Integrated ESIA Greece
Annex 8.6 - Appropriate Assessment Screening Process
1 INTRODUCTION

1.1 Purpose of this report

1.2 Project Overview

1.3 Legislative and other frameworks for the conduction of SpEA within Natura 2000 sites

2 PROJECT DESCRIPTION

2.1 Introduction

2.2 Pipeline route

2.3 Construction and Pre-commissioning

2.3.1 Construction Methods

2.3.1.1 Marking and Clearance of Working Strip

2.3.1.2 Topsoil Stripping

2.3.1.3 Grading

2.3.1.4 Trenching

2.3.1.5 Blasting

2.3.1.6 Backfill

2.3.1.7 Watercourse Crossings

2.3.1.8 Clean Up and Restoration

2.3.2 Pressure Testing during Construction (Hydrotesting)

2.3.2.1 Hydrotest Concept

2.3.2.2 Water Abstraction Sources

2.3.2.3 Discharge / Disposal Options

2.4 Operation and Maintenance

2.5 Decommissioning

2.6 Safety and Non-Routine Events

3 APPROPRIATE ASSESSMENT SCREENING PROCESS

4 CONCLUSIONS
List of Tables

Table 2-1  Water Requirements for Hydrotesting  19
Table 3-1  Screening Process for Protected Areas likely to be affected by the Project  25

List of Figures

Figure 1-1  TAP’s route  5
Figure 1-2  AA Stages  8
Figure 2-1  Trans Adriatic Pipeline Project Location  11
Figure 2-2  Standard Working Strip  13
Figure 2-3  Reduced Working Strip  13
Figure 2-4  Indicative Cross Section of the Pipeline and Trench  15
Figure 2-5  Horizontal Directional Drilling (HDD) Technique  17
Figure 3-1  Natura 2000 sites within broader area of the project  24
INTRODUCTION

1.1 Purpose of this report

Appropriate Assessment (AA) forms an integral part of the Environmental Impact Assessment report. It aims to provide a detailed ecological description of the Natura 2000 sites that are expected to be influenced by the TAP project, and to assess the potential effects of the project in terms of the maintenance of the ecological integrity of the sites. Appropriate Assessments are carried out based on the potential project’s affections on the site’s conservation objectives and qualifying interests and, where needed, includes the definition of appropriate mitigation measures so as to ascertain that the project will not adversely affect the integrity of the protected area.

1.2 Project Overview

The Trans Adriatic Pipeline (TAP) is a planned natural gas pipeline in the Southern Gas Corridor, which will carry gas from reserves in the Caspian region to South and Central Europe. This way it offers a new gas transportation route between the Caspian Region and southern and central Europe that will support Europe in achieving its strategic goal of securing and diversifying gas supplies and boosting its ability to meet growing energy needs. The pipeline will connect the existing gas network; starting from Greece, it will traverse Albania and Adriatic Sea and will terminate in southern Italy, allowing the flow of gas directly from the Caspian basin to the European markets. The TAP pipeline will have an initial capacity of 10 billion cubic meters (BCM), with the ability to serve an additional amount of new gas equal to 10 BCM per year, total 20 BCM. The European Union has included the project in the Trans-European Energy Networks as a project of common interest to the overall energy policy objectives of the European Union. TAP is being developed by Trans Adriatic Pipeline AG (TAP AG), a company registered in Switzerland, which is a joint venture of three shareholders - Statoil (Norway), Axpo (Switzerland) and E.ON (Germany). The Greek part of TAP will be consisted of a pipeline with a total length of ~543 km (359 km from Kipoi to Thessaloniki referred to as East Section and 184 km from Thessaloniki to the border with Albania referred to as West Section).
The pipeline will be made of welded steel pipe sections with an average of 18 m in length and a diameter of 48 inches (1.2 m) and will be coated outside in order to be protected from corrosion with a 3-layer polyethylene. Internal epoxy coating will be applied, to reduce friction of the gas flow. It will be buried underground within a trench for its entire length and protected against corrosion by a cathodic protection system. The project consists of associated components such as 22 Block Valve Stations (BVS), 2 Compressor stations, 5 construction camps, and 17 logistics pipe yards.

1.3 Legislative and other frameworks for the conduction of SpEA within Natura 2000 sites

Natura 2000 is an EU-wide network of nature protection areas established under the 1992 Habitats Directive (92/43/EEC), which is the centrepiece of EU nature & biodiversity policy, as it also fulfils a Community obligation under the UN Convention on Biological Diversity. The aim of this network is to assure the long-term survival of Europe's most valuable and threatened species and habitats. It is comprised of Special Areas of Conservation (SAC) designated by Member States under the Habitats Directive, and also incorporates Special Protection Areas (SPAs) which they designate under the EU Birds Directive (2009/147/EC). Natura 2000 is not a system of strict nature reserves where all human activities are excluded, as there is not any a priori prohibition of new activities or developments within its sites and each plan proposal has to be judged on a case by case basis. In any case there is a clear procedure in the Habitats Directive for assessment and subsequent decisions relating to development proposals that are likely to have an impact on designated sites.
Specifically, the EU Habitats Directive (92/43/EEC) sets out various procedures and obligations in relation to nature conservation management in the Natura 2000 sites, their habitats and species. Amongst them, there is a series of procedural and substantive safeguards, that must be applied to plans and projects that are likely to have a significant effect on these sites. According to article 6 (6.3 & 6.4):

“any plan or project, which is not directly connected with or necessary to the management of a European site, but would be likely to have a significant effect on such a site, either individually or in combination with other plans or projects, shall be subject to an ‘appropriate assessment’ of its implications for the European site in view of the site’s conservation objectives. In the light of the conclusions of that assessment, and subject to the provisions of Article 6(4) of the Habitats Directive, the competent authority shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, having obtained the opinion of the general public”.

“If, in spite of a negative assessment of the implications for the site, and in the absence of alternative solutions, the plan or project must nevertheless be carried out for imperative reasons of overriding public interest, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected”.

“Where the site concerned hosts a priority natural habitat type and/or a priority species the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest”.

These provisions of the Habitats Directive have been incorporated into the national legislation through the Law 4014/2011, which sets the obligation to conduct a Special Ecological Assessment (SpEA) as an integral part of the Environmental Impact Assessment report when a ‘A Class’ project – a project that may cause significant environmental effects - is planned within a site of the European ecological network of Natura 2000. According to the Law’s directions the SpEA must include:

a) a detailed recording of the natural environment with emphasis on the conservation features of Natura 2000 sites which may be affected by the project and
b) an Appropriate Assessment (AA).

Additionally, AA must aim to analyse and evaluate the estimated impacts with qualitative and quantitative data on:

- the habitat types of Annex I of the Habitats Directive and the Joint Ministerial Decision 14849/853/E103/4.4.2008 (HGG B’ 645), particularly as to the representativeness of their relative surface area and conservation status,
- species of flora and fauna listed in Annex II of the Habitats Directive and the Joint Ministerial Decision 14849/853/E103/4.4.2008 (HGG B’ 645), especially in the size and density of populations, their state of preservation and isolation,
- the bird species listed in Annex I of the Bird Directive and Joint Ministerial Decision 37338/1807/E.103 (HGG B’ 1495), and all migratory birds of all species with significant presence in Natura 2000, particularly as to the size and density of their populations, their state of preservation and isolation
- qualitative and quantitative information about whether the integrity of the areas can be ensured.

