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ENVIRONMENTAL REPORT

for the Interreg V-A Romania-Hungary Programme

Based on Cooperation Programme Document, April 2015

HUNGARICUM

Grants Europe consulting

This report is conducted within the framework of the Ex-ante evaluation and Strategic Environmental Assessment of the Interreg V-A Romania-Hungary Programme

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Abbreviations

Term or acronym	Definition
BAT	Best Available Technologies
BREF	BAT Reference Document
CBC	Cross-Border Cooperation
CBR	Cross-Border Region
CTS	Common Territorial Strategy
CP	Cooperation Programme
DRBD	Danube River Basin District
EC	European Commission
EEA	European Environment Agency
EIA	Environmental Impact Assessment
ERDF	European Regional Development Fund
EARDF	European Agriculture and Rural Development Fund
EU27	European Union of 27 Member States
GD	Government Decision
GHG	Greenhouse Gas
GRDP	Greening Regional Development Programmes Network
GWB	Groundwater Bodies
HNV	High Nature Value
HUF	Hungarian Forint
IP	Investment Priority
JS	Joint Secretariat
NIS	National Institute of Statistics
JTS	Joint Technical Secretariat
KAI	Key area of intervention[1]
KöM	Decree of the Ministry of Environment of Hungary
LPA	Landscape Protection Area
MS	Member State
NGO	Non-Governmental Organisation
NUTS	Nomenclature of Territorial Units of Statistics
OM	Ministerial Decree especially in Romania - Ordin Ministerial
OKTH	National Inspectorate For Environment, Nature and Water in Hungary

[1] The intermediary version of the CP used the terminology of the key areas of interventions, but later modified as investment priorities. The JWG discussed the intermediary version of the CP at the 6th Joint Working Group Meeting on 12th December 2013. This intermediary version was subject to the Scoping Report. In case of the new CP versions it has been replaced as investment priorities.

PA	Priority Axis
pSCI	proposed Sites for Community Importance
RBMP	River Basin Management Plans
SAC	Special Areas of Conservation
SCI	Sites of Community Importance
SEA	Strategic Environmental Assessment
SEA Directive	Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment.
SO	Specific objective
SPA	Special Protection Area
SWOT	Strengths, Weaknesses, Opportunities, Threats
TEN-T	Trans-European Transport Network
JWG	Joint Working Group
TO	Thematic Objective
WHO	World Health Organization
WWTP	Wastewater Treatment Plant

Glossary of technical terms

Technical Term	Definition
Adaptation (climate change)	The term used to describe responses to the effects of climate change. The Intergovernmental Panel on Climate Change (IPCC) defines adaptation as 'adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.' Adaptation can also be thought of as learning how to live with the consequences of climate change.
Adaptive capacity	The ability of a system to adjust to climate change (including climate variability and extremes), to moderate potential damages, to take advantage of opportunities and to cope with the consequences.
Article 6(3) appropriate assessment	Article 6(3) of the Habitats Directive requires an appropriate assessment (also referred to as 'Habitats Directive assessment' or 'Natura 2000 assessment') to be carried out where any plans or projects that are not directly linked to the management of that site may have a significant effect on the conservation objectives and would ultimately affect the integrity of the site. Integrity can be defined as the ability of the site to fulfil its function to continue to support protected habitats or species. Annex I to the Habitats Directive includes a full list of protected habitats and Annex II of protected species.
Baseline	A description of the present and future state, if the plan or programme (PP) is not implemented, taking into account changes resulting from natural events and from other human activities.
Best alternative	The state of the environment in the Programme area is to be analysed 'with and without' the implementation of the Programme and an intermediary programme strategy is also to be analysed. The Best alternative is is the implementation of the Interreg V-A Romania-Hungary Programme.
Biodiversity	The Convention on Biological Diversity (CBD) defines biological diversity as 'the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems' (Article 2).
Birds Directive	Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds [codified version], OJ L 20, 26.1.2010, p. 7.
Carbon sequestration	The removal of carbon from the atmosphere and its storage in carbon sinks (such as oceans, forests or soils) through physical or biological processes, such as photosynthesis.
Climate	Usually defined as the 'average weather', or more rigorously, as the statistical description in terms of the mean and variability of relevant quantities of variables such as temperature, precipitation, and wind, over a period of time. The conventional period of time over which weather is averaged to calculate climate is 30 years, as defined by the World Meteorological Organisation (WMO). (Modified from IPCC)
Climate change	The IPCC defines climate change as 'any change in climate over time, whether due to natural variability or as a result of human activity.' The United Nations Framework Convention on Climate Change (UNFCCC) defines it specifically in relation to human influence as: 'a change of climate which is

	attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.'
CO2 equivalent	A metric measure used to compare emissions from various GHGs based upon their global warming potential (GWP). Carbon dioxide equivalents are commonly expressed as 'million metric tonnes of carbon dioxide equivalents (MMTCDE)'.
Cumulative effects	The incremental effects of an action PP when added to other past, present, and reasonably foreseeable future actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.
Direct effects	Environmental effects caused directly by the implementation of a PP.
EIA Directive	Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment [codification], OJ L 26, 28.1.2012, p.1. The EIA Directive requires that Member States ensure that, before development consent is given, projects likely to have significant effects on the environment because of their nature, size or location are made subject to an assessment of the environmental effects.
Environmental report	Document required by the SEA Directive as part of an environmental assessment, which identifies, describes and evaluates the likely significant effects on the environment of implementing a PP. The SEA Directive states that the environmental report shall mean the part of the plan or programme documentation containing the information required in Article 5 and Annex I.
ESPON Climate Project	Climate Change and Territorial Effects on Regions and Local Economies in Europe – ESPON Climate Project is a pan-European vulnerability assessment as a basis for identifying regional typologies of climate change exposure, sensitivity, impact and vulnerability. The ESPON Climate project´s conceptual framework is widely used in the climate change and impact research community. The ESPON Climate project developed a new comprehensive vulnerability assessment methodology and applied it to all regions across Europe in order to create the evidence base needed for a climate change responsive European territorial development policy.
ESPOO Convention	The Espoo (EIA) Convention sets out the obligations of Parties to assess the environmental impact of certain activities at an early stage of planning. It also lays down the general obligation of States to notify and consult each other on all major projects under consideration that are likely to have a significant adverse environmental impact across boundaries.
European Climate Change Programme	A programme launched by the European Commission in June 2000. Its goal is to identify and develop all the necessary elements of the EU strategy to implement the Kyoto Protocol.
Fauna	The animals of a particular region or habitat.
Floods Directive	Directive 2007/60/EC on the assessment and management of flood risks, OJ L288, 6.11.2007, p.27, requires Member States to assess if all water courses and coast lines are at risk from flooding; to map the flood extent and assets and humans at risk in these areas; and to take adequate and coordinated measures to reduce this flood risk. The Directive also reinforces the rights of the public to access this information and to have a say in the planning process.

Flora	The plants of a particular region or habitat.
Greenhouse gas (GHG)	Any atmospheric gas (either natural or anthropogenic in origin) which absorbs thermal radiation emitted by the Earth's surface. This traps heat in the atmosphere and keeps the surface at a warmer temperature than would otherwise be possible.
Gg/year	1000 tonnes / year
Habitats Directive	Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, as amended, OJ L 206, 22.7.1992, p.7.
Indirect effects	Effects that occur away from the immediate location or timing affected by the implementation of a PP, e.g. quarrying of aggregates elsewhere as a result of implementing new road proposals included in plan or programme (see also secondary effects).
Intermediary alternative	The state of the environment in the Programme area is to be analysed 'with and without' the implementation of the Programme and an intermediary programme strategy is also to be analysed. The Intermediary alternative is based on an alternative programme strategy. Based on the suggestions of the Common Territorial Strategy, the Joint Working Group discussed the proposed priority axes and specific objectives at the 6th Joint Working Group Meeting on 12 December 2013. This alternative was subject to the Scoping Report.
Kyoto Protocol	The Kyoto Protocol to the UN Framework Convention on Climate Change (UNFCCC) was adopted in 1997 (Kyoto, Japan). It contains legally binding commitments, in addition to those included in the UNFCCC. Countries included in Annex B of the Protocol (most OECD countries and EITs) agreed to reduce their anthropogenic emissions of GHGs (CO2, CH4, N2O, HFCs, PFCs, and SF6) by at least 5 % below 1990 levels in the commitment period 2008 – 2012.
Mitigation (climate change)	A term used to describe the process of reducing GHG emissions that are contributing to climate change. It includes strategies to reduce GHG emissions and enhancing GHG sinks.
Mitigation (SEA)	Measures to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the PP. (SEA Directive)
Natura 2000	An EU-wide network of nature protection areas established under the Habitats Directive. The aim of the 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 Special Protection Areas (SPAs) designated under the Birds Directive.
Protocol on Strategic Environmental Assessment	The Kyiv (SEA) Protocol, now in force, requires its Parties to evaluate the environmental consequences of their official draft plans and programmes. Strategic environmental assessment (SEA) is undertaken much earlier in the decision-making process than project environmental impact assessment (EIA), and it is therefore seen as a key tool for sustainable development. The object of the Protocol on Strategic Environmental Assessment to the Convention on Environmental Impact Assessment n a Transboundary Context is to provide for a high level of protection of the environment, including health. The Protocol also provides for extensive public participation in government decision-making in numerous development sectors. The

	Protocol was adopted by an Extraordinary meeting of the Parties to the Espoo Convention, held on 21 May 2003 during the Ministerial 'Environment for Europe' Conference (Kyiv).
Relevant environmental authorities	Authorities which, because of their specific environmental responsibilities, are likely to be environmental concerned by the environmental effects of implementing Cohesion Policy programming documents. These authorities may also include authorities in charge of matters related to environmental health.
SEA Directive	Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment, OJ L 197, 21.7.2001, p.30. It requires the environmental effects of a broad range of plans and programmes to be assessed so they can be considered while plans are actually being developed, and in due course adopted. The public must also be consulted on the draft plans and the environmental assessment, and their views must be taken into account.
Significant effects	Effects that are significant in the context of the PP, i.e. a function not just of magnitude or size of effect, but of nature, sensitivity and scale of the receptor.
Vulnerability	The degree to which a system is susceptible to, or unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of climate change and variation to which a system is exposed, its sensitivity, and its adaptive capacity.
Zero option	The state of the environment in the Programme area is to be analysed 'with and without' the implementation of the Programme. Zero option, as the first alternative is without the implementation of the programme

1 An outline of the content, main objectives of the plan or programme and relationship with other relevant plans and programmes

1.1 Programme justification and purpose

The information in this subchapter is based on the Common Territorial Strategy CTS_AV1 18th June 2014.

The member states for the Interreg V-A Romania-Hungary Programme declared the same eligible area. The strategic programming identified the main challenges and potentials of the eligible area based on the conclusions of the SWOT analysis.

The key elements of the vision are[2]:

a) Conditions of mobility in place, with an increasing role of sustainable forms of transport
b) The environment is of good quality, the negative effects of climate change are minimized
c) Cooperating businesses use the potentials offered by a larger market
d) More jobs and increased cross-border labour mobility in an integrated cross-border labour market
e) The health care and emergency capacities – facilities and services – are used and developed in a coordinated manner
f) The eligible area is a joint, integrated tourism destination
g) Cooperation is integral part of daily life, especially in communities in the immediate neighbourhood of the border

1.2 Outline of content of the Programme

The information in this subchapter is based on the Cooperation Programme Documment,April 2015

"Based on the detailed analysis of the eligible border area, the identification and categorisation of the most important joint challenges and potentials, on the long-term vision of the area, as well as on the results of extensive consultations with the stakeholders carried out, a coherent strategy has been devised.

Further strengthening relations and improving cross-border mobility are in the heart of this strategy as key conditions of cooperation-based integrated development of the eligible border area. Without easy and quick access across the border, joint actions to address key challenges and making use of the common potentials are almost impossible.

Building on cooperation and gradually improving mobility, there are four (interdependent) main challenges (some of which – if addressed properly – may turn into valuable potentials in the long run) the eligible area intends to address with joint solutions:

a) Increasing employment, enabling joint economic growth through better and more coordinated use of the labour force in the area based on the potentials of specific territories;
b) Enhancing disaster resilience, facilitating rapid and coordinated response to emergency situations based on the harmonized development and coordinated use of existing capacities;

[2] Common Territorial Strategy – 4th draft 18 June 2014., Chapter 3.5.2.

c) The protection of joint values and resources, using them as attractions to build common thematic routes around and develop mutually advantageous common tourism;
d) Addressing jointly the challenges of deprived areas – rural and urban -, and health care challenges to provide better services across the entire area, using the existing resources more efficiently and eliminating major inequalities in service provision."[3]

The strategy is to be implemented through a pool of 6 thematic objectives, 8 investment priorities and 8 connected specific objectives. The summary of the proposed objectives is the following:

TO	Priority Axes	Investment Priority	Specific objectives
TO6.: Preserving and protecting the environment and promoting resource efficiency	PA1: Joint protection and efficient use of common values and resources	6/b Investing in the water sector to meet the requirements of the Union's environmental acquis and to address needs, identified by the Member States, for investment that goes beyond those requirements.	SO6/b: Improved quality management of cross-border rivers and ground water bodies
		6/c Conserving, protecting, promoting and developing natural and cultural heritage	SO6/c: Sustainable use of natural, historic and cultural heritage within the eligible area
TO7: Promoting sustainable transport and removing bottlenecks in key network infrastructures	PA2: Improve sustainable cross-border mobility and remove bottlenecks	7/b Enhancing regional mobility through connecting secondary and tertiary nodes to TEN-T infrastructure, including multimodal nodes	SO7/b Improved cross-border accessibility through connecting secondary and tertiary nodes to TEN-T infrastructure
		7/c Developing and improving environment-friendly (including low-noise), and low-carbon transport systems including inland waterways and maritime transport, ports, multimodal links and airport infrastructure, in order to promote sustainable regional and local mobility.	SO7/c: Increased proportion of passengers using sustainable – low carbon, low noise – forms of cross-border transport
TO8: Promoting sustainable and quality employment and supporting labour mobility	PA3: Improve employment and promote cross-border labour mobility	8/b Supporting employment-friendly growth through the development of endogenous potential as part of a territorial strategy for specific areas, including the conversion of declining industrial regions and enhancement of accessibility to and development of specific natural and cultural resources	SO8/b: Increased employment within the eligible area

[3] Cooperation Programme Document, April 2015., Chapter 1.1.1.7.

TO9: Promoting social inclusion and combating poverty and any discrimination	PA4: Improving health-care services	9/a Investing in health and social infrastructure which contributes to national, regional and local development, reducing inequalities in terms of health status, promoting social inclusion through improved access to social, cultural and recreational services and the transition from institutional to community-based services	SO9/a: Improved preventive and curative health-care services across the eligible area
TO5: Promoting climate change adaptation, risk prevention and management	PA5: Improve risk-prevention and disaster management	5/b Promoting investment to address specific risks, ensuring disaster resilience and developing disaster management systems	SO5/b: Improved cross-border disasters and risk management
TO11: Enhancing institutional capacity of public authorities and stakeholders and efficient public administration.	PA6: Promoting cross-border cooperation between institutions and citizens	11/b Enhancing institutional capacity of public authorities and stakeholders and efficient public administration by promoting legal and administrative cooperation and cooperation between citizens and institutions	SO11/b: Intensify sustainable cross-border cooperation of institutions and communities

1.3 Main objectives of the programme and indicative actions

The information in this subchapter is based on the Cooperation Programme Document, April 2015

Priority Axes	Specific objectives	Indicative actions
PA1: Joint protection and efficient use of common values and resources	SO6/b: Improved quality management of cross-border rivers and ground water bodies	Investment or integrated investments and actions (monitoring, management, planning pollution control, etc.) to protect and improve water quality and safeguard its quantity, as well as ensure sustainable use of water resources, in line with the provisions of the Water Framework Directive[4]. Type of actions: Protection and utilization of the cross-border water basins Development of water quality and quantity monitoring, information, forecasting and management systems Identification of polluting sources, the necessary measures to reduce water pollution Development and modernization of water supply systems Mitigation of the negative impacts of significant water pollutions caused by flood, collection and use of excess water, measurements for the mitigation of flood risks Organization of field-related dissemination actions, workshops and seminars and also awareness raising of local population[5]

[4] Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for the Community action in the field of water policy
[5] Such actions may not be supported as standalone operations, but only as part of complex projects contributing to the specific objective.

	SO6/c: Sustainable use of natural, historic and culturalheritage within the eligible area	Rehabilitation, conservation and promotion of natural, as well as cultural and built heritage that can be promoted and sustainably exploited. Types of actions: Preparation of studies, strategies, plans etc. in the field of preservation, development and utilisation of cultural/natural heritage Training and awareness-raising campaigns regarding the protection, promotion and development of natural and cultural heritage Improving the state of conservation of historic monuments, buildings and territories that are part of the area's natural, historical or cultural heritage (e.g. churches, castles, museums, theatres, natural parks, nature protection areas[6]) Preservation, promotion and development of intangible cultural heritage Preservation of natural values Development, reconstruction and promotion of cultural facilities protecting the joint cultural heritage of the eligible area Conservation and maintenance of natural and national parks, nature reserves and other protected areas, safeguarding biodiversity Creation of thematic routes, tourism products and services based on the natural and cultural heritage Improving the accessibility of the rehabilitated natural and cultural heritages (construction, upgrading / modernization of roads and ensuring accessibility by bicycle) [7] The promotion and utilisation of cultural/natural heritage potential by investments in sustainable touristic infrastructure
PA2: Improve sustainable cross-border mobility and remove bottlenecks	SO7/b Improved cross-border accessibility through connecting secondary and tertiary nodes to TEN-T infrastructure	Improving the access of inhabitants of the cross-border region to core and comprehensive TEN-T network Types of actions: Preparation of particular investment: elaboration of studies, analyses, feasibility studies, technical plans, obtaining necessary authorizations / certificates / permits / licences. *Investments related to such studies should have a reasonable likelihood of being implemented by identifying possible sources of funding. They shall also be part of the strategic planning for transport*

[6] See Map 4 of the SEA Report - Protected areas of the eligible counties.
[7] Road development projects may not be supported as standalone operations, only as part of complex projects contributing to the specific objective.

		in the eligible area. Construction, upgrading / modernization of roads with cross-border impact, providing or improving direct access of secondary and tertiary nodes to TEN-T core and comprehensive network and related infrastructure (also taking into account improving the conditions and safety of cycling, where possible).
	SO7/c: Increased proportion of passengers using sustainable – low carbon, low noise – forms of cross-border transport	Development of cross-border public transport services, Development of key conditions of cross-border bicycle transport Facilitating the coordinated development of key railway lines connecting major cities in the eligible area. Types of actions: Preparation of particular investments: elaboration of studies, analyses, concepts, technical / design documentation, elaboration of recommendations concerning legal administrative bottlenecks hampering cross-border mobility *Investments related to such studies should have a reasonable likelihood of being implemented by identifying possible sources of funding. They shall also be part of the strategic planning for transport in the eligible area.* With regard to improving railway transport, the programme with its fairly limited budget can only undertake to induce and catalyse investments from other sources (like mainstream OPs of the two countries) by supporting the preparation phase (feasibility studies, engineering designs) of the development of railway infrastructure developments between the two countries. Development of cross-border intelligent transport system, passenger information system, on-line schedule, e-ticketing, mobile apps, common tariff systems[8] Development and integration of cross-border public transport services[9] Investment into public transport related infrastructure (e.g. low emission vehicles, bus) Innovative solutions to improve cross-border public transport and reducing transport-related emission Construction, upgrading /modernization of roads, bicycle roads, path or lane, also by using existing infrastructure elements, where appropriate (e.g. dams, agricultural roads, etc.)

[8] Compliance shall be ensured with the provisions of Regulation (EC) No. 1370/2007 of the European Parliament and of the Council on public passenger transport services by rail and by road and repealing Council Regulations (EEC) No.s 1191/69 and 1107/70
[9] Idem No.34.

PA3: Improve employment and promote cross-border labour mobility	SO8/b: Increased employment within the eligible area	Support to harmonized interventions enabling the employment-friendly growth Types of actions: Preparation of integrated development strategy and action plans[10] of specific territories (identification of endogenous potential and infrastructure development needs to increase employment) to introduce the coherence among the planned actions The following actions can be implemented based on the strategies: Implementation of cross-border training and employment initiatives, cross-border cooperation between relevant stakeholders of labour market (e.g. employment centres, training institutions, social partners and NGOs) Targeted actions facilitating the creation of local products/services and related infrastructures based on the local potential Increase employment by improving business environment through integrated development measures Improving cross-border accessibility to employment related facilities in the eligible counties through the construction, upgrading / modernization of roads with cross-border impact[11]

[10] Preparation of a strategy or an action plan cannot be supported as a separate standalone project.
[11] Road development projects may not be supported as standalone operations, only as part of complex projects contributing to the specific objective

PA4: Improving health-care services	SO9/a: Improved preventive and curative health-care services across the eligible area	Investments to improve health-care infrastructure and equipment Know-how exchange and joint capacity development Development of cross-platform central telemedical, e-health infrastructure Types of actions: Investments in health-care and prevention-related infrastructure Purchase and installation of health-care equipment, delivery of training to staff on the use of new equipments Promotional actions for health screening and providing information to prevent and diagnose diseases with high frequency in the eligible area Actions to improve access to health infrastructure by disadvantaged groups Exchange of know-how and capacity building activities (training courses, workshops, conferences, internships) Harmonized development of specialized services Develop of telemedical and e-health infrastructure for diagnosis and treatment in order to achieve better patient information system and to reduce health inequalities in access to health services Improving cross-border accessibility of health-care services through construction, upgrading / modernization of roads with cross-border impact[12]
PA5: Improve risk-prevention and disaster management	SO5/b: Improved cross-border disasters and risk management	Preventive interventions to avoid emergency situations Investments into the development of emergency response and risk management infrastructure and equipment Interventions improving joint preparedness in emergency situations Types of actions: Development and implementation of harmonised standards and systems for better forecasting and natural / anthropogenic risk management in the cross-border area Land improvement for regions with high and average hazard natural risk level Setting up the harmonized and integrated tools for risk prevention and mitigation in order to provide a joint response to emergency situations Development of regional level cross-border infrastructure in the field of emergency preparedness Exchanges of experience on efficient risk prevention and management in the cross-border area Awareness-raising activities targeted at specific groups Elaboration of detailed maps and data bases indicating natural and technological risks

[12] Road development projects may not be supported as standalone operations, only as part of complex projects contributing to the specific objective.

		Purchasing special vehicles, equipment and materials for public emergency response services Purchasing equipment for measuring/monitoring environmental parameters Establishing common rules/legislation and protocols related to risk prevention and disaster management
PA6: Promoting cross-border cooperation between institutions and citizens	SO11/b: Intensify sustainable cross-border cooperation of institutions and communities	a) Cooperation for institutions Complex intervations to enable better service delivery Types of actions: Analysis of the regulatory background in different fields, proposing solutions and actions to harmonize relevant regulations Initiatives aimed at the reducing of administrative burdens of cross-border activities of people, enterprises and other organizations Needs assessment, identification of legal, social and economic conditions and obstacles of service provision Elaboration and introduction of institutional cooperation models Capacity development of regional and local public administration bodies to facilitate more active participation in cross-border cooperation Institutional capacity building and promotion of the EU legislation through training courses, dissemination actions Activities focusing on the improvement of cross-border services, development of necessary small-scale works and equipment b) Cooperation for citizens Types of actions: Small-scale joint initiatives in the fields of sport, culture and leisure - cultural events, performances, festivals, sports competitions, extracurricular cooperation of schoolchildren – exchange programmes, trainings promoting cultural diversity and joint traditions, with the aim of creating sustainable networks and cooperation.

1.4 The time frame

The time frame for SEA in this programme context:

According to Article 4(1) of the SEA Directive "The environmental assessment referred to in Article 3 shall be carried out during the preparation of a plan or programme and before its adoption or submission to the legislative procedure."

The time frame for Strategic Environmental Assessment was determined by the description of the development trend related to the expected state of the environment, the possible impacts on the environmental issues. The SEA process of the Interreg V-A Romania-Hungary Programme was started parallel with the elaboration of the programme document, and according to the planned timing, it will be completed before its adoption. The whole Strategic Environmental Assessment process started in 12th December 2013 and planned to be finalised after the consultation of the Environmental Report with the public in both member states.

1.5 The geographical frame in the programme context

The information in this subchapter is based on data sources of "Human and Natural Resources of Hungary" (Hubay József: Magyarország Erőforrásainak Geográfiája) and Annual Report On The State Of Environment in Satu Mare County-2013 (apmsm.anpm.ro), Annual Report On The State Of Environment in Bihor County-2013 (apmbh.anpm.ro), Annual Report On The State Of Environment in Arad County- 2013 (apmar.anpm.ro), Annual Report On The State Of Environment in Timiş County- 2013 (apmtm.anpm.ro), National Report On The State Of Environment IN 2012 (www.anpm.ro), Summary of Water Quality in 2013 (www.rowater.ro/List/Sint)

The eligible area includes four counties in Hungary (Szabolcs-Szatmár-Bereg, Hajdú- Bihar, Békés and Csongrád), and four counties in Romania (Satu Mare, Bihor, Arad and Timiş). The overall area is about 50,000 km^2, representing 15.2% of the two countries' territory (23.7% of Hungary and 11.9% of Romania, resp.). The population is almost 4 million people, representing 12.7% of the two countries' inhabitants[13][14]. The geography of the study area is complex and heterogeneous**.** The landscape of the total eligible area is presented on the following map:

[13] Source: Annual Report on the State of the Environment in Bihor County-2013 (apmbh.anpm.ro), Annual Report on the State of the Environment in Arad County- 2013 (apmar.anpm.ro), Annual Report on the State of the Environment in Timiş County- 2013 (apmtm.anpm.ro)

[14] Source: http://www.ksh.hu/docs/hun/xstadat/xstadat_eves/i_wdsd003b.html

Map 1 - Landscape of the eligible counties of the Interreg V-A Romania-Hungary Programme

The landscape of the Hungarian counties:

The Hungarian Counties of the eligible area have a unified landscape characterized by a low altitude, above sea level. Also, the vertical fragmentation is insignificant. The main landscape is the plain.

Csongrád County:

Csongrád County is located in the south-eastern part of the country, it is bordered by Jász-Nagykun-Szolnok County from the north, Békés County from the east, Romania and Serbia from the south and Bács-Kiskun County from the west. The River Tisza divides the county into two parts. Csongrád County landscape has the lowest elevation in relation to the rest of the country, the highest point is Öttömös Bukor-Hill (130m) and the lowest is located in Szeged Gyálarét, the so called Lúdvár (75,8m). The number of sunny hours is very high, the highest nationally. The landscape with the hottest temperature in Hungary is located here, in Gyálarét[15].

[15] Source: www.csongrad-megye.hu

Békés County:

Békés County is also located in the Great Plain. The landscape of the county is almost a perfect plain and it is located in the region of the rivers Körös-Maros and Körös-Berettyó. The elevation is between 81 to 106 meters, the highest is Battonya, and the lowest point is beside the river Hármas-Körös[16].

Hajdú-Bihar County:

Hajdú-Bihar County has a geographically varied landscape. The county is characterized by a mostly homogenous area of flat land, which belongs entirely to the Great Plain. On the north-eastern part of the county are located the sand dunes of Nyírség. Two small landscapes stretch from the north to the south in the middle of Hajdúság, Hajdúhát and Hajdúság itself. The western part of the Central Tisza Region is also located in the county, the so-called Hortobágy area. The southern region of the county, the Berettyó-Körös area stretches across the administrative boundaries of the county[17].

Szabolcs-Szatmár-Bereg:

Szabolcs-Szatmár-Bereg County is located in the eastern part of Hungary. The county is bordered by Ukraine from the north-east, Romania from the south-east, Hajdú-Bihar County from the south-west, and Slovakia and Borsod-Abaúj-Zemplén County from the north. Geographically, out of the four Hungarian Counties this county is diverse; hills and plains can be found here. It can be divided into two regions, Nyírség and the Upper Tisza region, but these are further subdivided into micro regions. The small sandy loess landscape around Tiszavasvári is called, for example, *nyíri Mezőség* by the local population. 78% of the Nyírség belongs to the county forming the eastern part of the Great Plains. The entirety of Rétköz of the Upper Tisza region belongs to the county, the Bereg-plain and Ecsed marsh partially belongs to the county. The highest point in the county is Kaszonyi Hill (240 m), but Hoportyó (183 m) is significant as well[18].

The landscape in each Romanian county in the eligible area is as follows:

Satu Mare County:

Satu Mare County has a varied landscape, including the main types of landscape (plains, hills, mountains), consisting of a series of geomorphologic units. These are grouped into the following categories: plains in the central and western parts of the county; foothills on the southern and south-western part, Oas-Gutai Mountains area, respectively Oas Depression, on the eastern and north-eastern part of the region. The average elevation of the county is 124 m. The specific landscape is plain, representing 63% of the total area of the county, including Nir Plain, Carei Plain, Ier Plain, Ecedea Plain, Crasna Plain, Somes Plain, corridor Ier, 5-15 km wide, and a marshy and floating area, crossed only by Jer creek forming huge meanders. The high meadows located along the watercourses Talna, Tour, White Valley, Bad Creek, Lechincioara and the confluence piedmont terraces compose the Oas Depression[19].

Bihor County:

The territory of Bihor County covers a variety of landforms, forming a vast amphitheatre opening to the northwest. There are three main units: the mountains, with the richness and charm of their landscape, the gentle hills which surround the western edge of the mountains separated by broad depressions, and a vast alluvial plain with fertile soils. The mountains are

[16] Source: www.bekesmegye.hu
[17] Source: www.hbmo.hu
[18] Source: www.szszbmo.hu
[19] Source: Annual Report on the State of the Environment in Satu Mare County- 2013 (apmtm.anpm.ro)

located in the south-eastern region of the county and represent 24% of its surface area. The Criş piedmont hills form a transition zone between the Apuseni Mountains and the Cris Plain. The limestone, present especially in the Vascauti Plateau, has produced a karst terrain, represented by sinkhole surfaces and valleys, and has witnessed erosion in the form of rounded knolls, poles (Ponoraş), gorges and springs. As a result of the action of groundwater, a series of caves have formed, the most significant ones being located in the Fast Cris Valley (Vad Cave, Cave of the Wind) and Meziadul Valley (Cave Meziad), where the river running on the surface, despite the presence of limestone, has caused the emergence of impressive gorges[20].

Arad County:

Arad County has a tiered landscape from east to west, with absolute altitudes from 80 m at Zerind to 1486 m at Peak Găina in the Bihor Mountains. In the Codrul Ridge and Piedmont erosion has produced a series of Neogene volcanic structures (at Archis and Sebis, where the Dezna Valley forms a narrow epigenetic), behind which small depressions formed. The Corridor Mures (Petris-Lipova) is characterized by the large discontinuity of the landscape along more than 60 km. The predominant element is given by the Mures Valley, with a landscape created by the contact of Zărandul Mountains and Lipovei Plateau. Arad County is crossed by the following rivers: Black Cris, White Cris, Mures, Bega[21].

Timis County:

The landscape of Timis County is characterized by a variety of morphological forms: mountains, hills and plains, contact depressions, with succession altitude from east to west.

The landscape is characterized by the predominance of plains, covering the western and central regions of the county, penetrating the hills in the form of creeks, and in river valleys of Bega and Timis. In the eastern region of the county are located the pre-mountain hills of Pogăniş and the southern part of the Lipova Plateau.

The maximum heights correspond to the north-western peaks of massif Poiana Ruscă, culminating with the peak Pades (1,380 m).

In Timis County, the Bega and Timis rivers cross the county from east to south-west also the Aranca and Mures rivers cross the county in the northern part from east to west[22].

In the eligible area on the Romanian side, the natural setting of climate and soils according to the landscape imposes a vegetation, that strings from the plains to the peaks of the Carpathians, from the silvosteppe to the forest domain and then to the subalpine vegetation.

1.6 Relationship with other relevant plans and programmes[23]

The Interreg V-A Romania-Hungary Programme is in accordance with the following national strategies, programmes and plans, and contributes to the objectives of those.

1.6.1 National Strategies, Programmes and Plans in Romania

National Sustainable Development Strategy of Romania Horizons 2013-2020-2030 approved by Romanian Government Decision no. 1460/2008, - published in the Official Journal of Romania, Part I No. 824/ 8.12.2008.

[20] Source: Annual Report on the State of the Environment in Bihor County-2013 (apmbh.anpm.ro)
[21] Source: Annual Report on the State of the Environment in Arad County-2013 (apmbh.anpm.ro)
[22] Source: Annual Report on the State of the Environment in Timiş County- 2013 (apmtm.anpm.ro)
[23] Relevant plans and programmes with environmental aspects have been taken into account.

The objectives of the Programme are in line with the overall objective of the National Sustainable Development Strategy of Romania for the following two decades, approved by Government Decision no. 1460/2008 (Romania). The aim of these are continuously to improve the quality of life for present and future generations through the creation of sustainable communities that are able to manage and use resources efficiently and to utilize the ecological and social innovation potential of the economy to ensure prosperity, the protection of the environment and social cohesion.

The thematic objectives of the Programme fall within the general and national objectives of the National Sustainable Development Strategy of Romania 2013-2020-2030 in the following areas: climate change and clean energy, sustainable transport, sustainable consumption and production, conservation and responsible management of natural resources, public health, social inclusion and labour migration, the fight against poverty and all forms of discrimination.

At the same time, the investment priorities related to the programme objectives contribute to achieving specific objectives characteristic of the situation in Romania, included in this strategy, regarding

- the ensuring of the long-term sustainability of energy consumption by increasing energy efficiency in the productive sectors of goods and services,
- and reducing considerable energy losses in the residential sector, supporting the sustainable development of cities as urban growth poles, improving the accessibility of regions by developing regional and local transport infrastructure,
- improving the social infrastructure of regions, strengthening regional and local business environments, sustainable development, and
- the promotion of tourism, the conservation of national cultural heritage and creating a more efficient public administration.

National Strategy on Climate Change 2013 - 2020, approved by Romanian Government Decision no. 529/2013, published in the Official Journal of Romania, Part I. No. 536,/26.08.2013.

The Strategy focuses on two directions:

- The reduction of greenhouse gas emissions and increasing the storage of CO2.
- Adaptation to the inevitable negative effects of climate change on natural and human systems.

The national GHG emission reduction policy follows the European approach, i.e. on the one hand, ensuring the participation of some of the business operators in the implementation of the GHG emission trading scheme, and on the other hand, adopting sectoral policies and measures so that nationally the GHG emissions associated with such sectors may follow the linear direction of emission limits set under Decision No. 406/2009/EC.

The general objective for the Transport-related area is to develop a sustainable system to improve social cohesion, access to peripheral areas, to reduce environmental impacts (including reduced GHG emissions), to promote economic competitiveness by improving infrastructure, providing an optimum fuel mix and using information and communications technology for the improvement of the sector

The strategic objectives for Transport are as follows: *develop a sectoral strategy to reduce greenhouse gas emissions*, *road transport reduction, use of environmentally friendly vehicles, Smart transport systems streamlining rail transport, greenhouse gas emission reduction in air transport, development of Intermodal Transport, use of bio-fuels, charges* (tolls for heavy goods vehicles for the use of certain infrastructures), *encouraging and promoting non-motorised transport, incentives for research and development in reducing greenhouse gas emissions in the transport sector, improving performance in urban transport, disseminating information and raising awareness.*

The objective of Adaptation to climate change is to increase the country's capacity to adapt to the actual or potential effects of climate change, by setting strategic directions at national level to guide the development of sectoral policies, implement actions and develop the necessary capacities to update them on a regular basis.

The actions supported by this component include:

- active monitoring of the impacts of climate change, and of the associated social and economic vulnerability,
- integration of climate change adaptation measures into the development strategies and sectoral policies, and harmonisation of such measures with each other and
- identification of urgent measures to adapt to climate change in critical economic sectors.

National Strategy and Action Plan for Biodiversity Conservation (NSAPBC) 2014 – 2020, approved by Romanian Government Decision no 1081/2013, published in the Official Journal of Romania, Part I, No.55/ 22.01.2014.

Romania proposes the following general directions of action for the medium term 2013-2020 under the NSAPBC:

Direction of action 1: Halt the decline of biological diversity including genetic resources, species, ecosystems and landscapes and restore damaged ecosystems by 2020.

Direction of action 2: Integrate biodiversity conservation policies into all the sectoral policies by 2020.

Direction of action 3: Promote traditional knowledge, practices, and innovative methods and clean technologies and support measures in sustainable biodiversity conservation by 2020.

Direction of action 4: Improve communication and biodiversity education by 2020.

In order to achieve biodiversity conservation and sustainable use of its components based on the analysis of the general national context and of the threats to biodiversity, to ensure "in-situ" and "ex-situ" conservation and provide a fair sharing of the benefits of using genetic resources, the following **10 strategic objectives** have been put in place:

- Develop the overall legal and institutional framework and provide financial resources.
- Ensure coherence and efficient management of the national protected area network.
- Ensure good conservation status for protected wildlife species.
- Sustainable use of biological diversity components.
- Ex situ conservation.
- Control of invasive species.
- Access to genetic resources and fair sharing of the benefits arising from their use.
- Support and promotion of traditional knowledge, innovation and practices.
- Development of scientific research and promotion of technology transfer.
- Public communication, education and awareness.

National Waste Management Strategy 2014 – 2020, approved by Romanian Government Decision No. 870/2013, published in the Official Journal of Romania, Part I, No. 750/ 04.12.2013, in force since 01/.01/.2014.

The **main objectives** of this strategy include: prevent waste generation; joining to the European recycling society; use "life cycle analysis" as a tool in implementing the waste management policy; improve the knowledge base of all those who have responsibilities; improve the overall legal framework, by simplifying and modernising the existing legislation.

The national waste management policy is based on the objectives of the EU waste prevention policy and aims to reduce resource use and to apply the waste hierarchy in practice.

National Strategy for Polluted Sites (Romania) final version February 2014

The contaminated site management strategy is closely related to the Waste Management Strategy, but is also of utmost importance in the implementation of other projects to restore sites impacted on by pollution.

General objectives

Strategic objective 1: Protect human and environmental health from the effects of contaminants generated in anthropogenic activities.

Strategic objective 2: Protect the soil and subsoil in the context of following sustainable development principles.

National Strategy for Regional Development (Romania) 2014-2020 (draft July 2013)

General Objective: o*ngoing improvement of the quality of life by ensuring welfare, environmental protection and economic and social cohesion for sustainable communities able to manage resources efficiently and capitalize on the potential for innovation and balanced economic and social development of the regions*

Specific Objectives

- Increase the role and functions of towns and municipalities in regional development through investments supporting economic growth, environmental protection, an improved urban infrastructure and social cohesion.
- Increase energy efficiency on the public and/or residential sector to help reduce CO2 emissions by 20% in accordance with the Europe 2020 Strategy.
- Increase the accessibility of the regions by improving regional mobility and providing the essential services for sustainable and inclusive economic development.
- Regenerate the disadvantaged areas and stimulate the social inclusion of the marginalised communities, by creating the necessary prerequisites for essential service provision and decent living standards.
- Expand regional economies by developing specific innovation and research infrastructure, and stimulate SME competitiveness.
- Stimulate competitive and sustainable development of regional and local tourism by the sustainable exploitation of tourism potential of the cultural heritage and creating/ modernising the specific tourism infrastructure.
- Protect and improve the environment by improving the quality of water services, rehabilitating polluted and abandoned industrial sites and measures to prevent risks and improve emergency response capacity.

Regional Operational Programme (ROP) 2014-2020 (Romania), (final version January 2015)

ROP includes the following general objectives: *increase economic competitiveness and improve living standards in local and regional communities supporting the development of the business environment, infrastructure conditions and services, to ensure the sustainable development of the regions, enable to use resources efficiently, capitalise on their innovation potential and assimilate technological progress.*

The ROP general objective will be achieved through the established **specific objectives**:

- Create and develop innovation and technological transfer entities in view of building their capacity to provide specific technological services to boost innovative initiatives, support and develop innovative enterprises.

