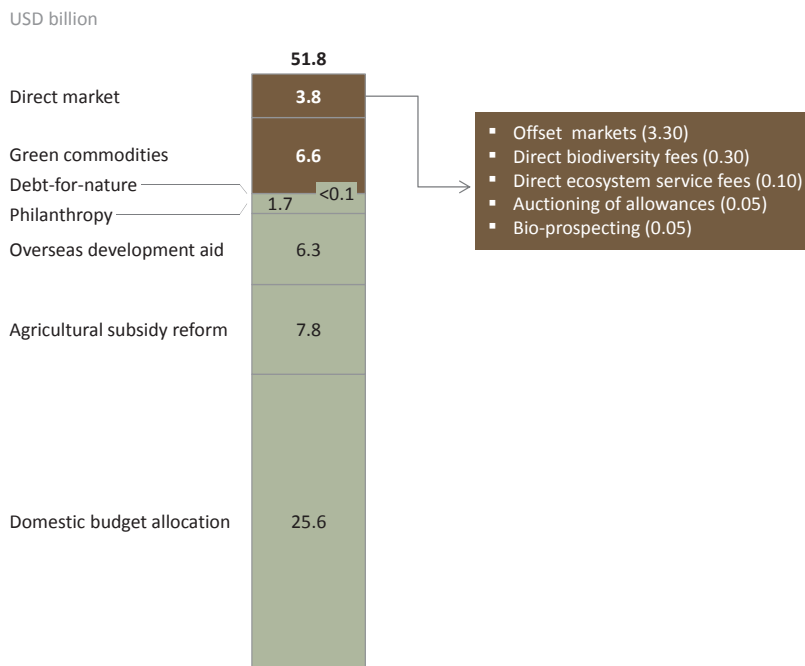
Funds currently available for conservation

Although interest in accessing global capital markets for the purpose of conservation is not recent, to date most conservation finance has been from public or philanthropic capital. As can be seen in Figure 2, the Global Canopy Programme (2012) estimates that current flows of funds to conservation are around USD 51.8 billion per year. Non-market sources make up 80% at USD 41.4 billion per year, the greatest part of which is domestic government budgetary spending. Philanthropy accounts for less than USD 2 billion per year. Of the USD 10.4 billion⁴ per year in funds generated by market-based activities, more than USD 6.5 billion are provided by 'green commodities', those natural products that are produced in an environmentally sustainable way and often carry associated certification such as

FSC, or MSC. A further USD 3 billion comes from (largely carbon) offset markets. 78% of conservation finance is generated in developed countries, 59% of which is spent there – the remainder is transferred to emerging and developing economies.

In addition to the imbalance in the level of economic development between countries that provide conservation finance and those that receive it, other conditions within regions or countries also affect the allocation of funds. For example, although there is a significant need in developing Asia, private sector conservation finance is limited, partly because philanthropic investments are directed more to causes such as education that reflect the personal stories of many new HNWI individuals in the region.

Figure 2: Current conservation finance



Source: GCP (2012)

⁴ This figure does not include funding available from ecotourism, which is likely to be significant, considering that the current market size (park fees, accommodation, etc.) is USD 115-230 billion (Ecosystem Marketplace, 2013).

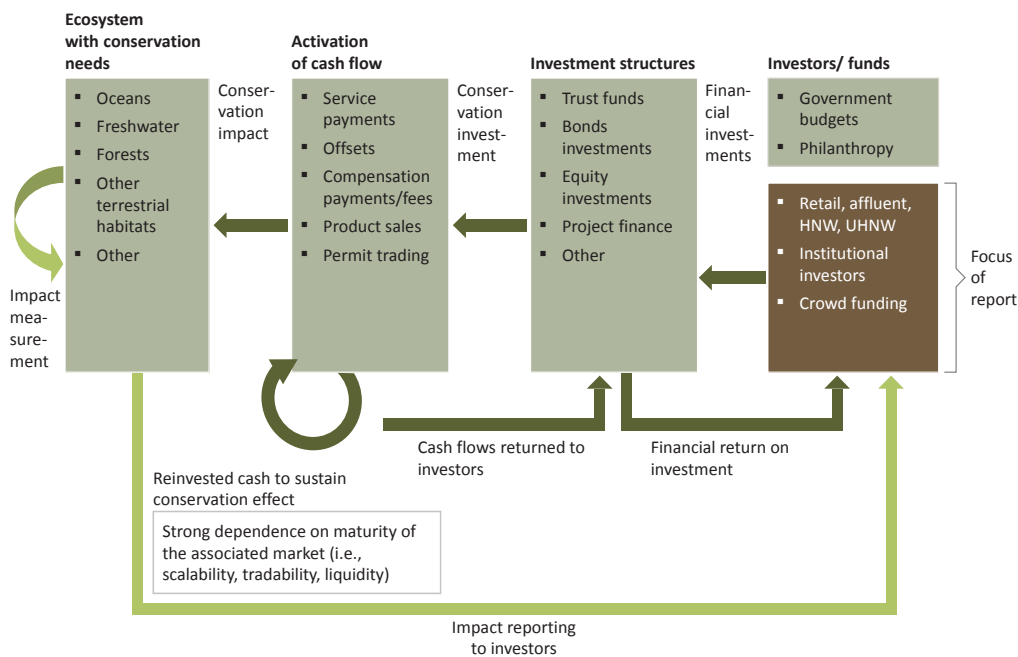
Required scaling up of market-based conservation investments

Although there is some scope to increase and/or refocus non-market sources of conservation finance (see GCP 2012), there is a limit to what government budgets can provide, particularly in light of the continued fiscal constraints in developed countries. Consequently, there is an urgent need for the international community to develop new and innovative sources of finance. To achieve the order of magnitude of scale-up needed, it is crucial that the field of conservation finance expands from donor-driven financing toward a commercial, investor-driven market.

One of the challenges for conservation finance remains the ability to leverage public and philanthropic capital, for example, in the form of venture funding, to activate and scale up financing through traditional capital markets. Figure 3 shows that

mechanism: investors put capital into investment structures (such as trust funds, environmental bonds or equities) that invest into cash flow mechanisms that in turn allow for a conservation impact on the targeted ecosystem. The cash flows generated by this investment serve to sustain the conservation activity and provide investors with a financial return. Cash flow activation mechanisms in conservation finance come in a variety of forms. Some have been around for decades, among them user fees and hunting licenses. Others are newer and more innovative and show promise but remain untested at a large scale, including environmental performance bonds,⁵ nutrient trading (the exchange of pollution allocations between sources) and biodiversity offsets (measures designed to compensate for significant residual adverse biodiversity impacts arising from project development).

Figure 3: Conservation finance framework



Source: CS/WWF/McKinsey

Taking annual global conservation needs to be USD 300-400 billion, and assuming current governmental and philanthropic conservation efforts were to roughly double to USD 100 billion

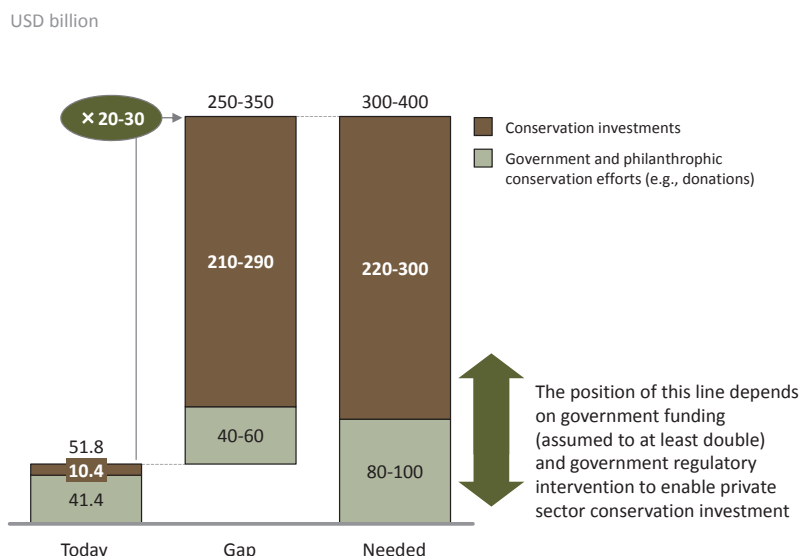
per year, a gap of USD 200-300 billion would remain. This corresponds to around 1% of total private sector annual investments globally.

