

Midia Gas Development Project

Framework Biodiversity Action Plan

Black Sea Oil & Gas SRL

Document Number: MGD-E-EERM-EN-REP4-009-D1

| Rev | Date | Description | Issued By | Checked By | Approved By |
|-----|------------|---------------------|--------------|-------------|-------------|
| D01 | 16/04/2019 | Issued for Approval | Peter Wright | Andy Coates | |
| | | | | | |
| | | | | | |

[Double click to insert signature]

Peter Wright
Principal Consultant

[Double click to insert signature]

John Ward
Senior Consultant

[Double click to insert signature]

Josie Preece
Consultant

[Double click to insert signature]

Andy Coates
Technical Director

ERM Romania
145 Calea Victoriei
8th floor Victoria Center Sector 1
010072 Bucharest
Romania

© Copyright 2019 by ERM Worldwide Group Ltd and / or its affiliates ("ERM").
All rights reserved. No part of this work may be reproduced or transmitted in any form,
or by any means, without the prior written permission of ERM.

Contents

| | |
|---|----|
| 1. INTRODUCTION | 4 |
| 1.1 Purpose of Biodiversity Action Plan (BAP)..... | 4 |
| 1.2 Requirements of IFC PS6 and EBRD PR6 | 5 |
| 2. PROJECT DESCRIPTION | 5 |
| 3. IMPLEMENTATION OF THE MITIGATION HIERARCHY | 7 |
| 4. SUMMARY OF RESIDUAL IMPACTS ON NATURAL/CRITICAL HABITATS AND PRIORITY BIODIVERSITY FEATURES | 8 |
| 5. COMPENSATION/ENHANCEMENTS | 13 |
| 5.1 Introduction..... | 13 |
| 5.2 Approach – Biodiversity Metric | 13 |
| 5.3 Achieving No Net Loss/Net Gain | 15 |
| 5.3.1 Onshore | 15 |
| 5.3.2 Offshore | 21 |
| 5.4 Programme for Implementation | 22 |
| 5.5 Stakeholder Engagement | 22 |
| 6. ROLES AND RESPONSIBILITIES | 23 |
| 7. Long Term Biodiversity Monitoring | 23 |
| 8. BAP Costs | 24 |

1. INTRODUCTION

Black Sea Oil & Gas SRL (BSOG) are the operators of petroleum exploration, development and exploitations of Block XV Midia, offshore Romania. The Ana and Doina fields are located in the western Black Sea, approximately 110 km to the east of Constanta, Romania. BSOG intend to develop the Midia Gas Development Project (MGD, the Project) to produce and process natural gas from those reservoirs and route it to export to consumers within Romania and the European Union.

BSOG has secured the necessary environmental consents to allow the Project to proceed from the Romanian authorities, in accordance with the requirements of national legislation, and from the Danube Delta Biosphere Reserve Administration (ARBDD) to allow development in the Danube Delta Biosphere Reserve. The range of policies, legal and regulatory requirements and other applicable standards that apply is described in the Environmental and Social Impact Assessment (ESIA) and the separate Biodiversity Management Plan (BMP).

BSOG are now seeking backing from a number of financial organisations, including the European Bank for Reconstruction and Development (EBRD) to facilitate the implementation of the Project. To align with the environmental standards of the principal lenders for the Project (including International Finance Corporation's (IFC) Performance Standard 6 (PS6) and EBRD's Performance Requirement 6 (PR6)), BSOG have undertaken a Critical Habitat Assessment (CHA) and supplementary assessment of impacts on biodiversity as part of the supplementary lenders information package (SLIP). The CHA identified residual impacts on natural and critical habitat and Priority Biodiversity Features (PBF) ¹, and hence the need to develop a Biodiversity Action Plan (BAP).

1.1 Purpose of Biodiversity Action Plan (BAP)

This document is a Framework BAP, and its purpose is to provide the following:

- an overview of how the mitigation hierarchy has been followed in the Project design;
- a summary of the residual impacts from the Project on critical and natural habitats and PBF;
- what is required to deliver no net loss (NNL), or net gain (NG);
- an explanation of the Project's mitigation strategy to achieve no net loss (NNL), or net gain (NG) including possible options;
- additional conservation actions to be implemented by BSOG to promote and enhance the conservation objectives of the protected areas impacted by the Project; and
- consultation requirements and likely key stakeholders.

This Framework BAP will be developed into a detailed BAP as the project progresses. The detailed BAP will be a 'living document' that will be regularly updated as the Project develops,

⁽¹⁾ See Critical Habitat Assessment Report for definitions.

in line with the Environmental and Social Action Plan requirements, as well as the Project's adaptive management of project effects and Management of Change (MoC) process.

The detailed BAP will contain specific targets, with management measures, details about how monitoring will be undertaken, responsibilities and budgets.

1.2 Requirements of IFC PS6 and EBRD PR6

Much of the onshore Project footprint and some of the offshore footprint, are within areas of the Danube Delta covered by one or more nature conservation designations, including the Danube Delta Biosphere Reserve and UNESCO World Heritage Site (*ie* the Project is within a legally protected and internationally recognised area). BSOG recognises the importance of such areas and the requirements in both PS6 and PR6 where development is to occur in them, as described in Paragraph 20 of PS6 and Paragraphs 19-20 of PR6 respectively.

As part of the ESIA process, BSOG has engaged with the key stakeholders for the Danube Delta, including with Danube Delta Biosphere Reserve Administration (ARBDD), who issued a permit for the development to occur within the economic development zone of the Biosphere Reserve and World Heritage Site.

Updates to the management plans for the Danube Delta are ongoing and BSOG recognise the importance of engaging further with ARBDD and other key stakeholders to implement actions, as part of the BAP that are consistent with these updated plans. Stakeholder engagement will occur as part of the implementation of this Framework BAP and will continue as part of the detailed BAP (see Section 5.4).

Given the importance of the protected area, BSOG are also committed to implementing Additional Conservation Actions (ACA) in the protected areas to supplement the current protection measures implemented by the competent authorities and to further ensure that the overall conservation objectives of these areas are not negatively impacted by the Project.

The Project also affects critical habitat and BSOG has undertaken the following to align with the requirements of PS6 (Paragraphs 17 - 19) and PR6 (Paragraphs 16 - 18):

- demonstrated that there are no viable alternatives (see Section 5.8 of Project CHA Report); and
- developed a mitigation strategy (including compensation measures) so that the Project meets the requirements of Paragraph 17 of PS6 and 16 of PR6 respectively and achieves net gain (NG) of the biodiversity values of the critical habitat (see Section 5).

2. PROJECT DESCRIPTION

The Project will involve drilling four development wells at the Ana field and one at the Doina field (production wells) (see Figures 2.1 and 2.2). A small normally unmanned platform to house the wellheads and minimum facilities at the Ana field (Ana Platform). A subsea gas production system at the Doina field (Doina Subsea); will be joined to the Ana Platform via an 18 km 8" pipeline. A 16" pipeline comprising a 121 km offshore segment and a 4.5 km,

onshore segment will route the gas from the Anna Platform to the gas treatment plant (GTP). The landfall of the offshore segment of the pipeline is located in the Vadu area, Corbu Commune, Constanta County.