- Support companies in creating competitiveness in regional economies and jobs.
- Improve energy efficiency in public buildings.
- Increase the economic and social role of towns.
- Sustainable economic exploitation of the cultural and natural tourism potential in the regions.
- Increase accessibility of rural and urban areas close to the TEN-T network.
- Develop the accessibility and quality of social and medical service provision and stimulate transition from institutional to community-based services.
- Reduce the spatial concentration of poverty, by providing suitable housing conditions in disadvantaged communities, as well as by providing basic medical, educational and social services in order to increase employment and provide social inclusion therein.
- Improve the conditions of educational infrastructure to provide the necessary material prerequisites for a European-level national educational process.
- Develop the geographical coverage and inclusion of property registration in the Integrated Cadastre and Land Book System.

Territorial Development Strategy of Romania (TDS) (final version 2, February 2015)

The Romanian Territorial Development Strategy (RTDS) is a strategic document which guides development processes from the territory level in accordance with territorial dynamics, trends for the time horizon 2035 and European development targets with territorial relevance.

RTDS propose a series of development objectives relevant to different areas of the national territory with very different impact depending on the specific geographical and socio-economic characteristics, functional and cultural needs of the territory.

Thereby the strategic steps engaged of the Territorial Development Strategy of Romania are classified into 5 general objectives:

- Ensuring a functional integration of the national territory in the European space by supporting an efficient interconnection of energy networks, transport and broadband.
- Improving the quality of life through the development of technical infrastructure and public services in order to ensure an urban and rural attractive and inclusive quality space.
- Developing a network of settlements by supporting competitive and cohesive regional specialization and training of urban functional areas.
- Protection of natural and built elements, enhancement of territorial identity elements;
- Increase institutional capacity for managing regional development processes.

National Strategy and Action Plan for Water Management

The legal framework for sustainable water resource management is provided by Water Law No. 107/1996 as amended. The national strategy and policy for water management aims to implement a sustainable water management policy by ensuring quantitative and qualitative water protection, protection against the destructive impacts of water, and the exploitation of the water potential in relation to the demands of sustainable social development and in accordance with the water-related European Directives.

The tools used in achieving the water related policy and strategy include the guideline scheme of river basin development and management, integrated water management by river basin, and the adaptation of the institutional capacity to the requirements of integrated management.

National Management Plan relevant national portion of International Hydrographic Basin of the river Danube (PNMBD) and Management Plan hydrographic basins (Someş-Tisa, Crişuri, Mureş, Banat) (Romania)

The National Management Plan (NMP) for the national share of the international Danube river basin is Romania's contribution to the International Danube River Basin Management Plan developed under Article 13 of the Water Framework Directive. The river basin management plans, and the National Management Plan were approved by GD 80/26.01.2011 on approving the National Management Plan for the section of the international Danube river basin included in the Romanian territory (published in the Official Journal of Romania, Part I, No.265/14.04.2011).

The declared goal of the National Management Plan for the National Share of the Danube River Basin is to provide *"long term protection, balanced and sustainable use of water resources and protect aquatic ecosystems, with the general objective of achieving (ecological and chemical) good state/good potential state in surface and ground waters".*

The **general environmental objectives of the NMP** were developed based on the objectives stated in the Water Framework Directive (article 4, para. (1)) and aim to protect surface waters, ground waters and protected areas.

For surface waters, **the actions to be implemented, by 2015**, **the environmental objectives** of the Water Framework Directive related to the national share of the Danube River Basin were set as **management objectives** matching the four important problems identified:

- pollution with organic substances,
- pollution with nutrients,
- pollution with hazardous substances and
- hydro-morphological modifications (interrupted longitudinal and lateral connectivity and changes of hydrological regime).

National Strategy for Flood Risk Management in the medium and long term, approved by Romanian Government Decision No. 846/2010, published in the Official Journal of Romania, Part I, No. 626/ 6.09.2010. The medium and long-term national strategy for flood risk management has as its declared goal to "*define a framework for coordinated, inter-sectoral guidance of all the actions, in order to prevent and mitigate the effects of floods on socio-economic activities, on the life and health of people and the environment*", and aims for an integrated management of water and related resources: land use planning and urban development, nature protection, agricultural and forestry development, the protection of transport infrastructure, of buildings and tourist areas, individual protection, etc.

The general and specific objectives of this strategy are economic, social and environmental:

- The economic objectives aim to protect the existing business infrastructure against floods and safeguard economic opportunities for future generations.
- The social objectives aim to protect the population and human communities by providing an acceptable level of public protection and increasing the capacity of society to develop under the assumed risk of flash floods (building resilience).
- The environmental objectives intend to ensure that, by implementing this strategy, the socio-economic objectives may be attained and a balance may be struck between economic-social development and the environmental objectives.

Flood management activities represent an issue of policy, short, medium and long-term plans and programmes, aimed to protect life, goods and the environment against flood events. These include:

- the National Flood Risk Management plan, to be prepared at river basin,
- the National Flood Prevention, Protection and Mitigation Programme (This programme is prepared at the level of the national territory based on the flood risk management plans developed at river basin),

- river basin, county, municipal, town and commune flood control plans developed under the existing legislation on emergency management and to be integrated under the name of operative response plans.

The national plan for flood prevention, protection and mitigation, as an integral part of the National Management Plan for the Share of the Danube River Basin on the Romanian territory is a very important part of implementing Directive 60/2007/EC on the assessment and management of flood risks

General Transport Master Plan for Romania (final version February 2015)

The Masterplan identifies the projects and policies that best respond to Romanian transport needs in the next 5-15 years, for all the modes of transport, providing a solid analytical base for the selection of such policies and projects.

The Masterplan includes:

- projects under the 2014 – 2020 Large Infrastructure Operational Programme – immediate priority,
- major projects of national importance,
- major maintenance and capital repairs programmes, Ancillary Projects to the above,
- new rolling rock,
- large-scale rehabilitation projects and
- national policies, such Railway Reform.

National Rural Development Programme 2014-2020 (RDP 2014-2020) (revised final version July 2014)

The programme is designed to support rural development in Romania in the period 2014-2020.

RDP 2014-2020 will approach the following strategic objectives:

- Increase sustainability, modernization and restructuring of agricultural exploitations, especially those of small and medium dimension, rejuvenation of farmers generation, developing the processing sector, strengthening the market position of farmers.
- Sustainable management of natural resources and combat climate changes.
- Diversification of economic activities, creating jobs, improving infrastructure and services to improve the quality of life in rural areas.

These priorities are correlated to the strategic objectives defined at national level, the Common Agricultural Policy and the Europe 2020 strategy.

Other relevant policy documents for this programme in which some thematic objectives of the programme are integrated:

- *Strategy for the development of renewable energy sources, approved by Romanian Government Decision no. 1535/2003, published in the Official Journal of Romania, Part I, No. 8/ 7.01.2004. Large Infrastructure Operational Programme 2014-2020(Romania),final version November 2014*
- *National Strategy for the Ecotourism Development(Romania), draft September 2009*
- *Management 's Plans of* **The Mureş Floodplain Natural Park** *and of* **The Apuseni Natural Park**

1.6.2 National Strategies, Programmes and Plans in Hungary

National Environmental Programme of Hungary (Nemzeti Környezetvédelmi Program) (final version November 2013)

The 4th National Environmental Programme (2014-2019) has a global objective to contribute to the support of the environmental conditions of sustainable development.

The programme defines three strategic objectives:

- Improving the quality of life and environmental conditions of human health.
- Protection of natural values and resources and their sustainable use.
- Improving resource-saving and efficiency, greening the economy).

Improving the quality of life and environmental conditions of human health

The objective is to ensure the direct environmental conditions for a good quality of life and a healthy life. These are the following: the improvement of environmental health conditions, high levels of environmental infrastructure, and appropriate proportion, quality and conformity of built and natural elements of settlements and inhabitants.

Protection of natural values and resources and their sustainable use

The objective is the protection of strategic natural resources, natural values and ecosystems, the conservation of the functioning of ecosystems, and to stop the decrease of biodiversity.

Improving resource-saving and efficiency, greening the economy

The objective is the establishment of the sparing use of natural resources, the realization of sustainable use taking into consideration the prevention of pollution and the ability of renewal and charging capacity. Sustainable production economizes on resources (including the use of raw materials, water, land, soil and energy, planning of reuse and durability, closing the life cycles of materials), decreases the harmful effects affecting the environment (minimizing emissions and waste; the sustainable use of renewable resources), and increases the value of products and services for the consumers.

The improvement of environmental safety relates to the three above-mentioned objectives.

Taking into consideration the aspects of the security of life and goods, the improvement of environmental safety includes the forecast and reduction of the damage caused by extreme natural events and catastrophes (e.g. floods, windstorms), furthermore, the prevention and reduction of the damage arising from industrial accidents and catastrophes of technological origin (e.g. chemical accidents).

Strengthening the environmental consciousness of society is a horizontal objective of the 4th National Environmental Programme.

On account of this, it can be established that in addition to the factors mentioned above, production patterns, consumer habits and the lifestyle of the population all together serve social welfare in the long term.

1.6.3 The Danube Transnational Programme[24]

According to the Communication from the Commission to the European Parliament, The Council, the European Economic and Social Committee and the Committee of the Regions on the European Union Strategy for the Danube Region (COM (2010) 715 final, Brussels, 8.12.2010), the Danube Region faces major challenges and opportunities in the fields of mobility, energy, environment, special risks, socio-economic questions, security.. The environmental relevance of the Danube Programme:

[24] A strategy to boost the development of the Danube Region was proposed by the European Commission on 8th December 2010 (Commission Communication - EU Strategy for the Danube Region). Member States endorsed the EU Strategy for the Danube Region at the General Affairs Council on 13 April 2011 (Council Conclusions).

- **Mobility:** the Danube River itself is a major TEN-T Corridor. However, it is used way below its full capacity. Freight transported on the Danube is only 10%-20% of that on the Rhine. As inland waterway transport has important environmental and efficiency benefits, its potential must be sustainably exploited. There is particular need for greater multimodality, better interconnection with other river basins modernising and extending infrastructure in transport nodes such as inland ports.

  Opportunities: existing transport and trade links must be developed

- **Energy:** prices are high in the Region, in relative terms. Fragmented markets lead to higher costs and reduced competition. Reliance on too few external suppliers increases vulnerability, as periodic winter crises testify. A greater diversity of supply through interconnections and genuine regional markets will increase energy security. Improved efficiency, including energy saving and more renewable sources, is crucial.

  Opportunities: the cultural, ethic and natural diversity requires a modern tourism offer and infrastructure.

- **Environment:** the Danube Region is a major international hydrological basin and ecological corridor. This requires a regional approach to nature conservation, spatial planning and water management. Pollution does not respect national borders. Major problems such as untreated sewage and fertiliser and soil run-off make the Danube highly polluted. The environmental impact of transport links, tourist developments, or new energy-producing facilities must also be considered.

  Opportunities: exceptional fauna, flora, precious water resources and outstanding landscapes should be sustainably preserved and restored.

- **Risks:** major flooding, droughts, and industrial pollution events are all too frequent. Prevention, preparedness and effective reaction require a high degree of cooperation and information sharing.

  Opportunities: renewable energy sources can be more exploited, whether water, biomass wind or thermal by better energy management and modernising buildings and logistics. These actions would foster the transition to a low-carbon economy.

- **Socio-economic:** the Region has very wide disparities. It has some of the most successful but also the poorest regions in the EU. In particular, contacts and cooperation are often lacking, both financially and institutionally. Enterprises do not sufficiently exploit the international dimension of marketing, innovation or research. The share of highly educated people in the Danube Region is lower than the EU27 average, again with a pronounced divide. The best often leave.

  Opportunities: Education and training must be relevant to labour market needs, while student mobility within the Region is promoted

The main mission of the territorial programmes of the European Union is to contribute to the delivery of EU 2020 Strategy for smart, sustainable and inclusive growth, to improve and strengthen territorial, economic and social cohesion and to contribute to territorial integration.

1.6.4 EU 2020

The cooperation programme reinforces the targets of Europe 2020. The cooperation programme contributes to sustainable growth, aims to reduce the greenhouse gas emissions and to increase the share of renewable energy. The following thematic objectives and

investment priorities contribute to the Climate change and energy sustainability targets of the EU by 2020.

EU 2020 target	Thematic objectives and investment priorities contribute to the EU2020
20% reduction in EU greenhouse gas emissions from 1990 levels (or even 30%, if the conditions are good)	TO7 PA2 SO7/b and SO7/c TO6 PA1 SO6/b, TO6 PA1 SO6/c and TO8 PA3 SO8/b TO5 PA5 SO5/b
Raising the share of EU energy consumption produced from renewable resources to 20%	TO7 PA2 SO7/c
20% improvement in the EU's energy efficiency	TO7 PA2 SO7/c

2 The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme

2.1 Biodiversity, flora, fauna, NATURA 2000

The information in this subchapter is based on data sources of the European Environment Agency, Hungarian Central Statistical Office, Statistical review Nov. 2013, Environmental Conditions of Hungary 2013, Environmental Situation Report of Hungary 2013, Natura Conservation Information System (Természetvédelmi Információs Rendszer), Annual Report On The State Of Environment in Satu Mare County-2013 (apmsm.anpm.ro), Annual Report On The State Of Environment in Bihor County-2013 (apmbh.anpm.ro), Annual Report On The State Of Environment in Arad County- 2013 (apmar.anpm.ro), Annual Report On The State Of Environment in Timiş County- 2013 (apmtm.anpm.ro), National Report On The State Of Environment in 2012 (www.anpm.ro), Summary of Water Quality in 2013 (www.rowater.ro/List/Sint).

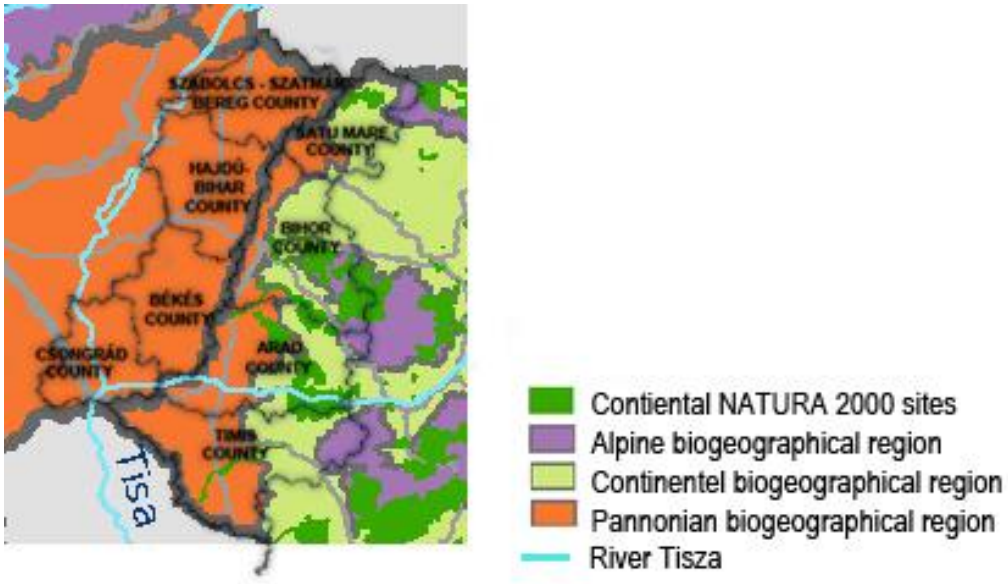
The relevance of the environmental issue:

The environmental issue relates to

- measures regarding the preservation of the diversity of natural habitats, the protection of endangered plant and animal species, natural resources, ecological networks within biogeographically regions, Natura 2000 and the diversity of the biosphere.
- protection of ecosystems, more precisely taking into consideration the principle of sustainable development in managing natural resources.

Current state of the environment:

The flora and fauna have specific and diverse features according to the climate and landscape. The following map represents the bio-geographical regions of the eligible area.



Map 2 - Bio-geographical regions of the eligible area of the Interreg V-A Romania-Hungary Programme

2.1.1 Flora and fauna

Hungary

The counties of the eligible area in Hungary have similar features. The natural vegetation of Hungary and of the eligible area has adapted to the climate. Hungary is located in the temperate zone. Regarding the distance from the sea, its position is in the medium between the Atlantic Ocean and the Eurasian continents. Therefore in Hungary the continental, climate exists and the maritime and the mediterranean climates also influence natural vegetation, which is also varied.[25] Hungary has a continental climate; therefore the Eastern Europe grasslands area is represented. The eligible area has a moderate continental climate that is characteristic of the whole of the Great Plain, where continental effects are dominant but Mediterranean and oceanic effects also appear from time to time. Deciduous forests typical in landscapes of the Pacific, and the evergreen plants typical in Mediterranean areas are also present. The original natural vegetation in Hungary is the forest and forest-steppe. Marshy vegetation and fens are also represented in the stagnant water of bogs, marshes and swamps. The original natural vegetation has changed radically or disappeared in most parts of the country due to agricultural land use. The natural vegetation has been replaced by the cultivated vegetation.

Today cereals, maize and sugar beet are grown on the original grassy steppe, and agriculture has taken over the forests also. The Hungarian Great Plain has natural forest-steppe vegetation. Over time, the vegetation reached its present state of grassy-steppe. Today the grasslands have survived only in smaller areas, such as Hortobágy and Bugac. Both are under the protection of national park status.

Hungarian forestry: more than five hundred years ago the area of Hungary and the eligible counties were covered by forests. Since then it has been thinned by shepherds, in order to have more meadows and pastures for grazing, but it has been fully cleared by grain-producing farmers. The railway industry and the building industry also used so much wood that by the middle of the last century the area of the forested areas had decreased by 12%. Due to new plantations of today the rate of forested area increased. The size of forests has risen by 7.8% between 2000 and 2012, from 2,056,000 to 2,204,000 hectares; however, the territorial distribution of the forests is uneven in the country. On the Great Plains the rate of forests is below the national average, and it is the lowest in Békés County (2.5%). The largest tree stock is located in Szabolcs-Szatmár County of the eligible area, representing 128,807 hectares of forestry, followed by Hajdú-Bihar (73,130 ha), Csongrád (39,731 ha) and Békés (28,237 ha). In general, state ownership dominates, mainly in Békés and Csongrád Counties (60 and 50% respectively)[26].

About 3,000 plant species are present in Hungary, among those 733 are protected and 87 are specially protected. Most of the animal species that live in Hungary are insects; the total number of animal species is about 43,000, 40,000 of which are insects. There are a lot of species of animals, plants in the eligible area; several species of animals, plants, fungi and lichen are under legal protection. There are protected species of plants in the national parks, nature conservation areas and in forest reserves. Due to changes in the environment some animal species have become extinct here (e.g. beaver, bear, and wolf), in case of other species their numbers have dwindled. Some species, however, like the beaver, have been successfully reintroduced[27].

The most important species of flora and fauna in the Hungarian counties are the following:

[25] http://www.meteoline.hu/?m=602
[26] Source: Hungarian Central Statistical Office Statistical review Nov. 2013.
[27] Source: Environmental Situation Report of Hungary 2013

Csongrád County[28][29]:

Life on the Hungarian Great Plains (Alfold) is primarily supported by its main river, the Tisza. The river's surroundings form a suitable habitat for rare local species.

Softwood groves along the Tisza banks remind us of good old solid forests, where grapevine runs up and around the tree trunk, thick vegetation persists on clearings and swampland spots the area. This habitat is ideal for animal species that prefer to hide and stay in reserve. Leaf bugs dominate the upper (tree crown) and middle (bush) level of the forest. These include the sawfly, and a wide choice of beautiful butterflies. Willow groves on the lower part of the Tisza hide the Apatura m. metis - Hungarian colour-changing butterfly. Apart from this small corner of the country, this protected butterfly-race can only be found in Eastern Asia.

Above the groves, graceful birds spot the sky. Most dominant is the Ardea cinerea - Blue Heron, but other heron-species also abound. Birds of prey, laying nest in thicker forests, include unique Hawks, which are awesome to observe. The Remiz pendulinus - Chickadee mounts its round nest on waterside willows.

The riverbank hardwood groves, sadly waning with the passing years, serve as habitat for species, which do not occur in other parts of the plains. Their undergrowth hides the shiny door snail with Laciniaria plicata - ribbed shell, the Bradybaena fruticum - pulmonate land snail, and any other, rare snail genuses. Peculiarities include the rare and protected small Parnassius Mnemosyne - Apollo butterfly, and the Zerynthia polyxena - southern festoon, the caterpillar of which develops on the poisonous Dutchman's pipe only. Unique groups of the groves' bird fauna include the Picus canus - Gray-headed Woodpecker and the Columba oenas - Stock Pigeon, both nesting in the cavity of tree trunks.

The Palingenia longicauda - Tisza mayfly is the largest mayfly species in Europe. The Tisza Mayflies are aquatic insects which belong to the Ephemeroptera order. Typically, all Tisza mayflies mature at once, and for about a week in mid June. The mayflies are pollution-sensitive animals, thus if they are in or around the water, the water should be of a good quality. Besides being environmental indicators, the mayflies are also a favourite food of many fish, and consequently a favourite bait used by fishermen. The mayflies are in protected status. According to the law, mayfly specimens cannot be collected, neither alive nor dead.

The distinctive and valuable flora of the county includes Limonium gmelini – Marsh-Rosemary, Ranunculus acris – Meadow Buttercap, Trapa natans – Water Chesnut, Tripolium pannonicum Aster Aster, Iris sanguinea Siberian iris, Gentiana pneumonanthe Marsh Gentian, and Gladiolus palustris Marsh Galdiolus.

The more important ground-nesting birds are Charadrius alexandrinus Kentish Plover, Recurvirostra avosetta – Pied Avoset, the Himantopus himantopus Black-winged Stilt, Podiceps nigricollis Blach-necked Grebe, Ardea purpurea - Purple Heron, Egretta garzetta - Little Egret, Planalea leucordia – Eurasian Spoonbills, Falco vespertinus – Red-footed Falcon and Coracias garrulus European Roller.

Békés County[30][31]:

The fauna of the Körös region greatly resembles that of the Hortobágy, although the close proximity of mountains forms a unique microclimate. Common oak and common ash trees dominate the forests. Snails abound, in terms of number, as well as in terms of genus variety. Most birds in the area reside in tree rots: The Picus viridis and Picus canus - Green-

[28] Source: http://www.csongrad-megye.hu/portal/index.php?option=com_content&task=view&id=49&Itemid=1&showall=1
[29] Source: www.puszta.com
[30] Source: http://www.bekesmegye.hu/adat/dokumentumtar/hu2074_tajekoztato-2011.pdf
[31] Source: www.puszta.com

and the Grey-headed Woodpecker, the Dryocopus martius - Black Woodpecker and the Jynx torquilla - Wryneck.

Special attention should be paid to the following species: Adonis transsylvanica – Transsylvanian Adonis, Salvia nutans – Nodding Sage, Hygromia kovacsi, Otis tarda – Great Bustard, Himantopus himantopus - Black-winged stilt, Recurvirostra avosetta – Pied Avoset, Tringa totanus - Redshank, Limosa limosa – Black-tailed Godwit, Glareola pratincola – Collerd Pratincole, Ciconia cinonia – White Storke, Falco cherrug – Sacer Falcon, Aquila heliaca – Easter imperial Eagle, Falco vespertinus – Red-footed Falcon, Egretta garzetta - Little Egret, and Planalea leucordia – Eurasian Spoonbills.

Hajdú-Bihar County and Szabolcs-Szatmár-Bereg County as the territory of the Hortobágy National Park is located in both counties[32][33]:

Primeval waters formed the most characteristic area of the Great Plains. The Hortobágy National Park, a part of the Alföld (Great Plain), was designated as a national park in 1973 (the first in Hungary), and elected among the World Heritage sites in 1999. The Hortobágy is Hungary's largest protected area, and the largest semi-natural grassland in Europe (more information in Chapter 2.1.2.2.). Hortobágy is a steppe, a grassy plain with Hungarian Grey cattle, Racka, Water Buffalo, and horses tended by herdsmen. It provides habitat for various species.

The Hungarian gray cattle and the long-wool Racka sheep are both considered treasures of the country. Hungarian cattle farming go back many thousand years in history. This is attested by more than 50 ancient words in the language that relate to this area of activity. The Bos taurus primigenius podolicus - Hungarian Gray Cattle is closely related to Podolian cattle species. The meat of the gray cattle is widely known as excellent. They are the toughest of livestock. They were never stalled, but lived on open pasture all year round; eating grass and reed during the summer, and finding more beneath the snow during the winter. In the Kiskunság region, cattle herding remained a tradition up to the beginning of the 20th century. Today, cattle are grazed across the pastures of the National Parks year round, being integral parts of the puszta scenery. Gray cattle herds are essential for the upkeeping of the protected grasslands.

The long, curly hair and the spiral horns make this sheep unique in the world. It is very adaptable, and it can live practically on any type of pasture. It is bred for its wool, meat, and abundant milk. In the 1950's the long-wool sheep were thinned, their numbers dwindled, and it soon became an endangered species. Fortunately, its advantages were reconsidered, and the professional efforts – mainly in the Hortobágy area – resulted in a steady growth in their numbers.

Hortobágy, the nature reserve, contains various habitats. Scanty vegetation on the lick moorland attracts grasshoppers and locusts, which do well in the desert-like environment. The marshland is not only home to various local birds, but it also serves as an important landing place, where migrating birds can rest for a while. When springtime warms the air, seaweed covers standing water surfaces, providing an excellent base for nest building. The Red-necked Grebe (Podiceps griseigena) nests on nenuphar leaves, surrounded by open water surface.

The Larus ridibundus - Black-headed Gull lives in colonies with the family of terns, and the black-necked grebe. The gulls make a huge noise with their loud cries and bellicose behaviour, so predacious games do not venture to get close. Other birds, such as the Childonias nigra - Black Tern and the Childonias hybrid - Whiskered Tern like to take advantage of this, and build their nests close to them. The Anser anser - Greylag Goose, the

[32] http://www.hnp.hu/hu/szervezeti-egyseg/termeszetvedelem/oldal/
[33] Source: www.puszta.com

Casmerodius albus - Great Egret, and the Ardea purpurea - Purple Heron nest in rank reed, along with the Botaurus stellaris - Great Bittern, which fades into its surroundings, but makes a resounding cry. The attentive visitor, however, can hear singing as well, mixed in with other sounds. The prettiest singing-bird of the reed is the Panurus biarmicus Bearded Tit. Also pretty, but not a singing-bird, is the Asio flammeus - Short-eared Owl, hunter of the meadows and the swampland. The Acrocephalus paldicola - Aquatic Warbler is diminishing in Europe, but occurs here in ever-greater numbers. During the spring and the fall migration period, the Wild Goose V-shapes ornament the sky, as they fly by thousands above the area.

Lick moorland oak meadows in Hortobagy are less known to visitors, although their fauna presents a great variety of species. These areas used to be covered by the flooding river quite often. Unique to the area is the Dysdera hungarica - Hungarian dysderid spider. Various breed of beetles, Trichoferus pallidus, for example, reside in the old oak trees, as their larvae feed on dead standing trunks or thick branches. The Lymantria dispar - gypsy moth resides in abundance at some parts of the Ohati forest, devastating the shroud. A Hungarian movie featured this area as “the forest of the Red-footed Falcon”, but this beautiful bird race is diminishing since the desolation of crow settlements. Nevertheless, the contemplative bystander may observe the flight of Falcons, Merlins, Buzzards, and - on winter days - visiting White-tailed Eagles. Resident mammals include the beech marten, the Eurasian badger, and the tiny harvest mouse.

Unique habitats are found on the loess plains of Nagykunsag and Hajdusag. The ground level is crowded with grasshoppers, accompanied by the cicada and various moth types. Singing-birds please the ear. The Skylark and the Corn Bunting mix with Races that nest on the ground, such as the Quail and the Partridge. The loess is a preferred nesting place for the Otis tarda - Great Bustard. Typical rodent species include the hamster and the Spermophilus citellus - European ground squirrel. Hungarian mole rats once abounded in the area, but they are pretty rare today.

Most important flora includes the following in the counties: Marsilea quadrifolia, Heliotropium supinium – Drawf Heliotrope, Verbena supina – Supine Vervain, Elatine hexandra – Six stamen Waterwort, and Rumex stenophyllus – Narrowleaf Dock, Scilla drunensis, Doronicum hungaricum, Aster linosyris – Goldilocks Aster, Rumex stenophyllus – Narrowleaf Dock, Peucedanum officinale – Hog’s Fennel. Calamagrostic canescens – Purple Small Reed or Veratrum album are also present here. Two species are from the IUCN Redbook, Centaurea sadleriana – Pannonian Knapweed and Plantago schwarzenbergiana – Transylvanian Plantain.

The mostly investigated animal species are the avifauna; the most important species are Ciconia nigra – Black Storke, Ciconia cinonia – White Storke, Crex crex - Corncrake, Coracias garrukus – European Roller, Tyto alba – Barl Owl, and Circus pygargus – Montagu’a Harrier.

Romania

Three of the 5 bio-geographical regions[34] – pannonic, alpine and continental – are represented on the programme’s eligible territory.

Timis County:

In Timis County[35], maritime climate has influences, and the climatic differences between the lowlands and mountain landscape imposed by the altitude of the landscape, resulted in a

[34] Source: National Report on the State of the Environment Romania
[35] Source: Annual Report on the State of the Environment in Timis County-2013, page 5 (point 1.1.2 Climat); page 90, the last aligned (point 5.1.1. Status of local biodiversity) apmtm.anpm.ro/Raport privind starea

large number of habitats. Another factor that causes a large variety of habitats is represented by the chemical composition of the rocks in the substrate (soil, subsoil).

The natural vegetation of Timis County is characterized by small-scale forest-steppe plants and by a high frequency of hydro and hydrophilic species in the lowlands and plains with excess moisture. The eastern part of the county, occupied by the Poiana Rusca Mountain, is covered from the point of view of forest vegetation, with forests of oak, beech forests, mixed with hornbeam, and on the upper slopes of the mountain we find forests of spruce mixed with fir, sporadically with pine. Timis County is the location of the last archaic bog in the western part of the country - Satchinez Marshes Reservations, which allowed the conservation of wild birds, protected by European and national legislation. The reservation contains a mixed colony where protected species nest: Ardea purpurea - red heron, Ardeola ralloides – squaco heron, Nycticorax nycticorax - Night Heron, Botaurus stellaris – great bittern, Ixobrychus minutus – little bittern, Egretta alba - Great Egret, Egretta garzetta - little egret.

In Timis County, habitats of community interest were identified, habitats described in the standard formulations of Natura 2000 sites, as follows: freshwater habitats, habitats of wet meadows and communities of high semi-natural hays, habitats of mesophyll meadows, habitats of continental halophilic and gypsophilia steppe, habitats common to the temperate broadleaf forest, habitats common to Mediterranean broadleaf forests and habitat common to temperate bushes, meadows habitats and Pannonic and ponto-sarmatic salty marshes habitats, Balkan-Pannonic forests habitats of quercus cerris and sessile, sub-pannonic steppe meadows habitats.

Also, in Timiş County the following types of habitats of national interest (corresponding to the Natura 2000 described or whose presence was specified in the county "Habitats from Romania" developed by Doniţă et al., 2005) were identified: habitats of marshes, shrubbery steppes and halophilic forests, freshwater stagnant water habitats, habitat of saline and brackish water bodies, habitats of temperate heaths and thickets, habitats of meadows and tall herb communities (weeds), mesophilic grassland habitats, habitat of temperate deciduous forest, habitats of meadow forests and bushes, marshes habitats and habitats characteristic to water edges vegetation.

In Timis County we can find a number of species of flora and fauna characteristic of plains, wetlands, forest areas, natural grasslands. Among the species of flora identified and of ecological significance the following can be mentioned: Ophioglosum vulgatum – snake's tongue, Pteridium aquilinium - Field fern, Asplenium ruta-muraria - rust, Dryopteris filix-mas - fern, Salvinia natans – floating fern, Alnus glutinosa – black alder, Quercus cerris – Turkey oak, etc. Among the species of flora for which national botanical reservations have been declared in the county: Frittilaria meleagris - variegated tulip, Narcissus stellaris subsp poeticus - daffodil, Stipa capillata – perennial bunchgrass, Agropyron cristatum – crested grass. The plant species of Community interest identified are: Salvinia natans – floating fern and Trapa natans – water caltrop. These species were identified in Satchinez Marshes protected area.

The Timiş County avifauna is represented by many species, some of which are: Ardea cinerea - gray heron, Ardeola ralloides - yellow heron, Nycticorax nycticorax - Night Heron, Botaurus stellaris - bittern pond, Ardea purpurea - red heron, Ixobrychus minutus – little bittern, Egretta alba – large egret, Egretta garzetta - little egret, Ardea purpurea - red heron,etc. The ichthyofauna of Timis County is represented by the following species: Aspius aspius (asp), Zingel zingel (common zingel), Gymnocephalus baloni (Balon's ruffe), Gobio

mediului in Romania/Rapoarte anuale and - National Report on the State of Environment in 2012, respectively in 2013 / Chapter 5. Protection of Nature and Biodiversity - page 127, respectively page 129, www.anpm.ro/ Raport privind starea mediului in Romania/Rapoarte anuale

albipinnatus (white fin gudgeon), Rhodeus sericeus amarus (amur bilterling), Misgurnus fossilis (eel), Sabajewia aurata (golden loach), Cobitis taenia (spined loach), Zingel streber (streber), Gobio Kessleri (Kessler's gudgeon). Among the species of amphibians and reptiles: Bombina Bombina (fire bellied toad), Emys orbicularis (pond turtle), Salamandra salamandra (salamander), Triturus dobrogicus (Danube crested newt). Invertebrate species: Carabus hungaricus, Lycaena disappear, Gortyna borelii lunata, Arytrura musculus. Strictly protected fauna species present in Timis County are: Lynx lynx - lynx, Ursus arctos - Brown bear, Lupus canis - Wolf and Felis silvestris - Wild cat.

Arad County:

The geological features, soil, hydrological and climatic characteristics of Arad County[36] determine the flora and fauna. The flora of the County falls into the Eastern-Carpathian Province, Codru-Zărand-Trascău District, and the West Plains Land.

Zonal steppe formations prevail (associated with small areas, even with steppe and forest formations), the azonal floodplain formations and anthropic vegetation; 44 % of the county is occupied by proper natural vegetation, or minimally affected (this includes forest, pasture and hay), the remaining 56 % being replaced by growing vegetation. The forest vegetation (26 % of the county in 2013) occupies large areas in the mountains and the hills. The forest steppe vegetation in the west end of Arad Plain is characterized by the predominance of herbaceous formations, and clumps of woody vegetation are rarely encountered. Ruderalised steppe grasslands, xerofile, mesophilic salting and steppe were restricted due to the expansion of arable land. The azonal meadow vegetation with mesophilic and hydrophilic character consists of several characteristic herbaceous and woody species (willow, poplar, alder). In some lake areas white and yellow water lilies are met. In accordance with European Directives Asperulo - Fagetum beech forests were identified; subatlantic and medioeuropean oak forests and oak with hornbeam from Carpinion betuli, alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno Padion, Alnio incane, Silicion alba), beech forests of Luzulo - Fagetum type, natural eutrophic lakes with Hydrocharition or Magnopotamion vegetation type, water meadows with Salix alba and Populus alba, etc. Species of wild flora, of international importance under the Habitats Directive 92/43/EEC and Birds Directive 2009/147/EC, identified in Arad are: Cirsium brachycephalum, Galanthus nivalis, Lindernia procumbens, Salvinia natans, Trapa natans .Fauna falls into the Euro-Siberian subregion, Carpathian sub-province, faunal groups specific to steppe and forest steppe, sub xerophile forests of Turkey oak and Italian oak, mesophilic forest with predominant oak, beech and those and aquatic areas. Thus, the county's wildlife belongs to associations specific to big stages of landscape, geographically distributed and establishing a direct link to the main levels of vegetation. Fish and fauna of the lowland sector specific to major rivers, include areas of barbel and carp and in small rivers they are characterized by the chub and the perch. In the steppe and forest steppe, the presence of rodents is noted, among the birds we mention the bustard and quail; in the sub xerophile woods, we find the field shrew, pheasant, gray lizard and in the mesophilic ones, we find the wolf, fox, wild boar, wild cat, thrush, and in beech, oak forests we meet the bear, deer, marten, squirrel, grouse, woodcock, brown frog etc.

Bihor County:

The flora of Bihor County[37] has a variety of trees, plants and flowers, with a total of 16 protected plants, including lotus flower, edelweiss, and uva ursi. The plant communities of these protected plants are arranged in a vertical zonality due to relief steps in the county and climatic influence. We encounter the Sub-alpine floor in restricted areas in the massive Cârligatele, Buteasa and Bihar.

[36] Source: Annual Report on the State of the Environment in Arad County-2013
[37] Source: Annual Report on the State of the Environment in Bihor County-2013

The harsh conditions of the area develop the Nardus stricta dominant pastures mixed with bluegrass (Poa alpina), variegated fescue (Festuca violacea). Among dicotyledons appear dill bear (Ligusticum mutellina), and bellflower (Campanula napuligera).

The northern side of the peak Cucurbata Mare and Buteasa is occupied by a belt of mountain alder (Alnus viridis). Besides, we can find juniper (Pirus mugo), bilberry (Vaccinium myrtillus) and cranberries (Vaccinium vitis-idaea) as well.

The coniferous forest floor can be found between 1,000 and 1,650 m altitude, with the dominant element of spruce (Picea excelsa), fir (Abies alba), more frequently maple (Acer pseudoplatanus), rowan (Sorbus aucuparia) and, very rarely, yew (Taxus baccata).

The beech floor is on an altitude between 600-1000 m. Its dominant element is the beech (Fagus sylvatica) and oak (Quercus campestris), ash (Fraxinus excelsior), hazel (Corylus avellana). In cold valleys we meet Hungarian Lilac (Syringa josikaea), glacial element, mountain endemic species and marigolds (Trollius europaeus), protected plant.

The oak floor stretches from the lowlands to an altitude of about 500 m. In the high plains pure or mixed forests of oak pedunculated (Quercur robur), Italian oak (Q. Frainetto) together with Tartar maple (Acer tataricum), lime Tilia parvifolia, etc. appear. In the low plains we meet privet (Ligustrum vulgaris), wood itchy (Eronymus verrucosa). The Fauna includes species of cynegetic interest characteristic of the area. The alpine fauna is poorly represented by rodents, some birds and reptiles.

The forest fauna is represented mainly by deer (Cervus elaphus carpathicus), fallow deer (Doma doma), bear (Ursus arctos), wild boar (Sus scrofa), roe deer (Capreolus capreolus), wolf (Canis lupus), fox (Vulpes vulpes), lynx (Lynx lynx), marten (Martes martes), many birds such as forest crow, raven, and especially pheasant. The steppe fauna consists mainly of rodents mammals like squirrel, hamster, rabbit, and muskrat.

Satu Mare County:

Geobotanically, most of the territory of Satu Mare County[38] belongs to the steppe zone of the Western Plain. Spontaneous vegetation occupies only one third of the county (grassland - 18 %, forests - 15 %), the rest being crops. The county meets three types of ecosystems: terrestrial, aquatic and groundwater. To these the anthropic areas are added. Terrestrial ecosystems occupy the largest part of the county of Satu Mare and are characterized by communities of organisms (plants and animals), specific and interrelated. Among major ecosystems we mention: forest ecosystems (forests consist of associations of Querco - Ulmetum, Convallaria - Quercetum roboris, Festuco - Quercetum robori and Querco robori - Carpinetum, Querco robori - Caricetum brisoides, Querco cerris - Carpinetum, Quercetum petreae - cerris, Quercetum petreae, Asperulo - Fagetu, Pinetum sylvestris) shrub ecosystems (intermediate between forest and meadows with associations of Pruno spinosae - Crataegetum, Coryletum avellanae, Rubo (caesii) - Prunetum spinosae Pterido - Crataegetum monogynae type, etc.; ecosystems of grasslands (pastures and meadows totalling 77,821 ha with Caricetum elatae, Brometum tectorum and Potentillo - Festucetum pseudovinae, Agrostetum albae, Alopecuretum pratensis and Festucetum pratensis, Hordeetum hystrictis, Puccinellietum distantis, Achilleo - Festucetum pseudovinae, Caricetum acutiformis - ripariae associations, etc; aquatic ecosystems, etc. 28 types of habitats of conservation importance and 25 habitats of national interest with a total area of about 30,000 ha, were inventoried. The wildflowers protected in Satu Mare County include a number of flora species of national interest (3), a number of species of flora of Community interest (27), and economically exploited wild species (111).

[38] Source: Annual Report on the State of the Environment in Satu Mare County-2013

The fauna of Satu Mare can be classified on vegetation storeys, as follows: boreal floor fauna (spruce stands - pine forest: birds, molluscs and insects. Coniferous forests are home to a rich and characteristic fauna of birds, some of which live only in this biotope.