5 Sometimes also referred to as environmental impact bonds.

Figure 4 shows that if this gap were to be filled by investing capital to unlock ecosystem cash flows that generate modest financial returns, the funding flows these investments gener-

ate would need to be scaled up at least 20-30 times their current level of USD 10.4 billion per year.

Figure 4: Demand for conservation finance



Limits to market-based conservation investing

When considering the scale-up of private sector, market-based investment in conservation, it is important to keep in mind its limitations. The most important limitation is that often conservation-based revenue streams are considered less competitive compared to competing market opportunities (e.g., the conversion of forests or grassland for agriculture or settlement), at least in the short-to-medium term. Further, there are complex sociopolitical constraints to the commercialization of ecosystem revenue mechanisms. The acquisition or long-term lease of environmental assets by external investors might, for example, restrict access to, or control of, the ecosystem by local people. Conserving ecosystems in this way can also be hindered when the local government denies commercial access to them, political instability is too high or the area in question is too remote for feasible access.

Even where conservation can be marketed, there is a widely accepted mitigation hierarchy (see BBOP 2012) that aims to ensure that any kind of greenfield project, such as a new road or mine, has 'no net loss' of biodiversity and, if possible, even a net gain. The hierarchy is:

- **Avoidance:** measures to avoid creating adverse impact from the outset, such as careful placement – in space or time –

of parts of the development in order to completely avoid impacts on certain aspects of biodiversity

- **Minimization:** measures to reduce the duration, intensity and/or extent of the impact that cannot be completely avoided
- **Rehabilitation/restoration:** measures to rehabilitate degraded ecosystems or restore cleared ecosystems
- **Offset:** measures taken to compensate for any residual significant adverse impact in order to achieve no net loss of biodiversity

Given the complex nature of biodiversity, it is important to understand the limitations of offsets – and any financial mechanisms derived from them – and to use them only where appropriate and with care.

In summary, the significant challenges involved in scaling up conservation efforts, both in the absolute size of finance required and in the barriers to deploying it effectively, require innovative ideas from both investors and conservation project developers. The perspectives of these two groups are analyzed in Chapters 2 and 3.

Acre case study

In this box we describe some preliminary options for the financing of conservation efforts in the state of Acre, located in the South-Western Amazon of Brazil. This information has been obtained from a pilot study that was carried out for the Government of Acre. The study was led by the Global Canopy Programme, as part of the Unlocking Forest Finance (UFF) project, in which WWF UK is a partner.

The aim of this case study is to illustrate the possible role of private sector investment in a program-scale conservation

effort by setting out the cash flows, potential investors and finance mechanisms.⁶ The Government of Acre has already put in place a series of regulations and sustainable use incentives, along with a carbon incentives program, to generate international finance from reduced deforestation. This box focuses on the methodological approach and some of the results from the pilot study, but does not provide a comprehensive illustration of the challenges and opportunities described in this report.

The Government of Acre has committed to reducing deforestation by 76% by 2025 compared to current rates. If Acre meets this target, the associated loss of ecosystem service provision could be 80% lower than the business-as-usual scenario. This is equivalent in value to around USD 1.4-2.8 billion saved over the period 2012-2025, calculated in part using the natural capital valuation tool InVEST.

To enable the Government of Acre to meet its deforestation target, the UFF project groups land and forest-related activities into three categories:

- *Produce sustainable agriculture and forest products* by improving the sustainability of production in key supply chains, for example beef, timber, açai and Brazil nut. Actions to improve the sustainability of production can include intensifying agricultural production to reduce the land use requirement, thereby alleviating the pressure to clear native forest.
- *Protect forests through conservation and restoration*, by protecting existing forests and regenerating degraded land.
- *Create sustainable livelihoods for communities living in or near the forest*, by financing the implementation of participatory community development plans for indigenous peoples, rubber tappers and small households.

The sustainable agriculture and forest products sector is the only of the above referred categories that generates a financial return for investors. The other categories must be paid for either by cash flows recycled from investment in the agriculture and forest products sector, or by government funds, potentially with international support. Positive returns on the overall investment in all activities can only be achieved over longer time horizons of up to 30 years.

Given these constraints, three potential financing mechanisms were considered for capital raising and financing of the activities in each category, each of which has different options for raising capital.

1. An independent fund could issue a bond to public and private investors, which is guaranteed by the Government of Acre or of Brazil. The remaining up-front investment cost could be provided by public sector equity, although this is rather unlikely given the high risk involved and the lack of a track record of the project.
2. Alternatively the state or federal government could issue a bond to the same investors, as well as utilizing overseas development aid and recycling cash flows from the revenue-generating activities, then directing the capital towards the sustainable development activities.
3. Finally, a bond could be issued or guaranteed by an IFI such as the World Bank or the Inter-American Development Bank, supplemented by public sector equity.

⁶ The case study is based on an unpublished report by WWF UK and the GCP (2013).

Lessons learned

- A high degree of public sector or philanthropy support or capital is needed, at different levels, to set up financing alternatives such as those outlined above.
- In particular cases, conservation activities cannot be fully financed by recycling the cash flows from the sustainable supply chains, reinforcing the need for catalytic first-loss capital.
- Cash flows and returns of agricultural and forest products widely diverge, showing the importance of investors being rigorous in selecting and bundling the most profitable opportunities.
- Investments into funds such as those outlined above could easily fit into the portfolios of both institutional and retail investors if related products were developed that fit the risk/return profiles of each group.

Attracting investors to conservation

Main conclusions

- There would be sufficient financial capital available to meet conservation investment needs if the main investor segments (i.e., HNW/UHNW individuals, retail and institutional investors) globally allocated 1% of their new and reinvested capital to conservation.
 - Both private and institutional investors have an appetite for conservation finance, in particular for those financial products that offer wealth preservation. This type of investment could be critical in establishing a 'lockstep' approach that mutually reinforces conservation impact and financial return.
- However, such investment opportunities do not yet exist at sufficient scale.
- Banks and asset managers have an opportunity to incorporate conservation finance into their offerings, by making the topic of conservation a fixed part of the advisory process and by developing new conservation-related investment products for their clients. Equally, the field would profit from the same rigorous approach to project diligence and selection as done in standard portfolio management.

Investment potential by segment

To scale up private sector conservation finance, intermediaries need to find vehicles to unlock the investment from across diverse investor groups. Each of these groups has its own risk-return expectations, investment horizons, ticket sizes and investment product preferences – with a range of investment profiles within each group – but the overall potential is very large.

HNW/UHNW individuals

Based on our discussions with experts consulted, HNW/UHNW individuals have historically been the investor group most attracted to conservation finance, spearheaded by passionate individuals who have made large donations or investments in conservation assets out of their personal conviction.

Most HNW/UHNW individuals are qualified investors, experienced and less risk-averse than average retail or many institutional investors. Typically, this investor group has a portfolio of investments in a broad range of asset classes, including alternatives like hedge funds and private equity vehicles with their associated risk-return expectations, but they will also make philanthropic or impact investments. While their typical portfolios will have 5%-10% invested in alternative asset classes, portfolio managers at leading wealth managers have indicated to us that this group of investors could target as much as 2%-5% of their total assets to be in impact investing, a significant percentage of which could be dedicated to conservation opportunities. Today, typical investment levels in such products are far below 1% (see Chapter 1).

