



ACACIA MINE OPERATIONS GÖKIRMAK COPPER MINE

Biodiversity Management Plan 2017

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1. PURPOSE AND SCOPE

This Biodiversity Management Plan is prepared for the Gökırmak Copper Project ("the Project") and is developed to set out the primary applicable requirements associated with the management of biodiversity features during the construction, operation and closure phases of the Project in compliance with national legislation, requirements of international financing institutions (e.g. IFC Performance Standards, EBRD Performance Requirements) and other applicable Good International Industry Practices (GIIPs).

The purpose of this Plan is to guide the Project activities so as to minimize the impacts on biodiversity features and to enable net gain on biodiversity where possible.

The Project is an open-pit copper mine project and involves land preparation, construction, operation and closure of the following main units:

1. Open Pit
2. Process Plant
3. Çorakoğlu Waste Rock Dump (WRD)
4. Kepezkaya Tailings Storage Facility (TSF)
5. Bağdere TSF
6. Tailings Pipeline
7. Other auxiliary facilities (administrative building, warehouse, topsoil storage areas etc.)

In addition to the main units, the associated facilities of the Project are as follows:

8. Gökırmak River Diversion System
9. 28.8 km Energy Transmission Line (ETL)

The Project's construction phase is planned to be ended in the first quarter of 2018, followed by an estimated production life of 11.3 years. The reclamation will go parallel to operation activities and the mine closure period will continue for an additional 2 years following the end of operation phase.

Although the Project is defined as the mine area units and the ETL route, majority of the impacts and the related mitigation and monitoring are described for the mine area units since the construction of the ETL is already finished and it is now on operation.

The plan will be applied systematically during the construction, operation and closure phases of the Project. Throughout the Project life, activities within the scope of the Project affecting the biodiversity features, with a focus on critical habitat features and priority biodiversity features should be conducted in line with this management plan.

This Plan is a living document and the responsibilities, procedures and compliance actions should be updated as appropriate. It is the responsibility of the site HSE Manager to be fully aware of its contents, to provide relevant training to staff and to ensure that procedures are being implemented to achieve compliance with this Plan.

This is the second revision of this Plan following the first submission on June 2016. Therefore, it includes statements about the progress and status of the relevant subjects as of date of the submission of this second edition (September 2017).

2. ROLES AND RESPONSIBILITIES

Roles and responsibilities for E&S management for the GCP are described in detail in the Project ESMS. The HSE Manager/Environmental and Public Relations Coordinator (and the related department's sub-level personnel regarding the environmental subjects, including the Environmental Supervisor) will be responsible for the implementation of the this Management Plan.

All personnel working on site involved in the implementation of this MP shall follow all procedures and ensure that all the activities are carried out in line with the requirements of this MP and the Project Standards. All personnel involved in the implementation of this MP should report any event of incompliance to the Environment and PR Coordinator.

3. PROJECT STANDARDS

Project standards and requirements are described in detail in the Project ESIA Volume-I and Volume-II and are listed below:

- National legislative requirements and all permits, licenses and approvals
- EBRD Environmental and Social Policy and Performance Requirements (PRs)
- European Union legislative requirements and Best Available Techniques (BAT) applicable to the Project
- Other good international industry practices (GIIP)
- AMI Environment, Health and Safety Policies

In addition to the above, the following International Conventions related to biodiversity features and to which Turkey is a party are also of importance:

- Bern Convention on the Conservation of European Wildlife and Natural Habitats enforced June 01, 1982 and ratified by Turkey in 1984
- International Convention on Wetlands of International Importance especially as Waterfowl Habitat (RAMSAR Convention) enforced on December 21, 1975 and ratified by Turkey in 1994
- Convention on Biological Diversity enforced on December 29, 1993 and ratified by Turkey in 1996
- Convention on International Trade in Endangered Species (CITES) of Wild Fauna and Flora enforced on July 01, 1975 and ratified by Turkey December 22, 1996

Applicable standards shall be complied with for all Project activities.

4. BIODIVERSITY MANAGEMENT

4.1 Concept of Biodiversity Management Plan

Based on biodiversity studies carried out for the Project and covering biodiversity screening, impact assessment and mitigation measures analysis, as well as literature review and consultations with external experts and stakeholders, a critical habitat assessment was conducted to define the most sensitive biodiversity features, which comprise one of the following according to EBRD PR 6; (i) highly threatened and/or unique ecosystems, (ii) critically endangered and/or endangered species, (iii) endemic and/or restricted range species, (iv) migratory and/or congregatory species, (v) key evolutionary processes and (vi) ecological functions.

