

Executive Summary

A ‘wildlife corridor’ is an area in the environment that functions as a passageway for the purpose of providing connectivity between wild species by means of dispersal and migration of individuals. With the increasing occurrence of habitat fragmentation caused by city developments, road construction, and clearing of land for agriculture, the chance for wildlife to be adversely affected continues to grow. As a way to combat the negative effects of habitat fragmentation, wildlife corridors have emerged as an effective tool to help sustain wildlife populations, habitats, and thus overall biodiversity. Wildlife Corridors allow for the increase in gene flow between small and fragmented wild populations and thus are important for maintaining biodiversity through the conservation of potentially at-risk local populations in the wild and has proven to greatly improve species richness. Small wild populations that are isolated from all other populations of the same species face a large risk of inbreeding depression and local extinction. This is due to a lack of variety in the gene pool of that population. The use of wildlife corridors allows for the opportunity of connectivity between small isolated populations in the wild. This can result in the increase of genetic variation within these small populations and lower inbreeding depression risks. Wildlife, Conservation or Biodiversity corridors have emerged as an important tool for landscape level management of wildlife populations to ensure long term conservation of wilderness landscapes.

Corridors/ connectivity’s are extremely useful in a landscape on following counts-

1. Allow recolonization following extinction in patches.
2. Increase of immigration to habitat isolates.
3. Supplements local population growth.
4. Provide gene flow and increase genetic heterogeneity.
5. Assistance to movement and migration of wide-ranging individuals through disturbed landscape.
6. Species can range shift as a response to climate change and natural disaster(Long-term).
7. Enhance overall metapopulation survival.
8. Provision for habitat heterogeneity.
9. Facilitation of continuity of natural ecological processes in developed landscape.
10. Provision of ecosystem services such as water quality, pollination, etc.
11. Stability of hydrological cycles.
12. Decreases man-animal conflicts.

Tiger Dispersal Areas

Tigers are global icons, personifying wild, natural areas. They are also apex species that play a significant role in structuring the ecosystems they live in. Dispersal from natal areas is an important part of tiger life history. It influences tiger ecology, behavior, demographics, and

genetics. Dispersal plays an important role in population recovery. Dispersal shapes tiger population dynamics and demographics. Dispersal also helps to maintain genetic variability. A recent genetic assessment of tigers in India has shown there has been a loss of genetic variability because of relatively recent habitat fragmentation and loss of connectivity (Mondol et al. 2013)ⁱ. Studies have shown that removal of apex species like the tiger can lead to cascading negative impacts including degradation of ecosystem structure and function, which can also affect the natural capital and ecosystem services that are critical for survival of humans. Dispersal from one population to another is crucial for meta-population stability and survival. Long-distance dispersal events have been widely documented in male tigers (*Panthera tigris*), but similar events in female tigers are less known (Sarkar et al 2021)ⁱⁱ

Habitat for tigers and many carnivores is fragmented and degraded to an extent that the existing land base supporting discrete tiger populations is often inadequate to maintain viable populations (Simcahareon et al 2022)ⁱⁱⁱ. Intra-specific competition for territories in isolated reserves, combined with hard-edged reserve boundaries can create a human-tiger and tiger-tiger conflict situation, affecting population recovery. Tiger habitats in India are fragmented and highly mosaic, often interspersed with human-dominated landscapes. Therefore, the movement or dispersal of tigers is important to establish new territory and for survival. Most tiger dispersals recorded worldwide have been traversed by males in response to competition for mates or resources or both whereas females tend to stay in their area of birth. ‘Stepping stones’ are small good-quality patches of habitat that can provide temporary refuge for resting and foraging during dispersal, explains Sarkar. They can greatly improve the chances of successful long-distance dispersal events (Jain, 2021)^{iv}

Conservation Landscapes

Conservation landscapes are defined as “a mosaic of habitat types managed at spatial scales necessary to capture and sustain viable ecological patterns and processes of conservation targets.” In case of tigers, the landscape elements include large undisturbed/inviolate core areas that are able to support viable populations of breeding tigers and their prey populations. Buffer zones around the core areas are effective in ameliorating external threats and disturbances. Habitat corridors that connect the core areas, facilitate dispersal of sub-adults from natal areas to maintain metapopulation structure and genetic exchange (Wikarmamaya & Shreshta, 2014)^v.