Currently, the bankable assets of the wealthy are estimated to be USD 46 trillion.⁷ On a global scale, this asset base is projected to grow at 8% over the next years. If 1% of these new assets and of reinvested existing assets were allocated to conservation finance, around USD 85 billion per year would become available.

HNW and UHNW investors will typically look for investments with ticket sizes of USD 1 million and upward across a variety of conventional financial vehicles and asset classes. These investment products can be high-risk, but they are traditionally also expected to produce IRRs of 10%-20%. In terms of conservation, many HNW/UHNW individuals are donors who dedicate significant amounts of their wealth to good causes. Interviews with investors and investment professionals have shown to us that many HNW/UHNW individuals would welcome more investment opportunities that lie on the return spectrum between outright donations and profitable investments, particularly wealth-preserving investments with an impact component.

Retail investors

Retail investors have a lower risk profile and a lower expectation of returns than the previous group does. A significant proportion of their liquid holdings today is in cash, currently with severely limited or negative real return. Current existing personal financial assets in the retail segment (excluding life insurance and pension assets) are around USD 53 trillion and growing at 2% per year. If 1% of these new and reinvested assets were allocated to conservation finance, USD 65 billion per year would become available from this segment.

The penetration could certainly be higher if conservation investment opportunities were perceived as true alternatives to other managed products such as mutual funds, but they would need to compete in particular with low-cost, passively managed products such as ETFs. Furthermore, making impact or conservation investment products accessible to a broader retail audience does require overcoming suitability hurdles imposed by existing regulations, given that most retail investors will not be qualified for higher-risk investment products.

⁷ Any asset or growth estimates in this section are based on the project market data model developed by Credit Suisse, WWF and McKinsey.

Institutional investors

Institutional investors such as pension and sovereign wealth funds typically have long-term investment horizons and look for regular, stable returns. The liquidity of their investment is less important, but an illiquidity premium will be expected. Typical investments include direct equity and bond investments and selected funds, as well as alternative asset classes such as infrastructure. With roughly USD 62 trillion of existing institutional assets growing at 5% per year, 1% of new and reinvested capital allocated into conservation finance would amount to USD 90 billion per year.

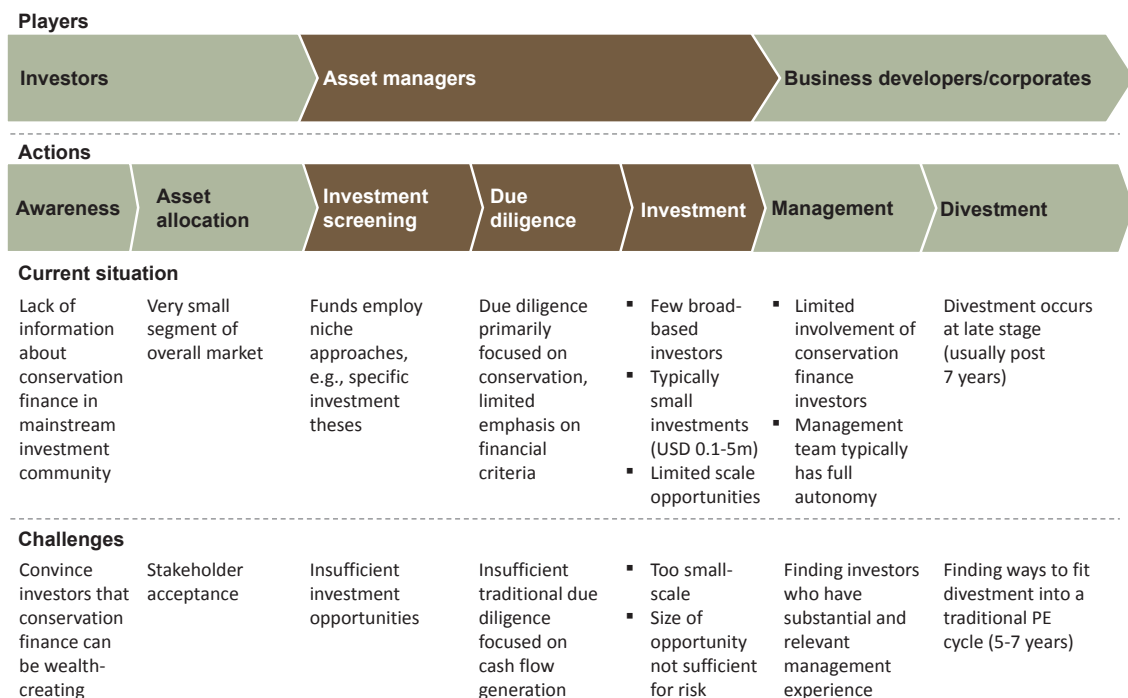
These estimates are only directional, but the simple analysis across the main segments of private sector asset holders shows that in total they could conservatively provide at least USD 200-300 billion per year of capital for conservation investments, and substantially more if conservation investments were to develop into a more mature asset class such as traditional alternatives. In the following section we look at the preconditions for this to happen.

Current challenges along the investment value chain

Fulfilling this potential for conservation finance will mean overcoming a series of challenges. In this section we describe them along the main steps of the investment value chain as illustrated in Figure 5. We distinguish the following steps:

- The investment process, in which investors become aware of conservation as an investment class and decide to invest in it, possibly on the advice of their wealth manager
- The process by which professional investors or asset managers screen investment opportunities, perform the required due diligence, build investment portfolios and structure associated products
- The development of the business model, typically by corporates in which investments are made and that manage the business on a day-to-day level and the preparation, if required, of an exit strategy

Figure 5: Conservation investment value chain



Source: CS/WWF/McKinsey

Making conservation finance appealing for investors

The criteria applied by investors in conservation finance are much the same as in traditional investing, but with an added conservation component. Key requirements of investors include:

- Full transparency of the investment product and its characteristics
- Clear information on the expected return and risks associated with the investment, as well as the required ticket size and duration of the commitment
- Assurance that the investments will have a conservation impact

In the case of project finance, additional information will be required in order to allow for tracking of progress against milestone and intermediary targets that are set out at the project start (e.g., a mitigation credit purchase agreement on which the project finance mechanism is based and that sets out pre-defined milestones that must be met).

Interviews with investors have shown that they are primarily looking for investable projects with clear investment characteristics that are run by managers or trusted funds with the relevant conservation and financing experience and track record. In terms of conservation, investors have also stressed the fact that they want to be assured their funds are being deployed for the 'good cause' and that positive impact is realized. The level of detail at which they require impact measurement and reporting can differ, but typically relatively high-level metrics will suffice. This does not imply that there is no need for more sophisticated impact measurement and reporting at the project or fund management level. The more the conservation investment product is commercialized and made mainstream, the more relevant the financial characteristics and benchmarks become, while the importance of impact measurement and reporting becomes restricted to compelling stories or branding, or could be replaced altogether by a product 'seal of approval' from a reputable NGO.

In practice, many conservation projects will have social or other impact components as well. We have no indication based on our interviews that such mixed-impact benefits would pose an impediment for investing per se, although investors have

emphasized that they consider conservation in many cases to be the more fundamental objective.