The Project can potentially affect priority biodiversity features and critical habitats as and therefore per EBRD PR 6 Biodiversity Management Plan (BMP) is developed and a site-specific habitat and species Biodiversity Action Plan (BAP) will be prepared to ensure no-net-loss of critical habitats. The critical habitat assessments was carried out within the scope of this ESIA based on the project baseline biodiversity studies and will be further updated based on additional surveys and site-specific monitoring.

Where biodiversity values of importance to conservation are associated with a Project site or its area of influence, the preparation of a Biodiversity Action Plan (BAP) and/or a Biodiversity Management Plan (BMP) provides a useful means to focus a project's mitigation and management strategy.

This Plan spells out the mitigation measures, parties responsible for their implementation, monitoring requirements and the monitoring schedule. This BMP is integrated into the AMI's ESMMFP.

4.2 Key Biodiversity Management Measures

Key measures for the management of biodiversity features for the construction, operation and closure phases of the Project are given in this section.

The Project impacts on biodiversity have been assessed under the following topics:

- habitat loss / alteration / fragmentation
- impacts on biodiversity elements due to water pollution, reduced water quality, changes in morphology and hydrology
- impacts on biodiversity elements due to emission of gaseous pollutants and dust
- impacts on biodiversity elements due to noise, vibration and lighting
- Impacts on biodiversity due to population growth and increased vehicular traffic
- introduction of invasive alien species, and
- bird and bat collisions with ETL.

The main biodiversity features (receptors) considered to be potentially affected from the Project are grouped as:

- Priority biodiversity features (PBF) (Plant and animal species)
- Critical habitat features (CHF) (Plant and animal species)
- Endemic plant species (A total of 26 endemic flora)
- Important habitats (Broad-leaved forest, coniferous forest, mixed forest, transitional woodland-shrub and natural grasslands that are identified as natural habitats using the Corine Land Cover map)
- Gökırmak River (including the aquatic life)
- Ecosystem services

The management activities through mitigation measures given below in Table 4-1 covers the all activities of AMI, including the contractor activities.

It should be noted that most of the management activities through mitigation measures for ecosystem services are parallel to the other receptors since the ecosystem services depend on these other five main receptors.

Table 4-1 Key Biodiversity Management Measures for the Project Area and its Vicinity

Project Phase	Impact	Receptor	Management Activities through Mitigation Measures
Construction and Operation	Habitat loss / alteration / fragmentation	<ul style="list-style-type: none"> -PBF -CHF -Endemic plant species -Important habitats -Gökırmak River -Ecosystem services 	<p>Avoidance</p> <ul style="list-style-type: none"> • Avoidance of damage caused to natural vegetation and habitats if not absolutely required by Project activities. • Temporary facilities will be carefully sited. The design of the WRDs has been optimized and the area to be used has been decreased following the updated feasibility report dated June 2017 comparing to the previous Project unit alternatives. • Pre-construction checks (surveys) by a qualified biodiversity expert will be carried out immediately prior to ground disturbance of the possible future construction/excavation/ habitat alteration activities to confirm that the biodiversity baseline as reported in the ESIA (Volume I) has not changed significantly and that there are no additional features that will be avoided. • Where applicable, fencing will be installed during the construction and operation areas to secure areas with priority biodiversity features. Currently, the open pit, closed ore stock area, downstream cofferdams and partially Çorakoğlu WRD are fenced following the topography lines. When necessary (during ore storage period) the active mining areas, WRDs, Process Plant, TSFs and where the heavy machinery will be operating will be fenced. • AMI will ensure that the areas of construction/ excavation activities are unsuitable for nesting birds (for example by using bird repellent tape) ahead of the nesting season (around mid-end April). • No further changes to the Gökırmak riverbed introduced. • Further disruption of the natural drainage systems will be avoided. <p>Minimisation</p> <ul style="list-style-type: none"> • Implementation of the Project specific Biodiversity Management Plan. • Tuff carnation, Biberstein's crocus (see Figure 4-1) and the endemic plant species that are present within 100 m from the Project facilities, and therefore potentially subject to indirect impacts, will be monitored and conservation actions detailed in the Biodiversity Action Plan will be taken. • The existence of the species within the Project Area will be checked before the mine becomes operational. However, the ideal time for the control is July and therefore the first check for existence will be on July 2018 even though the Project is operational. • During the dormancy period (September-October), the areas where the species have been identified will be revisited and the dry flowery stems carrying seeds will be cut from the ground and put into paper bags. Parts of the plant containing seeds that

