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Regional Accession Network

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TAIEX-ECRAN Sub-Regional Workshop on Appropriate Assessment of the Kavadarci – Tikvesh Reserve Pilot Site (Natura 2000)

Workshop II: Main Assessment

Topic: Appropriate Assessment of a gas pipeline project - II

Belgrade, Serbia 15 – 16 October 2015



This Project is funded by the European Union



A project implemented by Human Dynamics Consortium

2. Field survey

- Current biological situation within the assessed area
- Possible location of target features within the assessed area, data concerning affected target features must relate to the project location, not only to SPA/SCI
- Quantification of target features within the assessed area
- Quantification of affected target features within whole SPA/SCI where these data are not available
- Assessment of possible cumulative effects of the assessed project with other projects and trends within the SPA/SCI
- Field survey helps to understand ecological relations within the project location, interactions with other projects, landuse and any other factors of possible cumulative effects

2. Field survey

- **Who should carry out the field survey:**
 - Ornithologist if assessed project applies to a SPA
 - Botanist if target features of a SCI are plant species or habitats
 - Zoologist with corresponding specialization depending on target animal species within the SCI
- **Appropriate assessment field survey is frequently a team work of various specialists**
- **Appropriate assessment should be guaranteed by one responsible expert experienced in biology as well as in relevant legislation**

2. Field survey

- **What is not necessary to carry out during the field survey:**
 - Influences on non-target features within SPA/SCI (it is a subject of other type of assessments – biological assessment, EIA...)
 - General environmental impacts (it is subject of EIA)
 - Influences on landscape scenery

2. Field survey

- **What is not necessary to carry out during the field survey:**
 - Influences of landuse outside location of target features (if this is not in conflict with target features *¹)
 - Architectural design of the project (if this is not in conflict with target features *²)

**¹) possible changes of landuse influencing habitats for target features*

**²) possible risk of glass walls for birds, changes in bat refuges on buildings, design of potential migration corridors and other possible influences of architectonical arrangements on animals*

2. Field survey

Possible location of target features of SCI within the assessed sites

- For the purpose of the pilot project of gas pipeline the following target features were listed :
- Target features identified within Okanj Bara, used for AA purposes:
- Target habitats (Annex I of HD):
 - Pannonic salt steppes and salt marshes (code 1530), priority habitat type
 - Inland salt meadows (code 1340), priority habitat type
- Target species (Annex II of HD) :
 - Glasworth (*Salicornia europaea*)
 - *Basia sedoides*
 - *Scorsonera parviflora*
 - Souslik (*Spermophilus citellus*)
 - European Fire-bellied Toad (*Bombina bombina*)

Species highlighted by red color were ascertained as possibly affected



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2. Field survey

Possible location of target features of SCI within the assessed sites

- For the purpose of the pilot project of gas pipeline these target features were listed :
- Target features identified within Rusanda, used for AA purposes:
- Target habitats (Annex I of HD):
 - Pannonic salt steppes and salt marshes (code 1530), priority habitat type
- Target species (Annex II of HD) :
 - Glasworth (*Salicornia europaea*)
 - *Basia sedoides*
 - *Scorsonera parviflora*
 - Souslik (*Spermophilus citellus*)
 - European Fire-bellied Toad (*Bombina bombina*)

Habitats and species highlighted by red color were ascertained as possibly affected



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2. Field survey

Possible location of target features of SPA within the assessed sites

- For the purpose of the pilot project of gas pipeline these target bird species were listed :
 - Black-winged Stilt (Common Stilt) (*Himantopus himantopus*)
 - Eurasian Bittern (Great Bittern) (*Botaurus stellaris*)
 - Pied Avocet (*Recurvirostra avosetta*)
 - Red-footed Falcon (*Falco vespertinus*)
 - Saker Falcon (*Falco cherrug*)
 - Common Crane (*Grus grus*)



Species highlighted by **red color** were ascertained as possibly affected

2. Field survey

Quantification of affected target features within the whole SPA/SCI where these data are not available

- In case of real AA, field survey focused on gathering of quantitative data should be carried out for a long time
- Rusanda and Okanj Bara areas are quite large areas and real assessment would take a lot of time for field survey

2. Field survey

Quantification of affected target features within the whole SPA/SCI where these data are not available

- In case of the real AA, field survey should include:
 - *Quantification of habitat's area would take about 20 field mandays*
 - *Quantification of populations of target species within the areas would take at least 15 man-days for mammaliologist, herpetologist and botanist*
 - *Verification of numbers of nesting birds on each site as well as numbers of birds using the area during migration and wintering would take at least 15 man-days*