In the lack of National Guidance documents for the specifications of the Special Ecological Assessment and in order to elaborate this assessment, further to the L.1014/2011 requirements, a number of European guidance documents have been referred, such as:

- Assessment of plans and projects significantly affecting Natura 2000 sites. Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC (Nov. 2001 – published 2002);
- EU Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC (2007);
- Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities (NPWS 2009, Revised February 2010);
- EU Guidance on wind energy development in accordance with the EU nature legislation (2010)

The methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC was mainly referred. According to this guidance the provisions of the 92/43/EU
Habitats Directive involve a number of steps and tests that need to be applied in sequential order. This decision-making process of Article 6 is underpinned by the precautionary principle as well as promoting the hierarchy of avoidance, mitigation and compensatory measures to be addressed during the appropriate assessment process:

**Avoidance:** initially, a project should aim to avoid any negative impacts on Natura 2000 sites by identifying potential impacts early in project planning and afterwards by selecting the most appropriate solution in terms of avoiding such environmental impacts.

**Mitigation:** mitigation measures should be applied during the AA process to the point where no adverse impacts on the site remain.

**Compensatory measures:** as a worst-case scenario, a plan may have to undergo an assessment of alternative solutions. Under this stage of the assessment, compensatory measures are required for any remaining adverse effects, but they are permitted only if there are no alternative solutions and the plan is required for imperative reasons of overriding public interest.

Based on these principles, it has become generally accepted that the assessment requirements of Article 6 establish a stage-by-stage approach. These stages are summarized diagrammatically below, and an outline of the steps and procedures involved in completing each stage follows:

**Figure 1-2 AA Stages**

**Stage One: Screening** — the process which identifies the likely impacts upon a Natura 2000 site of a project or plan, either alone or in combination with other projects or plans, and considers whether these impacts are likely to be significant;
Stage Two: Appropriate Assessment — the consideration of impacts on the integrity of the Natura 2000 sites of the project or plan; either alone or in combination with other projects or plans, with respect to the site’s structure, function and its conservation objectives. Additionally, where there are adverse impacts, an assessment of the potential mitigation of those impacts;

Stage Three: Assessment of alternative solutions — the process which examines alternative ways of achieving the objectives of the project or plan that avoid adverse impacts on the integrity of the Natura 2000 site;

Stage Four: Assessment where no alternative solutions exist and where adverse impacts remain - an assessment of compensatory measures where, in the light of an assessment of imperative reasons of overriding public interest (IROPI), it is deemed that the project or plan should proceed (it is important to note that this guidance does not deal with the assessment of imperative reasons of overriding public interest).

Each stage in the assessment process precedes and provides a basis for other steps. The results at each stage must be documented and recorded carefully to provide for traceability and transparency of the decisions made, as they determine the decisions that ultimately made in relation to approval or refusal of a plan or project.
2 PROJECT DESCRIPTION

2.1 Introduction

This section provides an overview of the proposed project and its associated components, as well as it further outlines the project’s constructional and operational requirements.

2.2 Pipeline route

The pipeline route has a length of approximately 543 km starting with KP 0 at the Turkish/Greek border near Kipoi and reaching KP 543 at the Greek/Albanian border. For the first 359 km, the route follows the existing pipeline of DESFA to a large extent (approx. 300 km) taking into account the bundling principle with other existing linear infrastructure to minimise impacts as far as possible.

Starting from the Turkish/Greek border, the corridor heads southwest for approximately 40 km, up to the area north of Alexandroupoli. From there the route heads northwest for approximately 55 km to reach the industrial area of Komotini and then turning west to pass south of the broader area of Xanthi for approximately 45 km. The route then turns southwest and reaches the broader area of Kavala after approximately 50 km. After Kavala the base case corridor continues northwest for another 40 km, passing through Kavala Mountains and Paggaio northern foothills to reach the broader area south of Alistrati. After approximately 40 km, the base case corridor reaches the area South of Serres, passing through the Serres plains and then continues for another 90 km south-westward to reach Nea Mesimvria.

From Nea Mesimvria westwards to the Greek/Albanian border for a length of approximately 184 km, the route does not follow existing infrastructure and has been identified through an extensive route refinement process considering technical, environmental, socioeconomic and cultural heritage constraints. The route heads westwards through the municipalities of Chalkidona, Pella, Skydra, Naousa and Edessa, then turning to the south through the municipality of Eordea and then to the west again crossing Aminteo, Kastoria, Orestidos, Nestorio and Alexandria prior to reaching the Greek/Albanian border south-west of Ieropigi village.
Figure 2-1 Trans Adriatic Pipeline Project Location

Source: ASP (2013)
2.3 Construction and Pre-commissioning

2.3.1 Construction Methods

2.3.1.1 Marking and Clearance of Working Strip

The working strip, i.e. the required area for pipeline construction, must provide space for pipeline fabrication (pipe stringing and welding, protective coating and quality testing of the fabricated pipeline section, lowering into the trench), and for simultaneous vehicle movements, both to happen in a safe manner. In general, the working strip requires a width of approximately 38 m (Figure 2-2), but in areas where there are construction constraints (e.g. environmental or land use constraints) and in general where limited space is available, the working strip may be reduced from 38 m to 28 m) (Figure 2-3).

The working strip will be delineated and its preparation will involve clearing and grading activities. The clearing will include removal of all structures, trees, bushes, boulders etc, as well as the removal of tree stumps and roots from the trench so as to prevent any interference with the trenching machine during its operation. A description of the required grading activities is presented below in 2.3.1.3.
### Figure 2-2  Standard Working Strip

**Regular working strip**

- 48” Pipeline -

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8.2</td>
<td>0.5</td>
<td>4</td>
<td>1</td>
<td>5</td>
<td>1.5</td>
<td>1.3</td>
<td>2.2</td>
<td>4</td>
<td>6.6</td>
<td>5.7</td>
<td>3.4</td>
<td>25.8</td>
<td>11.7</td>
</tr>
</tbody>
</table>

*Source: CPL00-ENT-100-F-DFT-0011_02*

### Figure 2-3  Reduced Working Strip

**Reduced working strip**

- 48” Pipeline -

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5.8</td>
<td></td>
<td></td>
<td></td>
<td>5.0</td>
<td>1.5</td>
<td>1.3</td>
<td>2.2</td>
<td>4.1</td>
<td>0.6</td>
<td>6.8</td>
<td></td>
<td>17.8</td>
<td>9.7</td>
</tr>
</tbody>
</table>

*Source: CPL00-ENT-100-F-DFT-0011_02*
2.3.1.2 Topsoil Stripping

Within the working strip topsoil will be carefully removed by excavators with flat 2 m/ 3 m wide buckets. The fertile top soil (typically 0.3-0.5 m thick) will be stripped off over a width approximately 22-24 m. The top soil is temporarily stored on one end of the working strip. The non-fertile “sub-soil” obtained from the pipeline trench excavation will be stored on the opposite side of the working strip. Fertile top soil will be re-deposited on top of the non-fertile soil for reinstatement to assure adequate crop- or vegetation growth.

2.3.1.3 Grading

As described above the working strip must provide sufficient working space for pipeline fabrication and for simultaneous vehicle movements. Therefore the delineated strip will be graded by specified equipment such as bulldozers and graders to the required width and so as to simulate in a way to unpaved roads. However, grading will be less refined than that needed for a road as construction equipment can negotiate steeper and more uneven terrain than passenger vehicles. All grading activities will be carefully performed so as to facilitate any rehabilitation and restoration measures that possibly will be applied after the completion of the construction of the project.

2.3.1.4 Trenching

The pipeline will be buried underground within a trench for its entire length and protected against corrosion by a cathodic protection system. The required trenching works will be mainly undertaken by excavators and jack-hammers. The width of the trench will be determined by the available depth, so as to prevent any instability incidents. In any case the excavated width will enable easy installation of the pipe and protection of its external coating. For safety reasons and in order to minimize impacts to existing land uses (e.g. agricultural) the buried pipeline will have a soil cover of 1m minimum, however bigger depth will be required when crossing existing infrastructures (1.2-1.5 m). A typical cross section of the buried pipeline in the trench is imprinted in Figure 2-4:
It is possible that dewatering of the trench may be required in some sections along the pipeline’s route, if the ground carries a significant amount of water. In any case prior to the discharge of water to streams, rivers or irrigation ditches any relevant activities will be licensed and agreed with authorities.