Apart from having appealing investable products, conservation finance would further benefit if the discussion around conservation investing were to become part of the standard advisory process in wealth management, given that it also has a clear appeal from a portfolio perspective. Investments in such financial products can provide:

- Long-term sustainable returns and asset quality through exposure to cash flows from assets that have a stable value if conserved (e.g., forests, renewable energy)
- Exposure to growth in emerging markets with much of the conservation finance being needed in these countries
- Portfolio diversification and hedging, to make portfolios more resilient against macro trends (e.g., resource constraints) or regulatory change (e.g., compulsory offsetting)
- Opportunity to potentially benefit from tax breaks in some jurisdictions (e.g., New Market Tax Credits in the U.S. for equity investments with specific impact objectives)
- Positive social or environmental impact beyond monetized financial return (double bottom line) and the opportunity to strengthen client relationship through the 'sale' of positive emotions

Putting conservation finance on the agenda of asset managers

Scaling up conservation finance will require professionalization both on the investment and on the project side. The investment side of conservation would certainly profit from the rigor and expertise of traditional asset managers and investment professionals (e.g., private equity, venture capital) in both project selection and portfolio management. In addition, when structuring a financial product, asset managers could tailor investments to fit better with investment themes and risk-return profiles requested by their clients. Investment professionals could also tap into new funding structures to make conservation finance available to a broader audience, for example, by introducing crowd-funding mechanisms to allow for early-stage investments or feeder mechanisms for affluent clients or lower HNWI individuals.

Different objectives of conservation or impact investors

In conservation finance, as in all impact investing, there is a spectrum of investor preferences, ranging from primarily financial return-oriented to purely impact-oriented. Some investors look at impact first and have a secondary screen for financial returns. This has the advantage of fast capital deployment and a broad range of investment approaches remaining in scope, but returns will not match risk and capital may erode. Taking alpha as the first screen and impact as the second may attract a new investor base, but the impact lens may distort the

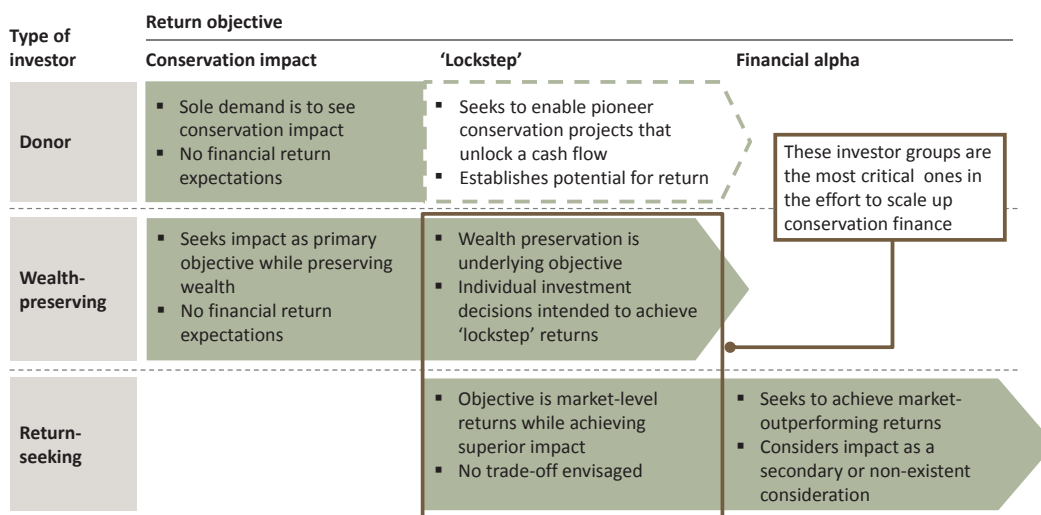
returns and lead to difficult discussions on the degree of acceptable trade-off (for an overview of the current impact debate, see Brest & Born 2013).

A view gaining increased support is that there is no need to accept significant trade-offs (or no trade-offs at all) between financial return and impact in mature impact or conservation markets. As Sonen Capital (2013) has recently demonstrated – at least for some select asset classes – with an analysis of a

U.S. foundation's portfolio, impact investments can compete with, and at times outperform, traditional asset allocation strategies while simultaneously pursuing meaningful and measurable social and environmental impact. We believe that taking this 'lockstep' approach – where the conservation finance

mechanism is designed so that the impact and the financial return are aligned, meaning that increasing one must necessarily increase the other – is essential to achieving the scaling ambition for conservation finance.

Figure 6: The objectives of conservation finance investors



Source: CS/WWF/McKinsey

Based on Figure 6 and following discussions with experts, we suggest that investors with a conservation impact or conservation incentive can broadly be categorized into three groups:

1. *Donors* provide concessionary funds, e.g., through charity or philanthropy, to be used for conservation. Neither a repayment of the principal nor a financial return is expected, but there are clear expectations for the impact of the donation. This group of investors covers all wealth bands, from retail to UHNW, but typically not institutional investors who are required to generate a steady financial return on the capital they manage.
2. *Wealth-preserving investors* seek to see their investment principal returned and their wealth preserved. The bulk of this group of investors comprises HNW and UHNW individuals with the required capacity. These investors will often expect a limited financial return, ideally as compensation for inflation, and will want to make sure the money they 'lend for free' is used appropriately and effectively. Investors of this kind would typically invest in the ownership of or the rights for an underlying ecosystem itself. This could, for example, be a forest where the ecosystem serves as collateral as well as a base for the more risky ventures that use ecosystem cash flow models, at which point the ecosystem becomes an asset in the strict financial sense. Traditionally, investors of this sort have not been systematically offered concessionary investment opportunities where the principal is preserved, possibly with a modest return. In our interviews with investors, this option came through as one likely

to prove very attractive.

3. *Return-oriented investors* seek, as outlined above, different degrees of financial return vs. impact orientation. These investors will demand returns that are adjusted for the risk of their investment, which will differ depending on their investment profile and the maturity of the conservation project they invest in (e.g., venture philanthropist vs. late-stage investor into commercialized instruments, see Chapter 4). Institutional investors with clearly set risk-return objectives and associated investment selection would tend to invest into more mature mechanisms. Such investments would typically include investing in underlying ecosystems (e.g., land, forest), infrastructure or a fully established conservation-based cash flow mechanism (e.g., certified fishery).

To date, conservation finance has been too donor-focused. To scale up the conservation finance market and bring into play the pools of capital described, it is critical that wealth-preserving and return-oriented professional investors invest in unlocking scalable cash flow mechanisms and converge toward a 'lockstep' approach referred to earlier. Impact investing more broadly, and conservation investing in particular, would then be seen more as an investment style. It should be noted, however, that in the absence of a mature market, many investors (e.g., institutional investors) could materially contribute to close the funding gap only if the regulatory frameworks in their jurisdictions – for example with regard to restrictions in their asset allocation – were to be relaxed.

Making conservation projects investable

Main conclusions

- The primary reasons why conservation projects are underinvested in include the facts that (i) the monetary and conservation benefits of such projects are not sufficiently well identified and standardized, (ii) that environmental benefits are – without regulatory intervention – often externalities for the investors involved, and (iii) that conservation projects are not set up with the same focus on return/impact maximization and replication as are traditional business models.
- The effort to establish conservation finance as a mainstream asset class would benefit from versatile early-stage venture-type conservation investments that unlock and establish profitable business models that rely on simple cash flow mechanisms and conservation benefits. Venture philanthropists and conservation-oriented foundations can play a significant role in this respect.
- Scaling up conservation projects into investable programs will require a professional convening and management approach that fosters connectivity, sharing of best practice and rapid replication. Organizations experienced at financial management of large for-profit investment projects will have opportunities here and could make good use of expert NGO support. Finally, the local communities involved in such projects often need to develop more business acumen and financial literacy to roll out projects at scale and be able to participate in their development.

