



Protecting Biodiversity  
From Harmful Financing:  
No Go Areas For  
The International  
Banking Sector

Briefing Paper

03

Habitats with  
Threatened  
and Endemic  
Species,  
and Key  
Biodiversity  
Areas



# Contributing authors and reviewers

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## ABOUT FRIENDS OF THE EARTH US

Friends of the Earth United States, founded by David Brower in 1969, is the U.S. voice of the world's largest federation of grassroots environmental groups, with a presence in 75 countries. Friends of the Earth works to defend the environment and champion a more healthy and just world. We have provided crucial leadership in campaigns resulting in landmark environmental laws, precedent-setting legal victories and groundbreaking reforms of domestic and international regulatory, corporate and financial institution policies. Visit [www.foe.org](http://www.foe.org) to learn more. Any errors or omissions in this report are the responsibility of Friends of the Earth U.S.



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Cover image credits: The Black Rhino (*Diceros bicornis*) is a Critically Endangered Species, according to the IUCN Red List of Threatened Species.

# About the Banks and Biodiversity Briefing Paper Series

The Banks and Biodiversity Initiative advocates that banks and financiers strengthen their biodiversity policies and practices. In order to halt and reverse biodiversity loss, the Initiative calls on banks and financiers to adopt eight proposed No Go areas as an important step towards improving their biodiversity policies and practices. This briefing paper series aims to explain the importance of why banks and financiers must exclude harmful direct and indirect financing to industrial, unsustainable, and extractive activities which may negatively impact these critical areas. **This briefing paper discusses No Go area 3 on threatened and endemic species, which is Paper 03 of the series.**

# Proposed Banks and Biodiversity No Go Areas<sup>1</sup>:

*In order to safeguard the rights of Indigenous and local communities (IPLCs) in formally, informally, or traditionally held conserved areas – such as Indigenous and community conserved areas (ICCA), Indigenous Territories (ITs) or public lands not yet demarcated – as well as to better address and reflect the current crises of climate change, biodiversity loss, and emergence of zoonotic diseases, the Banks and Biodiversity campaign calls on banks and financial institutions to adopt a No Go policy which prohibits any direct or indirect financing related to unsustainable, extractive, industrial, environmentally, and/or socially harmful activities in or which may potentially impact the following areas:*

**AREA 1: Areas recognized by international conventions and agreements** including but not limited to the Bonn Convention, Ramsar Convention, World Heritage Convention and Convention on Biological Diversity, or other international bodies such as UNESCO (Biosphere Reserves, UNESCO Global Geoparks, etc) or Food and Agricultural Organization (vulnerable marine ecosystems), International Maritime Organization (particularly sensitive areas), IUCN Designated Areas (Categories IA – VI)

**AREA 2: Nature, wilderness, archaeological, paleontological and other protected areas that are nationally or sub-nationally recognized and protected by law or other regulations/policies;** this includes sites which may be located in or overlap with formally, informally, or traditionally held conserved areas such as Indigenous and community conserved areas (ICCA), Indigenous Territories (ITs) or public lands not yet demarcated

**AREA 3: Habitats with endemic or threatened species, including key biodiversity areas**

**AREA 4: Intact primary forests and vulnerable, secondary forest ecosystems,** including but not limited to boreal, temperate, and tropical forest landscapes

**AREA 5: Free-flowing rivers,** defined as bodies of water whose flow and connectivity remain largely unaffected by human activities

**AREA 6: Protected or at-risk marine or coastland ecosystems,** including mangrove forests, wetlands, reef systems, and those located in formally, informally, or traditionally held areas, Indigenous Territories (ITs), or public lands not yet demarcated, or Indigenous and community conserved areas (ICCA)

**AREA 7: Any Indigenous Peoples and Community Conserved Territories and Areas (ICCAs), community-based conservation areas, formally, informally, traditionally, customarily held resources or areas, Indigenous Territories, sacred sites and/or land with ancestral significance to local and Indigenous communities' areas where the free, prior, informed consent (FPIC) of Indigenous and Local Communities have not been obtained**

**AREA 8: Iconic Ecosystems, defined as ecosystems with unique, superlative natural, biodiversity, and/or cultural value which may sprawl across state boundaries,** and thus may not be wholly or officially recognized or protected by host countries or international bodies. Examples include but are not limited to the Amazon, the Arctic, among other at-risk ecosystems

*Other international bodies have already recognized the value of developing No Go Areas, such as the World Heritage Committee and the UN Environment's Principles for Sustainable Insurance Initiative (PSI). The Banks and Biodiversity No Go Policy also aligns with banks and financial institutions' current practice of following institutional Exclusion Lists for sensitive industries or areas, as well as global goals of preventing further biodiversity loss. Projects that do not fall within Exclusion Lists should still be subject to rigorous environmental and social due diligence, assessment, screening, planning, and mitigation policies and procedures.*

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<sup>1</sup> Learn more at: <https://banksandbiodiversity.org/>

# Habitats with Threatened and Endemic Species, and Key Biodiversity Areas

Briefing Paper

# 03





# Introduction

Within the next few decades, one million species are estimated to be at risk of extinction<sup>1</sup>, in which the biodiversity crisis is now recognized as a global crisis in its own right. According to the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), “human actions threaten more species with global extinction now than ever before”, with an average of around 25 per cent of species now threatened<sup>2</sup>. Unless urgent action is taken, IPBES found that “negative trends in nature, in ecosystem functions...are projected to continue to 2050 and beyond”, in which all people, but especially Indigenous and the poorest communities, will be hit hardest. **The IPBES findings highlight the importance of how biodiversity protection is not only important in its own right, but is critical for contributing to and maintaining important ecosystem functions and processes which support all life on Earth.**

There is also a belated albeit increasing recognition that key economic sectors rely on those ecosystem functions. Historically, the banking and finance sector has ignored how biodiversity and ecosystems functions underpins many businesses and industries, as well as how industries are indirectly, if not directly, dependent on nature, such as agriculture, mining, forestry, among others. In fact, the challenge of measuring biodiversity and ecosystem functions reflects the multiple, complex values biodiversity has in enabling and sustaining human societies and critical ecosystems.

**The biodiversity crisis is unprecedented and poses tremendous challenges, and so it is critical for banks and financiers to anticipate and address their biodiversity impacts in order to prevent the impairment or degradation of ecosystem functions on which all human societies and their economies are dependent.**

Banks and financiers are exposed to material risks of biodiversity loss in two ways – firstly, in terms of directly driving or exacerbating negative biodiversity impacts caused by specific financed activities; and secondly, in terms of how such financed activities may in turn contribute to and drive the broader, systemic biodiversity loss (such as land use change, pollution, climate change, and over-exploitation of natural resources), which in turn impacts the long-term sus-

tainability of sectors or areas where a financier may invest in<sup>3</sup>, <sup>4</sup>. By prohibiting financing to activities with adverse biodiversity impacts, banks and financiers can play an important role in disrupting this negative feedback loop<sup>5</sup>.

**At heart, in order to help stop and reverse biodiversity loss, banks and financiers should address the systemic underlying threats facing threatened species, and predicate approaches to protecting biodiversity on the important role biodiversity plays in delivering ecosystem functions. This involves expanding biodiversity policies and safeguards to mean more than the preservation of particular species, but to instead approach biodiversity protection holistically by accounting for the protection of ecosystem functions, which are by nature a constellation of interdependent animal, plant, and other organisms and species in a geographic landscape.**

The Banks and Biodiversity’s No Go Area 3 pertains to habitats of threatened and endemic species, including Key Biodiversity Areas. In this paper, we aim to explain why banks and financiers should prohibit harmful direct and indirect financing which may negatively impact these areas. The Banks and Biodiversity Initiative considers protecting biodiversity as a vital part of protecting ecosystem functions, since biodiversity is a key contributor and indicator of ecosystem health. As such, the Initiative views biodiversity risks as a major indicator of potential risks to an area’s ecosystem functions.

In identifying threatened species’ habitats which should be off limits to harmful financing, this paper draws upon the IUCN Red List of Threatened Species, in which we advocate that the habitats of Near-Threatened, Vulnerable, Endangered, and Critically Endangered species should be all off limits to harmful financing<sup>II</sup>. In regards to endemic species, although not all endemic species are threatened, they are included given their vulnerability to extinction, as by definition endemic species are restricted to a geographic area and do not exist anywhere else in the world. We also include Key Biodiversity Areas (KBAs) in this chapter as they represent the most important places in the world for species and their habitats, though these areas may overlap with other designations such as World Heritage, Ramsar, and other sites<sup>III</sup>.

II This paper does not consider all categories within the IUCN Red List as No Go Areas. This is for practical reasons. For instance, we do not include the categories of Extinct and Extinct in the Wild as by definition these species are already extinct.

III For more information on Key Biodiversity Areas in World Heritage and other internationally recognized sites, please see Paper 1 of the Briefing Paper Series.

Due to the vulnerability of threatened and endemic species to extinction, as well as the global importance of KBAs, this paper hopes to demonstrate why these areas should be considered “uninvestable”. It also describes how biodiversity safeguards have evolved in the international banking sector, how banks and financiers can best utilize existing tools and

datasets to inform financing decisions, and how banks and financiers may positively evolve their biodiversity safeguards. Lastly, the paper draws upon particular case studies to demonstrate the complex challenges and risks banks and financiers face in cases where their supported activities do impact habitats of threatened and endemic species, including KBAs.

## Biodiversity, Ecosystem Functions, and the Web of Life

The Convention on Biological Diversity defines ecosystems as “a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit”<sup>6</sup>. **As a “functional unit” composed of diverse animals, plants, and microorganisms, an ecosystem can be altered and degraded by the disappearance of even a single species, which may consequently impact ecosystem functions. Conversely, the return of even one species can have a dramatic impact in helping to re-balance the health of an**

**ecosystem.** For instance, when gray wolves were reintroduced into Yellowstone National Park in the US, researchers found that the wolves helped stabilize the once languishing ecosystem by thinning out the large elk population, which in turn allowed for over-grazed vegetation to grow back, fostered the growth of bigger trees, attracted more migratory birds and other animals such as beavers<sup>7</sup>. According to the US National Park Service, the re-introduction of gray wolves will likely increase the biodiversity of the park<sup>8</sup>.



# Biodiversity Protections in International Bank Policies

According to the United Nations Environment Programme Finance Initiative, “the financial sector has failed to channel large scale capital into biodiversity (whether conservation, restoration, sustainable use or other objectives)” due to a lack of guidance and understanding of key biodiversity terms and concepts<sup>9</sup>. With the upcoming Global Biodiversity Framework to be agreed upon at the Convention on Biological Diversity’s 15th Conference of the Parties, there has been special attention to the role of public development banks in advance the Global Biodiversity Framework’s goals given their scale of assets and public mandate<sup>10</sup>. Many biodiversity related bank policies and practices were first established at a time where biodiversity loss was not considered as pressing global concern as it is today. While banks have adjusted and evolved biodiversity protection approaches, a key question is whether public and private banks have or are improving biodiversity policies enough to meet the challenge of the current biodiversity crisis. Briefly discussing biodiversity policies among multilateral financiers can offer some useful insights in understanding how there remains a divergence of approaches and definitions in biodiversity protection, which indicate a critical gap.

