

MANAGING BIODIVERSITY

Our policies

Healthy and functioning ecosystems underpin the effective operation of our mines and the wellbeing of our host communities, so we carefully monitor and seek to minimise how gold mining processes, such as the removal of top soil or the building of infrastructure, impact local biodiversity.

Our policy is to take careful note of flora and fauna that exists on our sites before mine construction begins and then to follow an impact mitigation hierarchy in regards to biodiversity. Hence, as demonstrated in Figure 29 below, we avoid impacts wherever possible, minimise impacts through careful planning and assessment, restore and rehabilitate impacts whenever possible, and where complete restoration or rehabilitation is not possible put in place biodiversity offset programmes in line with IUCN (International Union for Conservation of Nature) guidelines. Our goal is for zero net biodiversity impacts by the time the mine gates close.

Our efforts to restore and minimise biodiversity are set out in extremely detailed biodiversity action plans (BAPs) at each site which, for example, require each mine site to have a nursery to grow indigenous plants and any tree removed from site must be approved by the appropriate environmental department. Implementation of these plans is reported quarterly to the board-level environmental and social committee. Hunting is strictly banned on our sites to allow animal populations to increase.

Strong partnerships with local authorities, host communities and NGOs are also a crucial element of our biodiversity policies. For example our mines lead to booming populations in local towns, placing additional strain on local rivers, soils and ecosystems and we work with local communities to empower them to monitor for issues and take restorative action when required.



FIGURE 29: BIODIVERSITY MITIGATION HIERARCHY

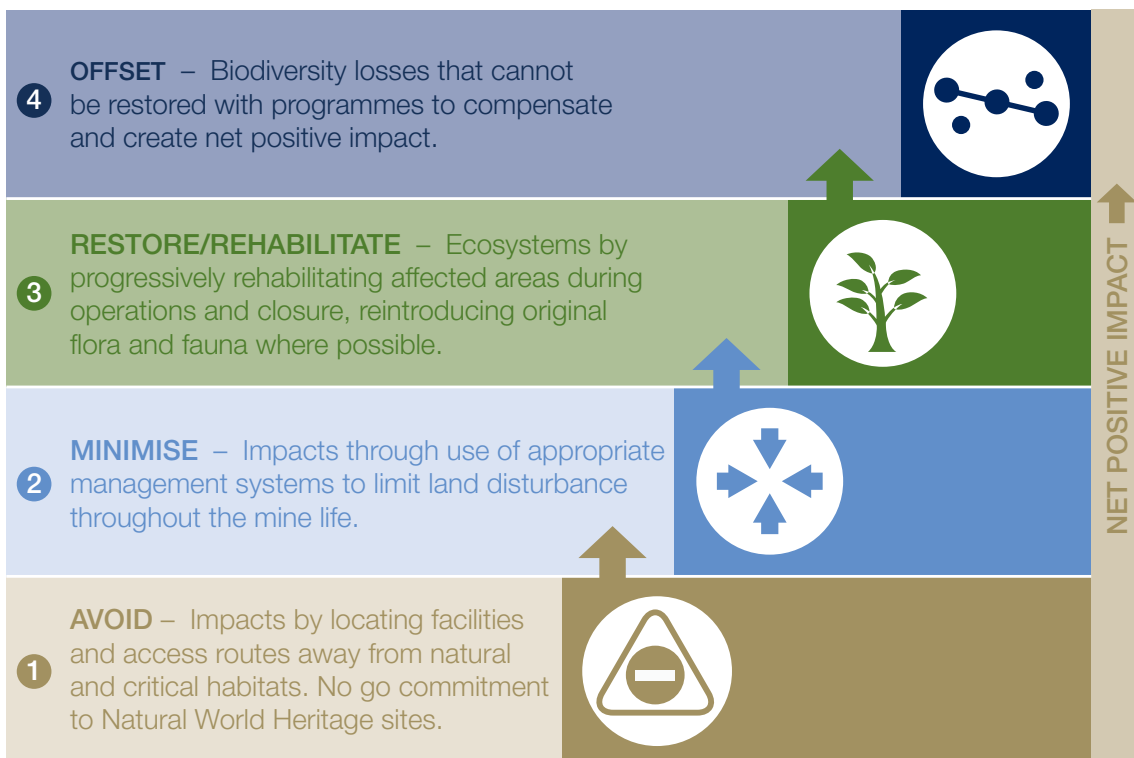


FIGURE 30: RESPONSIBLE MANAGEMENT OF BIODIVERSITY AT EVERY PHASE OF A MINE'S LIFECYCLE

Project stage	Objectives	Actions
Exploration	Understand local biodiversity and provide guidance for site planning if project moves to operational stage.	Initial biodiversity assessment, including desk and field research and input from experts.
New projects and expansion	Establish biodiversity baseline and clearly define biodiversity risks.	Environmental and Social Impact Assessments. Satellite images of site prior to construction.
Operational	Set out actions to avoid and mitigate damage to biodiversity and restoration and rehabilitation planning. Offset residual impacts.	Development and implementation of site specific Biodiversity action plans (BAPS). Annual site satellite imaging. Develop biodiversity offset programmes.
Closure	Ensure site is restored and rehabilitated with no net loss of biodiversity.	Replace flora and fauna based on satellite images taken prior to construction.

