## TAP AG Project Title / Facility Name:
**Trans Adriatic Pipeline Project**

## Document Title:
**Ecological Management Plan**  
**CAL00-PMT-601-Y-TTM-0007**

<table>
<thead>
<tr>
<th>Rev.</th>
<th>Date (dd-mm-yyyy)</th>
<th>Reason for issue and Abbreviation for it, e.g. IFI</th>
<th>Prepared by</th>
<th>Checked by</th>
<th>Approved by</th>
</tr>
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<td>1</td>
<td>20-11-2017</td>
<td>Issued for Implementation</td>
<td>IFI</td>
<td>R.Southern</td>
<td>A.Engel</td>
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<td>Issued for Implementation</td>
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**Contractor Name:**

**Contractor Project No.:**

**Contractor Doc. No.:**

**Tag No's.:**

**TAP AG Contract No.:**

**Project No.:**

**PO No.:**

**RD Code:**

**Page:** 1 of 36

**TAP AG Document No.:**

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Non-conformances to this EMP or Level 3 site file requirements will be rectified
through the ESCH project compliance assurance processes which are
within the Environmental and Social Management Plan and the Environmental and Social Compliance Assurance Plan.  

13.1 Management of Change

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Appendix 10 Bioconstructions Management Plan
Appendix 11 Sea Grass Management Plan
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Appendix 13 Marine Megafauna Mitigation Protocol
Appendix 14 Vessel Code of Conduct
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1 ABBREVIATIONS AND DEFINITIONS

The following table provides definitions of acronyms and terms used in this document.

### Table 1 Abbreviations and Definitions

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALARP</td>
<td>As Low As Reasonably Practicable</td>
</tr>
<tr>
<td>Biodiversity Offsets</td>
<td>Measurable conservation outcomes resulting from actions designed to compensate for significant residual adverse biodiversity impacts arising from project development and persisting after appropriate avoidance, minimisation and restoration measures have been taken (IFC, 2012)</td>
</tr>
<tr>
<td>CCP</td>
<td>EPC Contractor Control Plan</td>
</tr>
<tr>
<td>CIA</td>
<td>Cumulative Impact Assessment</td>
</tr>
<tr>
<td>Critical Habitat</td>
<td>Critical habitat is an area that contains features that are essential for the conservation of a species or habitat of conservation concern that may require targeted management and protection. Critical habitat may include an area that is not currently occupied by a species but is necessary for its recovery.</td>
</tr>
<tr>
<td>EBRD</td>
<td>European Bank for Reconstruction and Development</td>
</tr>
<tr>
<td>EBRD PR</td>
<td>European Bank for Reconstruction and Development Performance Requirement</td>
</tr>
<tr>
<td>EIB</td>
<td>European Investment Bank</td>
</tr>
<tr>
<td>Environmental impact</td>
<td>A change to the environment (in this context the ‘environment’ refers to any aspect of the natural or semi-natural physical environment (air, water, soil, etc.) which may occur as a result of project activities. Impacts may be considered to be positive or negative.</td>
</tr>
<tr>
<td>Project Standards</td>
<td>Documents detailing the Project Standards as applicable in each of the three TAP host countries.</td>
</tr>
<tr>
<td>Documents</td>
<td></td>
</tr>
<tr>
<td>EPC Contractor</td>
<td>Engineering, Procurement and Construction (EPC) contractors and their sub-contractors.</td>
</tr>
<tr>
<td>ESCH</td>
<td>Environment, Social and Cultural Heritage</td>
</tr>
<tr>
<td>E&amp;S</td>
<td>Environmental and Social</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>----------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>ESIA</td>
<td>Environmental and Social Impact Assessment</td>
</tr>
<tr>
<td>ESIP</td>
<td>Environmental and Social Implementation Plan</td>
</tr>
<tr>
<td>ESMP</td>
<td>Environmental and Social Management Plan</td>
</tr>
<tr>
<td>ESMS</td>
<td>Environmental and Social Management System</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
</tr>
<tr>
<td>IFC</td>
<td>International Finance Corporation</td>
</tr>
<tr>
<td>IPMT</td>
<td>Integrated Project Management Team</td>
</tr>
<tr>
<td>KP</td>
<td>Pipeline Kilometre Point</td>
</tr>
<tr>
<td>KPI</td>
<td>Key Performance Indicator</td>
</tr>
<tr>
<td>MoM</td>
<td>Minutes of Meeting</td>
</tr>
<tr>
<td>Natural Habitats</td>
<td>Areas composed of viable assemblages of plant and/or animal species of largely native origin, and/or where human activity has not essentially modified an area’s primary ecological functions and species composition (IFC 2012); areas where ecological assemblages, function and species composition are mainly attributable to natural evolutionary processes and have not been substantially modified by human activities (EIB, 2013).</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-governmental organisation</td>
</tr>
<tr>
<td>PIMS</td>
<td>Project Information Management System</td>
</tr>
<tr>
<td>Priority Biodiversity Features</td>
<td>Features that have a high, but not the highest, degree of irreplaceability and/or vulnerability. Although a level below critical habitat in sensitivity, they still require careful consideration during project assessment and impact mitigation (EBRD GN PR6, 2014).</td>
</tr>
<tr>
<td>PRT</td>
<td>Pipeline Receiving Terminal</td>
</tr>
<tr>
<td>REIR</td>
<td>Route Environmental Impact Register</td>
</tr>
<tr>
<td>SCI</td>
<td>Species of Conservation Interest (Protected species, CH and PBFs.</td>
</tr>
<tr>
<td>TAP</td>
<td>Trans Adriatic Pipeline</td>
</tr>
</tbody>
</table>
2 PURPOSE

This EMP and its appendices have been developed to guide implementation of TAP’s biodiversity commitments (including specific requirements relating to critical habitat) in accordance with the European Bank for Reconstruction and Development’s (EBRD) Performance Requirement 6 Biodiversity Conservation and Sustainable Management of Living Natural Resources (PR6, 2014), the International Finance Corporation’s (IFC) Performance Standard 6 Biodiversity Conservation and Sustainable Management of Living Natural Resources (PS6, 2012) and European Investment Bank’s (EIB) Standard 3 on Biodiversity and Ecosystems (2013). In addition, implementation of this Ecological Management Plan will ensure the project’s compliance with biodiversity obligations according to Greek, Albanian and Italian legislation and standards, as listed in the accompanying Supplementary Ecological Assessment (SEA).