The protected wildlife in Satu Mare County includes a number of fauna species of national interest identified in the county (69), a number of species of community interest (256), a number of wildlife species economically exploited (31).

The total forest area in the Romanian eligibile area in 2013 was 588,100 ha[39]. The forest land area takes 20.7% of the total Romanian eligible area, which is below the national average (26.8%)[40]. The forest land area of Arad County is the only one of the four eligible counties which is above the national average. The data is presented in the following table:

County	Area of the county	The surface of forest areas in the county (2013)	
	ha	ha	%
Satu Mare	441,780	71,200	16.1
Arad	775,409	205,700	26.5
Bihor	754,400	207,900	27.6
Timis	869,700	103,300	11.9
Total Romanian eligible area	2,841,289	588,100	20.7

2.1.2 Natural Protected Areas

The information in this subchapter is based on data sources of the European Environment Agency, Natura Conservation Information System (Természetvédelmi Információs Rendszer), Annual Report On The State Of Environment in Satu Mare County-2013 (apmsm.anpm.ro), Annual Report On The State Of Environment in Bihor County-2013 (apmbh.anpm.ro), Annual Report On The State Of Environment in Arad County- 2013 (apmar.anpm.ro), Annual Report On The State Of Environment in Timiş County- 2013 (apmtm.anpm.ro), National Report On The State Of Environment In 2012 (www.anpm.ro), Summary of Water Quality in 2013 (www.rowater.ro/List/Sint), National Institute of Statistics- Silviculture- Area of forest land fund by land category, forest species, macroregions, development regions and counties 2013 (www.insse.ro/Statistical DB TEMPO – Online)

The eligible area is abundant in protected natural areas, 21% of the territory of Hungary is a NATURA 2000 site and 22.68% of the territory of Romania represent NATURA 2000 sites[41].

Romania[42]

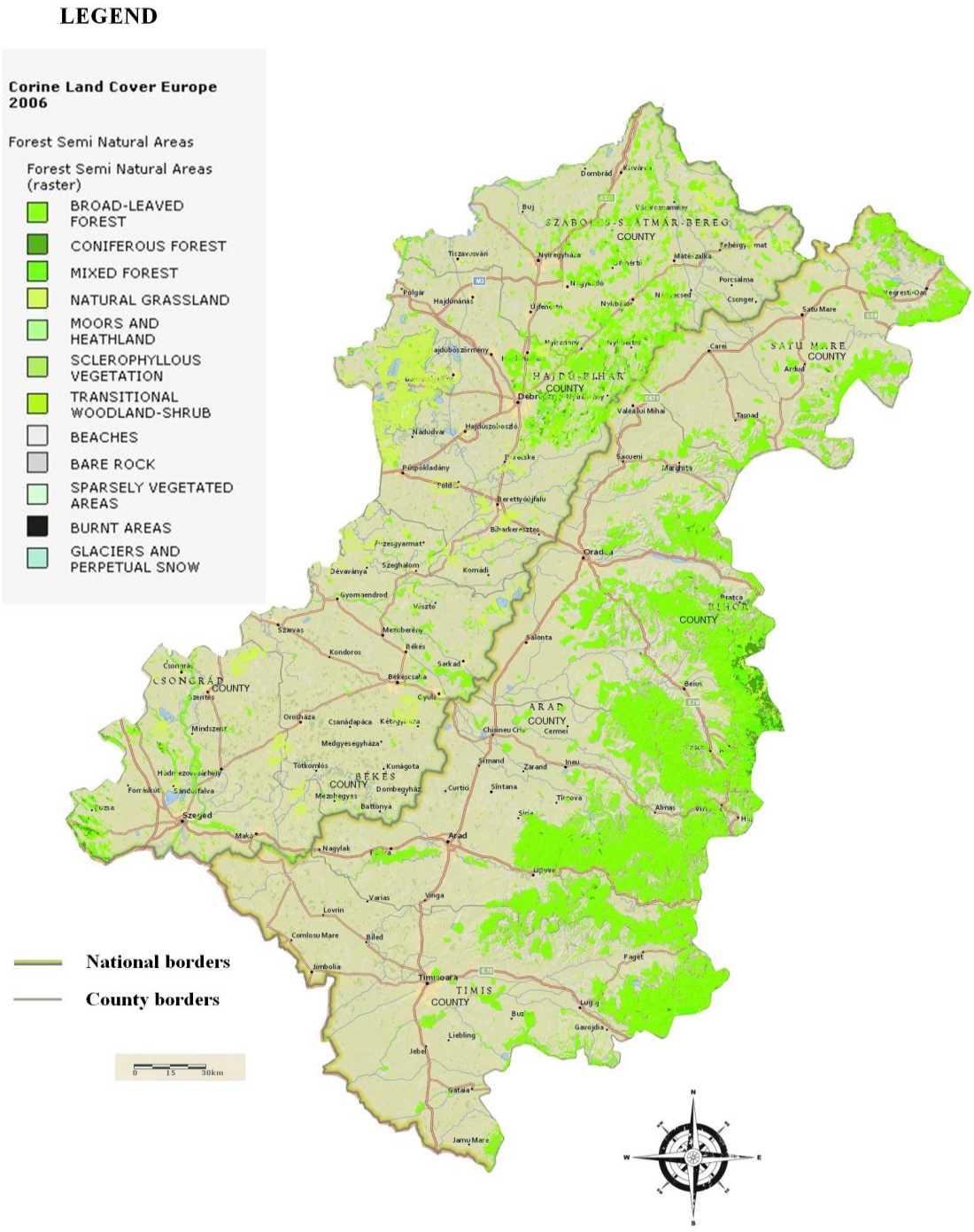
The distribution of protected natural areas in the Romanian eligible counties is presented in the table below:

County	Area of the county	The surface of the protected natural areas in the county		Area of forests from the protected natural areas in the county	
	ha	ha	%	ha	%
Satu Mare	441,780	47,547.5	10.8	13,732. 85	28.88
Arad	775,409	440,095	56.8	211,525	48
Bihor	754,400	301,561	40	35,000	11.6

[39] Source: National Institute of Statistics Romania - www.insse.ro/TEMPO –Online time series/Silviculture
[40] Source: Study no.9 "The natural environment and biodiversity" elaborated for the Romanian Territorial Development Strategy in 2014
[41] Source: http://www.eea.europa.eu/data-and-maps/data/natura-2000
[42] Source: Annual Report on the State of the Environment in Bihor County-2013 (apmbh.anpm.ro), Annual Report on the State of the Environment in Arad County- 2013 (apmar.anpm.ro), Annual Report on the State of the Environment in Timiş County- 2013 (apmtm.anpm.ro)

Timis	869,700	43,771.32	5	5,327.56	12.17

The following map represents the area of forests in the whole eligible area.



Map 3 - Forest area in the eligible counties[43][44]

[43] Source: EEA: http://www.eea.europa.eu/data-and-maps/explore-interactive-maps/forests-in-europe
[44] The map presents all the forest in the eligible area, but not all the forests are situated in a protected area.

With regard to protected areas there are 8,329.750 km2, also amounting to approx. 17% of the eligible area on the Romanian side.

In order to ensure special measures of protection and preservation in natural heritage sites, in Romania the following categories of protected areas were designated[45]:

a) international interest: natural sites of world heritage, geoparks, wetlands of international importance, biosphere reserves,

b) community interest or 'Natura 2000' sites: Sites of Community Importance, special areas of conservation, Special Protection Areas (according to the Directive 2009/147),

c) national interest: scientific reserves, national parks, natural parks, natural monuments, nature reserves,

d) county or local interest: set only on public/private administrative units, where it is appropriate.

Hungary

With regard to protected areas there are over 8,500 km2 amounting to approx. 17% of the eligible area belonging to the Hungarian side[46]. In Hungary the following categories exist[26]:

a) international interest: natural sites of world heritage, reserves, Ramsar sites, European Diploma sites,

b) community interest or 'Natura 2000' sites,

c) protected areas of national interest: national parks, landscape protection areas, nature reserves, natural monuments,

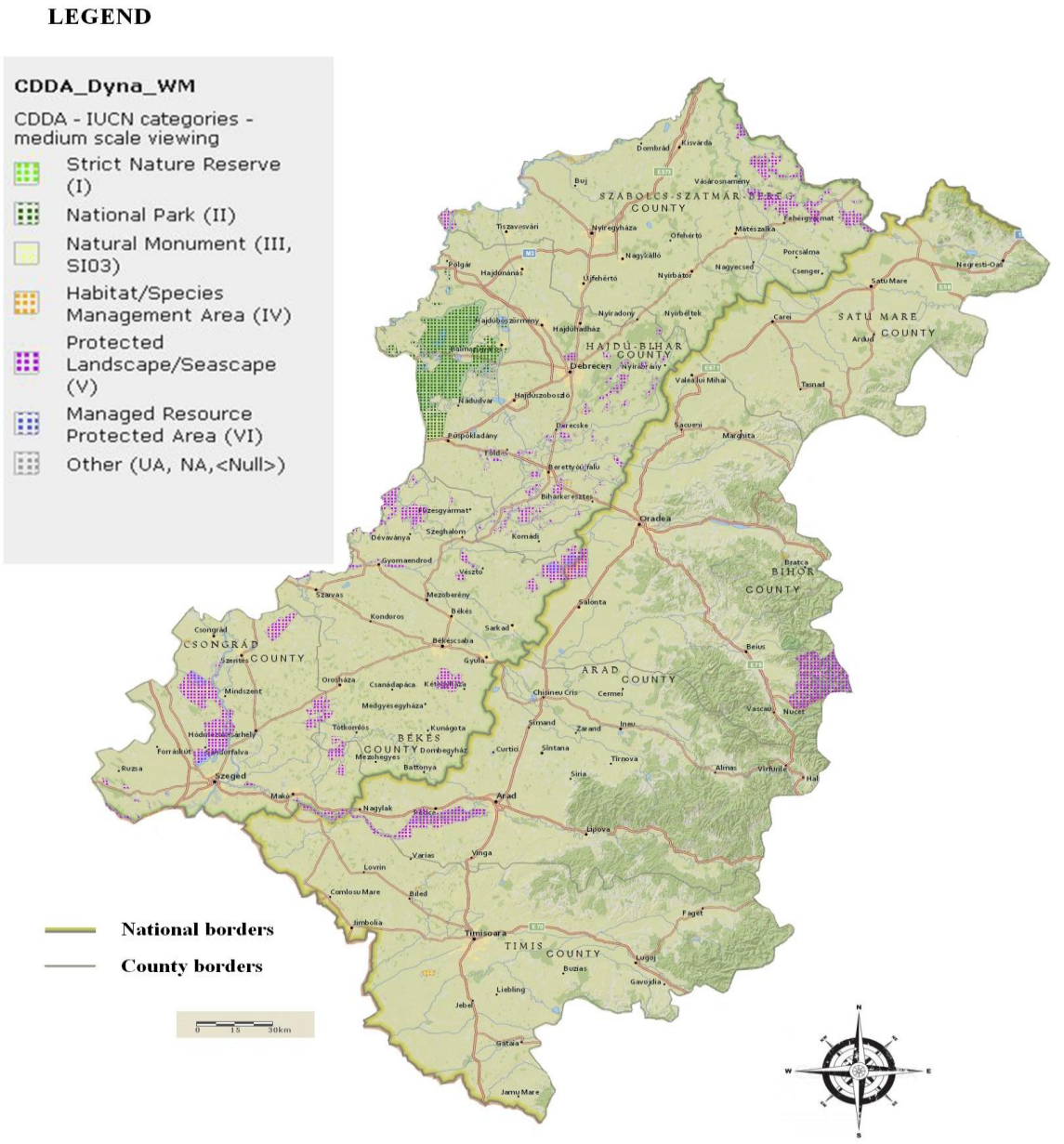
d) areas of local interest.

One-fifth of the total area of Hungary is forested. The areas of forests in the eligible Hungarian counties (presented in Map 3) and the protected natural areas are the following:

County	Area of the county[47]	The surface of protected natural areas in the county[48]		Area of forests in the county[49]	Area of protected forests from the total area of forest areas in the county[50]
	ha	ha	%	ha	%
Csongrád	4262,700	32,634.6	7.6	39,731	20.1 – 25.0
Békés	5631,400	29,731	5.2	28,237	less than10
Hajdú-Bihar	6210,900	approx.90,000	15	73,130	10.1-15.0
Szabolcs-Szatmár-Bereg	5936,800	approx.22,000	3.7	128,807	less than 10

The following map visualizes the protected areas in the whole eligble area.

[45] Source: http://www.huro-green.eu/pdf/infocsomagzoldkamp_nyhu.pdf
[46] Source: http://www.ksh.hu/docs/hun/xstadat/xstadat_eves/i_ux003a.html
[47] Source: http://mek.oszk.hu/00000/00056/html/103.htm
[48] Source: www.csongrad-megye.hu;www.bekesmegye.hu;www.hbmo.hu; www.szszbmo.hu
[49] Source: http://www.ksh.hu/docs/hun/xftp/stattukor/regiok/orsz/erdogazd12.pdf
[50] Source: Environmental Situation Report of Hungary 2013 (published by the Hungarian Central Statistical Office)



Map 4 - Protected areas of the eligible counties[51]

[51] Source: EEA: http://www.eea.europa.eu/data-and-maps/explore-interactive-maps/european-protected-areas

2.1.2.1 Protected natural areas of international interest

Ramsar Sites[52]:

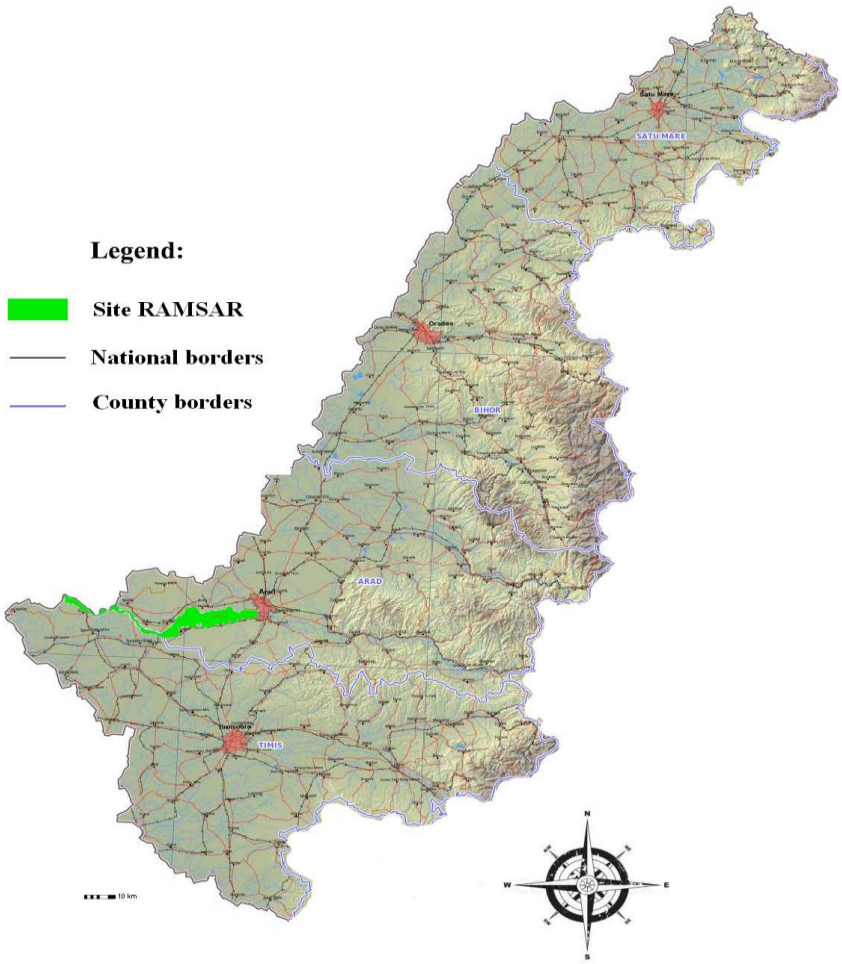
Romania

The Natural Park of the Low Meadow Mureş (Romania) – declared by Government Decision nr.1586 / 2006 *(Romania)* on the classification of protected areas in the category of wetlands of international importance - with an area of 17,166 ha. The plants in the park are represented by over 1,000 species and subspecies wooden and herbaceous. A great number of plants are part of ”The red list of superior plants in Romania” as vulnerable or rare species: Achillea thracica (yarrow), Stratiotes alloides (water-soldier), Agrostemma githago (corncokle), Cirsium brachycephalum, Lindernia procumbens (prostrate false pimpernel), Najas minor (waternymph), Peucedanum officinale (hog’s fennel), Platanthera bifolia (lesser butterfly-orchid), Rumex aquaticus (Scottish dock), Vicia narbonensis L. ssp. serratifolia (French vetch). Besides this, there are also three species Marsilea quadrifolia, Salvinia natans (floating watermoos), Trapa natans (narrow clover) which are strictly protected according to the Berne Convention.

The most important habitats of community interest from this protected area are the forestry and wetland ones. There can be found 200 species of birds, most of which are protected. Several species are to be mentioned: lesser spotted eagle (Aquila pomarina), roller (Coracias garrulus), garganey (Anas querquedula), black stork (Ciconia nigra), grey heron (Ardea cinerea), little egret (Egretta garzetta), sand martin (Riparia riparia), bee-eater (Merops apiaster), skylark (Alauda arvensis), white-tailed eagle (Haliaeetus albicilla), song thrush (Turdus philomenes) etc. Herpetofauna (amphibians and reptiles) is well represented, due to the character of wet area that the Mureş flooadplain has. Species such as: common tree frog (Hyla arborea), fire-bellied toad (Bombina bombina), edible frog (Rana esculenta), Nothern crested newt (Triturus cristatus), sand lizard (Lacerta agilis), slow worm (Anguis fragilis), and European pond turtle (Emys orbicularis) can be frequently found in the park. The about 50 species of fish make the Inferior Mureş floodplain the richest segment of the river in terms of fauna.

The map below presents the Ramsar sites located in the Romanian eligible counties.

[52] Source: www.ramsar.org



Map 5 - Ramsar sites in the Romanian eligible counties[53]

Hungary[54]

Lake Fehér at Kardoskút - National Park, Nature Conservation Area. Lake Fehér is an alkaline steppe lake in Southeast Hungary. As a former branch of river Maros, the area has been subject to a gradual salt accumulation resulting in a typical puszta fauna and flora associations on the wetland site, including grasslands and reed beds. The wetland is one of the most fragile and valuable nature reserves in Hungary, along with several archaeological remains. The site has a fundamental role in the passage of thousands of migratory birds in Eastern Hungary and supports several endemic plants. The lake dries out completely during the summer. Human activities include reed harvesting. There is an ornithological field station and museum and bird watching towers can be used with permission. Ramsar site no. 184.

Montág-puszta - National Park, SPA, and SCI. Montág-puszta is low-lying, basin-like area located on the Hungarian Great Plain. The diverse habitat types ensure ideal conditions for rare species of flora and fauna. Due to its closeness to the traditional migration flyway along

[53] Source :www.mmediu.ro/protectia naturii/arii naturale protejate
[54] Source: www.ramsar.org

the river Tisza, it is not only an important nesting site for birds but also a roosting and feeding place used frequently during the migration. The site also ensures excellent conditions for the reproduction of important amphibian species such as Bombina bombina, Triturus dobrogicu and Hyla arborea. Since 1997 the site has seen several restorations works (closing canals, building dykes, etc.). The next project of the Körös-Maros National Park Directorate will be to eliminate a 4.5 km long functionless canal of the area, and this work will improve the landscape value of the area. The second step will be the elimination of the Határ-canal (a 3 km long canal north of the area) to recreate water conditions closer to the natural state. Ramsar site no.1746.

Pusztaszer - National Park, Landscape Protection Area, Nature Conservation Area. Pusztaszer site is composed of artificial fishponds, marshlands, a seasonally flooded saline lake, flooded woodland, and an oxbow lake. The area is important for staging numerous species of waterbirds and supports several species of notable or endemic plants. A research station and an information centre are available, and there are several observation hides. Ramsar site no. 188.

Biharugra Fishponds - Landscape Protection Area; National Park. Biharugra Fishponds are intensively used lakes near the Romanian border, supporting a characteristic steppe vegetation, wet meadows and forests. The site provides resting, breeding, feeding and staging areas for numerous endangered and protected waterbirds and waders. The "kunhalom", an elevated hill probably used for burial purposes 1100 years ago, is archaeologically important. Human activities include intensive fishing, cattle and sheep breeding, farming and hunting. Ramsar site no. 903.

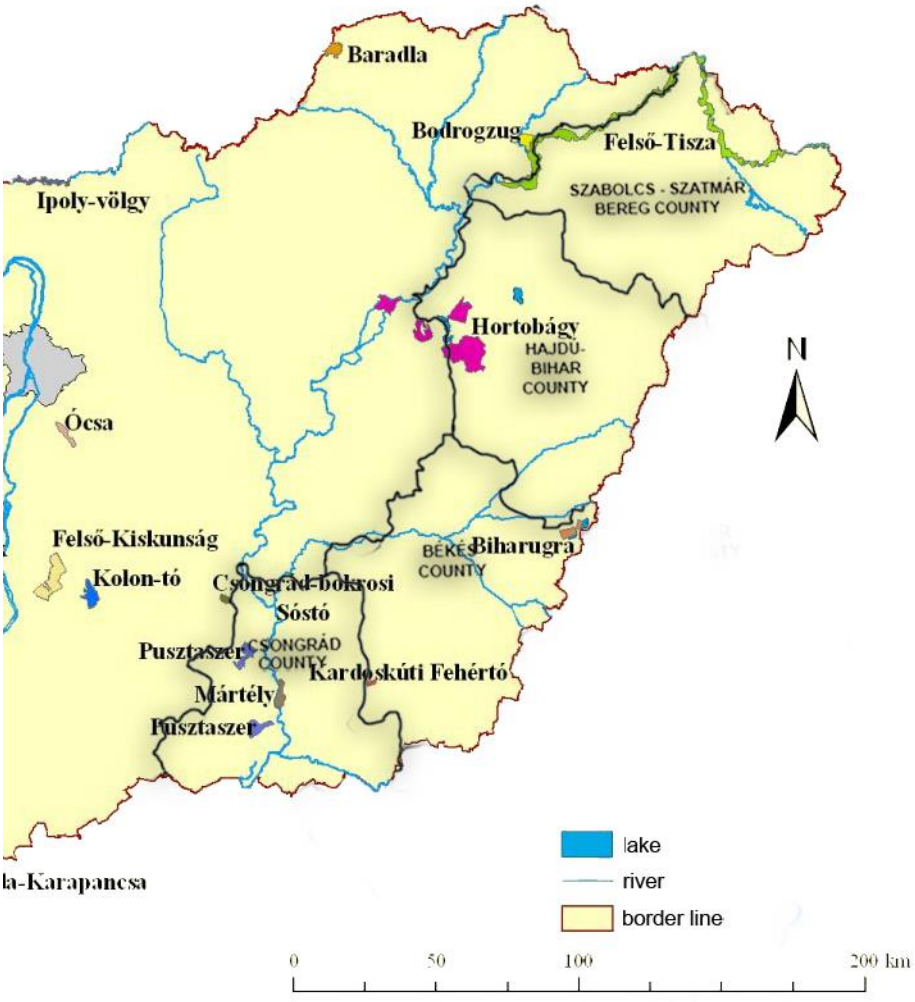
Hortobágy - World Heritage Site; Biosphere Reserve; National Park, Nature Protection Area. The four separate sectors of the extensive Hortobágy Steppe include a system of artificial fishponds; a reconstructed swamp system; a part of a dam, islands, woodland and mudflats; and extensive grassland, marshland and swamp areas. All sectors support extensive reed and Nymphaea beds. The area is important for breeding, wintering and staging important numbers of many species of migratory waterbirds. Human activities include intensive, large-scale fish production and reed harvesting. Public access is strictly controlled. There are a field research station and several observation hides available. Area extended from 23,121 to 32,037 ha in 2008. Ramsar site no. 189.

Borsodi-Mezöség - Landscape Protection Area, SPA and SCI (Natura 2000). This is the largest alkaline marshland complex on the right bank of the river Tisza. The main wetland types, still preserved in good, natural conditions, are permanent and intermittent marshes, hayfields and alkaline wet meadows which form a special mosaic vegetation pattern with arid vegetation habitats (such as steppe grasslands on loess and sandy soil). The site has outstanding significance for migratory birds, providing key staging habitats and water bodies, and for the preservation of endangered species of Eurasian steppes (Saker, Imperial Eagle, Red-footed Falcon, Roller and Lesser Grey Shrike). Thanks to water restoration projects managed by the Bükk National Park Directorate, the numbers of nesting waterfowl have grown significantly, but the site is also important for many other animal and plant species, some endemic and many endangered. The most important cultural value is the survival of ancient, traditional pastoral life. Extensive animal husbandry has been practised there for thousands of years, and pastoral traditions, tools and lifestyle have been preserved. Kurgans (tumuli) have also been found in the area. Ramsar site no.1745.

Felsö -Tisza (Upper Tisza) - Protected Area, Landscape Protection Area, Natura 2000 (SPA, SCI). The site covers the entire active floodplain along a 215 km section of the river Tisza in north-eastern Hungary, adjacent to the Bodrogzug Ramsar site; it meets the Ukrainian and Slovakian borders to the east and north, and the catchment is also shared with Romania. Felsö -Tisza is a typical floodplain with dikes constructed in the late 19th-early 20th centuries. The natural and near-natural habitats consist of large patches of softwood

(Salicetum albae-fragilis) and hardwood riverside forests (Querco-Ulmetum), oxbow lakes, filled-in meanders with rich natural flora and fauna, extensively managed or abandoned orchards and plough-lands. The site supports many globally threatened species of flora and fauna. It offers habitat to 57 different orchids and is especially important as migration path to many different fish species, some of them endemic to the Danube river system. The site fulfils numerous important ecological functions such as aquifer recharge and habitat connectivity. Threats include uncontrolled and increasing tourism, fishing, intensification of forestry and eutrophication. The site is part of a Transboundary Ramsar Site designated in conjunction with "Tisa River" in the Slovak Republic. Ramsar Site no. 1410.

The following map represents the Ramsar sites in the eligible area in the Hungarian side of the border.



Map 6 - Ramsar sites in the Hungarian eligible counties[55]

[55] Source: termeszetvedelem.hu

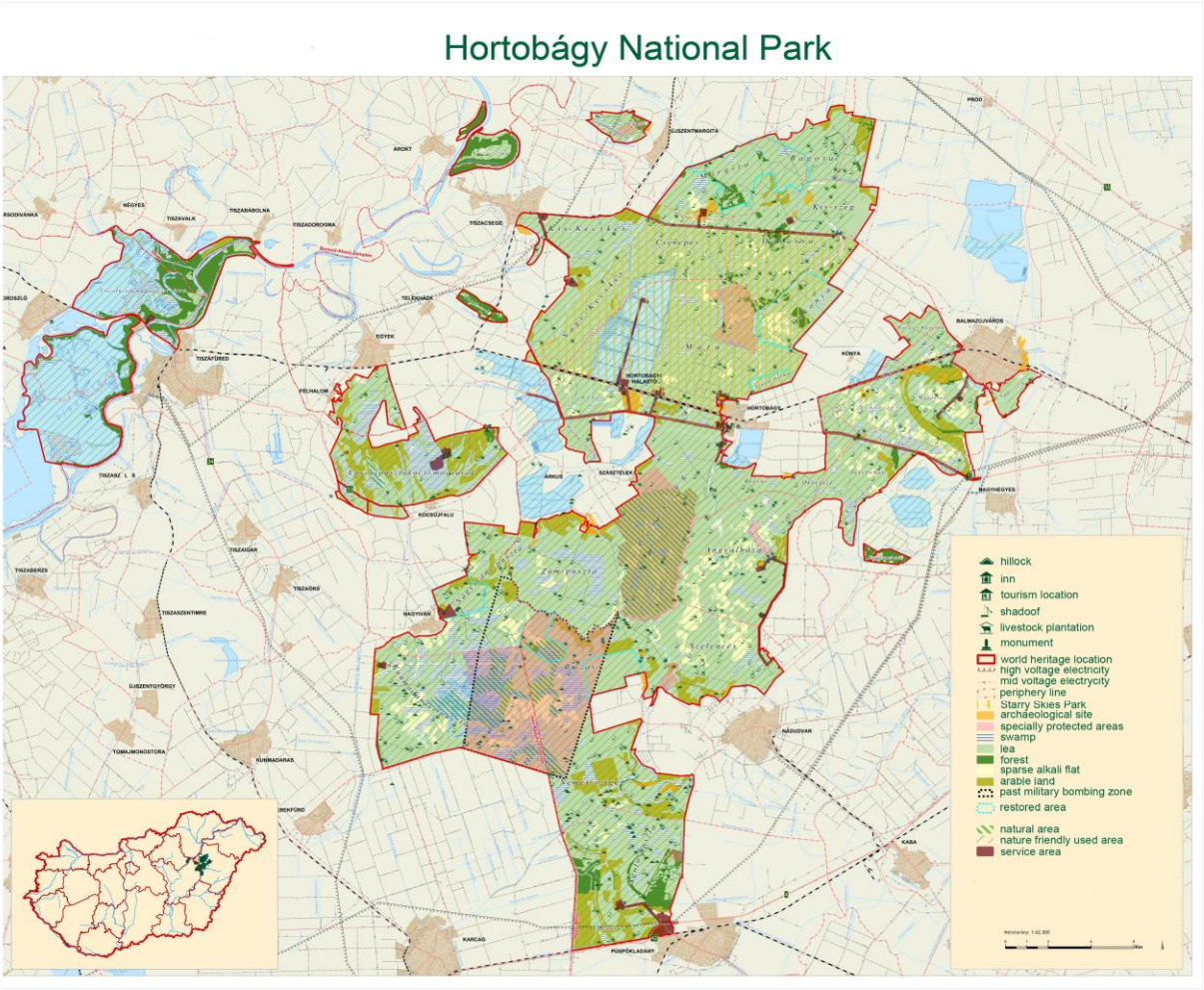
2.1.2.2 Natural sites of World Heritage

Hortobágy National Park[56]:

The Hortobágy National Park was the first and largest national park in Hungary located in the eligible area. It was declared a national park with the decision of 1973 with its 52 thousand hectares of land, which now includes more than 82 thousand hectares of protected areas through continuous expansion and mergers. The World Conservation Union (IUCN) classification system for protected areas classified it as a Category II national park.

The core area of Újszentmargita forest reservation (22.3 ha) is a special protection area according to Decree 15/2000 KÖM (Hungary). The original core area and the Újszentmargita forest and grassland (52,000 ha) was declared a Biosphere Reserve (UNESCO MAB Programme) by Decision no. 2100/1980 of OKTH in Hungary. Some parts of it are areas that fall under the Ramsar Convention, as follows: Zam, Pentezug, Angyalháza, Hortobágyi Halastó, Tiszafüredi Madárrezervátum TT, and Hagymás, Jusztus and Feketerét from the territory of Egyek-Pusztakócs Marsh.

The UNESCO World Heritage Committee included the territory of Hortobágy National Park in the World Heritage list on 1 December 1999.



Map 7 - Hortobágy National Park in Hungary

[56] Source:www.hnp.hu

2.1.2.3 Protected natural areas of community interest

The NATURA 2000 network established by the European Union covers a significant part of the eligible border area. This network is an interconnected European Ecological Network with the aim of preserving biodiversity through the protection of different types of natural habitats as well as the species of wild flora and fauna of Community interest, and assisting the sustainable maintenance and restoration of their favourable conservation status. The network consists of areas designated by EU guidelines: 1) on Important Bird Areas (IBA) (directive on the conservation of wild birds; 2009/147/EC); 2) on Special Areas of Conservation (directive on the conservation of natural habitats and of wild fauna and flora; 43/92/EC).

Romania[57]

The dedicated sites of Romania concerned are:

- Romania: http://www.natura2000.ro/

The main data of NATURA 2000 sites:

The total number of Special Protection Areas (SPAs) in Romania is 148 (area is 36,943.94 km2), the total number of Sites of Community Importance (SCIs) in Romania 383 (area is 41,521.75 km2).

There are 74 NATURA 2000 sites in the Romanian eligible area, from which a total of 51 are SCIs (of community interest) and a total of 23 are special bird protection sites (SPA). The protected areas of community interest ("Natura 2000" sites) are completely or partially located in the Romanian eligible area. In Romania, protected areas include sites of Special Protection Areas (SPAs), and Sites of Community Importance (SCIs).

In the Romanian territory of the Programme 44.37% of the total existing forest area (558,597 ha) is located in the protected natural areas.

Hungary[58]

The dedicated sites of Hungary concerned are:

- Hungary: http://www.natura.2000.hu/index.php?p=termegorze&nyelv=hun

The main data of NATURA 2000 sites:

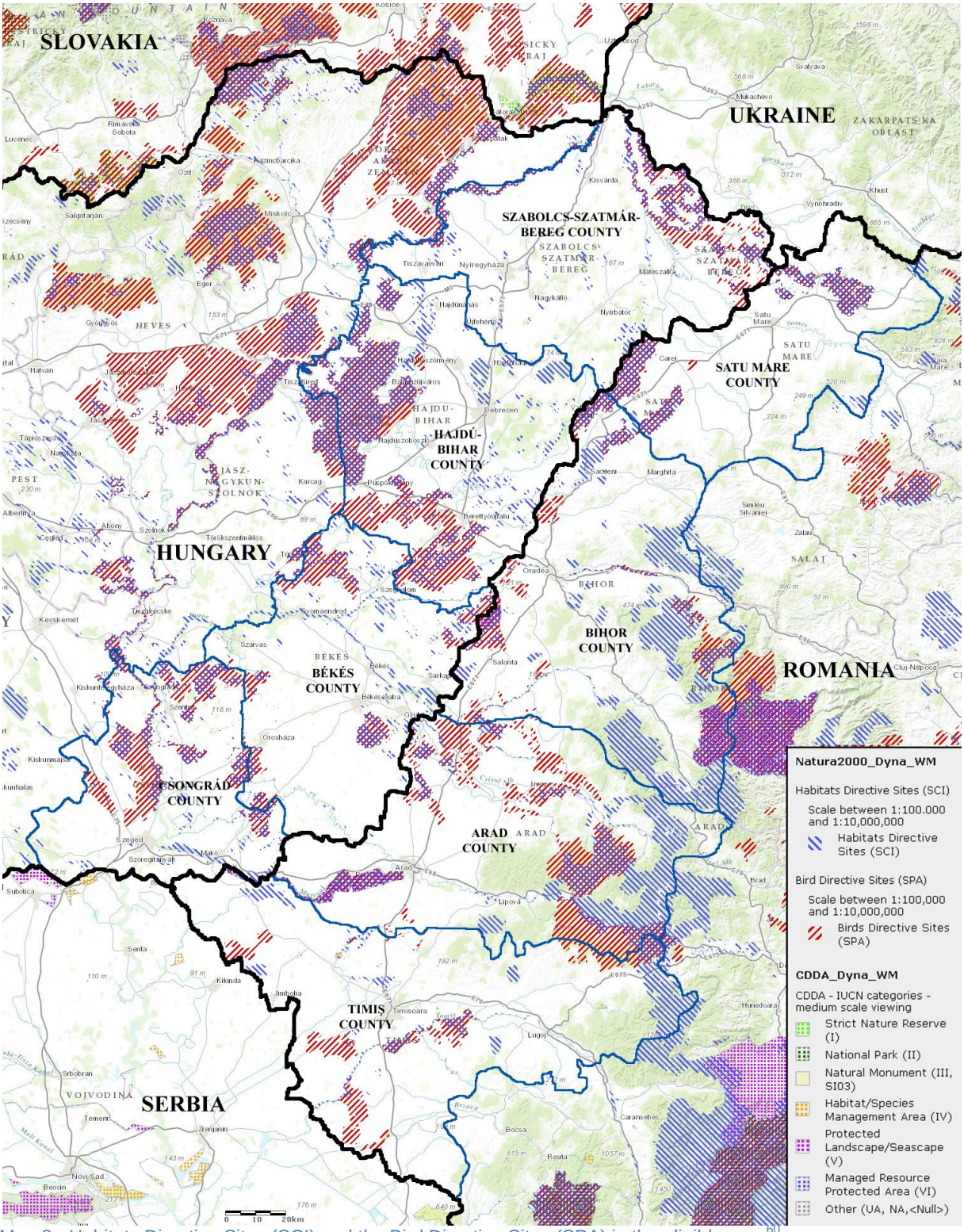
The total number of Special Protection Areas (SPAs) in Hungary is 56 (area is 13,741 km2), the total number of Sites of Community Importance (SCIs) in Hungary is 477 (area is 14 413 km2).

In case of Hungary the protected areas include sites of Special Protection Areas (SPAs), Sites of Community Importance (SCIs) and Special Areas of Conservation (SACs).[59]

In Hungary, 42% of forests are affected by Natura 2000 obligations.

The map below represents the Habitats Directive Sites (SCI) and the Bird Directive Sites (SPA) in the eligible area.

[57] Source: http://www.natura2000.ro/
[58] Source: http://www.natura.2000.hu/index.php?p=termegorze&nyelv=hun
[59] In Hungary the data is not on county level, but with regard to the territories of the national parks.



Map 8 - Habitats Directive Sites (SCI) and the Bird Directive Sites (SPA) in the eligible area[60]

[60] Source: EEA: http://www.eea.europa.eu/data-and-maps/explore-interactive-maps/european-protected-areas

2.1.2.4 Protected natural areas of national interest

Romania

In the four eligible Romanian counties the territory of natural parks (32% of Apuseni, Cefa, and Lunca Mureşului) comprises 46,708.08 hectares, representing approx. 1% of the total area of eligible counties. The territory of other protected areas of national interest, the 107 natural monuments and nature reserves constitutes 13,409.632 hectares. The largest areas of natural reserves in the eligible area are in Hajdú-Bihar (Hortobágy) and Bihor (Apuseni Mountains).[61]

The most important details regarding the cooperation in the field of the environment between the two countries initiated in 2003 are provided in Decision-HG no 1050/2000 (Romania) about the approval of the Protocol of the 9th meeting of the Joint Romanian-Hungarian Committee signed in Budapest on 26 November 2013 for the application of the Agreement between the Romanian and Hungarian Governments regarding the cooperation in the field of environmental protection that was signed in Budapest on 26 May 1997.

A recent flagship of the cooperation and example of the countries' successful efforts is the upgrade of the Cefa Natural Park (Natura 2000 site) into a national park which directly connects the Romanian side to the Hungarian Körös-Maros National Park, forming jointly 13,000 hectares of national park territory.

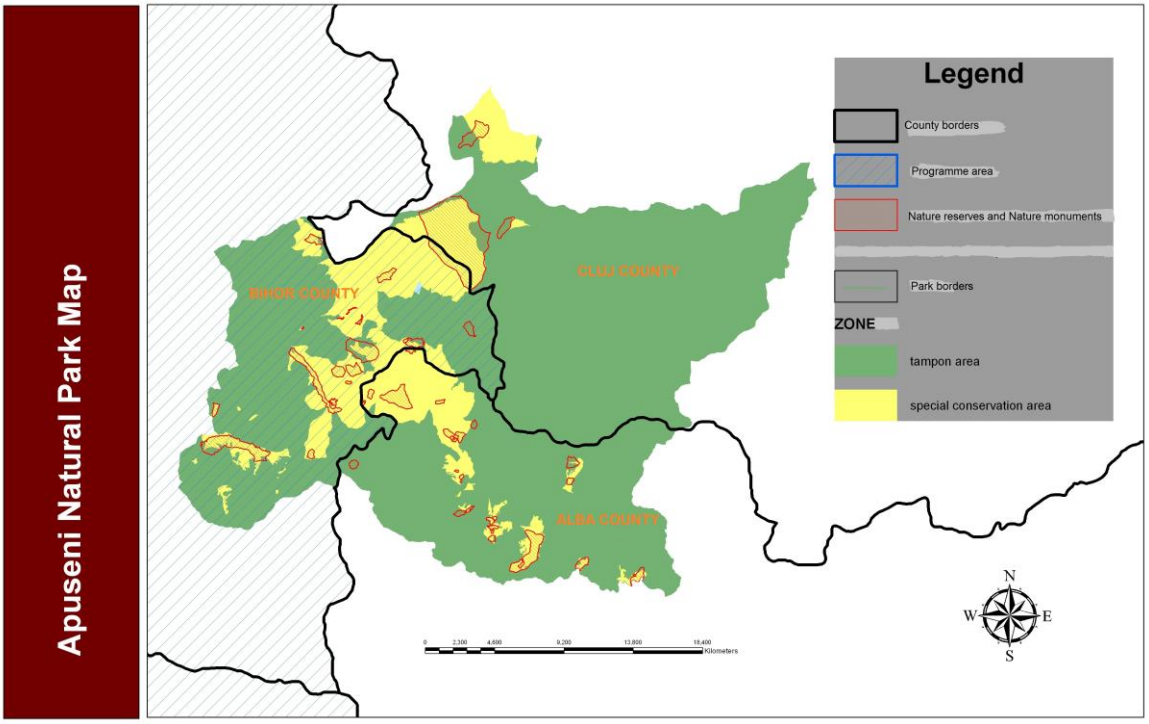
Apuseni Natural Park[62]

Apuseni Natural Park covers an area of 76,022.34 ha and is situated in the central part of the Apuseni Mountains. 32% of its surface area is eligible to the Programme.