The scaling challenge

As outlined in Chapter 1, investable ecosystem cash flows would need to be scaled by at least 20-30 times today's levels to fill the funding gap. However, the field of conservation finance has been described to us by investors as being 10 years or more behind the field of social impact investing, which has established mechanisms to improving social outcomes and is well understood and accepted by the investor community as an asset type. In our view, conservation finance lags due to three main challenges:

1. *Benefits associated with conservation can be difficult to define.* A type of information asymmetry can exist between conservation project developers and investors. Project developers are often aware of the project's conservation impact and can measure it to the extent required for their needs, but investors cannot translate these project benefits into investable opportunities. The reason is often a lack of systematic disaggregation, measurement and standardization of benefits. This shortfall means that local conservation projects are not replicated and marketed at a larger scale.
2. *Benefits of conservation often do not have a monetary value, limiting incentives for investors.* Benefits from conservation projects are often not marketable because many environmental goods and services have no price or a willing buyer; they are by-products of other activities, or in other words, externalities. For example, an area of protected rain forest clearly has the benefit of being a source of salable sustainable timber and of carbon offsets. An area of monoculture forest plantation can provide the same timber and offsets (at least in the short term when growth rates are higher), but not the additional non-use value of biodiversity of the rain forest. But the value of this biodiversity does not have a market price and so is not easily captured.
3. *Benefits are often not sufficiently locked in by the project management and project finance arrangements.* Many conservation projects lack venture capital invested to unlock conservation cash flows that are attractive to the broader investment community (in literature often referred to as the 'pioneer gap'). Moreover, many conservation investment opportunities are too small – at both the project and the regional level – for institutional or HNW/UHNW investors to engage in and lack the track record these investors would demand. At the same time the projects can be too big or unsuitable for retail investors. Moreover, developers of conservation programs that could attract investments are predominantly from the NGO world, often inexperienced with financial markets and commercial project management. Finally, some of the most scalable available project mechanisms, such as REDD or REDD+, come from the developed world and may not always reflect the need of local communities.

Enabling successful scaling

Unlocking cash flows from conservation activities is of course a critical factor in enabling conservation investment to take place. Doing so has proven to be difficult due to the fundamental difficulties of benefits attribution and monetization as outlined above, but steps can be taken to overcome these obstacles. Once these hurdles are overcome, applying professional project management and finance practices can play an important role in scaling up the resulting investable projects.

We consider the following activities as key enablers to scaling up conservation investments:

1. *Develop simple, investable and scalable cash flow mechanisms that have measurable conservation impact*

- In order to appeal to a broad range of investors, conservation finance mechanisms need to be simple and modular, ideally structured as simple combinations of investments in underlying assets and revenue-generating mechanisms (see discussion of conservation asset classes in Chapter 4). It must be clear to the investor what the asset is that is being invested in, who receives the benefits and how much they are required to pay for the accrued benefits.
- To ensure that a conservation project is worth investing in, its impact needs to be measured. Ecologists and other scientists have developed well-established and rigorous approaches to making such assessments, the common platform for which is the *Open Standards for the Practice of Conservation* (The Conservation Measures Partnership). While the precise metrics are often not of most direct concern for the average investor and furthermore can be quite expensive to develop, reliable but simplified measurement is imperative: (i) proper impact measurement is part of the acid test for developing conservation models in the concept and pilot phases, during which the environmental impact still has to be proven; (ii) impact metrics are also important for the development at the early and medium stages, where business developers will require clear progress reporting against financial and impact targets; and (iii) long-term scaled-up programs will require metrics to allow for adequate control and risk management, and in order to ensure that funds are being properly and effectively deployed.
- If both conservation and financial benefits are clear and cost-effectively measurable, the associated cash flows have the potential to be scaled up. With scale, these cash flows become increasingly attractive from a financial perspective. Risk can be pooled in a portfolio of projects across countries or across asset types. Once a sufficient scale is reached, larger pools of capital can be attracted, for example, from pension funds, which have relatively large minimum ticket size requirements.

2. *Monetize the value of positive conservation externalities*

- To further develop the field of conservation finance, it is key for all actors involved to understand the circumstances in which maintaining ecosystems and their services may generate greater economic benefit than promoting economic processes that degrade and deplete these ecosystems. A better knowledge of the monetary value of a particular resource or ecosystem service is essential to adequately structure and price a conservation-related financial product.
- Various attempts are under way to develop and establish frameworks and processes to measure and quantify the values of nature (e.g., The Natural Capital Project, TEEB). More recently, first analytical tools have been proposed by UNDP (2013) and others to allow for better investment choices in this field.
- If the benefits are immediate enough (e.g., water quality) and the beneficiaries close enough to the providers (e.g., downstream farmers or brewers and upstream land managers), conservation agreements can be struck directly without much regulatory intervention. More generally, however, it is predominantly the role of governments and local policy makers to give incentives to non-marketable conservation benefits through regulation and thus make these benefits accessible to investors. Voluntary measures can also be set up by industry or local groups. In both cases, developers of conservation projects that aim to capture these externalities will need a strong local presence and employ high levels of collaboration and communication with the relevant stakeholders to succeed.

3. *Professionalize conservation finance project management and early-stage finance*

- This can be achieved by driving the replication of successful concepts and business models through the accelerated transfer of best practice in terms of capital deployment, project management and impact measurement.
- Another key aspect will be to close the 'pioneer gap' to overcome the capital-intensive activation period of cash flows (e.g., in the area of certification of sustainable products). This can be done by applying philanthropic capital to pilot projects that are viable and could be replicated instead of using it to subsidize existing projects where the injected capital often has a smaller impact.
- Finally, strengthening the engagement of conservation project managers with policy makers will increase the potential scale and acceptability of outside investment in local environmental assets. This may imply that some NGOs have to rethink their global strategy and governance in this regard.

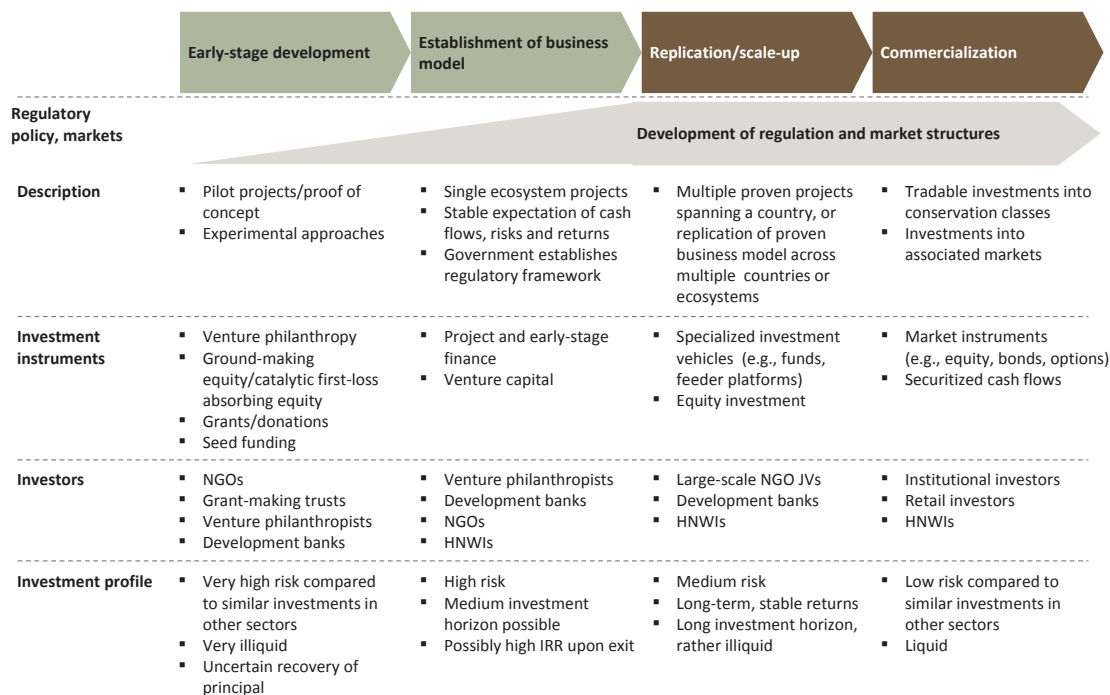
The conservation project life cycle

We believe many of the above elements can be achieved by increasing the professionalism along the stages of the life cycles of conservation projects.

activities. At each stage, the level of risk, type and size of the investment differs and will therefore affect what sort of investment vehicles and investor group is targeted.