This is achieved by:

- Providing an overview of the biodiversity standards and specifications applicable to the TAP project.
- Providing an overview of the processes to identify, avoid, mitigate and manage ecological risk.
- Defining roles and responsibilities for ecological management.
- Providing specific sub-plans for key features of biodiversity importance (both terrestrial and marine) which define detailed mitigation measures to be implemented by the relevant EPC contractor as well as TAP management controls.

Defining monitoring and evaluation for biodiversity, including Key Performance Indicators (KPIs).

This EMP focuses on the pipeline corridor (both onshore and offshore), compressor stations (Greece and Albania), pipeline receiving terminal and micro-tunnel area (Italy) and new/upgraded access roads (in all three countries).

The requirements described in this EMP apply to all project personnel, including TAP, EPC contractors and sub-contractors, across all project phases.

Project ecological management activities described in this plan include direct and indirect impact areas associated with TAP project activities and infrastructure, as well as activities that potentially impact biodiversity within the wider project Area of Influence (AOI).

This EMP focuses on biodiversity features that may be impacted by the project, including critical habitat, natural habitats, priority biodiversity features species of conservation priority and sites of conservation importance.
3 REFERENCE DOCUMENTS

The EMP is part of TAP’s overarching Environmental and Social Management System (ESMS) and as such interfaces with several other management plans. It should be read in conjunction with all the following documents.

Table 2 Reference Documents

<table>
<thead>
<tr>
<th>Document No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAL00-PMT-601-Y-TLX-0001</td>
<td>ESIA Commitments Register Albania</td>
</tr>
<tr>
<td>GAL00-PMT-601-Y-TLX-0001</td>
<td>ESIA Commitments Register Greece</td>
</tr>
<tr>
<td>IAL00-PMT-601-Y-TLX-0001</td>
<td>ESIA Commitments Register Italy</td>
</tr>
<tr>
<td>CAL00-PMT-601-Y-TTM-0001</td>
<td>Consolidated ESMS Project Standards</td>
</tr>
<tr>
<td>AAL00-RSK-601-Y-TTM-0004</td>
<td>Onshore Ecological Management CCP Albania</td>
</tr>
<tr>
<td>AAL00-RSK-601-Y-TTM-0026</td>
<td>Offshore Ecological Management CCP Albania</td>
</tr>
<tr>
<td>GAL00-ENT-601-Y-TTM-0004</td>
<td>Onshore Ecological Management CCP Greece</td>
</tr>
<tr>
<td>IAL00-RSK-601-Y-TTM-0004</td>
<td>Onshore Ecological Management CCP Italy</td>
</tr>
<tr>
<td>IAL00-RSK-601-Y-TTM-0017</td>
<td>Offshore Ecological Management CCP Italy</td>
</tr>
<tr>
<td>CAL00-C5577-640-Y-TRB-0001</td>
<td>Critical Habitat Assessment</td>
</tr>
<tr>
<td>CAL00-C5577-640-Y-TRS-0002</td>
<td>Supplementary Ecological Assessment</td>
</tr>
<tr>
<td>CAL00-RSK-601-Y-TTA-0002</td>
<td>Environmental and Social Management Plan</td>
</tr>
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<td>CAL00-PMT-601-Y-TTM-0005</td>
<td>Environmental and Social Compliance Assurance Plan</td>
</tr>
<tr>
<td>CAL00-PMT-601-Y-TTM-0003</td>
<td>Watercourse Crossing Management Plan</td>
</tr>
<tr>
<td>CPL00-PMT-100-F-TTA-0001</td>
<td>Soil Erosion and Reinstatement Plan</td>
</tr>
<tr>
<td>CAL00-PMT-601-Y-TTM-0002</td>
<td>Biorestitution Management Plan</td>
</tr>
<tr>
<td>CAL00-C5577-640-Y-TRY-0001</td>
<td>Biodiversity Offset Strategy</td>
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4 PROJECT DESCRIPTION

The Trans Adriatic Pipeline (TAP) project is designed to transport natural gas from the Shah Deniz II development in Azerbaijan to the European market by supplying gas to the Italian network.

TAP will connect with the TANAP pipeline at Kipoi on the Turkey-Greece border and transport the gas through northern Greece to enter Albania east of Korça. The pipeline will continue through Albania and reach the Adriatic coastline near the city of Fier. It will cross the Adriatic and come ashore in southern Italy at Melendugno, near the city of San Foca. TAP terminates at the Pipeline Receiving Terminal (PRT), 8.2km inshore, close to the city of Lecce, where the gas is tied into the Snam Rete Gas (SRG) network. The total length of the TAP pipeline system will be approximately 878km including the offshore pipeline section of 105km.

Figure 1 TAP pipeline route

The project is executed through a series of contracts with suppliers for the provision of certain equipment and materials and with engineering, procurement and construction (EPC) contractors for the execution of project construction in the host countries.
5 LEGAL FRAMEWORK AND PROJECT STANDARDS

The legislative framework for each of the three host countries, Greece, Albania and Italy, has been described in the respective ESIA. Within each ESIA, the current laws and planning instruments of relevance to the project have been described and the regulatory constraints have been analysed.

To enhance consistency and uniformity across the TAP project, all potential impacts along the pipeline route were also assessed against the European Union (EU) regulatory impact assessment and environmental framework. As best practice, TAP also used the EU framework as a benchmark in Albania. Although Albania is not yet an EU member state, it is an accession country.

During preparation of the ESIA, TAP voluntarily decided to apply the European Bank for Reconstruction and Development (EBRD) performance requirements (2008 edition) as the main international standards for compliance during the execution of the planned project activities.

TAP is now planning to raise finance from multilateral agencies, export credit agencies and commercial banks. As such, the following financial institution performance requirements and standards are being applied to the project specifically in relation to biodiversity:


All project activities must comply with the applicable standards, which comprise:

- Applicable International standards and guidelines.
- Applicable national legislation and standards in Greece, Albania and Italy.
- Relevant conditions arising from the host-country Environmental and Social Impact Assessments (ESIA) and project permits.
- Applicable Lender standards.
- Applicable TAP standards.

These are described in detail in the Supplementary Ecological Assessment.
6 ROLES AND RESPONSIBILITIES

6.1 TAP key roles and responsibilities

TAP is ultimately responsible for ensuring that all activities and site operations comply with the project ecological requirements and commitments of:

- Relevant legislation and regulations.
- Legal standards and policies.
- The Commitments Registers.
- The ESMS and ESMP, including this EMP.