The Park includes territories in the counties of Alba, Cluj and Bihor. 55 small and medium towns are located in the Park. Apuseni Park is one of the most popular parks in Romania, with approx. 10,000 inhabitants.

[61] Source: Annual Report on the State of the Environment in Bihor County-2013 (apmbh.anpm.ro), Annual Report on the State of the Environment in Arad County- 2013 (apmar.anpm.ro), Annual Report on the State of the Environment in Timiş County- 2013 (apmtm.anpm.ro), Annual Report on the State of the Environment in Satu Mare County-2013 (apmbh.anpm.ro)

[62] Source: http://romaniatourism.com/national-parks.html



Map 9 - Apuseni Natural Park in Romania[63]

The largest and most famous karstic phenomena in Romania are located here.

Thanks to the microclimate created by the conditions of karst topography, there are plants that are located in the most southern point of their area of distribution in the northern hemisphere. Specific habitats karst areas have led to the evolution of a large number of endemic species. Also, communities in the Park area are representative at the national level in terms of identity, the preservation of local customs and traditions, the most eloquent example of this representing the Romanian population named ”moţii”.

The Park possesses high quality landscape aesthetics with a high diversity of habitats, flora and fauna, which is due to the use of unique and traditional methods of land use, social organization and specific habits. Visitors are provided with opportunities for recreation and tourism in the traditional way of life of local communities.

The Park was designated for the conservation of 29 habitats, six of which are the priority. Here we can also find 12 species of mammals, of which nine are bats, three species of amphibians, four fish species, 11 species of invertebrates and six plant species of Community interest.

Some of the most significant cave habitats for bats at European level are located in the Apuseni Park. Bats use caves to give birth in the breeding season and as a wintering place for the cold period. Inside the park there are 26 nature reserves and nature monuments, most of which are represented in the karst areas.

The most important and spectacular nature reserves and nature monuments of Apuseni Park, located in an eligible programme area, include the cave of Piatra Ponorului, Smeilor’s Cave from Onceasa, Ruginoasa Hole (largest natural erosion phenomenon in Romania),

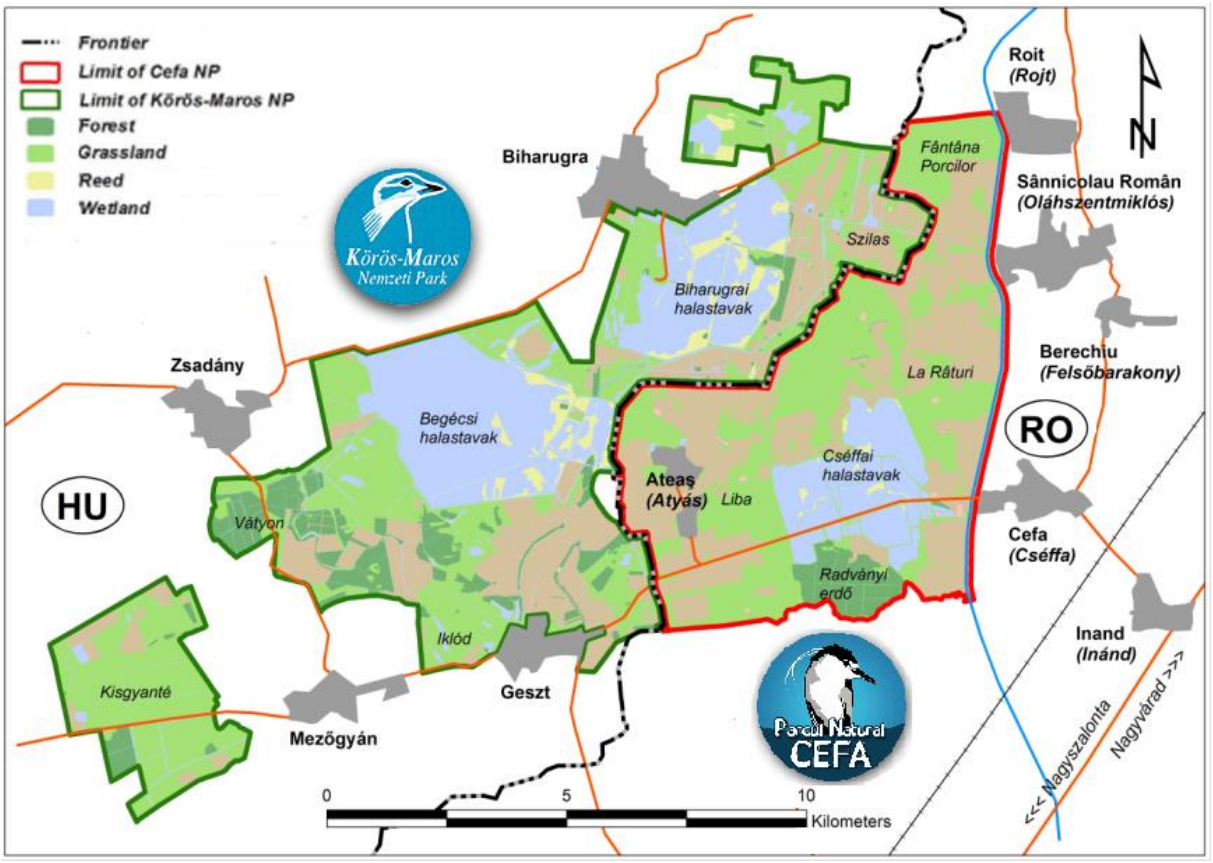
[63] Sources: www.mmediu.ro/Nature Protection/ Protected Natural Areas and Order MAPAM no.552 / 2003, published in the Official Journal of Romania, Part I No. 648/ 11.09.2003.

Karst Complex Ponor Valley, karst system Deer Cave – Pothole with Cow pothole cow, Molhasurile Izbucelor Valley (one of the most important peatmosses in Southeast Europe with unique plant association), Grassland sources Crişul Pietros Graitoare, Fortress of Ponor (the largest karst phenomenon in Romania) Galbena Valley Sighiştelului, Rădeasa (a classic example of cave tunnel and gorges formed by the collapse of the ceiling of a cave), karst Plateau Padiş, karst Plateau Lost World. Apuseni Natural Park is included in the following sites Natura 2000: ROSCI 0002 Apuseni Mountains, ROSCI 0016 Buteasa and ROSPA 0081 Apuseni - Vlădeasa.

CEFA Natural Park[64]

CEFA Natural Park is located at the western boundary of Bihor County with Hungary, on the Pannonian-Bulgarian migration corridor, one of the main bird migration corridors in Europe.

The 5003.8003 ha natural park, established by Government Decision No.1.217 from 2010, represents an area with water surface (approx. 700 ha.) and salty soils halophilous vegetation where many faunal species of mammals, birds, reptiles and insects live.



Map 10 - CEFA Natural Park in Romania

In the area of the park five types of habitats were identified: selvage communities with tall hygrophilous grasses from the plains level, right up to mountain and alpine, dystrophic lakes and ponds, low altitude meadows (Alopecurus pratensis Sanguisorba officinalis), Pannonian meadows and salty swamps and ponto-sarmatian, riparian mixed forests of Quercus robur,

[64] Source: http://romaniatourism.com/national-parks.html

Ulmus laevis, Fraxinus excelsior or Fraxinus angustifolia, along the great rivers (Ulmenion minoris).

The park also includes the nature reserve of Forest Birds Colony from Rădvani forest (Colonia de păsări de la Pădurea Rădvani), where the protected nesting bird species are the gray heron and white egret.

The Natural Park overlaps the sites of community importance ROSCI 0025 Cefa, ROSCI 0387 Salonta and special protection area bird ROSPA 0097 Cefa Fishery - Forest Rădvani.

Within the park there are the following species of amphibians and reptiles, mammals respectively, listed in Annex II to Council Directive 92/43/EEC: European fire-bellied toad (Bombina bombina), the pond turtle (Emys orbicularis), great crested newt (Triturus cristatus cristatus) Danube crested newt (Triturus cristatus dobrogicus), pond bat (Myotis dasycneme), and otter (Lutra Lutra).

Among fish, because of the presence of ponds, there are two communities: species belonging to ponds (carp, pike, perch, catfish, tench, crucian silver, whitefish, grass carp, bighead, bleed carp(sângerul) and fish living in channels outside the fishery, including three protected European species (eel, breeze and grig).

With regard to the avifauna the importance of bird park results from the 263 species of birds, which are divided into 76 nesting species, 49 sedentary species, 73 species of summer visitors, 49 species of passage and 16 species which occur only in winter.

Also, the park presents nesting conditions for several species of day and night raptors, and for many Passeriformes. The average number is 500-550 breeding pairs, averaging 4-5 nests on a tree.

During spring and autumn passages, but also in winter, the lakes and nearby open areas are used by more than 200,000 waterfowl or species related to the aquatic environment.

The meadows near the state border that form part of the territory of bustard populations that come into this protected area from Hungary for feeding, impose the need for joint management measures between Romania and Hungary for the long-term conservation of this population.

Hungary[65]

National parks and the landscape protection areas (LPA) in Hungary account for nearly 9% of the total cooperation area. There are two national parks: Hortobágy National Park (which is also part of World Heritage), and Körös-Maros National Park that continues on the Romanian side with Cefa Natural Park; and 6 landscape protection areas, including Bihari-Sík LPA, Hajdúság LPA, Közép-Tisza LPA, Szatmár-Bereg LPA, Mártély LPA and Pusztaszer LPA. (Please see map of Hortobágy National Park in Chapter 2.1.2.2. and the map under chapter 2.1.2., which presents the national parks of the eligible area.)

In the four eligible Hungarian counties the territory of national parks constitutes 103,822 hectares, representing 4.7% of the total area of eligible counties. Regarding the landscape protection areas, this ratio is 3.5% with the 76,056 hectares area, and 6,587 hectares, 0.3% in case of the nature conservation areas.

Likely future trends:

[65] Source: http://www.termeszetvedelem.hu/

Biological diversity is continuously threatened due to the increase of economic activities which put pressure on the environment. From the perspective of the conservation principles and targets of the sustainable use of the components of biodiversity, the main relevant consequences are:

- the existence of an active reduction of biological diversity which is expressed through the extinction or reduction of the number of some species, mostly birds and mammals; - -fragmentation of the habitats of a lot of species and a longitudinal connectivity discontinuance (by blocking water courses) and a lateral one (by setting barriers in the floodable and floodplain areas, blocking or considerably decreasing the migration routes of species of fish and access to the proper places for feeding and breeding);
- decrease in or elimination of some types of habitats or ecosystems from the areas of transition (forest curtains, tree lines, humid areas from the structure of big agricultural exploitation or big lot systems) with profound negative effects on biological diversity and on the control functions of diffuse pollution, soil erosion, surface leaks and the evolution of flood waves, the biological control of crops pest populations, the recharges of the reserves or underground sources of water;
- ample changes, sometimes below the critical level, of the structural configuration of the hydrographical basins and water courses, associated with the significant reduction of the aquatic systems'' capacity to absorb the pressure of the human factors which operate at the level of the hydrographical basin and with the increase of vulnerability and of the social and economic systems that depend on it;
- the deconstruction and reduction of the production capacity and of the components of biodiversity in the agricultural sector; the impact on the landscape.

Uncontrolled tourism practised intensely creates a negative impact through the deterioration and degradation of wild fauna, causing stress to animal species, the degradation of soils on slopes through not-following the marked and designated routes, as well as through camping and lighting open fires in restricted areas, the disposal of waste in places not designated for this purpose. All these elements put a great pressure on the natural environment, causing its degradation, thereby making the implementation of the concept of ecotourism necessary, not only in the natural protected areas, but outside of those as well.

The activities which passed the environmental acceptance procedures have assumed the enforcement of the protection and conservation measures in order to decrease the impact.

The expansion of city limits inside the natural protected areas or in their vicinity causes a great pressure on the natural protected areas.

The excessive exploitation of some natural resources and fragmentation of some natural habitats endanger wild life.

Therefore, the conservation of biodiversity has to be carried out under an efficient, sustainable management of the components of the natural capital, and the insurance of a protection regime for the vulnerable, endemic, endangered species can be achieved by establishing protected natural areas.

All activities that could have a significant negative impact on biodiversity are subject to specific assessment (environmental assessment for plans and programmes, environmental impact assessment for projects). Any project not directly connected with or necessary to the management of the Natura 2000 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. The projects selected for financing shall be implemented only after obtaining the regulatory act from the competent environmental authority.

By implementing the appropriate assessment requirements of the potential effects of plans, programmes or projects on protected natural areas of community interest, it is ensured that any plan, programme or project will not significantly affect the protected area of community interest, either individually or in combination with other plans, programmes or projects.

Also, determining and pursuing indicators of species and habitat monitoring activities take place in protected areas.

Biodiversity impact assessment is based on evaluation criteria that relate to:

- The degree of damage to species and natural habitats in the territory of impact;
- Changing parameters of ecosystem
- Fragmentation of ecosystems;
- Mitigation measures.

Accepted projects that have undergone a regulatory procedure of environmental impact assessment are subject to the protection and conservation measures imposed by the regulatory acts, so the impact is lessened.

In the future, special attention should be paid to climate change regarding the habitats and living communities, and the rehabilitation and reconstruction tasks as well.

2.2 Soil and land use

The information in this subchapter is based on data sources of the Hungarian Central Statistical Office, the Environmental Situation Report of Hungary 2013, the Regional Environmental Statistical Databases of the Hungarian Central Statistical Office, the Annual Report On The State Of Environment in Satu Mare County-2013 (apmsm.anpm.ro), the Annual Report On The State Of Environment in Bihor County-2013 (apmbh.anpm.ro), the Annual Report On The State Of Environment in Arad County- 2013 (apmar.anpm.ro), the Annual Report On The State Of Environment in Timiş County- 2013 (apmtm.anpm.ro), and the National Report On The State Of Environment in 2012 (www.anpm.ro).

The relevance of the environmental issue:

The environmental issue relates to

- examination of the processes that cause (usually harmful) changes in the mechanical and chemical structure of the soil. Measures taken to prevent erosion and deflation, the two most significant mechanical processes that cause soil degradation.
- measures taken to prevent soil acidification and soil salinization, the two most significant chemical processes that cause soil degradation.

Current state of the environment:

The soil quality of the eligible area is from average to good in general; the types of soil provide favourable conditions for agricultural activities (the soil quality is the best in the eligible area in Békés and Arad counties)[66][67].

Major sources of soil degradation include soil erosion due to wind, erosion due to water, landslides (especially in the hilly areas, on grass lands and on deforested lands, and in the

[66] Source-: Annual Report on the State of the Environment in Bihor County-2013 (apmbh.anpm.ro), Annual Report on the State of the Environment in Arad County- 2013 (apmar.anpm.ro), Annual Report on the State of the Environment in Timiş County- 2013 (apmtm.anpm.ro), Annual Report on the State of the Environment in Satu Mare County-2013 (apmbh.anpm.ro)

[67] Source: Environmental Situation Report of Hungary 2013 (published by the Hungarian Central Statistical Office)

areas neighbouring the surface mining excavations), drought and regular excess of humidity in the soil.

The amount of municipal solid waste per capita in both countries is lower than the EU average. The same trend is observed in the case of packaging waste per capita as well in 2013[68].

The level of coverage with regular waste collection services is about 85-90% in the relevant counties of the eligible area, the rate is significantly higher in the urban areas than in the rural areas[69].

In compliance with EU standards, regional waste management systems in both countries have been developed in recent years.

The recycling rate of municipal solid waste is lower in Romania than in Hungary, and the rate is substantially below the EU average in both countries. According to 2012 data the EU average is 41.3%, the rate in Romania is 2.6% and in Hungary it is 25.5%[7071].

In addition, the CBR (cross border region) has a remarkable geothermal capacity, but currently this is mainly used in spas.

Romania[72]

Significant degradation factors are the extraction of mineral resources and the oil extraction industry e.g. in Bihor, Arad, Timiş Counties in Romania.

Based on the estimates of the European fertilizer manufacturers association (Fertilizer Europe) the amount of active substances of fertilizer per one hectare of agricultural land is the highest in the Netherlands and Germany (187 and 134 kg/ha), and the lowest in Portugal and Romania (35-36 kg/ha).

In Romania according to the data available at county level, the amount of fertilizer / one hectare is the following[73]:

- Satu Mare 223.6 kg/ha
- Bihor 176.1 kg/ha
- Arad 124.0 kg/ha
- Timis 121.1 kg/ha

Regarding the waste disposal system, all rural deposits that were inconsistent with the law were closed and rehabilitated by the local authorities' decision. Municipal deposits listed in GD 349/2005 regarding waste landfill closure followed the closure calendar / ecological

[68] Source: http://epp.eurostat.ec.europa.eu/portal/page/portal/environment/waste/main_tables
[69] Source: http://epp.eurostat.ec.europa.eu/portal/page/portal/environment/waste/main_tables
[70] Source: http://epp.eurostat.ec.europa.eu/portal/page/portal/environment/waste/main_tables
[71] Country level data was not available when preparing the report
[72] According to the observations sent to the 3rd meeting of the Romanian Working Group for Environmental Assessment by NAEP BIHOR, the Ministry of Environment and Climate Changes together with the subordinated environmental authorities at national, regional and county level, have worked hard to implement the environmental policies in this area in the period 2005-2014. Therefore all rural deposits that were inconsistent with the law, were closed and rehabilitated by the local authorities decision. Municipal deposits listed in GD 349/2005 regarding waste landfill closure followed the closure calendar/ecological restoration under the terms negotiated with the European Commission. There were also built new municipal landfills through government funding and/or European funding, that service at regional or county level and ensure an integrated/higher management for municipal waste in accordance with European law. Regarding the municipal waste recycling rate, the statistical data has already been completed and entered into the national system (IES - Integrated Environmental System) on waste management for 2012. The final validation of the data is performed by the National Environmental Protection Agency, the source of information for this area is also the National Environmental Protection Agency. Regarding waste management statistics for 2013 have not yet opened the raportation phase.
[73] Source: https://statistici.insse.ro/shop/?page=tempo2&lang=ro&context=45

restoration under the terms negotiated with the European Commission. There were also built new municipal landfills through government funding and / or European funding that service at regional or county level and ensure an integrated / higher management for municipal waste in accordance with European law.

List of compliant municipal deposits in operation in the cross-border area

	County	Landfill	Operator
1.	Arad	Arad	S.C. ASA ARAD SERVICII ECOLOGICE SRL
2.	Bihor	Oradea	S.C. ECOBIHOR SRL
3.	Satu Mare	Dobra	CONSILIUL JUDETEAN SATU MARE
4.	Timis	Ghizela	CONSILIUL JUDETEAN TIMIS

- Within the cross-border area, projects of Integrated Waste Management Systems approved by the European Commission and by AM SOP Environment are undergoing implementation, respectively[74] Arad (approved in 2010);
- Timiş (approved in 2011)

Applications for these projects provide for each county optimal method of biodegradable municipal waste (composting individual, centralized composting) and treatment capabilities necessary to meet targets set out in Directive 1999/31 / EC.

In order to reduce the quantity of landfilled waste, it was introduced by the Government Emergency Ordinance no. 196/2005 regarding the Environmental Fund, with subsequent amendments, the objective of reducing by 15% the quantity of waste disposed of in landfills from municipal waste and assimilable collected via public sanitation service, applicable to local authorities responsible for organizing and managing at local level of the waste management process.

Relevant geothermal water sources can be found in Bihor County, as Oradea, Marghita, Beius, Sacuieni, Village Tinca. The geothermal sources of Satu Mare are also important.

Hungary[75]

The areas affected by drought are relevant to the whole eligible area on the Hungarian side.

The extraction of mineral resources and the oil extraction industry are other significant degradation factors in Csongrád in Hungary.

More than half of the area of the eligible Hungarian counties is affected by floods. Nearly the total area of the Hungarian counties is of high or average risk of inland inundation.

Processes related to soil contamination are closely related to the conditions of water and air pollution as well.

Soil pollution resulting from anthropogenic activities in the area is caused mainly by agricultural (pesticides, farm livestock) and industrial (hydrocarbons, ethylene, ammoniac, sulphur dioxide, chlorides, fluorides, oils, radioactive materials, waste product deposits, etc.) sources.

Regarding the fertilizer, according to the data from the Hungarian Central Statistical Office, the amount of fertilizer / one hectare agricultural land was 93 kg in 2013 in Hungary. [7677]

[74] National Report on the state of the Environment in 2013 (www.anpm.ro)
[75] Source: http://www.tankonyvtar.hu/hu/tartalom/tamop425/0027_TEK2/ch01s02.html
[76] Source:http://www.ksh.hu/docs/hun/xstadat/xstadat_eves/i_omf002.html

Regarding the municipal waste disposal system the relevant Hungarian legislations carry the duties related to the waste disposal to the responsibility of local governments as an obligatory public service. Based on the relevant legislations local governments have created their municipal solid waste regulation. In line with the objectives of the European Union for the waste management the Hungarian waste management legislations determine the technical requirements of waste related activities, the applicable economic sanctions, the obligations in waste management, the regulatory approval and control functions.

Before 2000, there were 2700 landfills in Hungary, but only the 30% of them operated according to the legislations. The landfills which did not meet the requirements had been closed until 2009. There were built new municipal landfills through government funding and / or European funding that service at regional or county level and ensure an integrated / higher management for municipal waste in accordance with European standards.

The rate of recycled and composted municipal solid waste has been steadily increasing for years, due to the increasing use of selective waste collection. Relating to the eligible area, the rate of total municipal recycled waste in 2013 in the four Hungarian counties was the following[78]:

- Szabolcs-Szatmár-Bereg 11.38%
- Hajdú-Bihar 14.34%
- Békés 12.57%
- Csongrád 11.76%

The tendencies in the municipal solid waste recycling trends are favourable, as the recycled rate has been steadily increased since 2005, but the most current mode of waste treatment is still landfill, the less environmental friendly mode of waste treatment. According to the targets, the rate of recycled waste from households or other organisations shall be increased by 50% by 2020[79].

The following landfills are located in the eligible area in the Hungarian side of the border – most of them have been developed or established with European Union funds:

	County	Landfill
1.	Szabolcs-Szatmár-Bereg	Kisvárda
2.	Szabolcs-Szatmár-Bereg	Nyíregyháza
3.	Szabolcs-Szatmár-Bereg	Nagyecsed
4.	Szabolcs-Szatmár-Bereg	Bodrogkeresztúr
5.	Szabolcs-Szatmár-Bereg	Hejőpapi
6.	Hajdú-Bihar	Hajdúböszörmény
7.	Hajdú-Bihar	Debrecen
8.	Hajdú-Bihar	Nádudvar
9.	Hajdú-Bihar	Berettyóújfalu
10.	Békés	Gyomaendrőd
11.	Békés	Békéscsaba
12.	Csongrád	Szentes
13.	Csongrád	Felgyő
14.	Csongrád	Szeged
15.	Csongrád	Hódmezővásárhely
16.	Csongrád	Makó

The Hungarian Government declared the administrative cases for the investments of the development of municipal solid waste management systems as of particular relevance with

[77] Country level data was available when preparing the report
[78] Source: https://www.ksh.hu/docs/hun/xstadat/xstadat_eves/i_ur010.html
[79] Source: Hungarian National Waste Management Plan 2014-2020

its government decree 72/2013. (III.8.); with the purpose to assist the improvement of the waste management system.

The Hungarian Great Plain has very favourable geothermal potentials as the deepest landscape of the Carpathian Basin. In Hungary the South Great Plain is of the most significant geothermal potential area, mainly in Csongrád and Békés Counties on the eligible counties of the programme.

Likely future trends:

The overall condition of soils is favourable, but the – agricultural areas are endangered because of the fertility reduction (e.g. erosion, wind erosion, loss of organic material) risks.

Degradation processes occur due to improper land use, resulting in increasing costs of agricultural production, the break-up of ecological/water balance cycles, build-up of hazardous substances (food safety), and water, drinking water contamination.

The implementation of integrated nutrient management practices plays an important role in sustainable land use.

The expansion of infrastructure, industry and settlements leads to the permanent withdrawal of significant surfaces of land from agricultural production and long-term soil sealing. The removal of humus and the existence of different pollution sources also lead to the degradation of soils. Soil is the basis of food production and ecological production, and contributes to the conservation of biodiversity with the purpose to reduce the impact on the climate change.

2.3 Water (surface waters, groundwaters)

The information in this subchapter is based on data sources of the Hungarian Central Statistical Office, the Environmental Conditions of Hungary 2013, the Environmental Situation Report of Hungary 2013, the Water Management Information System (Vízgazdálkodási Információs Rendszer), The drinking water quality status of Hungary 2012, National public Health and Medical Officer Service Hungary the Annual Report On The State Of Environment in Satu Mare County-2013 (apmsm.anpm.ro), the Annual Report On The State Of Environment in Bihor County-2013 (apmbh.anpm.ro), the Annual Report On The State Of Environment in Arad County- 2013 (apmar.anpm.ro), the Annual Report On The State Of Environment in Timiş County- 2013 (apmtm.anpm.ro), the National Report On The State Of the Environment in 2012 (www.anpm.ro), and the Summary of Water Quality in 2013 (www.rowater.ro/List/Sint)

The relevance of the environmental issue:

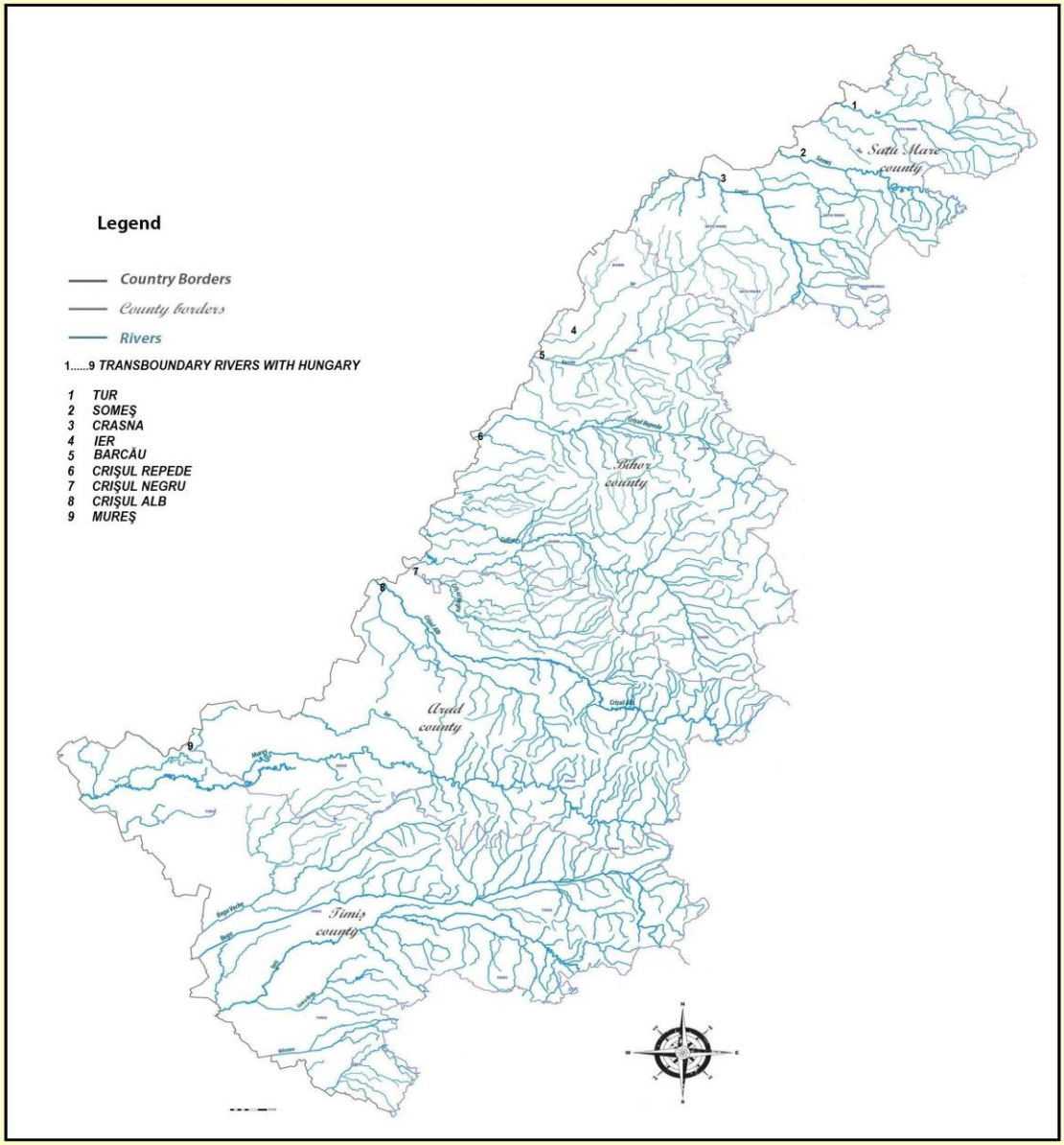
Regarding the status and protection of waters the environmental issue relates to

- development of urban wastewater collection and wastewater treatment, complex water protection investments, improvement of oxygenation, nutrient balance and water quality indicators concerning rivers and lakes.
- in case of underground water systems decreasing the polluting effects of harmful sources of pollution, furthermore, the issue of securing fragile operating and potential drinking water bases. Reduction of the concentration of natural organic matter found in drinking water. Flood control, river and lake regulation, groundwater and local water damage prevention. Implementation of development and engineering interventions in order to prevent water damage.

Current state of the environment:

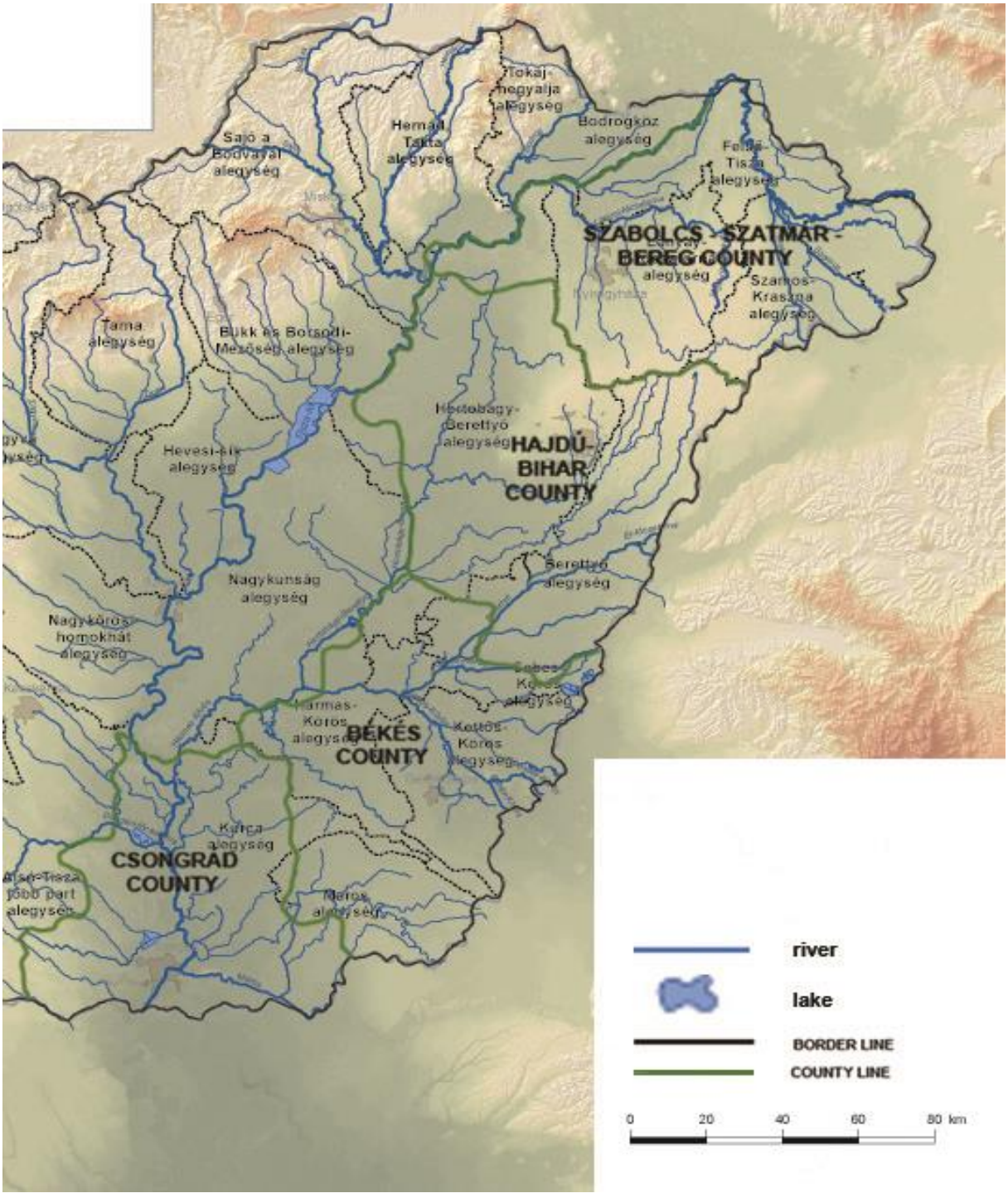
The eligible area is rich in water resources – both surface water and groundwater. With the increasing global importance of water – if properly managed - this could be an important common asset of the area.

The area is also rich in surface waters, generally of good water quality, which offer excellent potentials for both touristic and energy generation purposes. The indicative activities of the Programme have the potential to affect the surface water bodies of the eligible area. The following two maps of the hydrographic network illustrate the richness in surface waters in the eligible area, separately in the Romanian and in the Hungarian eligible counties.



Map 11 - Transboundary surface waters in the Romanian eligible counties[80][81]

[80] Source: Agreement between the Government of Romania and the Government of the Republic of Hungary on cooperation for the protection and sustainable use of transboundary waters. In Romania: Acord dintre Guvernul



Map 12 – Surface waters in the eligible Hungarian counties

României şi Guvernul Republicii Ungare privind colaborarea pentru protecţia şi utilizarea durabilă a apelor de frontieră, semnat la Budapesta la 15 septembrie 2003, aprobat prin HG nr.577/2004. In Hungary: Egyezmény a Magyar Köztársaság Kormánya és Románia Kormánya között a határvizek védelme és fenntartható hasznosítása céljából folytatandó együttműködésről, kihirdetve a 196/2004. (VI. 21.) Korm. rendelettel.

[81] The riviers in Timis County pass towards Serbia and not directly towards Hungary, therefore those are not subject to the Interreg V-A Romania-Hungary Programme. Timis County has no cross-border water basins with the neighbouring counties in Hungary.

The following map represents the transboundary surface waters of the eligible area of basin wide importance at DRBD level.

Map 13 - Transboundary surface waters at the DRBD level in the eligible area[82][83]

[82] Source: www.geo-spatial.org/download/hărţile Planului de Management al bazinului hidrografic al Dunării

[83] The riviers in Timis County pass towards Serbia and not directly towards Hungary, therefore those are not subject to the Interreg V-A Romania-Hungary Programme. Timis County has no cross-border water basins with the neighbouring counties in Hungary.

The surface waters of the eligible area certainly carry some risks of flood and pollution[84]. The map below visualizes the areas with potential significant flood risk in the eligible area. It is visible that flood risk mainly features the Hungarian side of the border.

Map 14 - Areas with potentially high risk of flood in the eligible area[85]

[84] Source-: Annual Report on the State of the Environment in Bihor County-2013 (apmbh.anpm.ro), Annual Report on the State of the Environment in Arad County- 2013 (apmar.anpm.ro), Annual Report on the State of the Environment in Timiş County- 2013 (apmtm.anpm.ro) and Environmental Situation Report of Hungary 2013 (published by the Hungarian Central Statistical Office)

In summary: significant improvements were realized in the field of water infrastructure development between 2005 and 2011 in both countries. To improve drinking water quality (to decrease arsenic concentration), complex programmes are in progress in the affected settlements. In connection with the significant presence of water resources, water management must be an important asset of the area.[86]

Surface waters:

Romania

In the eligible area of Romania, the status of surface waters is good in general.

Hungary[87]

The main pollution sources of surface and ground water are related to human activities such as direct and indirect forms of municipal waste water discharge and diffuse pollution. Nitrate, phosphorous and ammonium come from agricultural or industrial waste disposal activities, but non-treated surface run-off can also cause this type of pollution.

The environmental status of natural surface waters is good in general. In some areas of the Hungarian eligible counties the quality of groundwater is characterized by high arsenic, boron, ammonia, fluoride, nitrite, iron and manganese content, as well as methane gas content that far exceeds the limits.

Groundwaters:

Romania

In the eligible area of Romania, the status of groundwater waters is good in general. Based on the Summary of Water Quality in 2013 in Romania, there were 17 groundwater bodies in "good" status and 3 in "poor" status from the 20 monitored groundwater bodies[88].

Hungary

There are 70 vulnerable catchments in the Hungarian eligible counties. Due to Hungary's natural endowments the public utility water supply is predominantly based on groundwater sources. Two-thirds of the drinking water supply is based on vulnerable sources. Since that the area of these water sources are mostly effected by many sources of pollution, these water sources should be regarded not only vulnerable but endangered also.

With preventive purposes the relevant water directorates lay out the protection areas of groundwater by its decisions. The Government Decree 123/1997 (VII.18.) on water resources, the long-term water resources and water facilities for drinking water supply protection regulates the protection areas and restricts the land use.