2.3.1.5 Blasting

In hard terrains, where conventional trenching methods are not effective blasting will be required. In such cases, the controlled use of explosives to break down and remove rocks and therefore excavate the trench is performed. Blasting mats are usually placed on top of the explosions to absorb the energy released and reduce dust and noise generated.

2.3.1.6 Backfill

Backfill will be placed over the pipeline immediately after the pipe section has been lowered into the trench and surveyed. The backfilled material will be compacted in layers. Bulldozers will be used to push stockpiled materials removed back into the trench to cover the pipe.
areas that contain large quantities of rock, selected fill material may be added to put the first layer of cover over the pipe, or special padding machines may be brought in to sieve the rock from the backfill. Extreme care will be taken with the initial fill to avoid damage to the pipe coating during backfill. After the initial layer of screened material is placed on the pipe, the remaining soil and rock mixture will be used to complete the backfill.

2.3.1.7 Watercourse Crossings

Watercourse crossings will generally be undertaken using open-cut methods. Open-cut methods require an open trench through the watercourse. The trench is shaped according to the stability of the soil and is as deep as required to provide the minimum cover for the pipeline after the pipe is installed. The surface (river or stream bed) is then reinstated to its original condition after the trench is backfilled. A principal drawback of the open-cut technique is that in aquatic systems, open-cut trenching can generate a pulse of suspended sediment which can reach values that are higher than background concentrations. The flumed and the dam and pump methods are usually less intrusive with regard to high sediment concentrations.

However, a trenchless crossing method will be used to cross significant water bodies (such as the main rivers lying in Natura 2000 sites, i.e. Evros, Filiouris, Kompatsos, Nestos, Axios). The most likely opted method for trenchless crossing of rivers is the Horizontal Directional Drilling (HDD) illustrated in Figure 2-5.

HDD is an alternative technology used for inserting pipelines under sensitive areas or infrastructure. This method begins with boring a small diameter, horizontal hole (pilot hole) under the crossing obstacle (e.g. a river) with a continuous string of steel drill rod. When the bore head and rod emerge on the opposite side of the crossing, a special cutter, called a back reamer, is attached and pulled back through the pilot hole. The reamer bores out the pilot hole so that the pipe can be pulled through. The pipe is usually pulled through from the side of the crossing opposite the drill rig. Typically HDD provides a stable and virtually maintenance-free crossing method with minimal to no disturbance of the stream or river bed.
2.3.1.8 Clean Up and Restoration

After completing the backfill of a given length of the pipeline trench, the restoration operation will begin. The removed topsoil will be placed back on the working strip. The original contours of the land will be restored as closely as possible. As part of the restoration process, all equipment access crossings will also be removed. The banks of rivers will be stabilized where necessary, and restored, and progressive rehabilitation will take place with the aim to return the area to its pre-disturbed condition.

Any damage resulting from Project activities to drainage or irrigation systems will be reinstated in agreement with the owner. The same applies to any damage to public roads or agricultural tracks. Agricultural activities such as ploughing and grazing can continue after construction within the 8 m pipeline protection strip (PPS), however, no planting of deep-
rooting vegetation (i.e. trees) will be allowed. The route of the pipeline will also be marked so that it can be inspected from the ground and air.

2.3.2 Pressure Testing during Construction (Hydrotesting)

2.3.2.1 Hydrotest Concept

Hydrotesting (or hydrostatic testing) is the most common method for testing the integrity of the pipeline and checking for any potential leaks (e.g. from cracked pipe work) prior to commissioning. The test involves placing water inside the pipeline at a certain pressure to check that the pipeline is not damaged and will not leak during operation.

The first step in hydrotesting is the pipeline cleaning. This is carried out with a pipeline inspection gauge or 'pig', which is a tool that is sent down a pipeline and propelled by the pressure of the product in the pipeline itself e.g. the water used for hydrotesting or air used for pipe cleaning. There are three main activities that will be performed by pigs before and after hydrotesting:

1. Cleaning of the inside of the pipeline which is performed with a brush-type directional pig driven along the pipeline by air before the hydrotest.

2. Gauge checking of the pipeline using a pig with a gauge plate attached. This pig is sent the whole length of the pipeline to check for dents, imperfections and damages. The relevant defect is then located and the damaged pipe section is repaired before the hydrotest.

3. Drying of the pipeline using foam-type swabbing pigs after the hydrotest.

The pipeline is then filled with water, which is pressurised. The hydrotesting will be carried out in sections up to 20 km in length. Hydrotesting activities are expected to require a total of 5 to 6 months and will be finished before commissioning activities.

The water used needs to be free of contaminants, relatively neutral (i.e. pH between 5 and 8), and no additives, corrosion inhibitors or chemicals are used. Pressurization is then carried out with a high pressure pump.
After the pipeline has been filled and pressurised, and all the necessary parameters measured, the pipeline will be dewatered and dried.

2.3.2.2 Water Abstraction Sources

Surface water sources with larger amounts of water flow have been considered for water abstraction and discharge.

*Table* 2-1 shows the potential water sources identified along the TAP route and the volumes required for hydrotesting for each main section. The timing for the hydrostatic testing activities will consider the seasonal changes of river flows and the reduced flows during the summer months.

**Table 2-1 Water Requirements for Hydrotesting**

<table>
<thead>
<tr>
<th>Water Source</th>
<th>Discharge Point</th>
<th>Approx. Volume Required (m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evros River (KP 0)</td>
<td>Evros River (KP 0)</td>
<td>51,880</td>
</tr>
<tr>
<td>Filiouris River (KP 77.4)</td>
<td>Filiouris River (KP 77.4)</td>
<td>40,200</td>
</tr>
<tr>
<td>Xiropotamos (KP 113.0)</td>
<td>Xiropotamos (KP 113.0)</td>
<td>33,820</td>
</tr>
<tr>
<td>Xantis (Kosynthos) (KP 136.0)</td>
<td>Xantis (Kosynthos) (KP 136.0)</td>
<td>31,170</td>
</tr>
<tr>
<td>Nestos (KP 153.6)</td>
<td>Nestos (KP 153.6)</td>
<td>25,230</td>
</tr>
<tr>
<td>Angitis I (KP 223.7)</td>
<td>Angitis I (KP 223.7)</td>
<td>55,620</td>
</tr>
<tr>
<td>Strimonas (KP 290.3)</td>
<td>Strimonas (KP 290.3)</td>
<td>62,230</td>
</tr>
<tr>
<td>Parthenorema (KP 382.3)</td>
<td>Axios (KP 376)</td>
<td>15,420</td>
</tr>
<tr>
<td>Parthenorema (KP 382.3) and Potamos (KP 419.9)</td>
<td>Potamos (KP 419.9) and Ammorycheias (KP 469.3)</td>
<td>55,070</td>
</tr>
<tr>
<td>Potamos (KP 419.9)</td>
<td>Ammorycheias (KP 469.3)</td>
<td>52,870</td>
</tr>
<tr>
<td>Ammorycheias (KP 469.3)</td>
<td>Ammorycheias (KP 469.3)</td>
<td>33,040</td>
</tr>
<tr>
<td>Aliakmonas (KP 524.6)</td>
<td>Aliakmonas (KP 524.6)</td>
<td>43,200</td>
</tr>
</tbody>
</table>

*Source:* (ENT, 2012)

The contractor for the hydrotesting will obtain written approvals from the local authorities and the landowner(s) where the source of water is located prior to the extraction of hydrotest water.
2.3.2.3 Discharge / Disposal Options

Following successful testing, the used water will be discharged back into a receiving water body after having passed a sedimentation pool, through which the water will flow very slowly. These pools will be sized to provide a retention time of 5 minutes, which is considered enough time for allowing the solid particles cleaned out of the pipe to settle and remain in the bottom of the pond.