TAP achieves compliance assurance in accordance with the overarching Environmental and Social Compliance Assurance Plan (CAL00-PMT-601-Y-TTM-0005)

TAP responsibilities for ecological compliance assurance include:

- Ongoing monitoring and review of EPC contractors’ ecological performance.
- Reviewing and approving EPC contractors’ method statements and mitigation plans to ensure compliance with this EMP.
- Regularly assess EPC contractor organisational charts and ecological resources against performance to ensure that their ESMS teams are resourced with the adequate number of biodiversity specialists to successfully implement the measures in this plan.
- Ecological planning assurance and oversight activities based on EPC contractor scheduling and work activities.
- Maintaining the REIR and Level 3 site files.
- Conducting additional supporting ecological verification surveys and impact assessments.
- Undertaking formal ecological oversight monitoring and communicating the result to EPC contractors to continually improve performance and manage risk.
- Communicating the contents of this EMP to its own staff and EPC contractors and ensuring that they understand their responsibilities with respect to ecological management.
- Maintaining the REIR and site files.
- Undertaking ecologically focused audits and inspections.
- Ensuring formal, regular meetings record and document actions as appropriate.
- Ensuring that adequate resources are mobilised for ecological compliance assurance including input from any specialist resources necessary to ensure effective planning and timely implementation of appropriate measures.
- Ensuring that systems are in place to assess ecological compliance monitoring with this EMP.
- Liaising and coordinating with EPC contractors’ staff regarding to ecological compliance assurance and monitoring.

\[1\] See Level 3 site files 8.6.2
- Ensuring that all ecological incidents are reported and dealt with effectively and that any lessons are learned and considered as part of the continual improvement process.
- Maintaining a Management of Change process.
- Encouraging a 'lessons learned' culture.
- Implementing a non-compliance process.
- Maintaining systems to identify and track ecological-related actions as appropriate.
- Identifying residual impacts and biodiversity offsets to ensure No Net Loss (NN) of Priority Biodiversity Features (PBFs) and Net Gain (NG) of Critical Habitats (CHs).

Overall ESCH roles and responsibilities are presented within the Environmental and Social Management Plan (ESMP). Table 3 provides details of TAP’s roles and responsibilities for ecological management.

### Table 3 TAP roles and responsibilities

<table>
<thead>
<tr>
<th>Role</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAP Managing Director</td>
<td>Overall accountability for the TAP project</td>
</tr>
<tr>
<td>Commercial and External Affairs Director</td>
<td>Providing leadership and assurance to ensure TAP implements its Ecological Management goals and expectations.</td>
</tr>
<tr>
<td>TAP E&amp;S Manager</td>
<td>Ensure project compliance with the Project Standards and other requirements set out in this EMP. Providing resources for the implementation of this EMP. Developing and controlling a budget for ecological management.</td>
</tr>
<tr>
<td>Environmental Advisor</td>
<td>Reporting project compliance with this EMP to the E&amp;S Manager. Provide functional support to the in-country ESCH teams to implement this EMP. Coordination of REIR and Level 3 site files. Coordination and management of ecological surveys, monitoring and long-term ecological management programmes. Coordinating ecological audits of the EPC contractors in conjunction with the country E&amp;S teams. Support TAP ecological assurance activities.</td>
</tr>
<tr>
<td>Role</td>
<td>Responsibilities</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Biodiversity Advisor          | Coordinate training to the country E&S teams in relation to the implementation of this EMP.  
                               | Maintenance of ecological management system.  
                               | Oversees execution of BOS.                                                                                                                                 |
| Biodiversity Species Experts  | Provides biodiversity support to the Environmental Advisor.  
                               | Identification and planning of ecological survey requirements.  
                               | Execution of ecological rapid assessments, surveys, monitoring, audits and residual impact assessments for each REIR entry.  
                               | Coordination and management of biodiversity species experts.  
                               | Supports the Environmental Advisor in providing biodiversity training to the country E&S teams in relation to the implementation of this EMP.  
                               | Supports Biodiversity Offsets Manager with development, implementation and monitoring of the Biodiversity Offsets Management Plan and BAPs. |
| Large Carnivore Expert        | Provides large carnivore support to the Biodiversity Advisor.  
                               | Supports the Biodiversity Advisor with large carnivore rapid assessments, surveys, audits and impact assessments. |
| Biodiversity Offsets Manager  | Coordination and management of TAPs Biodiversity Offset Strategy.  
<pre><code>                           | Coordination of the BOS through development, implementation and monitoring of the Biodiversity Offsets Management Plan and BAPs. |
</code></pre>
<table>
<thead>
<tr>
<th>Role</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-country Project Managers (iPMT)</td>
<td>Ensuring that construction, installation, mechanical completion, pre-commissioning, commissioning and start-up are carried out in line with project objectives and in accordance with this EMP.</td>
</tr>
<tr>
<td>In-country E&amp;S Managers</td>
<td>Communicating the contents of this EMP and any changes to the in-country TAP and EPC contractor teams and acting as the focal point to promote implementation, monitor performance and provide guidance and support.</td>
</tr>
<tr>
<td></td>
<td>Management of the in-country E&amp;S resources to support implementation of this EMP.</td>
</tr>
<tr>
<td></td>
<td>Managing the review and acceptance of EPC contractor ESIPs and supporting plans and processes, e.g. associated sub-plans.</td>
</tr>
<tr>
<td></td>
<td>Country focal point for EPC contractor oversight in accordance with this plan.</td>
</tr>
<tr>
<td></td>
<td>Ensuring that all ESCH-related incidents are reported and dealt with effectively and lessons learned are shared in accordance with the TAP incident reporting procedure.</td>
</tr>
<tr>
<td></td>
<td>Supporting TAP ESCH assurance activities.</td>
</tr>
<tr>
<td>TAP Senior Site Representatives</td>
<td>Accountable for implementation of this EMP at the sites they have accountability for (e.g. pipeline lots or at facilities such as compressor stations, etc.)</td>
</tr>
<tr>
<td></td>
<td>Support the E&amp;S Field Monitors / Leads in their duties in relation to this EMP.</td>
</tr>
<tr>
<td>In-country Environmental Experts</td>
<td>Oversight of the EPC contractors’ activities to ensure they align with this EMP and the EPC contractor ESIPs and supporting plans and processes, e.g. associated sub-plans.</td>
</tr>
<tr>
<td></td>
<td>Support E&amp;S and construction field staff through assistance with pre-construction surveys, document review, incident investigation and technical advice.</td>
</tr>
<tr>
<td></td>
<td>Organising and participating in TAP in-country inspections, reviews and audits of EPC contractor performance with respect to the requirements of this EMP.</td>
</tr>
<tr>
<td></td>
<td>Reporting on E&amp;S compliance and corrective actions implementation to the in-country E&amp;S Manager.</td>
</tr>
</tbody>
</table>
### Role | Responsibilities
--- | ---
Supporting TAP ESCH assurance activities.