2. Field survey

- Assessment of possible cumulative effects of the assessed project with other projects and trends within the SPA/SCI
- Intensive agriculture on arable land (nutrients (N, P), organic matter and soil outwash production)
- Spreading of weeds, nitrophytic and ruderal habitats and invasive species by intensive agriculture
- Illegal enlarging of fields by ploughing up edges of salt grassland

2. Field survey

- Assessment of possible cumulative effects of the assessed project with other projects and trends within the SPA/SCI
- Intensive agriculture on arable land (nutrients (N, P), organic matter and soil outwash production)
- Spreading of weeds, nitrophytic and ruderal habitats and invasive species by intensive agriculture
- Illegal enlarging of fields by ploughing up edges of salt grassland



2. Field survey

- Assessment of possible cumulative effects of the assessed project with other projects and trends within the SPA/SCI
- The surface of the salty steppes and wetlands, after the ditch for the pipeline has been dug, will need long time for habitats restoration (like any other extreme habitats)
- Weakened resilience of salty steppes after ditch digging



2. Field survey

- Assessment of possible cumulative effects of the assessed project with other projects and trends within the SPA/SCI
- Birds in the area would be disturbed by higher numbers of bird watchers in the western part of the area (observation tower built in 2015 – cumulative effect)



3. AA findings and results

- Clear decision if the identified impacts would be possible to mitigate
- Mitigation measures proposed where appropriate
- Clear decision if the identified impacts should have significant effect on target features
- Affected target features within the assessed areas
- Quantification of affected target features
- Assessment of affected target features in relation to paragraph 3 of Article 6 of Habitats Directive ^{*1}
- Conclusions on the impact on site integrity

****1 Any plan or project not directly connected with or necessary to the management of the site but **likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives.*****

3. AA findings and results

- Likely affected target bird species within the assessed site

Alternative 1

- The gas pipeline situated to the core nesting and feeding area of bird species within Rusanda in length of about 650 m of the site will have the following consequences:
 - Disturbance of birds during their nesting season
 - Disturbance of bird crucial feeding places
 - Black-winged Stilt (*Himantopus himantopus*) and Pied Avocet (*Recurvirostra avosetta*) use salt steppes and marches in the north-western part of Rusanda Lake:
 - For nesting – both species are building their nests in short vegetation or bare surface near water
 - For feeding – both species are searching for food in shallow waters (littoral)

3. AA findings and results

Intersection of pipeline and inlets of Lake Rusanda, key feeding and nesting bird site



3. AA findings and results

Intersection of pipeline and inlets of Lake Rusanda, key feeding and nesting bird site



Google earth

feet
meters

1000

500



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3. AA findings and results

Intersection of pipeline and inlets of Lake Rusanda, key feeding and nesting bird site



3. AA findings and results

Intersection of pipeline and inlets of Lake Rusanda, key feeding and nesting bird site



