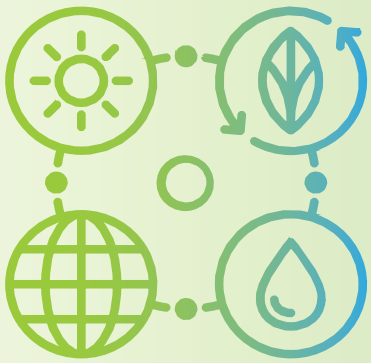

BIODIVERSITY MANAGEMENT

Biodiversity Management

PURPOSE OF THE DOCUMENT

This position statement sets out HZL's approach to Biodiversity. With more than half of the world's economic output moderately or highly dependent on nature, biodiversity loss and the related impacts on ecosystems represent a significant risk to companies, governments and civil society. As global understanding of ecosystem services improves, it has become clear that protecting, conserving and restoring nature is critical to help address climate change.

The United Nations Biodiversity Conference (COP15) in December 2022 resulted in a new Global Biodiversity Framework, which sets out an ambitious plan to implement broad-based action to bring about a transformation in society's relationship with biodiversity and to ensure that, by 2050, the shared vision of living in harmony with nature is fulfilled. Global market-led initiatives supported by governments and financial institutions, such as the Taskforce on Nature-related Financial Disclosures, are also supporting greater action on preserving and enhancing biodiversity.

Biodiversity is one of the critical global challenges of our time. Action in line with the nature positive goals is critical to achieving the Sustainable Development Goals, given the inextricable links between climate change, water, biodiversity, and socio-economic development. This integrated approach is at the heart of HZL's Sustainability Strategy, which reflect our long-standing commitment to responsible business and to enhancing the contribution of minerals and metals to sustainable development. We hope to encourage our wider industry, suppliers, and customers to join us in avoiding and minimizing biodiversity impacts while we manage the impacts in our own operations.

OUR IMPACTS

Our operations can have direct and indirect impacts on biodiversity and ecosystems. If they are not properly managed. This could lead to significant impacts ranging from loss of protected species and habitat fragmentation, which will eventually result in damages to our reputation and threaten our social license to operate. The communities and other stakeholders in the areas where we operate expect us to contribute to the protection, conservation and restoration of biodiversity, and we work collaboratively with them to develop our approach to land use.

COMMITMENTS & PARTNERSHIPS

HZL aims to avoid, minimize the negative impacts on biodiversity at our operations and also encourage value chain partners to align with our commitment and avoid operational activities near sites containing globally or nationally important biodiversity. We strive to achieve No Net Loss (NNL) of biodiversity at all mine sites by closure through applying mitigation hierarchy and ensure that we will operate on the principles of Net Positive Impact (NPI) for critical habitat to support halting and reversing biodiversity loss by 2030 from a 2020 baseline.As part of our commitment towards ICMM's Mining Principles which includes two performance expectations under Principle 7: Conservation of Biodiversity, we are committed to:

1. Avoid operating/exploring/mining/drilling in World Heritage areas and IUCN Category I-IV protected areas.

2. Apply mitigation hierarchy (avoid, mitigate (reduce, regenerate and restore) and offset) when operating in areas in close proximity to critical biodiversity. The mitigation hierarchy is a key framework we use to achieve our vision of NNL on biodiversity.

    - **Avoid -** Whenever possible, we avoid negative biodiversity and Ecosystem services impacts, even if it requires significant changes in our plan to protect critical areas.
    - **Mitigate -** Where impacts cannot be avoided, they should be mitigated as far as possible. Mitigation measures may include:
    - **Reduce -** We minimize impacts that are unavoidable through the adoption of Impact reduction technologies.
    - **Regenerate and Restore -** On a progressive basis, we rehabilitate and restore areas to re-create biodiversity values and reclaim areas with a view to closure. Such reclamation practices can help replace much or most of the diversity of the natural habitats that existed prior to mining.
    - **Offset -** In cases where it may not be possible to avoided or mitigated biodiversity impact then we would design and implement biodiversity offsets to move towards a net positive gain of biodiversity.
    - **Transform -** We are working in line with one trillion trees campaign of the World Economic Forum (WEF). This is aimed at enhancing biodiversity in and around our areas of operation.

We are committed to adopting a principle of No Net Deforestation across our operations to compensate for any unavoidable loss of tree cover by taking additional afforestation in equal or more measure (compensatory afforestation)

Hindustan Zinc has been actively working with several organisation to enhance its performance in biodiversity conservation and significantly reduce its impact on the ecosystem. Being an active member of International Union for Conservation of Nature (IUCN) 'India's Leader for Nature (LfN)' initiative.