There are 12 biogas, 2 landfill gas and 1 wastewater gas power stations in the eligible counties on the Hungarian side.[89]

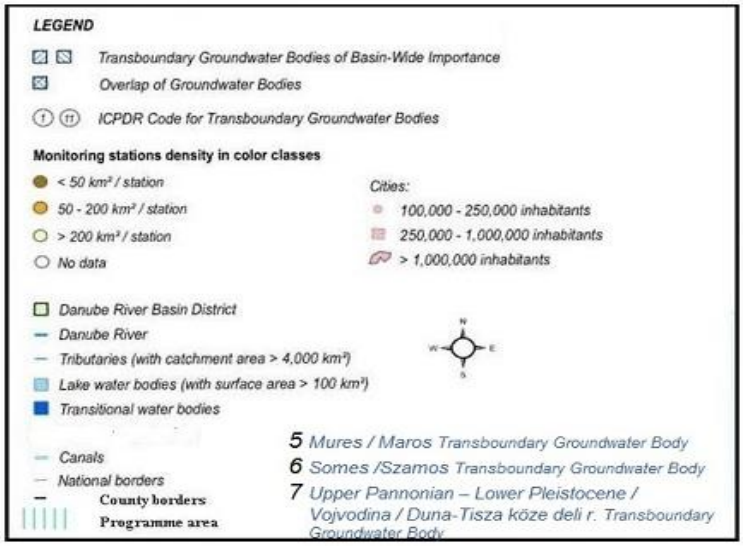
[85] Source: EEA: http://www.eea.europa.eu/data-and-maps/explore-interactive-maps/ Floods Directive PFRA / APSFR
[86] The information"To improve drinking water quality (to decrease arsenic concentration), complex programmes are in progress in the affected settlements. In connection with the significant presence of water resources, water management must be an important asset of the area" applies to Hungary.
[87] Source: http://www.ovf.hu/
[88] Source: Summary of Water Quality in 2013 (www.rowater.ro/List/Sint)
[89] Source: Environmental Situation Report of Hungary 2013 (published by the Hungarian Central Statistical Office)

Nominated transboundary groundwater bodies (GWBs) of basin-wide importance (Groundwater bodies at ICPDR level) within the eligible area are presented in the table below[90]:

Name	MS_CD	Size (km^2)	National size (km^2)	Criteria for importance	Bilaterally agreed with
5: Mures / Maros	RO_MU20 RO_MU22	7699	2710	Important GW resource, protection of DRW res.	RO, HU
	HU_sp.2.13.1 HU_p.2.13.1 HU_sp.2.13.2 HU_p.2.13.2		4989		
6: Somes /Szamos	RO_SO01 RO_SO13	2475	1440	Important GW resource, protection of DRW res.	RO, HU
	HU_sp.2.1.2 HU_p.2.1.2 HU_sp.2.3.2 HU_p.2.3.2		1035		
7: Upper Pannonian – Lower Pleistocene /Vojvodina/ Duna-Tisza köze deli r.	RO_BA18	29,012	11,408	> 4000 km², GW use, Important GW resource, protection of DRW res.	RO, RS, HU
	RS_TIS_GW_I_1, RS_TIS_GW_SI_1, RS_TIS_GW_I_2, RS_TIS_GW_SI_2, RS_TIS_GW_I_3, RS_TIS_GW_SI_3, RS_TIS_GW_I_4, RS_TIS_GW_SI_4, RS_TIS_GW_I_7, RS_TIS_GW_SI_7, RS_D_GW_I_1, RS_D_GW_SI_1		10,506		
	HU_sp.1.15.1 HU_p.1.15.1 HU_sp.1.15.2 HU_p.1.15.2 HU_sp.2.11.1 HU_p.2.11.1 HU_sp.2.11.2 HU_p.2.11.2 HU_sp.2.16.1 HU_p.2.16.1		7098		

[90] Source: www.rowater.ro/.../DRBMP_Annex_12_GW_Monitoring and ICPDR- International Commission for the Protection of the Danube River

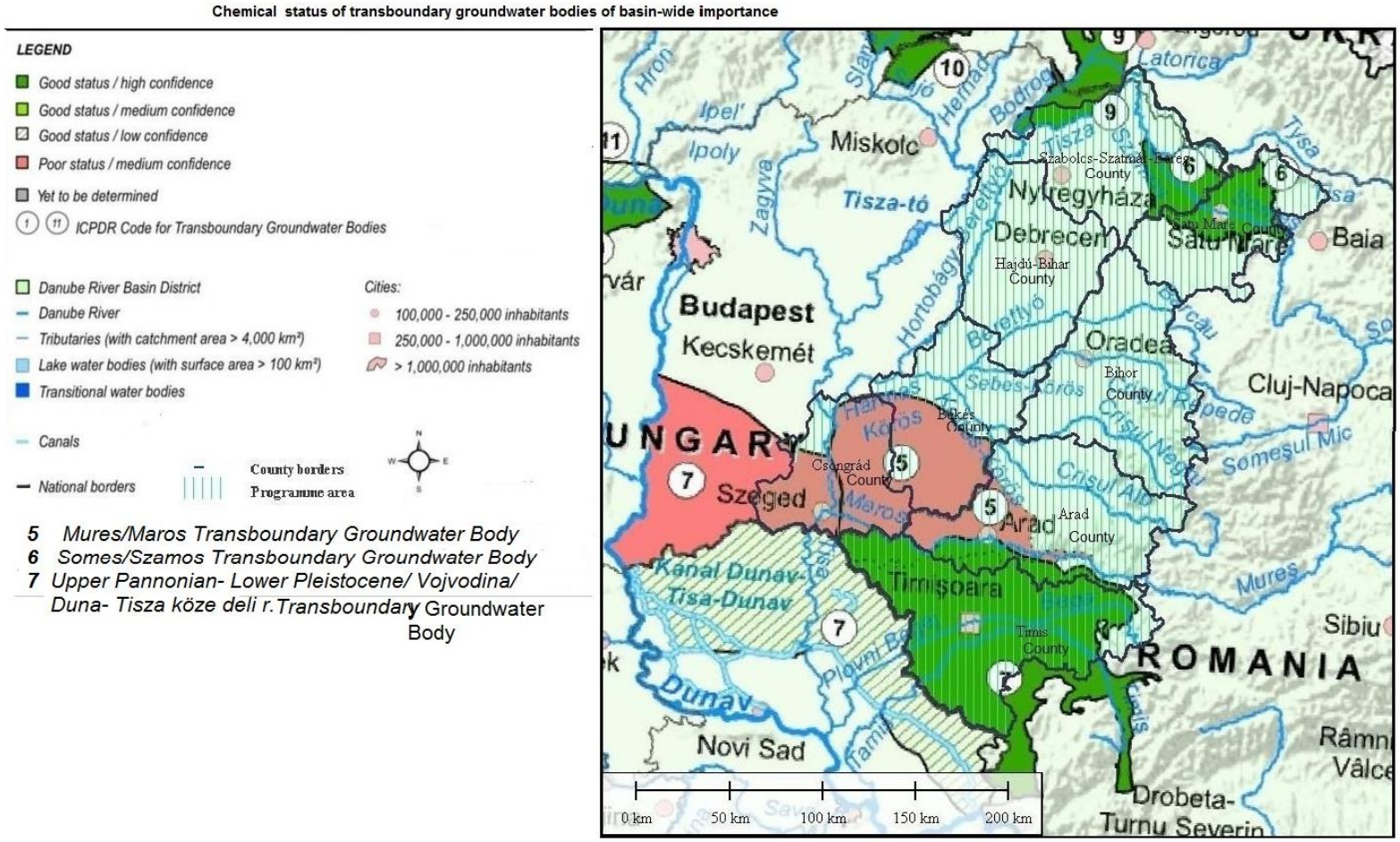
The following map represents the location of the above listed groundwater bodies.[91]



Map 15 - Transboundary Groundwater Bodies of Basin-Wide Importance and their Transnational Monitoring Network (Danube River Basin District)

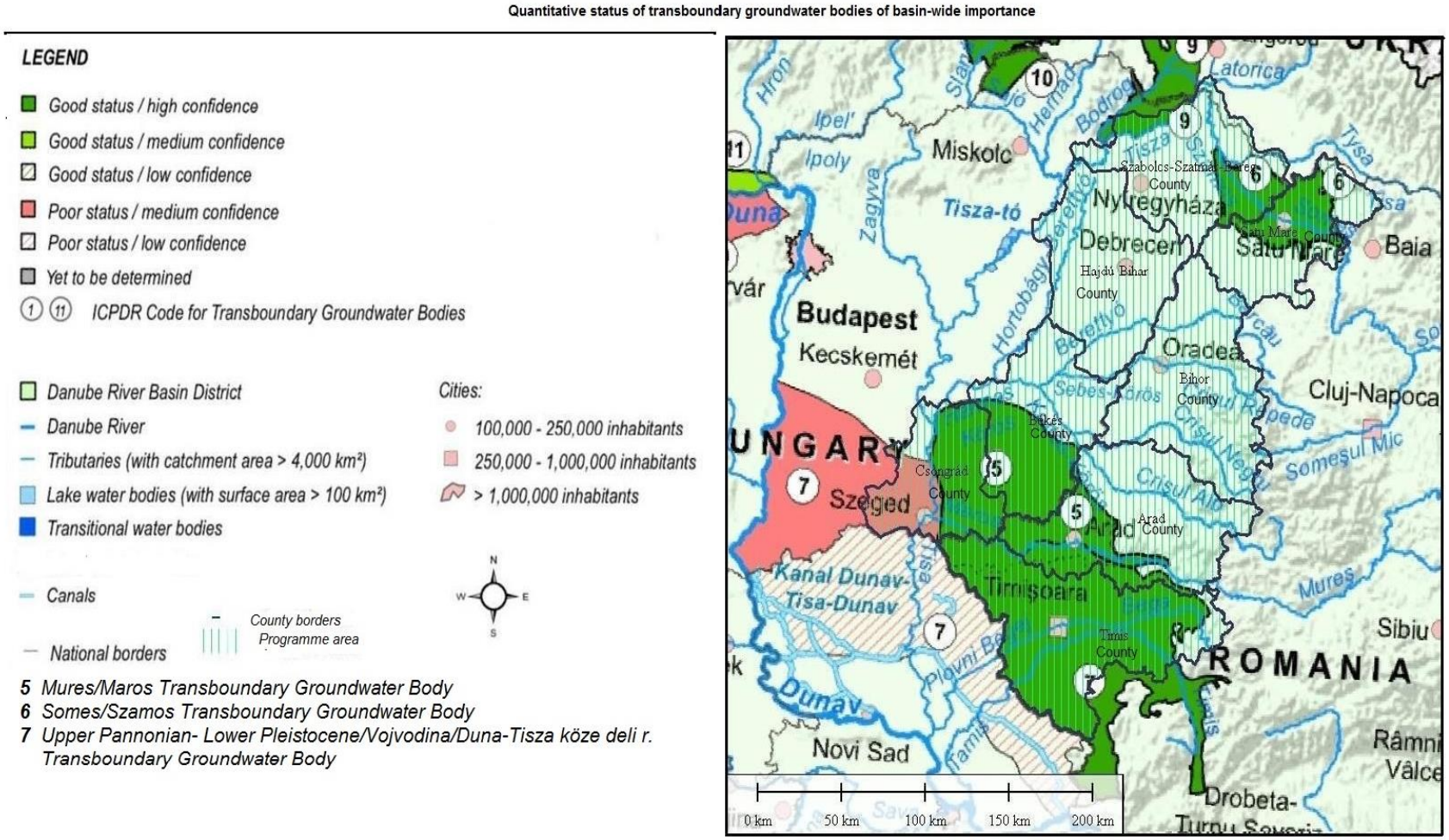
[91] Source: www.geo-spatial.org/hartile Planului de Management al bazinului hidrografic al Dunani (Danube River Basin Managment Plans)

The chemical and quantitative status of transboundary groundwater bodies of basin-wide importance is shown in the following maps:



Source: www.geo-spatial.org/download/hărţile Planului de Management al bazinului hidrografic al Dunării(Danub River Basin Management Plans)

Map 16 - Chemical status of transboundary groundwater bodies of basin-wide importance



Source: www.geo-spatial.org/download/hărţile Planului de management al bazinului hidrografic al Dunării (Danub River Bazin Management Plans)

Map 17 - Quantitative status of transboundary groundwater bodies of basin-wide importance

Drinking water:

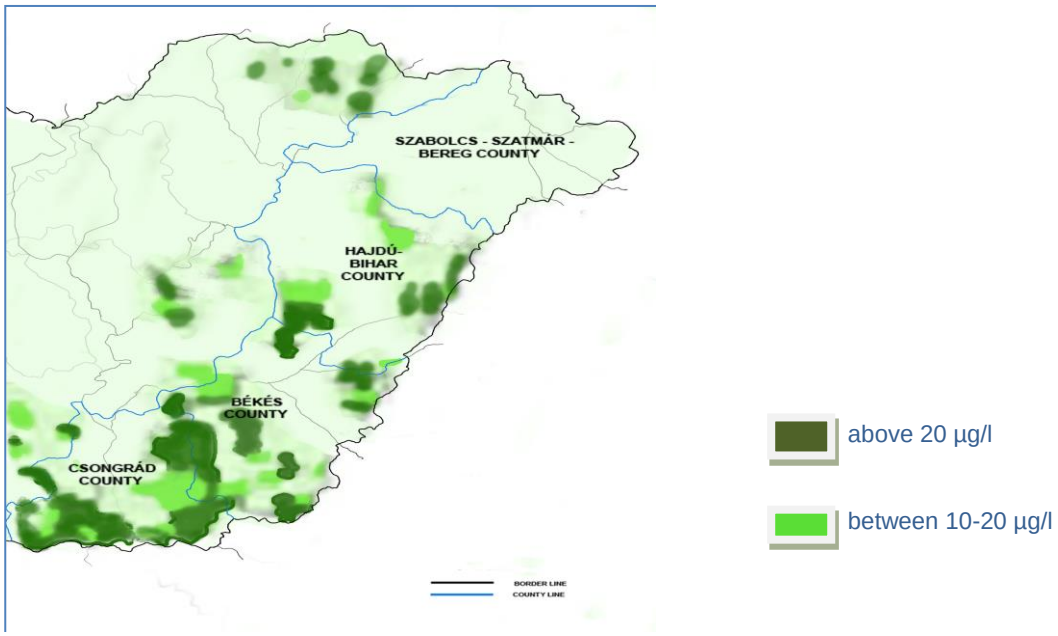
Romania

In the eligible area of Romania, the water sources used for drinking water supply are of good quality. In the eligible Romanian counties the average length of the drinking water pipe network increased from 1,537 km to 2,258 km between 2005 and 2011. The length of the sewerage pipe network increased from 607 km to 811 km[92].

Hungary[93]

In the Hungarian side of the border Drinking water is of good quality, although in certain parts high arsenic and nitrite concentrates create problems. Some sections of the public drinking water supply do not comply with the quality standards – such as regarding the concentration of boron, arsenic and ammonium – furthermore, in case of several elements of the supply system, the iron, manganese and nitrate content of the water exceeds the relevant thresholds.

The following map represents that there are significant differences in the Hungarian eligible counties with regard to arsenic concentrates in drinking water. High arsenic concentrates create problems in half of Csongrád County, about one quarter of Békés and Hajdú-Bihar Counties.



Map 18 - Settlements affected by arsenic concentration 2012 in the Hungarian eligible counties[94]

In Hungary the length of the sewerage pipe network / 1 km drinking water pipe network in the eligible counties are 564.4 m in Szabolcs-Szatmár-Bereg, 575.3 m in Hajdú-Bihar, 471.3m in

[92] Source: https://statistici.insse.ro/shop/
[93] Source: http://www.ovf.hu/
[94] Source: The drinking water quality status of Hungary 2012, National public Health and Medical Officer Service Hungary

Békés and 521.4 m in Csongrád[95]. In the eligible area this means that 94.2% of the total number of households was connected to the network. In the four Hungarian counties, the sewerage pipe network increased from 18% to 33%. (Source: Hungarian Central Statistical Office database) The development of the drinking water network is not so significant ranging from 0 to 5%, because the rate of utility in the area was already over 95% and the drinking water supply was already satisfactory.

In 2011 in 40 settlements (out of 79) of Békés County, the drinking water quality did not fulfil the legal requirements because of its extremely high arsenic and nitrite content. In the same year in Csongrád a national programme aimed at drinking water quality improvement was in progress[96].

In order to solve the problem, a complex water quality improvement programme has been implemented worth 51 billion HUF (projects were financed between 2007 and 2013) in the affected Hungarian counties.

Likely future trends:

It is expected that the River Basin Management Plans (RBMP) will contribute to achieving good ecological conditions and good chemical conditions of the surface and groundwater bodies.

With the purpose of stopping a further increase in the nitrate concentration of groundwaters steps should be taken that prevent and limit the contamination of ground water.

The risk of groundwater pollution and the degree of pollution can be reduced by the following measures: change in the way the lands are use, afforestation, the establishment of wetland habitats and fish ponds, the establishment of rational and integrated management of surface waters, Natura 2000 grants, organic farming, the modernisation of livestock farms, the modernisation of agricultural machineries and fuel storage facilities, the adequate management of liquid manure and agricultural waste, and the prevention of the development of stagnant waters.

Taking into consideration the 98/83/EC Council Directive on the drinking water quality requirements – also based on the deadlines specified in the Accession Treaty - national drinking water quality improvement programs have been developed in Hungary (the key parameters: for arsenic, boron, fluoride and nitrite, national public health priorities and parameters were specifically established for ammonium). The national legislation for the Program: Government Decree No. 201/2001 (X.25.) on Drinking Water Quality and Inspection Requirements (hereinafter 'the Decree'). [97]

The first phase of the Drinking Water Quality Improvement Programme (ensuring adequate quantities of boron, fluoride, nitrate, arsenic and ammonium in drinking water) is expected to be carried out in 2015. The second phase (the final solution to enforce the limits of arsenic, boron, fluoride, nitrate and ammonium, as well as iron, manganese and lead) will be completed later, depending on the available funds. With regard to the necessary improvements under the Drinking Water Quality Improvement Programme, the most affected regions are the North Great Plain and the South Great Plain Regions of Hungary, forming the most part of the eligible area.

The appropriate risk management of water acquisition and distribution is also an important aspect. The lack of maintenance of the water supply systems leads to microbiological and / or chemical contamination. The lack of reconstruction of water utilities jeopardizes the safety of the service as well.

[95] Source: http://www.ksh.hu/docs/hun/xtabla/infrastruk/tablti10_15b.html
[96] Source: The drinking water quality status of Hungary 2012, National public Health and Medical Officer Service Hungary
[97] http://en.neki.gov.hu/index.php?page=vizellatas-ivovizminoseg-javito-program

Based on law 2011 CCIX (Hungary), and on Law 241/2006 republished in 2013 (Romania), the integration of operating organizations is in progress.

In the Romanian eligible area it is necessary to continue the implementation of the drinking water network measures and the improvement of water treatment plants in order to achieve the drinking water quality standards. Also for reducing the nutrient pollution it will be necessary for the next period to continue the extension/rehabilitation of the waste water sewage systems and the building/modernisation of the waste water treatment plants, especially in rural areas.

2.4 Air and fighting climate change

The information in this subchapter is based on data sources of the European Environment Agency, the ESPON Climate study, the Hungarian Central Statistical Office, the National Environmental Information System (Országos Környezetvédelmi Információs Rendszer), the Natura Conservation Information System (Természetvédelmi Információs Rendszer), National Meteorological information services (Országos Meteorológiai Szolgálat) the Annual Report On The State Of Environment in Satu Mare County-2013 (apmsm.anpm.ro), the Annual Report On The State Of Environment in Bihor County-2013 (apmbh.anpm.ro), the Annual Report On The State Of The Environment in Arad County- 2013 (apmar.anpm.ro), the Annual Report On The State Of Environment in Timiş County- 2013 (apmtm.anpm.ro), and the National Report On The State Of Environment in 2012 (www.anpm.ro)

The relevance of the environmental issue:

The environmental issue relates to

- changing air quality and fighting climate change, specifically involve reducing the concentration of pollutants emitted in larger quantities, of sulfur dioxide, nitrogen-oxides, carbon monoxide, carbon dioxide and other solids and emissions of greenhouse gases not controlled by the Montreal Protocol on Substances that Deplete the Ozone Layer, such as carbon dioxide, methane, nitrous oxide and a series of fluorinated gases; moreover, fighting climate changes also requires increasing carbon sequestration by natural structures and the adoption of policies and measures to adapt to the natural and anthropogenic effects of inevitable global warming; and diminishing or eliminating pollution situations which most often exceed the limits.
- mitigating the effects causing air pollution globally, which is caused by the burning of fossil fuels, by certain industrial and agricultural activities, and by the use of substances harmful to the ozone layer and having greenhouse effect.

Current state of the environment:

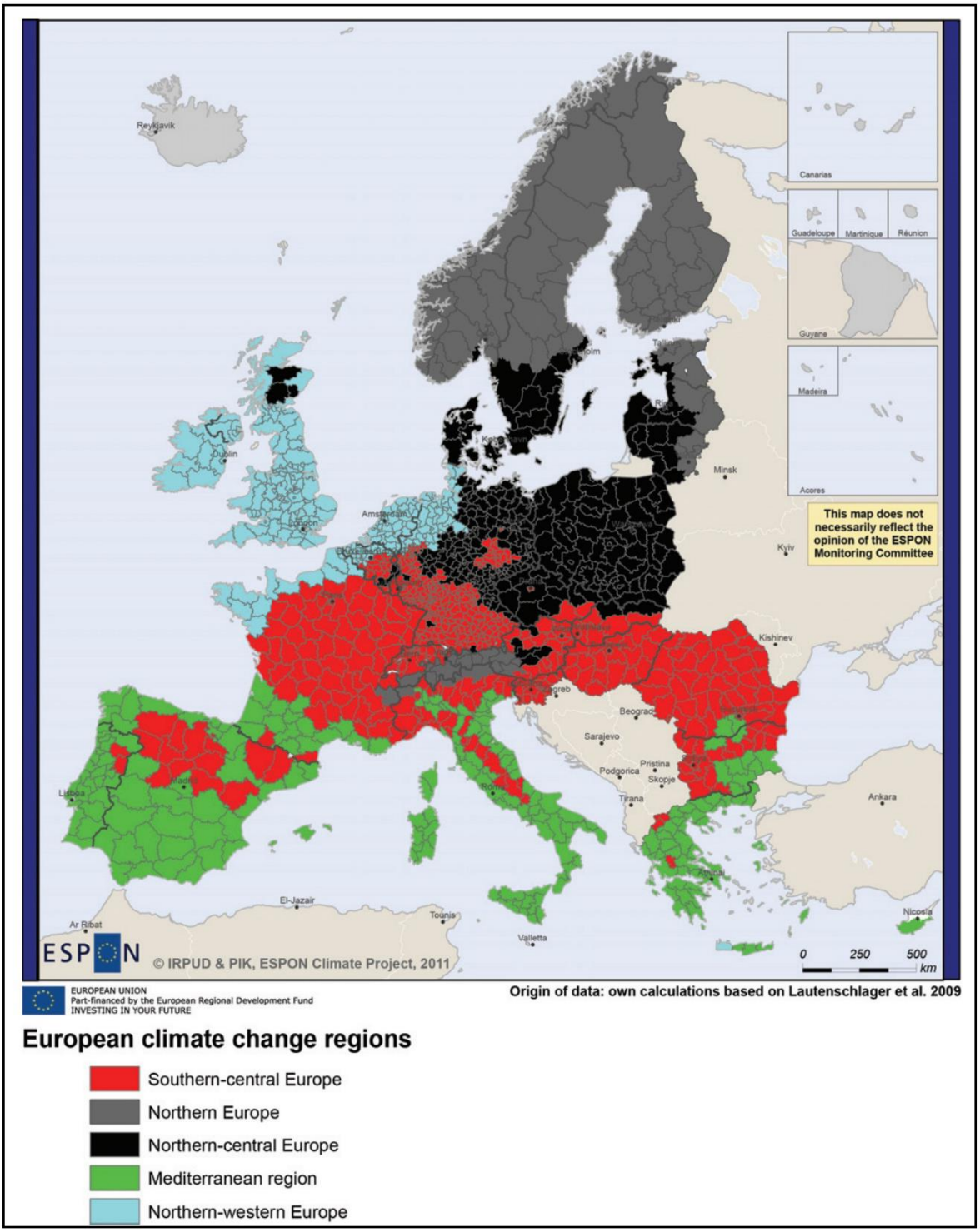
Ambient air quality has to be monitored throughout the entire territory of all EU Member States. In the 2000-s the greenhouse gas emission per unit of energy use declined continuously in most of the EU member states, including Hungary and Romania as well. In recent years the quantity of air pollutants form heating has been reduced as a result of a major change in energy sources.

Climate change – and its potential negative effects – is an important risk influencing the future development of EU regions. It is not surprising, thus, that improving the capacity to adapt to climate change is high on the agenda of the European Union. In fact, two out of the five Europe 2020 headline targets (reducing greenhouse gas emissions and increasing renewable energy use) are directly linked to climate change.

Although related to the heating process, there is uncertainty about the precise timing and magnitude of the impact generated, actions to combat this phenomenon should be adopted and implemented immediately by using the volume of information and scientific evidence available.

The ESPON Climate study introduces a climate change typology of European regions, defining 5 distinct categories:

- Southern-central Europe (As it is visible on the map below, all the eight counties in the eligible area fall into this category.)
- Northern Europe
- Northern-Central Europe
- Mediterranean region
- Northern-western Europe



Map 19 - European climate change regions[98]

[98] Source: http://www.espon.eu/main/Menu_Projects/Menu_AppliedResearch/climate.html

Considering the climate change projections for Southern-central Europe regions, the eligible area can expect a strong increase in mean temperature, a strong decrease in frost days and also a strong increase in summer days. In terms of precipitation, according to weather forecasts, a strong decrease in rainfall is expected during the summer months.

According to the emission inventory of greenhouse gas emissions sent this year to the Secretariat of the United Nations Framework Convention on Climate Change, representing emissions in 2012, there is a decrease of about 58% compared with 1989. In the post-Kyoto period, Romania and Hungary, as EU member states, are committed to effectively contribute to EU efforts to reduce emissions of greenhouse gases by 20% by 2020 compared to 1990 emission levels.

Romania

The air quality in the eligible Romanian counties is average or mainly good (even though industrial activity and energy sectors are significant). Not surprisingly, locations where air pollution is higher can be found primarily in and around major cities and close to main roads. The quantity of greenhouse gas emissions from transport (total tonnes of CO_2 equivalent Gg) was 14,578.0 for Romania, which means 44% of the EU average. Relating the eligible area data is available only in case of 2 of the 8 counties. In Timis County in 2012 the GHG emission was 885.485 tonnes and in Arad County in 2010 the GHG emission was 2,105 tonnes.

The main pollution sources in the eligible area are:

- Traffic – road traffic is responsible for the large quantity of suspended and depositing particles.
- Industry – burning installations, thermal power stations in Bihor, Arad, Timiş, etc.
- Agricultural sources – uncontrolled burning of dry vegetation, odour emissions of farming / composting, dispersed pesticides / fertilizers, harvesting, crop drying and storage. The emission of methane (modernisation of livestock farms) is to be reduced.
- Household sources – heating (burning wood, coal, gas, etc.).
- Noise pollution

The ESPON Climate project introduces a standard set of indicators to assess climate change and its impacts in Europe in its final report. [99]

The first indicator is the “Aggregate potential impact of climate change” which shows the weighted combination of physical, environmental, social, economic and cultural potential impacts of climate change. From this perspective, 3 out of the 4 Romanian counties (Arad, Bihor and Timis) face medium negative impact (the second worst category), Satu Mare face low negative impact.[100]

The eligible area does not exhibit a positive picture regarding its adaptive capacity: all the Romanian counties are characterised by the lowest overall capacity to adapt to climate change – in fact, they are amongst the lowest 25% of all European and NUTS3 regions.

The combination of regional potential impact and the overall adaptive capacity of the given region present its vulnerability to climate change. Unfortunately, this indicator highlights a fairly unfavourable situation for all the four Romanian counties characterized by medium level (second worst) negative impacts.

[99] http://www.espon.eu/main/Menu_Projects/Menu_AppliedResearch/climate.html
[100] http://www.espon.eu/export/sites/default/Documents/Projects/AppliedResearch/CLIMATE/ESPON_Climate_Final_Report-Part_B-MainReport.pdf

Hungary

The air quality in the eligible area is mainly good or average. In the relevant Hungarian counties the quality of the air is better than the national average, due to the structure of the economy (low rate of industry). The quantity of greenhouse gas emissions from transport (total greenhouse gas emissions tonnes of CO_2 equivalent Gg/year) was 10,848.91 for Hungary in 2012, which means 34% of the EU average[101].

The main pollution sources in the eligible area are:

- Traffic – road traffic is responsible for the large quantity of suspended and depositing particles.
- Industry – burning installations, hydrocarbon mining (in Csongrád, Békés), production of ceramic items (bricks and tiles in Békés, Bihor), etc.
- Agricultural sources – uncontrolled burning of dry vegetation, odour emissions of farming / composting, dispersed pesticides / fertilizers, harvesting, crop drying and storage. The emission of methane (modernisation of livestock farms) is to be reduced.
- Household sources – heating (burning wood, coal, gas, etc.).
- Noise pollution

According to the ESPON Climate project indicator of "Aggregate potential impact of climate change" Csongrád and Szabolcs-Szatmár-Bereg counties face medium negative impact (the second worst category), Csongrád County can expect "no/marginal impact". [102]

Regarding its adaptive capacity the Hungarian counties have just a slightly better situation by having low overall capacity to adapt.

The combination of regional potential impact and the overall adaptive capacity of the given region highlights a fairly unfavourable situation in Szabolcs-Szatmár-Bereg which is characterized by medium level (second worst) negative impacts, Hajdú-Bihar and Csongrád exhibit low level of negative impact, and only Békés county can exhibit "no /marginal impact".

Energy

Romania

Romania had a total installed electricity-generating capacity of an estimated 23,452 megawatts. Regarding the distribution of consumption by fuel, Romania relies mainly on natural gas while the share of renewable energies is remarkably high compared to the Hungarian (8%) and EU27 (10%) data.[103]

In the year 2012 the share of renewable energy in the gross final energy consumption was 24.0% in Romania. On the other hand, Romania is committed to satisfying 24% of its energy needs from sustainable, renewable sources.[104]

The Romanian counties have abundant water resources that can be used to produce hydroelectric power. In Romania the ratio of the renewable energy generated from hydro facilities is much more favourable (25%), significantly exceeding also the EU average (16%). In Romania in the eligible area there are 18 small hydroelectric powers stations from which 13 operates in Bihor County, 3 operates in Timis County, 1-1 operate in Satu-Mare and in Arad Counties[105].

[101] According to the information received from the Hungarian Meteorological Information Services, the last available data is from 2012 and only national level data is availbale.
[102] http://www.espon.eu/export/sites/default/Documents/Projects/AppliedResearch/CLIMATE/ESPON_Climate_Final_Report-Part_B-MainReport.pdf
[103] http://www.eea.europa.eu/data-and-maps/indicators/renewable-gross-final-energy-consumption-3/assessment
[104] http://www.eea.europa.eu/data-and-maps/indicators/renewable-gross-final-energy-consumption-3/assessment
[105] www.asociatiamhc.ro

Romania has a great potential in exploiting geothermal energy and one of the most important sources is located in Bihor County, mainly in the area around the city of Oradea where the use of this energy type dates back to hundreds of years. Other relevant geothermal water sources can be found in Bihor County, as Marghita, Beius, Sacuieni, Village Tinca. The geothermal sources of Satu Mare are also important.

Romania is one of the 15 member states that had more than 1GW of installed wind plant capacity with an increasing trend. The installed wind plant capacity in 2012 was 1,905 MW and in 2013 it was 2,599 MW. The country was able to double its installed capacity between the years 2011 and 2012 thanks to extensive investment, and to increase the capacity by 2013[54].

Hungary

In Hungary currently 19 large power plants and more than 270 small power plants (under 50 megawatts) operate with a built-in total capacity of 9,000 megawatts. The Hungarian power plant portfolio is also considerably outdated: the large power plants have an average age of more than 24 years; in the case of the small ones this is more than 10 years, which means that the average age is some 22 years[106].

For Hungary, the improvement of energy efficiency will be the main priority, as the country is poorly endowed with natural resources and has to fulfil more than half of its energy needs from imports.

In the year 2012 the share of renewable energy in the gross final energy consumption was 14.65% in Hungary. In accordance with the Europe 2020 targets, the former aims to reach a share of 13% by 2020[107].

In Hungary only 1% of the total renewable energy generated comes from hydroelectric facilities[108].

In Hungary the hydroelectric power station of Tiszalök – which is located in Szabolcs-Szatmár-Bereg County – is the most important such plant of the Great Plain. The power station generates approximately 45 million kWh/a renewable energy annually from the Tisza River. The construction of the hydroelectric power station of Békésszentandrás – located on the Kőrös River in Békés County – started in 2011, and completed in 2013 is able to provide the targeted renewable energy rate for 54,000 people with an annual electricity production of 8.6 GWh.[109]

In Csongrád County 191 thermal wells operate with 46% agricultural and 15% industrial usage. Békés County has 136 fully functioning thermal wells that serve agriculture and tourism by providing water for 24 thermal baths. Furthermore, 87% of the Hungarian exploitable water that can be used to generate geothermal energy is located in the Great Plain[110].

Hungary has a great potential in geothermal energy production. However, only 0.28%[111] of the total energy consumption is ensured with geothermal energy, and geothermal energy is not converted into electricity.

Because of the favourable solar radiation data, the utilization of solar energy is suitable in the eligible counties.

[106] Source: Environmental Situation Report of Hungary 2013 (published by the Hungarian Central Statistical Office)
[107] Source: http://epp.eurostat.ec.europa.eu/portal/page/portal/energy/data/main_tables
[108] Source: Environmental Situation Report of Hungary 2013
[109] Source: http://www.bekesszentandrasivizeromu.hu/a-vizeromu.html
[110] Source: www.csongrad-megye.hu;www.bekesmegye.hu;www.hbmo.hu
[111] Source: Environmental Situation Report of Hungary 2013 (published by the Hungarian Central Statistical Office)

Hungary, due to its geographical features, has less wind plant capacity, and that is stagnant, as the capacity was 329MW both in 2012 and 2013[112].

Likely future trends:

Ambient air quality is moderately contaminated in the eligible area. The air quality mainly depends on the quantity and quality of fuels, applied combustion technologies, and traffic emissions. Along the roads, where settlements are affected by heavy traffic, NOx and particulate content (PM10) emissions exceed exposure limits periodically, and the ground-level ozone pollution also shows an upward trend.

During the heating period, NOx, PM10 pollution causes health problems (smog). Therefore it is essential to develop the network measurement tool system in order to provide appropriate database.

In recent years, environmental regulation started to focus on PM10 pollution, due to increased health risks[113]. In 2011, a cross-sectoral action plan was accepted to reduce small particulate matter (PM10) under the exposure limits. One of the major challenges in the following period is to reduce the particulate matter emission from residential combustion plants. It is also essential to eliminate the deficiencies related to the implementation of particle pollution reduction efforts in traffic emissions.

Relating to pollutant emissions, actions are required to reduce residential and transport pollutant emissions. While the most effective way is prevention, all activities must be developed and implemented in order to minimize the emission of pollutants to a minimum degree.

2.5 Landscape

The information in this subchapter is based on data sources of the European Environment Agency, the Hungarian Central Statistical Office, the National Environmental Information System (Országos Környezetvédelmi Információs Rendszer), the Natura Conservation Information System (Természetvédelmi Információs Rendszer), the Annual Report On The State Of Environment in Satu Mare County-2013 (apmsm.anpm.ro), the Annual Report On The State Of Environment in Bihor County-2013 (apmbh.anpm.ro), the Annual Report On The State Of Environment in Arad County- 2013 (apmar.anpm.ro), the Annual Report On The State Of Environment in Timiş County- 2013 (apmtm.anpm.ro), the National Report On The State Of The Environment in 2012 (www.anpm.ro)

The relevance of the environmental issue:

The environmental issue relates to

- measures that impact on the creation of an integrated landscape, especially the rehabilitation of environmentally degraded areas, and the new, antropogenous activities integrated into nature, and the implementation of traditional forms of agriculture.

Current state of the environment:

As mentioned before, the eligible area is abundant in protected natural areas. The soil quality of the eligible area provides favourable conditions for agricultural activities.

[112] Source: European Wind Energy Association Annual Statistics 2013
[113] Source: Hungarian National Meteorological information services, European Environmental Agency

The major sources of landscape degradation include soil erosion as it was detailed under chapter 2.2. Other significant degradation factors are the extraction of mineral resources and the oil extraction industry.

Romania

On the Romanian side the extraction of mineral resources and the oil extraction industry are mainly in Bihor, Arad, and Timiş Counties.

Hungary

The mineral oil and natural gas sources are mainly located on the Great Plain in Hungary, the mineral oil is near Szeged and Algyő in Csongrád County, the natural gas is near Hajdúszoboszló in Hajdú-Bihar County.

Likely future trends:

The main risk sources are caused by human intervention, but certain natural influences cause significant risks.

Constructive co-operation is necessary between different participants and stakeholders (farmers, authorities, municipalities, NGOs, and academic institutions).

It is essential to facilitate the rehabilitation of brownfields, in order to rehabilitate the degraded areas for utilization purposes, instead of agricultural areas.

2.6 Population and human health

The information in this subchapter is based on data sources of the European Environment Agency, the Regional Environmental Statistical Databases of the Hungarian Central Statistical Office, the Annual Report On The State Of The Environment in Satu Mare County-2013 (apmsm.anpm.ro), the Annual Report On The State Of Environment in Bihor County-2013 (apmbh.anpm.ro), the Annual Report On The State Of The Environment in Arad County- 2013 (apmar.anpm.ro), the Annual Report On The State Of The Environment in Timiş County- 2013 (apmtm.anpm.ro), and the National Report On The State Of The Environment in 2012 (www.anpm.ro)

The relevance of the environmental issue:

The environmental issue relates to

- the factor that means the mitigation of the effects that endanger the health and socioeconomic welfare of the population with regard to the quality of life. The objective is to reduce morbidity from infectious diseases and chronic diseases, resulting from the negative impact on the environment (air, water, soil, etc.) and noise.

Current state of the environment:

The cross border counties have an aggregate population of 4 million people. Based on the most recent data available in the Eurostat database (2013), the vast majority of the countries' population is between the age of 15 and 64. As the ageing of the European population is one of the main themes of the WHO/Europe 2020 objectives, it is also worth looking at the change of the proportion of elderly people (65+) within the total population. According to the latest population census (2013), we can see that the counties do not have such a large proportion of people above the age of 65. However, considering the data from 2005, this proportion is increasing in the eligible area[114].

[114] Source: http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/main_tables

The data concerning birth and mortality rates as well as life expectancy at birth are suitable indicators for the general health situation of the population. The data of the latter are deep below the EU-average (females – 82.9 years, males – 77 years) in both countries. Counties with a high ratio of disadvantaged population show a little bit more unfavourable picture[73].

Romania

The inhabitants of age 65 and above in Romania[115] is presented in the following table, which shows that there is a minor decreasing trend experienced in Arad and Timiş.

2002

	Total No of inhabitants	No of inhabitants of age 65 and above	%
Satu Mare	374,086	43,120	11.52
Bihor	603,143	84,370	13.98
Arad	662,590	86,535	13.06
Timis	462,427	70,393	15.22

2013

	Total No of inhabitants	No of inhabitants of age 65 and above	%
Satu Mare	393,097	60,580	15.41
Bihor	622,033	90,563	14.56
Arad	477,355	72,545	15.20
Timis	736,105	101,359	13.77

According to INS information, the county with the highest number of inhabitants on the Romanian side of the Programme is Timiş County (736105), followed by Bihor County (622033). In 2013 permanent resident population in Timis County shows an increase compared to 2010.

The birth rate in 2013 was above the national average in Bihor, Satu Mare and Timiş counties. In 2013 the mortality rate and the infantile mortality rate were below the national average in Timis County. The mortality rate in the cross-border area is higher in Arad County, followed by Bihor. The main death causes in the Romanian eligible area in 2013 were the following: infectious and parasitic diseases, neoplasm, endocrine, nutritional and metabolic diseases, mental disorders, diseases of the nervous system, diseases of the eye and adnexa, diseases of the ear and mastoid process, diseases of the circulatory system, diseases of the respiratory system, disease of the digestive system, disease of the genitourinary system, pregnancy, childbirth and puerperium, certain diseases originating in the perinatal period, congenital malformations, deformations and chromosomal abnormalities, injury, poisoning and other consequences of external causes.

The natural increase rate is negative in all the assessed counties and in the country. In Arad County it is almost twice higher than the national rate. Only in Timis County the life expectancy is higher than the national level.

In 2012 22.6% of the total Romanian population were at risk of poverty, severely materially deprived or living in households with very low work intensity, the trends are more favourable in Romania as the percentage of people at risk of poverty or social exclusion has been declining since 2007. The ratio of severely deprived people is 28.7% in Romania (provisional data in case of Romania). Housing cost overburden rate – defined as the circulatory percentage of the population living in a household where the total housing costs represent more than 40% of the total disposable household income – is 9.9% in Romania. In 2012 the

[115] Source: https://statistici.insse.ro/shop/

percentage of the population living in an overcrowded household was 51.6%, both significantly underperforming the EU mean value of 16.9%. Increasing activity and the employment rate is very important to reduce poverty in the area. It also requires, inter alia, the development and operation of infant nurseries[116][117].