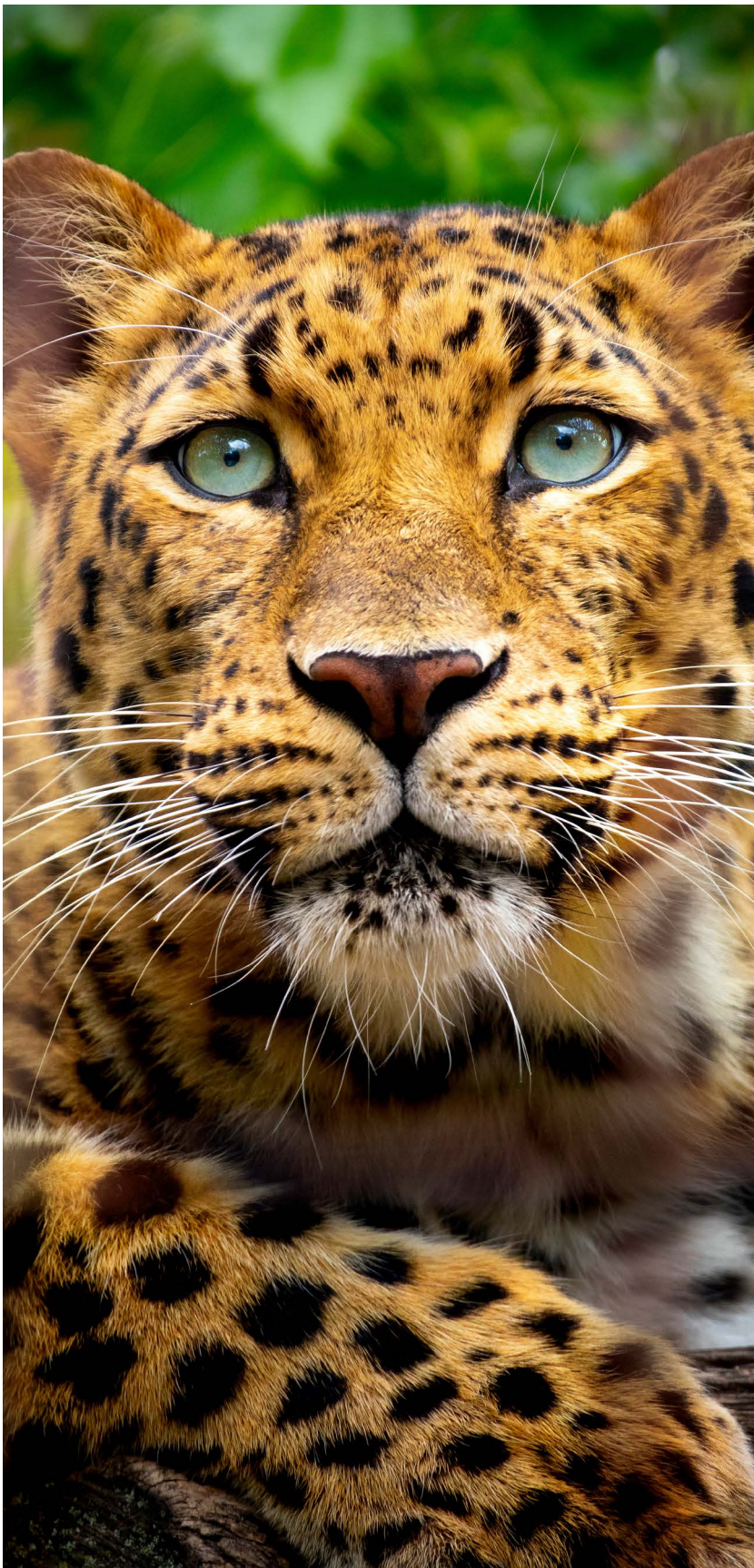
**Establishing clear principles and definitions is crucial for ensuring that financiers are accurately and appropriately measuring, operationalizing, reporting, and verifying their biodiversity goals and impacts.** Within the international banking sector, convergence towards a common baseline approach in measuring and protecting biodiversity is crucial for banks to do their part in stopping and reversing biodiversity loss, as well as to avoid a “race to the bottom” due to weak definitions and principles.

For instance, in November 2021 the Asian Development Bank (ADB) published “Summary of the Analytical Study for the Safeguard Policy Review and Update: Biodiversity Conservation and Sustainable Natural Resource Management”, which reviewed the ADB’s current safeguards in comparison to peer multilateral

financial institutions (MFI) biodiversity policies. The benchmarking analysis found that policy requirements and definitions differed in key concepts and principles. The benchmarking analysis found that multilateral financiers had limited or diverging guidance regarding baseline requirements, management plan requirements, modified habitat requirements, natural habitat definition and requirements, and legally protected or recognized areas, among others<sup>11</sup>. In fact, another study found that a mix of multilateral development banks (MDB) still allows for harmful financing to take place in high profile protected areas, such as UNESCO World Heritage and Ramsar sites<sup>12</sup>.







*Research over several decades has shown biodiversity offsets do not lead to positive biodiversity outcomes, but instead foster a misguided illusion of biodiversity protection.*

The ADB study further noted that a common definition of key areas such as Critical Habitats has yet to emerge. Most multilateral financiers (except the Inter-American Development Bank and International Finance Corporation) include ecological functions which maintain Critical Habitat values. At the same time, only the IDB includes areas important for Near Threatened species (per the IUCN Red List), Key Biodiversity Areas, and international protected or recognized areas<sup>13</sup>.

In contrast, the International Finance Corporation Performance Standard (IFC PS) does not include KBAs or habitat with Nearly Threatened Species as Critical Habitat by default; rather the IFC PS defines Critical Habitats as “areas with high biodiversity value, which may include habitat of significant importance to Critically Endangered and/ or Endangered species, habitat for endemic species, habitat supporting globally significant concentrations of migratory species and/or congregatory species, highly threatened and/or unique ecosystems, and areas associated with key evolutionary processes”<sup>14</sup>.

Convergence towards a common definition is important if financiers are to ensure that Critical Habitats are protected, as this designation often triggers subsequent restrictions or requirements, such as the need for additional assessments or whether biodiversity offsets can be used. The definition is also significant for identifying which habitats of threatened species, per the IUCN Red List, should be considered Critical Habitat.

**Given the biodiversity crisis, Critical Habitat definitions should be inclusive, and include habitats of not only Endangered or Critically Endangered species, but also Near-Threatened, Vulnerable ones as well.**

The ADB study also identified ambiguity in how multilateral financiers should implement key concepts such as net loss, net gain, and biodiversity offsets, finding that “No MFI policies give clear guidance on how much net gain is appropriate or necessary over and above no net loss”. It noted that there was a lack of gene-

ral guidance as to what negative biodiversity impacts were “not offsettable”, as well as the “duration/sustainability of offsets”. Because biodiversity protection is inherently place-specific, it is essential that such approaches are more fully defined so as to prevent the destruction of irreplaceable Critical Habitat.

The international banking sector is increasingly recognizing the importance of nature and biodiversity, and has shown signs of increasing institutional ambition, as seen in the 2021 Joint Statement by the Multilateral Development Banks: Nature, People and Planet, which was endorsed by a number of MDBs<sup>15</sup>. Given the diversity of approaches and definitions, as well as the biodiversity crisis, however, it is critical that existing best practices in the international banking sector advance to meet the biodiversity challenges of today, rather than those of yesterday.

The IFC’s Performance Standards (IFC PS) offer a useful example of how international best practices can further evolve to respond to the global biodiversity crisis. The IFC PS are a major international benchmark on environmental and social risk management, being referenced extensively across the public and private financial sector, including by 137 members of the Equator Principles Association. Although they are recognized as a benchmark in due diligence standards, there is still much room for improvement.

For instance, the current IFC PS6 aims to protect and conserve biodiversity, maintain benefits from ecosystem functions, and promote the sustainable management of living natural resources<sup>16</sup>. However, **in response to the global biodiversity crisis, a critical objective of biodiversity management should now be to actively stop and reverse biodiversity loss, while simultaneously aspiring to restore ecosystems functions**. Revising the institution’s overarching biodiversity objective to stop and reverse biodiversity loss is important in order to raise institutional ambition in tackling the systemic drivers of biodiversity loss, rather than narrowly protecting biodiversity in relation to specific bank financed activities.

Furthermore, the IFC PS were last updated in 2012. Although the IFC has published and updated its Guidance Note (GN) for the PS since then, it should be noted that the GN “are

not intended to establish policy by themselves; instead, they explain the requirements in the Performance Standards”<sup>17</sup>. This means that although the GN provides helpful details regarding the PS requirements, it is not meant to go beyond the 2012 requirements. In this sense, while the GN can be helpful in offering implementation guidance, the IFC PS themselves are becoming outdated as they do not reflect the higher level of ambition needed in order to tackle the present-day biodiversity crisis.

The differences between the IFC PS and GN are important since although IFC staff and borrowers are expected to rely on the Guidance Note in deciding project scope and implementation, the GN itself is not mandatory. Moreover, these distinctions become more relevant in cases where project developers may formally commit to using IFC PS as the benchmark, even if they are not receiving IFC financing support. In these cases, the role of the GN becomes ambiguous in setting expectations of appropriate compliance to the PS.

Lastly, it is unclear if the IFC’s Office of the Compliance Advisor Ombudsman would consider recommendations outlined in the GN when assessing compliance levels in IFC funded projects

In contrast, an interesting example of evolving towards new benchmarks in biodiversity protection is the European Investment Bank. As part of its scheduled safeguards review, in 2022 the European Investment Bank’s Standard 4 on Biodiversity and Ecosystems was revised from ensuring “no net loss of biodiversity” to “halt and reverse biodiversity loss”<sup>18</sup>. This is significant in that the bank’s new biodiversity objective better reflected, acknowledged, and confirmed the bank’s commitment to not finance activities with negative biodiversity impacts, rather than over-relying on mitigation measures or offsetting such impacts

The EIB standards went a step further by effectively prohibiting the use of biodiversity offsets. The EIB’s revised biodiversity standard states: “Where a project is expected to have impacts that would compromise the viability of a critical habitat and/or a habitat of high biodiversity value or their associated features regardless of



any proposed compensation or offset, the promoter shall undertake to redesign the project to avoid the need for such compensation/offset<sup>19</sup>.

The bank's policy further stresses that "Biodiversity offsets are not an acceptable measure to achieve Net Positive Impact for critical habitat" and that "In the absence of scientific information, the precautionary principle shall apply."