Project Phase	Impact	Receptor	Management Activities through Mitigation Measures
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			<p>are collected in this way will be spread/sprinkled onto open areas with similar characteristics where no activity will take place.</p> <ul style="list-style-type: none"> • There are 4 culverts planned to be built along the ore haulage road at the locations where the road coincides with the riverbed. Although the aim of the culverts is the surface run off, they are considered to be efficient also for the use of reptiles and small mammals to minimize the effects of habitat fragmentation. • Direct impacts on the important habitats will be limited to the areas cleared during site preparation, corresponding to the mine facilities, roads, pipeline footprints and lay down areas temporary occupied during construction. • The fauna species with limited mobility that cannot move ahead of construction (such as Spur-thighed Tortoise) will be translocated to the closest undisturbed suitable areas by an assigned person(s) or sufficient time will be allowed for these species' mobility. • Awareness training for relevant personnel in order to raise awareness of the critical habitats and priority biodiversity features will be conducted. It will include every possible wildlife-human conflicts in order to minimise the possible harm to both sides. • An animal rescue procedure will be developed for the safe translocation of any faunal species found to be at risk from mining operations or posing a threat to mine operations (details to be given in the Project Biodiversity Action Plan) • If during pre-construction survey nests are observed, AMI will undertake their best efforts to preserve the vegetation in place; <p>Restoration</p> <ul style="list-style-type: none"> • The seed collection will be applied. <p>The collection will focus on the endemic plant species (see Figure 4-1). The seed collection will need to commence at least a year or two before the seed is actually used, so that the volumes needed and the collection sources can be identified. Wherever possible, local species will be used, and seed will be collected locally, because it will usually be best adapted to the conditions, and this will avoid introducing different genetic provenances. After collection, seed must be cleaned and stored under conditions that will maintain maximum viability over the period of storage and that minimize damage due to pests, fungi, and so on. Details are included in the Biodiversity Action Plan.</p> <ul style="list-style-type: none"> • Effective site preparation will be implemented. <p>(Effective site preparation refers to the procedures that take place prior to seeding or planting to help ensure that optimal conditions exist for the establishment of healthy, botanically diverse and sustainable vegetation. These procedures include soil and waste characterization, selective handling of materials, construction of stable landforms, topsoil handling, ripping, fertilizing</p>
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Project Phase	Impact	Receptor	Management Activities through Mitigation Measures
			<p>and soil amendment and seed bed preparation, e.g. scarifying).</p> <ul style="list-style-type: none"> A Reforestation Plan and a Mine Closure and Rehabilitation Plan will be developed and implemented <p>Biodiversity Offset</p> <ul style="list-style-type: none"> To be identified following the appropriate avoidance, minimisation and restoration measures are taken and following the further monitoring since off-set measures are to compensate for significant residual adverse biodiversity impacts arising from project development and persisting.
Construction and Operation	Impacts on Biodiversity due to Population Growth and Increased Vehicular Traffic	-PBF -CHF -Endemic plant species -Important habitats -Gökırmak River -Ecosystem services	<p>Avoidance</p> <ul style="list-style-type: none"> The damage caused to natural vegetation will be avoided, if not absolutely required by Project activities. Trainings (including the possible wildlife human conflict) will be provided to relevant personnel in order to raise awareness of the critical habitats and priority biodiversity features and endemics. Training records that will follow the training programme will be kept. Hunting and collection of wildlife animals will be forbidden. Collection of wildlife plants and especially the endemic and protected ones will be forbidden. The construction areas will be properly marked up with banning off-road driving or banning waste disposal in undesignated areas, in order to avoid/reduce the impact outside the construction areas. The site-specific Transport / Traffic Management Plan will be implemented so as to apply the speed limits given, ensure to drive on designated routes unless otherwise authorised. All vehicles also to prevent the formation of dust, noise and vibration directly and/or indirectly affecting the fauna elements. Where applicable, signs indicating wildlife (especially during spring and summer) will be placed. <p>Minimisation</p> <ul style="list-style-type: none"> The activity that might affect the river conditions (such as oxygen deficiency due to turbidity) will be avoided when possible. The mitigations related to biodiversity due to changes on water resources, geological and hydrogeological impacts on surface water as given in detail in related sections of the ESIA will be implemented. Waste rock seepage waters will be captured and controlled in sedimentation ponds and monitored prior to discharge, if any. Depending on its chemistry, seepage water will be treated in compliance with the discharge limit values specified by related national and EU legislation.