The core components of a Tiger Conservation Landscape are:

1. The ‘core refugia’ usually the protected areas where tigers are established and serve as source populations. These have a recognized legal status. These areas are usually considered as inviolate areas and may be called as ‘NO- GO areas’
2. Buffer areas which surround the protected areas and some of the corridors. Buffer zones create a soft edge and shield that prevents disturbance directly to core areas and conflict in the human use areas outside the protected areas. These buffer zones are legally designated and have a specific land-use policy.

3. Corridors are habitat linkages that connect core areas and facilitate tiger dispersal. These need not be completely forested, but may be a matrix of natural forests, sustainably used semi-natural lands (e.g., community forests, forest plantations, revenue forest lands with sizeable vegetation cover), or even some forms of agriculture that provide temporary suitable cover for dispersing tigers and are not regularly harvested (e.g., sugar cane fields or other cash crops fields)
4. Stepping-stone refugia are the patches of habitat whereby the dispersing tigers can take refuge while moving over long distances but are too small to support a breeding tiger population. These may be forest reserves isolated island type vegetated protected forest areas or other intact habitats. These are required to be included as key components of a tiger landscape and integrated into land use plans.
5. The Landscape matrix: These are all such lands outside the conservation areas mentioned above, but fall within the landscape boundary. These are generally human dominated, varying in intensity of land uses, from large settlements to rural village areas. (Wikarmamaya & Shreshta, 2014).

Strategic Planning is an important step in case of design, development and long-term conservation of corridors so that a future perspective may be planned in a systematic manner with a foresight into the future development vis a vis conservation, in a conservation landscape. It serves as a template and a management tool to plan long term wildlife conservation through effective and efficient conservation of corridors of different kinds and types. Strategic Planning is expected to serve as an important tool in planning 'Conservation Oriented Development' and developing alignments with other landscape level conservation initiatives (SPCC, 2021)^{vi}

The Genesis

Reserved Forest Area of 467.45 ha. in Forest Compartment No. C-26, C-27 and C-33 A in village Hirapur, Govindpur and Piparwadi in Pandharkawda Forest Division of Yavatmal Forest Circle in Maharashtra has been slated for diversion for limestone mining activity. The Stage II Clearance has already been allocated to the aforesaid project by the MOEF & CC, Government of India. The Stage II Clearance has been granted to the project on 12-09-2017 and the Government of Maharashtra issued the diversion order on 22-01-2018.

However, in the meanwhile it was noticed by the respective forest authorities in their respective jurisdiction that the aforesaid project site of the RCCPL is strategically located within an intervening landscape complex of 3 Protect Areas namely the Tadoba Andhari Tiger Reserve, Tipeshwar Wildlife Sanctuary in Maharashtra and the Kawal Tiger Reserve in the Telegana State and that it may adversely affect the intervening corridors in the region thereby adversely affecting the dispersal of tigers.

The chronology of the events since then is as follows.

1. The issue of the area being a wildlife dispersal area was first raised by the CF Yavatmal at the instance of the DCF on 17-07-2019 and the matter was referred to the Nodal Officer.
2. On the 16-08-2019 the Nodal Officer suggested that based on the views of the PCCF (WL) and CWLW, the matter may be referred to the State Board of Wildlife, Maharashtra State.
3. There has been a series of intervening correspondence on the issue between various authorities concerned and finally the PCCF (Wildlife) constituted a 4 member committee on the 28-05-2021, which was advised to submit report within 1 month including mitigation measures. The committee submitted its report on 09/07/2021 to PCCF (Wildlife).
4. The proposal was discussed in 17th SBWL meeting chaired by Hon. CM. on the 12-10-2021.
5. With reference to the SBWL meeting under intimation to the RCCPL the PCCF WL constituted a 6 Member Committee on the 08-02-2022 to undertake a field visit to the project site. The visit was conducted by the committee on the 09-03-2022.