The discharge rate after finalisation of hydro tests will follow the same rules as applicable for abstraction. Hence the same water bodies will be taken into consideration for discharge. Environmental effects are expected to be minimal or negligible when discharge rates are under 10% of the receiving river flow. Discharged water will be free of any chemicals.

The contractor for hydro testing will obtain written approvals from the local authorities and the landowner(s) where the hydro test water will be discharged, water will not be returned to any watercourse without permission of the appropriate local authorities.

2.4 Operation and Maintenance

As the pipeline in Greece will be buried along its entire length, no interaction with the environment is anticipated during normal operation and therefore no impacts are expected.

The TAP system will be monitored and maintained to ensure that the system, as designed, constructed and tested remains "fit for purpose" throughout the design life as well as minimizing environmental and human risk from non-routine events (refer to Section 2.6). In general, pipeline surveillance, function checks and condition monitoring will be used to anticipate system problems and allow them to be rectified in a timely manner.

Pipeline inspection and maintenance activities during operation will generally include the following tasks:

- pipeline monitoring;
- route surveillance (possibly with road vehicles and helicopters);
- special crossing inspections;
- monitoring of population and third-party activities in close proximity to the pipeline.
• cathodic protection system monitoring;
• inventory monitoring surveys;
• functional operational checks and verification of plant and equipment; and
• routine maintenance of plant and equipment at pre-defined intervals.

Intelligent pigging (i.e. using a pipeline inspection gauge) of the pipeline will be undertaken on a regular basis to confirm the geometry of the pipeline, to check and monitor wall thickness and in addition, following suspected damage or a seismic event.

2.5 Decommissioning

The design lifetime of the pipeline is 50 years and the compressor station equipment, 25 years. It cannot be foreseen today which approaches will be taken at the time of decommissioning, but TAP AG is committed that this will be state-of-the-art when it occurs. Any decommissioning activities will be subject to permitting requirements applicable at that time and subject to consultation with affected owners and stakeholders of affected properties and structures. A Pipeline Abandonment Plan (PAP) that covers all relevant items will be prepared before any decommissioning works. This PAP will be submitted to the Greek authorities in due time prior to the end of the lifetime of the system. The PAP will also include an assessment of the environmental and social impacts of the proposed decommissioning measures. Impacts will obviously depend on the decommissioning approach and available dismantling techniques at that time. Current International best practice¹ is to leave pipelines in the ground (abandonment-in-place) and secure it against structural collapse to prevent ground subsidence. In that case impacts on the environment, land use and infrastructure will be minimal. If the pipeline is taken out, e.g. to recover the pipe steel, impacts will be similar to construction stage. For crossings of infrastructure and watercourses however, it appears likely that the respective pipe section will simply remain in situ and only the structural status will be secured.

¹ See for example:
http://www.neb.gc.ca/cif-nsi/sfty/abntnmntchnclnvrnmntl-eng.html, and
http://www.ukooaenvironmentallegislation.co.uk/contents/topic_files/offshore/decommissioning_pipelines.htm
2.6 Safety and Non-Routine Events

A preliminary risk assessment of the pipeline route was performed with the aim of verifying the pipeline safety. The preliminary assessment determined that the route was feasible with respect to safety of the pipeline and the surrounding population. In a few more densely populated sections a potential for route optimisation was identified in order to further increase distances from settlements. Furthermore, the most populated sections identified are relatively short, enabling efficient technical risk mitigation to be applied where needed or required. Environmental issues were significantly considered and a precautionary approach was followed so as to minimize any potential environmental risks during the operation of the project.
3 APPROPRIATE ASSESSMENT SCREENING PROCESS

Based on the proposed pipeline route a total of 26 Natura 2000 sites located in the broader area of the proposed Project have been identified (Figure 3-1). These sites are either located in the vicinity of the pipeline route (from several meters to some kilometres) or directly crossed by the proposed route.

Because of the potential interaction between the project and these sites it has been considered that a Screening Process is needed for each of these sites. The purpose of the Screening is to identify the likely impacts of the project upon each of these Natura 2000, either alone or in combination with other projects or plans in the area, and considers whether these impacts are likely to be significant.
Figure 3-1  Natura 2000 sites within broader area of the project

Source: NCC (2013)
Table 3-1 below presents the screening analyses for each of the Natura 2000 sites together with a conclusion.

