

BIODIVERSITY RISK & OPPORTUNITY ASSESSMENT  
**HANDBOOK**



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# BIODIVERSITY RISK & OPPORTUNITY ASSESSMENT

# BROA

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**BROA PHASE 1**

Planning and information gathering



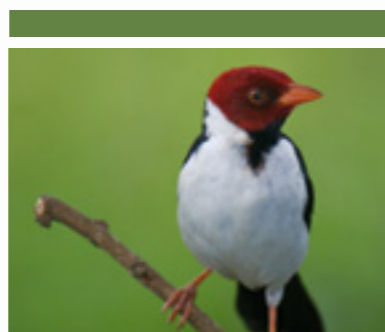
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## BROA purpose

*The purpose of the Biodiversity Risk and Opportunity Assessment (BROA) tool is to provide a method to identify the impacts and dependencies of business operations on biodiversity in agricultural landscapes; to assess and prioritise the risks and opportunities arising from those impacts and dependencies; and to produce Action and Monitoring Plans to address those risks and opportunities.*

## BROA scope

The BROA tool provides guidance on how to carry out the assessments. The assessment should involve managers, employees and other stakeholders such as non-governmental organisations (NGOs), local communities and local government.

This tool aims to help companies conserve biodiversity in the agricultural landscapes where they work, and where the communities they rely on live. For the purpose of this tool, the term biodiversity covers ecosystems and ecosystem services that are essential to agricultural landscapes. This definition includes ecosystem services that the company depends on and ecosystem services that may be affected by activities in agricultural landscapes.

It is important to note that the BROA identifies **biodiversity risks and opportunities**; i.e. risks and opportunities related to biodiversity. In this document, the general term **'biodiversity risk'** is used both to refer to possible **negative impacts** of operations on biodiversity and **business dependencies** on biodiversity (i.e. the ecosystem services biodiversity provides). The term **'biodiversity opportunities'** is used to refer to possible **positive impacts on biodiversity** or possible **positive impacts on the business** achieved through a certain course of biodiversity focused action. For more detail on risk, opportunity, impact and dependency, please see the glossary.

BROA should not be used to cover atmospheric pollution, social or economic risks that are better addressed elsewhere.

The tool intends the users to take an agricultural

landscape level approach to identifying, prioritising and addressing the risks and opportunities. An agricultural landscape encompasses not only the farm sites and immediate area of production, but the wider features that production depends upon. Placing the agricultural operations within the wider landscape should result in more effective and sustainable results addressed through collaboration.

Whilst a holistic approach to assessing risks, opportunities, impacts and dependencies is required, the scope of the assessment is grouped into three broad areas:

- Terrestrial biodiversity
- Soil biodiversity
- Aquatic biodiversity

## BROA frequency

- From a business perspective, a BROA should ideally fit within company planning procedures. It is recommended that a BROA is completed in time for inclusion in company budgeting and planning for implementation the following year.

- From a technical/ecological perspective, the frequency with which a BROA should be repeated depends upon the landscape in which it is implemented. Landscapes undergoing rapid change and development, for example, would require more frequent BROAs than landscapes characterised by a greater degree of stability. Consult with your Conservation Partner and stakeholders to decide the appropriate timeframe and frequency for the BROA.

## Approach and content

### What is this document?

This is the second version of the Biodiversity Risk and Opportunity Assessment (BROA) tool, developed by the British American Tobacco Biodiversity Partnership, with input from Leaf Operations, CORA managers and external review (from United Nations Environment Programme - World Conservation Monitoring Centre, Richard Perkins at WWF-UK and one other biodiversity and agricultural specialist with extensive experience globally). It builds on the previous version of the BROA used by British American Tobacco Leaf Operations in a first round of assessments completed in 2010.

### What is the purpose of this document?

This document is the guide to carrying out the BROA. It should be used to help you progress through your assessment and to complete the *Working Tables* in which you record the details of biodiversity risks and opportunities identified in the three phases of your assessment. It includes documents that inform and guide your biodiversity risk and opportunity assessment, action and monitoring planning, and guidance on the process.

### Who is it for?

The BROA is for use by managers who are responsible for agricultural operations and thus for biodiversity conservation in and around those operations. An Action and Monitoring Plan in support of improving the management of biodiversity must be developed and signed off.

### Why the need to conduct BROA?

Any company with an agricultural supply chain has an environmental footprint derived from its

operations. These operations impact upon, but are also dependent on, the continued functioning of healthy biodiversity. It is, therefore, the responsibility of a company with an agricultural supply chain to assess its impact and dependency upon biodiversity, and to use this information to produce Action and Monitoring Plans to minimise its impact on biodiversity and seek opportunities for a positive contribution to biodiversity conservation.

Completing a BROA allows a company to identify, prioritise and mitigate risks in a planned, efficient manner, and similarly identify, prioritise and exploit opportunities that might not otherwise have been perceived.

### Where should you formally record your assessment findings?

The BROA Team will use Working Tables to formally record their findings during the assessment. The tables should be reviewed at the outset to help understand the scope of the BROA (Refer to [BROA Working Tables.xls](#)). It is not necessary however to start using the Working Tables until the start of Phase 2.

The Working Tables include the following:

- 'Mandatory Risk Filter Working Table',
- 'Risk Working Table',
- 'Opportunity Working Table',
- 'Risks and Opportunities for Action and Monitoring Plans',
- 'Action and Monitoring Plans Working Table',
- 'Risk Causes',
- 'Opportunity Guidelines',
- 'Matrices: Biodiversity Risk & Opportunity Impact Magnitude Matrix, Risk Likelihood & Opportunity Likelihood of Success Matrix'

and 'Further Help' is embedded in the Working Tables.

## Summary of the BROA process

Please refer to the [BROA Process flowchart](#) which provides an overview of the entire BROA process.

There are three main phases in a BROA, these are summarised below:

### PHASE 1

#### PLANNING & INFORMATION GATHERING

Planning and information gathering through a desk exercise that involves collecting secondary data and developing an information base to define the detailed scope of assessment, specific to the operations under consideration. A BROA plan is prepared including the completion of preparatory steps for the next phase (e.g. budgets, resourcing and training needs). Stakeholders in the BROA process, and their roles, are identified through stakeholder mapping. A Conservation Partner in the BROA process is to be identified and recruited to assist with the work.

### PHASE 2

#### IDENTIFYING, INVESTIGATING AND PRIORITISING RISKS & OPPORTUNITIES

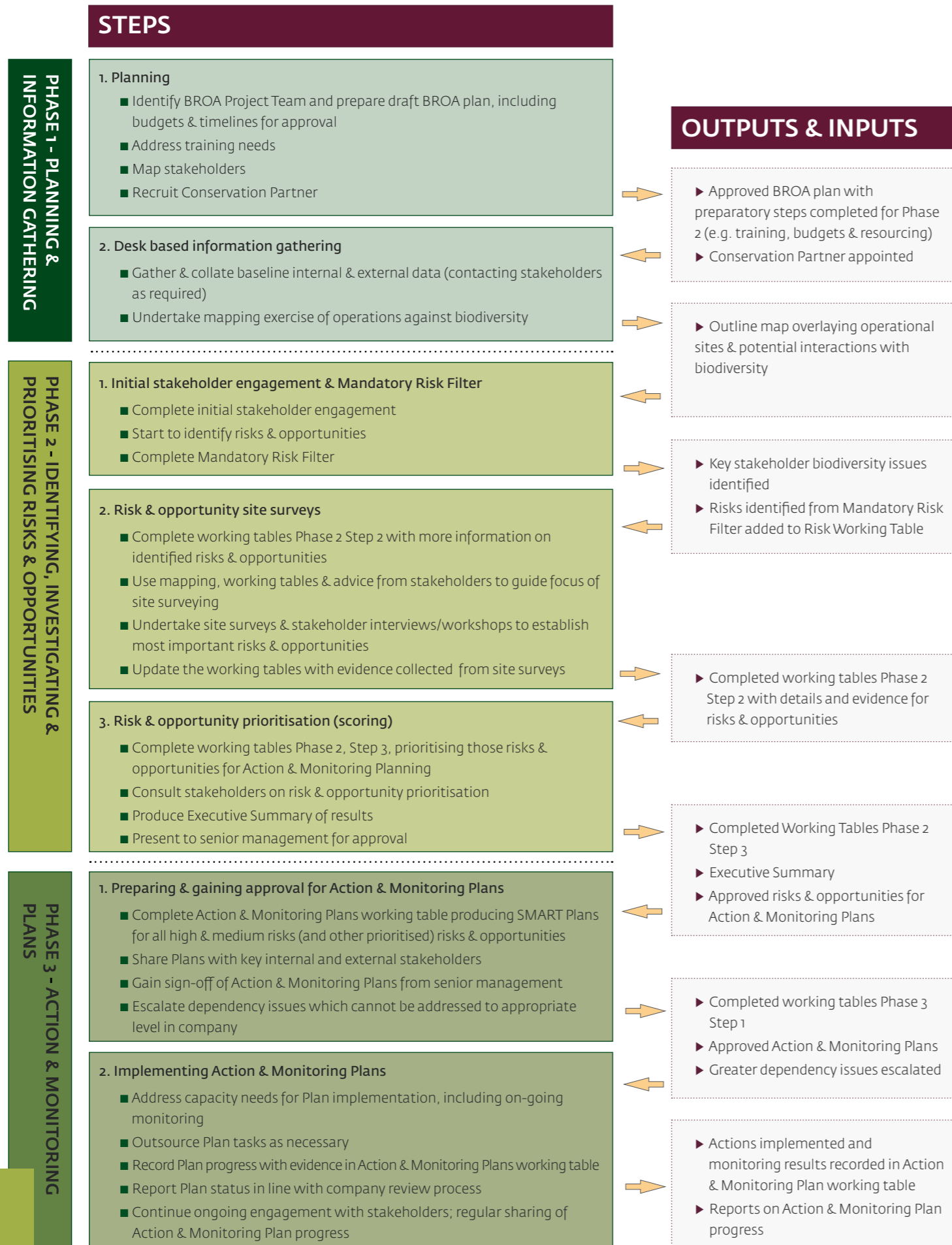
Identifying, investigating and prioritising risks and opportunities guided by the planning and information gathering above. Risk and opportunity assessments, including investigatory site visits, field surveys, and engagement with stakeholders are undertaken, to build a realistic picture of the situation on the ground, and using the BROA Working Tables a comprehensive and prioritised list of risks and opportunities is produced.

### PHASE 3

#### ACTION & MONITORING PLANS

Action and Monitoring Plans are produced for all medium and high biodiversity risks and for your adopted opportunities. It is recommended that low risks that are simple to address immediately are also included in the Action and Monitoring Plans. These plans both address the risks and opportunities with specific budgeted actions and provide a robust framework for tracking and monitoring progress.

BROA PROCESS FLOW CHART



PLANNING & INFORMATION GATHERING  
PHASE 1

The approach to BROA is outlined in the summary table below:

STEP	WHO'S INVOLVED?	PROCESS	OUTPUT	ESTIMATED TIME <i>total 6 weeks</i>
<b>1</b> Planning	<ul style="list-style-type: none"> <li>BROA Team</li> <li>Senior management</li> <li>Budget holders</li> <li>Conservation Partner</li> <li>External stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>Address training needs and resources</li> <li>Map stakeholders</li> <li>Identify Conservation Partner</li> <li>Prepare plan</li> <li>Seek approval of BROA plan from senior management</li> </ul> <p>Guidance Documents <a href="#">1, 2, 3</a> <a href="#">Phase 1 Checklist: Process</a></p>	<ul style="list-style-type: none"> <li>BROA plan, timeline and budget approved by senior management</li> <li>Conservation Partner identified</li> </ul> <p><a href="#">Phase 1 Checklist: Outputs</a></p>	<p><b>Up to 2 weeks (days)</b></p> <p>Stakeholder mapping (2); Training (2); Budgeting (2); Develop plan (4-6); Identify Conservation Partner (depends on availability)</p>
<b>2</b> Desk based information gathering	<ul style="list-style-type: none"> <li>BROA Manager</li> <li>BROA Team</li> <li>Operational Staff</li> <li>Conservation Partner</li> <li>External stakeholders/information sources</li> </ul>	<ul style="list-style-type: none"> <li>Map operations</li> <li>Gather biodiversity information with help from external information sources and Conservation Partner</li> </ul> <p>Guidance Documents <a href="#">1, 4</a> <a href="#">Phase 1 Checklist: Process</a></p>	<ul style="list-style-type: none"> <li>Best available information on operations and surrounding species &amp; habitats, and potential impacts &amp; dependencies of operations on biodiversity</li> </ul> <p><a href="#">Phase 1 Checklist: Outputs</a></p>	<p><b>Up to 4 weeks, 2-3 days per operating region</b></p> <p>Information gathering, maps produced</p>

## IDENTIFYING, INVESTIGATING & PRIORITISING RISKS AND OPPORTUNITIES PHASE 2

**AIM** To develop a greater understanding of, and prioritise, your operation's biodiversity risks and opportunities and their potential biodiversity impacts and dependencies