Figure 0.1 Project Location

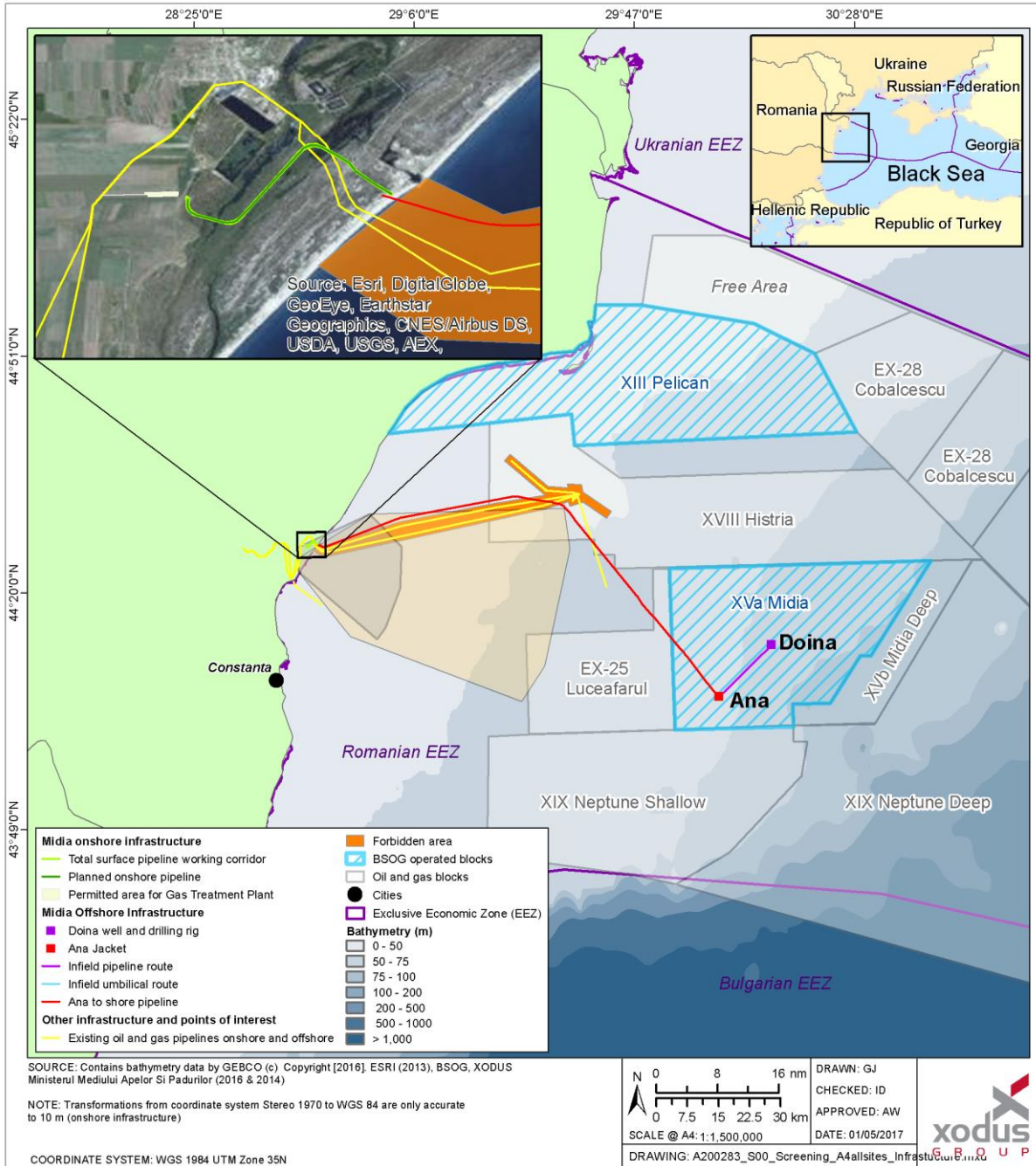
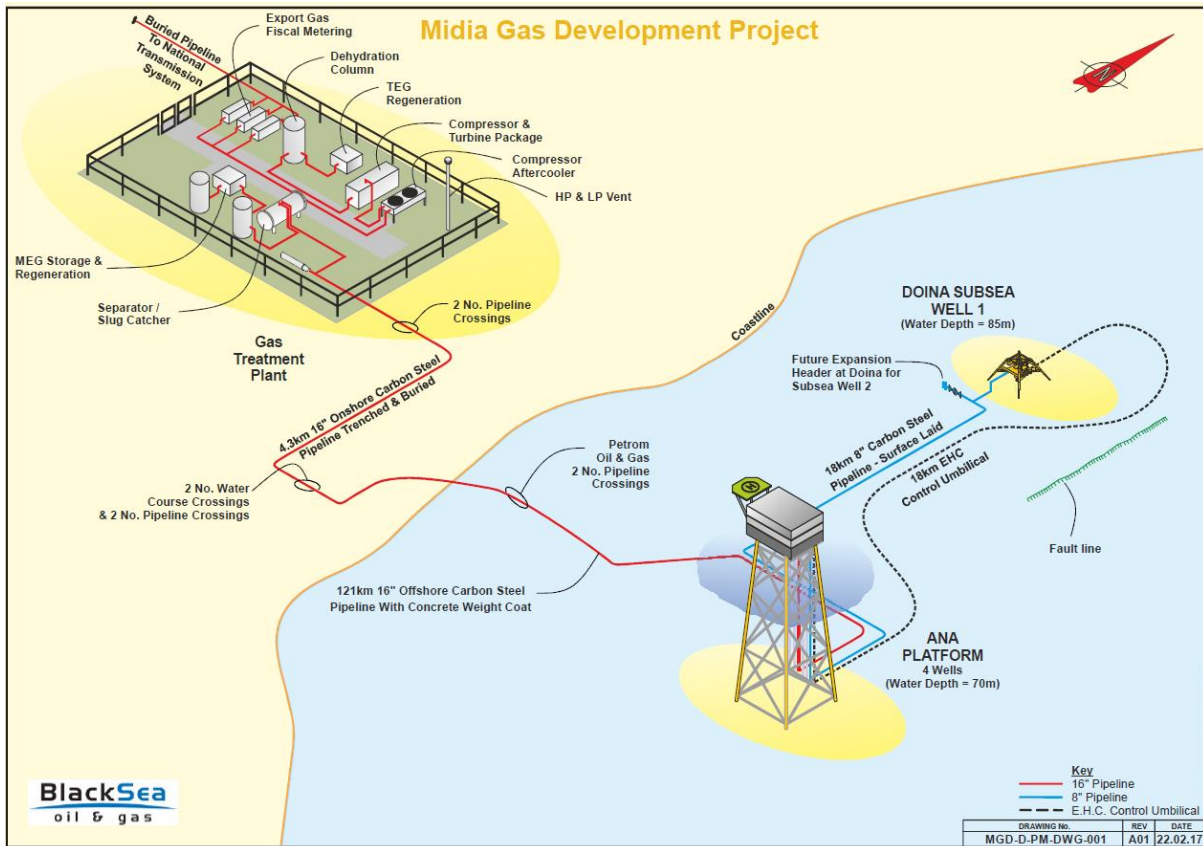