Project Phase	Impact	Receptor	Management Activities through Mitigation Measures
			<ul style="list-style-type: none"> • Further disruption of the natural drainage systems will be avoided. • Air quality measures specified in the ESIA will be implemented. • Animal crossing signs will be placed on the access roads. • The fauna species with limited mobility that cannot move ahead of construction (such as Spur-thighed Tortoise) will be translocated to the closest undisturbed suitable areas by an assigned person(s) or sufficient time will be allowed for these species' mobility. • There are 4 culverts planned to be built along the ore road at the locations where the road coincides with the riverbed. Although the aim of the culverts is the surface run off, they are considered to be efficient also for the use of reptiles and small mammals to minimize the effects of habitat fragmentation. • Awareness training for relevant personnel in order to raise awareness of the critical habitats and priority biodiversity features will be conducted. It will include every possible wildlife-human conflicts in order to minimise the possible harm to both sides. • An animal rescue procedure will be developed for the safe translocation of any faunal species found to be at risk from mining operations or posing a threat to mine operations (details to be given in the Project BAP). <p>Restoration</p> <ul style="list-style-type: none"> • Effective site preparation will be implemented. <p>(Effective site preparation refers to the procedures that take place prior to seeding or planting to help ensure that optimal conditions exist for the establishment of healthy, botanically diverse and sustainable vegetation. These procedures include soil and waste characterization, selective handling of materials, construction of stable landforms, topsoil handling, ripping, fertilizing and soil amendment and seed bed preparation, e.g. scarifying).</p> <ul style="list-style-type: none"> • A Reforestation Plan and a Mine Closure and Rehabilitation Plan will be developed and implemented <p>Biodiversity Offset</p> <ul style="list-style-type: none"> • To be identified following the appropriate avoidance, minimisation and restoration measures are taken and following the further monitoring since off-set measures are to compensate for significant residual adverse biodiversity impacts arising from project development and persisting.
Construction and	Impacts on biodiversity elements due	-PBF	<p>Avoidance</p> <ul style="list-style-type: none"> • Currently, the open pit, closed ore stock area, downstream cofferdams and partially Çorakoğlu WRD are fenced following the

Project Phase	Impact	Receptor	Management Activities through Mitigation Measures
Operation	to water pollution, reduced water quality, changes in morphology and hydrology	<ul style="list-style-type: none"> -CHF -Endemic plant species -Important habitats -Gökırmak River -Ecosystem services 	<p>topography. When necessary (during ore storage period), the active mining areas, WRDs, Process Plant, TSFs and where the heavy machinery will be operating will be fenced.</p> <p>Where applicable, fencing will be implemented during the construction and operation areas and especially where these features exist in order to reduce the risk of footprint. Avoidance of damage caused to natural vegetation, if not absolutely required by Project.</p> <p>Avoidance of damage caused to natural vegetation, if not absolutely required by Project activities.</p> <p>Formation of any water bodies within the Project boundaries will be avoided so as not to attract any fauna elements.</p> <p>The remaining riverbed will not be altered and no siltation will be allowed for the period of the water flow.</p> <p>The activity that might affect the river conditions (such as oxygen deficiency due to turbidity) will be avoided whenever possible.</p> <p>The mitigation measures related to biodiversity due to changes in water resources, geological and hydrogeological impacts on surface water as given in detail in related sections of the ESIA report will be implemented.</p> <p>Waste rock seepage waters will be captured and stored in sedimentation ponds and monitored prior to discharge, if any. Depending on its chemistry, seepage water will be treated in compliance with the discharge limit values specified by related national and EU legislation.</p> <p>Minimisation</p> <ul style="list-style-type: none"> • A Project specific BAP will be developed and implemented. • There are 4 culverts planned to be built along the ore road at the locations where the road coincides with the riverbed. Although the aim of the culverts is the surface run off, they are considered to be efficient also for the use of reptiles and small mammals to minimize the effects of habitat fragmentation. • Collection of wildlife plants and especially the endemic and protected ones will be forbidden. • Direct impacts on the important habitats will be limited to the areas cleared during site preparation, corresponding to the mine facilities, roads, pipeline footprints and lay down areas temporary occupied during construction. • The water flow in the tunnel will be no less than 25 cm/s in order to ensure the suitable flow rate of the original river environment for the fish species living in the river. • Changes in the riverbed were done only within a limited area with slope stability measures in place that will be maintained. <p>Restoration</p>