On the 28-04-2022 the Principal Chief Conservator of Forests (Wildlife) and CWLW communicated to the Principal Secretary the decision of the State Wildlife Board Meeting dated 12-10-2021, in the matter along with the observations of the aforesaid committee as follows:

The proposal may be considered for approval if the Project Proponent agrees to all the Wildlife Mitigation Measures as proposed by the aforesaid committee in their report.

The mitigation measures proposed by the committee are as follows:

- a) Fly- over for the transportation of minerals and other associated material.
- b) RCCPL has already developed a Railway Siding at the plant site itself to avoid adverse effect on wild animals due to vehicles transporting minerals and goods. Thus, there seems to be no need for development of a Fly-over or an over pass.
- c) RCCPL to provide for the funds for plantation of indigenous species along both the banks of the Painganga River in a radius of 10 Kms. to reduce the impact of the project activities.
- d) Since the area is a potential Tiger Dispersal Area and forms a part of the Tiger Corridor, before going in for fresh excavation in the new area, the RCCPL to provide funds for re-filing of earlier dug mining pits in the area and carrying out afforestation and plantation activity over these areas, to develop adequate amount of forest cover as a wildlife mitigation measure to offset the adverse impacts of the project.
- e) As per the study by the Wildlife Institute of India this area is a potential Tiger Dispersal Area and therefore it has been proposed that the RCCPL shall provide for funds for developing a 'A Strategic Plan for Conservation of this Corridor and the Tiger Dispersal Area' from an agency/ organization which has an experience of developing such strategic plans and get the same approved from the PCCF(WL) & CWLW.

The current 'Strategy and Action Pan for Conservation of Corridors (SPCC) is thus a result of these series of aforesaid developments which have taken place over the past.

The Current Context

The Strategic Plan Area (SPA) for the purpose of the ‘Strategic Plan for Conservation of Corridors(SPCC)’ has been defined as-

- **Extensive Strategic Plan Area(ESPA)**

The landscape under discussion comprises of Akola, Yavatmal, Pusad, Nanded, Pandharkawda, Chandrapur, and Central Chanda Forest Divisions of Maharashtra. Adilabad and Asifabad Forest Divisions of Telangana are also a part of this Landscape. There are five Wildlife Sanctuaries in this landscape namely Katepurna, Tipeswar, Painganga, Karanja-Sohol and Kanhargoan whereas two Tiger Reserves namely Tadoba-Andhari and Kawal. The SPCC does not deal with the area falling in Telangana State

- **Moderate Intensity Strategic Plan (MESPA)**

This covers an area within 50 km radius around the RCCPL, ML Project Site which comprises parts of Forest Divisions of Pandharkawda, Central Chanda and Chandrapur in Maharashtra, Adilabad and Asifabad in Telangana are included in the area. Tipeswar Wildlife Sanctuary and parts of Kawal Tiger Reserve are also a part of this area. However, the SPCC has not dealt with area in Telangana state.

- **Intensive Strategic Plan Area (ISPA)**

This area covers areas within 10 kms radius of the RCCPL, ML Project Site which consists of Pandharkawda Forest Division and Central Chanda Forest Division in Maharashtra and parts of Telangana. However, the part in Telangana has not been dealt with in this SPCC.

Vision

‘Establishment of a Regional Ecological Corridor Network for Nature Conservation and Human Well Being in the ‘Extensive Strategic Plan Area’, thereby contributing to the conservation of tigers in the region and the state. (RECNNC) by 2050’.