HZL is a member of India Business & Biodiversity Initiative (IBBI). The initiative serves as a national platform for businesses and its stakeholders for dialogue sharing and learning, ultimately leading to mainstreaming sustainable management of biological diversity into businesses.

3 Years engagement with IUCN

To integrate conservation of biodiversity and ecosystem services into Hindustan Zinc and enhance the Company's performance in biodiversity conservation and management, we have engaged with International Union for Conservation of Nature (IUCN) for three years with the following objectives:

- Reframing of Biodiversity Policy/ Technical Standard and Guidance Note for Hindustan Zinc towards achieving immediate goal of No Net Loss and to work in line with global standards
- Review current biodiversity management plan and practices, develop site-specific biodiversity & ecosystem services management protocols for the Company, considering global best practices with a mission to achieve No Net Loss.
- Development of Annual Action Plan with reference to BMP and Biodiversity Policy, and support in the implementation of the BMP.
- Train and build the capacities of employees and stakeholders in biodiversity and ecosystem services management.
- Capacity building workshops through engagement with the government, regulators, industry, and conservation community, to influence policy and promote good practices

Alignment of with TNFD (Task Force on Nature related Financial Disclosure)

Hindustan Zinc is a leader in adopting the Taskforce on Nature-related Financial Disclosures (TNFD) framework. In FY 2022-23, we identified improvement areas through a gap assessment and began integrating the TNFD's LEAP approach into our Corporate Ecosystem Services Review (ESR). As active members of TNFD, we contribute to the development of TNFD framework by providing feedback..

We assessed direct operations (smelters, mines, power plants, and refineries) in Rajasthan and Uttarakhand, along with 61 critical upstream suppliers and 37 critical downstream partners.

We adopted the TNFD's LEAP approach, utilizing tools like ENCORE and the Biodiversity Risk Filter to assess sector and site-level nature-related issues.

Key findings include high dependency on climate regulation and water, with significant impacts on terrestrial ecosystems and pollution. Site-level assessments reveal varying dependencies on ecosystem services, with water stress being a significant issue for most operations.

For more details, refer to the **TNFD Report 2025**

GOVERNANCE

The Board Level Sustainability and ESG Committee is aligned with our Biodiversity commitment and facilitates our efforts towards the accomplishment of our Sustainability goals and Environmental, Social and Governance priorities.

The committee is led by an independent director as the chairperson of the committee. The role of the Sustainability and ESG Committee is to assist the Board in meeting its responsibilities in ESG matters including biodiversity-related issues and to ensure a strong governance on sustainability matters. It is also responsible for providing oversight on sustainability strategy, setting long-term goals & targets, ensuring continual improvement of our sustainability related performance as well as implementation of appropriate processes and policies across the Company. It also plays a key strategic role in eliminating potential damage to the environment and enhance our commitment towards stakeholders.

The Executive Biodiversity Community is responsible for managing all the biodiversity-related risks & opportunities. The team is authorized to facilitate the integration of biodiversity management into the decision-making processes for new and existing projects, outline actions and measures necessary for the effective management of biodiversity. This committee is also responsible to commission advisory or steering groups to provide focus or advice on biodiversity related risks and their mitigation.

POLICIES AND STANDARDS

Our dedicated Biodiversity Policy sets the basic expectations and our commitment to Biodiversity. It is endorsed by our CEO & Whole-time Director. It also outlines our commitment to continually improve our practices and ensure they are fully integrated into each of our activities.

Management Standard provides the minimum requirements to ensure a consistent approach to biodiversity conservation and sustainable stewardship of resources. The standard advises on how disruption to flora and fauna should be avoided, minimized, or compensated for, across the mine lifecycle- from project scoping to site closure and beyond.

Other Standards such as Environmental Performance Standard, Mine Closure Standard, describe how we integrate Biodiversity conservation considerations through all stages of business and production activities. These have been developed in line with International benchmarks such as ICMM Performance Expectations and Nature Position Statement.

OUR STRATEGY

HZL assesses its impacts on biodiversity, or ecosystem services as well as its dependencies on nature. There is in place a unique and exclusive Biodiversity Management Plan (BMP) for all our operations . Our dedicated Biodiversity Policy and Standard advises on ways to avoid, minimise, and compensate/offset to manage the risks to biodiversity which have been identified.