Google earth

feet
meters

1000

500



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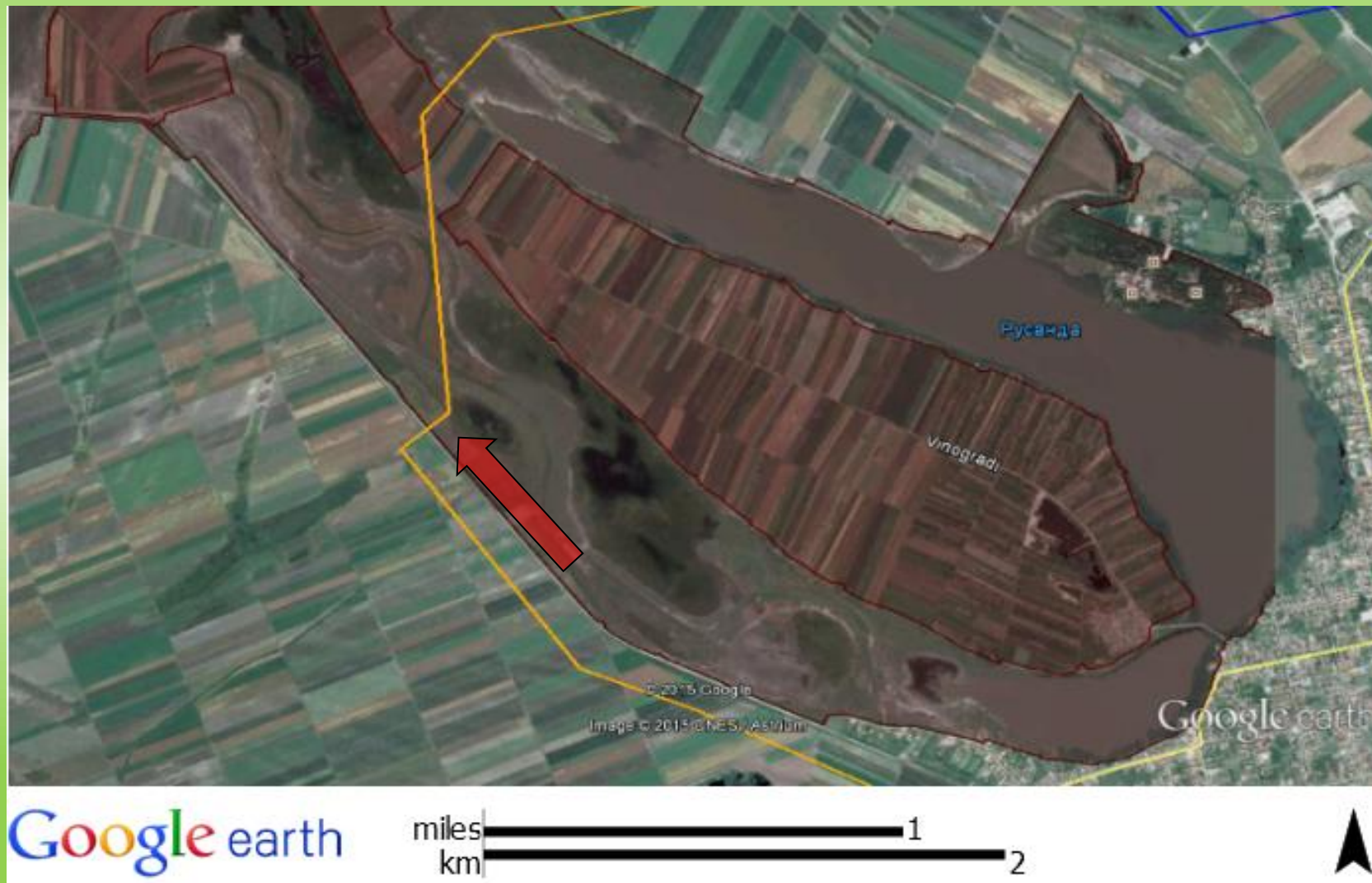
3. AA findings and results

Intersection of pipeline and inlets of Lake Rusanda, key feeding and nesting bird site



3. AA findings and results

Intersection of pipeline and inlets of Lake Rusanda, key feeding and nesting bird site