Figure 7 shows the conservation investment life cycle: from initialization to commercialization of conservation finance

Figure 7: Stages of the conservation investment life cycle



Source: CS/WWF/McKinsey

■ Early stage: Financing is required to provide the proof of concept, i.e., establishing the cash flow mechanisms and proving the scalability of the conservation business model. Investments at this stage are usually high-risk and need medium- to long-term investment horizons. While we are aware of some projects that have generated IRRs above 20%, most investments at this stage will be seen as ‘catalytic first-loss capital’ (see GIIN 2013) given that the underlying regulatory and market structures might not be in place. For this reason, important investor groups at this stage will most likely be found among philanthropists, NGOs, specialized conservation-focused foundations or trusts, and the public sector.

■ In the second stage, project and business developers can already rely on the experience of foundation work and, to a varying extent, on some regulatory underpinnings or market mechanisms. At this stage, projects are generally developed to allow for investments in associated offset cash flows from the conserved ecosystems. Typical investment vehicles include project finance, venture equity or debt investments into companies, institutions or foundations, potentially through financial intermediaries (e.g., NGO support funds issued and managed by financial institutions or public sector funds directed through development banks).

■ The third and fourth stages are characterized by the replication and scale-up of proven conservation business concepts and will typically rely on the associated adoption of regulatory policies and the development and establishment of mature market structures and standardization. Transitioning from phase two will be the biggest challenge. It will often take the form of replicating successful local projects to the national level but can also mean applying lessons from projects connected to one type of ecosystem to similar ecosystems in other countries. The fourth stage is reached when there are relatively liquid markets associated with the investments and these investments become fully competitive in terms of risk-adjusted returns.

Given the above, it has become clear that the role of public funding and philanthropy should be used more strategically in early phases as a lever, by providing groundbreaking equity with a high risk tolerance, such that the second-stage investments can be de-risked and become competitively profitable (i.e., more cost- and capital-efficient at scale). If used in this way, public and philanthropic investment becomes venture philanthropy and contributes to close the pioneer gap, i.e., it addresses the lack of investment in the risky proof-of-concept stage of a conservation finance mechanism.

The potential role of NGOs along the investment life cycle

NGOs play many roles when it comes to conservation. These include being a critical watchdog, running projects on the ground, lobbying governments and companies to change their behavior, and raising public awareness of species and ecosystems in danger. When it comes to finance, in the past, NGOs active in conservation have mostly focused on obtaining funding for conservation projects from retail donors. As this business model prevailed, when selecting projects the focus has been not only on the urgency of the conservation needs, but also on the emotional appeal they have on the donors. But as the focus evolves toward large-scale conservation projects along the investment life cycle, parts of the existing business model of NGOs need to change in order to bring conservation finance to the next level, i.e., where HNW/UHNW individuals and institutional investors are mostly targeted. In order to realize this transition, NGOs may have to assume additional duties:

- Generating cash flow mechanisms will be crucial to the success of larger conservation finance projects, and these mechanisms will most likely depend on certification for sustainable products, ecotourism, or biodiversity and carbon offsets. NGOs can play a more significant role in making their knowledge and expertise available on a more systematic basis in the early-stage development of such projects. This could for example take the form of an NGO-led project certification scheme, possibly including the labeling of such projects with their well-known brands, and/or the provision of expert impact measurement and evaluation services to financial services providers.
- A deep collaboration with the local government and related institutions is often critical for the development of conservation projects. Here, NGOs can leverage their existing contacts to negotiate regulatory schemes that make both the long-term protection of ecosystems more feasible and allow the generation of reliable cash flow mechanisms based on them. NGOs can also play a stronger role in convening key stakeholders across geographies and projects to share important experiences and best practices of financially viable conservation projects and programs.
- When moving toward the scale-up phase in the project life cycle, NGOs can carry out the task of ensuring that the projects pursued actually do have a meaningful conservation impact on the ground. Attaching the brand of well-known NGOs to projects will likely assure investors of the conservation impact (see Chapter 2). NGOs should consider using this market power to develop conservation investment impact certifications. By doing so, they would be able to gain control over the selection of projects financed by investors. However, this will most likely require new ways of measuring conservation impact that are applicable to large-scale projects as well as comparable across conservation projects. It will also need a significant effort by NGOs to develop cost-efficient and broadly understandable measurement systems.

Establishing conservation as an asset class

Main conclusions

- To establish conservation as an asset class, a simple structuring into investable modules is proposed: (i) investments into the underlying ecosystems with the objective of capital protection; (ii) investments into establishing and maintaining infrastructure and business models of sustainable management of these ecosystems, in order to achieve a financial return; and (iii) investments into additional mechanisms centered on environmental markets or regulatory arbitrage for return enhancement.
- Investors should first target priority areas where investable conservation asset classes yield the biggest potential conservation impact and where conservation projects have a chance to offer viable investment returns, given the prevailing regulatory and political environment.

Recap of conclusions so far

In Chapter 2, we argued that there are likely sufficient funds to meet the conservation needs and there would be significant investor appetite for investments in conservation. However at this stage, the market does not provide simple investment opportunities at the required scale. In Chapter 3, we discussed the prerequisites for developing scalable and investable conservation projects and programs. The role of early-stage venture investing, the professionalization of project management and the importance of cost-efficient measure-

ment were emphasized in order to establish well-defined, standardized and monetizable conservation benefits.

In this final chapter we attempt to bring these two sides – the market and the project perspective – together and argue that investment portfolio managers and project developers alike need to move toward selecting and prioritizing simple and broadly understandable conservation asset classes.

Moving toward understandable investment modules of conservation asset classes⁸

To reach the scale required, we suggest moving toward selecting and prioritizing investment and project decisions along simple conservation asset classes:

1. *Investments in underlying ecosystems* such as forests, freshwater or deserts. These investments could be in the acquisition of or long-term usage rights for such ecosystems together with the long-term conservation commitment of the investors. While investing into underlying ecosystems might have an intrinsic value for some investors or give rise to derived benefits (e.g., tax breaks), these investments only make sense from a financial perspective if they generate a financial return, thereby turning these ecosystems into actual financial assets. If this is given, investing directly in the underlying ecosystems and having the option to recover the principal is an attractive and easily understood investment proposition. The scale-up of such investments undoubtedly depends largely on the present owners and their willingness to cede ownership or usage rights to outside investors.
2. *Investments in the infrastructure and sustainable management of ecosystem services*, e.g., investing in lodges and trails to foster ecotourism or in solar arrays for power generation, or the monetization of ecosystem services (e.g., watershed protection) and goods derived from sustainable forestry, agriculture or aquaculture operations. These investments are clearly linked to economic value creation by ecosystems under the constraint of conservation. They can but do not have to be accompanied by investments in the underlying ecosystems. Typically, such investments have a mid-term horizon and aim to provide a financial return beyond capital protection. Many of the established cash flow-generating mechanisms depend on exogenous structures like regulatory requirements or industry certification for the sustainable production of commodities and the associated price premiums. Working to establish and enforce such benign policy or regulatory frameworks for the protection of ecosystems is central to a lot of NGO work in conservation.
3. *Investments in ecosystem market mechanisms and regulatory arbitrage*, i.e., investments into financial instruments (e.g., securities, derivatives) or corporate intermediaries, which are active and invested in ecosystem markets or engaged with regulatory arbitrage. Examples are investments in business models associated with voluntary or mandatory offset markets (e.g., carbon, biodiversity, water), subsidized renewable power production, or permit and rights issuance and trading. Many of these investments do not invest in economic value generation itself, but their success depends on externalities such as market inefficiencies, taxation or subsidies. When structuring financial products in this space, care should be taken in the measurement of a true conservation benefit directly attributable to these instruments, which should ideally finance indirect conservation efforts.