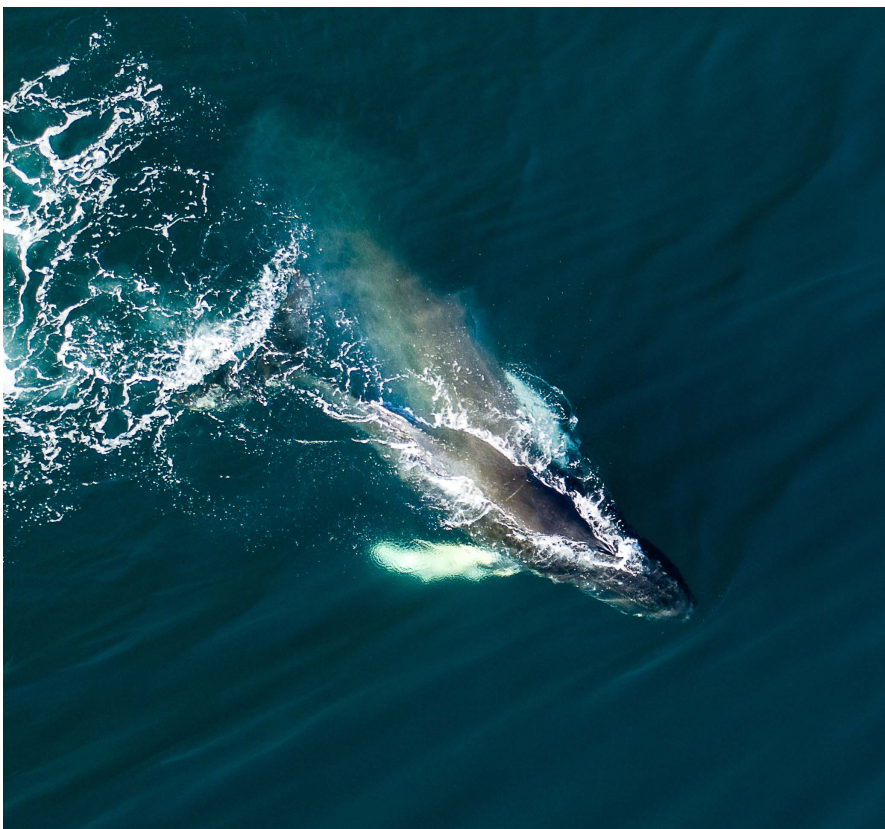
This language is significant, as it essentially preempts the use of biodiversity offsets as a means to mitigate negative biodiversity impacts. Research over several decades has shown biodiversity offsets do not lead to positive biodiversity outcomes, and instead foster a misguided illusion of biodiversity protection<sup>20</sup>. Prohibiting biodiversity offsets is an important step in the right direction, as the use of biodiversity offsets undermines institutional biodiversity goals and targets. This is because the practice of biodiversity offsets has been shown to allow the continued destruction and loss of biodiversity while fostering an illusion of protection<sup>IV</sup>. Notably, the Inter-American Development Bank also prohibits the use of biodiversity offsets in Critical Habitat.

These recent developments from the EIB reflect an increasing recognition of the need to raise institutional ambition to manage both site specific and systemic drivers of biodiversity loss, and are a useful example of how banks and financiers should evolve their biodiversity policies in response to biodiversity risks.

Another trend among financial institutions including insurers is developing biodiversity related exclusion policies that can be applied at the portfolio-level and for investments in particular companies. Examples include The Council on Ethics to the Norwegian Government Pension Fund Global, which has used data on KBAs and protected areas to identify companies in their portfolio that should be excluded from the fund<sup>21</sup>. This type of approach is being facilitated through collaborations between the Integrated Biodiversity Assessment Tool (IBAT) Alliance and ESG data providers whereby company asset data can be compared to global important sites for biodiversity to guide investments and avoid high risk sites.

## Some banks have developed exclusions for at risk, critical ecosystems and biodiversity hot spots, such as the Amazon and the Arctic<sup>22</sup>.

Lastly, although the IFC PS are considered an international benchmark, the effective implementation of environmental, social, and biodiversity policies are equally if not more critical. Assessing the adequacy of implementation and compliance levels of banks' biodiversity policies is beyond the scope of this paper, but it is worth noting that implementation challenges are common across many public and private banks, as evidenced in numerous independently produced research, media reports, and other reports<sup>23</sup>. The longstanding challenge of ensuring proper implementation is also well referenced in academic literature. For instance, one study assessed the World Bank, which largely relies on the IFC PS, questions whether the World Bank's "environmental safeguards have adequately translated into avoidance of highly diverse areas. Given the size of the World Bank's lending portfolio and its role in setting industry best practice our results are concerning for conservation efforts"<sup>24</sup>.



IV For a more detailed analysis on the conceptual and practical flaws of biodiversity offsets, please see "Fool's Paradise: How Biodiversity Offsets Don't Stop Biodiversity Loss" <https://foe.org/resources/fools-paradise-how-biodiversity-offsets-dont-stop-biodiversity-loss/>

# The Trouble with Biodiversity Offsets

Although the efficacy of biodiversity offsets remains extremely controversial, many bank policies still allow biodiversity offsetting. This is because offsets are included as part of the mitigation hierarchy, an international methodology meant to reduce environmental risk, which many banks reference, including the IFC PS. Within the hierarchy, offsets are intended to be used as a “last resort”. However, the record of biodiversity offsets suggests that they are in practice used as a means to justify and move harmful projects forward<sup>25</sup>. This is in part because the destruction of Critical Habitat is allowed to occur before a project developer has designed or even demonstrated that the biodiversity offset is operational, let alone effective. As a result, offsets have often been used as a means to allow project sponsors to avoid their responsibility to prevent harmful biodiversity impacts.

This conceptual flaw is exacerbated by the **lack of consistency on what impacts can be “offsettable”, and which are not<sup>26</sup>. Furthermore, in order to accurately assess a situation where offsets will be used, robust baseline studies are needed to understand where the “net” loss or gains will be seen in order to then assess how much net loss or gain is “needed” to “balance” out the use of offsets. Concerningly, however, there is little guidance and clarity on common definitions, methodologies, or metrics of how to establish supposed “net gains” or “net losses”<sup>27</sup>.**

This ambiguity is exacerbated by the general lack of transparency and disclosure of which bank financed activities have required the use of biodiversity offsets as a condition for finance, let alone their implementation progress, making it difficult to understand, assess, and track the performance of these mechanisms based on empirical evidence.

Biodiversity offsetting also ignores the socio-economic, cultural, and spiritual significance of a given place. By focusing on ecological characteristics only, biodiversity offsetting renders the socio-economic, cultural, and spiritual impacts of destruction invisible, and reduces a given place to a limited set of ecological indicators, which are usually the presence of iconic (animal) species. This reductionist approach over-simplifies and devalues the unique and complex web of human and non-human interactions in a given ecosystem. It also ignores how the socio-economic, cultural, and spiritual significance are place-specific, meaning that their destruction in one place cannot be recreated or substituted through restoration of an area elsewhere.

**As a mitigation measure, biodiversity offsets have not proven to be effective in preventing biodiversity loss. In fact, they have become associated with a dismal track record<sup>28</sup>. In order to make the mitigation hierarchy more useful when conducting environmental due diligence, banks should consider instead including a “no project” option and eliminate the “offset” option when using the hierarchy<sup>v</sup>.**



V For a more detailed analysis on the conceptual and practical flaws of biodiversity offsets, please see “Fool’s Paradise: How Biodiversity Offsets Don’t Stop Biodiversity Loss”: <https://foe.org/resources/fools-paradise-how-biodiversity-offsets-dont-stop-biodiversity-loss/>



# Understanding and Using Biodiversity Data Tools Effectively



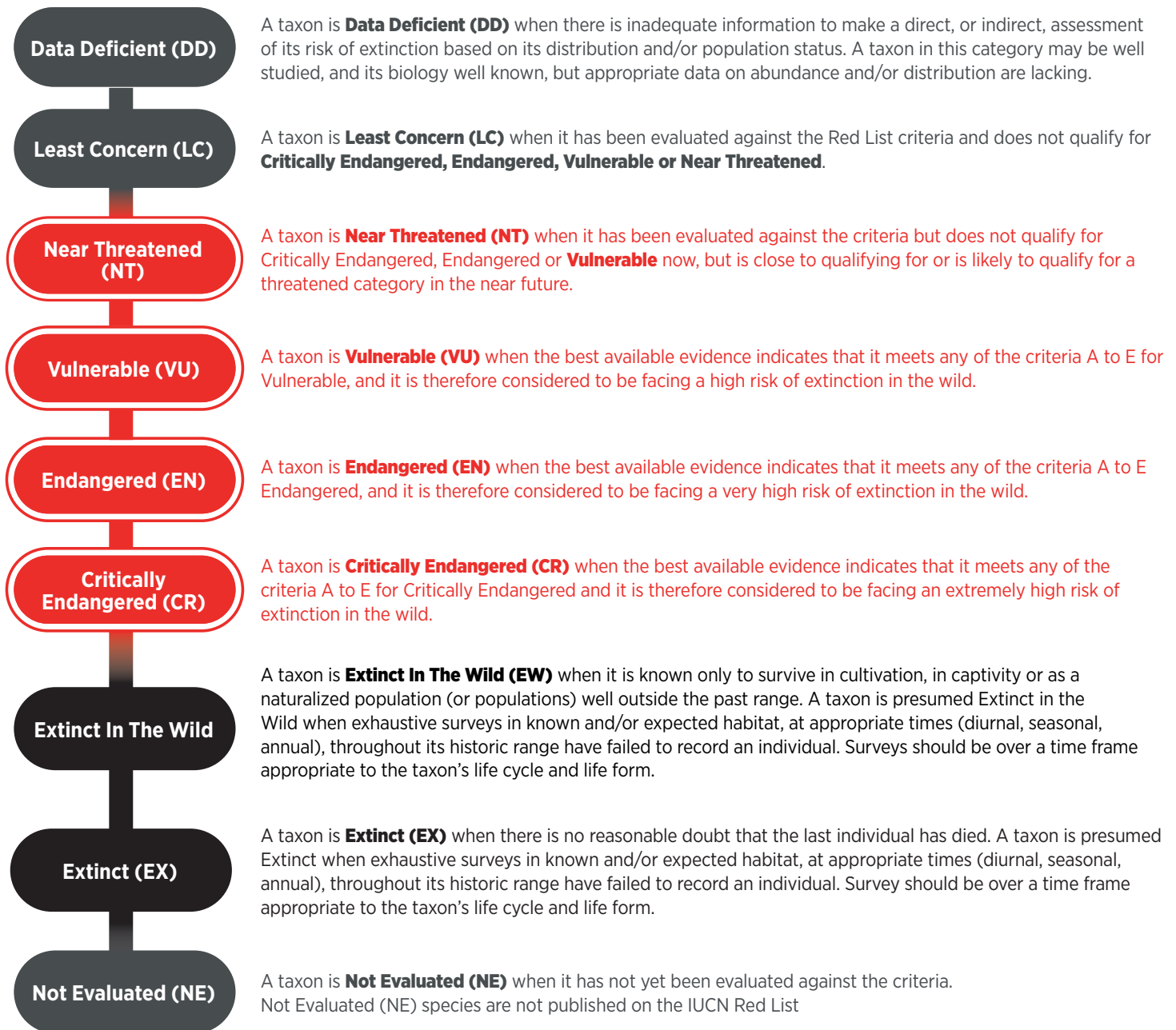
In order to ensure robust feasibility and environmental studies, banks should familiarize themselves with the best available data sources, as well as how to effectively use them. Several databases have emerged as globally authoritative sources of information that the financial sector can use to identify species at risk of extinction, threatened ecosystems, and globally significant sites for biodiversity conservation. Examples include the IUCN Red List of Threatened Species, the IUCN Red List of Ecosystems, the World Database on Protected Areas, the World Database of Key Biodiversity Areas, and for regional sites that do not meet global KBA Criteria, BirdLife's Datazone on Important Bird and Biodiversity Areas.

**Importantly, it should be noted that no single tool or database contains all relevant biodiversity information for banks, as each was developed with its own discrete objectives and scope. Although IBAT consolidates many of the referenced data sources below, banks and financiers should follow good practice by cross-referencing biodiversity risks with other relevant environmental and social risks.**

# IUCN Red List of Threatened Species

Established in 1964, the International Union for Conservation of Nature's Red List of Threatened Species™ (IUCN Red List) is the world's most comprehensive information source on the global extinction risk status of animal, fungus, and plant species<sup>29</sup>. It currently contains data on more than 7,147,517 species. Species are assessed against eight categories ranging from Least Concern to Extinct, with three catego-

ries recognised as globally threatened: Critically Endangered (CR), Endangered (EN) and Vulnerable (VU). Of the species assessed to date, 28% are assessed as threatened with extinction (41,459 species) but this varies by species group; for instance, 13% of birds and 63% of cycads (an ancient group of seed bearing plants) are threatened with extinction.