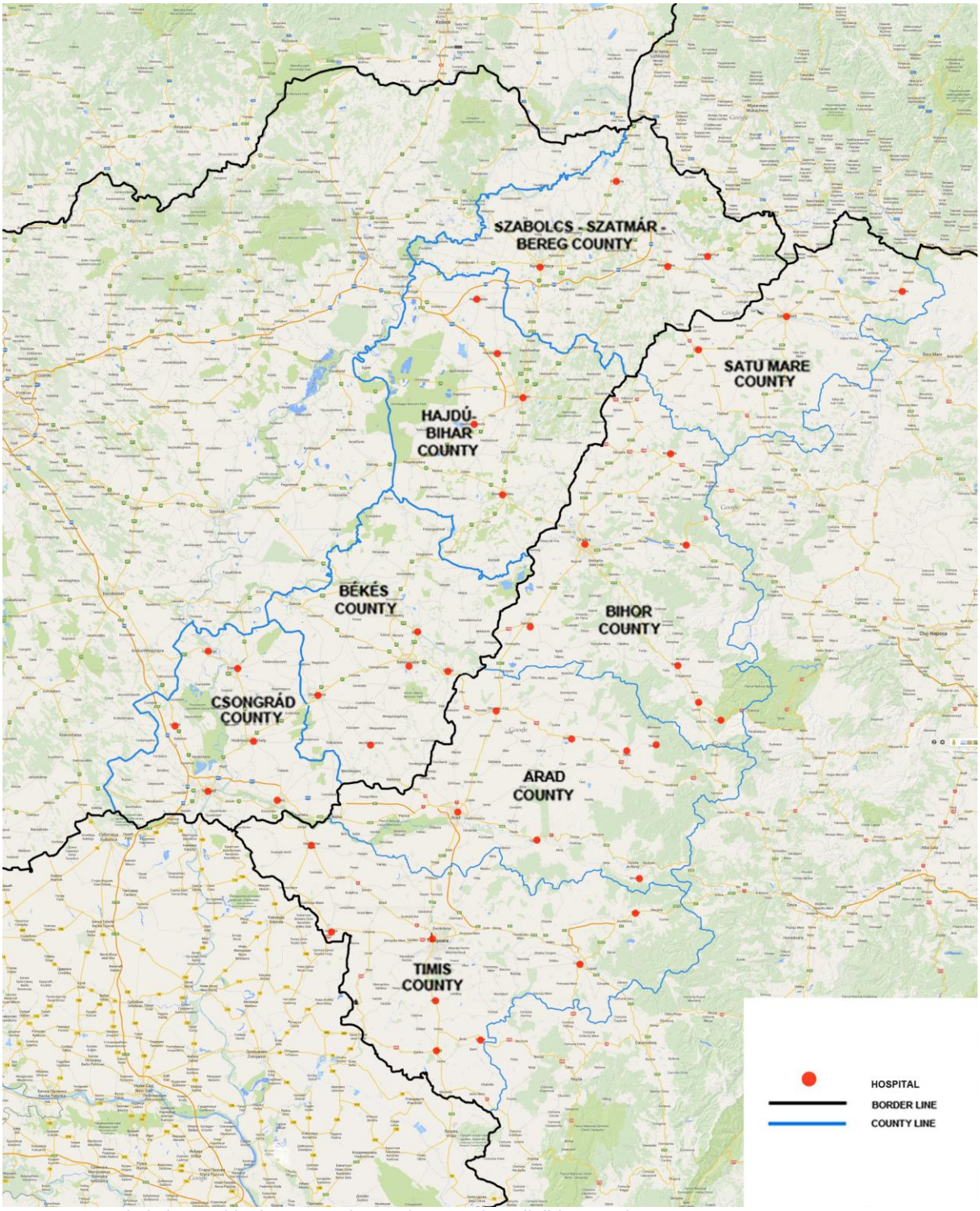
The facilities and staff of hospitals in Romania:

2013

	Hospitals beds per 10,000 citizens[118]	Number of doctors[119]
Bihor	67.2	1,076
Satu-Mare	50.0	380
Arad	51.9	781
Timis	79.9	2,226

In Romania, 503 cooperation hospitals can be found – out of the 54 hospitals of the eligible area the largest ones are County Hospital "*Spitalul Judeţean"* (Satu Mare), County Emergency Clinical Hospital "*Spitalul Clinic Judeţean de Urgenţă*" (Arad), County Emergency Clinical Hospital Oradea "*Spitalul Clinic Judeţean de Urgenţă Oradea"* and Municipal Clinical Hospital Oradea "*Spitalul Clinic Municipal Oradea*" (Bihor), County Hospital Timișoara "*Spitalul Judeţean Timișoara*" and County Emergency Clinical Hospital Timișoara "*Spitalul Clinic Judeţean de Urgenţă Timișoara*" (Timiş)[120]. The following map presents the hospitals located in the eligible area.

[116] Source: https://statistici.insse.ro/shop/ and http://epp.eurostat.ec.europa.eu/portal/page/portal/income_social_inclusion_living_conditions/data/main_tables
[117] EPSON The Terriotorial Dimension of Poverty and Social Exclusion in Europe – Interim Report: http://www.espon.eu/main/Menu_Projects/Menu_AppliedResearch/tipse.html
[118] Source: National Institute of Statistica www.insse.ro-TEMPO -online time series
[119] Source: National Institute of Statistica www.insse.ro-TEMPO -online time series
[120] Source: National Institute of Statistica www.insse.ro-TEMPO -online time series



Map 20 - Hospitals located in the Romanian and Hungarian eligible counties

The largest reductions in the availability of hospital beds were recorded – together with other countries – in Romania, which may reflect, among others, economic constraints, increased efficiency through the use of technical resources, a general shift from inpatient to outpatient treatments, and shorter periods spent in hospital following an operation. In line with the significantly decreasing expenditures, there were 6.3 hospital beds available per 1,000

citizens in 2012, which is a relatively low number. Moreover, 2.5 doctors are available per 1,000 citizens[121].

Hungary

The share of population over 65 years is the highest in Békés, surpassing both the national and regional average. The number reaches significantly higher levels in Békés and Csongrád; the latter surpasses even the EU27 average (and both counties surpass the Hungarian national average)[122.]

The inhabitants of age 65 and above in Hungary[123:]

2002	Total No of inhabitants	No of inhabitants of age 65 and above	%
Szabolcs-Szatmár-Bereg	587,994	76,480	13.00
Hajdú-Bihar	552,478	75,969	13.75
Békés	399,061	66,952	16.77
Csongrád	428,114	67,037	15.65

2013	Total No of inhabitants	No of inhabitants of age 65 and above	%
Szabolcs-Szatmár-Bereg	563,653	78,313	13.89
Hajdú-Bihar	541,352	84,776	15.66
Békés	359,153	68,100	18.96
Csongrád	409,571	74,368	18.15

Common death causes in the Hungarian eligible area in 2013 were the following: malignant tumour, hearth muscle die, ischaemic heart disases, sclerosis, bronchitis, emphysema, hepatis disases and vehicle accidents.

In 2012 14% of the total Hungarian population were at risk of poverty, severely materially deprived or living in households with very low work intensity. The percentage of people at risk of poverty or social exclusion has been grown since 2007. The ratio of severely deprived people is 26.8% in Hungary. Housing cost overburden rate – defined as the circulatory percentage of the population living in a household where the total housing costs represent more than 40% of the total disposable household income – is 9.9% in Romania. In 2012 the percentage of the population living in an overcrowded household was 47.2%, significantly underperforming the EU mean value of 16.9%[124125].

A closer look at the facilities and staff of the hospitals:

In Hungary on average 81 beds were available per 10,000 citizens in 2012. The numbers show a decreasing trend between 2000 and 2012. The number of doctors of the country was about 34,000 in 2012; concerning the Hungarian counties of the eligible area, the majority of them, 2,402 people worked in Hajdú-Bihar[126].

[121] Source: National Institute of Statistica www.insse.ro-TEMPO -online time series
[122] Source: http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/main_tables
[123] Source: http://www.ksh.hu/docs/hun/xstadat/xstadat_eves/i_wdsd003b.html?1146
[124] Source: http://epp.eurostat.ec.europa.eu/portal/page/portal/income_social_inclusion_living_conditions/data/main_tables
[125] EPSON The Terriotorial Dimension of Poverty and Social Exclusion in Europe – Interim Report: http://www.espon.eu/main/Menu_Projects/Menu_AppliedResearch/tipse.html
[126] http://www.oep.hu/felso_menu/szakmai_oldalak/publikus_forgalim_adatok

2012	Hospitals beds per 10,000 citizens[127]	Number of doctors[128]	Number of doctors per 10,000 citizens[129]
Hajdú-Bihar	66.2	2,402	44.4
Szabolcs-Szatmár-Bereg	62.2	1,366	24.2
Békés	68.2	873	24.3
Csongrád	73.7	2,120	51.8

Poor health-care indicators partly reflect serious structural problems in the Hungarian health-care system, including an excessive supply of hospital beds for acute care, as well as a shortage of beds for long-term illnesses.

In Hungary, currently there are 175 hospitals, which is a relatively high number compared to the population. Out of this, 22 are located in the Hungarian part of the eligible area. The largest ones are the university and county hospitals, namely Jósa András Hospital in Nyíregyháza (Szabolcs-Szatmár-Bereg), the Hospital of the University of Debrecen (Hajdú-Bihar), the Hospital of the University of Szeged (Csongrád) and Réthy Pál Hospital in Békécsaba (Békés)[130][131][132].

Between 2000 and 2012 the number of Romanian citizens registered in the Hungarian health-care system shows a steady growth until 2010, then a slight decline, but still remains solid. It is also clear that the health-care institutions located in the Hungarian counties of the eligible area are important recipients of this health-related migration: more than 32% of all Romanian patients registered in Hungary (4,763 out of 14,222; over 60% of the inpatients and only 20% of the outpatients) received treatment in the eligible area in 2012[133].

The county with by far the highest number of patients from Romania is Csongrád, but Szabolcs-Szatmár-Bereg and Hajdú-Bihar are also important, with Békés playing a less significant role. Interestingly, while in Csongrád the number of Romanian patients doubled between 2000 and 2012, Szabolcs-Szatmár-Bereg demonstrated the most “dynamic growth”: an almost fivefold increase in the number of Romanian patients in the same period.

While there is clearly a migration process in place, its financing by the National Health Insurance is also problematic, and there are no specific bilateral regulations and systems in place to ensure the efficient implementation of the Directive on the application of patients’ rights in cross-border health care.

Between 2007 and 2013 18 cross-border health projects were established in the eligible area. These took into account all components of the health system: prevention, diagnosis, treatment in case of emergency, surgical and medical rehabilitation[134].

Likely future trends:

Direct safeguarding of human health: specific healthcare – related developments and the improvement of the access to health-care services.

[127] Source: http://www.ksh.hu/docs/hun/xstadat/xstadat_eves/i_fek006.html
[128] Source: http://www.ksh.hu/docs/hun/xstadat/xstadat_eves/i_fer001.html
[129] Source: http://www.ksh.hu/docs/hun/xstadat/xstadat_eves/i_fer001.html
[130] Source: http://www.ksh.hu/docs/hun/xstadat/xstadat_eves/i_fek006.html
[131] Source: http://www.ksh.hu/docs/hun/xstadat/xstadat_eves/i_fer001.html
[132] Source: http://www.ksh.hu/docs/hun/xstadat/xstadat_eves/i_fer001.html
[133] http://www.oep.hu/felso_menu/szakmai_oldalak/publikus_forgalim_adatok
[134] Source: http://www.oep.hu/felso_menu/szakmai_oldalak/publikus_forgalim_adatok

Improvement of the facilities of the hospitals

Improvement of the health-care infrastructure

Reduction of the waiting lists

Better health infrastructure and better accessibility.

2.7 Material assets, cultural heritage including architectural and archaeological heritage

The information in this subchapter is based on data sources of the European Environment Agency, the Regional Environmental Statistical Databases of the Hungarian Central Statistical Office, the Annual Report On The State Of The Environment in Satu Mare County-2013 (apmsm.anpm.ro), the Annual Report On The State Of The Environment in Bihor County-2013 (apmbh.anpm.ro), the Annual Report On The State Of The Environment in Arad County- 2013 (apmar.anpm.ro), the Annual Report On The State Of The Environment in Timiş County- 2013 (apmtm.anpm.ro), and the National Report On The State Of The Environment in 2012 (www.anpm.ro)

The relevance of the environmental issue:

The environmental issue relates to

- all man-made facilities, objects, and buildings of cultural significance, monuments, museums, etc. the damage of which, caused by environmental pollution, causes material and intangible losses to the population.

Current state of the environment:

The eligible area is rich in touristic attractions - both in cultural and in natural heritage. One can find here a diverse pool of attractions: the entire eligible area has quality thermal water and remarkable natural landscapes, as well as numerous nature conservation areas. The cultural heritage of the area includes various historical monuments, churches, original ethnographical and folklore elements. Built on excellent geothermal conditions, the various well-established spa facilities are also important touristic attractions.

Romania

1496 Historical Monuments located in the Romanian eligible counties (Timis County 338, Arad County 413, Bihor County 435, Satu Mare County 310). In Romania, the List of Historical Monuments is maintained and updated by the Ministry of Culture and has official and legal character.[135] The historical monuments included in this list are archaeological monuments, architectural monuments, public monuments, respectively memorial and funeral monuments of local and national interest. According to the National Archaeological Record of Romania, published on the website of the Ministry of Culture, in the eligible programme area in Romania are 1438 archaeological sites (Timis County 7398, Arad County 246, Bihor County 268, Satu Mare County 185)- approx. 10% of all archaeological sites in Romania.

In Timiş County, the most famous historical monuments and other objects of cultural heritage as tourist attractions are:

[135] According to the latest update approved by the Ministerial Order no. 2.361/2010, published in Official Gazette no. 670 bis. / October 1, 2010

- Timisoara: the Huniazilor Castle (XV century, restored in 1852), today is a museum, after a restoration; Buinen Pasha Castle (sec. XVII - XVIII), House of Prince Eugene of Savoy (XVIII cent.); Fortress Bastion (XVIII century); National Theatre (XIX - XX); Mizericordierilor Church (XVIII cent.); the Orthodox Cathedral (consecrated on October 6, 1946 in the presence of King Mihai I); the Roman – Catholic Cathedral, the Serbian Orthodox Cathedral, Revolution Martyrs Monument from 16 -22 December 1989, the Village Museum, the Green Forest where is arranged the Banat Ethnographic Museum and the Zoological garden
- Jimbolia: Memorial House "Stefan Jager" and - Memorial House "Bela Bartok" in Sânnicolau Mare. At Buziaş it works the "Troceanu Collection" (which includes beautiful fabrics and seams from Banat).
- The House Museum "Lenau" in Lenauheim and the memorial houses in the village "Traian Vuia" and "Victor Vlad Delamarina" in villages with the same name.

The Spa resorts Buzias and Calacea are also tourist areas where there are treatment options with mineral and geothermal water

The most famous cultural heritage objectives in Arad County, which represent tourist attractions, are the Şiria (13th-15th cent.) and Şoimos (13th-15th cent.) stone fortresses, the Agrişu Mare (15th cent.) and Arad (fortresses built at the request of Empress Maria Theresa, style Vauban - Tenaill in the period 1763 - 1783), the castles Bohus (built in 1838 in the village Şiria, today Memorial Museum of Ioan Slavici), Brazi, Curtici (the Keszonyi Castle built in baroque style in 1769), Mace (Cernovici Castle, built between 1800-1900), Săvârşin (Royal Castle), the Tauţ medieval fortress, the Hodos-Bodrog Monastery (beginning of 15th cent - beginning of 19th cent.) from Bodrogul Nou, the Franciscan Monastery in Radna (built in stages between 1722-1828, 1911), the Serbian Church of Arad (built between 1698 and 1702), wooden Churches of Buceava, Groşii Noi, Hălmagiu, Săvârşin.

In Bihor County the Cave Coliboaia is located, were the prehistoric man traces can be found and its paintings are from the Gravettian and Aurignacian age, from 35 000 years ago. The Historical Center of Oradea is an urban ensemble with a set of historical monuments from the territory of Oradea municipality. The Crisuri Country Museum from Oradea, the Castle Stubenberg of Săcuieni (18th cent.), the Wooden churches from Margine, Aleşd (Peştiş) Drăgăneşti (Sebis) Tileagd, Rieni (Valea de Jos), Auşeu (Gheghie) Popeşti (Voivozi), the Komárony Ottoman Mansion (18th cent.), Sălacea- village of 1,000 caves are also located int he county. There is also a brick bridge in Sălacea- village with the length of 29.7 m, built in the 18th century (historical transport monument).

The most famous cultural heritage objectives in Satu Mare County are the ancient and medieval towns and castles on the circuit: Satu Mare - Carei -Tăşnad - Ardud - Golden Medieşul - Orchard - Satu Mare Turulung , respectively the Satu Mare monasteries on the circuit: Bixad - Prilog - Meadow Pota - Măriuş - New Scărişoara. From these the most importants tourist attractions are the free Dacians reservation from Golden Mediesul, the Karoly family castle from Carei, stil baroque (18th cent.), Ardud ruins (15th cent.), the gothic church from Acâş (13th cent.), the Roman Catholic Cathedral of Satu Mare (18th cent.), wooden churches of Soconzel, Stana, Bolda, Corund and Lechinţa (18th cent.), open-air museum of Negresti Oas, fire Tower from Satu Mare (early 20th cent.).

The most prominent (cultural and national) touristic attractions - values - in the eligible area include (without being exhaustive) are the following:

- Arad: well-balanced relief (the hill-plain-mountain alternation), natural protected areas, historic and architectural monuments (citadels, castles, monasteries, churches), watermills, ethnographic centres, Neptun Beach in Arad, etc.
- Bihor: 4 main rivers (Crişul Repede, Crişul Negru, Barcău, Ier), lakes, waterfalls, caves, Apuseni Mountains National Park, Cefa Natural Park, natural protected areas,

architectural and historic monuments (eg. religious buildings, wooden churches), spas of Băile Felix and Băile 1 Mai, etc.

- Satu Mare: remarkable natural landscapes, cultural institutions (eg. North Theatre in Satu Mare), historical sites (e.g. cathedral, churches, reservation of the free Dacians, castle of the Károlyi family in Carei, open-air museum in Negreşti Oaş), spa of Tăşnad, etc.
- Timiş: karst landscape, natural reservations, medieval castles and citadels, architectural and monastery structures (e.g. Timişoara), spa of Buziaş, etc.

Hungary

The eligible counties on the Hungarian side of the border are exceptionally rich in cultural, artistic and intellectual traditions. Several museums are located in many settlements, where primarily landscape, natural values, typical villages, folk traditions, crafts, and architecture are presented. Also several museums present a famous person's life, memorial exhibitions and memorial houses are visible.

The network of museums and cultural institutions features the cultural characteristics of Csongrád County, which is one of the oldest and most developed network in the country. The network of museums is considered as the most important institution of the country as a network of 19 museums and exhibitions. The diocesan museum was opened in 1995 in the annexe of the Bishop's Palace.

Gyula Castle, built at the beginning of the 15th century and located in Békés County, is the only intact Gothic brick castle in Europe. In addition to Gyula Castle, the Vésztő-Mágori historical sites and Sculpture Park are important historical sites. The renewed Munkácsy Museum in Békéscsaba houses the world's largest Munkácsy collection.

The museums of Hajdú-Bihar County are also of high intellectual and cultural significance. The museums in Hajdú-Bihar County have highly prestigious collections in the national context, among those stands out Déri Museum opened in 1930. In Hajdú-Bihar County Debrecen is of great importance as the capital city of Debrecen, which has had not simply a regional but also macro-regional role for centuries.

In Szabolcs-Szatmár-Bereg County folk architecture, material folk art, music and dance have rich traditions. The region abounds in monuments. Special attractions are the wooden bell towers, “Csaroda” church from the 13th century and the Calvinist Church of Tákos with coffered ceiling.

The theatrical life of the eligible counties has a long-standing tradition in particular; several permanent and non-permanent theatre companies exist. In Csongrád County the widely known and famous summer theatre, the Open Air Theatre Festival of Szeged, started in 1931 and it has been a famous venue of opera, music and dance productions, theatrical productions and musical genres since then. The choral and musical life in the eligible area is also of significance.

The eligible area is rich in natural resources and in protected natural sites, of which detailed descriptions are presented in Chapters 2.1.2 and 3.

The eligible counties are rich in thermal and medicinal waters. Almost all of the thermal springs - in addition to their general effects on recreation – are suitable for the treatment of musculoskeletal and rheumatic diseases; the dissolved minerals in the waters are able to cure many conditions. In Csongrád County the waters of Szeged, Csongrád, Szentes, Hódmezõvásárhely, Makó and Mórahalom are recognized medicinal thermal waters. In Békés County there are many thermal baths, such as Szarvas, Gyomaendrőd, Dévaványa, Füzesgyarmat, Gyula, Békéscsaba, Gyopárosfürdő and Tótkomlós. The thermal spas of Hajdú-Bihar County are Hajdúszoboszló, Debrecen, Hajdúnánás, the thermal bath of Püspökladány, Hajdúböszörmény, Hajdúdorog, Nádudvar, Berettyóujfalu, Derecske,

Balmazújváros, Földes, Kaba, Komádi, Polgár and Tiszacsege. In Szabolcs-Szatmár-Bereg County spas are located in Nyíregyháza Sóstó, Fehérgyarmat and Kisvárda.

The most prominent (cultural and national) touristic attractions - values - in the eligible area include (without being exhaustive) are the following:

- Békés: Körös, Berettyó (Barcău) Rivers, burial mounds, castle and spa of Gyula, etc.
- Csongrád: Tisza, Körös, Maros rivers, historical site of Ópusztaszer, archeological sites, protected monuments (e.g. in Szeged, Hódmezővásárhely, Csongrád), etc.
- Hajdú-Bihar: Hortobágy Natural Park (World Heritage), old burial sites, Árpád-era temple ruins, churches, bridges (e.g. nine-arch stone bridge in Hortobágy), the largest spa in Europe (Hajdúszoboszló), etc. Szabolcs-Szatmár-Bereg: Tisza River, Szatmár-Bereg region, medieval churches, watermill, castles (e.g. Szabolcs, Tiszadob, Vaja), spa, village museum and zoo in Nyíregyháza-Sóstó, etc.

Likely future trends:

The development of ecotourism is a particular challenge, and also a great opportunity for attracting visitors to natural values. The structure of ecotourism is special, because it is not just connected to visitors' demand, but primarily to the protection of environmental values and related services.

The greatest demand is for simple, nature-friendly accommodation, traditional local food and professional guides. Ecotourism related to nature parks and other non-governmental organizations is growing steadily, although ecotourism is not targeted solely to protected areas.

The concept of Nature Park is based on the coordinated development of natural and built environment, with the cooperation of local governments, NGOs and the general public. The self-organized development cooperation contributes to the development of nature and landscape values, through the presentation of local attractions. In Hungary 3 National Parks are located in the eligible area Hortobágyi, Körös-Maros and Kiskunsági National Parks. In Romania the Natural Parks of the Low Meadow Mureş Lunca Mureşului, Cefa and Apuseni are located in the eligible area.

3 The environmental characteristics of the areas likely to be significantly affected

The information in this subchapter is based on data sources of the European Environment Agency, the Environmental Conditions of Hungary 2013, the Environmental Situation Report of Hungary 2013, the National Environmental Information System (Országos Környezetvédelmi Információs Rendszer), the Natura Conservation Information System, the Annual Report On The State Of The Environment in Satu Mare County-2013 (apmsm.anpm.ro), the Annual Report On The State Of The Environment in Bihor County-2013 (apmbh.anpm.ro), the Annual Report On The State Of The Environment in Arad County- 2013 (apmar.anpm.ro), the Annual Report On The State Of The Environment in Timiş County- 2013 (apmtm.anpm.ro), and the National Report On The State Of The Environment in 2012 (www.anpm.ro)

3.1 Landscapes and areas of recognised international protection status

At international level, in the programme area the following are identified:

Romania

- one RAMSAR site: The Natural Park of the Low Meadow Mureş- Lunca Mureşului – size: 17166,0 ha, designation date: 20/11/2006

Hungary

- one Natural and Cultural World Heritage Site: Hortobágy National Park

3.2 Landscapes and areas of Community interest

For Romania, there are a total of 74 protected sites included in the NATURA 2000 network located in the cross-border region (51 sites under the Habitats Directive and 23 sites under the Birds Directive). The full list of Natura 2000 sites in the cross-border area is presented in Chapter 2.1.

3.3 Landscapes and areas of National interest – presented in Chapter 2.1.

3.4 Areas designated for extraction of water intended for human consumption

In locating the facilities established under the Interreg V-A Romania-Hungary Programme, consideration must be given to the specific provisions regarding protection zones for water abstraction sites, whether surface or underground.

In Romania, the definition of the protection zones was provided under the Water Law and GD no 930/2005 approving Special Norms for the nature and size of sanitary and hydro-geological protection zones.

In Hungary the definition is given under GD no. 67/1998 on restrictions and prohibitions on protected and strictly protected aquatic communities.

Under the law, protection zones are established on site, with various degrees of pollution risks:

a) strict regime sanitary protection zone;

b) sanitary protection zone with restriction regime;

c) hydro-geological protection site.

In order to prevent water contamination or pollution risks from human activities, the protection zones require bans on certain activities and land use restrictions. It is also important with special regard to environmental permission. The implementation of a project should not affect the protection zones of drinking water - e.g. road construction cannot be in the strict sanitary protection zones of drinking water - , or only under special conditions, e.g. in case of the hydro geological protection zone.

Every Water River Basin Administration holds a Register of protection zones for the river basin, which includes the following information under the heading “Protection Zones for Drinking Water Abstractions”:

- The general characteristics of the protected zone;
- A map of the protection zones for drinking water abstractions;
- A chart of the abstraction flow rate development (surface and groundwater);
- A chart of the served population development;
- A table of the adjoining protection zones for each surface or ground water abstraction.

3.5 Areas of nutrient-sensitive waters, including vulnerable areas to nitrates

Sensitive areas are designed to protect surface waters from the increasing content of nutrients from wastewater from settlements.

Romania

Considering Romania’s position in the Danube River Basin and the Black Sea Basin, and the need to protect the environment in these areas, Romania has declared its entire territory a sensitive area. This decision translates into the requirement for agglomerations of more than 10,000 population equivalent to provide infrastructure for the treatment of urban wastewater allowing for advanced treatment, especially nutrient removal (nitrogen and phosphorus) from the wastewater – under Article 3(1) of GD No. 352/2005.

The nitrate pollution of agricultural sources is exemplified by the amount of fertilizer used, which was 78,6kg per one hectare of area used for agricultural activity in 2013 in Romania[136]. Additional data on nitrate pollution has been provided in Chapter 2.2.

In Romania, according to art. 1 of Order no. 1552/743/2008 approving the list of localities from counties where there are sources of nitrates from agricultural activities, the counties of the Programme area are included in the annex of this order with 307 localities declared as nitrate vulnerable zones[137].

In order to reduce the nitrate pollution potential, the “Action Programme for Water Protection against Nitrate Pollution from Agricultural Sources” has been implemented in accordance with the measures included in the Agricultural Good Practice Code.

[136] Source: National report on the state of environment in 2013 Romania
[137] Source: Order no. 1552/743/2008 Romania

Hungary[138]

For the implementation of the Council Directive 91/271/EEC on urban waste-water treatment, in Hungary the Government Decree 25/2002 (II.27.) on the National Programme for Urban waste-water disposal and treatment determines the obligations for Hungary, and the Government Decree 26/2002 (II.27.) governs the waste-water agglomerations.

According to the Directive the Programme governs the waste-water agglomerations of more than 2000 population equivalent. The Programme reviews the agglomerations of more than 2000 population equivalent and measures the situation of the sewage system and establishes the necessary infrastructural developments.

According to the programme the length of the sewage system is to be 67,700 km by 2015 from the 54,900 km length of 2010. Regarding waste-water treatment, in 2010 the ratio of the treated waste-water was 96.5% of the total.

In order to reduce the nitrate pollution from agricultural sources the Government Decree 27/2006 (II:7.) determines the water protection against nitrate pollution from agricultural sources and the Action Plan on Agricultural Good practice Code on nitrate sensitive areas is to be implemented since 1st September 2014.

The nitrate pollution of agricultural sources is exemplified by the amount of fertilizer used, which was 93kg per one hectare of area used for agricultural activity in 2013. The amount of the nitrate agent was 346 thousand tonnes in the totally used amount of fertilizer[139][140]. Additional data on nitrate pollution has been provided in Chapter 2.2.

In order to fulfil Hungary's obligations, the list of vulnerable areas has been revised and new areas have been identified. According to the modification, the 68-69% of the territory of Hungary has been declared as nitrate vulnerable which means significant growth of 23.1% of the vulnerable areas.

3.6 Landscape-conserving farming of High Natural Value

High Natural Value (HNV) Agriculture can refer to areas of agricultural lands with High Nature Value and to agricultural systems with HNV as well.

High Natural Value farmlands comprise those areas in Europe where agriculture is an important way (usually dominant) of land use and where that agriculture supports or is associated with a diversity of species and landscapes or the presence of species of European conservation interest and / or national and / or regional level, or both.

The HNV agricultural system includes the physical characteristics of the region; the production characteristics of the system; the management practices; semi-natural elements; the degree and diversity of land cover; biodiversity supported by the system, including species and habitats under conservation of European interest and / or national and / or regional and Nature 2000 habitats and species.

An important characteristic of the HNV agricultural system is the relationship between the intensity of use, the presence of semi-natural elements, the presence of a mosaic of land use and natural values – conservation needs of the habitats and species.

[138] Source: http://www.teszir.hu/uploads/files/Tajekoztato_Kiadvany2012.pdf
[139] http://www.ksh.hu/docs/hun/xstadat/xstadat_eves/i_omf002.html
[140] County level data is not available.

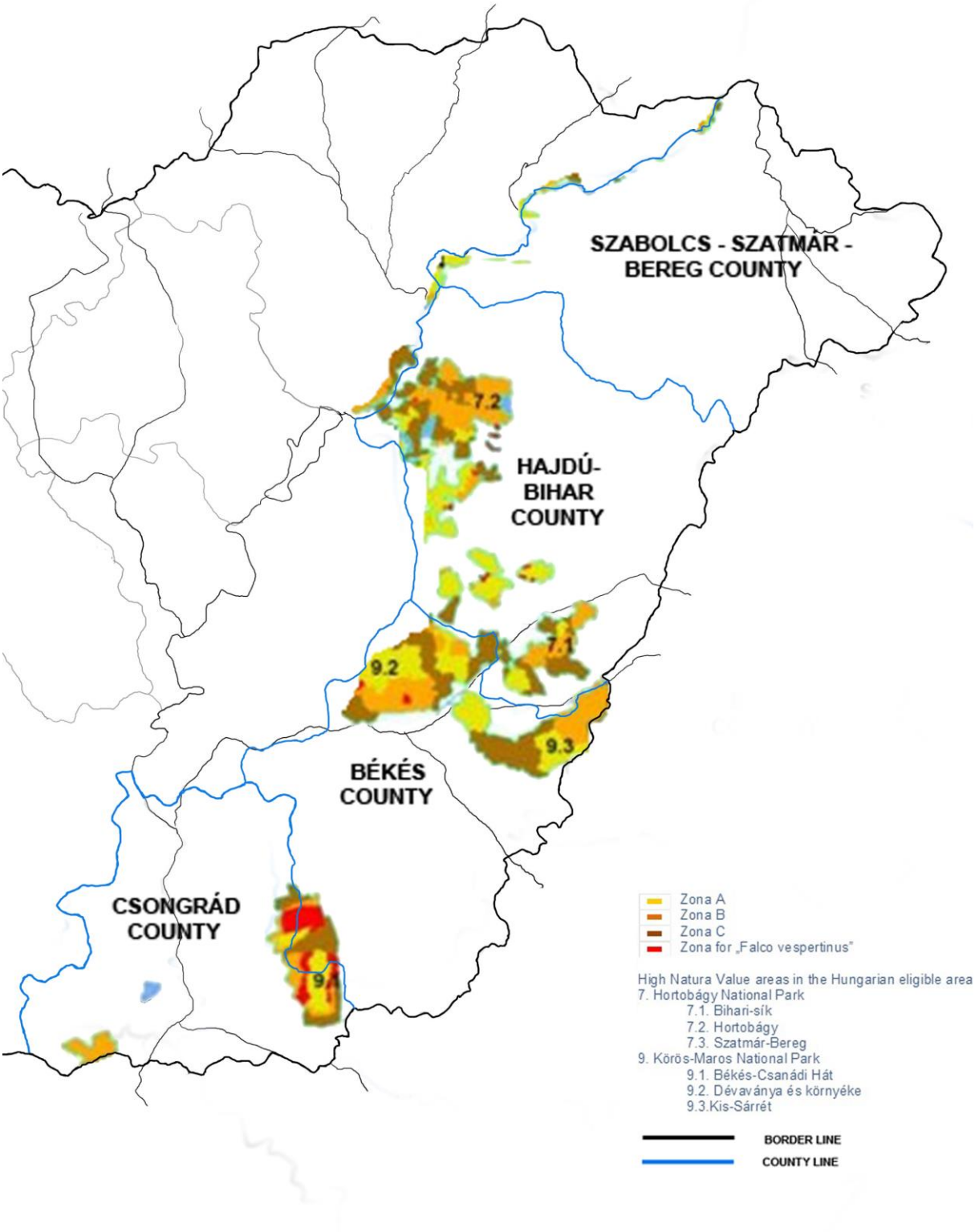
Hungary

From 2009 25 territories have been designated as of High Natural Value, 7 of those are located in the eligible counties. Each area of HNV comprises A, B and C zones. The system of zones has a dual role. On the one hand it determines which kind of supports the farmer is entitled to, and on the other hand it determines the points given to the farmer in case of the aid application.

In the Hungarian eligible area the territories of High Natural Value are Békés-Csanádi-hát, Bihari Sík, Dévaványa, Hortobágy, Kis-Sárrét, and Szatmár-Bereg.[141]

The following map presents the areas of High Nature Value located in the Hungarian eligible area[142]:

[141] Source: http://www.termeszetvedelem.hu/erzekeny-termeszeti-teruletek-es-magas-termeszeti-erteku-teruletek
[142] There is no available map which presents the areas of HNV of the total eligible area commonly, therefor seperate maps for the two countries have been provided.



Map 21 - Protected areas in the Hungarian side of the border[143]

[143] Source: http://www.termeszetvedelem.hu/_user/browser/Image/agrar/terkep1.jpg

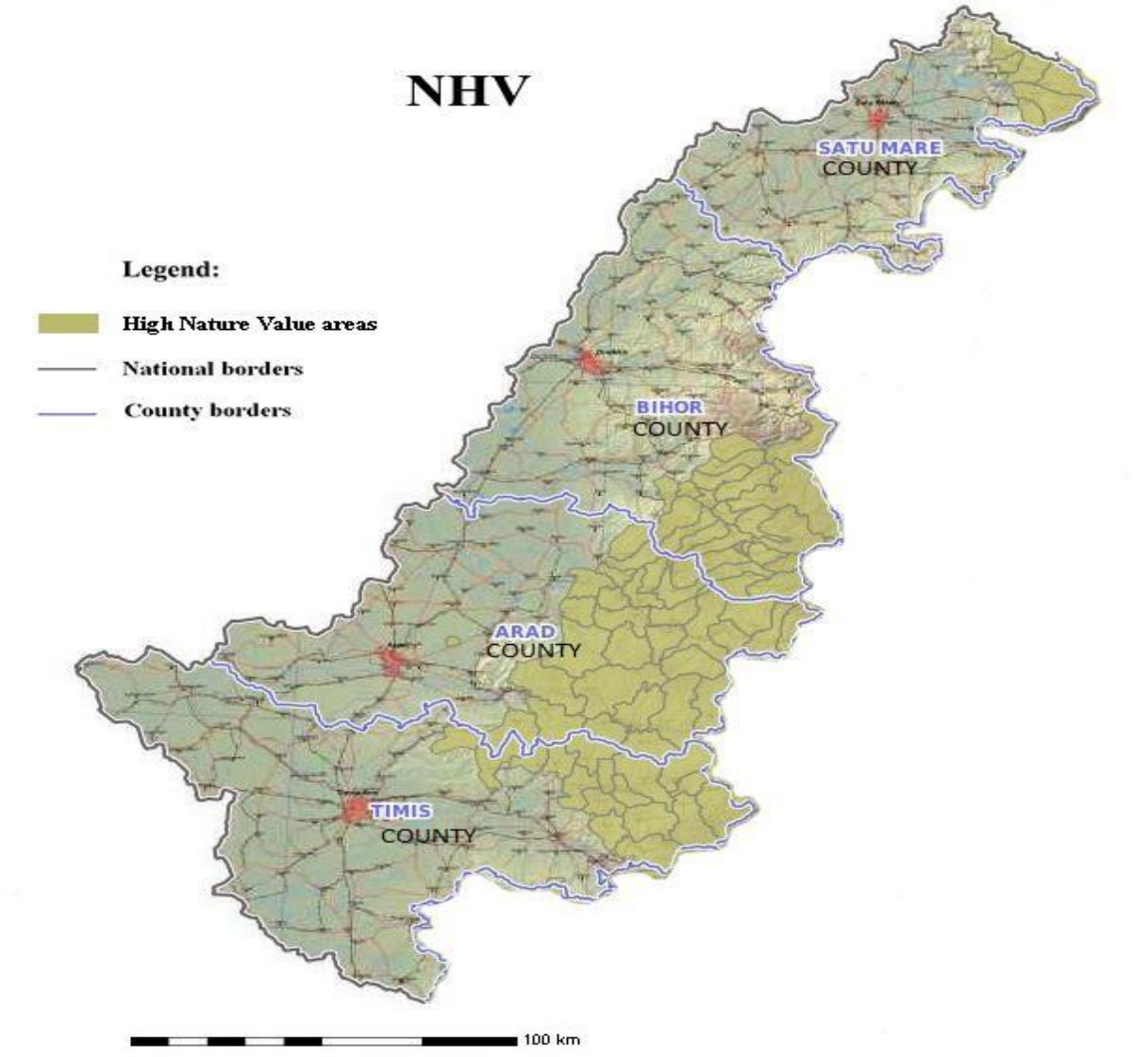
Romania[144]

In Romania the High Natural Level grasslands were delineated according to the requirements specified in Annex 4B of the National Rural Development Programme (RDP) 2007-2013. The total number of local government units are from areas with high natural value is 1038, which represents about 2.4 million hectares.

According to the list from Annex 4B2 of the RDP 2007-2013 there are 76 local government units with HNV agricultural lands of the total 1038 in the Romanian eligible counties.

Through the Agency for Payments and Intervention in Agriculture are awarded compensation under Measure 214 - Agro-Environment-Payments -Package 1 "High Nature Value Grasslands" and Package 2 "Traditional Agricultural Practices" for HNV land users at their request

The following map presents the areas of High Nature Value located in the Romanian eligible area:



Map 22 - The areas of High Nature Value located in the Romanian eligible area

[144] Source: www.madr.ro/rural development/National Rural Development Programme 2007-2013

4 The existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC and 92/43/EEC

The key problems and focus points derive from the current state of the environment of the eligible programme area.

4.1 Biodiversity, flora, fauna, NATURA 2000

Likely environmental conflicts and problems that would occur without intervention:

- Invasive alien species: Among the threats to biodiversity the spread of invasive alien species can result habitat destruction and fragmentation. Invasive alien species can cause not only natura conservation, forestry or agricultural problems, but significant affects on human health and ecological problems.

  Romania[145]
  Invasive alien species in the Romanian side of the border: One of the invasive species in Satu-Mare County is Ambrosia artemisiifolia. Following the evaluations it was found that practically this species is widespread all over the plains and hills of Satu Mare. Other invasive plant species reported in Satu-Mare, with a trend of growing occupied areas: Reynoutria (Fallopia) japonica, Helianthus tuberosus (topinabur), Echinocystis lobata (wild cucumber), Amorpha fructicosa (desert false indigo), Robinia pseudoacacia (black locust), Asclepias syriaca (common milk weed), and Solidago canadensis (Canada goldenrod).

  Hungary[146]
  Invasive alien species on the Hungarian side of the border:
  Plants: Acer negundo, Ailanthus altissima, Amorpha fruticosa, Asclepias syriaca, Aster lanceolatus, Celtis occidentalis, Cencherus incertus, Echinocystis lobata, Elaeagnus angustifolia, Fallopia japonica, F.xbohemica, F.sachalinensis, Fraxinus pennsylvanica, Helianthus tuberosus s.l., Heracleum mantegazzianum, Heracleum sosnowskyi, Hordeum jubatum, Humulus scandens, Impatiens galndulifery, Impatiens parviflora, Juncus tenuis, Padus serotina, Parthenocissus inserta, parthenocissus quinquefolis, Phytolacca Americana, phytolacca esculenta, Robinia pseudoacacia, Rudbeckia lanciniata, Solidago gigantean, Solidago Canadensis, Vitis vulpine.
  Water plants: Azzola caroliniana, A. Mexicana, Camomba caroliniana, Elodea Canadensis, Elodea nuttallii, Hydrocotyle ranunculoides, Lemna minuta, pistia stratiotes.
  Mammals: Ondatra zibethicus, Nyctereutes procyonoides, Dama dama, Ovis musimon.
  Fishes: Acipenser baeri, Clarias gareipius, Ctenopharyngodon idella, Perccottus glehni, Carassius auratus, Hypophthalmichtys molitrix XH. nobilis, Ameiurus melas, pseudorasbora parva, Lepomis gibbosus, Micropteus salmoides, Oncorhynchus mykiss, Ameiurus nebulosus, Gasterosteus aculeatus.
  Insects: Harmonia axyridis.
  Crabs: Orconectes limosus, Pacifastacus leniusculus, Eriocheir senensis.