New Project and Expansions

Typical environmental assessments for new project and expansion are done as a part of the scope of the environmental and social impact assessment (ESIA), in which the ecosystems and biodiversity impacts relevant to a project or operation are identified, the risks to and impacts are assessed, and a mitigation plan is developed that will reduce the project's net impacts to a targeted level. The baseline against which an operation's impacts are measured is the "pre-mine" condition, even if the mine is currently in operation. A biodiversity management plan is developed that describes a site plan for achieving NNL. Updates to the plan often reflect the results of studies being conducted towards developing a full mitigation plan, the results from monitoring of the effectiveness of mitigation actions, changes to applicable regulations, or changes in the conservation status of different types of biodiversity components.

In general, our sites are working to achieve NNL by following a mitigation hierarchy with the following steps: avoid, mitigate (reduce and ,regenerate and restore), implement offsets and monitor results, as well as additional conservation activities.

Our Biodiversity Assessment process involves the following stages:

1. STAGE 1: Biodiversity Risk Screening

To promote a best practice management approach to biodiversity, HZL conducts a screening assessment to identify sensitive biodiversity areas or potential critical habitat for its operations aligned with the Vedanta's Technical Standard on Biodiversity Management to evaluate our biodiversity-related impacts and risks assessment at company level.

We undertake a location specific approach to carry out risk screening for each site initially through the Integrated Biodiversity Assessment Tool (IBAT). As per our IBAT assessment, no Protected Areas, National Parks, Wildlife Sanctuaries, Biosphere Reserves, Wildlife Corridors, IUCN Category I-IV protected areas, important bird areas and key biodiversity hot spots, etc. are situated in core/buffer zone (10 km area) of any of our operating sites.

2. STAGE 2: Biodiversity Risk Assessment

Biodiversity risk assessment is conducted at site level to assess the biodiversity risks identified during the risk screening process in both core and buffer zone of 10 km radius of mines. This is conducted by third party for detailed and site-specific information, which involves gathering and analysis of information on local biodiversity and ecosystem services, as well as associated regulations. This helps to verify that our sites have been assigned the most appropriate biodiversity risk rating. The assessment involves:

a. Desk-based research: Literature of local context and ecology is reviewed. All relevant local, regional, and national legislative requirements and international conventions on land management and biodiversity conservation are identified for each site to develop mechanisms for compliance.

b. Baseline biodiversity survey: Site level field surveys, as part of EIAs, are conducted to identify flora and fauna species within the mine lease area in 10 km radial distance.

c. HZL identifies and manages potential impacts on ecosystems across its value chain. The company publicly reports on the scope and outcomes of these assessments, ensuring transparency and accountability. These evaluations cover not only HZL's own operational sites but also extend to adjacent areas that may be indirectly affected by its activities. Additionally, biodiversity considerations are integrated into the assessment of upstream activities, including those of suppliers, as well as downstream operations.

In cases where required, we go for additional controls and mitigation actions to achieve No Net Loss (NNL) or Net Positive Impact (NPI) of biodiversity. Opportunities for biodiversity offsets are also identified if needed. Biodiversity risk is also integrated into multi-disciplinary company wide risk management process.

3. STAGE 3: Biodiversity Management Plan and Implementation

A unique and exclusive Biodiversity Management Plan (BMP) is developed for all our operations based on the findings of the technical biodiversity risk assessment and provides detailed guidance on the implementation of appropriate mechanisms to avoid and minimize impact of operations on biodiversity and conserve and restore the ecosystem. Net positive gains are designed for any critical habitat impacts that cannot be avoided. BMP includes the following:

- List of ecosystems and biodiversity elements present at the site
- Summary of the risks and impacts that the site and its activities pose to these elements
- Demonstration of how a particular site will manage its impacts and mitigate risks to achieve a net positive gain for each element
- List of identified activities and resources required for the effective implementation of any BMP. These plans are reviewed internally and updated annually or as and when required.

4. STAGE 4: Monitoring and Reporting

We believe that regular monitoring and reporting of BMP and biodiversity performance indicators is key to drive progress in the critical area of biodiversity management. To work in line with this, we focus on the following aspects:

- Reviewing our current BMP and practices, develop site-specific biodiversity & ecosystem services management protocols for the Company by considering the global best practices with a mission to achieve No Net Loss.
- Developing an Annual Action Plan with reference to BMP and Biodiversity Policy, and support in the implementation of the BMP.
- Providing training opportunities for employees and stakeholder in biodiversity and ecosystem services management.
- Capacity building workshops through engagement with the government, regulators, industry, and conservation community, to influence policy and promote good practices

Mitigation strategy

Avoid: Aligned with the ICMM principle and their focus on biodiversity under principle 7, Hindustan Zinc avoids operations, exploration, and drilling in World Heritage Sites and IUCN Category I-IV protected areas.