In-country Environmental & Social Leads | Coordination of the E&S field monitors' activities along the Right of Way (RoW) and at the above-ground facilities. Focal point for field-based E&S oversight of EPC contractors’ activities to ensure alignment with this EMP and the EPC contractors' ESIPs and supporting plans and processes, e.g. associated sub-plans. Supporting TAP ecological assurance activities.

In-country Environmental Field Monitors | Field-based E&S oversight of the EPC contractors. Daily reporting on E&S inspections, monitoring and site observations. Supporting TAP E&S assurance activities.

All employees and contractors | Receive ecological/biodiversity awareness training as part of ESCH / HSE project induction. Comply with project ecological and biodiversity management requirements presented within this plan.

### 6.2 EPC Contractors’ key responsibilities

EPC Contractors are required to ensure ecological compliance is achieved according to the ESMP, this EMP, the applicable Ecological Management CCPs and their own ESMS.

EPC contractors shall achieve this by:

- Writing an Onshore Ecological Management ESIP that describes how they will manage ecological impacts during their construction activities.
- Ensuring that construction schedules are developed in consideration to the ecological seasonal restrictions.
- Implementing the EPC contractor requirements of the content of this EMP and the Onshore Ecological Management ESIP by:
  - Communicating the requirements to their workers and sub-contractors and training them to ensure that they understand their responsibilities with respect to ecological control and management, incident reporting and response.
  - Ensuring that adequate resources are mobilised for ecological management, including input from any specialist resources necessary to ensure effective planning and implementation of measures. EPC contractors will employ trained personnel and all work will be supervised by on-site environmental coordinators with relevant experience.
o Ensuring a sufficient number of staff have been trained in fauna handling to make sure that trained fauna handlers are available at every work location.

o EPC contractors will conduct pre-construction, during construction and post construction surveys of RoW ecology in order to ensure the satisfactory implementation of proposed mitigation measures, and identify any changes that occur over the construction period. These will include pre-construction surveys, species-specific ecological monitoring and pre-clearance surveys.

o Implementing effective monitoring of ecological management measures to ensure that the effectiveness of ecological control and management activities are assessed and any issues are promptly detected.

o Ensuring compliance by their workers and sub-contractors with the procedures established in the ecological management ESIP, this EMP and the site files.

o Ensuring that all environmental incidents are reported and dealt with effectively and that lessons learned are implemented in future work activities.

o Keeping TAP fully informed of any site ecological issues.

o Attending regular coordination meetings to discuss and action ecological management measures.
7 BIODIVERSITY BASELINE

The biodiversity baseline along the TAP alignment is summarised in the Supplementary Ecological Assessment.

Table 4 Ecological Baseline

<table>
<thead>
<tr>
<th>SEA section</th>
<th>Baseline description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.2</td>
<td>Protected areas</td>
</tr>
<tr>
<td>4</td>
<td>Biodiversity baseline – Greece</td>
</tr>
<tr>
<td>5</td>
<td>Biodiversity baseline – Albania</td>
</tr>
<tr>
<td>6</td>
<td>Biodiversity baseline – Italy</td>
</tr>
<tr>
<td>7</td>
<td>Offshore biodiversity*</td>
</tr>
<tr>
<td>8.1</td>
<td>Biodiversity features qualifying for critical habitat.</td>
</tr>
<tr>
<td>8.2</td>
<td>Priority biodiversity features</td>
</tr>
</tbody>
</table>

*A summary of the biodiversity baseline studies completed by TAP are presented in section 3.4 of the Supplementary Ecological Assessment. Supplementary pre-construction surveys will be undertaken to support construction planning and preparation of construction method statements prepared by the EPC contractor and approved by TAP. In addition, the supplementary surveys will be used to finalise construction and post-construction surveys as well as oversight monitoring of the EPC contractors’ activities.

There are a number of planned and potential marine supplementary pre-construction surveys, as described in Appendices 10, 12, 15 and 16 to support the start of marine works in 4Q 2018. The programme below will be undertaken to plan and complete supplementary marine surveys and include the following key activities:

- Completion of a marine environmental seabed and water column survey in Albania in 4Q 2017 or 1Q 2018.
- Review of deep water critical habitat seabed data and anchoring plans to define the scope and schedule of the additional geophysical data and ROV (imagery) survey by the end of March 2018.
- Engagement with the Italian competent authorities and finalisation of all Italian water marine management plans prior to the start of marine construction work in 4Q 2018. These will include:
  - Bioconstructions Management Plan
  - Seagrass Management Plan
  - Marine Megafauna Mitigation Protocol
  - Deep Water Marine Management Plan
Completion of a nesting turtle survey in Albania during 2 and 3Q 2018.

The above programme will be revised at the end of 2Q 2018 prior to the start of marine construction work. A revised ecological management plan and supporting marine monitoring plans will be disclosed on the TAP website. The collection, analysis and interpretation of supplementary pre-construction, construction and post-construction monitoring work will be used to inform and, where appropriately revise this plan, the Biorestoration Plan, the Offset Strategy and its development into a detailed Offset Management Plan.
8 ECOLOGICAL MANAGEMENT SYSTEM

Figure 2 provides an overview of the TAP Ecological Management System, encompassing documentation, management tools and assurance to ensure compliance with project biodiversity requirements.

Figure 2 Ecological Management System

8.1 Commitments Register

A Commitments Register (CR) was produced for each host country to provide a structured database compiling all commitments in one place and assigning unique reference numbers to each commitment.

The CR provides the basis for various documents and processes referring to planning, development and construction of the TAP natural gas pipeline to ensure an adequate implementation of ESIA commitments. This includes, for example:

- Complete documentation of all commitments made and mitigation measures agreed by the TAP project.
- The technical bidding requirements of the invitation to tender for the EPC contract as part of the supply specifications that have to be fulfilled by the contractor.
Table 5 Commitments Registers

<table>
<thead>
<tr>
<th>Commitments Register</th>
<th>Register Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albania</td>
<td>AAL00-PMT-601-Y-TLX-0001</td>
</tr>
<tr>
<td>Greece</td>
<td>GAL00-PMT-601-Y-TLX-0001</td>
</tr>
<tr>
<td>Italy</td>
<td>IAL00-ENT-643-B-TLX-0001</td>
</tr>
</tbody>
</table>

8.2 Project Standards

Project Standards have been developed that define the emissions and discharge standards required by TAP for the onshore and offshore pipeline construction and subsequent operational phase.