Figure 0.2 Project Overview



3. IMPLEMENTATION OF THE MITIGATION HIERARCHY

The Project design includes the following key measures to either avoid, or reduce, effects on natural and critical habitat and PBF:

- siting of the offshore platform and well in habitats that are not critical;
- siting of the GTP on modified habitat outside of the Danube Delta designated sites;
- use of Horizontal Directional Drilling (HDD) for sections of the onshore pipeline to avoid / minimise impacts to EU Habitats Directive Annex I habitats and other critical habitats as far as practicable;
- minimisation of the onshore pipeline working width; and
- implementation of seasonal constraints to reduce the risks of affecting fauna species (eg avoiding habitat clearance in the breeding bird)

The location of the landfall and routing of the onshore pipeline routes were subject to a number of constraints as follows:

- sites of importance for nature conservation (eg those associated with the Danube Delta);

- areas used by the Romanian Military;
- areas of importance for tourism (eg Năvodari Commune);
- existing development (eg Capu Midia Harbour, Petromidia and Rafinare refineries, existing Rompetrol pipelines); and
- rocky outcrops that provided engineering challenges.

Other constraints included additional engineering, economic, social and land availability.

Further details about the alternatives that were considered, to avoid having to develop in critical habitat, are provided in Section 5.8 of the CHA, and specific offshore and onshore mitigation and management measures are provided in Tables 6.2 and 6.3 of the BMP.

4. SUMMARY OF RESIDUAL IMPACTS ON NATURAL/CRITICAL HABITATS AND PRIORITY BIODIVERSITY FEATURES

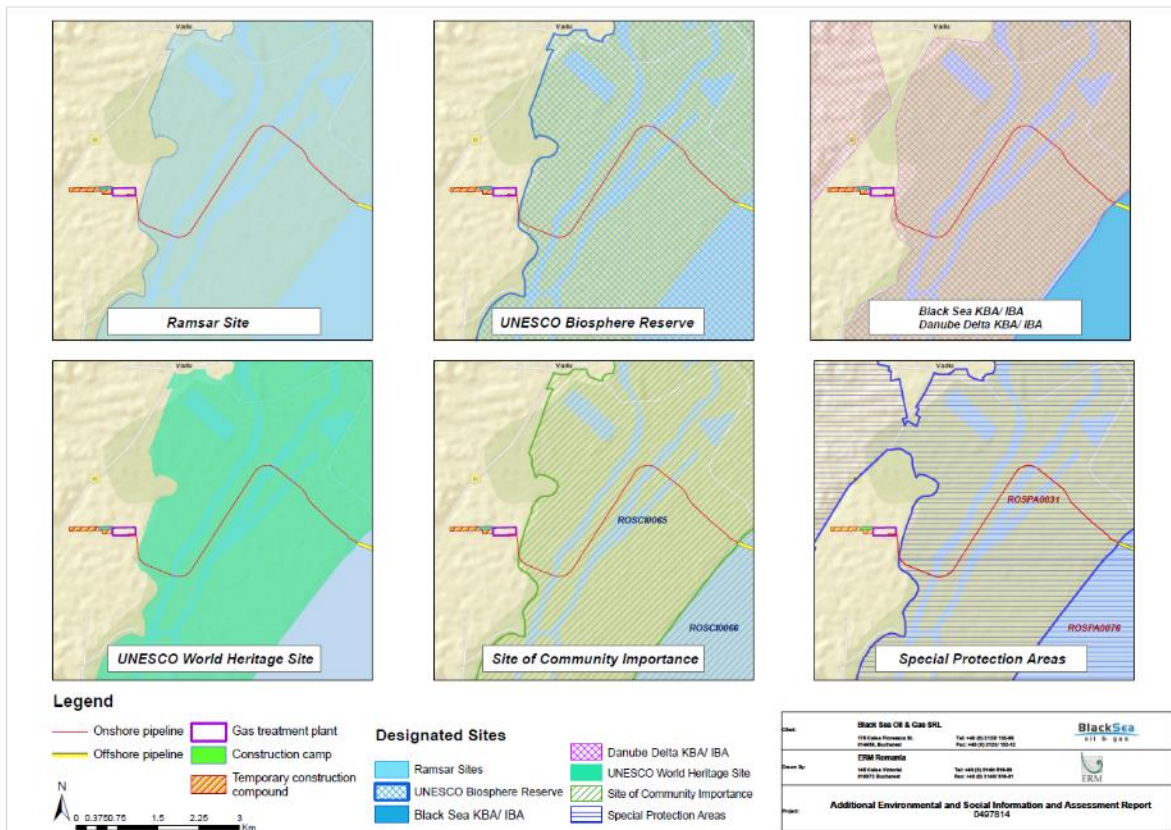
Critical habitats on and offshore are correlated with the internationally protected and recognised areas (see

Figure 0.1 and

Figure 0.2). Onshore the critical habitat matches the natural habitat shown on Figure 4.3. The loss of onshore critical / natural habitat and PBF amounts to approximately 4.32 ha that comprises approximately 0.0007% of the Danube Delta Biosphere Reserve / Natural World Heritage Site (580,000 ha).

Offshore, the pipeline will result in the loss of critical habitat to the edge of the of the Danube Delta SCI marine area, with natural habitat lost due to the remainder of the pipeline route and platform / well area. The loss of critical habitat within the designated site (approximately 2.5 ha) comprises approximately 0.07 % of the marine component of the SCI (336,200 ha).

Figure 0.1 Onshore Nationally Protected and Internationally Recognised Areas ¹



(1) The Romanian National Agency for Environmental Protection and the International Ramsar Secretariat provide different sizes for the Danube Delta Ramsar site. The Romanian Law 82/1993 with subsequent amendments and completions and government Decision 230/2003, which provides the legal designation for the UNESCO Biosphere Reserve, World Heritage Site and Ramsar Site, and agree with the National Agency for Environmental Protection data on the size and boundary of the Ramsar site, and this boundary has been used in this assessment.