MONITORING WATER QUALITY

The rivers and streams around our mines are critical sources of water for our host communities. Therefore ensuring the water we discharge back to the environment is the same or better quality as the water we abstract is a vital part of our work.

As well as undertaking standard water quality monitoring techniques, we have, for several years worked with environmental specialists at Digby Wells to assess the aquatic health of the rivers and streams around our operations. Standard techniques fail to record the dynamic fluctuations of water chemistry within river systems nor do they assess the health of aquatic life such as fish, which can be an insightful way to understand the levels of contaminants in a river system.

Fish and water are monitored both upstream and downstream from our operations. Upstream tests provide the reference levels for local water health, while downstream tests allow us to assess and manage our impacts on local waterways. For example, testing shows that near our Tongon mine discharge from the pit has led to an increase in arsenic levels in fish populations downstream from the mine. However, this is largely reversible and we are constructing settling ponds to trap sediments from the pit discharge. We will also construct an artificial wetland to trap any dissolved arsenic before leaving the mine boundary.

Monitoring at the Loulo-Goukoto complex has revealed the stress artisanal mining activities are placing on local water sources, and we have informed local, regional and national environmental authorities of the problems and continue to monitor the issue.

As well as providing an assessment of water quality, testing of aquatic life provides an indication of the biodiversity at each site, and at Kibali our sampling discovered several species of previously unknown fish.

CASE STUDY



Our performance

All our operational mines have Biodiversity Action Plans (BAPs) in place with implementation on track. As shown in Figure 31 below, this has included the rehabilitation of approximately 260 hectares of land in 2016, thereby reducing our overall footprint by decreasing total land disturbed by our mines by over 1% this year. Total disturbed land was reduced by 45 hectares, the equivalent of rehabilitating an area greater than 60 football pitches. Rehabilitation rates tend to be determined by the age of the mine. For example, Kibali is still relatively young and in an expansion and disturbance phase while Morila is nearing closure and therefore has a much greater focus on restoration and rehabilitation.

We continue to monitor animals onsite and now have cameras within our Kibali permit area to help record the different species. We have found that animal populations on site are generally increasing with new species identified on the Kibali site. When animals come too close to our operations they are caught and relocated to a safer part of the permit and our environmental teams have been trained in the catching and handling of different species. For example at our Kibali mine we relocated a large number of snakes during 2016.

Our rehabilitation efforts included planting more than 17 000 trees across all sites in 2016.

Perhaps the most significant progress on biodiversity in 2016 was the extension of our offset programmes to build on our successful work with the Garamba National Park in the DRC. As set out in the case study box on page 167, we now have plans for biodiversity offset programmes in each host country and worked with sustainability consultants in 2016 to quantify the value our biodiversity offset programmes in 2017.

None of our operational mines are located within the boundaries of any natural World Heritage Sites nor do our mines affect the habitats of any endangered species.

WASTE MANAGEMENT

The process of extracting ore from the ground generates large quantities of hazardous and non-hazardous waste. Ensuring it is responsibly dealt with is crucial to ensuring environmental and community health.

Our policies

Each one of our mines has its own site-specific waste management plans that detail how organic, inorganic and hazardous wastes should be handled, stored, separated, recycled or disposed to ensure everything is done in a safe and environmentally friendly manner.

Cyanide and hazardous waste

We take special care to handle the small amount of hazardous waste we produce such as acids, chemical reagents, hydrocarbon and cyanide. For the second consecutive year, cyanide management in particular was highlighted as one of our highest priority issues in the 2016 materiality assessment.

Our production, transportation, storage and use of cyanide is aligned with national regulations and international industry best practice and we require all our cyanide suppliers to be certified to the international cyanide code. We also provide regular training and supervision especially for those transporting cyanide and burning cyanide-related waste.

We track any environmental incidents relating to cyanide and conduct annual cyanide code audits, for example testing for levels of cyanide in water facilities

We also generate a relatively small amount of other hazardous waste each year such as batteries, fluorescent lights, certain oils, solvents, electronic waste and laboratory assay wastes. As with process materials, the types of hazardous wastes vary among our sites. However, all are recycled or disposed of according to the appropriate regulation in the countries in which we operate.

No waste deemed hazardous under the Basel Convention is transported, exported, imported, treated or shipped internationally by Randgold.

We seek to minimise the amount of hazardous waste we generate. Wherever possible we replace hazardous chemicals with less hazardous products, and we recycle wherever possible. For example we reduce our hydrocarbon waste by working with reputable local companies, such as Lubetech in Côte d'Ivoire, to remove waste oils from site for recycling.

FIGURE 31: TOTAL LAND REHABILITATED AND DISTURBED

	2016	2015	2014
Total hectares rehabilitated	260	20	16
Total hectares disturbed	222	53	682
Total disturbed areas on our mines	4 345	4 383	4 350