Table 6 Project Standards

<table>
<thead>
<tr>
<th>Consolidated ESMS Project Standards</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CAL00-PMT-601-Y-TTM-0001</td>
</tr>
</tbody>
</table>

8.3 Ecological Management Contractor Control Plans

TAP Ecological Management Contractor Control Plans (CCPs) identify the commitments made in the ESIAs in relation to ecological management during the construction and commissioning phase of the project and describe TAP’s requirements of the EPC contractor in meeting these commitments. Additional requirements have been included in the CCPs where they are deemed to be internationally accepted or best practice. Commitments, requirements, actions established in this EMP takes precedence over the CCPs.

As part of its planning and readiness for construction, the EPC contractors are required to prepare its own Ecological Management Environmental and Social Implementation Plan (ESIP) setting out how it intends to meet and comply with specific Project commitments set out in the CCP developed by TAP. EPC contractor ecological management ESIPs are reviewed and approved by TAP prior to construction activities. Any changes or new requirements, established by the EMP will be managed through the REIR and level 3 site files.

Table 7 Ecological Management CCPs

<table>
<thead>
<tr>
<th>Onshore Ecological Management CCP</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albania</td>
<td>AAL00-RSK-601-Y-TTM-0004</td>
</tr>
<tr>
<td>Offshore Albania</td>
<td>AAL00-RSK-601-Y-TTM-0026</td>
</tr>
<tr>
<td>Onshore Greece</td>
<td>GAL00-ENT-601-Y-TTM-0004</td>
</tr>
<tr>
<td>Onshore Italy</td>
<td>IAL00-RSK-601-Y-TTM-0004</td>
</tr>
<tr>
<td>Offshore Italy</td>
<td>IAL00-RSK-601-Y-TTM-0017</td>
</tr>
</tbody>
</table>
8.4 Critical Habitat Assessment

The Critical Habitat Assessment (CHA) provides a technical assessment of the extent of critical habitats relevant to the TAP project based on a set of qualifying criteria established by the performance requirements and standards of three financial institutions.

Critical habitats are areas with high biodiversity which give rise to stringent requirements that must be met for project activities to be permitted within them. In instances where compliance with these requirements is not possible, project activities should be avoided and/or minimised, in accordance with the mitigation hierarchy. The project-wide critical habitat assessment was carried out subsequent to development and approval of the individual Environmental and Social Impact Assessments (ESIAs) prepared for each host country (Greece, Albania and Italy), and provides input into this plan, the SEA and Biodiversity Offsets Strategy (BOS).

8.5 Supplementary Ecological Assessment

The purpose of the Supplementary Ecological Assessment (SEA) was to provide:

- Whole-project biodiversity baseline, updated to include the results of surveys and monitoring carried out since completion of the individual host country ESIAs.
- Identification of critical habitat, priority biodiversity features, modified vs. natural habitats, etc.
- Updated information from the host-country ESIAs in relation to legally protected and/or internationally designated areas (this is particularly applicable in Albania, where the protected areas network is currently subject to review and revision).
- Biodiversity impact assessments, updated since development of the ESIAs and incorporating the outcomes of the critical habitat assessment and corresponding mitigation.
- Assessment of the residual impacts on biodiversity features (i.e. critical and natural habitats and Priority Biodiversity Features) as a result of the project, after the mitigation hierarchy has been applied. Based on this biodiversity impact assessment, biodiversity features requiring management are identified.
- Identification of applicable biodiversity legislation and standards.

The SEA provides the biodiversity baseline and impact assessments for this EMP.

8.6 Ecological Management Plan

This Ecological Management Plan (EMP) has been developed to incorporate the SEA baseline and to consolidate the preceding components of the TAP ecological management system illustrated in Figure 2.

The requirements of this plan take precedence over preceding TAP ecological CCPs.

8.7 Route Environmental Impact Register

The Route Environmental Impact Register (REIR) and Route Social Impact Register (RSIR) are part of the overriding TAP E&S management system. These are described in detail in 5.3 of the Environmental and Social Management Plan.

This plan focuses on the biodiversity function of the REIR.
As illustrated in Figure 2, the REIR forms part of this EMP and functions as a central living tool used to identify and communicate key geo-referenced ecological sensitivities and requirements from the TAP EMS to TAP IPMT teams and the EPC contractor for site implementation.

The REIR provides:

- A register of all identified Critical Habitats (CHs), PBFs and protected areas listed by kilometre point.
- A planning tool to ensure that proposed construction schedules are compliant with seasonal restrictions.
- A sign post to biodiversity management plans relevant to each entry.
- A register of Level 3 site files (see 8.6.2 below).
- An overview and record of completed construction activities within CHs, PBFs and protected areas.

The REIR provides a list of biodiversity sensitivities identified in the Supplementary Ecological Assessment. The REIR is used in weekly environmental coordination meetings to support work planning. TAP and EPC contractor cross-functional meetings support implementation and management performance issues associated with each entry in the REIR.

The REIR is a living document that will be continually reviewed as new biodiversity information becomes available through both TAP and EPC contractor monitoring and surveys. This includes the identification of CH, PBFs and annex IV species at locations not previously identified during previous surveys.

TAP Environmental / Biodiversity Advisor will complete a monthly review of the REIRs to ensure that the latest biodiversity information is captured and communicated.

The biodiversity entries of the REIR are provided in Appendix 1.

The REIR and corresponding management plans are issued to the EPC contractors for implementation.

An REIR will be developed also for Italy and Offshore.

### 8.7.1 Level 3 site files

Level 3 site files function as a specific action plan and monitoring record for each individual biodiversity entry in the REIR.

A unique Level 3 site file reference number is assigned to each biodiversity entry in the REIR.

Level 3 site files will be developed retrospectively for all CHs, PBFs, and protected areas where construction activities commenced prior to implementation of this EMP.

---

2 Where REIR entries do not cross multiple kilometre points (KP) a single KP is provided. Where the entry is large or easily identifiable, the nearest whole kilometre point negative of the entry is displayed. Where the entry is small or exists alongside multiple similar entries, the nearest KP to one decimal place negative of the entry is displayed. Where REIR entries cross KPs, the whole range of the entry is displayed. In all cases, detailed mapping is provided in the Level 3 site file for each entry.
Table 7 provides an overview of the content, development, purpose and application of the Level 3 site files.