*The IUCN Red List of Threatened Species includes nine categories. The Banks and Biodiversity Initiative urges banks to formally protect the habitats of species categorized as Near Threatened, Vulnerable, Endangered, and Critically Endangered.*



Species can be threatened because they occur in small restricted areas where their population is threatened, or because their global population is more widespread but declining rapidly. Sites, where the last remaining populations of Critically Endangered (CR) or Endangered (EN) species are confined, are particularly important to conserve and are called Alliance for Zero Extinction sites (AZE)<sup>30</sup>.

AZE sites are recognised by some banks as “no-go areas” where they will not fund projects. For example, IFC’s PS6 regards AZE sites as not acceptable for financing. Bank policies generally attribute more focus to CR and EN species, although IFC’s PS6 states that if actions might increase a species status from VU to a more threatened status, then projects should not be supported where VU species occur.

**The Banks and Biodiversity Initiative proposes that banks and financiers should include the habitats of Near-Threatened, Vulnerable, Endangered, and Critically Endangered species should be off limits to harmful financing.**

However, a concern with over-relying on the IUCN Red List as a primary proxy for managing species impacts is that not all species have yet been assessed, and so may be overlooked despite being threatened. Although the IUCN Red List has assessed approximately 7,147,000 species<sup>31</sup>, it is estimated that there are 10 – 30 million species on Earth whose threat status remains unknown<sup>VI</sup>.

## Species Assessed **VS.** Global Species

Species Assessed by IUCN Red List of Threatened Species

**147,517**

Estimated Species Globally


**10-30 million**

Species Remaining to be Assessed

**9,852,483 - 29,852,483**

*While the IUCN has made progress in achieving its programmatic goal of assessing a total of 160,000 species, this number is just a fraction of existing global species. For the vast majority of global species, it is still unknown whether and to what extent they are threatened.*

VI Estimates on the total number of species on the planet ranges widely, with some estimates ranging from 5 million to 1 trillion. As a result, it is difficult to estimate the exact number of species whose threat status remains unknown. The 10-30 million species of number of species yet to be assessed for their threat status is one estimation. For example, please see: <https://www.science.org/doi/10.1126/science.1230318>; <https://www.sciencedaily.com/releases/2016/05/160502161058.htm>; <https://www.nature.com/articles/news.2011.498>



**61,000 plant species have been  
assessed by the IUCN.**

**This makes up about 14% of the  
world's known plants, which means  
roughly **86%** of known plant species  
have not been assessed yet.**

It is also possible that most or all of a non-threatened species' population occurs at a particular site (especially for range restricted species). Therefore, a species could become highly threatened by a bank's decision to finance activities in such an area. This is why it is important for banks to not only consider species which are currently threatened, but to also consider how proposed bank financed activities can tip the scale in potentially causing species to become threatened.


This is especially critical in regards to endemic species, which by definition are only found in a single geographic region, and geographically restricted species. For example, a proposed bauxite mine at Atewa Forest in Ghana would remove all the forest cover and ensure the loss endemic species such as the endemic plant *Monanthotaxis atewensis* (NE), two endemic butterflies *Atewa Dotted Border Mylothris atewa* (VU) and *Anthene helpsi* (NE)<sup>32</sup>, and the *Atewa Hooded Spider Ricinoides atewa* (NE)<sup>33</sup>. The *Atewa* population of *Togo Slippery Frog Conraua derooi* is also considered to be genetically distinct which would also make it endemic to the forest but remains to be named<sup>34</sup>. According to Ghanaian organization A Rocha Ghana, the *Atewa* Forest is home to four to five endemic species, as well as many species (including birds, reptiles, amphibians, fish, and mammals) categorized as a mix of critically endangered, endangered, and vulnerable species<sup>35</sup>. According to the Integrated Biodiversity Assessment Tool (IBAT) database (which is discussed further below) the *Atewa* Forest contains at least 38 CR and EN species, including: *Afia Birago's*

*Puddle Frog* (CR), *Roloway monkey* (CR), and numerous endangered fish and flowers.

Furthermore, **it is important that not only threat status, but the proportion of the global population of a species at a site are considered when banks are considering investing in projects.** For instance, if more than 10% of an unthreatened species occurs at a proposed development site, this should be cause for concern. At a minimum, strong mitigating measures should be put in place to ensure the species does not decline at a site.

As an example, a 10% threshold is the value used to assess the proportion of unthreatened geographically restricted species in the KBA criteria (KBAs discussed further below); a threshold higher than 10% would trigger KBA status. This threshold should be adjusted and reduced for species that are threatened. Having information about the proportion of a species' global population at a site can be useful in helping banks and financiers make decisions of potential impacts on threatened species. The World Database of KBAs will provide these for existing KBAs through IBAT, but there will be un-identified KBAs. This means that there is still a need for financiers to assess potential globally significant populations of species for each concession's impacted area.





Of the species that have been assessed by the IUCN, invertebrates makeup only **31%** and marine species comprise less than **15%**

### *IUCN Red List of Ecosystems*

The IUCN Red List of Ecosystems (Red List of Ecosystems) Categories and Criteria is a global standard for assessing the status of ecosystems in a similar way to species<sup>36</sup>. The main difference between the two classification systems is that the IUCN Red List of Threatened Species assesses the risk of species extinction, whereas the IUCN Red List of Ecosystems measures the health of an ecosystem and the risk of its collapse. An ecosystem is considered to have collapsed if it has lost all of its originally recognisable characteristics. To date, more than 2800 ecosystem units have been assessed on the Red List of Ecosystems, with 69.2% of assessed ecosystems classified as threatened (CR, EN or VU). Most of those assessed are terrestrial ecosystems (73%). It is likely there has been an initial interest in identifying more well known ecosystems which may qualify as threatened.

Unlike the IUCN Red List of Threatened Species, the IUCN Red List of Ecosystems is relatively recent. It will take time to accumulate assessments and become globally representative. Therefore, **banks should not assume that if a particular ecosystem is not listed as threatened that projects can proceed without risks. There is still a need to consider the ecosystems found in potential project areas and whether these are under threat or of a restricted distribution.** If so, banks should consider conducting a Red List assessment of the ecosystem as part of an Environmental Impact Assessment of the site.



## World Database on Protected Areas (WDPA)

The World Database on Protected Areas (WDPA) is a joint project between the UN Environment Programme and the International Union for Conservation of Nature (IUCN)<sup>37</sup>. Data and information in the WDPA underpin the publication of the United Nations List of Protected Areas. Many protected areas represent No Go areas for financial institutions' investments, such as with UNESCO World Heritage Sites, and often IUCN Protected Area Management Categories, such as Ia, Ib and II. The compilation and management of the WDPA is carried out by the UN Environment Programme World Conservation Monitoring Centre (UNEP-WCMC) in collaboration with governments, non-governmental organisations, academia, and industry.

The WDPA is sourced from almost 500 data providers in 245 countries and territories. These

include governments, international secretariates, regional entities, NGOs and individuals. The WDPA is updated monthly and represents roughly 270,000 sites around the world as of 2022. Many of these sites overlap with Key Biodiversity Areas, and with increasingly ambitious protected area targets, many countries will likely draw upon existing KBA network to help them in identifying new areas for designation. As other tools and databases referenced in this chapter, overlap between KBAs and protected areas demonstrates the potential multiple associations and categorizations a single site or area may have, and thus the need to cross reference whether a site is included in other databases or international agreements.<sup>VII</sup>

## Key Biodiversity Areas (KBA)

The Key Biodiversity Area (KBA) Programme aims to identify, map and conserve "a comprehensive network of sites that contribute significantly to the global persistence of biodiversity and which are correctly documented, effectively managed, sufficiently resourced and adequately safeguarded"<sup>38</sup>. Led by a partnership of 13 conservation groups, the process of identifying KBAs applies scientific criteria described in the Global Standard for the Identification of KBAs, published in 2016<sup>39</sup>. Because KBAs can occur in many habitat types, they cut across various areas under the Banks and Biodiversity proposed No Go Areas. However, for practical purposes, KBAs are described in this chapter as they represent globally significant sites for biodiversity.

KBAs are identified using 11 criteria among five overarching conservation targets. These conservation targets include: threatened biodiversity, geographically restricted biodiversity; ecological integrity; biological processes, and irreplaceability. Most of the criteria relate to the proportion of the global population of a spe-

cies at a site. Specific thresholds are established based on the threat status of a species or ecosystem or whether species are found together in assemblages of geographically restricted species (such as occurrences in biodiversity hotspots) or whether species come together to breed or migrate in large aggregations.

**As KBAs are identified by a measure of the proportion of the global population of a species, or the proportion of an ecosystem at a site, this means that all KBA sites can be considered to contain a globally significant amount of a species or ecosystem, and thus an extremely useful dataset for banks.**

Two of the criteria are specific to threatened and geographically restricted ecosystems, and one for large sites of outstanding ecological integrity. KBAs may also overlap with other designations, including World Heritage Sites, protected areas, other effective area-based conservation measures (OECMs), or other globally recognised sites. After review to ensure they meet the rele-

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VII Internationally recognized and protected areas are discussed in more detail in Paper 1 on Internationally Recognized Areas.

vant criteria, confirmed KBAs are published in the World Database of KBAs<sup>40</sup>. As KBAs clearly identify which species or ecosystems are important for a site and provide guidance on what needs to be monitored in order to ensure projects do not cause negative impacts, banks should exclude harmful financing activities taking place in or in the vicinity of KBAs.

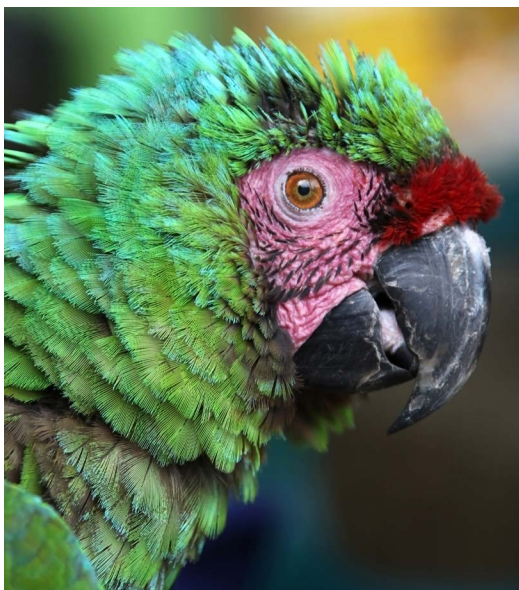
The KBA Partnership supports bank investments when used for sustainable conservation efforts; for example, this can include the development of a tourism project that would help finance the conservation of a site. The KBA Partnership wants private sector companies to ensure that there are no negative impacts on the species or ecosystems that trigger KBA status at a sitewhere any investment occurs<sup>VIII</sup>.

## Important Bird and Biodiversity Areas

The Important Bird and Biodiversity Areas (IBA) Programme, dating back to 1979, aims “to secure the long-term conservation of sites that are of significant importance for birds and biodiversity.”<sup>41</sup> Developed by BirdLife International, IBAs became the foundation for the Global Standard for the Identification of Key Biodiversity Areas (KBAs), established in 2009. BirdLife International then made IBAs a subset of KBAs when it launched the KBA Partnership in 2016, wherein a group of global conservation organizations now coordinate in identifying and monitoring Key Biodiversity Areas<sup>42,IX</sup>. This meant that “from January 2017 onwards, all newly identified IBAs should also be proposed as a KBA” and that the “IBA criteria guidelines should be used in conjunction with the respective KBA criteria<sup>43</sup>”.