Figure 0.2 Offshore Nationally Protected and Internationally Recognised Areas

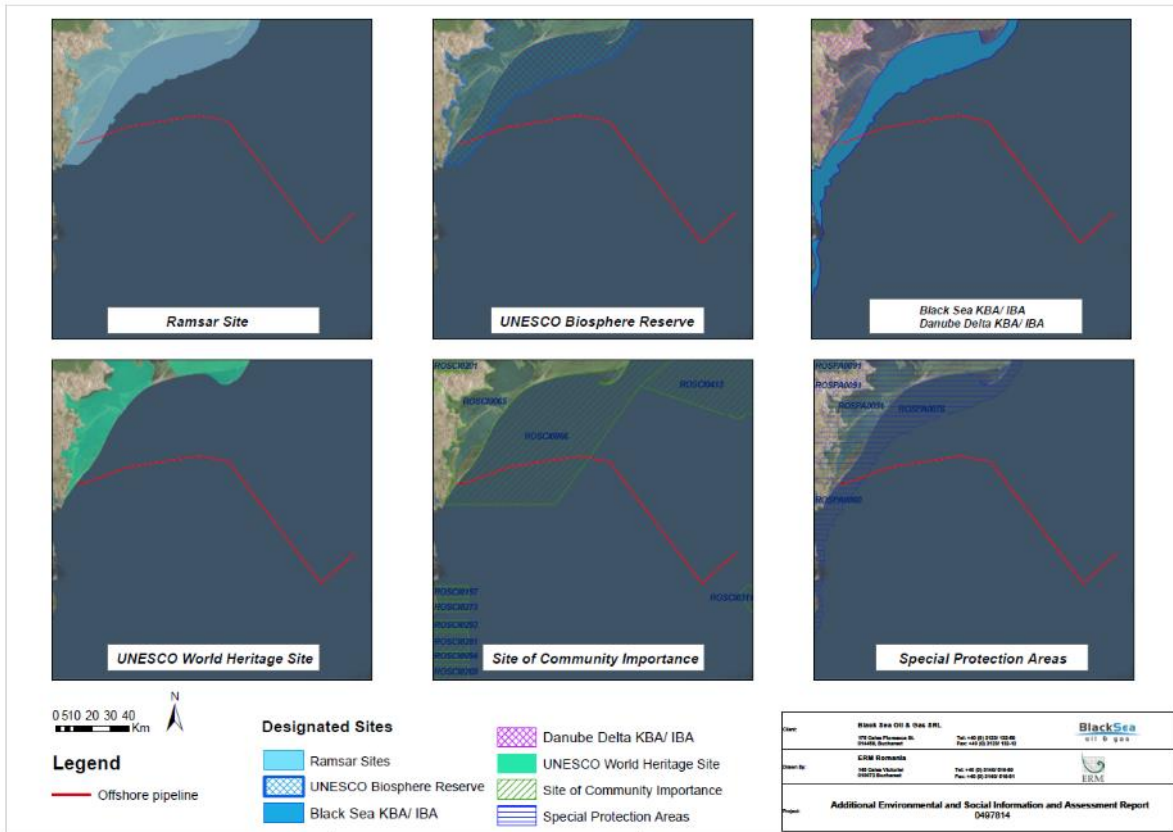
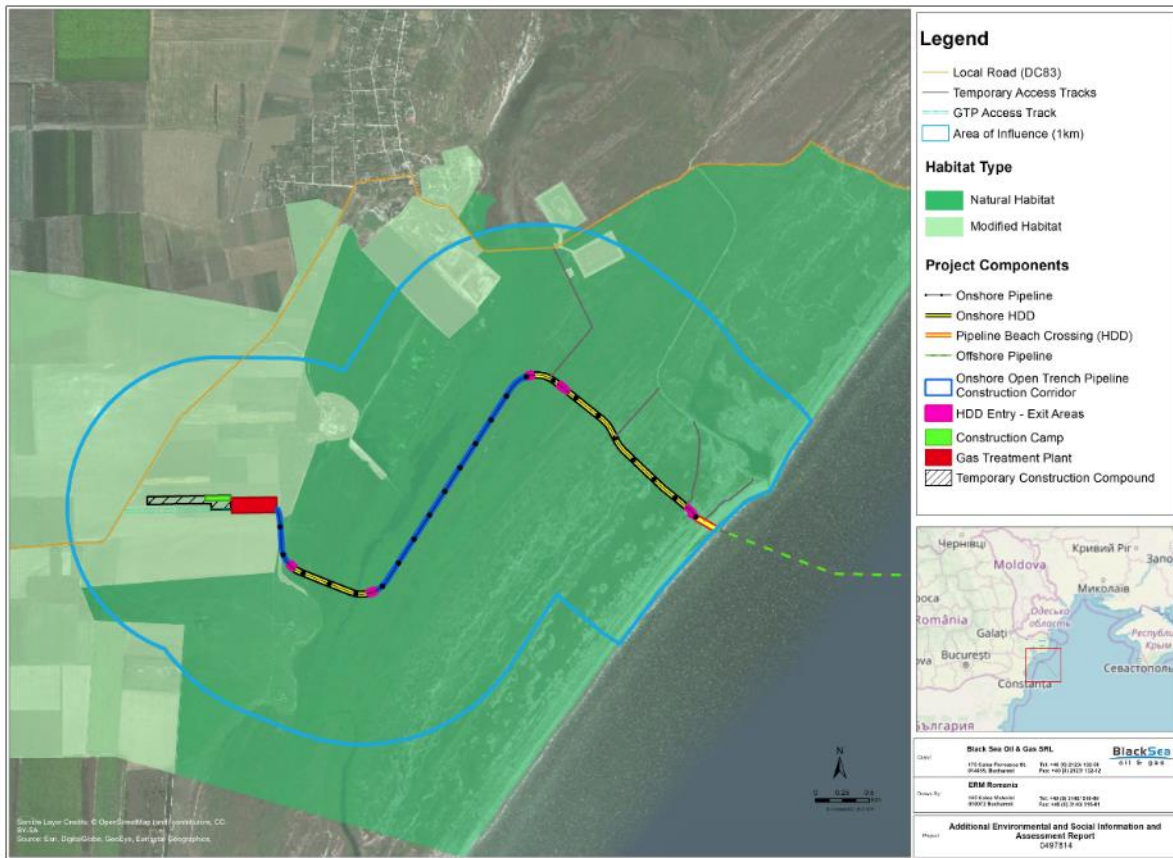


Figure 0.3 Natural and Modified Habitat - Onshore



The onshore critical habitat loss (also natural habitat) from the landfall and pipeline amounts to the temporary loss of 4.32 ha (in the Danube Delta SPA, SCI, Ramsar site, UNESCO Biosphere Reserve and Natural World Heritage Site) comprising the following:

- 2.34 ha of *Elymetum gigantei* with *Agropyretum elongati*;
- 1.04 ha of *Phragmitetum australis* with *Typhetum latifoliae*;
- 0.39 ha of plant communities with *Onopordum acanthium*, ruderal associations and bushes;
- 0.29 ha of *Agropyretum elongati*;
- 0.26 ha of *Juncetum maritimi* (*Artemisia santonicae* - *Juncetum maritimi* with *Artemisia santonicae* - *Juncetum littoralis* and *Elymetum gigantei*), an Annex I habitat (also PBF);

The construction of the pipeline has the potential to affect the dune and coastal wetland structure, and affect habitats supporting six plant species that are critical habitat features (*Artemisia tschernieviana*, *Crambe maritima* (sea kale), *Dianthus bessarabicus*, *Eryngium maritimum* (sea holly), *Elymus farctus* ssp. *Bessarabicus*, *Cirsium alatum*, and two plant species (*Eryngium maritimum* and *Colymus hispanicus*) that are PBF. As the construction of the onshore pipeline will be undertaken by removing turves that are then stored temporarily

and progressively restored, significant effects on these species will be minimised, as they will either be retained and reinstated once the turves are replaced, or if necessary, translocated to other areas of similar, suitable habitat in land owned by BSOG. Some residual impacts may remain (e.g. if translocation is not 100% successful) and will need revisited during monitoring and updated to the CHA and BAP.