- OBJECTIVES**
- To gather detailed information and evidence on risks and opportunities through site surveys and engagement with key stakeholders and biodiversity specialists
  - To establish a clear profile of biodiversity risks and opportunities, enabling risks and opportunities to be prioritised
  - To secure enough quality and reliable information for developing robust Action and Monitoring Plans in Phase 3
  - To secure and sustain stakeholders' input and support for the BROA process

STEP	WHO'S INVOLVED?	PROCESS	OUTPUT	ESTIMATED TIME <i>total 3 months</i>
<b>1</b> Initial stakeholder engagement & completion of Mandatory Risk Filter	<ul style="list-style-type: none"> <li>BROA Team</li> <li>Conservation Partner</li> <li>Identified external and internal stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>Hold initial stakeholder meetings</li> <li>Complete Mandatory Risk Filter</li> </ul> <p>Guidance Documents <a href="#">4, 5</a> <a href="#">Phase 2 Checklist: Process</a></p>	<ul style="list-style-type: none"> <li>Key stakeholder issues relating to biodiversity identified</li> <li>Initial list and description of identified biodiversity risk topics</li> </ul> <p><a href="#">Phase 2 Checklist: Outputs</a></p>	<p><b>Up to 6 weeks</b></p> <p>Stakeholder consultation</p>
<b>2</b> Risk & opportunity site surveys	<ul style="list-style-type: none"> <li>BROA Team</li> <li>Conservation Partner</li> <li>Identified external and internal stakeholders</li> <li>Specialists</li> </ul>	<ul style="list-style-type: none"> <li>Investigation into most important risks &amp; opportunities through site surveys</li> <li>Stakeholder consultation</li> <li>Verification of maps produced in Phase 1</li> </ul> <p>Guidance Documents <a href="#">4, 5, 6, 7</a> <a href="#">Phase 2 Checklist: Process</a></p>	<ul style="list-style-type: none"> <li>Comprehensive list and description of biodiversity risks &amp; opportunities</li> <li>A record of findings from surveys</li> </ul> <p><a href="#">Phase 2 Checklist: Outputs</a></p>	<p><b>10-20 days per operating region</b></p> <p>Conducting site surveys, interviews and visits</p>
<b>3</b> Risk & opportunity prioritisation (scoring)	<ul style="list-style-type: none"> <li>BROA Team</li> <li>Conservation Partner</li> </ul>	<ul style="list-style-type: none"> <li>Consult with stakeholders in risk &amp; opportunity prioritisation process</li> <li>Risks &amp; opportunities prioritised</li> </ul> <p>Guidance Documents <a href="#">4, 5</a> <a href="#">Phase 2 Checklist: Process</a></p>	<ul style="list-style-type: none"> <li>Working tables with evidence and prioritised risks &amp; opportunities</li> <li>Executive summary of results</li> <li>Senior management approval of prioritisation</li> </ul> <p><a href="#">Phase 2 Checklist: Outputs</a></p>	<p><b>Up to 2 weeks</b></p> <p>Finalising working table; producing list of prioritised risks &amp; opportunities</p>

## ACTION & MONITORING PLANS PHASE 3

**AIM** To develop and implement Action and Monitoring Plans which successfully address both biodiversity risks & opportunities, and effectively monitor their progress

- OBJECTIVES**
- To produce Action and Monitoring Plans for all high and medium risks and adopted opportunities. To consider including low risks which are simple to address
  - To have SMART (specific, measurable, attainable, realistic and timely) Action and Monitoring Plans implemented, with sufficient budgets and skilled personnel requirements fulfilled
  - To have an effective monitoring and reporting framework as an integral part of the Action and Monitoring Plans allowing course correction, continuous improvement and stakeholder support towards the company's commitment to biodiversity conservation
  - For key stakeholders to have visibility of the Action and Monitoring Plans

STEP	WHO'S INVOLVED?	PROCESS	OUTPUT	ESTIMATED TIME
<b>1</b> Preparing and gaining approval for Action and Monitoring Plans	<ul style="list-style-type: none"> <li>BROA Team</li> <li>Senior management</li> <li>Budget holders</li> <li>Conservation Partner</li> <li>External stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>Work with Conservation Partners to develop Action and Monitoring Plans including monitoring indicators for risks, dependencies &amp; opportunities</li> <li>Share with internal and external stakeholders</li> <li>Secure endorsement for Action and Monitoring Plans</li> </ul> <p>Guidance Documents <a href="#">8, 9</a> <a href="#">Phase 3 Checklist: Process</a></p>	<ul style="list-style-type: none"> <li>A completed Action and Monitoring Plan for all medium, high, accepted low risks &amp; opportunities</li> <li>Implementation costs included within annual budget</li> <li>Senior management sign off &amp; stakeholder endorsement</li> <li>Major dependencies escalated to the appropriate level</li> </ul> <p><a href="#">Phase 3 Checklist: Outputs</a></p>	<p><b>4 weeks</b></p> <p>Develop Action and Monitoring Plans</p>
<b>2</b> Implementing Action and Monitoring Plans	<ul style="list-style-type: none"> <li>BROA Team</li> <li>Senior management</li> <li>Budget holders</li> <li>Conservation Partner</li> <li>External stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>Address any capacity needs for Action and Monitoring Plan implementation</li> <li>Seek assistance from external sources/Conservation Partner as required</li> <li>Report progress in line with company review process</li> <li>Ongoing engagement of stakeholders and regular sharing of Plan progress</li> </ul> <p>Guidance Documents <a href="#">8, 9</a> <a href="#">Phase 3 Checklist: Process</a></p>	<ul style="list-style-type: none"> <li>Action &amp; Monitoring Plans implemented addressing risks and realising opportunities</li> <li>Review process in place</li> <li>Details of actions implemented and BROA implementation monitoring results</li> </ul> <p><a href="#">Phase 3 Checklist: Outputs</a></p>	<p><b>4 years</b></p> <p>The timing for repeating BROA should factor in senior management decisions, company planning cycles, and consultation with stakeholders</p>

# PLANNING AND INFORMATION GATHERING BROA, phase 1

## AIM

To plan for the BROA using available information about your operations and their potential biodiversity impacts and dependencies.

## OBJECTIVES

- To identify and commit internal resources, address training needs and develop a BROA plan and budget
- To prepare a stakeholder map
- To identify support from, and appoint a local Conservation Partner
- To map your area of operations against natural habitats and sites of biodiversity significance
- To gather available biodiversity baseline information

### BROA PHASE 1

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## Steps

### Step 1 - Planning

- Identify and commit dedicated internal resources required for the BROA process.
- Prepare a stakeholder map for the BROA exercise (see guidance documents [1. How to engage with stakeholders in phase 1](#) and [2. How to map your stakeholders](#)).
- Identify and recruit a Conservation Partner who can support the BROA (see guidance documents [3. How to identify your conservation partner](#)).
- Identify and address any training needs of the staff who will undertake the BROA.
- Develop the BROA plan and timelines, including the preparation of the budget for the entire BROA exercise, incorporating costs of Conservation Partner recruitment, all site surveys, and stakeholder engagement exercises (meetings, workshops, etc.).
- The BROA plan and budget should result in completion of the BROA in time for Action and Monitoring Plan implementation to be included in the company plan for implementation in the following year.
- Submit the BROA plan for approval by senior management.
- Undertake all the preparatory steps required before moving into Phase 2 (budgets, training, etc.).

### Step 2 - Desk based information gathering

- Collect the best available information about your operations, the biodiversity (e.g. species and habitats) in your area of operations, the wider agricultural landscape and the potential impacts and dependencies of your operations on biodiversity, in order to provide a sound basis for Phase 2 (see Instructions Phase 1 Step 2: Desk based information gathering process). In order to collect the necessary information you are likely to need to contact certain stakeholders (see guidance documents [1. How to engage with stakeholders in Phase 1](#)).
- Ensure that the information gathered in Phase 1 is stored in such a way as to remain accessible (see guidance documents [4. Information generated by the BROA to be retained](#)).
- Once the desk based information gathering is completed, further review and update as necessary the overall plan for the BROA exercise.



**Instructions Step 2**

*Desk based information gathering process - to help identify potential biodiversity risks and opportunities*

**□ Mapping**

- Map your current operations within the agricultural landscape and areas of possible expansion or contraction, including sources of water, fuelwood and other natural resources
- Map land uses, natural habitats, protected areas, other areas of biodiversity significance and the presence of locally important, endemic, threatened (vulnerable, endangered, critically endangered) and near threatened species, and migration pathways in and around your operations

**SUGGESTED MAPPING SOURCES INCLUDE:**

- ▶ Government department responsible for mapping and remote sensing
- ▶ Local and national universities
- ▶ Local conservation and rural development NGOs
- ▶ National and international conservation NGOs

**YOU SHOULD AIM TO DEFINE AND MAP THE AREA AND LOCATION OF:**

- A) **Land that you own or lease which includes agriculture, forest, plantations, grassland, conservation-land or water bodies**
- B) **Specific sites of water extraction and waste discharge for operational use, and their catchment and drainage areas (upstream and downstream)**
- C) **Land that you source materials from, this will include:**
  - Land on which farmers who are contracted to the company grow crops
  - Land from which farmers contracted to the company harvest wood
  - Land from which you source wood, biofuels or other natural products
  - Land from which your direct suppliers source crops, wood, pulp for paper and packaging, biofuels or other natural products (in country)
- D) **Land that you intend to expand onto or expect to influence, with particular attention to areas with ecological or cultural importance, such as:**
  - Existing designated protected areas (terrestrial and aquatic). Refer to internationally recognised definitions in Appendix A: Internationally recognised protected area management categories

- Other areas of biodiversity importance e.g. streams, rivers, lakes, wetlands, savanna, grasslands, forests, migration pathways including routes to access water resources and others

- Areas of cultural significance e.g. sites of spiritual significance and economic importance for local communities such as community pastures, forest lands, wood gathering areas

**E) Areas of company's interest and influence identified at (A) above in relation to their location:**

- Within 10 km radius of designated protected areas or areas of biodiversity importance as identified at (D) above
- Within 5 km radius of areas of cultural significance identified at (D) above

**■ ARE ANY OF THE SITES IDENTIFIED ABOVE LOCATED IN AREAS WHICH ARE SENSITIVE FOR ECOSYSTEM SERVICES:**

- On land recently converted to agriculture from natural habitat (within the last 5 years)?
- Near (within 10 km of) any area of natural forest?
- Near (within 2 km of) any water body (river, lake, wetlands, or coastal mangroves). If yes, has the natural vegetation around the water courses been cleared recently? Is there a risk that pollution, run-off or leaching could affect water quality (up to 10 km downstream)? Is water being used for irrigation? Is the surrounding water catchment under threat at all? Are riverbank forest/vegetation buffers in place upstream and downstream (up to 10 km along the watercourse)?
- On steep slopes (20% or more) or land with high risk of soil erosion or degradation of soil structure or nutrient status ?

**□ Information gathering**

**GATHER RELEVANT BASELINE INFORMATION ON THE AREA OF YOUR OPERATIONS INCLUDING:**

- Laws and company environmental regulations relevant to biodiversity conservation in the area
- Relevant studies of biodiversity, ecosystems or community use of natural resources in and around your operations
- Trends and threats facing biodiversity resources in the area
- Information from local media about existing conservation issues in and around your operations

- A brief history of the agricultural landscape – including major demographic or land use changes, population and settlement
- Have stakeholders raised any issues arising from past operational areas that have been exited?
- Physical environmental information:
  - ▶ topography
  - ▶ geology
  - ▶ soil types
  - ▶ rainfall and climate data

**SUGGESTED INFORMATION SOURCES INCLUDE:**

- Internal sources
  - ▶ Previous company reports e.g. EIAs
  - ▶ Company reports on afforestation and fuelwood use (for as many years as possible in order to identify trends)
  - ▶ Company reports on fertiliser and pesticide use (for as many years as possible in order to identify trends), ideally for several crops
  - ▶ Company surveys or monitoring data e.g. on soil status, water quality
  - ▶ Company reports on existing relevant projects, good agricultural practices, farmer training, Integrated Pest Management (IPM), soil and water conservation, etc.
  - ▶ Base maps of protected areas
  - ▶ IUCN List of protected areas (see Appendix A)
- Local, national and international agencies and institutions
  - ▶ Local offices of Ministries or Government Departments responsible for Mapping and Remote sensing, Meteorology, Agriculture, Environment, Water, Forests, Wildlife, Protected areas and Conservation
  - ▶ Local and national universities (for information on studies of the operational area)
  - ▶ Local conservation and rural development NGOs
  - ▶ National and local conservation strategies and biodiversity action plans
- Local and national newspapers or other media