### Table 3-1 Screening Process for Protected Areas likely to be affected by the Project

<table>
<thead>
<tr>
<th>Pipeline KP</th>
<th>Site name/EU code</th>
<th>Natura 2000 description</th>
<th>Individual components of the project likely to give rise to impacts on the Natura 2000 site</th>
<th>Likely impacts/likely changes to the site</th>
<th>Screening result</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>GR1110002 SPA Dasos Daddia-Soufi /GR1110005 SAC Vouna Evrou</td>
<td>The site has both SPA and SAC designation. It is also designated as National Park under Greek legislation. Both sites belong to the sub-Mediterranean vegetation zone and are characterized by thermophile, sub-continental oaks. Vegetation consists mainly of small stands of conifers (Pinus brutia and P. nigra) and of oak forests (Quercus iex or Quercus rotundifolia), as well as other typical species of Mediterranean and sub-Mediterranean vegetation. The site has a significant ecological value because of a great number of bird species; many of them are rare in Europe. The area is an important biotope for many reptiles and birds as a result of site location; is a cross road of bird migration and bird nesting. Dadia National Park is characterized by an extremely large variety of birds of prey. In total, out of the 39 raptor species occurring in Europe, 36 were observed in the area. Twenty-four species used to breed in the area up to 1970. A few breeding raptor species (Aegypius monachus, Gyps fulvus, Neophron percnopterus, Aquila chrysaetos, Aquila pomarina, Hieraaetus pennatus) are rare or under strict protection status in Greece and Europe.</td>
<td>Pipeline route is located 3.4 km outside the Natura 2000 site, i.e. the Natura is NOT crossed by the pipeline corridor. No loss of habitat, fragmentation or disturbance to the site qualifying characteristics is anticipated due to the project activities, the footprint of which, in this case, is limited to the construction corridor</td>
<td>Due to the distance of the pipeline route from the site, there are no likely direct, indirect or secondary impacts of the project, neither are changes to site.</td>
<td>The site is not affected by the project. No AA is required for this site.</td>
</tr>
<tr>
<td>21-34 and 49.5-51</td>
<td>GR1110009 SPA Notio Dasiko Symplegma Evrou</td>
<td>The site has SPA designation. A large part of the site is covered with evergreen shrubs mainly to the south and south-eastern part. Scattered patches of Quercus spp. mixed patches of Quercus spp. and Pinus halepensis can be found among the evergreen shrub. This is an important site for breeding and wintering raptors and other resident species associated with forest. Breeding birds</td>
<td>Pipeline route crosses twice the Natura 2000 site, from KP 21 close to Pylaia to KP 34 and then from KP 49.5 to KP 51, close to Amfitriti settlement. Construction activities such as the clearance of the construction zone, trenching, pipe installation and reinstatement, are expected to impact the protected area.</td>
<td>Construction activities will give rise to loss of habitat, fragmentation and disturbance to species. Qualifying features of the site (birds) might be affected. Some of the impacts of this phase are temporary and limited to the pipeline protection strip. In the</td>
<td>The site is affected by the project activities. An Appropriate Assessment is required.</td>
</tr>
<tr>
<td>Pipeline KP</td>
<td>Site name /EU code</td>
<td>Natura 2000 description</td>
<td>Individual components of the project likely to give rise to impacts on the Natura 2000 site</td>
<td>Likely impacts/likely changes to the site</td>
<td>Screening result</td>
</tr>
<tr>
<td>------------</td>
<td>--------------------</td>
<td>-------------------------</td>
<td>--------------------------------------------------------------------------------------------</td>
<td>------------------------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>37</td>
<td>GR1110006 SPA Delta Evrou / GR1110007 SAC Delta Evrou kai Dytikos Vrachionas</td>
<td>The site has both SPA and SAC designation. The area of Evros Delta is designated as a Site of Community Interest (SAC), as a Special Protection Area (SPA), as Important Bird Area (IBA), a Ramsar Site and a National Park. The borders of those designated areas are more or less overlapping. Evros Delta constitutes one of the most important wetlands, not only in Greece but also in Europe. A surface area of 9,500 ha (8,000 ha of land and 1,500 ha of water) has been included in the list of protected wetlands of the International Ramsar Convention (1971), because it hosts important bird species. Furthermore, the Evros Delta is characterized as a Special Protection Area (SPA) and a Site of Community Importance (SAC) in the Natura 2000 network (according to Directives 2009/147/EC and 92/43/EEC, respectively).</td>
<td>The pipeline route is located 3km outside the Natura 2000 site, i.e. the Natura is NOT crossed by the pipeline corridor. No loss of habitat, fragmentation or disturbance to the sites qualifying characteristics is anticipated due to the project activities, the footprint of which, in this case, is limited to the construction corridor.</td>
<td>Due to the distance of the pipeline route from the site, there are no likely direct, indirect or secondary impacts of the project, neither are changes to site.</td>
<td>The site is not affected by the project. No AA is required for this site.</td>
</tr>
<tr>
<td>76.4 - 77</td>
<td>GR1130006 SAC Potamos Filiouris</td>
<td>The site has SAC designation. The area, which is adjacent to Vouna Evrou, is a steep-sided valley, with rock faces and descends from Demir Tsal (Sarka) hills. It consists of oak forests and pastures. The new name of the area Potamos-Koiada Filiuri is Lissos river, which is very long composed of many streams. The site is rich in birds of prey including Neophron percnopterus, Gyps fulvus, Circactus, Aquila pomarina, A. chrysaetos and possibly Hieraaetus pennatus. Moreover it is the most important feeding area for vultures. Additional Pipeline route crosses the Natura 2000 site, at pipeline KP 76.4 close to Lofario settlement. Construction activities such as the clearance of the construction zone, trenching, pipe installation and reinstatement, are expected to impact the protected area.</td>
<td>Construction activities will give rise to loss of habitat, fragmentation and disturbance. Qualifying features of the site (birds) might be affected. Some of the impacts of this phase are temporary and limited to the working strip of the pipeline. In the operation phase permanent loss of habitat in the 8m pipeline protection strip is anticipated.</td>
<td>The site is affected by the project activities. An Appropriate Assessment is required.</td>
<td></td>
</tr>
<tr>
<td>Pipeline KP</td>
<td>Site name / EU code</td>
<td>Natura 2000 description</td>
<td>Individual components of the project likely to give rise to impacts on the Natura 2000 site</td>
<td>Likely impacts/likely changes to the site</td>
<td>Screening result</td>
</tr>
<tr>
<td>------------</td>
<td>---------------------</td>
<td>-------------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>---------------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>112</td>
<td>Special Area of Conservation (SAC) (GR1130007) – Potamos Kompatsos (nea koiti)</td>
<td>The site covers an area of 423 hectares. Kompatsos river provides Vistonida lake with a great freshwater supply, which comes up to 300 liter per second. A great quantity of sand gravel and silt (240,000 m³/year) is extracted every year. At the outlet of Kompatsos river there are overgrazed and degraded riparian soft wood forests and an extensive cultivation of Populus sp. There are also hills (Kara Oglan) with grazed oak forest and steep valleys (especially the Kompatsos river valley). Forest structure owes much to a history of grazing but there are also areas of dense ravine forest. The site is important for birds of prey in Greece; species diversity is enriched by proximity to lake Vistonida and adjacent wetlands. Traditional land uses contribute to the value of the area. The wetland under consideration either seems as one ecological unit along with lake Vistonida or by itself still has a great ecological value for Greece. Remarkable is its great diversity of biotopes and wildlife species, as well as the important bird populations still existing. Several bird species have their national strongholds here and even some breed in their total Greek and European population in these wetlands.</td>
<td>The pipeline route does not cross the Natura 2000 site, i.e. it passes at approximately 3.5 km south from its nearest boundary point. As a result, no impacts to the site qualifying characteristics are anticipated due to the Project activities.</td>
<td>Due to the distance of the pipeline study zone from the site it is not likely for the proposed project to have effects on the site, either individually or in combination with other plans or projects</td>
<td>The site will not be affected by the project. No AA is required for this site</td>
</tr>
</tbody>
</table>
### Project Title:
Trans Adriatic Pipeline – TAP

### Document Title:
Integrated ESIA Greece
Annex 8.6 - Appropriate Assessment Screening Process

<table>
<thead>
<tr>
<th>Pipeline KP</th>
<th>Site name / EU code</th>
<th>Natura 2000 description</th>
<th>Individual components of the project likely to give rise to impacts on the Natura 2000 site</th>
<th>Likely impacts/likely changes to the site</th>
<th>Screening result</th>
</tr>
</thead>
<tbody>
<tr>
<td>112.6-113.2</td>
<td>Special Area of Conservation (SAC) (GR1130009) Limes kai limnothalasses tis Thrakis – Evriteri perioxi kai paraktia zoni</td>
<td>The site is situated in the East Macedonia – Thrace and covers an area of 29,455.98 hectares, containing a series of coastal lakes. The largest one, Lake Vistonida is half brackish-half fresh water having a freshwater inflow from the rivers Konsyfos and Kompsatos. On the other side, the lagoons Mitrikou, Valtos, Elos, Ptelea, Alyki, Karatza, Xirolomni, Lafi- Lafiouda and Porto Lagos are saline. Lakes Messi and Lafi- Lafiouda have salterns (Nea Kesani). There are different biotopes: large reedbeds all around, Tamarix scrubs (the greatest in Greece), salt marshes, dunes, bordering hills covered by maquis and pseudo maquis and also agricultural cultivation extending close to wetlands biotopes plain. Moreover, tertiary hills surround the area. To the North, the tertiary Rhodopi Mountains are raised where pseudo maquis, oak and pine forests are dominate.</td>
<td>The pipeline crosses the Natura 2000 south of Koptero settlement and near Galini. Construction activities such as the clearance of the construction zone, trenching, pipe installation and reinstatement are expected to impact the protected area. The pipeline is crossing Kompsatos river from KP 112.6 to 113.2, in the north-eastern part of the site and the north part of the NATURA site from 120 to 123.5. Direct impacts due to the implementation of trenchless crossing method such as drilling, installation of the assembling sites of both entrance (drilling side) and exit point (pulling side) of the drill are anticipated. Indirect impacts such as disturbance to the species are also anticipated.</td>
<td>Habitat loss (mostly arable land), fragmentation and disturbance are expected due to construction activities. Temporary loss of habitat is limited to the working strip during the construction phase. In the operation phase permanent loss of habitat in the 8 m pipeline protection strip (PPS) is anticipated. As HDD will be performed the most sensitive features of the site (Kompatsos and its riparian vegetation) will not be affected. For the Hydrotesting procedure no water will be abstracted or discharged to the river body of Kompsatos and therefore no impacts are expected from the implementation of this procedure on the site and its features.</td>
<td>The site will be affected by the project.</td>
</tr>
<tr>
<td>120-123.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>An Appropriate Assessment is required.</td>
</tr>
</tbody>
</table>