⁸ An asset class would usually be thought to require a financial yield. In this case we have included investments that are designed only to preserve the principal invested.

An overview of the conservation investment modules outlined above is given in Figure 8.

Figure 8: Classification of conservation investment modules

	Underlying	Cash flow generation	
Investment into	Ecosystems	Sustainable ecosystem management or related infrastructure	Environmental markets and regulatory arbitrage
Examples	<ul style="list-style-type: none"> ▪ Grassland ▪ Temperate forest ▪ Tropical forest ▪ Freshwater <ul style="list-style-type: none"> – Wetlands – Rivers – Lakes ▪ Deserts ▪ Mountains ▪ Marine/coastal areas 	<ul style="list-style-type: none"> ▪ Sustainable agriculture ▪ Sustainable forestry ▪ Sustainable fishery/aquaculture ▪ Freshwater protection ▪ Ecotourism ▪ Renewable power generation 	<ul style="list-style-type: none"> ▪ Permit or rights issuance and trading ▪ Offsetting – voluntary ▪ Offsetting – mandatory ▪ Tax arbitrage
Typical investor rationale	<ul style="list-style-type: none"> ▪ Long-term ▪ Capital protection 	<ul style="list-style-type: none"> ▪ Mid-term ▪ Return generation ▪ Prevention of capital erosion 	<ul style="list-style-type: none"> ▪ Short-term ▪ Return enhancement

Source: CS/WWF/McKinsey

Scalable conservation mechanisms likely require a combination of investments in underlying and cash flow mechanisms. Consider the example of an investment in a tropical forest, coupled with the sale of sustainable forestry products from this same forest and biodiversity compensation payments associated with the area: the tropical forest would be the underlying ecosystem that could be invested in to acquire ownership or usage rights, combined with investments into sustainable timber production, non-timber forest products, water sales, ecotourism and compensation payments from voluntary or mandatory carbon offset markets.

Of course, investments in any of the three levels of investment classes could in principle be structured and marketed separately. However, there is reason to believe that any mechanism that is scalable without significant regulatory intervention will require investments in the first (underlying) and second categories (sustainable management, PES, infrastructure). Unfortunately, investment opportunities in ecosystems and their sustainable management, which often have a greater conservation impact, are much less developed compared to the category of environmental market instruments.

Mapping conservation needs to conservation finance asset classes

The question remains whether conservation financing conceived in this way can meet the challenges of today’s most pressing conservation needs and at the same time maximize the likelihood of realizing cash flows. This report cannot provide a definitive answer to this question but attempts to outline a potential approach to identify opportunities with high probability of success. As a starting point, we have taken the 35 WWF priority places mentioned earlier.

To achieve meaningful impact and scale, we considered areas with high conservation impact potential and a high likelihood of project success. To estimate the conservation impact

potential, we applied different metrics to the three selected conservation areas, which are:

- The conservation of forests
- The conservation of marine reserves
- The conservation of freshwater reserves

For instance, the conservation impact from sustainable forestry is assumed to be high in countries that have high annual levels of forest cover loss.

In a next step, we then made an estimate of the project realizability by using five contingency criteria:

- Degree of local environmental regulation: measured by subscores of the Environmental Performance Index (EPI) from Yale University that measure how well existing regulations in place protect ecosystems
- Political/country risk: based on the Corruption Perception Index from Transparency International
- Physical accessibility/remoteness of the area: quantified by which type of transportation is required to access the area and whether the area is realistically accessible at all
- Private sector capacity (i.e., the ease of setting up a project organization in country): measured by the World Bank's Ease of Doing Business index
- Conservation project track record: measured by the number of conservation finance projects implemented in the area and described in the *Guide to conservation finance* (WWF 2009)

Combined, these factors give an overall score for the realizability of the conservation impact potential. For example, while there is in theory great potential for the conservation of the West African marine ecosystem in Senegal and Morocco, the actual project realizability is constrained by relatively low levels of political stability or advantageous regulation toward conservation.

On the other hand, the rain forest in the Malaysian part of Borneo, for example, suffers from very high forest cover loss, making the impact potential from its conservation correspondingly very high. At the same time, the realizability score is also relatively high, due to a favorable political and regulatory system as well as some initially successful conservation finance projects.

Through this top-down approach, we arrived in Figure 9 at a selection of WWF priority areas that might benefit the most from investment into forest, marine and freshwater conservation.

Figure 9: Example conservation finance asset classes

Investment into	Underlying	Cash flow generation	
	Ecosystems	Sustainable ecosystem management, including payments for ecosystem services and products	Environmental markets and regulatory arbitrage
Conservation of forests	<ul style="list-style-type: none"> ▪ Borneo rain forest (Malaysia & Indonesia) ▪ Southwest Australia ▪ Amazon Guianas (Brazil) ▪ Southern Chile 	<ul style="list-style-type: none"> ▪ Sustainable forestry ▪ Ecotourism (e.g., wildlife observation) 	<ul style="list-style-type: none"> ▪ Carbon offsetting – voluntary and mandatory ▪ Biodiversity offsetting
Conservation of marine reserves	<ul style="list-style-type: none"> ▪ Southern Ocean (Argentina) ▪ Southern Chile ▪ Arctic Sea (Canada) ▪ Coral Triangle (Philippines) 	<ul style="list-style-type: none"> ▪ Sustainable fishery ▪ Ecotourism (e.g., diving licenses) 	<ul style="list-style-type: none"> ▪ Tradable catch shares ▪ 'Blue carbon' offsetting
Conservation of freshwater reserves	<ul style="list-style-type: none"> ▪ Congo Basin (DRC) ▪ African Rift Lake Region (Rwanda & Uganda) 	<ul style="list-style-type: none"> ▪ Watershed services ▪ Ecotourism (e.g., park entry fees) 	<ul style="list-style-type: none"> ▪ Water quality trading ▪ Wetland banking

Source: CS/WWF/McKinsey

It should be noted that this analysis is intended only as an illustration and a guide to where the highest-potential investments are likely to be. It does not support the notion that investments in certain areas will provide attractive financial returns per se. Furthermore, a similar methodology should be applied to all other conservation asset classes (e.g., grass-

lands) and their associated cash flow generation mechanisms. This would give a fuller picture of how different investment modules can be linked to make a stronger case for private sector conservation finance, in particular in WWF priority areas.

Summary and recommendations

Based on our research and discussions with various experts in the field, we have come up with evidence that supports a vision for scaled private sector conservation finance. In the following, we have summarized the main findings and recommendations of this report:

■ The market for conservation finance is constrained both on the demand and the supply side in the following sense:

- *Demand for funding*: there is a very significant unmet need for funding, but there are too few salable and investable conservation projects. Projects are often too small, lack the drive of for-profit business ventures, have been opportunistic and not replicated sufficiently.
- *Supply of financing*: there is significant appetite to invest in conservation; however, investable, simple and understandable conservation asset classes that satisfy a clear investment objective (donations vs. wealth preservation vs. return orientation) are underdeveloped.