**Phase 1 Checklist**

PROCESS	
<b>PLEASE CHECK THAT YOU HAVE CARRIED OUT THE FOLLOWING DURING PHASE 1:</b>	
Identified and requested relevant information and advice from key internal sources and external stakeholders for the BROA	
Addressed necessary training needs	
Obtained best available maps and information from all of the sources listed	
Listed sources of further information (and costs)	
Listed potential external sources of support for the BROA	
Identified and recruited local Conservation Partner	
Identified the key information required in order to carry out Phase 2 of the BROA – what do you think are the main possible impacts and dependencies of your operations on biodiversity?	
Enabled the BROA team to visualise the geographical relations between your operations and areas of biodiversity significance and other key land uses	
Summarised information in a way that enables senior management to approve Phase 2	

OUTPUTS	
<b>PLEASE CHECK THAT YOU HAVE PROVIDED THE FOLLOWING FOR PHASE 2</b>	
<b>OVERALL PLAN FOR THE BROA EXERCISE IDENTIFYING:</b>	
Lead and team roles	
Further staff training needs (to be confirmed by senior management)	
Stakeholder map: who needs to be involved in the BROA exercise and in what capacity	
The BROA plan and timeline for the BROA exercise	
The budget for the BROA exercise	
Conservation Partner for the BROA	
<b>BEST AVAILABLE INFORMATION ABOUT YOUR GROWING OPERATIONS AND THE NATURAL AND SOCIAL ENVIRONMENT AROUND YOUR OPERATIONS:</b>	
Maps of current growing areas in the agricultural landscape and areas of potential expansion with:	
Locations of farms	
Land owned or leased by the company	

Zones of intended expansion of operations	
Sites of water extraction or waste discharge	
Land from which materials such as wood fuel are sourced	
Other major land uses around your operations (e.g. commercial farms, settlement areas, hydro-electric dams, etc.)	
Protected areas around your operations	
Other sites of biodiversity significance around your operations (e.g. forests, rivers, lakes, wetlands)	
Presence of locally important and/or endemic species, or species classified as threatened (critically endangered, endangered, vulnerable) and near threatened in the IUCN Red List, in and around your operations	
<b>INFORMATION ON:</b>	
Protected areas and areas of biodiversity significance	
Natural habitats in and around your operations	
Locally important, endemic, or Red Listed species	
Laws and regulations relevant to biodiversity conservation in the area	
Existing biodiversity and ecosystem conservation initiatives	
Topography	
Geology and soils	
Rainfall and climate	
Water catchments, rivers, water bodies, groundwater and irrigation	
Land use and land cover	
Crops and livestock	
Crop farming and curing (types, volumes, curing methods, use of agrochemicals, IPM, soil and water conservation practices)	
A brief history of the evolution of the agricultural landscape – including major demographic or land use changes, population and settlement	
Socio-economic data including basic information on land holdings and land tenure; livelihoods; and available information about community reliance on natural resources	
Relevant studies of biodiversity or natural resources, including community use, within the operational area	
Information in local media about conservation issues in the operational area	
Information about any migration pathways including routes to access water resources across the areas that you use	
A list to be retained of all necessary information (Mandatory, Best Practice, Optional) - Refer to guidance document, <a href="#">4. Information generated by the BROA to be retained.</a>	

# IDENTIFYING, INVESTIGATING AND PRIORITISING RISKS & OPPORTUNITIES

## BROA, phase 2

### AIM

To develop a greater understanding of, and to prioritise, operational biodiversity risks and opportunities, in collaboration with your local Conservation Partner.

### OBJECTIVES

- To gather detailed information and evidence on risks and opportunities through site surveys and engagement with key stakeholders and biodiversity specialists in each operating region
- To establish a clear profile of biodiversity risks and opportunities, enabling risks and opportunities to be prioritised
- To secure quality and reliable information for developing robust Action and Monitoring Plans in Phase 3
- To secure and sustain stakeholders' input and support for the BROA assessment process

### BROA PHASE 2

#### STEPS

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2 - Risk & opportunity site surveys, including stakeholder engagement and on-the-ground map verification	19
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□ Identifying focus areas for site surveys and stakeholder engagement	20
3 - Risk & opportunity prioritisation (scoring)	21
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PHASE 2 CHECKLIST	24



## Steps

### Step 1 - Initial stakeholder consultation and completion of Mandatory Risk Filter

- Undertake initial stakeholder meetings to start highlighting potential biodiversity risks and opportunities and to check accuracy of maps generated in Phase 1 (see guidance document, [5. How to engage with stakeholders in Phase 2](#)).
- Complete the Mandatory Risk Filter working table for each operating region, which will help you to further identify possible biodiversity risks and dependencies across your operations (see Instructions Phase 2 Step 2: Completing the Mandatory Risk Filter).
- You may find it helpful to complete a preliminary draft of the Mandatory Risk Filter prior to convening the stakeholder meetings to provide you with a loose framework for structuring the meetings and to help prompt stakeholder thinking about biodiversity risks. You must then adapt the Mandatory Risk Filter in light of the issues raised.

#### Instructions Step 1

##### □ Completing the Mandatory Risk Filter

- Each risk topic listed in the Mandatory Risk Filter (refer to the Mandatory Risk Filter in the BROA Working Tables) describes a type of biodiversity risk area: you must provide a yes/no/maybe answer against each individual risk topic, to indicate whether or not it is present within each separate operating region.
- Capture your reasons for selecting yes, no or maybe for each topic by giving a brief description of the risk – what is happening on the ground – and initial evidence for how you know this.
- Use the information gathered and maps generated in Phase 1, along with the information provided by stakeholders, to guide the completion of the Mandatory Risk Filter.
- Please consider each risk topic carefully. These risk topics will form the basis of the biodiversity risk assessment across your operation. **All risk topics must be considered.**
- When completing the Mandatory Risk Filter you should consider the current status of the landscape as well as any signs of change to habitats, species, biodiversity or ecosystems which are happening now or up to 5 years previous to your assessment. You also need to consider historic changes that still affect the landscape, and are still having consequences that cause (or lead to) risks. Consider the status and trends in the landscape as a whole, as well as the direct impacts and dependencies of your operations. At this point in the assessment there might be a number of 'maybes' selected against a risk topic which require further investigation to verify the presence or absence of the risk. For example, if there is a reported increase in use of agrochemicals, field technicians might also suspect a reduction in water quality, or loss of soil species that in themselves present a different risk to biodiversity and the business operations.

- When you have completed the Mandatory Risk Filter click the 'Transfer data to Risk Working Table' button to carry your risk topics, descriptions and evidence forward into the Risk Working Table. Please note that the completion of the Mandatory Risk Filter is a one-time only process and it cannot be edited again once the 'Transfer data to Risk Working Table' button is pressed. Save a separate copy of the file before transferring the data.

### Step 2 - Risk & opportunity site surveys, including stakeholder engagement and on-the-ground map verification

- Begin completion of the Risk & Opportunity Working Tables (see Instructions Phase 2 Step 2: 1. Completing the Risk & Opportunity Working Tables), which will help you to identify the locations and topics for site surveys and stakeholder dialogue. For further guidance see Instructions Phase 2 Step 2: 2. Identifying focus areas for site surveys and stakeholder engagement.
- Prior to undertaking site surveys and the necessary stakeholder engagement see guidance documents: [How to engage with stakeholders in Phase 2](#), [6. How to do site surveys](#) and [7. How to sample](#).
- Site surveys and stakeholder engagement activities will provide specific information and evidence of risks and opportunities, which should all be summarised within the Working Tables as it is collected.
- The mapping carried out in Phase 1 and checked in the stakeholder engagement of Phase 2 Step 1, must also be verified through the site visits and the maps reworked as necessary. Any changes may then have implications for the associated biodiversity risks and opportunities already identified.

#### Instructions Step 2

##### □ Completing the Risk & Opportunity Working Tables

- All risk topics which are marked 'yes' or 'maybe' in the Mandatory Risk Filter in Phase 2 Step 1 will be carried forward, with their description and evidence, and appear in the Risk Working Table (refer to Risk Working Table).
- Complete the Risk Working Table for Phase 2 Step 2, using all information collected to date. The Working Table will guide you through a more detailed consideration of the risk topics identified, with a description of the risks, their causes and an assessment of any potential negative biodiversity impact against a number of different categories. (refer to the examples in the Risk Working Table)
- If a risk topic is found to have NO potential negative biodiversity impact for each of the categories within the Working Table, it does not need to be taken any further through the BROA process. In the column 'Describe the potential negative impacts' record why no risk was found.
- Any risk topic assessed to potentially have a negative impact on any of the first three biodiversity categories (habitats, species, ecosystem services) **MUST** be investigated in more detail through field surveys (see Instructions Phase 2 Step 2: Identifying focus areas for site surveys and stakeholder engagement).

- Even though biodiversity risk topics are often interlinked, please assess each identified risk topic separately.
- The identification of the cause of each risk topic in the Risk Working Table is important. The 'Risk Causes' button on the Risk Working Table will guide you through identifying the likely causes. When developing Action and Monitoring Plans in Phase 3, it can be effective to group risks together to ensure the best use of resources, and often primary or secondary cause are key variables to consider when doing this. Although you cannot physically group risks in the Risk Working Table in Phase 2, you should be aware of the process and make notes about any thoughts you have about grouping risks at this stage.

- At this stage any opportunities that provide benefits to biodiversity from operations and through the completion of the Risk Working Table should be added to the Opportunity Working Table. Opportunities to be considered are ones that:
  - ▶ provide benefits to biodiversity or a reduction in biodiversity dependencies, and that go beyond or are unrelated to Risk Action and Monitoring Plans
  - ▶ encourage your operation to collaborate/share with external stakeholders, but which lie outside your usual range of experience/expertise
  - ▶ provide additional benefits to your business (e.g. reputational gains) and/or help to address biodiversity dependencies

Further examples are also provided within the Opportunity Working Table and in the Opportunity Guidelines worksheet (refer to the Opportunity Guidelines in the BROA Working Tables).

- The Opportunity Working Table (refer to Opportunity Working Table in the BROA Working Tables and the examples provided) is to be completed in a similar way to the Risk Working Table, with a description of the opportunities, and an assessment for any potential positive biodiversity impact against a number of different categories.
- Any opportunity which is found to have NO potential positive biodiversity impact for each of the categories can now be excluded from the BROA process. In the column 'Describe the potential positive impacts' record why no opportunity was found.

*Risks and Opportunities are now investigated through site surveys and stakeholder engagement (see Instructions Phase 2 Step 2: 2. Identifying focus areas for site surveys and stakeholder engagement)*

- Following your site surveys and stakeholder engagement (see relevant guidance documents) the Working Tables should be used to record a summary of the information and evidence gathered for your identified risks and opportunities. Further documentation will be retained to support the summary in the Working Tables (see guidance document [4. Information generated by the BROA to be retained](#)).

#### □ **Identifying focus areas for site surveys and stakeholder engagement**

- The most important risks and opportunities should be selected for more detailed investigation and evidence gathering, through site visits (see guidance documents [6. How to do site surveys](#) and [7. How to sample](#)). The Working Tables completed so far should enable the initial identification of the most important biodiversity risks and opportunities, which need to be investigated through site surveys.

- In addition, the Working Tables may also enable you to identify other risks and opportunities important to consider for site survey work, for example:
  - ▶ a risk or opportunity which is common across many areas
  - ▶ one location which has a very large number of biodiversity risks
  - ▶ a location of biodiversity significance that is facing very serious threats
  - ▶ an operating region that is the habitat for globally or locally endangered species
  - ▶ the most significant causes of risks
- It is possible that additional risk topics may be identified during Phase 2 in particular from site visits and through engagement with stakeholders; these should be added to the Working Table as appropriate.
- For each important risk and opportunity identified, engagement with associated stakeholders and specialists will be necessary (see guidance document [5. How to engage with stakeholders in Phase 2](#)). For example, if the risk is water pollution from fertiliser, then you would want to engage, through meetings or workshops, stakeholders including experts in this field (e.g. an aquatic ecologist), those who are potentially causing the risk (e.g. those farming along river edges), and those potentially affected by the risk (e.g. a nature reserve manager, or local community).

### Step 3 - Risk & opportunity prioritisation (scoring)

- Following site surveys and stakeholder dialogue, you should now complete the Working Tables for Phase 2 Step 3, where you will prioritise risks and opportunities as high/medium/low from a Biodiversity Impact Score and Biodiversity Dependency Score (see Instructions Phase 2 Step 3: Completing the Risk & Opportunity Working Tables).
- Following prioritisation, all medium or high biodiversity risks as identified through the Working Tables are required to be taken forward into Phase 3, along with accepted low risks and adopted biodiversity opportunities. It is your responsibility to ensure that biodiversity risks and opportunities related to your operations have been clearly identified, accurately described, realistically prioritised and confirmed.
- Undertake further stakeholder meetings following the site survey work and the prioritisation of risks and opportunities, to share a summary of your key findings (see guidance document [5. How to engage with stakeholders in Phase 2](#)).
- Clearly document stakeholders' comments and feedback, recording those changes that have been accepted as well as those not accepted, with reasons for non-acceptance. Key stakeholders' comments on any areas where there is disagreement should be recognised and noted with the outcome.
- The completed Working Tables, with a Biodiversity Impact & Dependency Score for each assessed risk and opportunity, highlighting those which you recommend to be addressed in Action and Monitoring Plans, plus an Executive Summary (see Appendix B: Executive Summary Template) should now be presented for approval by senior management and budget holders.