The TAP Environmental Advisor will coordinate the application and maintenance of the REIR and Level 3 site files. They will be supported by TAP Biodiversity Species Experts during the development of Level 3 site files, as described in Table 8.
## Table 8 Level 3 Biodiversity Site Files

<table>
<thead>
<tr>
<th>Site File section</th>
<th>Content</th>
<th>Development</th>
<th>Purpose and Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Assessment</td>
<td>• Baseline – detailed description of REIR entry.</td>
<td>• Developed by TAP Biodiversity Advisor.</td>
<td>• Provide site specific biodiversity baseline for rapid assessment and impact verification.</td>
</tr>
<tr>
<td></td>
<td>• Mitigation – detailed description of mitigation for REIR entry.</td>
<td>• Developed by TAP Biodiversity Advisor.</td>
<td>• Provide rationalised phase 1 and phase 2 EMS mitigation for each individual REIR entry.</td>
</tr>
<tr>
<td></td>
<td>• Assigns unique reference number to each mitigation for compliance validation.</td>
<td></td>
<td>• Pre-construction compliance assurance with EPC contractor mitigation plans.</td>
</tr>
<tr>
<td></td>
<td>• Rapid assessment - pre-construction verification and impact verification of site file entry.</td>
<td>• Developed by TAP Biodiversity Advisor following appraisal of rapid assessments and review of EPC PCS.</td>
<td>• Verification of baseline and mitigations.</td>
</tr>
<tr>
<td>2. Final mitigation plan</td>
<td>• Final mitigation plan following rapid assessment.</td>
<td>• Developed by TAP Biodiversity Advisor in collaboration with EPC contractor.</td>
<td>• Provides approved site-specific mitigation plans for implementation by TAP and EPC contractor.</td>
</tr>
<tr>
<td></td>
<td>• Engagement plan</td>
<td></td>
<td>• Identifies recommended consultation and engagement with interested conservation groups and interested third parties to provide input into final mitigation plans.</td>
</tr>
<tr>
<td></td>
<td>• Training plan</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• TAP construction monitoring plan</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 3. Construction performance | • Record of construction activities at each REIR entry.  
  • Record of final mitigation plan compliance.  
  • Detailed timeline of construction activities.  
  • Photographic record of key construction activities and phases.  
  • Records of TAP compliance assurance monitoring.  
  • Details of any incidents or NCRs affecting the REIR entry. | • Developed by TAP using both TAP and EPC construction monitoring data.  
  • Provides detailed records of construction activities and mitigation compliance for REIR entry. | • Identifies project personal requiring training in relation to the content of the Level 3 site file.  
  • Provides TAP compliance assurance monitoring plan. |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Additional TAP actions</td>
<td>• Additional actions and recommendations required to support and verify REIR entries.</td>
<td>• TAP Biodiversity Advisor</td>
<td>• Additional TAP actions, for example additional supplementary surveys to verify baseline.</td>
</tr>
<tr>
<td>5. Residual impact assessment</td>
<td>• Residual impact assessment of construction activities at REIR entry.</td>
<td>• Performed by TAP Biodiversity Advisor following completion of</td>
<td>• Verification of predicted residual impact assessment for REIR entry.</td>
</tr>
<tr>
<td>6. Biodiversity action plan</td>
<td>• Detailed action plan to ensure that no net loss for PBFs and net gain for CH following residual impact assessment.</td>
<td>• Identification of additional residual impacts following assessment of construction performance.</td>
<td>• Provides long-term action plan for REIR entry to achieve no net loss for PBFs and net gain for CH following residual impact assessment.</td>
</tr>
<tr>
<td>----------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>7. Post-construction monitoring plan</td>
<td>• Detailed site specific post construction monitoring plan and key performance indicators for REIR entry.</td>
<td>• Developed by TAP Biodiversity Advisor.</td>
<td>• Executed by TAP Biodiversity Advisor.</td>
</tr>
</tbody>
</table>
8.8 Biodiversity Offset Strategy (BOS)

Despite the application of the mitigation hierarchy as described in 9.2 of this EMP, some residual impacts to Critical Habitats and PBFs will still occur. As a result, and as a last resort, TAP has developed a Biodiversity Offset Strategy to demonstrate how any unavoidable residual impacts from the project to biodiversity values, including Critical Habitats and PBFs, can be compensated through the establishment of biodiversity offsets in a manner that achieves an overall net gain in biodiversity. This strategy relates to the pipeline corridor both onshore and offshore, compressor stations (Greece and Albania), pipeline receiving terminal and micro-tunnel area (Italy) and new/upgraded access roads (all three countries).

Following an implementation and pilot period, TAP will develop a Biodiversity Offset Management Plan (BOMP) that will provide more details on the offset design, intended conservation outcomes, specific management actions and details on the legal mechanisms of establishing the prospective site(s), as well as any indirect initiatives to be supported.

Where applicable, individual Biodiversity Action Plans (BAPs) will be developed by the Biodiversity Advisor for each offset or enhancement. They will provide a detailed roadmap for the long-term implementation, management and monitoring of each of the offsets where significant residual impacts exist or enhancement programmes are proposed. Development of the BAPs will involve national and local-level stakeholder engagement and the cultivation of long-term partnerships with appropriately experienced in-country organisations that would implement specific BAP activities.

The TAP Biodiversity Offset Manager will coordinate TAP’s biodiversity offset strategy.
9 POTENTIAL IMPACTS AND MITIGATION

9.1 Potential impacts

Section 9.2 of the SEA outlines the main impacts that the project could have on critical habitat and priority biodiversity features prior to the application of mitigation measures.

Section 10 of the SEA provides impact assessments for all critical habitat and priority biodiversity features after the application of mitigation measures.

9.2 Mitigation hierarchy

Following the ESIA and comprehensive pre-construction studies and surveys, TAP has applied the mitigation hierarchy to avoid or, if not possible, minimise impacts to all species and habitats of conservation importance. Section 9.3 of the SEA outlines the mitigation hierarchy implemented to reduce biodiversity impacts to As Low As Reasonably Practicable (ALARP). This is summarised below:

Figure 3 Mitigation Hierarchy

- **Avoid** – e.g. micro-siting
- **Minimise** – e.g. narrowing of the ROW
- **Rehabilitate** – e.g. restoration of habitat within the ROW
- **Offset** – Compensate residual impacts e.g. loss of habitat within the PPS

9.2.1 Avoidance

**Micro-siting**

Micro-siting of work sites to avoid sensitive biodiversity features such as mature trees or ponds.

Potential micro-siting opportunities are identified during pre-construction surveys. Following successful feasibility assessments, the sensitive feature is marked with high visibility warning tape and clearance crews are briefed on the required protection measures and new limits of the work-site boundaries.

**Trenchless crossings**

Trenchless crossings have been selected at watercourse crossings with high ecological value. A trenchless crossing avoids or significantly reduces impact to the aquatic and riparian ecology.

**Seasonal restrictions**
Seasonal restrictions have been implemented to avoid impact to important stages of the life-cycles of sensitive fauna.