Some disturbance and displacement of fauna is likely to occur during the onshore construction works to individuals of four bird species that are critical habitat features (squacco heron (*Ardeola ralloides*), purple heron (*Ardea purpurea*), great white egret (*Egretta alba*), little egret (*Egretta garzetta*), and nine species that are considered PBF (common pochard (*Aythya farina*), Ferruginous duck (*Aythya nyroca*), black-winged stilt (*Himantopus himantopus*), pied avocet (*Recurvirostra avosetta*), red-footed falcon (*Falco vespertinus*), common shelduck (*Tadorna tadorna*), common redshank (*Tringa totanus*), common hoopoe (*Upupa epops*), northern lapwing (*Vanellus vanellus*)).

There will also be some potential for disturbance to common tortoise (*Testudo graeca*) and European otter (*Lutra lutra*) and three PBF features (European ground squirrel (*Spermophilus citellus*), European pond turtle (*Emys orbicularis*), fire-bellied toad (*Bombina bombina*)).

The pipeline corridor will be surveyed before construction commences and any fauna species found (eg amphibians, reptiles, ground squirrels), will be translocated to a suitable receptor site. The working width will then be fenced off with small mammal / reptile fencing to prevent them re-entering the working width. Habitat clearance during the breeding bird season will also be avoided. If this does not prove possible then pre-construction check surveys for nesting birds will be undertaken by an appropriate biodiversity specialist, and exclusion zones created around any nests found. The implementation of standard mitigation measures during the construction works will reduce the risk of effects on fauna species from visual, noise and light disturbance, and traffic collisions or animals being trapped in trenches. The construction of the onshore pipeline is short, and any effects will be temporary. Extensive areas of similar habitat types occur and are likely to be able to accommodate any animals displaced for short periods.

Offshore there is a critical habitat loss of 2.34 ha from the Danube Delta marine zone SCI of which 0.5 ha is in the Black Sea SPA / IBA / KBA and 0.4 ha in the Danube Delta Ramsar site / UNESCO Biosphere Reserve. A further 6.8 ha of offshore natural habitat will be lost under the footprint of the Ana platform, subsea in field infrastructure and export pipeline, and deposition of drill cuttings as a result of the Project. The vast majority of benthic habitat lost comprises soft sediments.

The nearest seeps and vents in sublittoral sediments (an Annex I habitat) identified from the surveys are approximately 115 m from the pipeline route and will not be directly affected. During the laying of the pipeline, measures are proposed to allow the pipeline to be micro-sited to avoid any seeps and vents that were not identified by the transect surveys.

Temporary effects are also predicted to the fauna species listed below.

- Temporary displacement from 1.73 km around piling activities and 380 m from vessel operations of Pontic shad (*Alosa immaculata*) and Black Sea shad (*Alosa tanaica*).
- Temporary displacement from 2.34 km around piling activities and 1.2 km from vessel operations of three cetacean species (Black Sea common dolphin (*Delphinus delphis*

ponticus), Black Sea harbour porpoise (*Phocoena phocoena relicta*), Black Sea bottlenose dolphin (*Tursiops truncatus ponticus*)).

Further details about the impacts and mitigation provided are available in the Project CHA report and BMP.

5. COMPENSATION/ENHANCEMENTS

5.1 Introduction

The Project will result in effects on natural / critical habitats and PBFs as described in Section 4. Where losses of natural / critical habitat and PBF occur, it is standard practice to deliver compensatory measures to achieve no net loss (NNL) for effects on natural habitat and PBF, and Net Gain (NG) for effects to critical habitat. This chapter defines those compensatory requirements and explains how they have been derived using a biodiversity metric.

5.2 Approach – Biodiversity Metric

A commonly used approach to account for terrestrial habitat losses and to calculate the liability of a Project to deliver NNL/NG, is to use biodiversity metrics. Metrics allow quantification of the biodiversity loss and extent of quality hectares required, to deliver NNL. For critical habitat additional quality hectares need to be delivered to provide NG.

The metric used is based on the Habitat Hectares metric (Parkes *et al*, 2003¹), an approach designed so that it could be readily applied to any terrestrial habitat. It also rated highly in a recent study by Gamarra *et al* (2018)² that evaluated established biodiversity metrics.

Simplifications made to the Habitat Hectares metric for the purposes of this assessment, include to the approach to condition assessment. The approach in Parkes *et al* (2003) requires detailed levels of information about percentage components of a pristine habitat type and criteria and scoring to inform condition status. As this level of information was not collected, the approach identified how intact and functioning a habitat type is based on the field survey findings, and allocated these to a quartile as follows:

- 1 = fully intact and functioning pristine habitat;
- 0.75 = mostly intact and functioning habitat;
- 0.5 = degraded, but still functioning habitat; and
- 0.25 = severely degraded and functionally compromised habitat.

The field surveys found the critical habitats affected by the onshore pipeline to be largely intact and functioning, but showing signs of influences from tourism, recreation and grazing (see

⁽¹⁾ Parkes D, Newell G & Cheal D (2003) Assessing the Quality of Native Vegetation: The Habitat Hectares Approach. *Ecological Management*, **Rest 4**, S29–S38.

⁽²⁾ Gamarra M, Lassoiea J & Mildera J (2018) Accounting for No Net Loss: A Critical Assessment of Biodiversity Offsetting Metrics and Methods. *Journal of Environmental Management* **220** 36-43.

Section 3.3.1 of the Project CHA Report. The existing conditions of the habitats have, therefore, been assigned a value of 0.75.

The aim of the reinstatement is to provide functioning habitat, and the aim to achieve a condition of at least 0.75, to reflect this. The approach acknowledges that reinstatement of habitat along the working width to functioning habitat will vary with habitat type, with some being more difficult and/or taking more time to re-establish. The metric to inform the NNL requirements has, therefore, incorporated multipliers (based on those used in the UK Defra metric ¹), that reflect the expected time to achieve the target conditions of the habitat (see Table 5.1) and the risk of establishment (see Table 5.2). The effects of these multipliers are similar to offset ratios that are sometimes used, as they typically increase the number of hectares required to achieve NNL.