Project Phase	Impact	Receptor	Management Activities through Mitigation Measures
			<ul style="list-style-type: none"> Effective site preparation will be implemented. <p>(Effective site preparation refers to the procedures that take place prior to seeding or planting to help ensure that optimal conditions exist for the establishment of healthy, botanically diverse and sustainable vegetation. These procedures include soil and waste characterization, selective handling of materials, construction of stable landforms, topsoil handling, ripping, fertilizing and soil amendment and seed bed preparation, e.g. scarifying).</p> <ul style="list-style-type: none"> A Reforestation Plan and a Mine Closure and Rehabilitation Plan will be developed and implemented. <p>Biodiversity Offset</p> <ul style="list-style-type: none"> To be identified following the appropriate avoidance, minimisation and restoration measures are taken and following the further monitoring since off-set measures are to compensate for significant residual adverse biodiversity impacts arising from project development and persisting.
Construction and Operation	Impacts on biodiversity elements due to emission of gaseous pollutants and dust	-PBF -CHF -Endemic plant species -Important habitats -Gökırmak River -Ecosystem services	<p>Avoidance</p> <ul style="list-style-type: none"> The remaining riverbed will not be intervened and no siltation will be allowed for the period of the water flow. <p>Minimisation</p> <ul style="list-style-type: none"> Dust management control measures specified in the ESIA will be implemented. A Project specific BAP will be developed and implemented. The controlled blasting operation uses delayed (ms) detonators method is selected resulting in smaller ground vibrations, noise and dust impacts compared to other methods. All vehicles will drive on designated routes unless otherwise authorised;
Construction and Operation	Impacts on biodiversity elements due to noise, vibration and lighting	-PBF (mainly the animal species) -CHF (mainly the animal species) -Important habitats	<p>Avoidance</p> <ul style="list-style-type: none"> AMI will ensure that the areas of construction/ excavation activities are unsuitable for nesting birds (for example by using bird repellent tape) ahead of the nesting season (around mid-end April) in order to avoid damages on these animals. Activities resulting in disturbing amount of noise, vibration and lighting (such as blasting and activities of the large vehicles) will be limited at night and measures will be in place as discussed in relevant sections within the ESIA (Vol 1).

Project Phase	Impact	Receptor	Management Activities through Mitigation Measures
		-Gökırmak River	Minimisation <ul style="list-style-type: none"> The controlled blasting operation uses delayed (ms) detonators method is selected resulting in smaller ground vibrations, noise and dust impacts compared to other methods.
Construction and Operation	Introduction of invasive alien species	-PBF -CHF -Endemic plant species -Important habitats -Gökırmak River -Ecosystem services	Avoidance <p>For the flora species;</p> <ul style="list-style-type: none"> Avoidance of damage caused to natural vegetation and habitats (the areas apart from the agricultural areas that can be seen in Corine Land Cover map), if not absolutely required by Project activities. Temporary facilities will be carefully sited. Trainings (including the possible wildlife human conflict) will be provided to relevant personnel in order to raise awareness of the PBF, critical habitats and endemics. Training records that will follow the training programme as suggested in the BMP will be kept. Collection of wildlife plants and especially the endemic and protected ones will be forbidden. As the Project activities are intense and in a relatively large scale, site surveys will be conducted by biodiversity experts should be conducted in order to monitor the Project Area for the possible existence of invasive alien species every 2 year in suitable seasons for terrestrial flora and fauna and aquatic life (ideally in spring season). The trucks carrying soil including material should be covered very carefully to unable; <ul style="list-style-type: none"> → the possible unintended introduction of the invasive character species seeds to the Project Area → the possible unintended introduction of the invasive character species seeds from Project Area to the outside of the Project Area → the possible unintended introduction of non-existing invasive species to the Project Area. <p>For the fauna species;</p> <ul style="list-style-type: none"> Altering potential roosting and nesting sites physically and removing food and water sources. Exclusion methods, such as blocking access to roost sites or installing anti-perching devices are effective. Rock Pigeons can also be prevented from perching or roosting by applying various chemical repellents to these areas. <i>Anas platyrhynchos</i> (Mallard) is not considered to pose a major threat at the current state of the Project.