3. AA findings and results

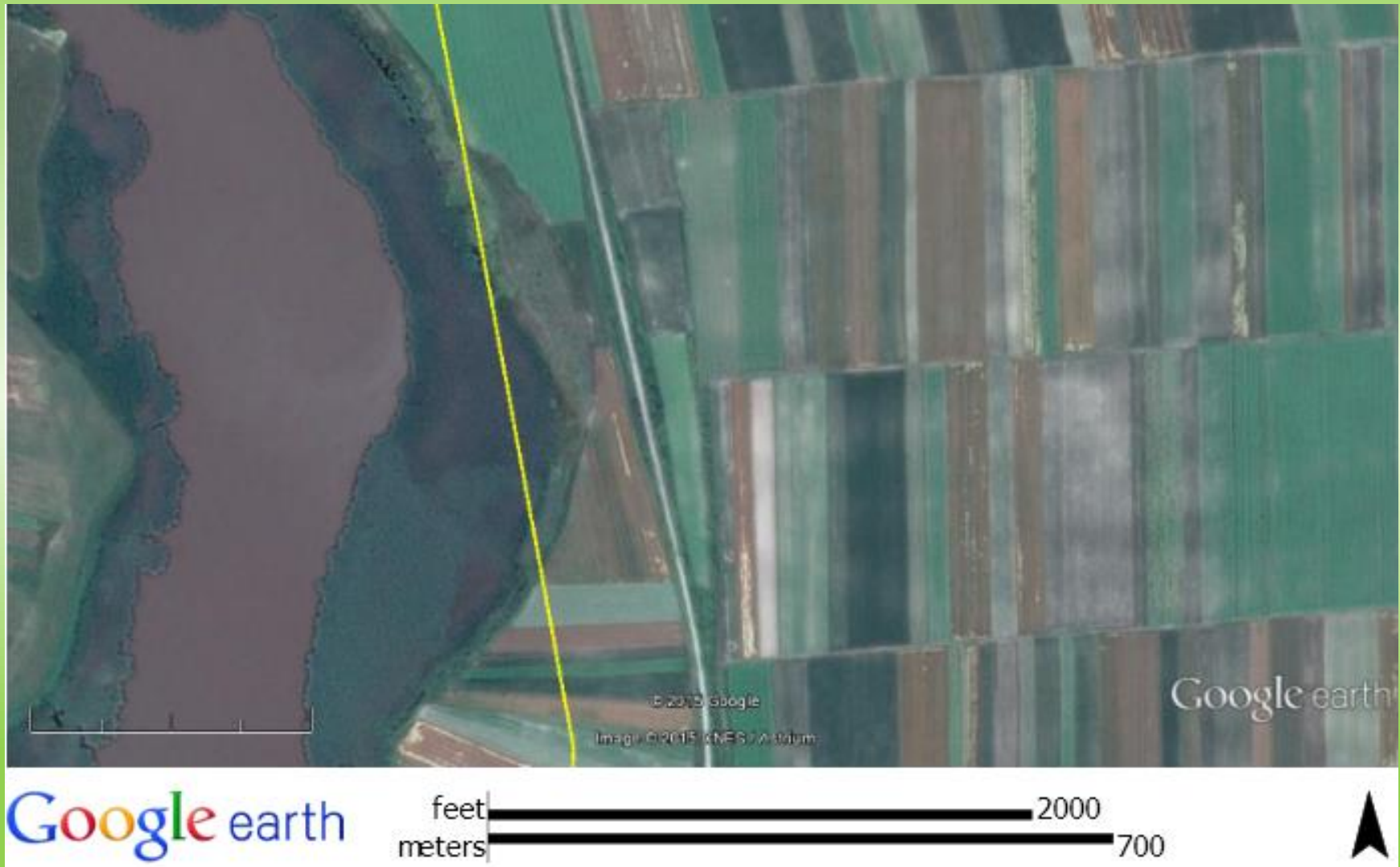
- Likely affected target bird species within the assessed site

Alternative 1

The gas pipeline is situated to the nesting area of Great Bittern within Okanj Bara (reed belt in a length of 300 m)

3. AA findings and results

Intersection of pipeline and inlets of Okanj Bara, nesting area of Great Bittern



3. AA findings and results

Intersection of pipeline and inlets of Okanj Bara, nesting area of Great Bittern



3. AA findings and results

Intersection of pipeline and inlets of Okanj Bara, nesting area of Great Bittern



3. AA findings and results

Intersection of pipeline and inlets of Okanj Bara, nesting area of Great Bittern



3. AA findings and results

- Likely affected target features within the assessed site

Alternative 2

- Gas pipeline is located at least 450 m from sites used by birds for nesting and feeding (significant noise impact reaches 200 m)
- Pipeline construction could for a short time of construction limit the pasture of migrating waterfowl (geese, ducks) on arable land
- As the wider vicinity of Elemir and Melenci offers plenty of other opportunities of this type of pasture, the impact of pipeline construction will be marginal
- Common crane (*Grus grus*) as a migrating target bird species in the proposed SPA Okanj and Rusanda may be slightly disturbed by the construction activities as the arable land could be used by migrating cranes as a supplementary feeding ground

3. AA findings and results

- Likely affected target features within the assessed site Rusanda

Alternative 1

- 650 m gas pipeline intersection with habitats # 1530 of Annex I of HB means:
 - 1,950 m² of the habitats influenced by digging
 - 5,850 m² of the habitats influenced by:
 - 3 m wide ditch including temporary deposition
 - 9 m wide strip influenced by machinery movement

Alternative 2

- No target habitats or species affected by project

3. AA findings and results

Possible location of target features of SCI within affected sites of the Rusanda area