(Synchronous with the Post 2020 Global Biodiversity Framework-COP-15 CBD)

Goals

1. Conservation of the potential Ecological Corridors to maintain the connectivities between protected areas for long term conservation of tigers and wildlife in general.
2. Ensuring ecosystem and human wellbeing to ensure harmony amongst both.

(Synchronous and in alignment with Goals of the Post 2020 Global Biodiversity Framework COP15 CBD and in alignment with the National Wildlife Action Plan: 2017-2031)

Mission

Urgent action across society to put biodiversity on a path to recovery through actions (immediate, mid-term and long-term) for conservation of potential corridors.

(Synchronous with the Maharashtra Wildlife Action Plan- 2021-2030 and in alignment with the Mission-2030; Post 2020 Global Biodiversity Framework COP-15 CBD)

Strategic Plan Objectives

1. To ascertain the probable impacts of the proposed project on the dispersal of Tigers and the corridors in the immediate vicinity.
2. To assess the tiger dispersal pattern in the landscape with respect to the strategic location of the proposed project in the conservation landscape, within the probable Zone of Influence of 10 km radius.
3. To assess the prospective influence of the mitigation measures already proposed and accepted and if necessary and inevitable, propose strategically essential mitigation measure in the probable Zone of Influence.
4. To explore probable conservation measures for the Extensive Tiger Conservation Landscape consisting of intervening complex of protected areas, corridors and land matrix to be undertaken by the Forest Department under their prospective scheduled programs.
5. To develop a 'Strategic Plan for Conservation of Corridors and the Tiger Dispersal Area' for the Tiger Conservation Landscape in the region for future long-term conservation by the Government.

The entire SPCC consists of 4 'Building Blocks namely the **i.** Spatial Database Generation, **ii.** Prioritization of Corridors and Segments, **iii.** Advisories for the MFD and **iv.** The Strategic Plan which is the final output. In all there are **Chapters 1 to 10** which gradually builds up a systematic framework which is elaborated accordingly to guide the future perspective of conservation of corridors so as to ensure long term conservation of the tigers, wildlife and their habitats, mainly forests in the ESPA. The 'Strategic Plan for Conservation of Corridors(SPCC)' is expected to be a strategic guideline through its detailed advisories for planning, management and implementation of the project interventions, to ensure long term conservation of wildlife corridors in the 'Extensive Strategic Plan Area'(ESPA) which forms and integral part of the popularly known 'Eastern Vidarbha Tiger Conservation Landscape'.

The methodology adopted for the purpose of the SPCC comprises **8 Steps** namely- **Step-1:** Identification of target species, **Step-2:** Identification and Mapping of Potential Wildlife Corridors, **Step-3:** Mapping of Land-use/Land-cover within the Potential Corridors including those identified by WII, **Step-4:** Categorization of Potential Corridors, **Step-5:** Prioritization of Potential Corridors, **Step-6:** Segmentation of the Potential Corridors, **Step-7:** Prioritization of Segments within the Potential Corridor, **Step-8:** Ground Validation and Field Assessments

The 8 Forest Divisions in the Extensive Strategic Plan Area (ESPA) namely - Pandharkwada , Yavatmal, Chandrapur, Central Chanda, Pusad, Akola, Nanded and TATR Buffer have been

considered as the ‘Eight Corridor Sub- Landscapes’ for the purpose of planning and implementation based on the SPCC.