Project Phase	Impact	Receptor	Management Activities through Mitigation Measures
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			Minimisation and Further Steps <ul style="list-style-type: none"> The relevant mitigation measures will be discussed in the case of an observation of the spread of one or some of these species or introduction of another invasive alien species,
Operation	Bird and bat collisions with ETL	Bird and bat species	<p><u>Since the ETL has already been built, the measures start from the minimisation step.</u></p> <p>Minimisation</p> <ul style="list-style-type: none"> Bird and bat monitoring surveys will be conducted following international standards in order to define the relevant mitigation measures within the monitoring reports following the results of the surveys detailed also in BAP. Carry out collision monitoring during important seasons for birds in the Project Area (winter, spring and summer) and bats (spring, summer and autumn), and introduce bird and bat repellent devices if required based on monitoring results. <p>The bird survey will be conducted following the methodology described by Scottish Natural Heritage in “Scottish Natural Heritage Assessment and mitigation of impacts of power lines and guyed meteorological masts on birds Guidance, 2016”. It will be based on Vantage Point counts covering the whole visual coverage of the ETL. The necessity of further study related to bird/bat and ETL collision will be evaluated following the one year (covering whole seasons) field study by qualified experts. The VP survey will be supported by additional transect line and point count surveys.</p> <p>The bat survey will be conducted following the methodology described by EUROBATS Guidelines for Surveillance and Monitoring of European Bats – Publication Series 5, 2010 (The methodologies can be modified considering the Projects and the habitats as keeping the main concerns of the methodology. Acoustic bat detectors will be used in order to identify the species and their activity index measurably. The surveys will include the determination of bat roosting areas if and where exist for the areas to be directly affected by the Project activities.</p>



Figure 4-1 Endangered species *Dianthus aculeatus* Hamzaoğlu (Caryophyllaceae) and *Crocus speciosus* M.Bieb. subsp. *xantholaimos* Mathews (Orchidaceae)

5. TRAINING

Acacia will provide sufficient training to all its staff and contractors/subcontractors to ensure that they are aware of the relevant aspects of this Plan and are able to fulfil their roles and functions.

The training should mainly focus on raising awareness of the Priority Biodiversity and Critical Habitat Features. And should include the every possible wildlife-human conflict in order to avoid the possible harms to both sides.

The following issues will be included in the awareness raising trainings;

- Incorporate input from employees or volunteers who know the habitat, educators, or local conservation experts
- Introduce a new skill, awareness or behavior through contact with the natural world or contact with others who have expertise in a topic
- Assess the project process with an evaluation to help improve the project's effectiveness over the long term

The main concerns of the training will be as given in Table 5-1 considering the components, responsible parties and the parties to give the training, subject of training and its frequency.

Table 5-1 Wildlife Awareness Raising Training

Component	Responsible	Training subjects	Frequency
Vertebrate animals	AMI (by an expert on vertebrate animals)	<ul style="list-style-type: none"> - Giving general information about the animals (PBF and critical habitats) occurring in the Project Area preferably as having printed information cards/leaflets including photos of the animals - Giving information about the national and international prohibitions related to these species such hunting, egg collection and trade. - Giving information about how to react during the clearing an area from the vertebrate animals where there will be a habitat alteration. - Giving information about how to react in order to avoid being harmful to the animals in the case of an interaction with a vertebrate animal (with a special focus on PBF) within Project Area. - Giving information about how to react in order to avoid being harmed by the animals in the case of an interaction with a vertebrate animal (with a special focus on PBFs) within Project Area. 	Once as this MP starts implementation. After the first training, following every Project related staff change up to 30 people. The training documents will be supplied to each employee.
Plants	AMI (by an expert on vertebrate animals)	<ul style="list-style-type: none"> - Giving general information about the endemic plants occurring in the Project Area preferably as having printed information cards/leaflets including photos of the plants. - Giving information about the national and international prohibitions related to these species such as collection and trade. 	Once as this MP starts implementation. After the first training, following every Project related staff change up to 30 people. The training documents will be supplied to each employee.

6. MONITORING

6.1.1 Monitoring Requirements within the Turkish EIA

The Turkish EIA (for the mine area) sets out the following requirements related to biodiversity monitoring. It should be noted that, EIA monitoring requirements set for air quality, water quality and soil quality also directly and/or indirectly relate to biodiversity features at the Project Area.