Table 0.1 Time to Condition

| Time to Target Condition (Years) | Multiplier |
|---|-------------------|
| 1 | 0.9 |
| 5 | 0.8 |
| 10 | 0.7 |
| 20 | 0.5 |

Table 0.2 Risk of Establishment

| Risk of Establishment | Multiplier |
|------------------------------|-------------------|
| Low | 0.9 |
| Medium | 0.8 |
| High | 0.7 |
| Very High | 0.5 |

⁽¹⁾ <https://www.gov.uk/government/collections/biodiversity-offsetting>

Offshore, there will be a permanent loss of soft seabed habitat from laying the pipeline on the seabed, that will restore naturally over the pipeline. However, this will take time, and creation of additional habitat is not possible. Instead the approach will be to provide funding for and / or implement other initiatives to compensate for the time taken for the natural process of recovery to take effect, and to provide NG (see Section 5.3.2).

5.3 Achieving No Net Loss/Net Gain

5.3.1 Onshore

BSOG is committed to delivering NNL/NG as part of the Project, and delivery onshore will be through the following approaches:

- re-instatement of habitats temporarily removed in the working width for the laying of the pipeline as described in the BMP;
- enhancements to “like-for-like” habitats outside the working width, but adjacent to it, in land plots owned by BSOG, where feasible (noting that additional land acquisition may be required); and
- additional conservation actions (ACAs) to promote and enhance the conservation objectives of the protected sites of the Danube Delta.

Based on the biodiversity metric used, 7.4 quality hectares are required to achieve NNL (see Table 5.3), however, as the project affects critical habitat, additional quality hectares are required to achieve NG (see below).

Table 0.3 Quality Hectares Required to Achieve NNL

| Habitat | Area Lost (ha) | Existing Condition | Existing Quality Ha | Time Target Condition | to Risk Establishment | of Quality Ha | Habitat Available (ha) |
|---|----------------|--------------------|---------------------|-----------------------|-----------------------|---------------|------------------------|
| 1410 <i>Juncetum maritimi</i> (<i>Artemisia santonicae-Juncetum maritimi</i> with <i>Artemisia santonicae-Juncetum littoralis</i> and <i>Elymetum gigantei</i>) | 0.26 | 0.75 | 0.19 | 0.7 | 0.33 | 0.40 | 1.1 (3x) ¹ |
| <i>Phragmitetum australis</i> with <i>Typhetum latifoliae</i> | 1.04 | 0.75 | 0.78 | 0.8 | 1.0 | 2.18 | 32.8 (15x) |
| <i>Agropyretum elongati</i> | 0.29 | 0.75 | 0.22 | 0.7 | 0.33 | 0.44 | 1.7 (4x) |
| <i>Elymetum gigantei</i> with <i>Agropyretum elongati</i> | 2.34 | 0.75 | 1.76 | 0.7 | 0.33 | 3.56 | 27.6 (8x) |
| Plant communities with <i>Onopordum acanthium</i> , ruderal associations and bushes | 0.39 | 0.75 | 0.29 | 0.8 | 1.0 | 0.82 | 5.1 (6x) |
| | 4.32 | | 3.24 | | | 7.40 | |

The loss of habitat along the working width is only temporary and the 4.32 ha of habitat will be reinstated. As 7.4 ha quality hectares are required, achieving NNL will require an offset of only 3.1 hectares outside the working restored working width comprising the following areas of habitat:

- 1.22 ha of *Elymetum gigantei* with *Agropyretum elongati*;
- 1.14 ha of *Phragmitetum australis* with *Typhetum latifoliae*;
- 0.43 ha of plant communities with *Onopordum acanthium*, ruderal associations and bushes;
- 0.15 ha of *Agropyretum elongati*;

⁽¹⁾ Illustrates the extent of similar habitat available (ie 1.1 ha which is approximately three times the quality hectare areas required (0.4 ha)).

- 0.14 ha of *Juncetum maritimi* (*Artemisio santonicae* - *Juncetum maritimi* with *Artemisio santonicae* - *Juncetum littoralis* and *Elymetum gigantei*), an Annex I habitat (also PBF).

As NNL will be achieved through enhancement to existing habitats that are regarded as intact and functioning already (*ie* condition score of 0.75), greater areas than those listed above will be required just to achieve NNL. However, the land plots owned by BSOG extend some distance away from the working width, and approximately 82 ha of habitat is available and could be used (see Figure 5.1). The areas available within the individual habitats affected are also considerably greater than those required to achieve NNL, and hence can do so and still allow additional areas in which to deliver NG (see Table 5.3).

The habitats in the land plots will be subject to ground truthing surveys as part of the development of the detailed BAP. These surveys will confirm the most suitable locations for enhancements to deliver both NNL and NG and also the measures to be delivered. In advance of this survey, indicative measures proposed onshore are contained in Table 5.4 and the locations in which they are anticipated are shown in Figure 5.1. These measures are not an exhaustive list and others may be developed as part of the evolving detailed BAP. These measures are additional to those already described in the BMP, including for the reinstatement of the habitat temporarily affected along the working width. The need for any additional land to deliver NNL / NG outside BSOG's current ownership will be identified as the Project and implementation of the BAP progresses.

Specific management measures in the BAP are not required for all species listed as CH or PBF. For example, the measures set out in the BMP are considered sufficient to avoid significant effects on northern lapwing, common shelduck and golden jackal (all PBF) and all the plant species listed as CH or PBF. The significant residual impacts from the Project that require measures in the BAP to deliver NNL/NG will be revised following an update to the CHA undertaken at the end of construction (see Section 5.4).

The onshore pipeline works, and the adjacent areas for habitat enhancements to achieve NNL/NG, are within the protected sites of the Danube Delta, and through measures to achieve NG, BSOG is committed to improving the designated sites. It will be necessary, therefore, to engage with the Administration of Danube Delta Reserve and other key stakeholders before any specific measures can be confirmed, as the Administration is currently updating the management plans for the Danube Delta. BSOG will identify specific ACAs to implement to promote the conservation objectives of the protected areas of the Danube Delta through engagement with the Administration. Indicative enhancement options and ACAs, all of which will be subject to discussion with key stakeholders, have been identified in Table 5.4 as examples of BSOG's commitment to achieving NNL/NG.