Instructions Step 3

□ **Completing the Risk & Opportunity Working Tables**

- In the Risk Working Table, once you are satisfied you have entered all information related to your identified risks, click the 'Risk Matrix' button to reveal the Risk Matrix columns where you will score and prioritise your risks in Phase 2, Step 3.
- The same process described above should be followed in the Opportunity Working Table. Once you are satisfied you have entered all information required related to your identified opportunities, click the 'Opportunities Matrix' button to reveal the Opportunity Matrix columns to prioritise and score your opportunities.
- Fill in the Working Tables for Phase 2 Step 3, carefully scoring each individual risk and opportunity for impacts on biodiversity (Biodiversity Impact Score) and for dependencies on biodiversity (Biodiversity Dependency Score). Examples are provided in the Working Tables to guide you.
- Use the Biodiversity Risk & Opportunity Impact Magnitude Matrix to evaluate the magnitude of your identified risks and opportunities, and the Risk Likelihood/ Opportunity Likelihood Matrices to evaluate the probability of these risks / opportunities occurring.
- The Biodiversity *Impact* Score and Biodiversity *Dependency* Score for each assessed risk and opportunity are calculated automatically in the Working Tables. The 'Biodiversity Impact and Dependency Matrix Score' table below (Figure 1) shows how these scores are calculated. This will determine whether your risks and opportunities are regarded as high, medium or low.

**Biodiversity Impact and Dependency Matrix Score**

Likelihood of biodiversity impacts / dependencies	Magnitude of biodiversity impacts / dependencies		
	LOW	MEDIUM	HIGH
HIGH	3	6	9
MEDIUM	2	4	6
LOW	1	2	3
	LOW	MEDIUM	HIGH

High risk    
  Medium risk    
  Low risk

Figure 1 Biodiversity Impact and Dependency Matrix Score

- It is possible that a risk or opportunity will be found to have no impact or dependency on biodiversity, or no likelihood of occurring/no likelihood of ever being successful. In such cases with any zero score your overall Biodiversity Impact Score/Biodiversity Dependency Score would always be zero.

- While the final risk prioritisation (scoring) should be done at the end of Phase 2, it is good practice to re-check and update your prioritisation of risks and opportunities using the information you gather as you make progress. This may mean re-prioritising risks a number of times during Phase 2, to make sure that higher priority risks and opportunities are investigated with sufficient care.
- You will now decide, and record within the Working Table, which risks you recommend to be taken into Phase 3 for Action and Monitoring Plan preparation.
- All 'medium' or 'high' risks scoring 3 or above for either Biodiversity Impact Score or Biodiversity Dependency Score need to be addressed with an Action and Monitoring Plan in Phase 3.
- It is recommended that all risks with lower scores that are simple to address should also be addressed with an Action and Monitoring Plan in Phase 3. Addressing 'low' ranked risks now can stop them becoming 'medium' or 'high' risks in the future.
- You will also decide whether to adopt or reject each of the opportunities defined in the Opportunity Working Table. The Matrix Score will help to assist this decision. Guidance on adoption or rejection of opportunities is provided in Opportunity Guidelines worksheet (refer to the Opportunity Guidelines in the BROA Working Tables). Where possible, high scoring opportunities should be addressed with an Action and Monitoring Plan in Phase 3.

## □ Phase 2 Checklist

PROCESS	
<b>PLEASE CHECK THAT YOU HAVE CARRIED OUT THE FOLLOWING DURING PHASE 2:</b>	
Checked your maps with relevant stakeholders, verified them through field inspections, and updated them as necessary	
Identified your operation's biodiversity risks, opportunities and dependencies with input from a range of stakeholders and your Conservation Partner	
Identified and requested relevant information and advice from key external stakeholders and experts, including government agencies, universities and conservation organisations about the BROA	
Completed the Mandatory Risk Filter for each operating region	
Identified your operation's important biodiversity risks and opportunities with input from a range of stakeholders and your Conservation Partner	
Conducted a more detailed investigation of important risks and opportunities through engagement with associated stakeholders, specialists, and site surveys	
Given feedback to stakeholders on key findings	
Agreed your final Working Tables (for Phase 2) for each operating region with your Conservation Partner	

OUTPUTS	
<b>PLEASE CHECK THAT YOU HAVE PRODUCED THE FOLLOWING DURING PHASE 2:</b>	
Lead and team roles	
Verified and updated versions of the maps produced in Phase 1	
A completed Mandatory Risk Filter	
Finalised Working Tables (for Phase 2), complete with causes, consequences, biodiversity impacts and dependencies, evidence, and magnitude and likelihood scores for the biodiversity impacts and dependencies of each identified risk and opportunity	
Executive Summary of results and the risks and opportunities recommended for Action and Monitoring Planning preparation in Phase 3	
A record of findings for each risk and opportunity - including stakeholders involved and sources of evidence e.g. surveys undertaken, interviews, photographs (with GPS reference) and scientific analysis (see guidance document <a href="#">4. Information generated by the BROA to be retained</a> )	

## ACTION AND MONITORING PLANS

# BROA, phase 3

### ■ AIM

To develop and implement Action and Monitoring Plans which successfully address both biodiversity risks and opportunities and effectively monitor their progress.

### ■ OBJECTIVES

- To produce Action and Monitoring Plans for all high and medium risks and promising opportunities. To consider including low risks which are simple to address
- To have SMART (specific, measurable, attainable, realistic and timely) Action and Monitoring Plans implemented, with sufficient budgets and skilled personnel requirements fulfilled
- To have an effective monitoring and reporting framework as an integral part of the Action and Monitoring Plan allowing course correction, continuous improvement and stakeholder support towards the company's commitment to biodiversity conservation
- For key stakeholders to have visibility of the Action and Monitoring Plans

### STEPS

#### BROA PHASE 3

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## Steps

### Step 1 - Preparing and gaining approval for Action and Monitoring Plans

- In Phase 3 you will develop Action and Monitoring Plans, with assistance from your Conservation Partner, for sign-off by senior management and budget holders. Note that the Action and Monitoring Plans will need to be completed in time for the specified actions to be included in company budgeting and planning for implementation the following year.
- Start to complete the Action and Monitoring Plan template (refer to the Action and Monitoring Plan in the BROA Working Tables) within the Working Tables which is designed to help you through the process of plan development for both risks and opportunities (see Instructions Phase 3 Step 1: Completing the Action and Monitoring Plan Working Table).
- For more information on the production of Action and Monitoring Plans please see Instructions Phase 3 Step 1: 2. Developing Action and Monitoring Plans, which provide details of biodiversity risk, biodiversity dependency and biodiversity opportunity related Action and Monitoring Plans.
- If you identify any major dependencies (negative impacts on the business as a result of a dependency on biodiversity) that cannot be addressed within your Action and Monitoring Plans, these may need to be escalated to an appropriate level within your company.
- Consider your intended actions within the context of the agricultural landscape to identify where collaboration will contribute to the success and sustainability of your efforts. Where applicable, identify existing initiatives, and possible other companies to engage with under the Action and Monitoring Plan for both risks and opportunities.
- Gain input from your Conservation Partner in the development of your Action and Monitoring Plan. Sign-off of the Action and Monitoring Plan by the Conservation Partner is not mandatory (as this may require an unrealistic level of understanding of company resources and constraints). However, if there are significant areas of disagreement between you and your Conservation Partner, then you must keep a record clearly explaining your chosen course of action.

#### The following steps must now be followed:

- Ensure senior management sign-off of the Action and Monitoring Plans (with agreement from budget holders).
- Share Action and Monitoring Plans with key stakeholders (including appropriate levels within the company with whom major dependencies should be raised) so they have visibility, and to encourage their support for implementation of the Action and Monitoring Plans (see guidance document [8. How to engage with stakeholders in Phase 3](#)).
- Record the lessons learned from the BROA process, including constraints, challenges and recommendations, in order that these can be shared internally and guide future BROA work (see guidance document [4. Information generated by the BROA to be retained](#))

### Instructions Step 1

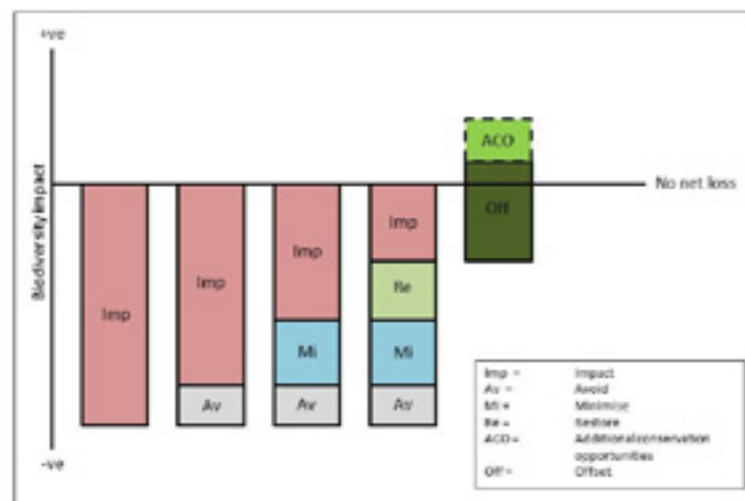
#### □ Completing the Action and Monitoring Plan Working Table

- Once you have completed scoring and prioritisation of risks and opportunities in Phase 2 Step 3, to begin working on your Action and Monitoring Plans you can automatically copy information from the Risk Working Table and Opportunity Working Table to:
  1. Risks and Opportunities for Action and Monitoring Planning worksheet, and
  2. Action and Monitoring Plan Working Table.
- Information is copied over to the Risks and Opportunities for Action and Monitoring Planning Working Table and the Action and Monitoring Plans Working Table by clicking the 'Copy information to Action and Monitoring Plans' button at the end of the 'Risk/Opportunity Matrix'. Data from the Risk Working Table and the Opportunity Working Table will automatically fill the Risks and Opportunities for Action and Monitoring Planning worksheet and the Action and Monitoring Plan Working Table.
- The Risks and Opportunities for Action and Monitoring Planning Working Table provides a summary of information to help inform your Action and Monitoring Plans (it may be helpful to print this page to review before and during completion of the Action and Monitoring Plan Working Table).
- The Action and Monitoring Plan Working Table will allow you to group risks together, and group opportunities together, that can be addressed with the same Action and Monitoring Plan (see instructions below).
- Prior to developing Action and Monitoring Plans you should consider whether it makes sense to group risks and / or opportunities and address more than one risk / opportunity through a single Action and Monitoring Plan. This is more likely to be the case for risks where the same primary cause and/or secondary causes are identified between risks. However, just because some causes of risks may be the same, the actions which need to be undertaken to address the on-the-ground impacts of the risks may be different, in which case the risks will need to be treated independently.
- Risks / opportunities could also be grouped together by 'topic' or 'site', where a set of grouped actions address more than one risk / opportunity. It is up to you if you decide to group; consider your risks and opportunities very carefully before any grouping of risks / opportunities is undertaken.
- At this point, it is good practice to review your original list of identified Risk Topics to ensure you have dealt with them in full.
- Risks/opportunities which can be addressed through the same Action and Monitoring Plan should be grouped accordingly within the Action and Monitoring Plan Working Table (refer to the 'Further Help' worksheet in the Working Tables for help on grouping risks/opportunities).
- You will now record within the Action and Monitoring Plan Working Table details of the overall goals and expected outcomes of your Plan, along with each of your actions, completion dates and responsibilities.

- In order to have robust Action and Monitoring Plans that you can report progress against, you will need to design monitoring with a timeline and clear, replicable indicators (see guidance document, [9. How to develop a monitoring process](#)), which should be recorded within the Working Table.

### □ Developing Action and Monitoring Plans

Your **Biodiversity Risk related Action and Monitoring Plans** should be designed in accordance with the mitigation hierarchy detailed in Figure 2:



**Figure 2:** The mitigation hierarchy [adapted from BBOP, 2009]<sup>1</sup>.

**1. Avoid the impacts of your operations on biodiversity:** Measures taken to avoid creating impacts from the outset. Examples include:

- Do not source crops or fuelwood from natural habitats or those which are of known biodiversity significance.
- Do not promote crop cultivation in areas where expansion of cultivation is likely to pose a threat to biodiversity, e.g. in an area where land tenure is poorly-defined and/or the existing forests are showing signs of degradation or are highly fragmented.
- Do not encourage crop planting on land with high erosion risk (e.g. on slopes over 20%) or alongside water courses.
- Locate production and operations at a safe distance from designated protected areas and areas of biodiversity importance.
- Reduce the use of chemicals and pesticides.
- Manage water abstractions for irrigation and factory operations to avoid competition with domestic use by communities and to pre-empt degradation of aquatic ecosystems such as wetlands dependent on fresh water flows.
- Increase productivity in accordance with sustainability principles to reduce the demand for land for crop cultivation.