Table 6-1. Biodiversity Monitoring Programme in the Turkish EIA

Component	Monitoring Location	Monitoring Method	Frequency	Parameters	Purpose
Vertebrate animals	Project Area (construction areas)	Site observations and samples when necessary	Not identified ⁽¹⁾	The populations of the vertebrate species in the Project Area	Monitor the populations of the vertebrate species in the Project Area in order to assess whether there is a change in the populations due to the Project activities
Vertebrate animals	Waste storage facilities	Site observations	Not identified ⁽²⁾	Vertebrate species	Record and prevent potential harms to the vertebrate animals due to the wastes in the waste storage facilities if they are observed in these areas
<p><i>(1) Although the frequency is not identified within the Turkish EIA Report, based on expert judgement it is anticipated to be yearly.</i></p> <p><i>(2) Although the frequency is not identified within the Turkish EIA Report, based on expert judgement it is anticipated to be monthly.</i></p>					

6.1.2 Key Monitoring Activities

In addition to the monitoring requirements set out in the Turkish EIA, further biodiversity monitoring requirements are set out both as part of the ESIA study conducted in line with EBRD PR6.

Table 6-2. Key Biodiversity Monitoring Measures for the Mine Area and the ETL

No	Project Phase	Topic	Methods	Periodicity	Location	Comments	Progress
1	Construction	Control (Priority biodiversity features defined by EBRD PR6)	Site observations	Before the mine becomes operational. (However, it should be within the suitable period for each taxa as also in line with the suggested Biodiversity Action Plan (BAP) since the Project starts its operation within the first quarter of 2018.)	Project Area except for the ETL route	The existence of the species in the Project Area will be checked ideally before the mine becomes operational within the suitable periods for each taxa when possible.	No monitoring is known to be conducted yet due this date following the first revision of this MP.
2	Construction	Erosion	Visual inspection	Periodically (to be in line with the Erosion and Sedimentation Control Plan)	Project Area except for the ETL route	The presence of erosion will be monitored parallel to the Erosion, Sediment Control, Landscape and Reinstatement Plan (ESCLRP) with particular regards for steep slopes, river crossing and areas cleared of vegetation. Signs of erosions in areas characterized by sensitive flora species or erosion-threatened habitats on-site.	The monitoring will be undertaken following the instructions of the ESCLRP.
3	Construction	Fauna species	Reports	Every year	Construction Sites	All incidents by the Project related activities involving wildlife, or where live or dead animals are observed, will be recorded. Additional mitigation measure to avoid animal mortality will be taken if needed to minimize wildlife incidents.	The monitoring will be undertaken following this MP.
4	Construction	Top soil salvaging	soil Inspection	During top soil salvaging and storage	Project Area except for the ETL route	Topsoil salvaging operations and storage conditions will be inspected in order to guarantee that the conditions are in line with the legal requirements.	The monitoring will be undertaken following the instructions of both this MP and the ESCLRP.
5	Construction and	Bird Monitoring	Visual inspection	For one year (covering whole seasons). Then to	Project Area and its close	The bird survey will be conducted following the methodology based on transect line and point count	The monitoring will be undertaken

No	Project Phase	Topic	Methods	Periodicity	Location	Comments	Progress
	Operation			be evaluated the necessity of a further study.	the vicinity	surveys for one year (covering whole seasons) field study by qualified experts covering the whole Project Area. The main aim will be the determination of the exact locations of the critical habitat triggering biodiversity features and their area use.	following this MP.
	Construction and Operation	Monitoring for Priority Biodiversity Features and Critical Habitat Features	Bat detectors for bat species, GIS and visual inspections for the other features	For one year covering the suitable seasons for each feature. Then to be evaluated the necessity of a further study	Project Area and its close vicinity	The surveys for biodiversity features of higher priority and conservation importance will be identified during additional field surveys and monitoring to confirm presence in situ of those species that are listed in the relevant sections of the ESIA (Volume I) due to habitat suitability or previous literature mention. Later on the feature specific actions of these biodiversity features will be described in BAP in detail in the case of necessity (in case confirmation of their existence and their habitats location at the project Area.	The monitoring will be undertaken following this MP.
6	Operation	Derivation tunnel	Aquatic biodiversity study methods	Once after the derivation tunnel starts operating	Gökırmak River and the derivation tunnel	The aquatic biodiversity will be monitored within the parts of Gökırmak River in order to assess the success of the operation of the tunnel when and where possible.	No monitoring is known due September 2017. The monitoring will be undertaken as this MP starts the implementation.
6	Operation	Possible Future Facilities	Visual inspection	Prior to establishing the site	Within the determined area	The removal of the garbage dump behind Kepezkaya TSF will be monitored during the period of relocation of the garbage dump. Both the current and future garbage dump areas will be included in the monitoring.	
7	Operation	Bird Monitoring	Visual inspection	Spring and Autumn Migration Seasons and Wintering Season	Selected vantage points along the ETL route	Bird monitoring especially for spring and autumn migration seasons and winter season in line with international requirements will be conducted at least for 1 year in the beginning of operation of the ETL in order to assess the potential collisions and electrocution impacts.	No monitoring is known to be conducted yet due this date following the first revision of this MP.