Figure 0.1 Land Plots Owned by BSOG

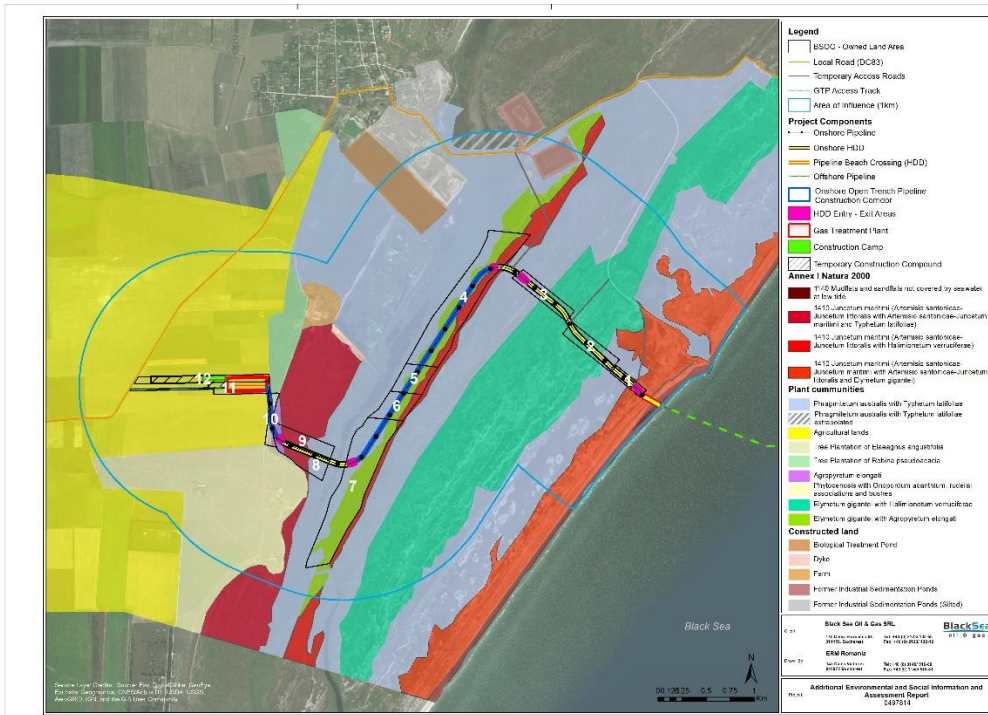


Table 0.4 Indicative Measures Onshore to Provide NNL/NG and ACAs in Protected Sites

| Measure Number | Indicative Measure and Location | Reason for NNL/NG Provision |
|----------------|--|---|
| 1 | <ul style="list-style-type: none"> Erect display boards adjacent to Plots 1 – 10 during construction, and in locations agreed with ARBDD post construction. | <ul style="list-style-type: none"> Improve public awareness of the nature conservation importance of the habitats in the area and direct them away from the habitats of importance highlighted in the CHA report (eg Annex I Mediterranean salt meadows), to reduce the pressure on them and the species they support. |
| 2 | <ul style="list-style-type: none"> Work with ARBDD to create designated areas for public use for recreational activities (eg picnic sites, walkways) as part of a visitor management plan. | <ul style="list-style-type: none"> Reduce the pressures on existing habitats and disturbance to species, especially those highlighted in the CHA report, by focusing recreational use away from key areas. |
| 3 | <ul style="list-style-type: none"> Produce information leaflets to promote sustainable use of the habitats and distribute to and via local businesses (eg shops, restaurants) | <ul style="list-style-type: none"> Reduce the pressures on existing habitats and disturbance to species, especially those highlighted in the CHA report, by focusing recreational use away from key areas. |
| 4 | <ul style="list-style-type: none"> Infill bare patches in existing habitats (eg those created by effects of tourism and other leisure activities including through vehicle movements, camping, walking) in existing habitats of <i>Elymetum gigantei</i> with <i>Agropyretum elongati</i> and <i>Elymetum gigantei</i> with <i>Halimionetum verruciferae</i> with new native grass and herb species (in Plots 2 - 7). | <ul style="list-style-type: none"> To offset temporary effects on the <i>Elymetum gigantei</i> with <i>Agropyretum elongati</i> (critical habitat feature) and to improve the habitat supporting European ground squirrel (PBF) and common tortoise (CH) and feeding habitat for common hoopoe. |
| 5 | <ul style="list-style-type: none"> Install fencing (tortoise and ground squirrel friendly) to encourage the development of <i>Elymetum gigantei</i> with <i>Agropyretum elongati</i> and <i>Elymetum gigantei</i> with <i>Halimionetum verruciferae</i> habitats (Plots .2 – 7). | <ul style="list-style-type: none"> To improve the habitat and improve the protection of European ground squirrel and common tortoise from the risk of injury and disturbance. |
| 6 | <ul style="list-style-type: none"> Provide artificial shelters for common tortoise in <i>Elymetum gigantei</i> with <i>Agropyretum elongati</i> and <i>Elymetum gigantei</i> with <i>Halimionetum verruciferae</i> habitats (Plots 2 – 7). | <ul style="list-style-type: none"> To protect common tortoises from the sun during the hotter parts of the day and improve their survival. |
| 7 | <ul style="list-style-type: none"> Create areas of open water of varying depths amongst <i>Phragmites</i> beds (in Plots 3, 4 and 7), with connecting ditches / channels. | <ul style="list-style-type: none"> Improve the value of the <i>Phragmites</i> habitat including as a habitat for supporting fauna species (including fish and invertebrates). |
| 8 | <ul style="list-style-type: none"> Create islands during process of creating areas of open water inn <i>Phragmites</i> (in Plots 3, 4 and 7). | <ul style="list-style-type: none"> Increase feeding areas for squacco, purple and great white heron, cattle egret, common pochard and ferruginous duck in the open water and edge habitat. Provide safe breeding island locations for pied avocet, black-winged stilt and common redshank. |

- | | | |
|----|---|--|
| 9 | <ul style="list-style-type: none"> ■ Increase edge habitat in <i>Phragmites</i> through more complex pool margins and grading of successional habitat into drier habitats adjacent (Plots 1 – 9). | <ul style="list-style-type: none"> ■ Improve feeding and/or breeding areas for European pond turtle (PBF), European otter (CH) and fire-bellied toad (PBF). ■ Increase habitat for dragonflies and hence increase prey and foraging habitat for red-footed falcon (PBF). |
| 10 | <ul style="list-style-type: none"> ■ Seek opportunities with ARBDD to use <i>Phragmites</i> plants removed from areas to make open water in other areas of the Reserve. Perhaps even to help improve water quality through pollution controls (eg using extracted plants to create small <i>Phragmites</i> beds along channels from the former heavy metals tanks (west of Plot 4) to help filter any pollutants still emanating from them into the watercourses). | <ul style="list-style-type: none"> ■ Improve water quality and feeding habitats for a range of flora and fauna species in the designated sites including water birds, European pond turtle, European otter <i>etc.</i> |
| 11 | <ul style="list-style-type: none"> ■ Work with ARBDD to create bird hides looking across the areas of open water. | <ul style="list-style-type: none"> ■ Provide sustainable leisure and recreational opportunities and educational benefits. |
| 12 | <ul style="list-style-type: none"> ■ Expand the area of <i>Agropyretum elongati</i> by removal of areas of the <i>Elaeagnus angustifolia</i> in Plot 10. | <ul style="list-style-type: none"> ■ Current area of <i>Agropyretum elongati</i> too small to meet Annex I Habitat category requirements (1530 Pannonic Steppe and Salt Marshes). |
| 13 | <ul style="list-style-type: none"> ■ Form a Monitoring Working Group including managers of the protected sites for the duration of the Project monitoring period. | <ul style="list-style-type: none"> ■ Contribute to the management of the DDBR through the provision of monitoring data to the Group and regular discussions around findings |
| 14 | <ul style="list-style-type: none"> ■ Work with ARBDD to further the development of the management plan for the Danube Delta, and implementation of the measures it contains. | <ul style="list-style-type: none"> ■ Helps progress the plan and allows BSOG to identify measures that they can support to benefit the flora and fauna species of the designated sites of the Delta. |
-

The enhancement measures described above are all ones that are technically feasible, with guidance on how to achieve successful implementation of these measures (eg improving reedbeds, creating open water, breeding islands, improving dune systems^{7 8 9 10}), and are in habitats that are intact and functioning. These techniques and approaches are applicable in this location, despite the fact they relate primarily to more northerly regions. The development of the detailed BAP will include discussions with Danube Delta nature conservation to agree the specifics of the measure's stakeholders (see Section 5.4).