| 115 | Special Protected Area (SPA) (GR1130012) – Koilada Kompsatou | The site covers an area of 16,600 hectares. It is a deep valley surrounded by hills with deciduous forest (mainly mature grazed oak forest), scrub and grassland. The main human activity is livestock-farming. This is a very important site for breeding and passage raptors. Species of concern include: Haliaeetus albicilla, Gyps fulvus, Aegypius monachus, Aquila heliaca, Dendrocopos syriacus, Dendrocopos medius, Ficedula semitorquata, Emveriza hortulana. | The pipeline route does not cross the Natura 2000 site, as it passes at approximately 3.2 km south of its nearest boundary point. As a result, no impacts to the site qualifying characteristics are anticipated due to the Project activities. | Due to the distance of the pipeline study zone from the site it is not likely for the proposed project to have effects on the site, either individually or in combination with other plans or projects | The site will not be affected by the project. No AA is required for this site |
### Pipeline KP | Site name/EU code | Natura 2000 description | Individual components of the project likely to give rise to impacts on the Natura 2000 site | Likely impacts/likely changes to the site | Screening result
---|---|---|---|---|---
123 | Special Protected Area (SPA) (GR1130010) – Limnes Vistonis, Ismaris, Limnothalasses Porto Lagos, Alyki Ptelea, Xirolimni, Karatza | The site is situated in the East Macedonia – Thrace and covers an area of 18,217.14 hectares. The site designation boundaries overlap with the boundaries of SAC GR1130009. As described above the site contains a series of costal lakes with the largest one, Vistonida – a half brackish and half fresh water lake – having a freshwater inflow from the river Konsyfos and Kompsatos. On the other side, the lagoons Mitrikou, Valtos, Elos, Ptelea, Alyki, Karatza, Xirolimni, Lafr-Lafrouda and Porto Lagos are saline. Lakes Messi and Lafr-Lafrouda have saltlens (Nea Kesani). There are different biotopes: large reedbeds all around, Tamarix scrubs (the greatest in Greece), salt marshes, dunes, bordering hills covered by maquis and pseudomaquis and also agricultural cultivation extending close to wetlands biotopes plain. | Part of the site has an also an SAC designation SAC - GR113009. The pipeline route is located approximately 800 m north of the site's boundaries. Thus no construction activities will be implemented within the Natura 2000 site. As a result, no impact is anticipated to the qualifying characteristics (bird species) due to Project activities, mainly due to the distance to the site. Pipeline activities will include trenchless crossing of the river upstream of the site. However, any potential impact due to watercourse crossings will be temporary and short term (only during construction) and therefore are not significant. | Due to the distance of the pipeline route from the site, there are no likely direct, indirect or secondary impacts of the Project, neither are changes to site | The site will not be directly affected by the project as no construction activities will occur. No AA is required for this site

152.5-158 | Special Area of Conservation (SAC) (GR11500010) Delta Nestou kai limnothalasses Keramotis – evyteryi periox kai paraktia zoni | The site is situated in East Macedonia and Thrace and covers an area of 22,484.63 hectares. It consists of Nestos Delta and Keramoti lagoons. The nearest towns and villages are Keramoti and Chrysoupolis while Kavala is situated 25 km and Xanthi 16 km away from the wetland. River banks are sandy with extended softwood and riparian forests. Moreover, a mosaic of biotopes at the mouth of the river, composed by reedbeds, Tamarix scrubs, inland as well as large coastal dunes is found. There are several greater lagoons with salt marshes around, where in the area of Chrysoupolis there are freshwater lakes with reedbeds and water lilies. There, a rocky off shore islet (island of Thassopoula) is also found. At the adjacent gorge of Nestos, rich vegetation grows on the steep cliffs and diverse fauna is provided with shelter. The wetland is important from ornithological point of view because of the large area it occupies and because of the high diversity of habitat types. It | The pipeline is crossing Nestos River area from KP 152.5 to 158, in the north east part of the site. Direct impacts due to the implementation of HDD method such as drilling, installation of the assembling sites of both entrance (drilling side) and exit point (pulling side) of the drill are anticipated. Indirect impacts such as disturbance to the species are also anticipated. Construction activities such as the clearance of the construction zone, trenching, pipe installation and reinstatement are expected to impact the protected area. | Part of the SAC has also an SPA designation (SPA GR1150001). The pipeline crosses the Natura 2000 site at its Northern part where most of the land cover consists of cultivations and close to the settlement of Krini and Thalassia. Habitat loss (mostly arable land), fragmentation and disturbance are expected due to construction activities. Temporary loss of habitat is limited to the working strip during the construction phase. In the operation phase permanent loss of habitat in the 8 m pipeline protection strip (PPS) is anticipated. | The site will be affected by the project. An Appropriate Assessment is required. |
### Project Title:
Trans Adriatic Pipeline – TAP

### Document Title:
Integrated ESIA Greece
Annex 8.6 - Appropriate Assessment Screening Process

<table>
<thead>
<tr>
<th>Pipeline KP</th>
<th>Site name / EU code</th>
<th>Natura 2000 description</th>
<th>Individual components of the project likely to give rise to impacts on the Natura 2000 site</th>
<th>Likely impacts/likely changes to the site</th>
<th>Screening result</th>
</tr>
</thead>
<tbody>
<tr>
<td>154</td>
<td>Special Protected Area (SPA) (GR1120004) – Stena Nestou</td>
<td>The site covers an area of 8,752 hectares. It consists mainly of metamorphic rocks, marbles (thought to be former reef limestones) and in river-bed, of sedimentary rocks, alluvial deposits (recent fluviatile deposits). In the area the large gorge of Nestos river with steep rocky slopes, is found. Also, there are well formed riparian forest stands or groups of Salix alba, S. fragilis, S. amplexicaulis, S. elaeagnos, Populus alba, P. nigra and sparse appearances (individually) of Platanus orientalis and Alnus glutinosa. From a geological point of view, the region belongs to the Mass of Rhodopi. The climate is an intermediate climate type between that of the Mediterranean and the continental. The region of Nestos valley is characterized by the very rich flora (about 500 taxa). The gorge is a refuge for rare birds of prey and for mammals such as the otter. It is the only known nesting site of Ruddy shelduck. It is protected as an Aesthetic Forest since 11/7/1977.</td>
<td>The pipeline route does not cross the Natura 2000 site, i.e. it passes at approximately 3100 m from its nearest boundary point. Pipeline corridor is separated from the protected site by the Egnatia motorway as well assettlements. Impacts due to construction and/or operation activities, such as disturbance to birds, are not considered to affect the Natura 2000 site.</td>
<td>Due to the distance of the pipeline study zone from the site it is not likely for the proposed project to have effects on the site, either individually or in combination with other plans or projects.</td>
<td>The site will not be affected by the project. No AA is required for this site.</td>
</tr>
<tr>
<td>154</td>
<td>Special Area of Conservation (SAC) (GR1120005) – Aisthitiko dasos Nestou</td>
<td>The site covers an area of 2,335 hectares. Its designation boundaries overlap with the boundaries of SPAGR1120004. The site consists mainly of metamorphic rocks, marbles (thought to be former reef limestones) and in river-bed, of sedimentary rocks, alluvial deposits (recent fluviatile deposits). In the area the large gorge of Nestos river with steep rocky slopes, is found. Also, there are well formed riparian forest stands or groups of Salix alba, S. fragilis, S. amplexicaulis, S. elaeagnos, Populus alba, P. nigra and sparse appearances (individually)</td>
<td>The pipeline route does not cross the Natura 2000 site as it passes at approximately 3.3 km from its nearest boundary point. As a result, no impacts to the site qualifying characteristicts are anticipated due to the Project activities.</td>
<td>Due to the distance of the pipeline study zone from the site it is not likely for the proposed project to have effects on the site, either individually or in combination with other plans or projects.</td>
<td>The site will not be affected by the project. No AA is required for this site.</td>
</tr>
</tbody>
</table>
### Project Title:
Trans Adriatic Pipeline – TAP