Chapter 1 – Introduction elaborates upon and makes out a case for conservation of corridors and their importance in conservation of wildlife. **Chapter 2** - The Genesis and the Current Context- elaborates upon the factual situation, the background and the reasons which led to preposition of the preparation of a ‘Strategic Plan for Conservation (SPCC) due to the locational aspect of the proposed RCCPL Mining Lease Project Site in the ISPA. It further elaborates and deliberates in detail the management description of the Strategic Plan Area. **Chapter 3** opens up a window for the planners and policy makers pertaining to the ‘Principles of Corridor Management and Functionality’ and further elaborates upon various types of corridors which one might come across, corridors and landscape connectivity’s and various problems associated with conservation of corridors. **Chapter 4** states the Vision, Goals and Objectives of the SPCC’. **Chapter 5** Strategic Plan Methodology elaborates in detail upon the methods followed to evolve and develop the SPCC. **Chapter 6** Spatial Database Generation depicts the entire spatial database generated, the associated statistics and the spatial analysis for deriving various management imperatives for the SPCC. **Chapter 7** deals with the, Field Follow-up Mechanisms pertaining to demarcation of the potential corridors on the ground, the various ‘Management Intervention Zones’ which may be delineated for planning management interventions, Segmentation of corridors for facilitating planning and management pertaining to potential corridors and mechanism for preparation of Detailed Project Reports (DPR)’ to facilitate implementation. **Chapter 8** deals with Advisories developed for the forest department and these have been prepared on various themes namely, i. Land-use -wise Advisories, 2. Thematic Advisories and iii. Forest Management-Based Advisories. **Chapter 9** elaborates briefly about the ‘Implementation Perspective’ of the SPCC for the planners and managers. **Chapter 10** deliberates upon the ‘Conclusion and the Recommendations’ proposed by the SPCC.

The entire SPCC area has been distinctly designated as the Extensive Strategic Plan Area (ESPA - 43286.9 Km²), Moderately Extensive Strategic Plan Area, 50 km radius (MESPA - 8413.89 Km²) and the Intensive Strategic Plan Area or the 10 km radius ‘Zone of Influence’ (ISPA - 428.079 Km²). In all 39 Potential Corridors have been identified in the ESPA. The potential corridors so identified have been classed into 14 different categories based on the Management/ Administrative/ Conservation categories or units they connect. The area falling under various categories of corridors in the ESPA, MESPA and the ISPA and those falling in various Forest Divisions has been elaborated in **Chapter 6**.

Prioritization of the Potential Corridors for facilitating planning and management has been done into 5 Priority Classes. In the ESPA, the various priorities of the potential corridors are 1. Very High Priority (Area - 695.26 Km²), 2. High Priority (Area - 2233.23 Km²), 3. Moderately Priority (Area - 1134.05 Km²), 4. Low Priority (Area - 827.16 Km²) and Very Low Priority (Area - 738.50 Km²). In the MESPA, the various priorities of the potential corridors are 1. Very High Priority (Area - 103.78 Km²), 2. High Priority (Area - 33.81 Km²),

3. Moderately Priority (Area - 660.36 Km²), 4. Low Priority (Area - 531.38 Km²) and Very Low Priority (Area - 84.58 Km²). Similarly, in the ISPA, the various priorities of the potential corridors are the 1. Moderately Priority (Area - 134.61 Km²), 2. Low Priority (Area - 1.134 Km²). The entire Landuse Statistics' within the various priority Corridors has been elaborated in detail in **Chapter 6**. To facilitate planning, management and implementation of Management Interventions for corridor conservation, the potential corridors have been sub-divided into 3 Km² segments. These segments have been generated using the ARC GIS Software. This has been followed by prioritization of the segments within the corridors using a pre-decided set of criteria elaborated in **Chapter-5**. This was done with the objective to understand as to within a particular corridor, which are the segments, which may need a treatment on priority so that we do not lose the connectivity. The Segment Prioritization has been based upon two different Prioritization Criteria- **i.** Based on the 'Principle of Maximum Returns on Investments' and **ii.** Based on 'Disturbance Factors' using the disturbance indices of the respective segments in the corridors. The former method of prioritization of segments is expected to help the forest department if the resources are limited and the latter is expected to help the department in case it has enough resources at its disposal.