[145] Source: www.madr.ro/rural development/National Rural Development Programme 2007-2013
[146] Source: http://www.termeszetvedelem.hu/index.php?pg=menu_587#jegyzekek

Molluscs: Arion ater, Helix lucorum, Helix aspersa, potamopyrgus antipodarum, Arion luscitanicus, Gyraulus parvus, Physella acuta, Synanodonta woodiana, Corbicula fluminea, Corbicula fluminalis, Dreissena polymorpha, Dresseina bugensis.

- Ambrosia artemisiifolia can have implications for both the loss of biodiversity, especially in open meadows in the sand areas and on the health of the population due to the allergenic effect of pollen grains released into the atmosphere during plant flowering (August-October), and in agricultural crops it can cause significant loss of produce, in particular in crops of sunflowers, corn and wheat. Degradation and fragmentation of habitats and consequently loss of species are possible outcomes.
- Stress will be caused in the processes of nature by human interference (wetland areas which are in direct contact with aquifers, deterioration of groundwater quantity as well as the deterioration of dependent terrestrial ecosystems).
- Management plans for NATURA 2000 sites and common management of cross-border ecosystems and habitats are envisaged.
- High Nature Value (HNV) farming and forest management (describes some of the oldest and most biodiversity rich farming and forestry systems) as land use is often not adapted to natural conditions. Intensive agriculture in the period 1970 -1980, led to the disappearance of the species Otis tarda (Great Bustard) in the north-west of Romania[147].
- The quality of rivers, the impacts of land and water use, including water quality, biodiversity and habitats, and flood safety. In spite of previous interventions, the pollution of some rivers remains a problem. The risk of floods in certain parts of the eligible area is still high. (For further justification information can be found on http://www.rowater.ro)

Focus points:

Landscape-conserving farming of High Natural Value (HNV), Less Favoured Areas (LFA) and Natura 2000 network; Interreg V-A Romania-Hungary Programme should promote the conservation of the landscape patterns which are of vital importance for natural flora and fauna, namely biodiversity should be performed at landscape level.

Early detection of invasive alien species and rapid response has great importance, to manage this problem we need cooperation and common actions.

4.2 Soil and land use

Likely environmental conflicts and problems that would occur without intervention:

Major sources of soil degradation include soil erosion due to wind, erosion due to water, landslides (especially in the hilly areas, on grasslands and on deforested lands, and in the areas neighbouring the surface mining excavations), drought, and regular excess of humidity in the soil. Other significant degradation factors are the extraction of mineral resources and the oil extraction industry (e.g. in Romania Bihor, Arad, Timiş, in Hungary Algyő and Szeged in Csongrád and Hajdúszoboszló in Hajdú-Bihar)[148].

[147] Source: www.madr.ro/rural development/National Rural Development Programme 2007-2013
[148] Annual Report on the State of the Environment in Bihor County-2013 (apmbh.anpm.ro), Annual Report on the State of the Environment in Arad County- 2013 (apmar.anpm.ro), Annual Report on the State of the Environment in Timiş County- 2013 (apmtm.anpm.ro), Annual Report on the State of the Environment in Satu Mare County-2013 (apmbh.anpm.ro), Environmental Situation Report of Hungary 2013 (published by the Hungarian Central Statistical Office)

Focus points:

Very diverse soils, measures to be taken depending on the soil type, factors of soil degradation: over-motorisation (soil compaction, erosion, air pollution), fertilizer system, pesticides, crop-yield enhancers, inadequate cultivation method and agro-technology. There is a need for the adoption of adequate land cultivation technologies, organic matter management, use of environmentally friendly fertilisers and pesticides adequate to the agro-ecological endowments, animal and green manure as well as the establishment of the appropriate crop structure.

4.3 Water (surface waters, groundwaters)

Likely environmental conflicts and problems that would occur without intervention:

The problems related to water quality are as follows:

- Wastewater from (some) human agglomerations is not completely covered by the sewerage network. There are many agglomerations without sewers and collectors for water treatment;
- Wastewater treatment plants have not been established in agglomerations of more than 10,000 e.p. and agglomerations of 2,000 to 10,000 e.p. Some of the existing treatment facilities are inefficient, outdated or very dilapidated;
- The existing WWTPs do not treat all wastewater due to lack of inlet collectors, insufficient treatment capacity, and require reconstruction, modernization, or retrofitting works.
- Untreated wastewater is discharged directly into surface water bodies;
- The categories of hydrotechnical works that are found at the level of hydrographic basins/areas, namely: dams (barrier lakes), derivations, arrangements, and bank protection works and embankments, built on water bodies for various purposes (energy, to ensure water requirements, regulation of natural flows, defence against the natural destructive effects of water, combating excess moisture, etc.) with functional effects on human communities.

Relatively high risk of large scale flood

Risks of cross-border surface water pollution

Significant risk of environmental disasters and sudden emergency situations

Focus points:

The pollution degree of surface waters primarily depends on land use, the quality of agricultural machinery, naturalness of surface water systems, cultivation methods, crop structure, the quality and quantity of used fertilisers, pesticides and reclaiming materials, and the timing of the use thereof.

The damage caused by floods and excess surface water can be reduced by changing land use, development of wetland habitats, afforestation, the establishment of rational and integrated management of excess surface water and supporting plain landscape management. The modernisation of livestock farms, the modernisation of agricultural machineries and fuel storage facilities, the adequate management of liquid and solid manure and agricultural waste are also needed.

The interventions providing the achievement of good ecological status of waters by adequately selected agro-technological operations should be preferentially supported.

The pollution of groundwater is closely connected with surface land use. The prevention of a further increase in the nitrate concentration of groundwater can be ensured by compliance with and enforcement of the nitrate sensitive areas regulation.

The reduction of risk of groundwater pollution and the degree of pollution should be forced.

The rich surface water sources offer excellent potentials for both touristic and energy generation purposes - and certainly carry some risks of flood and pollution[149].

4.4 Air and fighting climate change

Likely environmental conflicts and problems that would occur without intervention:

Negative impact of climate change, more frequent weather extremities result in increased risks of floods and drought.

The main pollution sources in the CBR are:

Traffic – road traffic is responsible for the large quantity of suspended and depositing particles.

Industry – burning installations, thermal power stations (in Bihor, Arad, Timiş), hydrocarbon mining (in Csongrád, Békés), production of ceramic items (brick, tile, in Békés, Bihor), etc.

Agricultural sources – uncontrolled burning of dry vegetation, odour emissions of farming / composting, dispersed pesticide / fertilizer, harvesting, crop drying and storage.

Household sources – heating (burning wood, coal, gas, etc.).

Increase of the intensity and frequency of extreme weather phenomena.

Focus points:

Change in the way the lands are used, the nature-like afforestation (larger and area protecting forest belts); choosing the right agro-technical practice, replacing fossil fuels at local and small enterprise levels (biomass, bio ethanol, biodiesel, etc.), reducing the emission of methane (modernisation of livestock farms); enhancing eco transportation;

Integrating river basin management; modernisation of forest management (regarding floods, excess surface water and droughts); applying environmentally friendly irrigation, spreading drought tolerant cultures or changing land use, strengthening the integrated approach by Interreg V-A Romania-Hungary Programme.

The main pollution sources in the CBR have been presented in Chapter 4.4, the main pollution sources are traffic, industry, agricultural sources, household sources, noise.

In accordance with international commitments the emission of GHG greenhouse gases must be reduced by 2020, which is coordinated by the national decision-making bodies[150].

4.5 Landscape

Likely environmental conflicts and problems that would occur without intervention:

The inadequately allocated infrastructural developments not carrying local landscape characters (e.g. roads, buildings) could endanger landscape values. It is to be feared that significant development resources contribute to the rapid degradation of both countries' landscape values and landscape character (this process has already been underway for seven decades).

[149] Annual Report on the State of the Environment in Bihor County-2013 (apmbh.anpm.ro), Annual Report on the State of the Environment in Arad County- 2013 (apmar.anpm.ro), Annual Report on the State of the Environment in Timiş County- 2013 (apmtm.anpm.ro), Annual Report on the State of the Environment in Satu Mare County-2013 (apmbh.anpm.ro), Environmental Situation Report of Hungary 2013 (published by the Hungarian Central Statistical Office)

[150] http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-02-13-238/EN/KS-02-13-238-EN.PDF

Focus points:

Land use and spatial structure are of paramount importance in terms of landscape diversity and landscape ecological stability, namely the operation of landscape ecosystems.

The connection of nature-friendly land use patches has actively beneficial impacts on spatial structure. The establishment of nature-friendly locations (e.g. afforestation and wetland habitats) and their fitting into ecological corridors, the connection of forest blocks as well as the bridging and eliminating of ecological barriers should be taken into account.

The establishment and reservation of the mosaic pattern of land use should be promoted. There is a need to consider the change in cultivation methods in the case of nature-friendly land use forms (forests, grasses, reed, water body), or planting on them carefully, according to the local conditions.[151][152]

4.6 Population and human health

Likely environmental conflicts and problems that would occur without intervention:

The level of cross-border “health-migration” is a phenomenon that is difficult to quantify, as only certain parts of the treatments are delivered officially through the public health-care systems. Still, from interviews conducted in the eligible area we can conclude that every year significant numbers of Romanian citizens travel to Hungary to use the services of Hungarian health-care institutions. Official figures from the Hungarian National Health Insurance Fund clearly support this notion. Traffic accidents also mean an increasing trend of emergency situations.

According to the statistics of the Hungarian National Health Insurance Fund the number of Romanian citizens take health services in Hungary was 1.057 in 2010, and 1.536 in 2012, which shows an increasing tendency[153].

Focus points:

The health-care system of the area is quite unbalanced: in Hungary, the general conditions and the level of equipment of health-care facilities (especially hospitals) is better than on the Romanian side. This results in "health-care migration" - many Romanian residents living in the proximity of the border travel to Hungary for treatments - but this process is not properly organized or coordinated, and its financing is also problematic (even though the related EU directive entered into force in 2013). In the long run, the better coordination of patient flow, the creation of a system enabling cross-financing, the harmonization of development between the relevant hospitals, and the improvement of the general quality of facilities in Romania in order to mitigate the migration pressure would be beneficial. [154]

Ways of improving the quality of life: the development of agricultural, environmental and urban infrastructure, the integrated protection of built, natural and cultural heritage of rural settlements, supporting the programmes of rural communities for population retaining capacity and increasing revenues and the improvement of rural employment conditions.

[151] Source: http://www.tankonyvtar.hu/hu/tartalom/tamop425/0032_fenntarthato_mg_rendszerek_es_kornyezettechnologia/ch16.html

[152] Annual Report on the State of the Environment in Bihor County-2013 (apmbh.anpm.ro), Annual Report on the State of the Environment in Arad County- 2013 (apmar.anpm.ro), Annual Report on the State of the Environment in Timiş County- 2013 (apmtm.anpm.ro), Annual Report on the State of the Environment in Satu Mare County-2013 (apmbh.anpm.ro), Environmental Situation Report of Hungary 2013 (published by the Hungarian Central Statistical Office)

[153] http://www.oep.hu/felso_menu/szakmai_oldalak/publikus_forgalim_adatok

[154] http://www.oep.hu/felso_menu/szakmai_oldalak/publikus_forgalim_adatok

The touristic utilisation of the local and regional landscape-natural and cultural heritage attractions improve the disadvantageous employment conditions of rural regions. [155]

4.7 Material assets, cultural heritage including architectural and archaeological heritage

Likely environmental conflicts and problems that would occur without intervention:

The main challenges of the tourism sector include both infrastructural and organisational deficiencies, in Hungary and Romania alike. Insufficient infrastructure (precarious technical state or the lack thereof, lack of touristic road signs) complicates the accessibility towards certain destinations. While the spas and other infrastructure elements related to health tourism are quite developed in Hungary, this is not the case on the Romanian side of the border; tapping into the touristic potential of thermal water is hindered by run-down infrastructure. In general, the quality and availability of tourism services is poor, with the exception of the primary touristic centres. A further problem is the continuous degradation of the cultural-artistic heritage.

In addition to infrastructural deficiencies, there are other issues that hinder the better use of touristic potential, including the insufficient and not properly coordinated promotion of touristic values and the lack of information and tourist maps.

Coordination across the border is also largely lacking – many of the natural and historic values, touristic facilities are standalone attractions, rather than integral parts of a solid package. This is a problem, as these values in themselves are not attractive enough to increase the number of tourists.

Focus points:

The cross-border area is rich in touristic attractions - both in cultural and in natural heritage.

Arad: well-balanced landscape (the hill-plain-mountain alternation), natural protected areas, historic and architectural monuments (citadels, castles, monasteries, churches), watermills, ethnographic centres, etc.

Békés: Körös, Barcău rivers, burial mounds, castle and spa of Gyula, etc.

Bihor: 4 main rivers (Crişul Repede, Crişul Negru, Barcău, Ier), lakes, waterfalls, caves, Apuseni Mountains National Park, Cefa Natural Park natural protected areas, architectural and historic monuments (eg. religious buildings, wooden churches), etc.

Csongrád: Tisza, Körös, Maros rivers, historical site of Ópusztaszer, archaeological sites, protected monuments (e.g. in Szeged, Hódmezővásárhely, Csongrád), etc.

Hajdú-Bihar: Hortobágy Natural Park (World Heritage), old burial sites, Árpád-era temple ruins, churches, bridges (e.g. nine-arch stone bridge in Hortobágy), the largest spa in Europe (Hajdúszoboszló), etc.

Satu Mare: remarkable natural landscapes, old cultural institutions (e.g. North Theatre in Satu Mare), historical sites (e.g. cathedral, churches, reservation of the free Dacians, castle of the Karolyi family in Carei, open-air museum in Negreşti Oaş), etc.

Szabolcs-Szatmár-Bereg: Tisza River, Szatmár-Bereg region, medieval churches, watermill, castles (e.g. Szabolcs, Tiszadob, Vaja), spa, village museum and zoo in Nyíregyháza-Sóstó, etc.

Timiş: karst landscape, natural reservations, medieval castles and citadels, architectural and monastery structures (e.g. Timişoara), etc.

[155] Source: Hubay, József: Human and Natural Resources of Hungary, 1992

In addition to physical places and attractions, a rich tradition of touristic events and festivals (gastro, music, theatre, dance, wine and other drinks, ethnography, religious, etc.) has been developing in the area in recent years.

5 The environmental protection objectives, established at international, Community or Member State level, which are relevant to the programme and the way those objectives and any environmental considerations have been taken into account during its preparation

The relevant environmental issues and objectives have been selected and formulated on the bases of national and EU objectives and obligations. The list of national and EU policy frameworks has been presented in Annex 3.

The guiding questions for each environmental issue are derived from environmental protection objectives which are based on environmental policies at EU and national level – both Hungarian and Romanian. The table shows the environmental issues concerned and the guiding questions, which have to be answered during the assessment.

The requirements for the objectives:

- An objective is a statement of what is intended, specifying a desired direction of change.
- SEA objectives should follow from the environmental problems
- The objectives of the programme are to be based on sustainability considerations, and the development of the SEA objectives may help to promote ideas for making them more environmentally friendly and sustainable.
- SEA objectives are devised to test the environmental effects of the programme or to compare the effects of alternatives.
- Objectives can be expressed so that they are measurable.
- SEA objectives have been formulated taking into consideration the requirement of environmental protection objectives identified in environmental policy framework.

Environmental Issue	Relevant environmental objectives	Guiding questions
Biodiversity, flora, fauna **NATURA 2000**	O1 Protect and improve the conditions and functions of terrestrial, aquatic eco-systems against anthropogenic degradation, habitat fragmentation and deforestation O2 To provide a favourable state of prevention for the protected species and the sustainable use of biodiversity components. O3 Preserve the natural diversity of flora, fauna and habitats in the protected area and potential Natura 2000 sites	Which Natura2000 sites will be affected? Will the programme have an effect on promotion and protection of natural habitats? Will the programme affect the decrease of habitat and species fragmentation? Will the programme help to stop and prevent the spread of invasive alien species?
Soil and land use	O4 Limit point and diffused pollution of soil and facilitate soil	Will revitalization of brownfields be

	protection from water and wind erosion.	supported? Will the programme promote sustainable land use?
Water (surface waters, groundwaters)[156]	O5 Sustainability of water resources, protection of groundwater as sources of drinking water, systematic improvement of the chemical and ecological status of European waters. O6 Limit water pollution from point and diffuse pollution sources.	Will the programme have an effect on the increasing of ecological and chemical status of surface waters and groundwater? Will the programme help flood risk mitigation? Does the programme have an influence on the water quality within the meaning of the Water Framework Directive? Does the programme have an influence on the hydro-morphology of the river systems? Does the programme have an influence on the sustainable use of the resource water?
Air and fighting climate change	O7 Improvement and maintenance of air quality within the limits set by the laws. O8 Promoting policies and measures to adapt to climate change.	Will there be supported projects aimed at reducing air pollution and improving air quality? Will projects reduce air pollution in urban areas? Will the supported projects contribute to the implementation of policies and measures to adapt to climate change?
Landscape	O9 Ensure protection of natural and cultural landscape (e.g. by revitalization of brownfields)	Will the programme promote public and private involvement in solving environmental issues? Will waste/landfill recovery, land recycling be supported?
Population and human health	O10 Facilitate improvement of human health by implementing measures aimed at pollution prevention and mitigation of old burdens (e.g. brownfields, mining waste, etc.)	Will human health be improved due to activities supported? Will projects aimed at the reduction of noise pollution be supported? Will human health be improved due

[156] All the environmental objectives relevant to the environmental factors “water” (surface water, underground water) are in line with the National Management Plan for Catchments and in line with the provisions of environmental permit no.23/09.07.2013 issued by the Ministry of Environment and Climate Change Romania:
-Ecological restoration/Re-vegetation/Re-naturalization of rivers
Specific objectives: avoiding alteration and anthropogenic influences in watershed geomorphology, achievement of environmental objectives, prevention of all the surface water damage, protection, rehabilitation and improvement of surface waters with the aim to achieve the good status of surface waters, protection and improvement of all artificial water bodies or waters heavily modified with the aim to achieve one better ecological potential or one better chemical status, reduction of flood and drought risks, realization of some artificial lakes, polders and embankment works, regulation of water courses in line with the conservation of wetlands.

		to the activities supported?
Material assets, cultural heritage including architectural and archaeological heritage	O11 Ensure protection of natural and cultural landscape by revitalization of brownfields and protection of natural habitats from fragmentation due to traffic corridors	Will there be measures to protect natural and cultural landscape? Will projects aimed at the protection of national heritage be supported? Will the programme promote the sustainable use of material resources?

6 The likely significant effects on the environment, including such issues as biodiversity, population, human health, fauna, flora, soil, water, air, fight against climate change, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above mentioned factors

The core of the assessment process is the following question: “How does the situation of the relevant protected environmental assets in the cooperation area improve or deteriorate (in comparison to the non-implementation of the programme - the zero option), if the measures of the programme are implemented in the eligible area?”

In general, the implementation of the cooperation programme results in the improvement of the overall environmental condition of the eligible area. However, the envisaged actions have cross-impacts beyond the direct implementation area, and the determination of positive and negative effects also has to be handled.

The description of the status quo and the development trend results from a comparison of the zero option and the programme impact. This has been elaborated by means of an analysis of the present situation and the description of possible development based on reasonable assumptions. In case of the protected environmental aspects, the possible progress based on the proposed actions under each specific objective could be the following:

Biodiversity, flora, fauna, Natura 2000 sites:

- Protection and improvement of the conditions and functions of terrestrial, aquatic eco-systems against anthropogenic degradation, habitat fragmentation and deforestation;
- Conservation of flora and / or fauna, habitats, which have been designated protected natural areas of international/ community and national interest
- Protection of designated wildlife and geological sites and species;
- Identification of threatened ecosystems outside protected areas;
- Protection of migration corridors.

Soil and land use:

- Limited point source and diffused pollution of soil, protection from water and wind erosion;
- Reduced waste generation, with the increase of waste recovery and recycling.

Water (surface waters, groundwaters)

- Sustainable water resource management, protection of groundwater and drinking water, systematic water quality improvement, achieving the chemical and ecological status of European waters;
- Reducing the effects on aquifer recharge and water supply;
- Limit water pollution from point and diffuse pollution sources;
- Reducing the effects of flood regimes and extreme rainfall events – amelioration;
- Improvement of water distributing system

Air and fighting climate change:

- Limited air pollution and limit the negative effects generated by climate changes
- Maintain and improve the quality of ambient air within the limits set by the legal norms
- Minimize the air pollution impact generated by transport

- Applying lower energy demand processes (energy efficient methods)
- Sustainable transport
- Investment in forestry and other biodiversity

Landscape:

- Ensure the protection of natural and cultural landscape (e.g. by revitalization of brownfields)
- Facilitate energy generation from renewable resources
- Protect and improve the conditions and functions of terrestrial and aquatic eco-systems against anthropogenic degradation, habitat fragmentation and deforestation

Population and human health:

- Facilitate the improvement of human health by implementing measures aimed at pollution prevention and mitigation of old burdens (e.g. brownfields, mining waste, etc.);
- Protect and improve the condition of settlements with respect to transport nodes, in particular noise and vibration;
- Improvement of intermodal transportation methods;
- Protect and improve the condition of settlements with respect to noise;
- Facilitate "Green tourism" projects, applying environmentally friendly tourism destinations;

Material assets, cultural heritage including architectural and archaeological heritage:

- Ensure the protection of natural and cultural landscapes by the revitalization of brownfields and the protection of natural habitats from fragmentation due to traffic corridors
- Identifying vulnerable infrastructure/property affected by extreme weather conditions (e.g. rainfalls, floods)

6.1 Comparison of trend and programme impact

Environmental issue	Trend in „zero option"	Development with the programme
Biodiversity, flora, fauna NATURA 2000	-	+
Soil and land use	-	+
Water (surface waters, groundwaters)	-	++
Air and fighting climate change	-	+
Landscape	-	+
Population and human health	--	+
Material assets, cultural heritage including architectural and archaeological heritage	-	+
Interrelationship between the mentioned environmental issues	-	+

Key for Comparison of trend and programme impact

++	Very positive development	--	Very negative development
+	Positive development	o	No change
+/-	Positive and negative development	=	No Assessment possible
-	Negative development		

6.2 Evaluation of the measures included in the cooperation programme

The following summary evaluates the possible direct and indirect environmental impacts of the planned priorities and areas of interventions.

PA1: Joint protection and efficient use of common values and resources (TO6. Preserving and protecting the environment and promoting resource efficiency)

Specific objective 6/b: Improved quality management of cross-border rivers and ground water bodies

Integrated cross-border water management will address the effects of climate change. The transboundary surface and groundwater basins will be well-protected against pollution. Coordinated and integrated interventions will be carried out including water quality monitoring, gathering accurate information and data. The current database could be exchanged and made available on both sides of the border. Natural waters will be rehabilitated in a joint manner. As a result of the various interventions foreseen, the water quality of cross-border rivers and water basins will improve, and also the potential negative impacts of climate change will be mitigated. The geothermal potential of the eligible area will be utilized.

Specific objective 6/c: Sustainable use of natural, historic and cultural heritage within the eligible area

By means of implementing interventions envisaged, which will result in improved conditions of the values, a joint touristic potential will be offered, key natural, historic and cultural heritage will be rehabilitated in an integrated approach. Accessibility will be developed, applying environmentally friendly transport methods, if possible. Attractive and internationally competitive thematic routes will be developed if possible, and joint tourism destinations will be established. As a result, the increase of the number of visitors is expected. Tourism can be foreseen to develop to a competitive extent.

PA2: Improve sustainable cross-border mobility and remove bottlenecks (TO7: Promoting sustainable transport and removing bottlenecks in key network infrastructures)

Specific objective 7/b: Improved cross-border accessibility through connecting secondary and tertiary nodes to TEN-T infrastructure

With the implementation of the actions the overall travel time will be shorter, and accessibility across the border will be enhanced. The access of TEN-T networks will be solved for settlements on the periphery. Time-consuming travel will be shortened. As a result of the various interventions, it is expected that the average travel time of passengers crossing the border will decrease.

Specific Objective 7/c: Increased proportion of passengers using sustainable – low carbon, low noise – forms of cross-border transport

Public transportation (including timetable harmonization, establishment of cross-border public transport links between major settlements of the eligible area) will be developed. Establishment of multimodal transport methods creates links between various transport modes. Cross-border environmentally friendly transport solutions will be offered by building

bicycle routes. As a result, an increase in the number of the users of cross-border public transport services and bicycle routes can be expected.

PA3: Improve employment and promote cross-border labour mobility (TO8: Promoting sustainable and quality employment and supporting labour mobility)

Specific Objective 8/b: Increased employment within the eligible area

The business environment will be improved (industrial areas), cooperation will be enhanced based on mutual advantages, and facilities will be developed, enabling the cross-border sales of local products. Cross-border mobility will also be improved in the entire area. The accessibility of important facilities, cultural or natural values will be strengthened. The employment rates of the eligible territories are expected to increase.

PA4: Improving health-care services (TO9: Promoting social inclusion and combating poverty and any discrimination)

Specific Objective 9/a: Improved preventive and curative health-care services across the eligible area

The health-care system will be balanced in the eligible area. The outdated and run-down infrastructure and equipment will be replaced by efficient diagnostic and treatment methods. The results will be that cross-border patient information and medical history become mutually available and transparent, which will be realized through a cross-border communication system, telemedical infrastructure and knowledge transfer. The harmonization of development plans will bring solutions to the differences between the national health-care strategies and ensure the consistency and balance of both preventive and curative medical care in the eligible area. As a result, an increase in the number of people benefiting from improved health services across the border can be expected, resulting in a balanced treatment system.

PA5: Improve risk-prevention and disaster management (TO5: Promoting climate change adaptation, risk prevention and management)

Specific Objective 5/b: Improved cross-border disasters and risk management

Emergency response actions will be jointly handled with integrated capacity. Immediate help will be provided from the other side of the border. Emergency response time will be reduced. As a result, an increase in the number of people benefiting from the joint emergency response system can be expected.

PA6: Promoting cross-border cooperation between institutions and citizens (TO11: Enhancing institutional capacity of public authorities and stakeholders and efficient public administration.)

Specific Objective 11/b: Intensify sustainable cross-border cooperation of institutions and communities

Communities close to the state border will share and develop in a coordinated way their facilities, infrastructure and capacities, avoiding parallel tasks and duties. Jointly created and exchanged best practices and benchmarking methods will be used. The regulatory background could be harmonized. The administrative burdens will be reduced. Cooperation, joint cultural, educational and sports programmes will bring people and communities closer. As a result, an increase in the number of institutions and also of people benefiting from the cooperation can be expected, which contributes to harmonization.

Providing support to initiatives and events promoting and preserving cultural diversity and common traditions – involving the local civil society. Examples may include support to small-scale cooperation initiatives of communities, civil organizations and institutions in the fields of

culture, sports, and youth. Other leisure activities are essential from a social and cultural point of view.

The assessment of the effects on the environmental issues is based on the following:

The impact matrix represents the test of the objectives of the programme against the SEA objectives, which shows the synergies and determine the environmental aspects to be improved or to be taken into consideration when implementing the programme.

	Environmental issues										
	Biodiversity, flora, fauna Natura 2000			**Soil and land use**	**Water (surface waters, groundwaters)**		**Air and fighting climate change**		**Landscape**	**Population and human health**	**Material assets, cultural heritage including architectural and archaeological heritage**
	O1 Protect and improve the conditions and functions of terrestrial, aquatic eco-systems against anthropogenic degradation, habitat fragmentation and deforestation	O2 To provide a favourable state of prevention for the protected species and the sustainable use of biodiversity components.	O3 Preserve the natural diversity of flora, fauna and habitats in the protected area and potential Natura 2000 sites	O4 Limit point and diffused pollution of soil and facilitate soil protection from water and wind erosion	O5 Sustainability of water resources, protection of groundwater as sources of drinking water, systematic improvement of the chemical and ecological status of European waters.	O6 Limit water pollution from point and diffuse pollution sources	O7 Improvement and maintenance of air quality within the limits set by the laws.	O8 Promoting policies and measures to adapt to climate change.	O9 Ensure protection of natural and cultural landscape(e.g. by revitalization of brownfields)	O10 Facilitate improvement of human health by pollution prevention and mitigation of old burdens (e.g. brownfields, mining waste, etc.)	O11 Ensure protection of natural and cultural landscape by revitalization of brownfields and protection of natural habitats from fragmentation due to traffic corridors
	PA1: Joint protection and efficient use of common values and resources										
SO6/b: Improved quality management of cross-border rivers and ground water bodies	L-	L-	L+	L++	L++	L++	0	L+	L-	L++	L+
SO6/c: Sustainable use of	L+	L+	L+	L-	0	0	L-	0	L+	L++	L+

natural, historic and cultural heritage within the eligible area											
	PA2: Improve sustainable cross-border mobility and remove bottlenecks										
SO7/b Improved cross-border accessibility through connecting secondary and tertiary nodes to TEN-T infrastructure	L-	L-	L-	L-	0	0	L-	L+	L+	0	0
SO7/c: Increasedproportion of passengers using sustainable – low carbon, low noise – forms of cross-border transport	0	0	0	0	0	0	L+	L+	L+	L++	L+
	PA3: Improve employment and promote cross-border labour mobility										
SO8/b: Increased employment within the eligible area	L-	K-	K-	L-	0	0	L-	L-	K-	L++	0

	PA4: Improving health-care services										
SO9/a: Improved preventive and curative health-care services across the eligible area	L-	0	0	L-	0	0	L-	L-	K-	L++	0
	PA5: Improve risk-prevention and disaster management										
SO5/b: Improved cross-border disasters and risk management	L+	L+	L+	0	L+	L+	L+	L+	0	L++	0
	PA6: Promoting cross-border cooperation between institutions and citizens										
SO11/b: Intensify sustainable cross-border cooperation of institutions and communities	0	0	0	0	0	0	0	0	0	L++	K+

The meaning of the symbols used in the impact matrix:

L	existing relationship, in practice as well
K	relationship direction that can be or shall be established, undeveloped or not established in practice until now
0	neutral relationship
+ +	very positive relationship from the aspect of environmental sustainability
+	positive relationship from the aspect of environmental sustainability
- -	very negative relationship from the aspect of environmental sustainability
-	negative relationship from the aspect of environmental sustainability

During the investigation process with environmental objectives in the impact matrix, the sustainability conditions system determined by the 1st step are represented by the columns of the table in a simplified, short version. The lines are created on the basis of the priority axes and areas of interventions of the cooperation programme. Each matrix field shows that a certain condition impacts on which objective, and the intensity and direction of their relationship. A requirement of similar impact matrices is clarity, and their main flaw in general is the over-complexity of the relationship indications.

The direction of the relationship is marked with “L” and “K”, where “L” means an actual relationship existing in practice, and “K” denotes a so far unexplored relationship that has not been established in practice. With reference to the notation system of the matrix, relationships that are mentioned in the text of a specific action plan are marked “L”, while those that do not appear in the text (depending on whether they really do not exist, or in fact exist, or it is desirable to establish them) are marked “0” or “K”. When using both “L” and “K”, particular attention is paid to the fact that the implementation of a given component may trigger conflicting effects, which are detailed in the explanation. Taking into account long-term goals is important because the concrete activities of a particular investment, or construction by their very nature are almost always harmful to the environment, however, the development that is realized through the investment is expected to produce much more significant positive consequences than the once-off negative impacts. According to the long-term goals of investments, in many cases, for example, although the construction itself would be marked “L” with regard to most priorities, marks “L” or “K” are more common for the development as a whole, taking into account whether the exploration of the positive environmental impact of the development also appears in the action plan, or whether it can be established on the basis of our recommendations.

The comparison between the priority axes and the environmental priorities is the vital task of the SEA. This task can be efficiently performed by the analysis of the impact matrix. Referring to the indication key of the matrix, the relationships presented are marked by L, while the ones not presented in the text (depending whether they do or do not exist in reality, or if it would be desirable to establish them) are marked by 0 or K. In case L or K is used, we pay special attention because the performance of a certain component can trigger opposite impacts, which are detailed in the explanation.

Taking into consideration the long-term goals is important because the specific activities involved in investments, construction projects, due to their nature, damage the environment in almost every case, but the expected positive results of said investments considerably outweigh the one-off negative impacts. The next chapter analyses the environmental impacts of the specific areas of interventions and the tables include the outline of the measures that can be applied to strengthen positive investment impacts and to mitigate potential negative environmental impacts.

7 The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme

7.1 Measures to prevent and reduce the considerably harmful environmental impacts

The presumably considerable impacts on the environment have been elaborated and as a result of this, the proposed measures have been presented in the following tables, which are suggested in order to prevent, to reduce and to compensate as far as possible for the considerably harmful environmental impacts. The tables present the findings at the level of the key areas of interventions.

<table>
<tr><td colspan="3">Priority axis: Nr. 1: Joint protection and efficient use of common values and resources
SO6/b: Improved quality management of cross-border rivers and ground water bodies</td></tr>
<tr><td>Biodiversity, flora, fauna Natura 2000: L-</td><td>Soil and land use: L++</td><td>Water (surface waters, groundwaters): L++</td></tr>
<tr><td>Air and fighting climate change: L+</td><td>Landscape: L-</td><td>Population and human health: L++</td></tr>
<tr><td>Material assets, cultural heritage including architectural and archaeological heritage: L+</td><td>Interrelationship between the mentioned environmental issues: L++</td><td></td></tr>
<tr><td colspan="3">Description of the likely considerable impacts on the environment:
The hard investments of the specific objective will have negative impact on the quality of life of ecosystems without compromising ecological corridors.
The more efficient use of water resources with the protection of the water base, improved water quality and an improved water quality monitoring system and data exchange could have positive impact on climate change adaptation and the negative impacts of climate change could be reduced.
The specific objective will have positive impact through the integrated approach-of water management.
The elimination of pollution sources will also have positive impact by providing better possibilities of land usage.
Various interventions could positively contribute to the improvement of the water quality of cross-border rivers and water basins, and to the mitigation of the negative impacts of climate change, resulting in better living conditions in the eligible area.</td></tr>
<tr><td colspan="3">Measures to prevent and reduce the considerably harmful environmental impacts:
Sustainable planning and management could have a positive effect on the protection and preservation of cultural and natural landscapes for example by the reduction of land consumption, or by reducing the effects of transport, and agriculture. In order to achieve these:
▪ any project not directly connected with or necessary to the management of the Natura 2000 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
▪ construction activities shall be limited only within the projects' scope. The use of the existing roads for access should be applied wherever possible</td></tr>
</table>

▪ construction materials and waste shall be disposed of only at the places designated for this purpose
How the likely environmental developments reflect the relevant guiding questions: ▪ improved water management methods ▪ protection of natural and inhabited values ▪ improved water quality (surface and groundwater)

Priority axis: Nr. 1: Joint protection and efficient use of common values and resources **SO6/c: Sustainable use of natural, historicand cultural heritage within the eligible area**		
Biodiversity, flora, fauna Natura 2000: L+	**Soil and land use**: L-	**Water (surface waters, groundwaters): 0**
Air and fighting climate change: 0	**Landscape: L+**	**Population and human health: L++**
Material assets, cultural heritage including architectural and archaeological heritage: L+	**Interrelationship between the mentioned environmental issues**: L+	
Description of the likely considerable impacts on the environment: The specific objective will reach positive impact through the rehabilitation of key natural, historic and cultural heritage and their accessibility will be improved. Attractive and internationally competitive thematic routes and joint tourist destinations to be established could contribute to positive impacts on the historic, cultural and natural heritage.		
Measures to prevent and reduce the considerably harmful environmental impacts: ▪ development of the “Green accommodation – green tourism”, ecotourism pattern is to be preferred ▪ In case of the creation of thematic routes, tourism products and services based on the natural and cultural heritage new tourist destinations are to be made accessible by environmentally friendly transport modes is to be preferred ▪ facilitate integrated approach practice, e.g. infrastructure development combined with environmentally friendly tools, climate friendly architectural solutions as preferred if possible ▪ in case of the loss of natural factors (trees, green surfaces, etc.), measures of compensation will be implemented, according to the legislation in force ▪ any project not directly connected with or necessary to the management of the Natura 2000 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 ▪ effective implementation of the measures and conditions contained in the regulatory acts on EIA, EA and CA concerning the construction stage for the particular eligible activity		
How the likely environmental developments reflect the relevant guiding questions: ▪ development of the cultural heritage has a positive effect on landscape architecture ▪ new tourism destinations will be achieved, resulting in environmentally friendly accommodation possibilities		

Priority axis: Nr. 2: Improve sustainable cross-border mobility and remove bottlenecks **SO7/b Improved cross-border accessibility through connecting secondary and tertiary nodes to TEN-T infrastructure**		
Biodiversity, flora, fauna Natura 2000: L-	**Soil and land use**: L-	**Water (surface waters, groundwaters): 0**
Air and fighting climate change: L+	**Landscape: L+**	**Population and human health: 0**

Material assets, cultural heritage including architectural and archaeological heritage: 0	**Interrelationship between the mentioned environmental issues**: 0	

Description of the likely considerable impacts on the environment:

This objective will have likely positive impact on mobility and transport issues, as well as on the support of sustainable freight transport, inter-modality transport methods, decreasing of travel times in the eligible area.

The reduction of the overall environmental impacts transport is expected. Achieving better connectivity and more effective regional transport indirectly will lead to positive impacts on the well-being of the population; decrease in energy consumption and emissions.

The newly built transport infrastructure will necessarily affect land consumption and landscape. Regarding infrastructural projects, in case of newly developed roads, growing traffic intensity is likely, causing the increase of noise level and air pollution load with likely negative impacts on human health.

During construction works there is also a risk of increasing noise level and air pollution loads with possible negative temporary impacts on human health.

Measures to prevent and reduce the considerably harmful environmental impacts:

- noise protection measures should be enforced
- air pollution, waste generation and waste management measures should be included, applying environmentally friendly construction methods (e.g. application of silent road surface) and those should be included among the eligible activities is to be preferred
- promoting environmentally friendly transport alternatives (bicycle routes, e-car rental) and combined transport orientated projects (P+R, B+R) is to be preferred
- any project not directly connected with or necessary to the management of the Natura 2000 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

How the likely environmental developments reflect the relevant guiding questions:

- the projects aim to reduce noise and air pollution
- the projects emphasise public transport and environmentally friendly transport methods instead of vehicle usage

Priority axis: Nr. 2: Improve sustainable cross-border mobility and remove bottlenecks

SO7/c: Increased proportion of passengers using sustainable – low carbon, low noise – forms of cross-border transport

Biodiversity, flora, fauna Natura 2000: 0	**Soil and land use**: 0	**Water (surface waters, groundwaters): 0**
Air and fighting climate change: L+	**Landscape: L+**	**Population and human health: L++**
Material assets, cultural heritage including architectural and archaeological heritage: L+	**Interrelationship between the mentioned environmental issues**: L+	

Description of the likely considerable impacts on the environment:

This objective will have likely positive impact on mobility and transport issues, as well as on the support of sustainable freight transport, inter-modality transport methods, harmonization of timetables, and decreasing of travel times in the eligible area.