Reduce: To mitigate impacts on freshwater ecosystems and minimize associated risks, the company has installed Zero Liquid Discharge systems at its plant locations. This initiative significantly reduces freshwater withdrawal from natural sources, promoting sustainable water management and reducing environmental stress on freshwater ecosystems and aquatic lives

Regenerate: Initiatives taken by Hindustan Zinc to regenerate include-

To regenerate the degraded landscape the company has taken certain steps:

- Extensive plantation drives have been conducted across all nine operational sites, focusing on native species to restore local biodiversity.
- A notable initiative includes the planting of 32,500 saplings from 65 diverse species using the Miyawaki method, which promotes rapid forest regeneration through natural, chemical-free processes.
- At its Rampura Agucha Mine (RAM), the company has planted native species developed in its own nursery. Additionally, the company has spread seeds on waste dump slopes during the rainy season to stabilize the edges and enhance the local biota.

Restore: The company is transforming wasteland into productive land by increasing green cover and enhancing biodiversity. At its Chanderia Lead Zinc Smelter, the company, in collaboration with the Energy and Resources Institute (TERI), has converted the Jarofix Yard into a greenbelt area. This initiative addresses industrial waste management while setting a benchmark for sustainable development and ecological restoration. Phase 2 of area restoration of 16 hectares is under progress.

Transform: We have undertaken initiatives to transform biodiversity which involves long-term commitments and includes the following activities:

Halting and reversing biodiversity loss by 2030 from a 2020 baseline, through measurable gains in the health, abundance, diversity and resilience of species, ecosystems, and natural processes

Plan and stive to achieve No Net loss of biodiversity at all mine sites by closure through applying mitigation hierarchy

Reclamation and Closure

At HZL, we give utmost priority to responsibly closing our sites and managing our legacy properties to protect the biodiversity on the lands where mining once occurred. We progressively reclaim areas of the mine site that are no longer needed for current or potential future mining objectives while operations are still ongoing at a specific site. Compliance to closure-related laws, regulations, stakeholder commitments and expectations is monitored regularly to identify any deviations, and we use the findings to adjust our closure and post-closure management. As guided by Biodiversity Management Standard as well as stakeholder Engagement standard, we collaborate with communities of interest to find opportunities for post-mining land use throughout the various stages i.e., exploration, development, mining, and closure.

We implement leading reclamation practices through an internal community of practice to share this knowledge across our operations. For more information about reclamation, see the Mine Closure Standard.

METRICS AND GOALS

(GRI 103, 304-1, 304-2, 304-3, 304-4, G4-MM1, G4-MM2, G4 MM10)

The Company continues to integrate Biodiversity within its business ecosystem. Towards this, the Company has aligned its actions with the National and International Biodiversity Targets and the Sustainable Development Goals like pledge on 1t.org (part of Vedanta's pledge to plant 7 million Trees as part of WEF '1 trillion trees' campaign) and 1 million plantations by 2025..

Sustainability Goal 2030: Protect and enhance biodiversity throughout the life cycle

Halting and reversing biodiversity loss by 2030 from a 2020 baseline, through measurable gains in the health, abundance, diversity and resilience of species, ecosystems, and natural processes

Plan and stive to achieve No Net loss of biodiversity at all mine sites by closure through applying mitigation hierarchy

Following are the ways in which we have aligned our actions to the above said goal:

- Restoring biodiversity at our sites
- Reassessment of biodiversity and development of biodiversity management plan
- Implementation of BMP and Monitoring
- Implementation of critical/endangered species conservation plan
- One million plantation drive

We have undertaken three season study to develop the Biodiversity Management Plans (BMP) for all Rajasthan based units to assess the impact and dependency of direct operations on biodiversity.

Initiatives

Our biodiversity management initiatives include an afforestation programme, Biodiversity Risk Assessment, restoration of exhausted waste dump, conservation of schedule-1 fauna species, awareness, and partnership.

1. IUCN LEADERS FOR NATURE SESSION (LFN)	
Objective	To build the capacities of employees in biodiversity and ecosystem services management
Description	Session for HZL on: • International Tools, Frameworks and Best Practises on Integrating Biodiversity in Businesses. • Introduction to the Global Biodiversity Scenario and, Post 2020 Global Biodiversity Framework and understanding good Biodiversity Risk Management". • Integrating Nature-based Solutions as an emerging Business Solution.