■ There is a significant potential in conservation financing. Since the underlying financial benefits of conservation are often hard to quantify and represent externalities, closer collaboration between financial institutions, large investors, NGOs, and local regulators or governments is required in order to make these opportunities investable. In order to scale up conservation finance, project developers (in particular NGOs) could focus their efforts more on unlocking particular issues on the demand side, i.e., providing a sufficient supply of large-scale projects with clearly defined and standardized benefits, which satisfy financial and impact needs of key groups of financial investors along with their investment profiles, and have local regulatory backing. It is recommended that NGOs move away from trying to do the at-scale private sector fundraising and financial structuring and instead concentrate their attention on where their expertise is strongest:

- Providing environmental experience and analysis to identify large-scale conservation opportunities, and providing certification of conservation investments by using pragmatic measurement systems
- Facilitating large-scale conservation programs, together with local governments, financial institutions, and seed/early-stage investors

- Further developing measurement as an important tool to set conservation targets of projects from an environmental perspective and to allow NGOs to establish a verification and certification/'seal of approval' of the environmental impact, which is the primary focus of investors

In addition, NGOs are very well placed to play the crucial convener role between private sector investors, public sector financial institutions, and commercial financial institutions.

■ Financial institutions, most importantly asset and fund managers as well as private banks, have an opportunity to structure conservation products for HNW/UHNW individuals and institutional investors. In particular:

- Wealth-preserving investment products, which aim to provide both safety and an inflation hedge, represent a significant opportunity for the HNW/UHNW segments, as almost no such products are currently offered. Return-oriented products in conservation can be considered like any other alternatives in terms of their risk-return characteristics, albeit with a clear and certified double bottom line.
- The underlying portfolio companies of conservation projects in which fund managers could invest would profit from further professionalization as a result of the competitive selection, due diligence and portfolio management processes applied in the same way as for traditional investments. Private banks and asset managers can make conservation part of their standard advisory service, much like the topics of philanthropy, impact investment more broadly and traditional alternatives are today.

In conclusion, this report finds that scaling up conservation finance poses significant challenges, both on the conservation project and the financing side, but also represents a major private sector investment opportunity so far not fully developed. In fact, conservation finance represents a rare opportunity – and obligation – for the NGO community and the financial services industry to work together closely, each bringing their specific skills to bear. This collaboration could be beneficial to both sides and, more importantly, could make a critical contribution to protecting the planet's natural capital for the benefit of future generations.

Acronyms and abbreviations

BBOP: Business and Biodiversity Offsets Program

CS: Credit Suisse

EPI: Environmental Performance Index (Yale University)

ETF: Exchange-Traded Fund

FSC: Forest Stewardship Council

GCP: Global Canopy Programme

GIIN: Global Impact Investing Network

HNW: High-Net-Worth

IFI: International Financial Institution

IRR: Internal Rate of Return

MSC: Marine Stewardship Council

NGO: Non-governmental organization

PES: Payments for Ecosystem Services

REDD(+): Reduced Emissions from Deforestation and Forest Degradation (Plus)

TEEB: The Economics of Ecosystems and Biodiversity

UFF: Unlocking Forest Finance

UHNW: Ultra-High-Net-Worth

UNDP: United Nations Development Programme

UNFCCC: United Nations Framework Convention on Climate Change

WEF: World Economic Forum

WWF: World Wide Fund for Nature/World Wildlife Fund

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References

- Berry, P. (2007). *Adaptation Options on Natural Ecosystems. A Report to the UNFCCC Secretariat Financial and Technical Support Division*. Retrieved from ipcc-wg2.gov/njlite_download.php?id=5755
- Brest, P., & Born, K. (2013). *When Can Impact Investing Create Real Impact?. Stanford Social Innovation Review. Fall 2013*. Retrieved from http://www.ssireview.org/up_for_debate/article/impact_investing
- Business and Biodiversity Offset Programme (2012). *Standard on Biodiversity Offsets*. Retrieved from http://bbop.forest-trends.org/pages/our_work_standard
- Ecosystem Marketplace (2013). *Innovative markets and market-like instruments for ecosystem services*. Retrieved from http://www.ecosystemmarketplace.com/documents/acrobat/the_matrix.pdf
- Global Canopy Programme (GCP) (2012). *The Little Biodiversity Finance Book 3rd Edition*. Retrieved from <http://www.global-canopy.org/materials/little-biodiversity-finance-book>
- Global Impact Investing Network (GIIN) (2013). *Catalytic First-Loss Capital*. Retrieved from http://www.thegiin.org/binary-data/RESOURCE/download_file/000/000/552-1.pdf
- Gutman, P. (2010). *World Conservation Magazine. The Magazine of the International Union for Conservation of Nature*. July 2010 edition. Retrieved from http://cmsdata.iucn.org/downloads/101252_uicn_24pp.pdf
- Imprint Capital (2012). *The Conservation Investment Landscape*. Retrieved from <http://conservationfinance.org/upload/library/arquivo20130321085507.pdf>
- James, A., Gaston, K., & Balmford, A. (2001). *Can we afford to conserve biodiversity?* *Bioscience*, 51, 43-52. Retrieved from <https://www.cbd.int/doc/articles/2002-/A-00486.pdf>
- JP Morgan Chase/GIIN (2013). *Perspectives on Progress. The Impact Investor Survey*. Retrieved from <http://www.thegiin.org/cgi-bin/iowa/resources/research/489.html>
- Ostrom, E. (2011). *The Challenges of Achieving Conservation and Development*. Retrieved from <http://dlc.dlib.indiana.edu/dlc/bitstream/handle/10535/9072/SSRN-id2176268.pdf?sequence=1>
- Sonen Capital (2013). *Evolution of An Impact Portfolio: From Implementation to Results*. Retrieved from <http://www.sonencapital.com/evolution-of-impact.php>
- The Conservation Measures Partnership. Retrieved from <http://www.conservationmeasures.org/initiatives/standards-for-project-management>
- The Economics of Ecosystems and Biodiversity (TEEB) (2008). *The Economics of Ecosystems and Biodiversity – An Interim Report*. Retrieved from <http://www.teebweb.org/publication/the-economics-of-ecosystems-and-biodiversity-an-interim-report/>
- The Economics of Ecosystems and Biodiversity (TEEB) (2010). *Mainstreaming the Economics of Nature: A synthesis of the approach, conclusions and recommendations of TEEB*. Retrieved from <http://www.teebweb.org/publication/mainstreaming-the-economics-of-nature-a-synthesis-of-the-approach-conclusions-and-recommendations-of-teeb/>
- The Natural Capital Project. Retrieved from <http://www.naturalcapitalproject.org/>
- United Nations Development Programme (UNDP) (2013). *Targeted Scenario Analysis. A New Approach To Capturing and Presenting Ecosystem Service Values for Decision Making*. Retrieved from <http://conservationfinance.org/upload/library/arquivo20131205102736.pdf>
- World Economic Forum (WEF) (2013). *From the Margins to the Mainstream Assessment of the Impact Investment Sector and Opportunities to Engage Mainstream Investors*. Retrieved from <http://www.weforum.org/reports/margins-mainstream-assessment-impact-investment-sector-and-opportunities-engage-mainstream-i>
- WWF (2009). *Guide to conservation finance: sustainable financing for the planet*. Retrieved from http://awsassets.panda.org/downloads/wwf_guide_to_conservation_finance.pdf
- WWF (2013). *Role of the Global Ecoregions and how they are selected*. Retrieved from http://wwf.panda.org/about_our_earth/ecoregions/about/role/
- WWF UK/Global Canopy Programme (2013). *Evaluation of Acre State*. Unpublished. Produced by the International Institute for Sustainability, Brazil.



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