**2. Minimise unavoidable impacts through planning of operations and good agricultural practices:**

Measures taken to reduce the duration, intensity and/or extent of impacts that cannot be completely avoided. Examples include:

- Implement tree planting schemes so that people are able to avoid use of natural forest for fuelwood and timber. Use native tree species for planting schemes where possible.
- Identify alternative fuels to native fuelwood which have less impact on biodiversity and increase fuel efficiency.
- Maintain natural woodland and/or natural vegetation corridors (for example along water courses) so as to provide links to other areas of forest to promote biodiversity movement.
- Implement IPM and refine the use of insecticides so as to minimise loss of non-target organisms.
- Where appropriate, use minimum tillage to minimise soil erosion and loss of soil structure and nutrients.
- Use crop rotations to maintain soil nutrients and maintain populations of beneficial organisms.

**3. Restore areas of natural habitat impacted by operations:** Measures taken to restore ecosystem structure, composition and function where possible in areas impacted by your operations. Examples include:

- Replant areas of forest previously cleared for operations now not in use.
- Restore riverbank buffer habitat with natural vegetation to protect aquatic ecosystems and to prevent siltation of rivers through soil erosion.
- Restore any areas cleared during construction for new infrastructure no longer necessary upon completion (e.g. roads, tracks or areas cleared).
- Replace any eucalyptus plantations previously used for fuelwood and now no longer needed with native vegetation.

**4. Implement conservation opportunity measures, or where possible, offset any residual impact remaining:**

Measures taken to capitalise on opportunities that make positive contributions to biodiversity conservation, or by offsetting any residual negative impacts of operations to achieve no net loss of biodiversity in accordance with BBOP guidelines. It is important to note that (1) the offsetting of impacts must only be considered once all efforts at avoidance, minimisation and restoration have been made, and (2) it is unlikely, though not impossible, that opportunities to create biodiversity offsets arise from this process. Examples include:

- Provide resources (e.g. funding, technical input, seedlings, training) to areas of conservation land.
- Work with local communities to ensure continued security of water supply in a catchment area in which increasing amounts of water are being used for irrigated agriculture.
- Collaborate with other businesses and programmes for synergy and creating viable biodiversity corridors in fragmented habitats.
- Place biodiversity improvement and restoration plans in the broader context, and in support of national or local conservation strategies and biodiversity plans.
- Provide leadership and stimulate mainstreaming of biodiversity conservation within and across industries.

<sup>1</sup> – Business and Biodiversity Offsets Programme [BBOP] (2009) Business, Biodiversity Offsets and BBOP: An Overview. BBOP, Washington, D.C.

Your **Biodiversity Dependency related Action and Monitoring Plans** should be designed in accordance with the following:

Where your operations may or may not contribute to the biodiversity risk but this results in negative impacts on your business (i.e. damage to the company's reputation, or the sustainability of your crop growing operations is being affected) you should address this using this mitigation hierarchy.

1. **In your sphere of direct influence: avoid, minimise, restore, and, where possible, offset your impacts (as above).** For example, if you have identified a biodiversity risk that threatens the sustainability of water supplies to your operations (e.g. where deforestation in a water catchment is affecting water supplies and having a negative impact on irrigated farming), you should avoid, minimise or restore this impact first.
2. **Beyond your sphere of direct influence: identify ways in which you can help other stakeholders avoid, minimise, restore or offset the impacts.** For example, where water is being polluted by disposal of agrochemical containers used by farmers for horticulture, and you have established a system for collecting used containers, consider how this could be extended to address the impact.
3. **Engage with stakeholders in the agricultural landscape to avoid, minimise, restore or offset the impacts.** Dependency risks require stakeholder engagement. Review your Working Table to identify as far as possible which stakeholders are causing or contributing to the impacts, which could be affected by the impacts; and which are responsible for managing the risk. For example, where cash crop farming is causing soil erosion which affects other farms (including your contracted farmers), engage with the farmers who are causing the impact and the farmers who suffer from it, but also with the companies who buy the cash crop, and the regulatory agencies responsible for preventing erosion. Work with them to identify the most appropriate level at which to address the risk.
4. **Identify ways in which your company can benefit from addressing the risk.** For example, where a forest has been destroyed for timber extraction, consider if there is an opportunity to restore the forest.
5. **Escalate any remaining Dependency Risks which are outside your sphere of influence or your capacity to the appropriate level in the company.** For example, several rivers have stopped flowing in one of your key growing areas. It could be that this is a result of regional climate change which will affect your dependency on ecosystem services (such as freshwater) both now and in the future, but further scientific research and monitoring will be required to verify this as it is a regional not local issue.

Your **Biodiversity Opportunity related Action and Monitoring Plans** should be developed with the following areas and SMART in mind:

- Habitats and protected areas
- Native species, especially endemic, threatened and locally important
- Ecosystem services
- Efficiency in resource use, especially space and energy
- Mainstreaming sustainability in supply chains such as through sourcing products (wood, fuel, paper,

food etc) that are produced ethically and sustainably

- Biodiversity and environmental legal requirements, company requirements, liability or obligations incurred
- The sustainability of agricultural production in the landscape
- The reputation of the company and stakeholder relationships
- Company operating turnover

You should also refer to the Opportunity Guidelines worksheet (refer to Opportunity Guidelines in the BROA Working Tables).

### Step 2 - Implementing Action and Monitoring Plans

- In order to implement your Action and Monitoring Plans you may need to address internal capacity needs with the necessary training.
- Certain elements of your Action and Monitoring Plan implementation may need to be outsourced to appropriate specialists.
- You can ask your Conservation Partner to help you carry out the periodic monitoring enabling you to measure your progress and outcomes of Action and Monitoring Plans.
- As your Action and Monitoring Plans are implemented, you will need to record the actions undertaken to address risks and opportunities within the Action and Monitoring Plans Working Table.
- You should continue regular communication with key external stakeholders, sharing Action and Monitoring Plan progress (see guidance document, [8. How to engage with stakeholders in Phase 3](#)). This on-going engagement will enable any new issues identified by stakeholders to be taken into consideration within the Plans, promoting continuous improvement of the Action and Monitoring Plans.
- Progress with Action and Monitoring Plans should be regularly reviewed and assessed at appropriate levels within the company.

Phase 3 Checklist

PROCESS	
<b>PLEASE CHECK THAT YOU HAVE CARRIED OUT THE FOLLOWING DURING PHASE 3:</b>	
Produced Action and Monitoring Plans for all high & medium risks, and adopted opportunities (in collaboration with your Conservation Partner)	
Provided a comprehensive budget in your Action and Monitoring Plans, for inclusion in your overall company annual budget	
Produced Action and Monitoring Plans which have a clear, reliable and repeatable monitoring protocol with indicators and timelines which will allow progress/impacts to be regularly assessed	
Identified existing initiatives relevant to your Action and Monitoring Plans that you can join. This is particularly important when considering opportunities	
Identified any low biodiversity risks that can be addressed now, preventing them from becoming higher risks and more costly to address in the future	
Gained input from your Conservation Partner during the development of your Action and Monitoring Plans. Depending on your company policy it may not be mandatory to obtain agreement from your Conservation Partner for the Action and Monitoring Plans, but it is important that they should agree the overall approach, and support specific actions where their expertise is required.	
Escalated major biodiversity dependency risks (negative impacts on the business as a result of dependency on biodiversity) to the appropriate level in the company	
Gained senior management sign-off of the Action and Monitoring Plans with agreement from budget holders	
Shared the completed BROA including Action and Monitoring Plans with all key stakeholders	
Where possible gained endorsement on the outcomes of the BROA from key local stakeholders	
<b>ACTION AND MONITORING PLAN – IMPLEMENTATION</b>	
Do you currently have the capacity within your team to carry out the Action and Monitoring Plans?	
Have you arranged additional training, where required, to deliver the Action and Monitoring Plans? Do you need to outsource any part of implementing your Action and Monitoring Plans?	
Have you identified where you need to develop a local partnership (potentially with your local Conservation Partner) and bring in outside skills to deliver any elements of your Action and Monitoring Plans?	
Have you shared results of monitoring (the impacts of your Action and Monitoring Plans) with all stakeholders?	

OUTPUTS	
<b>PLEASE CHECK THAT YOU HAVE PRODUCED THE FOLLOWING DURING PHASE 3:</b>	
Senior management sign-off (with agreement from budget holders)	
Action and Monitoring Plans for all high and medium risks (and any low risks that are easy wins) and selected opportunities, with milestones and budget for implementation and monitoring, included in company plan	
Escalated major dependencies where necessary to the appropriate level in the company	
Suggested reporting schedule for tracking Action and Monitoring Plans 1. Quarterly reports tracking planned actions (not outcomes) that are reviewed at the operational level for adaptation and course correction 2. An annual report (progress against outcomes) to be shared within the company and with stakeholders, and reviewed in an annual meeting of the stakeholders	
A list to be retained of all necessary information (Mandatory, Best Practice, Optional) – see guidance document <a href="#">4. Information generated by the BROA to be retained</a>	

## DEFINITIONS AND KEY TERMS USED WITHIN THE BROA

# Glossary

(Please note that these definitions apply to the BROA and are not intended for wider use)

- **Agricultural landscape:** A geographic area that is characterised by a cluster of local ecosystems with a particular set of physical features, vegetation, water bodies, wildlife, land use, and settlement pattern. They are defined or delimited by natural, historical, and/or cultural processes, activities or values relating to agricultural production in the area. How an agricultural landscape is defined depends on the local context and may vary in size and include different features, but all of the various features have some influence or effect on each other.
- **Alien invasive species:** Species which become problematic when introduced into an area where they do not naturally occur. Invasive species can alter ecological relationships among native species and can affect ecosystem function and human health. Well known examples include the water hyacinth and *Lantana camara*.
- **Aquatic:** Living in or on the water.
- **Areas of biodiversity significance:** Areas with high importance for biodiversity. Such areas may be: legally protected at a local or national level or fall within priority sites as defined by NGOs, local communities or other stakeholders; or identified as important through local surveys. However, most biodiversity is found outside protected areas.
- **BBOP:** Business and Biodiversity Offset Programme. A global partnership of organisations including businesses, governments, conservation organisations and financial institutions dedicated to developing biodiversity offsets as a conservation mechanism.
- **Biodiversity:** The variety of life on earth, all living things, their habitats and interactions; this includes diversity within species, between species, and of ecosystems and their function. For the purpose of this BROA the term biodiversity includes ecosystems, their function and ecosystem services relevant to agricultural landscapes and the communities that rely on them.
- **Biodiversity dependency:** The reliance of business operations on biodiversity and ecosystem services, such as freshwater, fertile soil, water catchment protection by forests and pollination by species, without which the business cannot operate.
- **Biodiversity offsets:** Practical conservation activities undertaken to 'offset' – or compensate for – unavoidable harm to biodiversity caused by a company's operations. Offset activities are only undertaken once all attempts have been made to avoid and minimise damage to biodiversity.
- **Biodiversity opportunity:** An opportunity to achieve a positive impact for biodiversity or for the business through a course of biodiversity focused action. In BROA, biodiversity opportunities are ranked by combining scores for the magnitude of the impact that may be achieved, and the likelihood of success in achieving the impact.
- **Biodiversity risk:** A risk of a negative impact for biodiversity or the business in a given situation. In BROA, biodiversity risks are ranked by combining scores for the magnitude and likelihood of negative impacts - whether to biodiversity or to the business (as a result of biodiversity

dependencies). BROA focuses on the impact of agricultural operations on biodiversity, the dependency of the business on biodiversity, and the assessment of biodiversity in the operational area.