The site selection of IBAs relies on scientific criteria which evaluates the “presence and abundance of species that occur there, year round or seasonally,” and ongoing monitoring that assesses changes in species’ numbers and how this affects the importance of the site.<sup>44</sup> The IBA criteria is organized at the global (“A” criteria), regional (“B” criteria) and sub-regional (“C” criteria) levels<sup>45</sup>. At each level, certain categories of species are assessed.

For instance, the global IBA criteria include globally threatened species as per the IUCN Red List, as well as restricted-range and restricted-biome species.<sup>X</sup> So far, over 13,000 IBAs have been identified. This data are stored in the World Database of Key Biodiversity Areas, the BirdLife Data Zone<sup>46</sup> and Key Biodiversity Areas Website, as well as on IBAT for commercial use<sup>47</sup>. These data can help banks to avoid investing in high-risk sites that are globally important for birds and other biodiversity.



*Habitat loss and fragmentation is considered the largest driver of biodiversity loss across the world. This is because the destruction of undeveloped, natural habitat is typically required in order for infrastructure, energy, large scale agriculture, and other industries to proceed.*

VIII If there are negative impacts, the KBA Secretariat recommends impacts are ideally net positive. IUCN guidance on how businesses should operate in or near KBAs has been developed by the KBA Partnership.

IX Other significant sites for threatened habitats, which are subsets of KBAs, include Important Plant Areas and Prime Butterfly Areas.

X The regional criteria includes, “Species with an unfavourable conservation status in the region,” those with “most of their range restricted to a region,” and regionally important congregations. At the sub-regional level, IBA sites can be identified for “species threatened at the European Union level” and “migratory species not threatened at the EU level,” among others.



## *Integrated Biodiversity Assessment Tool (IBAT)*

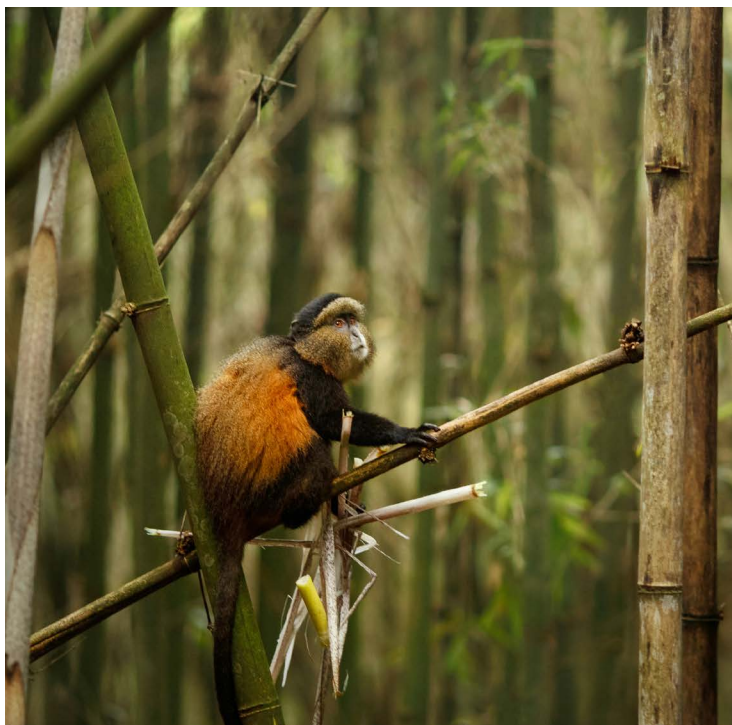
The Integrated Biodiversity Assessment Tool (IBAT), is a web-based mapping and reporting tool, developed alongside the private sector (including the World Bank and IFC) for licensed use by commercial entities<sup>48</sup>. It consolidates data from the World Database of KBAs, IUCN Red List and the World Database non Protected Areas and packages the information to make it relevant and easily accessible. Users can create rapid biodiversity reports (e.g. relating to Critical Habitat under IFC PS6) for any Area of Interest to identify which protected areas and KBAs can be found at a potential project or within specific buffer distances around a project<sup>49</sup>.

The tool can also be used to identify the potential presence of species from the IUCN Red List

and ascertain which species should be carefully managed and monitored in cases where projects ultimately do move forward. For projects that do progress, IBAT can inform the focus of an EIA or be used to query the results of an EIA. The IBAT Alliance have produced a briefing note on screening for biodiversity risk in the finance sector, which covers the major aspects of biodiversity to consider in due diligence when utilizing IBAT as an early stage screening tool<sup>50</sup>. Whilst not a substitute for more detailed EIA and SEA assessments, IBAT can screen potential projects and indicate the need for more detailed local data and monitoring of species and sites of biodiversity importance.

## *Using Biodiversity Tools as a Starting Point – not an End Point*

These tools and databases can provide useful resources which banks may draw from in assessing potential environmental and biodiversity risks of proposed activities or projects. A summary of these tools also illustrates the potential hazards of over-relying on just one or even several datasets in identifying how a project may impact endangered species, as each tool was created for different objectives. Furthermore, all these datasets are continuously evolving and growing, and so the lack of inclusion of a species, ecosystem, or site on this list should not suggest that harmful activities are acceptable in a particular area. In other words, banks should use these tools<sup>XI</sup> as an important starting point when undertaking environmental and biodiversity assessments, and not as an end point.



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XI New tools to track and identify biodiversity impacts are continuously being developed. These are some examples of new, emerging tools and datasets. <https://www.biorxiv.org/content/10.1101/2022.08.21.504707v1>; <https://www.protectedplanet.net/en/thematic-areas/connectivity-conservation>; <https://www.sciencedirect.com/science/article/pii/S0006320720307321>

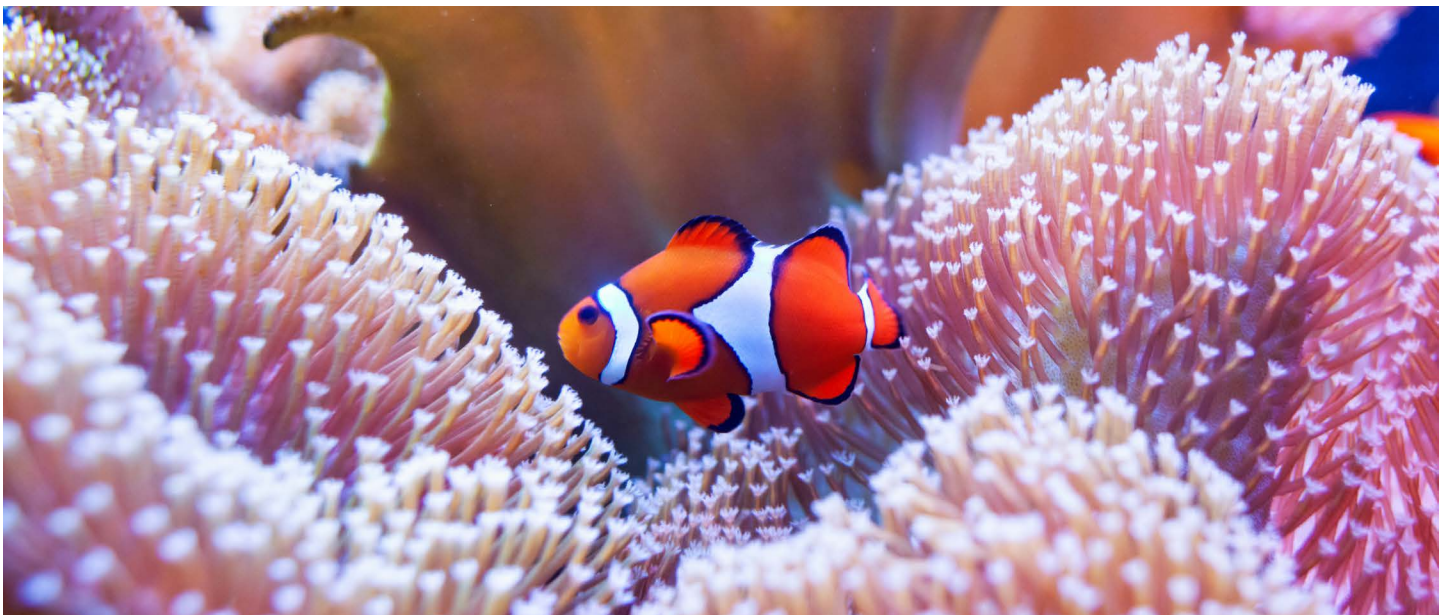
# Direct and Indirect Drivers of Biodiversity Loss Associated with Bank Financed Activities

Banks play an essential role in incentivizing, mitigating, or preventing the major drivers of biodiversity loss. Infrastructure development, urbanization, energy, industrial agricultural, mining, and other extractive industries are closely related if not synonymous with the common drivers of environmental degradation and habitat loss, which in turn have accelerated the biodiversity crisis. As key, upstream actors, banks are heavily invested in these sectors, and thus play an influential role in incentivizing and dis-incentivizing major drivers of biodiversity loss.

For instance, **habitat loss and fragmentation is considered the biggest driver of biodiversity loss across the world, in which the destruction of undeveloped, natural habitat typically results in order for infrastructure, energy, large scale agriculture, and other industries to proceed. To date, it is estimated that 77% of land and 87% of the ocean have been modified by direct human activities<sup>51</sup>. Although some bank financed activities have supported the restoration of sites after a resource has been extracted, these rarely achieve the same level of biodiversity as the original habitat.**

Hunting is also one of the drivers of species loss, particularly for large and medium sized mammals and fish, with an estimated loss of 83% of wild mammal biomass (IPBES 2021)<sup>52</sup>. Banks and financiers may be tied to this phenomenon as hunting is usually increased after roads, railways, or waterways create new and improved access to previously remote habitats. This allows people to move into a previously inaccessible area and hunt, often leading to increased offtake of bushmeat to unsustainable levels. This in turn drives a decline in mammal populations, and at times even leads to potential local extinction. In fact, hunting can extend many kilometers into remote areas because hunters set up bush camps from where they hunt.

Bank financed activities or projects can exacerbate an increase in hunting, as financed activities, such as a fossil fuel project, mine, or other extractive activity may require or encourage the migration of foreign or domestic people who come looking to work and settle in or near new project sites. For instance, these newcomers may contribute to the over-exploitation of resources such as bushmeat and fuelwood in order to survive. Even if newly arrived people





do not hunt directly, their presence may create a market for bushmeat. This in turn can lead to hunting for commercial reasons, even if hunting was initially limited to local consumption.

Companies and their financiers often have little ability to control and regulate such migration of people as it can only be done by governments. But they do have the responsibility to at least anticipate and address potential impacts of their activities and financing. It is imperative for banks to consider how the development of industrial projects, such as energy projects, plantations, mining, and infrastructure, may create new access to new areas, and thus create new problems. This is because new industrial developments all require roads, railways, or transportation pathways, which in turn facilitate and increase human access to previously undeveloped areas.