- Seasonal restriction of work activities in areas of high importance to breeding birds.
- Seasonal restriction of work activities in areas of high importance to denning, breeding, commuting and foraging bears.
- Seasonal restriction of work activities in areas of high importance to denning wolves.
- Seasonal restriction of work activities in areas of high importance to denning jackals.
- Seasonal restrictions of work activities in watercourses important for fish and aquatic invertebrates of high ecological value.

All seasonal restrictions are included within the REIR and included within the EPC contractors’ construction schedules and march charts.

9.2.2 Minimisation

Reduction of working width

RoW working widths will be reduced in sensitive habitats. If technically feasible, the standard 38m working width will be reduced to:

- 18m in Annex 1 EU priority habitat.
- 28m in all other natural habitats.

Reduced working widths are included within EPC contractor alignment sheets and the REIR.

9.2.3 Rehabilitation

With the exception of the PPS, the TAP RoW will be restored to pre-construction condition. The Biorestoration plan sets out the strategy to ensure successful biorestoration of the TAP RoW.

9.3 TAP Management Plans

Species and habitat-specific management controls and mitigations are provided in the following TAP Management Plans.

Table 9 TAP Biodiversity Management Plans

<table>
<thead>
<tr>
<th>Document Ref No.</th>
<th>Topic</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAL00-PMT-601-Y-TTM-0003</td>
<td>Watercourse Crossing management plan</td>
<td>Defines management controls for the protection of aquatic ecology during watercourse crossing construction activities.</td>
</tr>
<tr>
<td>Appendix 2</td>
<td>Large Carnivores management plan</td>
<td>Defines management controls for the protection of large carnivores during construction activities.</td>
</tr>
</tbody>
</table>

3 Natural Habitats are defined in 3.3 of the SEA.
<table>
<thead>
<tr>
<th>Document Ref No.</th>
<th>Topic</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appendix 3</td>
<td>Olive Trees management plan</td>
<td>Defines management controls for the protection of olive trees during construction activities.</td>
</tr>
<tr>
<td>Appendix 4</td>
<td>Amphibians and Reptiles management plan</td>
<td>Defines management controls for the protection of amphibians and reptiles during construction activities.</td>
</tr>
<tr>
<td>Appendix 5</td>
<td>Flora and Habitats management plan</td>
<td>Defines management controls for the protection of flora and habitats during construction activities.</td>
</tr>
<tr>
<td>Appendix 6</td>
<td>Bats management plan</td>
<td>Defines management controls for the protection of bats during construction activities.</td>
</tr>
<tr>
<td>Appendix 7</td>
<td>Avifauna management plan</td>
<td>Defines management controls for the protection of avifauna during construction activities.</td>
</tr>
<tr>
<td>Appendix 8</td>
<td>Invasive Species management plan</td>
<td>Defines management controls for the control of invasive species during construction activities.</td>
</tr>
<tr>
<td>Appendix 9</td>
<td>Bio restoration Monitoring Plan</td>
<td>Defines indicative monitoring programmes and KPIs for monitoring the success of this EMP and the Biorestoration Plan.</td>
</tr>
<tr>
<td>Appendix 10</td>
<td>Bioconstructions management plan</td>
<td>Defines management controls for the protection of bioconstructions during construction activities.</td>
</tr>
<tr>
<td>Appendix 11</td>
<td>Sea Grass management plan</td>
<td>Defines management controls for the protection of seagrass during construction activities.</td>
</tr>
<tr>
<td>Appendix 12</td>
<td>Turtle management plan</td>
<td>Defines management controls for the protection of turtles during construction activities.</td>
</tr>
<tr>
<td>Appendix 13</td>
<td>Marine Megafauna Mitigation Protocol</td>
<td>Defines management controls for the protection of megafauna during construction activities.</td>
</tr>
</tbody>
</table>
9.4 **TAP Ecological Method Statements**

TAP has developed ecological method statements to avoid or, if not possible, reduce the impact on other species of conservation interest that do not trigger Critical Habitat or PBFs.

**Table 10 TAP Ecological Method Statements**

<table>
<thead>
<tr>
<th>Document Ref No.</th>
<th>Topic</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>GAL00-RSK-642-Y-TVN-0001</td>
<td>Burrowing Mammals Method Statement - Greece</td>
<td></td>
</tr>
<tr>
<td>GAL00-RSK-642-Y-TPK-0003</td>
<td>Dormice Method Statement – Greece</td>
<td></td>
</tr>
</tbody>
</table>

TAP will support the EPC contractor during implementation of the measures outlined within the ecological method statements.

9.5 **Protected and designated areas**

Section 3.2 of the SEA presents a summary of the protected and designated areas within 2km of the project.

Protected areas are included within the REIR.

Site files will be developed for all protected areas where all qualifying species will be assessed.

9.6 **Additional land-take**

It is the intention that, as far as possible, additional land-take is to be avoided.

In cases where this is not possible or practical, the EPC contractor must inform TAP in a timely manner of the land requirements with the submission of an additional land-take request. TAP shall assess the land-take needs based on the following criteria:

- Land type to be impacted (agricultural, etc.).
- Area of required land (as applicable, depending on the size of land required).
- Potential impact to biodiversity.
Based on this assessment, TAP shall instruct the EPC contractor to undertake fair and transparent land acquisition and compensation for the additional lands, in accordance with the procedure prescribed by TAP.

Additional land-take in protected areas and critical habitats will be avoided as far as possible.

A Level 3 site file will be developed for any additional land taken within Natura 2000 sites, other protected areas, CH and PBFs, where residual impacts will be assessed.

9.7 Ecosystem services

TAP has reviewed project impacts on ecosystem services and identified mitigation measures required to meet project standards. Priority ecosystem services include those on which the project is most likely to impact and which, therefore, may result in adverse impacts to affected communities. Ecosystem service impacts associated with the project may include permanent and temporary loss of agricultural land, permanent crops and pasture; impacts to freshwater resources through modification of watercourse morphology; sediment plumes; freshwater consumption and accidental pollution of freshwater resources; and the extraction, transportation and management of aggregates. TAP also recognises that water regulation, through slower flows and reduced flooding, could affect vegetation, forests, irrigation channels, rivers and wetlands. Similarly, soil erosion and compacting associated with the removal of vegetation and trenching may result in loss of soils and their functions in some areas.

Mitigation and monitoring of ecosystem service impacts is embedded in a number of management plans:

- Livelihoods Assistance and Transitional Support
- Livelihoods restoration
- Watercourse crossing management
- Soil erosion and reinstatement
- Biorestitution
10  CONSTRUCTION PHASE SURVEYS AND MONITORING

10.1  EPC Contractor Surveys

10.1.1  Pre-construction surveys (PCS)

The EPC contractor must complete a PCS prior to construction. The multi-disciplinary PCS team will include representatives from the construction and environmental departments, including biodiversity species experts where species of conservation interest (SCI) are expected or have been recorded in the SEA.