No	Project Phase	Topic	Methods	Periodicity	Location	Comments	Progress
8	Operation	Control invasive species	of Site observations	Every two years	Project Area except for the ETL route	The presence and spread of invasive species will be monitored every two year mainly focusing on the flora species. Especially the mine area and the top soil storage areas have a high potential to be ideal places for the cultivation and spreading of these species.	The monitoring will be undertaken as this MP starts the implementation.
9	Closure	Ecological restoration	Visual inspection	Once a year after the rehabilitation/restoration starts also to be cross-checked with the proposed Mine Closure and Rehabilitation Plan.	In ecological restoration areas	the The area of ecological succession (restoration) will be monitored by experts once a year following the start of the ecological restoration. The final monitoring date of the restoration will be designated together with the results of the monitoring.	The monitoring will take place following the start of the rehabilitation /restoration starts that will be within the scope of the Mine Closure and Rehabilitation Plan

Table 6-3. Landscape and Reinstatement Measures from the Erosion, Sediment Control, Landscape and Reinstatement Plan (ESCLRP)

Measure	Name	Description and Purpose
GCP-LR1	Soil Spreading	It is the placement of construction and landscape materials on the sites of reinstatement by accurately spreading aggregate, soil and groundcover materials.
GCP-LR2	Tree or Shrub Plantation	The planting of trees and shrubs are carried out properly and within the right season for landscape. Visual resources are undertaken during both the construction and operational phases of the project. The implementation and maintenance of landscape compensatory planting measures is a key aspect of this and should be checked to ensure that they are fully realized and that potential conflicts between the proposed landscape measures and any other project works and operational requirements are resolved at the earliest possible date and without compromise to the intention of EC and SC mitigation measures.
GCP-LR3	Permanent Seeding	Establishment of sufficient vegetation cover to reinstate the local plant species and ecology for the longer term. The purpose of the direct seeding is to bio-restoratively establish the original cover of ground vegetation within one year of planting to the percentage it could be possible. Together with tree and shrub plantation and EC and SC measures its aims are to reduce erosion and decrease sediment yield from disturbed areas, to permanently stabilize disturbed areas in a manner that is economical, adaptable to site conditions, and allow selection of the most appropriate plant materials, to improve wildlife habitat and to enhance natural beauty. When necessary, it could be applied using the Hydroseeding.
GCP-LR4	Topsoil Stockpile Management	Proper soil management is expected to facilitate the reestablishment of the original vegetation cover at the area and has crucial importance for the success of the bio-restoration and floristic reinstatement works Its objective is to protect the soil during storage, preserving not only the soil quality but also the vegetative structures such as stolons, rhizomes of perennial plants and seeds of the annual plants.

Source: Acacia Copper Project Erosion, Sediment Control, Landscape and Reinstatement Plan

7. AUDIT AND REPORTING

Regular site inspections will be conducted by the HSE Manager in order to ensure that this Management Plan is successfully implemented on site. Any incidents and non-conformances with this Plan will be reported as per the requirements of the Project ESMS. All the records will be kept in line with the Project ESMS.

8. REVIEW AND UPDATE

This Plan will be reviewed as required by potential changes to operations and/or used hazardous materials. In case any noncompliance with existing project standards is identified or any corrective measure is required or there are changes on the PRs, relevant guidance notes and the status of the biodiversity existing in the Project Area, the plan will be updated accordingly. The HSE Manager will be responsible of review and update of the MP and the Operations Manager will be responsible of approval of any revisions to the Plan. The plan will be recommunicated to personnel and will be shared with contractor/subcontractor management following any such update.