In other words, **banks should not only assess what environmental, social, and biodiversity impacts a proposed activity may have on an area, but also consider how the proposed activity, once developed, may be the source and driver of new negative impacts, such as increased hunting, sudden population increases, and others.**

This is particularly important in developing countries with high biodiversity, as any new transportation pathways associated with a proposed project may ultimately lead to these kinds of unintended or unforeseen consequences<sup>53</sup>. And yet, these kinds of impacts in Environmental Impact Assessments (EIAs) or Strategic Environmental Assessments (SEAs) are rarely included.

**Banks therefore need to consider not only the wider, indirect, and cumulative biodiversity impacts of their financing in an area, but also consider how a new project and its associated activities may itself generate, drive, and compound additional threats or pressures on local biodiversity and ecosystems.**

Notably, species that are typically most affected by hunting tend to end up on the IUCN Red List for rapidly declining populations.

In identifying these additional pressures on biodiversity, banks therefore need to ensure the use of high quality, independent biodiversity data and tools to best anticipate and minimise project impacts.



# A Good Assessment is Hard to Come By: The Challenges of Ensuring Credible, Robust Environmental Assessments

Environmental Impact Assessments (EIA) and other related environmental and social assessments are key documents required for financed activities which are expected to result in high or significant environmental or social impacts. However, EIAs are also notoriously fraught documents, which may or may not accurately comprehensively capture all associated or caused by a financed project or activity. This includes but is not limited to biodiversity impacts. Ensuring that EIAs are robust, thorough, and accurate is a common albeit critical challenge. It should also be emphasized that tools such as IBAT do not and cannot replace the need for more detailed assessments. **Banks should ensure robust EIA and SEA assessments are developed so as to collect accurate baselines on the number and density of species, in addition to mapping the extent and current condition of ecosystems.**

In many countries, EIAs are developed by local consultant agencies or individuals who may be familiar with a region or country, but they may not have deep awareness or knowledge of the distribution of biodiversity globally. As a result, many EIAs tend to reflect and assess biodiversity based on local lens, rather than the broader lens of conserving biodiversity on a global level. In order to ultimately halt and reverse biodiversity loss, however, it is critical to understand how a project or activity impacts the global proportion of species and ecosystems. In many cases, there can be species that are locally abundant but have a restricted distribution globally; as a result, they may be incorrectly assumed to be unimportant, particularly if they are considered unthreatened.

This is especially relevant for endemic species, which by definition are only found in a singular region or area. Bank staff who are reviewing transactions from their desktop

can use tools, such as IBAT and others referenced earlier, to check the quality of EIAs. It is important EIA consultants are guided to consider priority species and ecosystems of global concern which may be located in a project area; doing so can help establish which biodiversity baselines should be studied and prioritized. This ensures that EIAs gather appropriate baseline data that can be used to inform decisions related to avoiding impacts, relevant site monitoring, and weighing the benefits of a potential “no project” option.

**EIAs should also estimate the proportion of the global population of geographically restricted species at a concession through rigorous surveys and methodologies. This will help identify where significant numbers occur.**

For KBAs, these data will automatically be available for the site from IBAT. At the same time, it is important that banks and financiers set the expectation that such information should be assessed and included in the EIA. These data should be used to identify whether the concession site may qualify for KBA status but has not been identified as such yet.

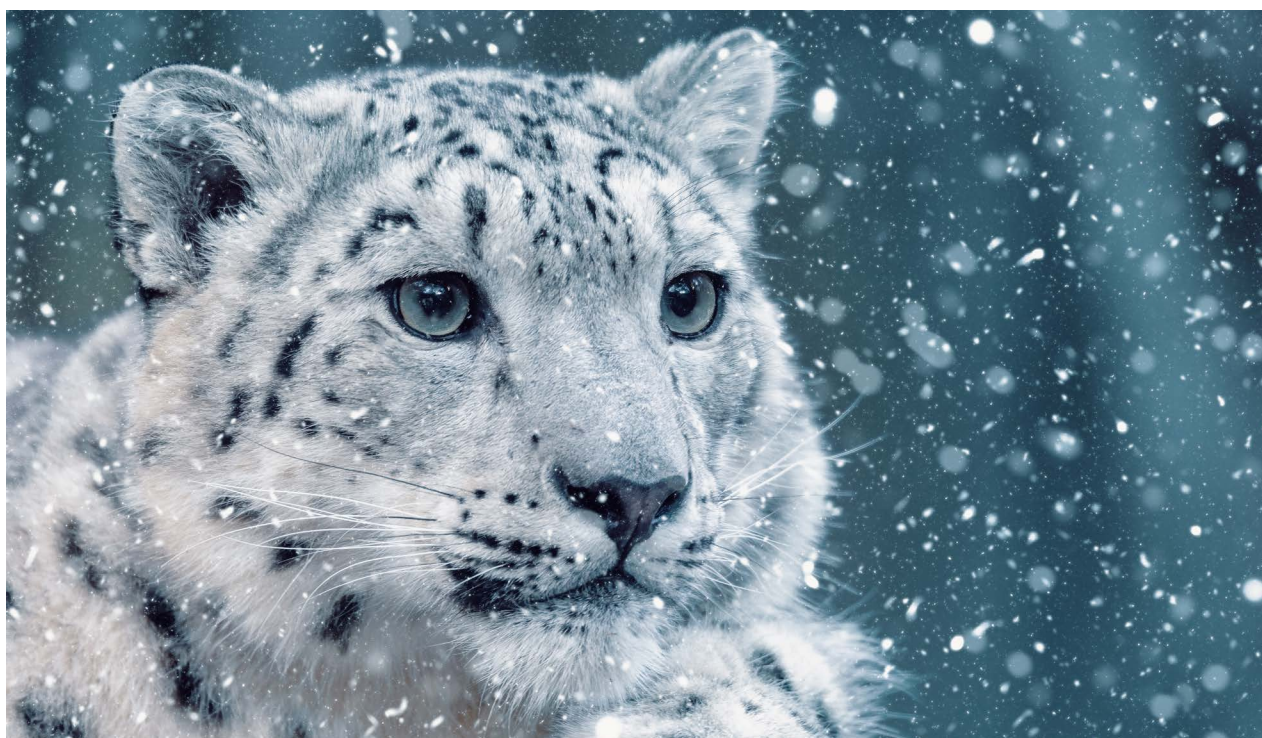
Furthermore, Strategic Environmental Assessments (SEAs) need to consider the wider impacts that a project may have in not only creating new access to previously remote or undeveloped areas, but in attracting new influxes of people as well.



Currently, SEAs tend to assess the general environmental and social impacts of a planned project, rather than assessing how the project itself may create and drive a negative feedback loop which places additional and unsustainable pressures on existing communities and local ecosystems. They rarely assess the cumulative impacts of planned interventions and how they might threaten and impact biodiversity beyond the site level.

For example, wind energy developments are often granted permits for development across particular regions that are deemed suitable. Whilst one wind farm may be able to demonstrate good performance, the addition of a multitude of other wind farms across a flyway, and the repowering of wind farms with larger turbines, results in the loss of considerable airspace for migrating birds and much higher risk of collision events. One case in point is the Eastern Desert of Egypt where government permitting

led to hundreds of kilometers of flyway being covered by multiple wind farm concessions. This in turn results in a considerable risk to investors in terms of major collision events, as well as the financial burden of permanent monitoring requirements and frequent shutdown-on-demand curtailment. As the global energy sector transitions from fossil fuels to renewables, these types of assessments and the use of sensitivity mapping<sup>54</sup> will need to become routine. Furthermore, social risks of investments should always be considered in tandem with biodiversity due diligence processes. **It is critical that banks and financiers ensure that Indigenous and local communities are consulted and involved in decision-making processes regarding activities or projects which may impact them, so as to identify in more detail potential social impacts.** Examples include impacts on livelihoods, land tenure, public safety, and also those which may be typically overlooked, such as how projects may drive an influx of foreign workers or attract domestic migration of people to previously difficult to access or remote areas. There have also been cases where the large influx of primarily male workers leads to an increase of sexual violence, spread of communicable diseases, increased burden on public health facilities, among other adverse impacts<sup>55</sup>.



For example, **SEAs should identify and assess the likelihood a project may have in attracting domestic migrants and foreign workers to the area, what additional pressures such migration patterns may cause on existing communities in the area, local ecosystems, and biodiversity, and in turn, how to manage these pressures in a fair and sustainable manner.** As referenced earlier, estimates of how a project or activity may drive and attract new workers to an area are crucial for developing long-term plans for managing local biodiversity and ecosystems. This is because a sudden influx of people creates additional competition for local resources and inflation, which in turn often leads to increased poverty and loss of livelihoods for the people who have currently or historically lived in the area. Additional newcomers who come to an area looking for work create additional pressures on local biodiversity and ecosystems, which in turn can create a negative feedback loop for both people and nature.

For example, in western Uganda, oil developments in the Murchison Falls area attracted newcomers looking for work. However, the increased number of domestic migrants to the area consequently led to the over harvesting of fuel wood; as a result, the local community was forced to look for wood in the adjacent protected area. The relatively sudden growth in local population in turn increased poaching impacts. At the same time, improved road access led to freezer trucks coming to the shores of Lake Albert and taking the fish catches for sale in the urban centres. Increased fishing to meet the increasing demand subsequently led to the collapse of the fish stocks and major social impacts for the fishing communities on the lake.



Although the company could not directly control many of these impacts because they happened outside their concession area, the cascade of negative environmental, social, and biodiversity impacts nonetheless happened as a direct result of developing oil in a highly biodiverse and sensitive area.

Because EIAs are often conducted or commissioned by project developers or the local government, vested interests may influence the quality and findings. In cases where external consulting firms develop EIAs, those consultants may not be incentivized (or even encouraged) to provide actually robust, credible EIAs if a client is already biased in favoring the project to move forward.

The client-consultant relationship also means that consultants may be inclined to provide biased or incomplete EIAs to meet client interests in order to obtain or develop future contracts.

According to the Alliance of Leading Environmental Researchers and Thinkers, “EIAs will often let ill-advised projects advance with only minor tweaks, such as fish-ladders for dams, or underpasses for major road projects — which will allow a few animals to traverse the project but still massively diminish animal movement and survival...we need EIAs — but much better EIAs than we are presently getting. Most EIAs are full of holes, and so we need to stare at them with a very hard eye”<sup>56</sup>.

**In short, if banks are to expect that EIAs and related assessments are robust and accurate, it is critical that they develop processes to require and ensure that EIAs are publicly disclosed, conducted transparently, and meet international standards.** It is additionally important that banks retain specialized staff who are able to effectively review and interrogate the quality of an EIA. Timely disclosure of EIAs and other feasibility documents to the public can also be an important means of validating such information from independent sources and stakeholders. Doing so can help ensure that EIAs and other assessment documents are actually useful in describing the potential immediate and long-term impacts of a project, as well as disrupt the dynamic of the EIA as a mere “checkbox” requirement.



# The costs and value of good biodiversity data

Globally applicable biodiversity data available through the IUCN Red List of Threatened Species, IUCN Red list of Ecosystems, World Database on Protected Areas and World Database of Key Biodiversity Areas are extremely costly to produce and curate. It was estimated in 2016 that it costs \$6.5 million per year to maintain these datasets and it will take substantially more to develop them to sufficiently robust global baselines<sup>57</sup>. IBAT requires commercial entities to contribute a license fee when making use of the data<sup>xii</sup>. This helps to support the financing of these databases, although currently only covers a portion of the total annual costs required. IBAT's license fees represent a tiny proportion of the costs associated with external consultants and the processes involved for SEAs/EIAs.