The habitats, within which the current enhancements are proposed, lie within land plots acquired already by BSOG. Hence, access to the habitats to allow the measures to be implemented is available. Implementation of the measures may also be able to take advantage of the equipment and workforce on site for the construction works.

5.3.2 Offshore

The difficulties in restoring offshore habitats are emphasised by the residual loss of soft sediment habitats confirmed in the CHA. The most sensitive habitats identified are seabed vents and seeps, located approximately 115 m from the in-field pipeline route. The in-field pipeline will be laid by pipeline laying vessels using dynamic positioning rather than anchor spreads. Single dead man anchor (DMA) will be used to initiate pipe laying but otherwise no anchors will be used. The location of the single anchor point used to initiate the DP laying of the in-field pipeline will be checked against survey data to avoid sensitive seabed vent habitats.

BSOG is committed to achieving>NNL/NG in the offshore environment as it is for the onshore. Possible options include.

- The pipeline route provides a transect line through part of the Black Sea. It can serve as a longitudinal study area about the restoration along it and provide valuable information about the status of habitat and marine species in the western part of the Black Sea. This will help the understanding of the ecology of the Black Sea and in particular seabed habitats and species, and species affected by the Project (eg dolphins and shads).
- Support capacity building for Black Sea conservation agencies, and especially work on Marine Protected Areas. Contribution to management plans

(7) http://ww2.rspb.org.uk/Images/bringing_reedbeds_to_life_tcm9-385799.pdf

(8) C J Hawke and P V José (1996) - Reedbed management for commercial and wildlife interests. RSPB.

(9) http://databases.eucc-d.de/files/000214_Oil__Gas_Pipelines_Managerial_System_casestudies.pdf

(10) <https://www.conservationhandbooks.com/manage-sand-dunes/>

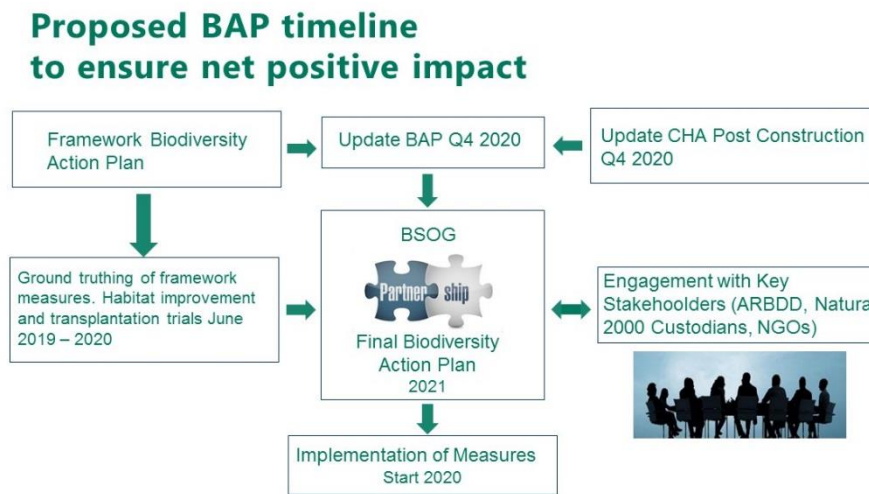
- Support initiatives to reduce pollution sources and its effects including on land where they ultimately drain into the Black Sea.

Options and specific measures will be discussed and agreed with the key stakeholders (see Section 5.4).

5.4 Programme for Implementation

The approach to producing the detailed BAP, updating it and implementing the Final BAP are shown in Figure 5.2. A more detailed timeline will be developed as part of the detailed BAP.

Figure 0.2 Timetable for Achieving Net Gain



5.5 Stakeholder Engagement

The compensation measures proposed are largely in the designated sites of the Danube Delta. Consultations with the key stakeholders for the Danube Delta have been undertaken as part of the ESIA process, including with Danube Delta Reserve Biosphere Reserve Administration (ARBDD), who issued a permit for the development to occur with the Biosphere Reserve.

It is important that the compensatory measures are drawn up in discussion with the authorities that are responsible for managing the sites. Key authorities that will be engaged with as part of the development of the detailed BAP include:

- Administration of Danube Delta Reserve – development of detailed plans (with advice from an Advisory Board of Directors) and their implementation);

- Scientific Council – evaluates how measures are enforced and submit reports;
- Romanian Academy;
- Ministry of Environment;
- Ramsar Convention; and
- BirdLife International.

6. ROLES AND RESPONSIBILITIES

The roles and responsibilities of implementing specific management actions are provided in Section 6.2 of the BMP. The responsibility for the BAP and its implementation, including the delivery of NNL/NG, lies with BSOG and its biodiversity specialist. However, in delivering some of the targets to achieve NNL/NG and Additional Conservation Actions, it is expected that some specific responsibilities will lie with biodiversity specialists contracted to BSOG and authorities responsible for the management and running of the designated sites. This will be identified and agreed as the detailed BAP evolves.

BSOG will be responsible for monitoring the BAP implementation and auditing its progress.

7. Long Term Biodiversity Monitoring

The monitoring commitments that will be undertaken during the construction, operation and decommissioning of the Project, are described in Sections 6.3.1 (offshore) and 6.3.2 (onshore) in the BMP. It is expected that there will be further monitoring requirements as the BAP evolves. These requirements will be agreed and documented in the detailed BAP including how monitoring will be undertaken, when and by whom, including details of who is responsible, and the budgets required. The success of the individual measures will be determined using a limit of acceptable change approach (eg if species diversity falls below a certain level, or the number of a species drops below a certain number). Remedial actions will be drawn up if these limits are exceeded.

There will be an ongoing process of review of the monitoring findings. This will feed into updates of the detailed BAP and an update of the CHA post construction and associated biodiversity metrics. The monitoring findings will be shared with the ARBDD through a Monitoring Working Group. The Group will be established as part of the Project and provide a forum to discuss the findings in the local context including the protected sites of the Danube Delta.

Key Performance Indicators (KPIs) will be developed to help monitor the overall success of the offsets.

8. BAP Costs

The costs and sources of funding associated with delivering the further measures will be agreed and documented in the detailed BAP as it evolves.