In order to facilitate the administrative and management aspects of implementation of the SPCC the entire spatial database pertaining to the potential corridors has been analyzed and depicted for each of the Forest Divisions, separately and distinctly. The Forest Divisions have been considered as the Sub-Landscapes, nested within the ESPA and the entire ESPA is thereby nested within the 'Eastern Vidharbha Tiger Conservation Landscape'.

Since the SPCC has a dual aspect to address namely – **i.** the ESAP and the MESPA for the prospective and perspective benefit of the department for long term conservation of tigers and wildlife and **ii.** the aspect pertaining to ISPA for the perspective pertaining to the long-term imperative of the RCCPL Mining Lease Project on Tiger Dispersal, the recommendations have been divided into two types-

1. The Prospective and Perspective Implementation of the SPCC for the ESPA and MESPA and
2. The Site-Specific Perspective of the proposed RCCPL ML Project located in the ISPA (10 Km radius 'Zone of Influence' around the RCCP Project Site). These are expected to address both the issues namely **a.** Whether the proposed RCCPL Project would have any long-term adverse effect on the Tiger Dispersal especially in the ISPA and addressing long-term conservation perspective for tigers and wildlife for the MFD.

The SPCC has explicitly come out with recommendations for the ESPA and the MESPA which are exclusively for the Maharashtra Forest Department(MFD) and the ones for the ISPA which are both for the MFD from the point of view of long-term perspective and the ones from the point of view of the strategic location of the RCCPL ML Project Site in the landscape.

The proposed recommendations for the 'Extensive Strategic Plan Area (ESPA)' and the 'Moderately' Extensive Strategic Plan Area (MESPA)' are as follows:

1. It is proposed that the ‘Strategic Plan for Conservation of Corridors (SPCC)’ may be adopted to ensure conservation of the potential corridors to facilitate as far as possible unhindered tiger dispersal and thereby ensuring long-term conservation of tigers and wildlife in the ESPA by the Maharashtra Forest Department.
2. It is proposed that the Spatial Database generated through the SPCC may kindly be finetuned by the forest department using its precise spatial database pertaining to Forest Types and Forest Density. The database generated by the SPCC is ‘Indicative in Nature’ and thus its finetuning and updating is expected to be useful for the long-term implementation perspective.
3. It is proposed that the MFD may undertake periodic spatial and non-spatial updating of the database generated for the SPCC to ensure its long-term benefit.
4. It is proposed that the SPCC may be considered as a base work or the framework on which to develop a future long-term perspective and it is expected to be a starting point for ‘The way Forward’ for the Forest Department.
5. The SPCC has been developed in alignment with the ‘Maharashtra State Wildlife Action Plan (MSWAP)’ thus it may be adopted as one of the established means to achieve the objectives of the MSWAP.
6. The proposed elements pertaining to the ‘Follow-up Mechanism’ and the ‘Implementation Perspective’ has been laid out in the SPCC and are expected to serve as a scientifically and technically sound platform/foundation to ensure conservation of potential corridors and the Tiger Dispersal Areas in the ESPA and thereby support long-term conservation of tigers and wildlife in general in the ‘Eastern Vidarbha Tiger Conservation Landscape.’

The proposed recommendations for the ‘Intensive Strategic Plan Area’ which is the 10 Km radius ‘Zone of Influence’ around the RCCP ML Site are as follows-

1. The potential corridors falling within the ISPA are Moderate and Low Priority Potential Corridors and these are expected to be subjected to the least possible adverse impact on the Tiger Dispersal in the area especially from the proposed RCCPL ML Area.
2. The Prioritization of Segments within the Potential Corridors has been done using the ‘Principle of Maximum Return on Investments’ and based on ‘Disturbance Factors’. In case of the analysis pertaining to prioritization of the segments within the potential corridors based on the ‘Principle of Maximum Return on Investments’ the maximum number of segments within the potential corridors in the ISPA, fall under ‘Very Low’, ‘Low’ or ‘Moderate’ Priority classes with more number of segments in ‘Low Priority’ class and the nearest segment to the RCCPL ML Site is a ‘Very Low Priority’ Segment. Some of the few segments which are high priority are distantly placed and can be secured by the Forest Department through minimal amount of resources through their routine programs and plans based on the prescriptions in this SPCC.