2. IBAT STUDY	
Objective	To identify the biodiversity features and species which are located within a 10 km buffer zone.
Description	During previous year, we carried out **Integrated Biodiversity Assessment Tool (IBAT) study for all** Rajasthan Based location and report presents the results of proximity analysis to identify the biodiversity features and species which are located within the 10 km buffer zone. Through IBAT study, Users can have better decision making and can identify areas of high risk or threat due to an activity and can then make investment decisions based off that.
Outcome	The results pointed out that none of our operations are located in any of the identified biodiversity hotspots or protected areas.

3. ECOSYSTEM SERVICE REVIEW

Objective	1) Undertake desktop research about the ecosystem and habitat in and around the identified Hindustan Zinc Limited (HZL) sites. 2) To develop a comprehensive questionnaire which identifies the ecosystem services at HZL sites. Conduct the Ecosystem Service Review aligned with ESR tools. 3) Undertake onsite Ecosystem Service Review survey with the finalized questionnaire and document the Priority Ecosystem Services (PES). 4) Identify the risk and impacts on the identified ecosystem services. 5) Prioritize sites based on ecosystem risks and provide site-specific recommendations for effective ecosystem management.
Description	Ecosystem Service Review is a structured methodology to help businesses develop strategies for managing risks and opportunities arising from their dependence and impact on ecosystems. It is a tool for corporate strategy development and can augment existing environmental management systems.
Outcome	Ecosystem service review done by IUCN for all Rajasthan based location to Identifying Business Risks & Opportunities arising from Ecosystem Change.

4. MIYAWAKI AFFORESTATION AT RDC AND CLZS

Objective	Vedanta's pledge to plant 7 million Trees as part of WEF '1 trillion trees' campaign or SDG Goal -1 Million plantation by 2025
Description	In this method, plant growth is 10 times faster and plantation is 30 times denser than usual hence, leading to higher carbon sequestration. It involves planting dozens of native species in the same area and become self-sustaining after the first three years. It is chemical-free and supports local biodiversity.
Outcome	This project is aligned with Vedanta's aim 6 and SDG 15 (Life on Land) of protecting and enhancing biodiversity in and around our areas of operation under the pillar of transforming the planet. • Number of trees planted. – 12,000 Nos and 65 different species at each location • Area covered till now under the initiative -1 Hec at each location Dariba and Chanderiya • Other benefits – Lowering the temperature, making soil nutritious, supporting local wildlife, and sequestration of carbon.

5. GREEN COVER STUDY

Objective	To perform geospatial mapping of the study area for demarcation of the area under green (vegetation) cover, along with the approximation of tree count.
Description	Green cover assessment done by State Remote Sensing Application Centre (SRSAC) using remote sensing and GIS technologies. State Remote Sensing Application Centre (SRSAC) of the Department of Science & Technology, Government of Rajasthan, endeavours to make the best possible use of remote sensing and Geographic Information System (GIS) technologies towards fostering sustainable development.
Outcome	Green cover performance of HZL to assured by reputed Government agency

A VISION FOR WILDLIFE PRESERVATION:

Our WCP is a comprehensive framework designed to address the diverse challenges faced by wildlife and their habitats. With a total committed expenditure of ₹68.41 crores over next 10 years, this initiative reflects our unwavering commitment to making a tangible impact.

Key Components of the WCP:

Habitat Protection: We prioritize safeguarding critical habitats by establishing protected areas and conservation easements. This proactive approach prevents habitat loss and fragmentation, ensuring that wildlife has safe spaces to thrive.

Species Preservation: Focused efforts are directed towards the conservation of endangered and vulnerable species. Through targeted protection measures, ongoing research, and habitat restoration, we work to stabilize and grow populations at risk.

Human-Wildlife Conflict Mitigation: Our strategies are designed to minimize conflicts between wildlife and human activities. By promoting coexistence and developing solutions to mitigate negative impacts, we aim to balance the needs of both wildlife and local communities.

Community Engagement and Awareness: Engaging local communities is central to our conservation approach. We promote sustainable practices, offer education, and foster partnerships to create a shared sense of responsibility for preserving wildlife.

Monitoring and Research: Continuous monitoring and research are vital to assess the health of wildlife populations and track our conservation progress. This data-driven approach allows us to adapt our strategies and ensure their effectiveness.

Through these efforts, Hindustan Zinc's Wildlife Conservation Plan is not just about protecting nature—it's about creating a legacy of harmony between industry and the environment. By investing in both the protection of wildlife and the education of communities, we strive to build a sustainable future where wildlife and human activities coexist in balance.