- **British American Tobacco Biodiversity Partnership (BATBP):** The partnership between Earthwatch Institute, Fauna & Flora International, The Tropical Biology Association and British American Tobacco which seeks to address some of the challenging issues surrounding the conservation and management of biodiversity, within agricultural landscapes and the ecosystems on which they depend.
- **BROA Team:** The operational project team that carries out a Biodiversity Risk and Opportunity Assessment, completes the Working Tables, and produces an Action and Monitoring Plan.
- **BROA Working Tables:** The set of spreadsheets used by an operating company to formally record identified biodiversity risks, dependencies, impacts and opportunities.
- **Conservation Partner:** A Conservation Partner is an individual or organisation that will provide expert advice on scientific and technical matters during the BROA process. They could for example be academics from a university (situated within a department of biology, ecology, or zoology), or specialists from a conservation NGO.
- **Critically endangered species:** A species which has an extremely high risk of extinction in the wild in the immediate future (see IUCN Red List for detail).
- **Cumulative impacts:** Impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together.
- **Ecosystem:** An area consisting of all the living plants, animals and microbes, and all the non-living physical and chemical factors of their environment. An ecosystem can be of any size - a log, pond, field, forest, wetland, an entire protected area, etc. - but it always functions as a whole unit.
- **Ecosystem services:** Functions that are performed by nature that benefit humans, including production of goods such as food and timber, maintenance of water systems, protection of the soil, breakdown of pollutants, and regulation of climate. For the purpose of this BROA, ecosystem services are those relevant to agricultural landscapes and the communities that rely on them.
- **Endangered species:** Any species which is in danger of extinction throughout all or a significant portion of its range (see IUCN Red List for detail).
- **Endemic species:** Those species which are only found naturally within a defined geographical area or habitat type, such as an island, nation or other defined zone. Species which are found naturally within a place are not endemic to it if they are also found elsewhere. For example, all species of lemur are endemic to the island of Madagascar; none are native elsewhere.
- **Habitat:** The physical and biological environment on which a species, or group of species, depends; the place or site type where an individual or population normally occurs. Types of habitat include forests, mangroves, grasslands, savannas, etc.
- **Impacts:** The effects that business operations, including outsourced operations, have on biodiversity in the surrounding landscape and environment. Or, the effects that changes in biodiversity may have on the business. Impacts can be either negative (in the case of risks) or positive (in the case of opportunities).

- **Indicators:** The factors that are measured during monitoring. Indicators need to be easy to measure, reliable and independent. Data collected about the indicator tell us in an objective way if the expected change is happening as a result of the Action and Monitoring Plan i.e. it indicates or shows if change has occurred.
- **Indigenous, native or local species:** Those species occurring naturally in a particular geographic region or habitat type. For example, eucalyptus trees are ONLY native to Australia. The opposite is non-native, exotic, alien or introduced species.
- **Locally important species:** A species which is of value for conservation and biodiversity or of value to communities at a local area level but not necessarily of biodiversity significance (e.g. for food, medicinal, cultural value).
- **Monitoring:** The process of periodically collecting information to determine the progress of work. Monitoring is a continuous process undertaken at regular intervals, and in the BROA process it is undertaken throughout the duration of Action and Monitoring Plan implementation. The monitoring protocol needs to be reliable and repeatable.
- **Operating region:** A geographical area where the company has operations in agricultural landscapes. For the purposes of BROA it is helpful to define operating regions that are relatively uniform and coherent.
- **Protected area:** A clearly defined geographical area dedicated to the protection and maintenance of biological diversity, and of natural and/or associated cultural resources, and managed through legal or other effective means. Although all protected areas meet the general purposes contained in this definition, in practice the precise purposes for which a protected area is managed differ greatly.
- **Restoration:** Intentional activity that initiates or accelerates the recovery of an ecosystem with respect to its health, integrity and sustainability.
- **Sampling:** A statistical method of obtaining representative data or observations from a group.
- **Species:** A group of inter-breeding organisms that under natural conditions seldom or never breeds with other groups.
- **Species of biodiversity significance:** Species classified as locally important, endemic, vulnerable, endangered, or critically endangered.
- **Stakeholder (for BROA):** Any individual, group, or institution that is interested in the natural resources of the area of operation and/or may be affected by your activities and/or may have something to gain or lose if conditions change or stay the same. Internal stakeholders include employees, ranging from corporate and regulatory staff to field technicians, and external stakeholders include, for example, the forestry department, water board, community groups, farmer co-ops, NGOs, and local government.
- **Terrestrial:** Living or growing on the land e.g. terrestrial habitats would mean forest habitats, grassland habitats but not habitats underwater. For the purpose of BROA, soil is considered part of the terrestrial system..
- **Threatened species:** Species which are classified as vulnerable, endangered, or critically endangered (see IUCN Red List for details).
- **Vulnerable species:** A species facing a high risk of extinction in the wild in the immediate future (see IUCN Red List for details).

## GUIDANCE DOCUMENTS BROA

### 1 - How to engage with stakeholders in Phase 1

The BROA process requires that companies engage with stakeholders from the very beginning of the BROA. The aim of this engagement is to:

- Benefit from traditional and local knowledge in the host communities;
- Ensure that the BROAs and Action and Monitoring Plans are carried out with a greater understanding of local interests and concerns;
- Build confidence with local communities and organisations. A BROA is intended to form the starting point for new collaborative partnerships at a local level and to ensure your Action and Monitoring Plans are appropriate for the local situation and supported by the communities you work with.

► **Definition of BROA stakeholders:** *Any individual, group, or institution that is interested in the natural resources of the area of operation and/or may be affected by your activities and/or may have something to gain or lose if conditions change or stay the same.*

Stakeholders may include locally affected communities or individuals, consumers, investors, national or local government authorities, politicians, civil society organisations, non-governmental organisations and groups with special interests or other businesses including other agricultural companies.

The three activities around stakeholder engagement in Phase 1, are summarised below:

ACTIVITIES	WHO IS INVOLVED	OUTPUT
<b>1. Stakeholder mapping</b> (identification of stakeholders)  -see guidance document <a href="#">2. How to map your stakeholders</a>	Local company team and BROA Team	Draft stakeholder map
<b>2. Identify and secure a Conservation Partner</b>  -see guidance document, <a href="#">3. How to identify your Conservation Partner</a>	Local company team and BROA Team External organisations such as NGOs or local government	Final stakeholder map (informed by Conservation Partner)
<b>3. Sourcing mapping information from stakeholders</b> (e.g. Government departments, local NGOs, international conservation NGOs)	Local company team and BROA team	Information on the species and habitats in the area of operations, and the potential impacts and dependencies of your operations on biodiversity

## 2 - How to map your stakeholders

In Phase 1 you will carry out stakeholder mapping. Stakeholders generally fall into three main categories:

- **Internal stakeholders** (employees, for example corporate and regulatory staff, field technicians, senior management, budget holders);
- **Key external stakeholders** (stakeholders having a direct stake in the company's operations such as farmers, local communities, local government, biodiversity or environment agencies, and conservation NGOs);
- **Other stakeholders** (for example the forestry department, water board, various community interest groups, farmer co-ops, companies, NGOs in general, local universities).

While many stakeholders will be obvious to you, some may be less evident but just as important. It is important to engage with stakeholders who you may not usually engage with or those who may be critical of your operations.

### STEPS FOR STAKEHOLDER MAPPING:

#### 1. Begin by brainstorming all possible stakeholders:

- a. Write down the names of all institutions, interest groups, individuals, organisations and authorities who are: affected by or concerned in any way by your operations; interested or involved in issues relating to biodiversity conservation or the sustainability of agriculture and communities in and around your operations.
- b. Talk to the various stakeholders, including people who hold influential positions, and ask them who they think are potential stakeholders. Your list of stakeholders may grow or shrink as you progress, and as your understanding of the stakeholders involved increases.

#### 2. Categorise stakeholders in terms of their interests and influence in the landscapes in and around your operations.

#### 3. Establish whether any previous engagement has taken place with each stakeholder and make a note of the kind of relationship held with that stakeholder.

## 3 - How to identify your Conservation Partner

At this stage you should identify and secure support from a local conservation organisation or academic institution, whose role will be to provide ecological expertise throughout the BROA process. Your Conservation Partner could, for example, be academics from a university (situated within a department of biology, ecology, or zoology), or specialists from a conservation NGO.

See the [Template Terms of Reference for Conservation Partners](#) document to guide you.

Once your Conservation Partner is identified and terms of work agreed, they should review and provide input to your stakeholder map before proceeding to Phase 2.

## TEMPLATE TERMS OF REFERENCE FOR CONSERVATION PARTNERS

### INTRODUCTION:

The BROA tool was originally developed by the British American Tobacco Biodiversity Partnership (BATBP) for use by British American Tobacco in its global agricultural operations. The Partnership comprises three international NGOs - Earthwatch Institute, Fauna & Flora International, Tropical Biology Association - and British American Tobacco, working globally to address the challenges of managing and conserving biodiversity in agricultural landscapes. It does this by embedding biodiversity assessment, management and conservation into British American Tobacco's operations.

Based on a standard approach to risk management, the BROA tool offers companies a practical field based guide to address biodiversity issues in agricultural landscapes.

A key requirement of BROA is that companies work with local biodiversity experts to support the BROA process.

### THE CONSERVATION PARTNER ROLE:

To provide ecological and technical support to the company to successfully conduct the BROA.

### COSTS:

To be negotiated with the company according to the agreed programme of work.

### TIMESCALE:

The BROA may be carried out over a three/four month period. However, the implementation of Action and Monitoring Plans could be undertaken for approximately four years following the BROA. The degree of involvement from a local Conservation Partner is negotiable according to the scope of work agreed by the company and your identification of any additional requirements. Ideally there will be some on-going input and advice from Conservation Partners; for example you may wish to use your Conservation Partner in the Monitoring of Action Plans which will involve additional time to that specified above.

### EXPECTATIONS:

To support the company to: identify the biodiversity risks and opportunities in agricultural landscapes; assess and prioritise the risks and opportunities arising from the company's impacts and dependencies and to produce Action and Monitoring Plans to address those risks and opportunities, including:

- Familiarisation with the BROA tool
- Possible input to company staff training workshop on biodiversity and the BROA process (supporting materials are available from the BATBP)
- Provide local ecological/biodiversity expertise within the agricultural landscape
- Provide input to an initial data gathering and mapping exercise, including information on sites and species of biodiversity significance within and around the operational area and legal requirements, a history of land use change and review of historic impact of operations
- Provide input to stakeholder mapping and engagement, including workshops
- Provide support to plan and conduct site visits, including site sampling, stakeholder engagement (semi-structured interviews, focus groups) and simple scientific analysis
- Provide support to complete all required BROA documents including Working Tables, and Action and Monitoring Plans

- Review, formally agree and sign off the final BROA report submitted by the company

**SKILLS:**

- Understanding of key issues relating to biodiversity within agricultural landscapes
- In depth knowledge of local biodiversity within and surrounding the operational area
- Experience of environmental impact assessments
- Experience of social research techniques, such as participatory rural appraisal techniques, stakeholder workshops and engagement

**4 - Information generated by the BROA to be retained**

The following is a list of information that should be retained as a record of the BROA and your operations, subject to review by your company. **Key: M = Mandatory; B = Best Practice; O = Optional**

**MAPS**

Biodiversity base maps with current growing operations including:

- Current farms - **M**
- Land company owns or leases - **M**
- Sites of water extraction or waste discharge - **M**
- Location of areas of biodiversity significance, protected areas close to areas of operation - **M**
- Location of water bodies close to areas of operation - **M**
- Land from which materials are sourced e.g. fuel - **B**
- Land from which community obtains important resources - **B**
- Maps of wildlife behaviour based on community knowledge - **O**
- Specific site survey areas - **B**
- Potential areas of expansion or contraction of operations - **B**
- Baseline data – historical maps of growing areas - **B**

**PHOTOGRAPHY, AERIAL AND/OR SATELLITE IMAGERY**

- Photographs (with GPS refs) of specific impacts to biodiversity - **M**
- Data covering growing areas, potential expansion, areas that are used for sourcing materials (e.g. fuelwood) - **B**

**RELEVANT DATA**

- List of legal requirements in relation to biodiversity - **M**
- Summary of civil society interest raised by NGOs or other organisations about operations' impacts on biodiversity - **M**
- List of external biodiversity expertise (NGOs/universities, etc.) and stakeholders involved - **B**
- Summary of any site surveys and interviews - **B**
- Baseline data – history of land use changes - **B**
- References of studies on biodiversity status in or around the operating areas (e.g. land use change, species of biodiversity significance, change in water quality, etc.) - **O**

**RELEVANT INFORMATION**

- Existing biodiversity management capacity - **M**
- List of resources used (staff time/costs incurred) - **B**
- Constraints/challenges/lessons learned/recommendations - **B**
- Any training (e.g. BROA workshops) - **O**

**BROA OUTPUTS**

- Executive Summary – **M**
- Working Tables - **M**
- Action and Monitoring Plans – **M**



5 - How to engage with stakeholders in Phase 2

ENGAGING WITH STAKEHOLDERS

Stakeholder engagement seeks to create partnerships and encourage conversations between parties so that all sides can learn from and listen to each other. This does not necessarily mean that you all have to agree, but it helps to reduce conflict, strengthen relationships and inform decision making. There are of course some challenges to involvement; it is not always easy to engage stakeholders and the process requires time, commitment and willingness to learn by all parties in order to be effective. It is important that stakeholders feel their opinions are going to matter and make a difference to the outcome. Using an inclusive, transparent approach during the BROA will help build ownership and commitment.

► **The objectives of stakeholder engagement include:** *building trust; understanding stakeholder expectations; avoiding conflict; developing a 'Shared Vision' and plan that is agreed by all parties; informing decision making; finding solutions that you might not have identified alone.*

Stakeholder participation is valuable to your BROA because:

- It gives people some say over how the BROA may affect their lives;
- It generates a sense of ownership if you develop the BROA together from the beginning;
- It helps develop responsibilities among stakeholders;
- It is essential for sustainability of Action and Monitoring Plans.