In the case of ‘Prioritization of Segments within the potential corridor’ based on ‘Disturbance Factors’, majority of the segments around the RCCPL Project Site fall under ‘Very High’ and ‘High’ Priority, classes and a very few in the ‘Moderate’ Priority class. Apart from that a few

segments fall in the 'Low' and 'Very Low' Priority classes. This thereby means that the segments of the potential corridor in close vicinity of the RCCPL Site are already under a high degree of disturbance, thus the chances of the same imposing adverse impact are the least. There are already several existing mines in the area around the proposed RCCPL ML Site. Thus, the presence of the proposed RCCPL Mine is expected to and likely to have the least possible adverse impacts on the corridor and the tiger dispersal area. In lieu of whatever probable disturbance the RCCPL Project Site might create, the mitigation measures proposed by the Committee designated for the purpose and the Hon. Maharashtra State Wildlife Board have already been accepted by the RCCPL.

It is not denied that there is Tiger Dispersal in the ISPA and generally in the landscape. However, the locations of 'Trap Camera Captures' whereby the Tiger presence has been recorded, are quite distant from the location of the proposed RCCPL Site. However, these are one-time locations for a certain period and the probability of tigers occurring elsewhere cannot be ruled out, It has been seen that there are 4 Camera trap locations in the ISPA where tigers have been captured and all of them fall within the potential corridor but distantly located from the proposed RCCPL Site. This definitely does not mean that the tigers will not or never venture into the areas closer to the RCCPL Site in the ISPA, but at the same time it may be said that with the adequate mitigations measures in the ISPA, which have been already agreed for by the RCCPL, the dispersal of tigers may still take place unhindered. The adoption and application of the SPCC is expected to promote conservation of corridors and the tiger dispersal areas in the ISPA, MESPA and the ESPA, all nested into the 'Eastern Vidharbha Tiger Conservation Landscape'

In order to further understand the habitat factors in the area an attempt has been made to place reliance on the NDVI Images of the MESPA and the ISPA, for various seasons namely October and December, 2021 and April and June, 2022 using the Landsat 8-9 OLI Satellite Images with 30 m Spatial Resolution. The result obtained has been obvious that there is a drastic change in the vegetation cover from October, 2021 to June, 2022, however the ISPA has been considered for detailed analysis since the proposed RCCPL Site is located in this area. The NDVI Image for the April, 2022 and June 2022 were studied for the purpose. The forests in these areas are 'Dry Deciduous Type' and in the peak summers that is April to June there is not much vegetation in the forested areas within and outside the potential corridors, but it can be seen that there are sprinkles of vegetation cover even in the peak summers mostly in the non-forested areas within the corridors and the forest division. These are basically the riparian areas or irrigated agricultural croplands or some private fallow agricultural land with dense vegetation or may be revenue scrublands with adequate vegetation cover. Thus, during the peak summers or during the pinch period when the tigers are compelled to disperse to meet their obvious habitat needs, such areas outside the conventional forest areas under the control of the forest department and which are having adequate water source in near vicinity, serve as potential temporary abode or habitat for the tigers in transit. These are the key areas which may

be required to be monitored by the Forest Department in coordination with the other Line Agencies and through partnership with the local communities.

In view of the aforesaid situation the location of the RCCPL Project is not expected to create any potential adverse effect on the corridor or the tiger dispersal area in the ISPA and thereby in the region.