At the moment, most of the information in the global databases

are funded by charitable groups and public sector grants, which is not a sustainable, long-term solution. Consequently, there is a need to identify a sustainable source of funding for these global public good databases going forwards. It is worth noting that these datasets are also used for a range of non-commercial but globally-important purposes, such as to guide the post 2020 Global Biodiversity Framework, set and deliver national biodiversity targets, track progress towards Sustainable Development Goals, and countless other indicators, as well as being used by thousands of conservation practitioners, scientists, and public sector agencies to guide conservation activities. These databases provide the best tools we have at present for monitoring changes at a global scale, as well as being able to determine the sites of global importance where species need protecting the most.



XII Conditions include for "(a) any use by, on behalf of, or to inform or assist the activities of, a commercial entity (an entity that operates 'for profit') or (b) use by any individual or non-profit entity for the purposes of revenue generation." <http://datazone.birdlife.org/info/dataterms>

# Conclusion

This paper has sought to describe why habitats of threatened, endangered, and endemic species should be off limits to harmful direct and indirect financing. As land use change is one of the key drivers of biodiversity loss, in which more than 75% of the world's land mass has been significantly altered<sup>58</sup>, it is critical that banks and financiers do their part to protect these habitats from being destroyed. This includes KBAs given their global significance

in identifying and protecting highly biodiverse sites. In discussing the biodiversity policies of within the international banking sector, it is evident that there is room for improvement, as many of the policies were not designed with managing biodiversity risks in a biodiversity crisis. As a result, it is important for banks and financiers to strengthen both biodiversity policies and practices to protect nature, people, and the planet.

## KEY TAKEAWAYS:

- Banks and financiers should establish an institutional objective to actively halt and reverse biodiversity loss, while simultaneously aspiring to restore ecosystem functions
- Biodiversity is a critical contributor and indicator of the health of ecosystem functions
- Banks and financiers are exposed to material risks of biodiversity loss in two ways – firstly, in terms of directly driving or exacerbating negative biodiversity impacts caused by specific financed activities; and secondly, in terms of how such financed activities may in turn contribute to and drive the broader, systemic biodiversity loss (such as land use change, pollution, climate change, and over-exploitation of natural resources), which in turn impacts the long-term sustainability of sectors or areas where a financier may invest in
- An effective, immediate approach to minimizing a bank's impact on biodiversity loss is to prohibit financing in areas with Near Threatened, Vulnerable, Endangered, Critically Endangered, and endemic species, in addition to KBAs
- Bank and financier definitions of Critical Habitat should include habitats of Near Threatened, Vulnerable, Endangered, Critically Endangered, and endemic species, in addition to KBAs
- Offsets as a mitigation measure are ineffective in managing biodiversity risks
- The use of biodiversity tools and datasets are an important starting point when undertaking environmental and biodiversity assessments, but their use should not be seen as a proxy or an end point in due diligence processes



- Depending if most or all of a non-threatened species' population occurs at a particular site (especially for range restricted species), a species could become highly threatened by a bank's decision to finance activities in an area
- It is important for banks to not only consider species which are currently threatened, but to also consider how proposed bank financed activities can tip the scale in potentially causing species to become threatened
- Vested or conflicts of interests commonly result in inadequate or invalid EIA documents
- Banks and financiers should establish specialized staff or processes to interrogate and validate EIA findings, and disclose EIAs and relevant documents publicly in order to encourage independent verification of such assessments



# Endnotes

- 1 “Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services”, Intergovernmental Science-Policy Platform, 2019. <https://doi.org/10.5281/zenodo.3831673>
- 2 Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services”, Intergovernmental Science-Policy Platform, 2019. <https://doi.org/10.5281/zenodo.3831673>
- 3 “Biodiversity and financial stability: exploring the case for action”, Network for Greening the Financial System and International Network for Sustainable Financial Policy Insights, Research, and Exchange. [https://www.ngfs.net/sites/default/files/medias/documents/biodiversity\\_and\\_financial\\_stability\\_exploring\\_the\\_case\\_for\\_action.pdf](https://www.ngfs.net/sites/default/files/medias/documents/biodiversity_and_financial_stability_exploring_the_case_for_action.pdf)
- 4 Dasgupta, P., “The Economics of Biodiversity: The Dasgupta Review”, HM Treasury, 2021. [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/962785/The\\_Economics\\_of\\_Biodiversity\\_The\\_Dasgupta\\_Review\\_Full\\_Report.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/962785/The_Economics_of_Biodiversity_The_Dasgupta_Review_Full_Report.pdf); “Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services”, Intergovernmental Science-Policy Platform, 2019. <https://doi.org/10.5281/zenodo.3831673>
- 5 Leon Bennun, Renaud Lapeyre, Camille Maclet, Teja Chalikonda, Adrien Lindon, David Meyers, Robin Mitchell, Cheryl Ng, Nikki Phair, Tami Putri, Helen Temple, Thomas White, Guy Williams and Malcolm Starkey, “Public development banks and biodiversity. How PDBs can align with the Post-2020 Global Biodiversity Framework”, WWF & The Biodiversity Consultancy, 2021. [https://www.wwf.fr/sites/default/files/doc-2021-06/20210621\\_Summary\\_Public-development-banks-and-biodiversity\\_WWF-The-Biodiversity-Consultancy-min.pdf](https://www.wwf.fr/sites/default/files/doc-2021-06/20210621_Summary_Public-development-banks-and-biodiversity_WWF-The-Biodiversity-Consultancy-min.pdf)
- 6 Text of the Convention on Biological Diversity, United Nations, 1992. <https://www.cbd.int/convention/text/>
- 7 Christine Peterson, “25 years after returning to Yellowstone, wolves have helped stabilize the ecosystem”, National Geographic, July 10, 2020. <https://www.nationalgeographic.com/animals/2020/07/yellowstone-wolves-reintroduction-helped-stabilize-ecosystem/>
- 8 “Wolf Restoration”, National Park Service, February 16, 2022. <https://www.nps.gov/yell/learn/nature/wolf-restoration.htm>
- 9 “Biodiversity Target-setting”, United Nations Environment Programme Finance Initiative Principles on Responsible Banking, June 2021. <https://www.unepfi.org/wordpress/wp-content/uploads/2021/06/PRB-Biodiversity-Guidance.pdf>
- 10 Leon Bennun, Renaud Lapeyre, Camille Maclet, Teja Chalikonda, Adrien Lindon, David Meyers, Robin Mitchell, Cheryl Ng, Nikki Phair, Tami Putri, Helen Temple, Thomas White, Guy Williams and Malcolm Starkey, “Public development banks and biodiversity. How PDBs can align with the Post-2020 Global Biodiversity Framework”, WWF & The Biodiversity Consultancy, 2021. [https://www.wwf.fr/sites/default/files/doc-2021-06/20210621\\_Summary\\_Public-development-banks-and-biodiversity\\_WWF-The-Biodiversity-Consultancy-min.pdf](https://www.wwf.fr/sites/default/files/doc-2021-06/20210621_Summary_Public-development-banks-and-biodiversity_WWF-The-Biodiversity-Consultancy-min.pdf)
- 11 “Summary of the Analytical Study for the Safeguard Policy Review and Update: Biodiversity Conservation and Sustainable Natural Resource Management”, Sustainable Development and Climate Change Department, Asian Development Bank, November 2021. <https://www.adb.org/sites/default/files/institutional-document/757366/spru-analytical-study-summary-biodiversity-conservation-draft.pdf>
- 12 “World Heritage Forever? How Banks Can Protect the World’s Most Iconic Cultural and Natural Sites”, Friends of the Earth US, July 2021. <https://foe.org/resources/banks-can-protect-iconic-sites/>
- 13 “Summary of the Analytical Study for the Safeguard Policy Review and Update: Biodiversity Conservation and Sustainable Natural Resource Management”, Sustainable Development and Climate Change Department, Asian Development Bank, November 2021. <https://www.adb.org/sites/default/files/institutional-document/757366/spru-analytical-study-summary-biodiversity-conservation-draft.pdf>
- 14 “Performance Standards on Environmental and Social Sustainability”, International Finance Corporation, January 2012. [https://www.ifc.org/wps/wcm/connect/24e6bfc3-5de3-444d-be9b-226188c95454/PS\\_English\\_2012\\_Full-Document.pdf?MOD=AJPERES&CVID=jkV-X6h](https://www.ifc.org/wps/wcm/connect/24e6bfc3-5de3-444d-be9b-226188c95454/PS_English_2012_Full-Document.pdf?MOD=AJPERES&CVID=jkV-X6h)
- 15 “Joint Statement by the Multilateral Development Banks: Nature, People and Planet”, November 2021. <https://ukcop26.org/mdb-joint-statement/>
- 16 “Performance Standards on Environmental and Social Sustainability”, International Finance Corporation, January 2012. [https://www.ifc.org/wps/wcm/connect/24e6bfc3-5de3-444d-be9b-226188c95454/PS\\_English\\_2012\\_Full-Document.pdf?MOD=AJPERES&CVID=jkV-X6h](https://www.ifc.org/wps/wcm/connect/24e6bfc3-5de3-444d-be9b-226188c95454/PS_English_2012_Full-Document.pdf?MOD=AJPERES&CVID=jkV-X6h)
- 17 “Guidance Notes to Performance Standards on Environmental and Social Sustainability - 2012 Edition”, International Finance Corporation, January 2012, Last Updated in June 14, 2021. [https://www.ifc.org/wps/wcm/connect/topics\\_ext\\_content/ifc\\_external\\_corporate\\_site/sustainability-at-ifc/publications/publications\\_policy\\_gn-2012](https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/publications/publications_policy_gn-2012)
- 18 “Environmental and Social Standards”, European Investment Bank, February 2, 2022. [https://www.eib.org/attachments/publications/eib\\_environmental\\_and\\_social\\_standards\\_en.pdf](https://www.eib.org/attachments/publications/eib_environmental_and_social_standards_en.pdf)
- 19 [https://www.eib.org/attachments/publications/eib\\_environmental\\_and\\_social\\_standards\\_en.pdf](https://www.eib.org/attachments/publications/eib_environmental_and_social_standards_en.pdf)
- 20 “Fool’s Paradise: How Biodiversity Offsets Don’t Stop Biodiversity Loss”. Friends of the Earth US, October 2021. <https://foe.org/resources/fools-paradise-how-biodiversity-offsets-dont-stop-biodiversity-loss/>



21 "Annual Report 2014: Council on Ethics for the Government Pension Fund Global", Council on Ethics, December 2014. [https://www.banktrack.org/download/council\\_on\\_ethics\\_2014\\_annual\\_report\\_pdf/councilonethics2014annualreport.pdf](https://www.banktrack.org/download/council_on_ethics_2014_annual_report_pdf/councilonethics2014annualreport.pdf)

22 "Corporate Social Responsibility: BNP Paribas Commitments to the Environment", BNP Paribas, 2017. [https://group.bnpparibas/uploads/file/bnp\\_paribas\\_commitments\\_for\\_the\\_environment\\_oct\\_2017.pdf](https://group.bnpparibas/uploads/file/bnp_paribas_commitments_for_the_environment_oct_2017.pdf); "Banks and Arctic oil and gas", BankTrack. [https://www.banktrack.org/page/banks\\_and\\_arctic\\_oil\\_and\\_gas](https://www.banktrack.org/page/banks_and_arctic_oil_and_gas)