Point no. 331

Important habitat types: C6.13 and C6.124

Point no. 332

Important habitat types: C6. 131 and C6.124

Point no. 333

Important habitat types: C6.13

Point no. 334

Important habitat types: C6. 131

Point no. 335

Important habitat types: C6.124, C6.125 and C6.127

Points no. 336 and 337

Important habitat types: C6.124, C6.125 and C6.131

Point no. 338

Important habitat types: -

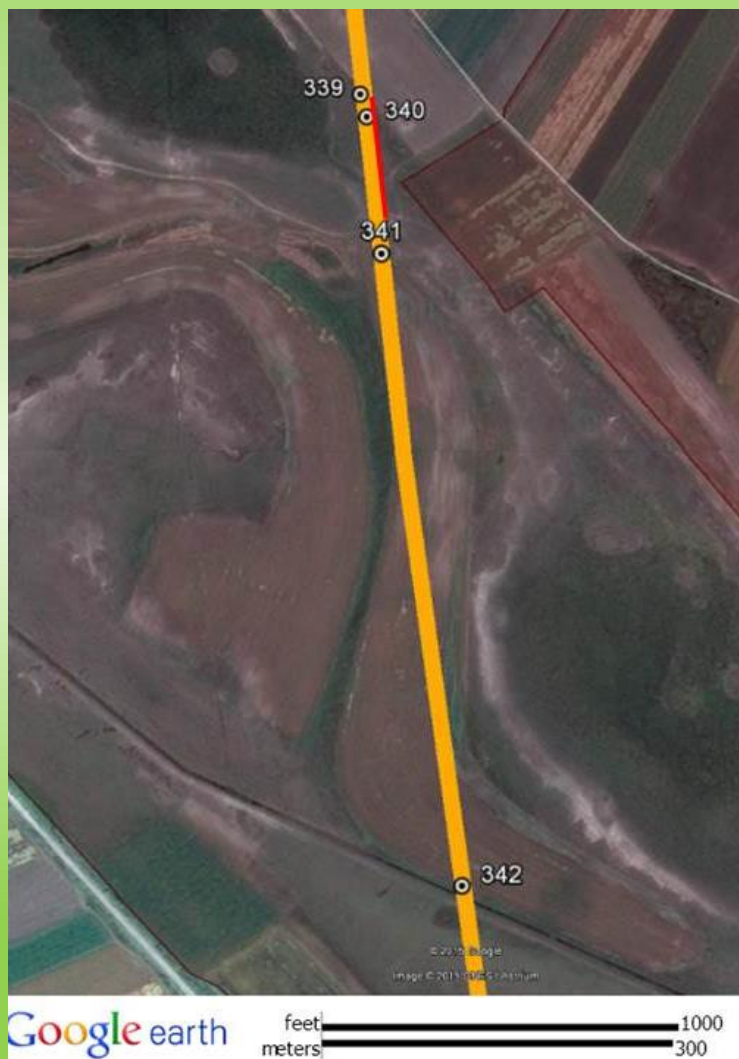
Google earth

feet 1000
meters 300

Intersection of pipeline with target feature habitat of Annex I
of Hab. Directive 1530

3. AA findings and results

Possible location of target features of SCI within affected sites of the Rusanda area



Point no. 339

Important habitat types: C6. 131

Point no. 340

Important habitat types: C6.124 and C6. 131

Point no. 341

Important habitat types: -

Point no. 342

Important habitat types: C1.121

Intersection of pipeline with target feature

habitat of Annex I of Hab. Directive 1530



3. AA findings and results

- Likely affected target features within the assessed site Okanj Bara

Alternative 1

- 10 m long intersection of habitat #1340 (Inland salt meadows) of Annex I of HB (up to 120 m²)
- 300 m long strip intersection of reed belts as no target feature

Alternative 2

- No target habitats or species affected by the project

3. AA findings and results

Possible location of target features of SCI within affected sites of the Okanj Bara area



Point no. 323

Important habitat types: C1.121, C6.131 and E4.217

Point no. 324

Important habitat types: C1.121, C6.131 and E4.217

Point no. 325

Important habitat types: C1.121, C6.131 and E4.217

Point no. 326

Important habitat types: C1.121, C6.131 and E4.217

Point no. 327

Important habitat types: -

Point no. 328

Important habitat types: -

Point no. 329

Important habitat types: -

Point no. 330

Important habitat types: -

Intersection of pipeline with target feature

habitat of Annex I of Hab. Directive 1530

3. AA findings and results

- Likely affected target features within the assessed site (pSCIs)
- Animal target species European ground-squirrel (*Spermophilus citellus*) and European fire-bellied toad (*Bombina bombina*) do not have their crucial biotopes or reproduction sites in the route of the pipeline in both alternatives
- Locally, individuals of toads could be killed by machines moving throughout the area during construction, especially in spring

3. AA findings and results

- Quantification of the effects on particular target features in relation to paragraph 3 of Article 6 of the Habitats Directive and decision on the impact significance (SPA)
- Alternative 1
- Black-winged Stilt (Common Stilt) (*Himantopus himantopus*)
- Pied Avocet (*Recurvirostra avosetta*)
 - Nesting population (14 – 16 pairs of Stilts and 10 pairs of Avocets) will be influenced by noise during construction works. Such impact may involve approximately **2 – 3 nesting pairs (about 15 – 20% of population)** of each species. Disturbance of the habitats which represent core feeding area of these species may persist for several years.