Keeping in view the above mentioned facts presented on the basis of the analysis of the secondary data available and the tiger dispersal data shared by the Pandharkawda Forest Division, it may very well be concluded that the proposed RCCP ML Site is not expected to have a very significant adverse impact or influence on the adjacent moderate priority and low priority potential corridor and the tiger dispersal area in the ISPA which falls in the larger Eastern Vidharbha Tiger Landscape.

Despite the aforesaid and keeping in view that there may always be a likelihood of some kind of an adverse influence due to the proposed RCCPL ML Project, the recommendation pertaining to the mitigation measures, from the committee designated for the purpose and as per the directives of the Hon. Maharashtra State Board of Wildlife, in its meeting dated 12-10 2021, the following mitigation measures have already been accepted.

- a) RCCPL has already developed a Railway Siding at the plant site itself to avoid adverse effect on wild animals due to vehicles transporting minerals and goods. Thus, there seems to be no need for development of a Fly-over or an over pass.
- b) RCCPL has agreed to and complied with to provide for the funds for plantation of indigenous species along both the banks of the Wainganga River in a radius of 10 Kms. to reduce the impact of the project activities.
- c) As mining progresses, the areas which are completely mined out will be reclaimed by either back-filling using the waste rock generated from mining or converted into water reservoir. The areas so back-filled will then be taken up simultaneously for plantation of indigenous species. The composition and density of species proposed for plantation will be selected under the guidance of forest department.
- d) As per the study by the Wildlife Institute of India this area is a potential Tiger Dispersal Area and therefore it has been proposed that the RCCPL shall provide for funds for developing a 'Strategic Plan for Conservation of Corridor and the Tiger Dispersal Area' from an agency/ organization which has an experience of developing such strategic plans and get the same approved from the PCCF(WL) & CWLW.

Thus, with the preparation of the 'Strategic Plan for Conservation of Corridors and Tiger Dispersal Areas in Mukutban Range and its surrounds in Pandharkawda Division, Yavatmal Forest Circle - A Special Emphasis on the RCCPL Cement Project Mining Site' hereby, the entire compliance pertaining to the proposed mitigation measures by the aforesaid Hon. Competent Authorities has been completed.

It is pertinent to mention here that the Strategic Plan prepared, is in itself a mitigation measure which may be expected to be a 'Lead Document' and a 'Technical and a Scientific Framework' to build upon a precise future perspective for Long-term conservation of tigers in the ESPA as defined by the SPCC, which is an integral part of the 'Eastern Vidharbha Tiger Conservation Landscape'

It is proposed that if the SPCC is adopted for planning and implementation, long-term conservation of the corridors in the ISPA, MESPA and the ESAP which are an integral part of the 'Eastern Vidharbha Tiger Conservation Landscape may be ensured.

The SPCC in its **Chapter 11** 'The Way Forward' proposes future perspective for conservation of tigers and wildlife in the ESPA. The 'Future for Conservation' of Tigers and wildlife may be secured if a 'Comprehensive and Integrated' approach as proposed in the SPCC is adopted. Apart from this the RCCPL which is going to be in the landscape for long may come forward with collaborative programs through its CSR Programs which may be undertaken in partnership with the Maharashtra Forest Department. Alongside, various prospective alignments of the SPCC with different conservation initiatives have been elaborated upon to develop convergence for conservation of wildlife in the region. Mainstreaming of conservation of potential corridors and thereby conservation of wildlife has been proposed as the watchword for long-term conservation.

Chapter 12 – Tools Developed and Deliverables, provides a brief of various components of the SPCC which may be used for day to day planning, management and implementation by the MFD. However, it is reiterated that the SPCC is indicative in nature and further finetuning through extensive ground validation and interim updating with the robust database with forest departments is expected to improve its potential.

The strong support and cooperation from the Maharashtra Forest Department, especially from the Hon. Principal Chief Conservator of Forests (Wildlife) and the Chief Wildlife Warden, Maharashtra State, enabled the making of this SPCC.

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