23 "Kampala-Jinja Expressway Public Private Partnership Project", Bank Information Center. <https://bankinformationcenter.org/en-us/project/kampala-jinja-expressway-public-private-partnership>; "Honduras Remote Area Rural Electrification Program", Bank Information Center. <https://bankinformationcenter.org/en-us/project/honduras-remote-area-rural-electrification-program>; "Minerva Beef", Bank Information Center. <https://bankinformationcenter.org/en-us/project/will-minerva-beef-address-the-environmental-and-social>; "A Decade of Safeguards: Lessons from the Ground", NGO Forum on ADB, September 2020. <https://www.forum-adb.org/post/a-decade-of-safeguards-lessons-from-the-ground>; "ADB Continues to bring damage to communities and ecosystems", NGO Forum on ADB. <https://www.forum-adb.org/post/adb-continues-to-bring-damage-to-communities-and-ecosystems>; <https://www.re-course.org/wp-content/uploads/2022/10/The-Trouble-with-Gas-in-Vietnam.pdf>; "The Trouble with Gas in Vietnam", Recourse, Friends of the Earth US, Asian Peoples Movement on Debt and Development, October 2022. [https://www.re-course.org/wp-content/uploads/2022/04/The-Trouble-with-Gas-in-Indonesia\\_web.pdf](https://www.re-course.org/wp-content/uploads/2022/04/The-Trouble-with-Gas-in-Indonesia_web.pdf); "Report: Global Banks Fail for Financing, Investment in Oil and Gas in the Amazon Rainforest", Amazon Watch, July 2021. <https://amazonwatch.org/news/2021/0708-report-global-banks-fail-for-financing-investment-in-oil-and-gas-in-the-amazon-rainforest>; "Investing in a Green Belt and Road?" Friends of the Earth US, December 2017. <https://foe.org/resources/green-belt-china-green-guidelines/>; Oliver Telling, "Chinese state-owned company accused of endangering rare orang-utans", Financial Times, June 18, 2022. <https://www.ft.com/content/b15d75ea-cced-4204-8540-912f9e693a5e>; "Burning forests in the name of clean energy?", BankTrack, October 2022. [https://www.banktrack.org/download/burning\\_forests\\_in\\_the\\_name\\_of\\_clean\\_energy\\_how\\_banks\\_are\\_failing\\_to\\_exclude\\_the\\_harmful\\_wood\\_biomass\\_industry\\_from\\_finance\\_biomass\\_briefing\\_oct\\_22\\_v2.pdf](https://www.banktrack.org/download/burning_forests_in_the_name_of_clean_energy_how_banks_are_failing_to_exclude_the_harmful_wood_biomass_industry_from_finance_biomass_briefing_oct_22_v2.pdf)

24 Jonathan Morley, Graeme Buchanan, Edward T.A. Mitchard, Aidan Keane, "Potentially harmful World Bank projects are proximate to areas of biodiversity conservation importance", Global Environmental Change, Volume 70, September 2021. <https://www.sciencedirect.com/science/article/abs/pii/S0959378021001436>

25 "Fool's Paradise: How Biodiversity Offsets Don't Stop Biodiversity Loss", Friends of the Earth US, October 2021. <https://foe.org/resources/fools-paradise-how-biodiversity-offsets-dont-stop-biodiversity-loss/>

26 "Summary of the Analytical Study for the Safeguard Policy Review and Update: Biodiversity Conservation and Sustainable Natural Resource Management", Sustainable Development and Climate Change Department, Asian Development Bank, November 2021. <https://www.adb.org/sites/default/files/institutional-document/757366/spru-analytical-study-summary-biodiversity-conservation-draft.pdf>

[org/sites/default/files/institutional-document/757366/spru-analytical-study-summary-biodiversity-conservation-draft.pdf](https://www.adb.org/sites/default/files/institutional-document/757366/spru-analytical-study-summary-biodiversity-conservation-draft.pdf)

27 "Summary of the Analytical Study for the Safeguard Policy Review and Update: Biodiversity Conservation and Sustainable Natural Resource Management", Sustainable Development and Climate Change Department, Asian Development Bank, November 2021. <https://www.adb.org/sites/default/files/institutional-document/757366/spru-analytical-study-summary-biodiversity-conservation-draft.pdf>

28 "Sophus O.S.E.zu Ermgassen, Martine Maron, et al, "The hidden biodiversity risks of increasing flexibility in biodiversity offset trades", Biological Conservation, Volume 252, December 2020, 108861. <https://www.sciencedirect.com/science/article/pii/S0006320720309198?via%3Dihub>

29 "The IUCN Red List of Threatened Species", IUCN. <https://www.iucnredlist.org/>

30 Alliance for Zero Extinction. <https://zeroextinction.org/>

31 "Barometer of Life", IUCN. <https://www.iucnredlist.org/about/barometer-of-life>

32 "Ghana Integrated Aluminium Development Project in the Atewa Range Forest", Banks and Biodiversity Initiative, October 2020. [https://banksandbiodiversity.org/case\\_study/ghana-integrated-aluminium-development-project-in-the-atewa-range-forest/](https://banksandbiodiversity.org/case_study/ghana-integrated-aluminium-development-project-in-the-atewa-range-forest/)

33 Awudu Salami Sulemana Yoda, "Ghana's government faces pushback in bid to mine biodiversity haven for bauxite", Mongabay, February 2020. <https://news.mongabay.com/2020/02/ghanas-government-faces-pushback-in-bid-to-mine-biodiversity-haven-for-bauxite/>

34 Karla Neira-Salamea, et al, "A new critically endangered slippery frog (Amphibia, Conrauidae, Conraua) from the Atewa Range, central Ghana", Zootaxa, August 2022. [https://www.researchgate.net/publication/352830196\\_A\\_new\\_critically\\_endangered\\_slippery\\_frog\\_Amphibia\\_Conrauidae\\_Conraua\\_from\\_the\\_Atewa\\_Range\\_central\\_Ghana](https://www.researchgate.net/publication/352830196_A_new_critically_endangered_slippery_frog_Amphibia_Conrauidae_Conraua_from_the_Atewa_Range_central_Ghana)

35 Jeremy Lindsell, Ransford Agyei, Daryl Bosu, et al, "The Biodiversity of Atewa Forest Research Report", A Rocha Ghana, IUCN National Committee of the Netherlands, Rainforest Trust, January 2019. <https://ghana.arocha.org/wp-content/uploads/sites/15/2019/11/Biodiversity-of-Atewa-A-Rocha.pdf>

36 "The IUCN Red List of Threatened Species", IUCN. <https://www.iucnredlist.org/>

37 Protected Planet. <https://www.protectedplanet.net/en>

38 "KBA Programme", Key Biodiversity Areas. <https://www.keybiodiversityareas.org/working-with-kbas/programme>

39 "A global standard for the identification of Key Biodiversity Areas : version 1.0", IUCN Global Species Programme, IUCN Species Survival Commission (SSC), IUCN World Commission on Protected Areas (WCPA), 2016. <https://portals.iucn.org/library/node/46259>

40 Key Biodiversity Areas. <https://www.keybiodiversityareas.org/>

41 "Data Zone", Bird Life International. <http://datazone.birdlife.org/site/ibacriteria>

- 42 "The Key Biodiversity Areas Partnership Agreement". <https://www.keybiodiversityareas.org/assets/dfbb558651f335617813f6c0c42f9e50>
- 43 "Guidelines for the application of the IBA criteria", International Bird Life, July 2020. [http://datazone.birdlife.org/user-files/images/Guidelines%20for%20the%20application%20of%20the%20IBA%20criteria\\_final%20approved%20version\\_July2020.pdf](http://datazone.birdlife.org/user-files/images/Guidelines%20for%20the%20application%20of%20the%20IBA%20criteria_final%20approved%20version_July2020.pdf)
- 44 "Data Zone", Bird Life International. <http://datazone.birdlife.org/site/ibacriteria>
- 45 "Guidelines for the application of the IBA criteria", International Bird Life, July 2020. [http://datazone.birdlife.org/user-files/images/Guidelines%20for%20the%20application%20of%20the%20IBA%20criteria\\_final%20approved%20version\\_July2020.pdf](http://datazone.birdlife.org/user-files/images/Guidelines%20for%20the%20application%20of%20the%20IBA%20criteria_final%20approved%20version_July2020.pdf)
- 46 "Data Zone Site Search", Bird Life International. <http://datazone.birdlife.org/site/search>
- 47 Key Biodiversity Areas. <https://www.keybiodiversityareas.org/home>
- 48 Integrated Biodiversity Assessment Tool. <https://www.ibat-alliance.org/>; Integrated Biodiversity Assessment Tool – IBAT. <https://store.veracity.com/integrated-biodiversity-assessment-tool-ibat>
- 49 <https://www.ibat-alliance.org/sample-downloads>
- 50 "Screening for biodiversity risk in the finance sector", Bird Life International, Conservation International, IUCN, UN Environment Programme, WCMC. <https://www.ibat-alliance.org/pdf/briefing-notes-financial-sector.pdf>
- 51 "IPBES-IPCC Co-Sponsored Workshops Biodiversity and Climate Change Workshop Report", IPBES and IPCC, 2021. [https://ipbes.net/sites/default/files/2021-06/20210609\\_workshop\\_report\\_embargo\\_3pm\\_CEST\\_10\\_june\\_0.pdf](https://ipbes.net/sites/default/files/2021-06/20210609_workshop_report_embargo_3pm_CEST_10_june_0.pdf)
- 52 "IPBES-IPCC Co-Sponsored Workshops Biodiversity and Climate Change Workshop Report", IPBES and IPCC, 2021. [https://ipbes.net/sites/default/files/2021-06/20210609\\_workshop\\_report\\_embargo\\_3pm\\_CEST\\_10\\_june\\_0.pdf](https://ipbes.net/sites/default/files/2021-06/20210609_workshop_report_embargo_3pm_CEST_10_june_0.pdf)
- 53 Alamgir, M., Campbell, M.J., Sloan, S., Goosem, M., Clements, G.R., Mahmoud, M.I., and Laurance, W.F., "Economic, Socio-Political and Environmental Risks of Road Development in the Tropics", *Current Biology*, Volume 27, Issue 20, October 2017. <https://www.sciencedirect.com/science/article/pii/S0960982217311077>; "Mainstreaming of Biodiversity in the Infrastructure Sector", Note by the Executive Secretary of the Convention on Biological Diversity, Montreal, Canada, Item 5 of the Provisional Agenda, July 9-13, 2018. <https://www.cbd.int/doc/c/8298/46cb/5db39f803634f17b7abf45d2/sbi-02-04-add5-en.pdf>
- 54 AVISTEP: Avian Sensitivity Tool for Energy Planning, Bird Life International. <https://avistep.birdlife.org/>
- 55 "Managing the Risks of Adverse Impacts on Communities from Temporary Project Induced Labor Influx", Operations Policy and Country Services, Environmental and social Safeguards Advisory Team, World Bank, December 2016. <https://thdocs.worldbank.org/en/doc/497851495202591233-0290022017/original/ManagingRiskofAdverseimpactfromprojectlaborinflux.pdf>
- 56 "The Trouble with Environmental Impact Assessments", Alliance of Leading Environmental Researchers and Thinkers, November 23, 2018. <http://alert-conservation.org/issues-research-highlights/2018/11/23/the-trouble-with-environmental-impacts-assessments>
- 57 Juffe-Bignoli et al., "Assessing the Cost of Global Biodiversity and Conservation Knowledge", *PLOS ONE*, 2016. <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0160640>
- 58 "Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services", Intergovernmental Science-Policy Platform, 2019. <https://doi.org/10.5281/zenodo.3831673>



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