### Document Title:
Integrated ESIA Greece

### Project Title:
Trans Adriatic Pipeline – TAP

### Document Title:
Annex 8.6 - Appropriate Assessment Screening Process

<table>
<thead>
<tr>
<th>Pipeline KP</th>
<th>Site name / EU code</th>
<th>Natura 2000 description</th>
<th>Individual components of the project likely to give rise to impacts on the Natura 2000 site</th>
<th>Likely impacts/likely changes to the site</th>
<th>Screening result</th>
</tr>
</thead>
<tbody>
<tr>
<td>157-161</td>
<td>Special Protected Area (SPA) (GR1150001) Delta Nestos kai limnothalasses Keramotis kai nisos Thasopoula</td>
<td>The site is situated in East Macedonia and Thrace and covers an area of 14,624.76 hectares. It consists of a large Delta and almost entirely of agricultural land with few freshwater lagoons separated from the sea by narrow sandy strips. Only a relict area of the previously extended riparian forest (Kotza Orman woods) remains along the river course near the mouth and the poplar plantation. In the area of Chrysopoulis there are freshwater lakes with reed beds and water lilies. In the northern part of the river on the steep cliffs, rich vegetation and diverse fauna are found. Most of the area of Nestos River is embanked by retaining dykes so that to be separated from the cultivated land. Generally it is one of the most important wetlands in Greece because of the large area that it occupies and because of its rich habitat types.</td>
<td>Construction activities such as the clearance of the construction zone, trenching, pipe installation and reinstatement are expected to impact the protected area. The pipeline is crossing the SPA site from KP 157 to 161. Nestos river pipeline crossing is about 2.8 km far on the edge of the north east boundaries of the site.</td>
<td>Part of the site has also an SAC designation (SAC -GR1150010). The pipeline crosses the Natura 2000 site at its Northern boundaries where most of the land cover consists of cultivations close to the settlement of Neos Xerias. Habitat loss (mostly arable land), fragmentation and disturbance especially to bird species are expected due to construction activities. Temporary loss of habitat is limited to the working strip during the construction phase. In the operation phase permanent loss of habitat in the 8 m pipeline protection strip (PPS) is anticipated. Disturbance to species will be restricted only during constructional period.</td>
<td>The site will be affected by the project. An Appropriate Assessment is required.</td>
</tr>
</tbody>
</table>

Note: The climate is an intermediate climate type between that of the Mediterranean and the continental. The region of Nestos valley is characterized by the very rich flora (about 500 taxa). The gorge is a refuge for rare birds of prey and for mammals such as the otter.
### Individual components of the project likely to give rise to impacts on the Natura 2000 site

<table>
<thead>
<tr>
<th>Pipeline KP</th>
<th>Site name /EU code</th>
<th>Natura 2000 description</th>
<th>Likely impacts/likely changes to the site</th>
<th>Screening result</th>
</tr>
</thead>
<tbody>
<tr>
<td>206</td>
<td>Special Protected Area (SPA) (GR11500011) Mountain Paggaio and southern foothills</td>
<td>The site covers an area of 2,438 hectares and it is mainly covered by young forests of beech (Fagus sylvatica), old forests of oak trees (Quercus spp.) and chestnut trees (Castanea sativa). Young artificial coniferous forests (from reforestations), mixed forests, coniferous native forests and extensive subalpine grasslands can also be found on the site. The site has several areas of exposed rock, both on high and low altitude and combined with the existing vegetation creates a steep landscape suitable for nesting of raptors and nocturnal birds. Due to the mountainous landscape of the site many gorges and streams with annual flow can be found along with hydrophilic deciduous trees.</td>
<td>Due to the distance of the pipeline route from the site, there are no likely direct, indirect or secondary impacts of the Project, neither are changes to site</td>
<td>The site will not be affected by the project. No AA is required for this site</td>
</tr>
<tr>
<td>212</td>
<td>Special Area of Conservation (SAC) (GR1150005) – Koryfes Korous Pangaios</td>
<td>The site covers an area of 10,345.47 hectares. It is a large mountainous area with extensive beech and chestnut forests and pastures at higher altitudes. On the cliffs of the mountain there are rare endemic plants or plants with restricted distribution in the Balkan peninsula. It has a Mediterranean - middle European climate. Forests mainly consist of mixed stands of Fagus sp., Abies borisii-regis, Quercus sp. and Castanea sativa. There are also stands of Betula pendula (Pangaios is the southern limit of this species in Balkan Peninsula).</td>
<td>Due to the distance of the pipeline study zone from the site it is not likely for the proposed project to have effects on the site, either individually or in combination with other plans or projects</td>
<td>The site will not be affected by the project. No AA is required for this site</td>
</tr>
<tr>
<td>334</td>
<td>Special Protected Area (SPA) (GR1220009) – Limnes Koroneias – Volvis, stena Rentinas kai evriteri periochi</td>
<td>The site covers an area of 161,631 hectares. The region is characterized from the presence of four basic ecosystems: lakes Koroneia and Volvi, riparian forests and streams (the forest of Apollonia, Retina Strait, Richios, Bogthanas, Melissourgos), rural land (cultivated areas in lowlands) and hilly land (pasturelands, scrublands and forests of beech, chestnut and oak). The two lakes of the site are connected to each other by a canal which is not functional nowadays. The related malfunctions to the canal, the rivulet embankments and the</td>
<td>Due to the distance of the pipeline study zone from the site it is not likely for the proposed project to have effects on the site, either individually or in combination with other plans or projects</td>
<td>The site will not be affected by the project. No AA is required for this site</td>
</tr>
</tbody>
</table>
drainage works due to extensive cultivation, gradually drain off Koroneia (Langada) lake into Volvi Lake. The latter, is also connected to the sea by Richeios river which passes through a gorge with precipices and rocks, surrounded by dense, high maquis of extraordinary composition and high plane trees along the river banks. The two lakes are characterized by dissimilar indexes of land uses, eutrophication and urbanization, with lake Koroneia being more threatened. However, two large streams, i.e. Apolonia and Mellisourgos, flow into the lake Volvi and result in sedimentation. Locally extensive reed beds occur around the lakes and along the rivulet banks. Small linear and mosaic type wood areas are found within the site. Between the two lakes, the very old *Platanus orientalis* trees are found with important colonies of grey herons and the riparian forest of Apollonia, where a large number of animals, including birds, find refuge. The surrounding hilly and mountainous area, along with cultivated land, support good numbers of birds of prey (Lesser Spotted and Booted Eagle, Long-legged Buzzard, Lanner, etc) and other protected species such as the Black Stork, the Roller and the Calandra Lark.

Pipeline is crossing Axios River from KP 369.9-371.3, crossing the Natura 2000 sites (both SPA and SAC). The location of the crossing is about 1.4 km to the north of the designated National Park “Estuaries of Axios-Loudias-Aliakmonas river” and Ramsar site. Construction activities such as the clearance of the construction zone, trenching, pipe installation and reinstatement (detail description in Section 4 of ESIA), are expected to impact the protected area.

Construction activities will give rise to loss of habitat, fragmentation and disturbance. Qualifying features of the site (birds) might be affected. Some of the impacts of this phase are temporary and limited to the working strip of the pipeline. In the operation phase permanent loss of habitat in the 8 m pipeline protection strip (PPS) is anticipated.