The objective of the EPC contractor PCS is to:

- ‘Ground truth’ ecological constraints.
- Identify previously unrecorded SCI and other ecological constraints.
- Verify site-specific mitigation to be incorporated in construction work plans.

The EPC contractor PCS must include:

- Verification and identification of habitats present within the RoW.
- Verification and identification of SCI present within the RoW, including species listed in the host country Red Data Book and EU Habitats and Birds Directive.
- Identification and assessment of all watercourses crossed by the RoW as per the WCMP.

10.1.2  Species-specific pre-clearance checks

The EPC contractor must employ biodiversity species experts to conduct pre-clearance checks immediately before construction.

Mitigation detailed within the corresponding management plans listed in section 9.3 of this EMP will be implemented during pre-clearance checks.

10.1.3  Species-specific ecological monitoring

The EPC contractor must employ biodiversity species experts to conduct monitoring of SCI to verify the success of ecological mitigation throughout the construction phase.

Pre-clearance checks and ecological monitoring will be completed within the appropriate survey season for the target species, as specified in the corresponding management plans listed in Section 9.3 of the EMP.

Latest international best practice shall be applied in survey methods.

10.2  TAP surveys

TAPs Biodiversity Advisor will maintain and coordinate a pool of Biodiversity Species Experts, including:

- Large carnivore experts
- Ornithologists
- Herpetologists
• Bat experts
• Aquatic experts
• Botanical experts
• Bio restoration experts
• Marine experts

The Biodiversity Species Experts will assist TAP’s Biodiversity Advisor in:

• Reviewing SEA baseline and EPC contractor PCS to identify supporting verification studies and surveys for Level 3 site file rapid assessments and residual impact assessments.
• Level 3 site file rapid assessments.
• Level 3 site file residual impact assessments.

Latest international best practice shall be applied in survey methods.
11 POST CONSTRUCTION MONITORING

TAP Biodiversity Advisor will coordinate the post-construction monitoring.

Monitoring will commence in the first year after biorestoration of the site.

Monitoring will continue beyond the specified target year if the KPI has not been achieved.

Cessation of monitoring will be recommended if KPIs have been achieved before the specified target year.

Post-construction monitoring programmes and Key Performance Indicators for CHs and PBFs are provided in Appendix 9.

Where necessary, detailed post-construction monitoring programmes will be developed to account for the site-specific variabilities of each REIR entry. Monitoring programmes will be developed by the TAP Biodiversity Advisor and included within each Level 3 site file.

Annual monitoring reports will be developed for each REIR entry and will include:

- Survey method
- Survey results
- Performance indicators
- Intervention recommendations
- Recommendation for cessation of monitoring.

Post-construction monitoring data for each REIR entry must be recorded within each Level 3 site file.

Where residual impact is identified, TAP will initiate processes within the biodiversity offsets strategy to ensure no net loss of PBFs and net gain of Critical Habitats.

TAP’s Biodiversity Offset Manager will use the Level 3 site file monitoring data during biodiversity offset accounting.
12 IMPLEMENTATION

Implementation of the requirements of this plan will be managed through the REIR and Level 3 site files for all Critical Habitats and PBFs, as detailed in Appendix 1.

The TAP Environmental Advisor and TAP Biodiversity Advisor will be supported by a range of Biodiversity Species Experts to ensure the implementation of this EMP.

The Rapid Assessment of REIR entries will be an ongoing process throughout the construction phase of TAP.

This EMP will be reviewed on a minimum six-monthly basis during construction and commissioning.

If material changes to operating procedures are needed (as identified through the Management of Change process), this Management Plan may be updated on an 'as required' basis.

Any changes to this management plan will be uploaded to the Document Control Centre to ensure that all TAP staff and sub-contractors have access to the current version.

12.1 Induction training

All TAP and contractor personnel (including sub-contractors) working at any of the project sites will be provided with general biodiversity training during project inductions.

12.2 Job-specific training

Specialist training will be provided to plant operators and key personnel involved in activities which involve site clearing (in particular, vegetation clearing and topsoil stripping), materials handling and transport activities which could impact biodiversity features.

12.3 Biodiversity TBTs

Biodiversity toolbox talks will be provided to the workforce on entry into biodiversity sensitive areas or on identification of corrective actions during site inspections and audits.

12.4 Level 3 site files

Training plans will be developed in each Level 3 site file to ensure that biodiversity requirements are communicated to relevant project personnel.
13 ECOLOGICAL COMPLIANCE ASSURANCE

TAP is ultimately responsible for ensuring that all activities and site operations comply with relevant project commitments as well as the requirements of the ESMS, including this plan. The ecological mitigation actions described in this EMP will only be effective if supported by applicable monitoring and evaluation.

This will be achieved by:

- Review of contractor ESIPs, pre-construction surveys, work method statements, work instructions and relevant subordinate procedures relevant to ecological management.
- Risk-based attendance of relevant company E&S staff at contractor pre-construction surveys, biodiversity monitoring, reinstatement walk-throughs.
- Undertaking formal inspections of implementation of mitigation measures detailed in each Level 3 site file.
- Use of compliance tools to identify and raise issues including Works Improvement Notices (WINS), non-conformance reports (NCR), incidents, internal company reporting on E&S performance, attending meetings with contractors to drive performance and raise issues, punch lists.
- Ongoing risk-based ecological monitoring as per the monitoring plans of each Level 3 site file, following construction and commissioning phases, and continuing into operations.

Further details of company overarching compliance and assurance processes are described in the Environmental & Social Compliance Assurance Plan.

Non-conformances to this EMP or Level 3 site file requirements will be rectified through the ESCH project compliance assurance processes which are within the Environmental and Social Management Plan and the Environmental and Social Compliance Assurance Plan.

13.1 Management of Change

Due to unplanned events, unforeseen situations or potential ESCH or health and safety conflicts, there may be special circumstances requiring amendment to the project design or changes to project execution processes. There may also be special circumstances where new information acquired (e.g. from field surveys) reflects changes in baseline conditions or new environmental and social impacts that may trigger requirement for a local variation in project execution. In the event that ecological mitigation affecting a REIR entry cannot be implemented or is deemed unnecessary for validated reasons, the EPC contractor must inform TAP with a Management of Change prior to deviating from approved mitigation.

The Management of Change procedure is outlined in the Environmental and Social Management Plan.