Stakeholder engagement is vital throughout Phase 2.

The engagement steps in Phase 2 are summarised below:

ACTIVITIES	WHO IS INVOLVED	OUTPUT
<b>Step 1. Engage with all stakeholders</b> (e.g. through workshops and meetings) to identify and start to prioritise biodiversity risks, opportunities, and dependencies	BROA Team, Conservation Partner, stakeholders	Full list of potential biodiversity risks and opportunities entered into the working tables
<b>Step 2. Engage with key relevant stakeholders</b> (e.g. through workshops and meetings) to investigate and further prioritise biodiversity risks and opportunities, during and following site surveys  Feedback results to original stakeholder group	BROA Team, Conservation Partner, stakeholders	Actual list of biodiversity risks and opportunities entered into the working tables
<b>Step 3. Engage with stakeholders</b> (e.g. through workshops or presentations) to give feedback on findings from surveys, provide opportunity for discussion and gain support	BROA Team, Conservation Partner, stakeholders	Completed Phase 2 working tables with risks and opportunities prioritised

WAYS TO ENGAGE

Workshops, focus groups and semi-structured interviews are three common approaches to engaging with stakeholders. During the course of the BROA you may use all three, matching the technique to the evolving needs of the Assessment.

If you are unfamiliar with any of these approaches, your local Conservation Partner and corporate and regulatory colleagues should be able to guide you. The purpose of each approach is provided below and has been taken from the VSO Facilitator Guide to Participatory Approaches (VSO Facilitator Guide to Participatory Approaches <http://community.eldis.org/.59c6ec19/>).

- **Workshops:** Stakeholder workshops can be used not only to ask your stakeholders to provide their views but can also be used to contribute to the analysis of the information you have collected in Phase 1. They can also help identify which geographic locations or topics require more investigation. Select the person to lead the workshop according to the topic. In some instances your Field Technicians may be best placed to lead and on other topics your Conservation Partner might be better positioned to lead. Whoever leads the workshop, they should be seen to be a neutral person.
- **Focus groups:** Aim to explore a topic in depth through a group discussion. This may involve a smaller group of knowledgeable people (possibly 5–15), or those with a common concern who can speak comfortably together. The outputs from such groups can be presented in larger meetings, giving a 'voice' to those in the community who would not feel comfortable to speak up at larger meetings. This can be an efficient way to get a range and depth of information in a short time.
- **Semi-structured interviews (SSIs):** Unlike questionnaires, where detailed questions are designed ahead of time, SSIs use a flexible interview guide, and are more of a two-way conversation than a formal interview. SSIs start with general questions or topics, followed by unscripted: 'What, Why, How, When and Who' questions according to the conversation. Questions are created during the interview, allowing both the interviewer and the person being interviewed the flexibility to discuss topics in more depth. They can provide a range of information on key issues, and may generate quantitative and qualitative information.

## 6 - How to do site surveys

**Note:** This is for guidance only. Your Conservation Partner may wish to use different or additional techniques to those suggested here. If you and your Conservation Partner feel you lack the capacity to do this yourselves then you could consider engaging an appropriate expert on site surveys to assist.

### What is the purpose of site surveys?

The purpose of site surveys is to determine the actual magnitude and likelihood of significant biodiversity risks and opportunities. A site, for example, could be a farm (or a cluster of farms), a nature reserve, an area of woodland, a reservoir, or a stretch of river. The site surveys also serve to check that the maps of these sites collected in Phase 1 are current. For example, an area of forest could have been converted to farmland or a road built across a landscape recently that does not feature on the maps, and that was not identified during stakeholder engagement.

This information will be used to amend your Working Tables so that each prioritised biodiversity risk and opportunity has detailed information and evidence for each site visited.

### Who is involved?

Your BROA Team plus your Conservation Partner, local farmers and community members and any external specialist team/ individual required, for example the forestry department or an aquatic ecologist.

### What is involved?

For each prioritised biodiversity risk and opportunity, use the guidance document, [7. How to sample](#) to determine sample size and distribution of sites to be visited (this should be done in collaboration with your Conservation Partner).

At each site you may wish to use the following techniques to gather information/evidence:

#### ■ Observations in the field:

**Transect walks** - these allow you and your team to get a much better understanding of the site, check and verify key features and probe into key issues. The transect can also be plotted on the map. Choose a more or less straight line through the area being investigated. The line chosen should attempt to take in many of the different physical areas. Getting off your usual routes may reveal aspects of the landscape that you had never noticed before. Talk to people on the way; ask about what is going on, seasonal variations and problems. Compare your observations with what you had been told you would see. Use open-ended questions to probe. Ask about how things have changed, when and why? Allow first-hand observations to validate information from secondary sources, remember to look beyond what is happening at the site now. Additional guidance on how to conduct a transect walk and other field observation methods can be found in the VSO Facilitator Guide to Participatory Approaches (VSO Facilitator Guide to Participatory Approaches <http://community.eldis.org/.59c6ec19/>) and the FAO website Participatory survey methods for gathering information (<http://www.fao.org/docrep/W8016E/w8016e01.htm>). Keep in mind that the focus of your discussion is to find out what is happening regarding the biodiversity in the region. The topics in the

Mandatory Risk Filter can help guide the discussion.

**Photography** - this is a useful way of recording observations in the field, and can also be used to monitor any changes over time. Record the GPS reference for each photograph taken.

■ **Semi-structured interviews and focus group discussions** (refer to guidance document, [5. How to engage with stakeholders in Phase 2](#) for a description of semi-structured interviews and focus group discussions).

■ **Scientific analysis** - this can be useful in cases where basic, simple analysis or a test could help to determine the risk level, for example, the range of tree species used for curing and source of supply. If required and relevant, more complicated scientific analysis can be included in your Action and Monitoring Plans and may have to be undertaken by external technical consultants/universities, etc.

■ **GPS mapping** - use a handheld GPS to map features in the landscape that do not appear on or differ significantly from the information on the site maps. Adapt the maps using GIS software or by hand according to the technology and expertise available.

## 7 - How to sample

**Note:** This is for guidance only. Your Conservation Partner may wish to use different or additional techniques to those suggested here. If you and your Conservation Partner feel you lack the capacity to do this yourselves then you could consider engaging an appropriate expert on site surveys to assist.

As part of Phase 2, each significant impact and opportunity requires more detailed investigation through site surveys. Use these guidelines to determine sample size and distribution of sites to be visited (this should be done in collaboration with your local Conservation Partner or biodiversity expert).

► **Definition of sampling:** *Usually this is a 'statistical' method to obtain representative data or observations from a group. It may also be defined as an act, process, or technique of selecting an appropriate **sample** or '**subset**' from a larger group, area or population.*

The aim is to ensure a fair representation across your operations and to focus capacity and resources to areas of higher risk. Clearly, you cannot sample all of your farmers if you have 40,000 plus. In this instance you would 'sample' your farmers, by interviewing a subset of the total sum of the farmers. Your key stakeholders can help guide you towards areas that require further investigation.

**How to determine sample size and distribution:**

In general, the sample size decision must be made on a case-by-case basis. The size of a sample depends upon the basic characteristics of your operations. If the landscape of your operations is all very similar, a small sample size would be sufficient, while a larger sample size is needed where there is a large variety in the characteristics you are looking at.

One of the ways of dealing with this wide variety is to break your characteristics into sub-groups or strata, which are uniform among the sample units. If the data you are collecting needs to be collected from your contract farmers, as a guide, we recommend you take the square root of your total farmers sampled randomly from each strata identified within the population, for example:

- If the total number of farmers in all of your operating regions which are to be sampled is 50,000
- Square root this total (50,000) = 224

Or you may wish to sample 10% of your farmers, but this may not be feasible with very large operations. If the data you are looking to collect is outside of the farms, we recommend you work with your Conservation Partner to decide on a sample size that you are confident will provide enough robust information to be able to prioritise the risk or to determine if further research is required.

As a further guide to inform your sample size selection for your stakeholder discussion groups and farmer interviews, you should continue to carry out interviews beyond the sample unit size until you are sure you are no longer receiving new information.

**HOW TO SELECT SAMPLING CRITERIA**

**You need to define what and how you are going to survey. We recommend you consider the following criteria:**

- Identify the proximity of your growing area to areas of biodiversity significance and/or protected areas of any classification including native forests or community forests. If you are working in close proximity to such sites then this should be your main criteria and you should ensure you sample within these areas.
- Identify different habitat types (you may need your Conservation Partner to assist you with this)
- Identify local watersheds as these could be an important consideration for specific topics and may be another way to divide your sample selection
- Try to identify the causes of risks (e.g. decreasing river levels caused by significantly increasing population) – again you may need your Conservation Partner to assist you with this. There may be a primary cause and secondary cause/s (e.g. increase in population pressure, soil erosion of river banks, new agribusiness in area using rivers for irrigation of seedbeds)
- Volume of production
- Landscape level change e.g. deforestation rate

- Range of sizes and number of farms within your operations
- Range of socio-economic aspects of farmers within your operations

You can then overlay your criteria onto a grid map of your operations to define your sample units. Your sample units should not contain any gaps from your criteria and should not have any overlaps. This is to make sure you do not double count a situation which will distort your result.

**Other issues to consider**

According to your operations and the results of the ongoing prioritisation in Phase 2, your Conservation Partner will help you decide which topics require site surveys within a defined sample. At the start of Phase 2 you will have identified and roughly prioritised the main risks, so that you can focus your efforts on risks which appear relatively high.

The aim of sampling is to focus your resources to sampling areas of higher risk to and from your operations. If it is clear that a more detailed analysis is required, you can include a complete operational survey or a more detailed investigation as part of an Action and Monitoring Plan, particularly when a longer timescale is required to gather the relevant information.

**Examples:**

- Degraded river that is upstream from land used by your farmers – you could use a focus group of the communities living in this area to find out more information and probe them on what is happening, what their perceptions are and how it is impacting their farms.
- Reliance on native trees for fuelwood – you could use a random selection of farmers and look at the abundance and range of an important native tree species growing on/near their farms.
- When considering sample size, in an area with high volume of production, community forests in proximity, a significantly rising human population and farmers saying water levels in rivers are dropping – if there are 300 farmers within this sample unit, you would conduct detailed interviews and analysis with at least 17 farmers, collect hydrological data from the local government, and conduct a transect walk of the community forest. Note the sample size of 17 is derived from taking the square root of your total of 300.

### 8 - How to engage with stakeholders in Phase 3

In Phase 3 it is important that you continue to engage with your Conservation Partner and your stakeholders in the development of your Action and Monitoring Plans, and at regular intervals as you carry out these plans, monitor and report progress.

Stakeholder engagement in Phase 3 is summarised below:

ACTIVITIES - ACTION PLANS	WHO IS INVOLVED	OUTPUT
<p><b>1. Work with your Conservation Partner to develop Action and Monitoring Plans</b></p>	BROA Team, Conservation Partner, stakeholders	Completed Action and Monitoring Plans with support from your Conservation Partner and stakeholders
<p><b>2. Engage with key stakeholders on these plans:</b></p> <ul style="list-style-type: none"> <li>- Stakeholders can support the development of Action and Monitoring Plans to ensure that they are locally and nationally appropriate and have community backing, and potentially have government support</li> <li>- Identify any actions that are required by your stakeholders to support a successful Action and Monitoring Plan</li> </ul>		
<p><b>3. Feedback to all stakeholders and gain support on plans</b></p> <p>NB. These activities need to be included in your Company Plan budget</p>		

ACTIVITIES - MONITORING	WHO IS INVOLVED	OUTPUT
<p><b>1. Work with your Conservation Partner to develop your indicators and your Monitoring Plan</b></p>	BROA Team, Conservation Partner, stakeholders	Monitoring protocol in place, supported by your Conservation Partner and stakeholders
<p><b>2. Ask for support from your Conservation Partner to monitor progress as required</b></p>		
<p><b>3. Share results of progress with stakeholders at regular intervals as required</b></p>		

### 9 - How to develop a monitoring process

In Phase 3 you will develop Action and Monitoring Plans for sign-off by senior management and budget holders. In order to have robust Action Plans that you can report progress against, you will need to set up your Monitoring Plans and develop indicators so that you can measure and review your progress on the actions.

► **Definition of monitoring:** *Monitoring is the process of collecting information to determine the progress of a project or an Action and Monitoring Plan. Monitoring is a continuous process undertaken at regular intervals throughout the duration of a project or when implementing an Action and Monitoring Plan. The monitoring protocol needs to be reliable and repeatable.*

#### Monitoring

Monitoring should go beyond just monitoring how much has been spent on the Action and Monitoring Plan budget and timelines. You should ensure that you use clear and objective indicators within your Action and Monitoring Plans so that you can monitor your progress and importantly measure your impact. Your indicators should not just be the Action and Monitoring Plan Objectives.

You can ask your Conservation Partner to help you carry out the monitoring and help you develop indicators which will help you measure your progress and outcomes of Action and Monitoring Plans.