3. AA findings and results

- Quantification of the effects on particular target features in relation to paragraph 3 of Article 6 of the Habitats Directive and decision on the impact significance (SPA)
- Alternative 1
- Eurasian Bittern (Great Bittern) (*Botaurus stellaris*)
 - Current nesting population - 3 pairs
 - Construction works during the nesting period would significantly influence at least **one pair (33% of population)** of Bitterns

3. AA findings and results

- Quantification of the effects on particular target features in relation to paragraph 3 of Article 6 of the Habitats Directive and decision on the impact significance (SPA)
- Alternative 2
- Common crane (*Grus grus*) as a migrating target bird species in the proposed SPA Okanj and Rusanda may be slightly disturbed by the construction activities.
- The disturbance will not be significant because the pipeline route is located on arable land only. Arable land could be used by migrating cranes as a supplementary feeding area but the area of arable land providing food sources is huge and the project will not diminish the overall food offer.

3. AA findings and results

- Quantification of the effects on particular target features in relation to paragraph 3 of Article 6 of the Habitats Directive and decision on the impact significance (pSCIs)
- Alternative 1
- In Rusanda reserve the gas pipeline and building infrastructure involves altogether about 7,800 m² of these habitats which would be affected

3. AA findings and results

- Quantification of the effects on particular target features in relation to paragraph 3 of Article 6 of the Habitats Directive and decision on the impact significance (pSCIs)
- Alternative 1
- Total area of possibly affected habitats # 1530 is 7,800 m² within Rusanda, which represents 0.08 % of this habitat.

3. AA findings and results

- Quantification of the effects on particular target features in relation to paragraph 3 of Article 6 of the Habitats Directive and clear decision if the identified effects could have significant impact
- Alternative 2
- No target features within proposed SPA and SCIs will be affected.

3. AA findings and results

- If any target feature is likely to be significantly affected, the site integrity will be adversely affected, too

Conclusions on the impact on site integrity

- Alternative 1
- In alternative one these target features were ascertained as significantly affected :
- Black-winged Stilt (Common Stilt) (*Himantopus himantopus*) nesting
- Pied Avocet (*Recurvirostra avosetta*) nesting
- Eurasian Bittern (Great Bittern) (*Botaurus stellaris*) nesting
- Common Crane (*Grus grus*) migrating

Results of the assessment show that site integrity of the proposed SPA will be adversely affected by the gas pipeline project in Alternative 1

3. AA findings and results

- If any target feature is likely to be significantly affected, the site integrity will be adversely affected, too

Conclusions on the impact on site integrity

- Alternative 2
- In alternative 2 no significant effects on target features were found

Results of the assessment show that site integrity of the proposed SPA as well as SCI will not be adversely affected in this alternative.

3. AA findings and results

- Clear decision if the assessed impacts would be possible to mitigate
- Assessed impacts in Alternative 1 are significant and cannot be mitigated by any measure.
- Slight impacts of Alternative 2 is possible to mitigate and appropriate measures are described below.

3. AA findings and results

- Mitigation measures
- Alternative 2
- The gas pipeline is situated in a satisfactory distance from the feeding and nesting areas of target bird species of the proposed SPA Okanj and Rusanda and its construction as well as operation will not influence those bird species.
- The only problem may represent construction works during the time of bird migration – October and November, and February and April. Therefore, mitigation measure for the project will comprise of securing the proper timing of the works – avoidance of their implementation during the above-mentioned periods.
- Habitats and species of the pSCIs are not influenced by construction and operation of the project, therefore no mitigation measures are necessary.

4. Lack of data necessary for AA of gas pipeline project

- No available data on the abundance and density of target populations of plants and animals within assessed pSCIs as well as within the whole country
- No available data concerning the exact area of target habitats within assessed pSCIs as well as within the all country.

4. Lack of data necessary for AA Serbian pilot project

- For the real assessment of this project it would be necessary to invest at least about 50 expert man-days of field work for quantifying ornithological, botanical and zoological surveys, including winter observation of wintering and migratory bird feeding sites.