The site is affected by the Project activities. **An Appropriate Assessment is required.**
### Individual components of the project likely to give rise to impacts on the Natura 2000 site

<table>
<thead>
<tr>
<th>Pipeline KP</th>
<th>Site name /EU code</th>
<th>Natura 2000 description</th>
<th>Likely impacts/likely changes to the site</th>
<th>Screening result</th>
</tr>
</thead>
<tbody>
<tr>
<td>437</td>
<td>GR1210001 SAC Oros Vermio</td>
<td>The Site is designated as SAC. The major part of the site is covered with forests of broad-leaved and coniferous trees. <em>Pinus nigra</em> subsp. <em>pallasiana</em> and <em>Fagus</em> sp. are the dominant species. Above the timber line the vegetation is covered with subalpine grasslands. On the lower parts there are dry grasslands and scrubs. The pipeline route is located 2.1 km outside the Natura 2000 site, i.e. the Natura is NOT crossed by the pipeline corridor. No loss of habitat, fragmentation or disturbance to the site qualifying characteristics is anticipated due to the Project activities, the footprint of which, in this case, is limited to the working strip.</td>
<td>Due to the distance of the pipeline route from the site, there are no likely direct, indirect or secondary impacts of the Project, neither are changes to site.</td>
<td>The site is not affected by the Project. No AA is required for this site.</td>
</tr>
<tr>
<td>453</td>
<td>GR1340007 SPA Limni Petron</td>
<td>The site partially overlaps with the abovementioned (GR1340004 SAC) with its boundaries further to the northwest from the pipeline route. The pipeline route does not cross the Natura 2000 site i.e. it passes about 6 km from the boundary of the SPA. Important for birds of the wetland are the reed beds dominated by <em>Phragmites australis</em>, about 7 km to the northwest of the Project corridor. This section of the pipeline might require blasting or hammering, but distance is considered sufficient to eliminate any potential impact from disturbance. As a result, no loss of habitat, fragmentation or disturbance to the site qualifying characteristics is anticipated due to the Project activities.</td>
<td>Due to the distance of the pipeline route from lake Petron there are no likely direct, indirect or secondary impacts of the Project, neither are changes to site.</td>
<td>The site is not affected by the Project. No AA is required for this site.</td>
</tr>
<tr>
<td>454</td>
<td>GR1340004 SAC Limnes Vegoritida-Petron</td>
<td>The Site is designated as SAC. The SAC consists of two lakes between the mountains. Although reducing in significance over recent years, it is still important as a breeding, feeding and resting ground for birds. It is also important for birds of prey. Concerning the fauna the quality of the site is indicated by the occurrence of a number of invertebrates (<em>Agroloaefelds admetus</em>, <em>Agroloaefelds ripartii</em>, <em>Leptidea duponcheli</em>, <em>Freyeria turrchylus</em>, <em>Strymonidia pruni</em>, <em>Pieris ergane</em>) protected under Greek legislation. The pipeline route does not cross the Natura 2000 site, i.e. it passes about 370 m from the boundaries of the site. As a result, no impact is anticipated to the qualifying characteristics which are the Annex I Habitat types due to Project activities. Pipeline activities will include crossing (probably with open-cut methods) of watercourses which lead to the lake. However, any potential impact due to watercourse crossings will be temporary and short term (only during construction) and therefore are not significant.</td>
<td>Due to the distance of the pipeline route from the site, there are no likely direct, indirect or secondary impacts of the Project, neither are changes to site.</td>
<td>The site is not affected by the Project. No AA is required for this site.</td>
</tr>
<tr>
<td>Pipeline KP</td>
<td>Site name /EU code</td>
<td>Natura 2000 description</td>
<td>Individual components of the project likely to give rise to impacts on the Natura 2000 site</td>
<td>Likely impacts/likely changes to the site</td>
</tr>
<tr>
<td>------------</td>
<td>-------------------</td>
<td>------------------------</td>
<td>------------------------------------------------------------------------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>488</td>
<td>GR1340008</td>
<td>SPA Limnes Cheimaditida kai Zazari / GR1340005 SAC Limnes Cheimaditida-Zazari</td>
<td>The site has both SPA and SAC designation. Reedbeds with <em>Phragmites australis</em> are important for the wetlands and are more extended in Cheimaditida lake than within Zazari lake. The wetland, supporting a diverse avifauna, serves as a nesting, feeding and resting ground for a significant number of birds. It is also, very important for birds of prey and rich herpetofauna. Furthermore, submerged aquatic vegetation (<em>Potamogeton</em> spp., <em>Ceratophyllum</em> sp., <em>Myriophyllum</em> spicatum, <em>Zannichelia palustris</em>, <em>Vallisneria</em> sp., <em>Nymphaea alba</em> etc.) occupy shallow waters.</td>
<td>The pipeline route does not cross the Natura 2000 site, i.e. it passes about 1.8 km from the boundary of the site. The riparian vegetation in the coasts of lake Cheimaditida extend about 2.5 – 5 km to the north of the pipeline corridor. The particular route section (KP484 – 490) comprises flat agricultural land where trenching and pipeline installation is expected to be easy and fast (600 m/d) and no blasting is anticipated. As a result, no impacts to the site qualifying characteristics are anticipated due to the Project activities.</td>
</tr>
<tr>
<td>507-517</td>
<td>GR1320001</td>
<td>SAC Limni Kastorias / GR1320003 SPA Limni Orestias (Kastorias)</td>
<td>The site has both SPA and SAC designation. Aquatic vegetation (<em>Potamogeton</em> spp., <em>Vallisneria spiralis</em>, <em>Najas marina</em>, <em>Myriophyllum</em> spicatum, <em>Trapa natans</em>, <em>Polygonum amphibium</em> etc.) forms important habitat. Reedbeds with <em>Phragmites australis</em> are around the lake area. The site is an important site for breeding and wintering waterbirds, and an important foraging area for Pelecanus crispus. Species of concern include: <em>Phalacrocorax pygmeus</em>, <em>Pelecanus crispus</em>, <em>Ardea ralloides</em>, <em>Aythya nyroca</em> and <em>Mergus merganser</em>.</td>
<td>The pipeline route does not cross these Natura 2000 sites, i.e. it passes about 700 m from their boundaries. Potential sensitive areas for birds in the coasts of lake Kastoria are at least 1 km away west – northwest from the pipeline corridor. In addition, the area between the pipeline corridor and the coasts of the lake are characterised by relatively intense human activity in the form of agriculture or housing while there are also a number of provincial roads connecting the villages in the area. The particular route section (KP510-512) comprises flat agricultural land where trenching and pipeline installation is expected to be easy and fast (600 m/d) and no blasting is anticipated. As a result, no impacts to the site qualifying characteristics are anticipated due to the Project activities.</td>
</tr>
</tbody>
</table>

Source: NCC (2013)
4 CONCLUSIONS

As per the results of the screening process it is concluded that most of the sites can be screened out as no likely significant effect will be raised on the key values or integrity of the site (refer to the previous Table 3-1 for details and the specific list of sites).

Nevertheless it has also been concluded that a total of 7 sites cannot be screened out as there exists the possibility of raising impacts on the qualifying values of the Natura 2000 sites and therefore a complete Appropriate Assessment (Step 2) was needed. These sites are specifically:

- GR1110009 SPA Notio Dasiko Symplegma Evrou (South Forest Complex of Evros)
- GR1130006 SAC Potamos Filiouris (Filiouris River)
- GR1130009 SAC: Limnes kai limnothalasses tis Thrakis – Evrteri periox kai paraktia zoni (Lakes and Lagoons of Thrace – Broader Area and Coastal Zone)
- GR1150010 SAC Delta Nestou kai limnothalasses Keramotis – evryteri periox kai paraktia zoni (Nestos’ Delta and Lagoons of Keramoti – Broader Area and Coastal Zone)
- GR1150001 SPA Delta Nestou kai limnothalasses Keramotis kai nisos Thasopoula (Nestos’ Delta and Lagoons of Keramoti and Thasopoula Island)
- GR1220010 SPA of Delta Axiou Loudia Aliakmona Aluki Kitrous (Delta of Axios, Loudias and Aliakmonas – Kitros’ Saltlake)
- GR1220002 SAC Delta Axiou-Loudia-Aliakmona-Evrteri periochi Axioupoli (Delta of Axios, Loudias, and Aliakmonas – Broader Area of Axioupoli)

A complete AA for each of the above sites is presented under the following Annexes:

- Annex 8.7 - Appropriate Assessment Report for GR1110009
- Annex 8.8 - Appropriate Assessment Report for GR1130006
- Annex 8.9 - Appropriate Assessment Report for GR1130009
- Annex 8.10 - Appropriate Assessment Report for GR1150001 and GR1150010
- Annex 8.11 - Appropriate Assessment Report for GR 1220002 and GR 1220009