► **Definition of indicators:** *Indicators are the factors that are measured during monitoring. Indicators need to be easy to measure, reliable and independent. Data collected about the indicator tell us in an objective way if the expected change is happening as a result of the Action and Monitoring Plan i.e. it indicates or shows if change has occurred.*

#### Indicators

Ensure that your Action and Monitoring Plans are designed with SMART in mind. It will then be easier to develop clear and objective indicators. Keep it simple and choose a few indicators that can be monitored well and to a high standard. It is highly recommended that you work with your Conservation Partner to develop your indicators.

Here are a few examples of indicators that may be used for BROA Action and Monitoring Plans but you and/or your Conservation Partner may wish to develop your own indicators.

#### Examples of indicators:

- Number of farmers with a documented increase in natural forest cover
- Number of viable populations (or population size increase) of a particular important species, that is sensitive and relevant to your project objectives, to demonstrate a positive conservation impact
- Number of farms with natural vegetation between cropland and watercourse that extends between 0 to 30 / 30 to 100 metres
- % of agricultural extension staff demonstrating applied use of knowledge on biodiversity 6 months and one year after intervention

## APPENDIX A: INTERNATIONALLY RECOGNISED PROTECTED AREA MANAGEMENT CATEGORIES

### IUCN Protected Areas

<p><b>Category Ia: Strict nature reserve</b> Category Ia are strictly protected areas set aside to protect biodiversity and also possibly geological/geomorphological features, where human visitation, use and impacts are strictly controlled and limited to ensure protection of the conservation values. Such protected areas can serve as indispensable reference areas for scientific research and monitoring.</p>
<p><b>Category Ib: Wilderness area</b> Category Ib protected areas are usually large unmodified or slightly modified areas, retaining their natural character and influence, without permanent or significant human habitation, which are protected and managed so as to preserve their natural condition.</p>
<p><b>Category II: National park</b> Category II protected areas are large natural or near natural areas set aside to protect large-scale ecological processes, along with the complement of species and ecosystems characteristic of the area, which also provide a foundation for environmentally and culturally compatible spiritual, scientific, educational, recreational and visitor opportunities.</p>
<p><b>Category III: Natural monument or feature</b> Category III protected areas are set aside to protect a specific natural monument, which can be a landform, sea mount, submarine cavern, geological feature such as a cave or even a living feature such as an ancient grove. They are generally quite small protected areas and often have high visitor value.</p>
<p><b>Category IV: Habitat/species management area</b> Category IV protected areas aim to protect particular species or habitats and management reflects this priority. Many category IV protected areas will need regular, active interventions to address the requirements of particular species or to maintain habitats, but this is not a requirement of the category.</p>
<p><b>Category V: Protected landscape/Seascape</b> A protected area where the interaction of people and nature over time has produced an area of distinct character with significant ecological, biological, cultural and scenic value: and where safeguarding the integrity of this interaction is vital to protecting and sustaining the area and its associated nature conservation and other values.</p>
<p><b>Category VI: Protected area with sustainable use of natural resources</b> Category VI protected areas conserve ecosystems and habitats, together with associated cultural values and traditional natural resource management systems. They are generally large, with most of the area in a natural condition, where a proportion is under sustainable natural resource management and where low-level non-industrial use of natural resources compatible with nature conservation is seen as one of the main aims of the area.</p>

For further information please see:

[http://www.iucn.org/about/work/programmes/pa/pa\\_products/wcpa\\_categories](http://www.iucn.org/about/work/programmes/pa/pa_products/wcpa_categories)

### Other internationally recognised Protected Areas (Programme or Convention)

<p><b>RAMSAR - Wetlands of International Importance</b> (<a href="https://www.wetlands.org/ramsar">https://www.wetlands.org/ramsar</a>)</p>
<p><b>World Heritage Site</b> (<a href="http://whc.unesco.org/pg.cfm?cid=31">http://whc.unesco.org/pg.cfm?cid=31</a>)</p>
<p><b>UNESCO Man and Biosphere Reserve</b> (<a href="http://www.unesco.org/new/en/natural-sciences/environment/ecological-sciences/man-and-biosphere-programme/">http://www.unesco.org/new/en/natural-sciences/environment/ecological-sciences/man-and-biosphere-programme/</a>)</p>

### Internationally Recognised Areas of conservation priority recognised by World Database of Protected Areas

**Key Biodiversity Areas (KBAs):**  
([http://www.iucn.org/about/union/secretariat/offices/iucnmed/iucn\\_med\\_programme/species/key\\_biodiversity\\_areas/](http://www.iucn.org/about/union/secretariat/offices/iucnmed/iucn_med_programme/species/key_biodiversity_areas/))

**KBAs include:**  
IBAs – Important Bird Areas (<http://www.birdlife.org/action/science/sites/index.html>)  
EBAs – Endemic Bird Areas ([http://www.birdlife.org/action/science/endemic\\_bird\\_areas/index.html](http://www.birdlife.org/action/science/endemic_bird_areas/index.html))  
IPAs - Important Plant Areas ([http://www.plantlife.org.uk/uploads/documents/International\\_IPA\\_brochure\\_2010.pdf](http://www.plantlife.org.uk/uploads/documents/International_IPA_brochure_2010.pdf))  
Alliance for Zero Extinction sites (<http://www.zeroextinction.org/sites.htm>)

For further information please see: <http://www.protectedplanet.net>

### Global regions of conservation priority

**Conservation International:**  
Biodiversity Hotspots  
([http://www.biodiversityhotspots.org/xp/Hotspots/hotspotsScience/pages/hotspots\\_defined.aspx](http://www.biodiversityhotspots.org/xp/Hotspots/hotspotsScience/pages/hotspots_defined.aspx))

High Biodiversity Wilderness Areas  
([http://www.conservation.org/where/priority\\_areas/wilderness/Pages/default.aspx](http://www.conservation.org/where/priority_areas/wilderness/Pages/default.aspx))

**WWF Global 200:**  
Ecoregions (<http://www.worldwildlife.org/science/ecoregions/item1847.html>)

### IUCN Red List of Threatened Species

**Note: for the purpose of this BROA a taxon refers to a plant or animal species (including amongst others mammals, invertebrates, fish, amphibians and reptiles)**

<p><b>EXTINCT (EX)</b> A taxon is Extinct when there is no reasonable doubt that the last individual has died. A taxon is presumed Extinct when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), throughout its historic range have failed to record an individual. Surveys should be over a time frame appropriate to the taxon's life cycle and life form.</p>
<p><b>EXTINCT IN THE WILD (EW)</b> A taxon is Extinct in the Wild when it is known only to survive in cultivation, in captivity or as a naturalized population (or populations) well outside the past range. A taxon is presumed Extinct in the Wild when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), throughout its historic range have failed to record an individual. Surveys should be over a time frame appropriate to the taxon's life cycle and life form.</p>
<p><b>CRITICALLY ENDANGERED (CR)</b> A taxon is Critically Endangered when the best available evidence indicates that it meets any of the criteria A to E for Critically Endangered (see Section V in the IUCN Red List via the link on page 52), and it is therefore considered to be facing an extremely high risk of extinction in the wild.</p>
<p><b>ENDANGERED (EN)</b> A taxon is Endangered when the best available evidence indicates that it meets any of the criteria A to E for Endangered (see Section V in the IUCN Red List via the link on page 52), and it is therefore considered to be facing a very high risk of extinction in the wild.</p>
<p><b>VULNERABLE (VU)</b> A taxon is Vulnerable when the best available evidence indicates that it meets any of the criteria A to E for Vulnerable (see Section V in the IUCN Red List via the link on page 52), and it is therefore considered to be facing a high risk of extinction in the wild.</p>

<p><b>NEAR THREATENED (NT)</b> A taxon is Near Threatened when it has been evaluated against the criteria but does not qualify for Critically Endangered, Endangered or Vulnerable now, but is close to qualifying for or is likely to qualify for a threatened category in the near future.</p>
<p><b>LEAST CONCERN (LC)</b> A taxon is Least Concern when it has been evaluated against the criteria and does not qualify for Critically Endangered, Endangered, Vulnerable or Near Threatened. Widespread and abundant taxa are included in this category.</p>
<p><b>DATA DEFICIENT (DD)</b> A taxon is Data Deficient when there is inadequate information to make a direct, or indirect, assessment of its risk of extinction based on its distribution and/or population status. A taxon in this category may be well studied, and its biology well known, but appropriate data on abundance and/or distribution are lacking. Data Deficient is therefore not a category of threat. Listing of taxa in this category indicates that more information is required and acknowledges the possibility that future research will show that threatened classification is appropriate. It is important to make positive use of whatever data are available. In many cases great care should be exercised in choosing between DD and a threatened status. If the range of a taxon is suspected to be relatively circumscribed, and a considerable period of time has elapsed since the last record of the taxon, threatened status may well be justified.</p>
<p><b>NOT EVALUATED (NE)</b> A taxon is Not Evaluated when it has not yet been evaluated against the criteria.</p>

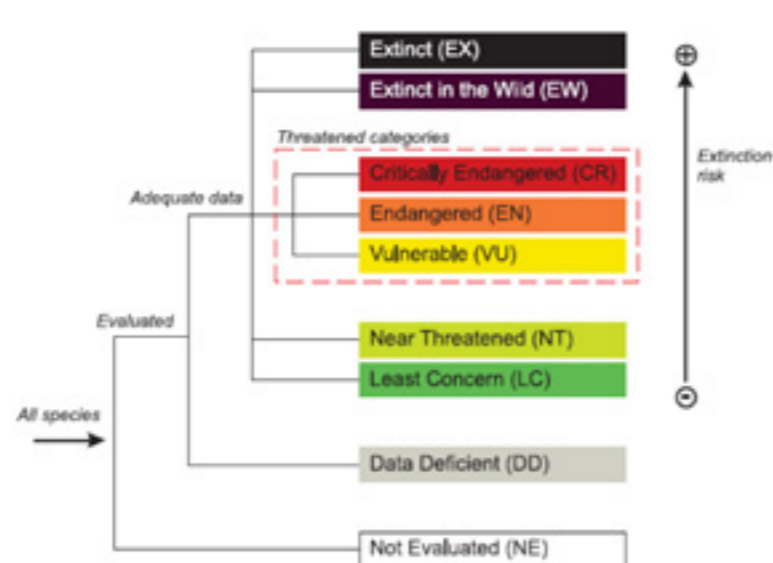


Figure 3: IUCN Red List Categories'

For a full explanation of each category please see:

<http://www.iucnredlist.org/technical-documents/categories-and-criteria/2001-categories-criteria#categories>

**APPENDIX B: EXECUTIVE SUMMARY TEMPLATE**

# GROUP OR COMPANY NAME

BIODIVERSITY RISK AND OPPORTUNITIES ASSESSMENT  
EXECUTIVE SUMMARY TEMPLATE

COMPANY NAME:

REGION:

DATE OF BROA:

LIST OF SENIOR MANAGEMENT / BUDGET HOLDERS:

1 - Molur, S., Smith, K.G., Daniel, B.A. and Darwall, W.R.T. (Compilers). 2011. The Status and Distribution of Freshwater Biodiversity in the Western Ghats, India. Cambridge, UK and Gland, Switzerland: IUCN, and Coimbatore, India: Zoo Outreach Organisation.

EXECUTIVE SUMMARY

This is a summary of the results of the Biodiversity Risk & Opportunity Assessment of **[name of company assessed]** conducted at **[record location(s)]** between **[list dates of assessment]**. This is the **[first / second / third etc.]** assessment for **[location / company]**. The last assessment was **[list year date and month of the last assessment, if known]**.

Complete this text box with a concise summary of how the BROA was carried out; where, when and by whom. Not more than 500 words. *(please format as the rest of the text on the page)*

Please record details of the risks (high, medium<sup>1</sup>) and opportunities you are recommending to carry forward to BROA Phase 3: Action and Monitoring Plans

RECOMMENDED RISKS AND OPPORTUNITIES TO CARRY FORWARD TO ACTION AND MONITORING PLANS  Risks with an Impact or Dependency score of 3 or above.  Opportunities to be addressed in Phase 3	RISK / OPPORTUNITY # OF #	SITE  Geographic location	BRIEF DESCRIPTION OF THE RISK / OPPORTUNITY  With brief details of evidence, causes, potential impacts and consequences as appropriate	BIODIVERSITY IMPACTS RISK / OPPORTUNITY SCORE	BIODIVERSITY DEPENDENCY RISK / OPPORTUNITY SCORE
1.					
2.					
3.					
4.					

Key: Biodiversity Impact and Dependency Score Matrix

	LOW	MEDIUM	HIGH
HIGH	3	6	9
MEDIUM	2	4	6
LOW	1	2	3

<sup>1</sup> - Low risks that can be addressed quickly to avoid them becoming a medium or high risk in the future can also be carried forward for consideration in Action and Monitoring Plans



[www.batbiodiversity.org/broa](http://www.batbiodiversity.org/broa)