Measures to prevent and reduce the considerably harmful environmental impacts:

- promoting environmentally friendly transport alternates (bicycle routes, e-car renting) is to be preferred
- promoting combined transport orientated projects (P+R, B+R) is to be preferred

How the likely environmental developments reflect the relevant guiding questions: ▪ the projects aim to reduce noise and air pollution ▪ the projects emphasise public transport and environmentally friendly transport methods instead of vehicle usage

Priority axis: Nr. 3: Improve employment and promote cross-border labour mobility **SO8/b: Increased employment within the eligible area**		
Biodiversity, flora, fauna Natura 2000: 0	**Soil and land use**: L-	**Water (surface waters, groundwaters): 0**
Air and fighting climate change: L-	**Landscape: K-**	**Population and human health: L++**
Material assets, cultural heritage including architectural and archaeological heritage: 0	**Interrelationship between the mentioned environmental issues**: 0	
Description of the likely considerable impacts on the environment: The specific objective will likely have no significant direct effects on the environmental issues; however, by giving special attention to eco-innovation (e.g. energy efficiency, renewables) and social innovation within smart specialisation, it could have long term positive effects on the environmental elements, population and human health.		
Measures to prevent and reduce the considerably harmful environmental impacts: ▪ promoting the utilization of "brownfields" by new infrastructure developments, in order to utilize existing land instead of agricultural land is to be preferred ▪ protection of natural resources by newly constructed facilities, with the application of BAT (Best Available Technologies) tools (e.g mandatory usage of BREF documents) and the application of renewable energy sources is to be preferred ▪ specific attention should be placed on noise generation and air pollution, waste generation and waste management issues and those should be included among the eligible activities when possible ▪ promoting environmentally friendly transport alternatives (bicycle routes, e-car rental) is to be preferred ▪ any project not directly connected with or necessary to the management of the Natura 2000 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		
How the likely environmental developments reflect the relevant guiding questions: ▪ waste / landfill recovery and land recycling will be supported ▪ revitalization of brownfields will be supported		

Priority axis: Nr. 4: Improving health-care services **SO9/a: Improved preventive and curative health-care services across the eligible area**		
Biodiversity, flora, fauna Natura 2000: 0	**Soil and land use**: L-	**Water (surface waters, groundwaters): 0**
Air and fighting climate change: L-	**Landscape: K-**	**Population and human health: L++**
Material assets, cultural heritage including architectural and archaeological heritage: 0	**Interrelationship between the mentioned environmental issues**: 0	

Description of the likely considerable impacts on the environment: Positive effects on population and human health issues are likely through the balanced health-care system, the improvement of common diagnostic and information database, ceasing "health-care" migration. Harmonized plans will likely bring out positive impact in emergency actions.
Measures to prevent and reduce the considerably harmful environmental impacts: ▪ promoting projects in the application of renewable sources by infrastructure development is to be preferred ▪ specific attention should be placed on noise generation and air pollution, waste generation and waste management issues and those should be included among the eligible activities when possible ▪ promoting environmentally friendly transport alternatives (bicycle routes, e-car rental) is to be preferred ▪ effective implementation of the measures and conditions contained in the regulatory acts on EIA, EA and CA concerning the construction stage for the particular eligible activity
How the likely environmental developments reflect the relevant guiding questions: ▪ human health conditions will be improved ▪ health-care services will be developed

Priority axis: Nr. 5: Improve risk-prevention and disaster management **SO5/b: Improved cross-border disasters and risk management**		
Biodiversity, flora, fauna Natura 2000: L+	**Soil and land use**: 0	**Water (surface waters, groundwaters): L+**
Air and fighting climate change: L+	**Landscape: 0**	**Population and human health: L++**
Material assets, cultural heritage including architectural and archaeological heritage: 0	**Interrelationship between the mentioned environmental issues**: 0	
Description of the likely considerable impacts on the environment: The actions supported under this objective should have indirect, positive long-term environmental impacts. With the development of the preparedness of public authorities and civil protection organisations for emergency responses and related services, the risk and the impacts of disasters (caused mainly by non-functioning ecosystems and man-made changes) on natural resources and human population will decrease. The specific objective will have positive impact through the improvement of the emergency response related services, which also provides preparation for the negative impacts of weather extremes, increased flood risk or drought.		
Measures to prevent and reduce the considerably harmful environmental impacts: ▪ integration of flood risk management plans and nature protection plans into eligible activities, the damage mitigation tools and drought mitigation tools should be applied wherever possible ▪ raising awareness about climate-conscious behavior to be included as eligible activity implementation of the specific projects when possible ▪ to reduce health impacts of disasters, health impact assessment of disaster-related risks (local and regional scale) should be incorporated into plans and strategies (e.g. land use, building, infrastructure, and economic development plans) and it is preferred to be included as eligible activity		
How the likely environmental developments reflect the relevant guiding questions: ▪ the effects of flood regimes and extreme rainfall events will be reduced ▪ human health factors will be improved by risk prevention systems		

Priority axis: Nr. 6: Promoting cross-border cooperation between institutions and citizens **SO11/b: Intensify sustainable cross-border cooperation of institutions and communities**

Biodiversity, flora, fauna Natura 2000: 0	**Soil and land use**: 0	**Water (surface waters, groundwaters): 0**
Air and fighting climate change: 0	**Landscape: 0**	**Population and human health: L++**
Material assets, cultural heritage including architectural and archaeological heritage: K+	**Interrelationship between the mentioned environmental issues**: 0	

Description of the likely considerable impacts on the environment:

Although neither positive nor negative primary effects on environmental issues are expected, the improvement of public administration and institutional capacity will likely have secondary, long-term positive impacts on environmental issues.

Positive impacts on cultural and common traditional issues have to be enhanced in case of actions supported under this specific objective.

Measures to prevent and reduce the considerably harmful environmental impacts:

- promoting action / processes of selective waste collection in offices (e.g. paper reuse, selective waste collection and waste recycling) or in the frame of joint events according to the national legislations in force is to be preferred
- supporting civil activities related to local environmental development programmes is to be preferred
- supporting local activities in connection with awareness-raising projects (training, educational events, etc.) is to be preferred
- supporting as eligible activity: raising awareness related to resource efficiency, climate-conscious behaviour is to be preferred

How the likely environmental developments reflect the relevant guiding questions:

- human health factors will be improved

7.2 Conclusions and recommendations

7.2.1 Conclusions

The purpose of the recent cooperation programme is the integrated development of the eligible area. An integrated approach not only means that the actions have to planned in the eligible area, but the relevant interventions have to be handled in a joint manner, considering the possible effects on the different areas of intervention – within the confinements of the national laws. This means that during implementation water management actions and effects on natural values also have to be identified. In case of hard installation measures on flood protection, the negative impact on wildlife habitats has to be minimized. The improvement of the data collection and monitoring system for a more accurate assessment of water resource balances (quantity, quality) is also needed.

Related to natural and cultural heritage valorisation objective, projects with no landscape changing impacts should be supported. In case of loss of natural factors (trees, green surfaces, etc.) compensation will be implemented, according to the legislation in force. As much as the project is affecting green spaces in the eligible area, it shall be necessary by regulation to replant the affected areas both in Romania and Hungary.

In Romania, regulation OM 135/2010 outlines certain measures regarding compensation and as it is established in Law 46/2008 by the Forestry Code in case of the removal of forest new areas are to be replanted elsewhere.

In Hungary the Act XXXVII of 2009 on the forest, the forest conservation and forest management and the Government Decree 346 of 2008. (XII.30.) on the protection of woody plants outlines certain measures regarding compensation.

Special attention should be paid to objectives and actions linked to the improvement of the transport system and the preparation of strategic investments in regional transport infrastructure, the promotion of sustainable freight transport and management. Supporting these actions could lead to an increase in land take, the fragmentation of habitats and additional impact through air and noise pollution in sensitive areas. The effective consideration of environmental and possibly other sustainability aspects has to be ensured, as well as in case of energy planning and coordination actions in order to avoid negative side-effects of growing green energy utilization (e.g. one-sided biomass production, adverse effects on hydromorphology, noise, negative impact on landscape). It is suggested that these settlements shall be supported only under the strict control of and in cooperation with the relevant authorities.

Road infrastructure development activities should be limited within the scope of the specific project. In view of the location of each new road site, the plans should be in conformity with the regulatory acts for the use of protected areas, protected sites, water protection, preservation of the cultural-historical heritage, conformity with the sanitary protection zones and sites subject to health protection.

In case of constructions no materials and substances shall be used, which can lead to any kind of pollution or damage to the ecosystems.

Sharing information is essential for coordination and common development, reducing parallel tasks and duties and providing efficient cross-border cooperation. The application of best practice guidance and benchmarking methods will shorten the implementation period. With the harmonization of the legislative background, project development is expected to be more efficient.

The aspects of sustainable management and protection of environmental resources have to be taken into consideration at the implementation of the specific projects.

The specific objectives require non-structural and structural measures. Non-structural methods mainly mean the development of the institutional and legislative backgrounds, with the adoption of best practice and assessment guidance (e.g. relevant guide books), while structural methods reflect on infrastructure-related questions and applying integrated elements. The key elements:

- application of environmentally friendly methods
- special attention on noise generation and air pollution load during the implementation of projects
- the sustainable use of environmental elements (soil, natural resources, etc.)
- environmentally friendly development methods; integrate energy efficiency into horizontal principle
- fight against climate change by reducing emissions of greenhouse gases and adjustment to climate change
- nature protection (conservation of biodiversity)
- energy efficiency

The projects selected for financing shall be implemented only after obtaining the regulatory act from the competent environmental authority.

A clear commitment from both countries (RO and HU) is needed with regard to the measures identified in the SEA process for prevention, reduction and, where possible, offsetting any possible significant effects on the environment resulting from the implementation of the Programme. Chapter 7.1 describes the measures that pertain to

prevention, reduction and, where possible, offsetting any possible significant effects on the environment resulting from the implementation of the Programme", according to the following:

7.2.2 Suggested measures for each specific objective:

SO6/b Improved quality management of cross-border rivers and ground water bodies:

Measuring tools have to reflect to the recent questions in the field of protecting water resources and groundwater. The applied methods have to fulfil both legislation and territorial development requirements. It is suggested to examine the possibilities of water transport methods.

In case of cross-border water protection and management activities, special attention should be paid to the environmental regulatory acts of investments in the project selection phase. It is necessary to obtain the environmental regulatory acts as a precondition for financing in case of construction projects. The exact procedure will be established in the Applicant Guide.

Suggested mitigation measures::

Sustainable planning and management could have a positive effect on the protection and preservation of cultural and natural landscapes for example by the reduction of land consumption, or by reducing the effects of transport, and agriculture. In order to achieve these:

- any project not directly connected with or necessary to the management of the Natura 2000 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.
- construction activities shall be limited only within the projects' scope. The use of the existing roads for access should be applied wherever possible;
- construction materials and waste shall be disposed of only at the places designated for this purpose

SO6/c Sustainable use of natural, historic and cultural heritage within the eligible area:

Cadastral registration, nature preservation plans, and their harmonization with flood risk management plans form the basis of determining the intervention methods. The planned interventions have to reflect on the plans' short and long term aims, in order to preserve the eligible area's natural and cultural values.

Suggested mitigation measures:

- development of the "Green accommodation – green tourism", ecotourism pattern is to be preferred
- In case of the creation of thematic routes, tourism products and services based on the natural and cultural heritage new tourist destinations are to be made accessible by environmentally friendly transport modes is to be preferred
- facilitate integrated approach practice, e.g. infrastructure development combined with environmentally friendly tools, climate friendly architectural solutions as preferred if possible
- in case of loss of natural factors (trees, green surfaces, etc.), measures of compensation will be implemented, according to the legislation in force
- any project not directly connected with or necessary to the management of the Natura 2000 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.

- effective implementation of the measures and conditions contained in the regulatory acts on EIA, EA and CA concerning the construction stage for the particular eligible activity

SO7/b Improved cross-border accessibility through connecting secondary and tertiary nodes to TEN-T infrastructure and SO7/c Increased proportion of passengers using sustainable – low carbon, low noise – forms of cross-border transport

In accordance with the EU's objective, the application of environmentally friendly transport methods has to be preferred. It not only means the development of infrastructure (intermodality, bicycle roads, etc.), but also the awareness-raising processes (education, green tourism, promotion, etc.).

Suggested mitigation measures:

- noise protection measures should be placed included
- air pollution, waste generation and waste management measures should be included, applying environmentally friendly construction methods (e.g. application of silent road surface) and those should be included among the eligible activities is to be preferred
- promoting environmentally friendly transport alternatives (bicycle routes, e-car rental) and combined transport orientated projects (P+R, B+R) is to be preferred
- any project not directly connected with or necessary to the management of the Natura 2000 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 objective.

SO8/b Increased employment within the eligible area:

Cross-border cooperation enables the improvement of local businesses. The facility development has to be fulfilled with the sustainable usage of natural resources, with the revitalization of brownfields, avoiding the withdrawal of soil capacity.

Suggested mitigation measures:

- promoting the utilization of "brownfields" by new infrastructure developments, in order to utilize existing land instead of agricultural land is to be preferred
- protection of natural resources by newly constructed facilities, with the application of BAT tools (i.e. best available techniques) (e.g. mandatory usage of BREF documents, i.e. BAT (Best Available Techniques) Reference) and the application of renewable energy sources is to be preferred
- specific attention should be placed on noise generation and air pollution, waste generation and waste management issues and those should be included among the eligible activities when possible
- promoting environmentally friendly transport alternatives (bicycle routes, e-car rental) is to be preferred
- any project not directly connected with or necessary to the management of the Natura 2000 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 objective.

SO9/a Improved preventive and curative health-care services across the eligible area:

Health-care development has to be handled by integrated approach also. Facility development has to be implemented with the application of best available techniques (e.g. energy efficiency), but best practice also means the structural institutional development, with the application of available recreational alternatives (medical tourism).

Suggested mitigation measures:

- promote projects in the application of renewable sources by infrastructure development is to be preferred
- specific attention should be placed on noise generation and air pollution, waste generation and waste management issues and those should be included among the eligible activities when possible
- promoting environmentally friendly transport alternatives (bicycle routes, e-car rental) is to be preferred
- effective implementation of the measures and conditions contained in the regulatory acts on EIA, EA and CA concerning the construction stage for the particular eligible activity

SO5b Improved cross-border disasters and risk management:

Disaster management has to be handled integrated with the relevant legal obligations, enabling cross-border cooperation. Disaster management plans have to be elaborated, with common cooperation background.

Regarding flooding problems it is expected to clearly identify how they will be addressed in the programme. Floods are treated in terms of different activities, some promote investments and others promote interventions There should be a clear definition of where and how flooding will be introduced in the Programme. If floods are treated from more than one point of view, the differences should be clearly specified. Integrated flood risk management and land utilization plans are also required, in accordance with the relevant obligations.

Suggested mitigation measures:

- integration of flood risk management plans and nature protection plans into eligible activities, damage mitigation tools and drought mitigation tools should be applied wherever possible
- raising awareness about climate-conscious behaviour to be included as eligible activity implementation of the specific projects when possible
- to reduce health impacts of disasters, health impact assessment of disaster-related risks (local and regional scale) should be incorporated into plans and strategies (e.g. land use, building, infrastructure, and economic development plans) and it is preferred to be included as eligible activity.

SO11b Intensify sustainable cross-border cooperation of institutions and communities:

With the coordinated way of sharing information, parallel tasks will be eliminated. With the application of management plans and guidance (based on legal background), administrative burdens will be reduced. With the creation of the infrastructure and IT background, cooperation will evolve between the institutes and communities.

Suggested mitigation measures:

- promoting actions / processes of selective waste collection in offices (e.g. paper reuse, selective waste collection and waste recycling) or in the frame of joint events according to the national legislations in force is to be preferred
- support civil activities related to local environmental development programmes is to be preferred
- support local activities in connection with awareness-raising projects (training, educational events, etc.) is to be preferred
- supporting as eligible activity: raising awareness related to resource efficiency, climate-conscious behaviour is to be preferred

All the proposed measures are to be discussed with the planning team of experts dealing with the programme. The pertinent observations, according to the needs of the eligible area, are to be incorporated into the programme.

8 An outline of the reasons for selecting the considered alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information

The relevant legislation - both Directive 2001/42/EC, GD 1076/2004 in Romania and GD 2/2005 in Hungary – require the reasonable alternatives of the programme to be considered within the environmental assessment. Where strategic environmental assessment is required by Directive 2001/42/EC, an environmental report should be prepared containing reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme identified, described and evaluated.

Cooperation Programmes are special in terms of alternatives, because usually there are no different potential variations to examine – they are generated in the planning process. The Cooperation Programme Document, April 2015 is the result of a planning process that started already in early 2013, and was coordinated by the Joint Working Group. As a first step of this planning process the Strategic Territorial Analysis (STA) was carried out analysing the whole cross-border eligible area. The next step was the design of a joint strategy set out to address the main challenges identified and to exploit the joint potentials of the eligible border area. Throughout the planning process an approach was followed which combines evidence-, vision- and participation-based strategy development processes. The joint strategy is the result of an iterative and cooperative planning process.

In the frame of this planning process, consultations with the local stakeholders were delivered to guide not only the analysis and identification of needs, but also the selection of priorities and related specific objectives. Inputs from the consultations were certainly constantly cross-checked and validated using the evidence-base, and confronted with priorities defined on EU level. The elaboration and assessment of further alternatives would only be reasonable, if they were a relevant basis for decisions. The most justified intermediary version of the selection of priorities and related specific objectives should form a basis for an environmental assessment as a reasonable alternative to be evaluated.

Therefore the state of the environment in the Programme area is to be analysed 'with and without' the implementation of the Programme, and an intermediary programme strategy is also to be analysed.

The alternatives analysed:

- the „Zero option" – without the implementation of the programme..
- the „Intermediary alternative" is based on an alternative programme strategy. Based on the suggestions of the Common Territorial Strategy, the Joint Working Group discussed the proposed priority axes and specific objectives at the 6th Joint Working Group Meeting on 12 December 2013. This alternative was subject to the Scoping Report.
- the „Best alternative" is the implementation of the Interreg V-A Romania-Hungary Programme.

The SEA process examined the proposed Romania-Hungary Co-operation programme and the alternatives. The three alternatives are compared against environmental factors suggested by the scoping document to focus on.

“Zero option” - without the implementation of the Programme

Without the implementation of the Programme, each environmental issue would be negatively affected. Biodiversity would not improve or loss of biodiversity would occur, it may even sustain more serious damage. The integrity of the Natura 2000 network cannot be maintained, no growth can be expected in the number species affected by the protection measures.

Negative effects can increase regarding soil erosion. The rehabilitated soil quantity would decrease, and the expansion of infrastructure, industry and settlements would lead to significant or permanent withdrawal of land from agricultural production and to long-term soil sealing.

Regarding the fight against climate change, the current negative trends would continue. The lack of maintenance of water supply systems would lead to microbiological and/or chemical contamination. The lack of reconstruction of water utilities would jeopardise the safety of the services as well.

During the heating period NOX pollution would increase, which in turn would cause health problems (smog). Environmental risk caused by climate change and the volume of possible damage would increase. In the eligible area there is low adaptive capacity for climate change: more frequent weather extremes would result in increased risks of floods and drought.

Regarding the soil protection it would be harmful if there weren’t revitalization projects in brownfields.

No improvement in the conditions of terrestrial and aquatic eco-systems, and no further protection against anthropogenic degradation, habitat fragmentation and deforestation would be expected. If these kinds of developments were not completed, that would affect negatively the environment and human population. As a result, the population, health and the conditions of settlements wouldn’t improve with respect to noise.

‘Intermediary alternative’

If this alternative was realised, natural habitats would have high risks related to the reduction of wildlife, geological sites and protected species.

The possible impacts on biodiversity will be: habitat reduction, destruction of certain specimens, deterioration of living conditions, unfavourable physiological effects, migration of indigenous species forced by hostile environmental conditions, the conditions of nature conservation will become difficult. The disappearance of some Natura 2000 sites (Lake Petea in Bihor County - Romania).

Soil protection from wind and water erosion would be intensified. The risk of geological damage would decrease.

Regarding the issue of water pollution, the risk of groundwater pollution will become lower. Adequate management of liquid manure and agricultural waste, and the prevention of the development of stagnant waters would be realised.

Regarding the fight against climate change, the increased production of energy from renewable sources would be expected, and also the reduced energy consumption of public infrastructure facilities.

In this version of the programme, brownfields would be revitalized, and energy generation from renewable resources would be facilitated as well as pollution prevention and the mitigation of old burdens.

Sustainable development of transport infrastructure developments is planned.

The following table summarises the content of the intermediary alternative, the chosen TO's, priority axes and investment priorities. More detailed information on the proposed intermediate programme strategy with the potential activities has been presented in Annex 4. of the present report.

Priority Axes	TO	IP	KAI[157]
PA1: Supporting the shift towards low carbon economy	TO4. Supporting the shift towards a low-carbon economy in all sectors	4/a promoting the production and distribution of energy derived from renewable sources;	KAI A1.1: Support to the production and distribution of renewable energy
		4/c supporting energy efficiency, smart energy management and renewable energy use in public infrastructures, including in public buildings and in the housing sector;	KAI 1.2 Support to improving energy efficiency in public buildings
PA2: Joint protection and efficient use of common values and resources	TO6. Preserving and protecting the environment and promoting resource efficiency	6/b Investing in the water sector to meet the requirements of the Union's environmental acquis and to address needs, identified by the Member States, for investment going beyond those requirements	KAI2.1: Cross-border water protection
		6/c Conserving, protecting, promoting and developing natural and cultural heritage	KAI 2.2: Protection and promotion of joint cultural, historic and natural heritage as tourism destinations
PA3: Improve sustainable cross-border mobility and remove bottlenecks	TO7: Promoting sustainable transport and removing bottlenecks in key network infrastructures	7/b Enhancing regional mobility through connecting secondary and tertiary nodes to TEN-T infrastructure, including multimodal nodes	KAI 3.1: Cross-border road development linked to TEN-T
		7/c Developing and improving environmentally friendly (including low-noise), and low-carbon transport systems including inland waterways and maritime transport, ports, multimodal links and airport infrastructure, in order to promote sustainable regional and local mobility	KAI 3.2: Strengthening sustainable cross-border mobility

[157] The intermediary version of the CP used the terminology of the key areas of interventions, later modified as thematic objectives and specific objectives.

PA4: Improve employment and promote cross-border labour mobility	TO8: Promoting sustainable and quality employment and supporting labour mobility	8/a supporting the development of business incubators and investment support for self-employment, micro enterprises and business creation	KAI 4.1: Developing cross-border business cooperation
PA5: Promoting social inclusion and combating poverty	TO9: Promoting social inclusion, combating poverty and any discrimination	9/a investing in health and social infrastructure which contribute to national, regional and local development, reducing inequalities in terms of health status, promoting social inclusion through improved access to social, cultural and recreational services and the transition from institutional to community-based services	KAI 5.1: Joint health-care development
		9/b support for physical economic and social regeneration of deprived urban and rural communities and areas;	KAI 5.2 Integrated development of deprived rural and urban communities
PA6: Promoting cross-border cooperation between institutions and citizens	TO11: Enhancing institutional capacity and an efficient public administration, support of actions in institutional capacity and in the efficiency of public administration	11/a Enhancing institutional capacity of public authorities and stakeholders and efficient public administration through actions to strengthen the institutional capacity and the efficiency of public administrations and public services related to the implementation of the ERDF, and in support of actions under the ESF to strengthen the institutional capacity and the efficiency of public administration.	KAI 6.1: Strengthening cross-border institutional cooperation
		11/a Enhancing institutional capacity of public authorities and stakeholders and efficient public administration through actions to strengthen the institutional capacity and the efficiency of public administrations and public services related to the implementation of the ERDF, and in support of actions under the ESF to strengthen the institutional capacity and the efficiency of public administration.	KAI 6.2: Strengthening cross-border people-to-people, community-to-community cooperation

Best alternative: 'Development with the implementation of the Programme'

The best alternative comprises the thematic objectives of the Cooperation Programme. It includes the maximum possible expected results in environmental protection. Both countries will be targeted by the objectives of the Programme.

The conditions and functions of terrestrial and aquatic eco-systems will be improved by the reduction of anthropogenic degradation, habitat fragmentation and deforestation. Further damage to designated wildlife, geological sites and protected species can be avoided. The natural diversity of flora, fauna and habitats in the protected area and potential Natura 2000 sites can be preserved.

It is important to prevent negative impacts on soil organic composition, biodiversity and the conditions of water. It can be achieved by the reduction of soil pollution from diffuse sources. Enhanced soil protection from wind and water erosion, the reduction of waste generation, and increasing energy production from waste and the degree of waste recycling and recovery can be achieved.

The risk of groundwater pollution and the degree of pollution will be reduced by the following measures: change in land use, afforestation, the establishment of wetland habitats and fish ponds, the establishment of rational and integrated surface water management, Natura 2000 grants, organic farming, the modernisation of livestock farms, the spread of extensive animal management, the modernisation of machinery stock and fuel storage facilities, the adequate management of liquid manure and agricultural waste, and the prevention of the development of stagnant waters.

The adverse effects of climate change can be improved by decreasing emissions causing climate change, by improving the quality of ambient air and by the maintenance of emissions within the limits set by legal norms. The impacts on air quality can be minimized by reducing the need to travel. The programme implements lower energy demanding processes, the development of sustainable transport modes and investments in forestry and biodiversity.

The protection of natural and cultural landscape will be ensured. In the human environment the increase of energy generation from renewable resources must be facilitated. Terrestrial and aquatic eco-systems can be protected against anthropogenic degradation, habitat fragmentation and deforestation, and the functions of terrestrial, aquatic eco-systems can be improved.

The implementation of this alternative facilitates improvement of human health by implementing measures aimed at pollution prevention and the mitigation of old burdens. It is also important in the Programme to achieve the protection and improvement of the conditions of settlements with respect to transport (noise and vibration). The protection and improvement of the conditions of settlements with respect to noise can also be achieved.

This version of the programme is the best alternative as it has been improved in an iterative way in cooperation with the team dealing with the programming. The impact of this best alternative on the environment is significantly less than the impacts of the intermediary alternative.

The comparison of the alternatives

The main difference between the intermediary alternative and the implementation of the programme lies in the selected thematic objectives. The difference in the selected thematic objectives is the selection of TO5 - Promoting climate change adaptation, risk prevention and management in the programme alternative (Development with the implementation of the programme) and the omission of TO4 - Supporting the shift towards a low-carbon economy in all sectors.

Instead of the support to small-scale renewable energy production facilities, the development of local distribution systems of renewable energy and the refurbishment of public buildings in order to increase energy efficiency, the programme alternative (Development with the implementation of the programme) supports the coordinated development of a common risk prevention and emergency response system. The planned programme alternative, development with the implementation of the programme responds to the key environmental problems as negative impact of climate change, more frequent weather extremes result in increased risks of floods and drought. Focus points to be stressed regarding the targeted territory will be more stressed by the implementation of the programme, like integrating river basin management; the modernisation of forest management (regarding floods, excess surface water and droughts), applying environmentally friendly irrigation, spreading drought tolerant cultures or changing land use, strengthening the integrated approach by the Interreg Romania-Hungary V-A Programme'.

The "Zero option" was compared with Investment Priorities, as selected for each Priority Axis of the two proposed alternatives, respectively were compared Investment Priorities for each Priority Axis of the two proposed alternatives.

To achieve the comparison of the three alternatives it is necessary to evaluate the possible effects on the environment and the programme version of 12th December 2013 ("Intermediary alternative"), to evaluate the potential environmental effects of the "Zero option" and Cooperation Programme Document, April 2015 of the programme document ("Best alternative") presented in Chapter 2.1 part Likely future trends, and in Chapter 3.2 of the Report.

The difference between "Intermediary alternative" and "Best alternative"means that thematic objective TO4 has been replaced with TO5. TO4 is for "Supporting the shift towards a low-carbon economy in all sectors", TO5 is "Promoting climate change adaptation, risk prevention and management". Given that the rest of the thematic objectives with the related investment priorities identified are the same for the two alternatives, it is proposed to achieve the evaluation of the possible effects of the identified investment priorities only on Priority Axis 1 of the "Intermediary alternative".

The correspondence between the Priority Axis of the programme alternatives "Intermediary alternative" and "Best alternative"on which the same thematic objectives with the related investment priorities have been transposed are presented in the following table:

Table: comparison of the Priority Axis of the programme alternatives "Intermediary alternative" and "Best alternative"

Thematic objective	**Priority axis which was transposed to "Intermediary alternative" of the Programme**	**Priority axis which was transposed to "Best alternative" of the Programme**
TO6.: Preserving and protecting the environment and promoting resource efficiency	PA2: Joint protection and efficient use of common values and resources	PA1: Joint protection and efficient use of common values and resources
TO7: Promoting sustainable transport and removing bottlenecks in key network infrastructures	PA3: Improve sustainable cross-border mobility and remove bottlenecks	PA2: Improve sustainable cross-border mobility and remove bottlenecks
TO8: Promoting sustainable and quality employment and supporting labour mobility	PA4: Improve employment and promote cross-border labour mobility	PA3: Improve employment and promote cross-border labour mobility
TO9: Promoting social inclusion and combating poverty and any discrimination	PA5: Promoting social inclusion and combating poverty	PA4: Improving health-care services

TO11: Enhancing institutional capacity of public authorities and stakeholders and efficient public administration	PA6: Promoting cross-border cooperation between institutions and citizens	PA6: Promoting cross-border cooperation between institutions and citizens

The evaluation of the possible effects of the identified investment priorities on priority axis nr. 1 of the "Intermadiary alternative" is the following:

	Environmental issues										
	Biodiversity, flora, fauna Natura 2000			**Soil and land use**	**Water (surface waters, groundwaters)**		**Air and fighting climate change**		**Landscape**	**Population and human health**	**Material assets, cultural heritage including architectural and archaeological heritage**
	O1 Protect and improve the conditions and functions of terrestrial, aquatic eco-systems against anthropogenic degradation, habitat fragmentation and deforestation	O2 To provide a favourable state of prevention for the protected species and the sustainable use of biodiversity components.	O3 Preserve the natural diversity of flora, fauna and habitats in the protected area and potential Natura 2000 sites	O4 Limit point and diffused pollution of soil and facilitate soil protection from water and wind erosion	O5 Sustainability of water resources, protection of groundwater as sources of drinking water, systematic improvement of the chemical and ecological status of European waters.	O6 Limit water pollution from point and diffuse pollution sources	O7 Improvement and maintenance of air quality within the limits set by the laws.	O8 Promoting policies and measures to adapt to climate change.	O9 Ensure protection of natural and cultural landscape (e.g. by revitalization of brownfields)	O10 Facilitate improvement of human health by pollution prevention and mitigation of old burdens (e.g. brownfields, mining waste, etc.)	O11 Ensure protection of natural and cultural landscape by revitalization of brownfields and protection of natural habitats from fragmentation due to traffic corridors
KAI[158] 1.1: Support to the production and distribution of renewable energy	L-	L--	L--	L-	L-	L-	L+	L+	L-	L++	L+
KAI[159] 1.2 Support to improving energy efficiency in public buildings	K+	K+	K+	L-	0	0	L+	L+	0	L++	L+

[158] The intermediary version of the CP used the terminology of the key areas of interventions, but later modified as thematic objectives and specific objectives.
[159] The intermediary version of the CP used the terminology of the key areas of interventions, but later modified as thematic objectives and specific objectives.

L	existing relationship, in practice as well
K	relationship direction that can be or shall be established, undeveloped or not established in practice until now
0	neutral relationship
+ +	very positive relationship from the aspect of environmental sustainability
+	positive relationship from the aspect of environmental sustainability
- -	very negative relationship from the aspect of environmental sustainability
-	negative relationship from the aspect of environmental sustainability

Comparing the environmental impacts of "Zero option", of the investment priorities from the Priority axis nr.1 of the "Intermediary alternative" and of the investment priorities from the Priority axis nr. 5 of the "Best alternative"[160]

Environmental issue	"Zero option"	PA1- "Intermediary alternative"		PA5- "Best alternative"
		IP 4a	IP 4c	IP 5/b
		KAI[161] 1.1	KAI[162] 1.2	SO 5/b
Biodiversity, flora, fauna Natura 2000	-	L--	K+	L+
Soil and land use	-	L-	L-	0
Water (surface waters, groundwaters)	-	L-	0	L+
Air and fighting climate change	-	L+	L+	L+
Landscape	0	L-	L+	0
Population and human health	-	L++	L++	L++
Material assets, cultural heritage including architectural and archaeological heritage	-	L+	L+	0
Cumulative effects	-	L-	L+	L+
Coaction of impacts	-	0	0	L+

The above presented facts indicate that the negative effects of the "Intermadiary alternative" on biodiversity and natural protected areas (especially areas of community interest - Natura 2000) are significant, therefore the "Best alternative" was chosen as final alternative.

Furthermore, the "Zero option" was compared with the investment priorities selected for each priority axis of the two alternatives (which are identical).

Table: The "Zero option" compared with the Priority Axis 1 of the "Best alternative" with the Priority Axis 2 of the "Intermediary alternative"

Environmental issue	"Zero option"	PA1- "Best alternative"	PA 2 "Intermediary alternative"
		IP 6/b	IP 6/c
		SO 6/b	SO 6/c
Biodiversity, flora, fauna Natura 2000	-	L-	L+
Soil and land use	-	L++	L-
Water (surface waters, groundwaters)	-	L++	0
Air and fighting climate change	-	0	0
Landscape	-	L-	L+
Population and human health	-	L++	L++
Material assets, cultural heritage including architectural and archaeological heritage	-	L+	L+
Cumulative effects	-	L+	L+

Table: The "Zero Option" compared with the Priority Axis 2 of the "Best alternative" with the Priority Axis 3 of the "Intermadiary alternative"[52]

Environmental issue	"Zero	PA2- "Best alternative" =PA 2 "Intermediary

[160] For the legend, please see the table abowe.
[161] The intermediary version of the CP used the terminology of the key areas of interventions, but later modified as investment priorities.
[162] The intermediary version of the CP used the terminology of the key areas of interventions, but later modified as investment priorities.

	option"	alternative"	
		IP 7/b	IP 7/c
		SO 7/b	SO 7/c
Biodiversity, flora, fauna Natura 2000	-	L-	0
Soil and land use	-	L-	0
Water (surface waters, groundwaters)	-	0	0
Air and fighting climate change	-	0	L+
Landscape	-	L+	L+
Population and human health	-	0	L++
Material assets, cultural heritage including architectural and archaeological heritage	-	**0**	**L+**
Cumulative effects	-	**0**	**L+**

Table: The "Zero Option" compared with the Priority Axis 3 of the "Best alternative" with the Priority Axis 4 of the Intermediary alternative"[52]

Environmental issue	"Zero option"	PA3- "Best alternative" =PA 4 "Intermediary alternative"
		IP 8/b
		SO 8/b
Biodiversity, flora, fauna Natura 2000	-	K-
Soil and land use	-	L-
Water (surface waters, groundwaters)	-	0
Air and fighting climate change	-	L-
Landscape	-	K-
Population and human health	-	L++
Material assets, cultural heritage including architectural and archaeological heritage	-	**0**
Cumulative effects	-	**0**

Table: The "Zero Option" compared with the Priority Axis 4 of the "Best alternative" with the Priority Axis 5 of the "Intermadiary alternative"[52]

Environmental issue	"Zero option"	PA4- "Best alternative" =PA 5 "Intermediary alternative"
		IP 9/a
		SO 9/a
Biodiversity, flora, fauna Natura 2000	-	0
Soil and land use	-	L-
Water (surface waters, groundwaters)	-	0
Air and fighting climate change	-	L-
Landscape	-	K-
Population and human health	-	L++
Material assets, cultural heritage including architectural and archaeological heritage	-	**0**
Cumulative effects	-	**0**

Table: The "Zero Option" compared with the Priority Axis 6 of the "Best alternative" with the Priority Axis 6 of the "Intermadiary alternative"[52]

Environmental issue	"Zero option"	PA6- "Best alternative" with PA 6 "Intermediary alternative"

		IP 11/b SO 11/b
Biodiversity, flora, fauna Natura 2000	-	0
Soil and land use	-	0
Water (surface waters, groundwaters)	-	0
Air and fighting climate change	-	0
Landscape	-	0
Population and human health	-	L++
Material assets, cultural heritage including architectural and archaeological heritage	-	**K+**
Cumulative effects	-	**L++**

Comparing the "Zero option" alternative with each of the Programme's Axes, the results show that any of these, including those involving indicative actions / measures potentially impacting on the environment (such as infrastructure building), bring more benefits to the environment (+) than the "Zero option".

The following table presents the environmental effects of the different alternatives:

	"Zero option" - without implementation of the Programme	**"Intermediary alternative" – based on the proposed priority axis and key areas of intervention discussed on 12th December 2013 by the 6th Joint Working Group Meeting.**	**"Best alternative" Development with the implementation of the Programme**
Biodiversity, flora, fauna NATURA 2000	No improvement or loss of biodiversity. No further conservation of the Natura 2000 network. No growth in the number of species affected by the protection measures.	Risk reduction of wildlife, geological sites and protected species.	Improvement of the conditions and functions of terrestrial, aquatic eco-systems by the reduction of anthropogenic degradation, habitat fragmentation and deforestation. Avoidance of further damage to designated wildlife, geological sites and protected species. Preservation of the natural diversity of flora, fauna and habitats in the protected area and potential Natura 2000 sites.
Soil and land use	Higher soil erosion and environmental risks could have negative effects. Lower quantity of rehabilitated soil. The expansion of infrastructure, industry and settlements lead to significant or permanent withdrawal of land from agricultural production and to long-term soil sealing.	Intensifying soil protection from wind and water erosion. Limitation of the risk of geological damage –e.g. Local Geological/geodiversity Sites, Regionally Important Geological and Geomorphological Sites (RIGS).	Reduction of soil pollution from diffuse sources. Enhanced soil protection from wind and water erosion. Limitation of damage on geological SSSIs and Regionally Important Geological and Geomorphological Sites (RIGS) (Local Geological/geodiversity Sites) Reduction of waste generation, increase of

			energy recovery from waste and recycling of waste.
Water (surface waters, groundwaters)	Current negative trends continue. The lack of maintenance of water supply systems leads to microbiological and / or chemical contamination. The lack of reconstruction of water utilities jeopardizes the safety of the service as well.	Limitation of risk of groundwater pollution. Adequate management of liquid manure and agricultural waste, prevention of the development of stagnant waters.	The risk of groundwater pollution and the degree of pollution will be reduced by the following measures: change in land use, afforestation, establishment of wetland habitats and fish ponds, establishment of rational and integrated surface water management, Natura 2000 grants, organic farming, modernisation of livestock farms, spreading of extensive animal management, modernisation of machinery stock and fuel storage facilities, adequate management of liquid manure and agricultural waste, prevention of the development of stagnant waters.
Air and fighting climate change	No reduction of the emission of air pollutants, such as NO_X, CO, PM_{10} During the heating period NO_X, PM_{10} pollution causes health problems (smog). Environmental risks caused by climate change and the volume of possible damage increase. In the eligible area there is low adaptive capacity for climate change: more frequent weather extremes result in increased risks of floods and drought**.**	Increased production of energy from renewable sources. Reduced energy consumption of public infrastructure facilities	Decreasing of emissions causing climate change. Improvement of the quality of ambient air and the maintenance of emissions within the limits set by legal norms. Minimizing the impacts on air quality by reducing the need to travel. Applying lower energy demanding processes. Development of sustainable transport modes. Investment in forestry and biodiversity. The Alternative supports actions to adapt to climate change.
Landscape	No revitalization projects in brownfields. No improvement in the conditions of terrestrial, aquatic eco-systems and no further protection against anthropogenic degradation, habitat fragmentation and deforestation. No increase of energy produced from renewable	Revitalization of brownfields. Energy generation from renewable resources facilitated.	Protection of natural and cultural landscapes (e.g. by revitalization of brownfields) ensured. Energy generation from renewable resources facilitated. Protection of terrestrial, aquatic eco-systems against anthropogenic degradation, habitat fragmentation and deforestation. Improvement

	energy sources.		of functions of terrestrial, aquatic eco-systems.
Population and human health	No projects for the improvement of human health. No improvement in the conditions of settlements with respect to noise.	Pollution prevention and mitigation of old burdens. Sustainable development of transport infrastructure. Protection of health.	Facilitating improvement of human health by implementing measures aimed at pollution prevention and mitigation of old burdens (e.g. brownfields, mining waste, etc.). Protection and improvement of the conditions of settlements with respect to transport (noise and vibration). Protection and improvement of the conditions of settlements with respect to noise
Material assets, cultural heritage including architectural and archaeological heritage	There would not be any projects dealing with the protection and rehabilitation of cultural heritage infrastructure. No rehabilitation of key natural, historic and cultural heritage. Without cross-border programme packages and joint promotion, the number of tourists and nights spent will not increase.	Enhanced volume of eco-tourism related also to cultural heritage. Development of NGOs of environmental importance.	Development of eco-tourism related also to cultural heritage (simple, nature-friendly accommodation, traditional local food and professional guides). Development of eco-tourism related to nature parks. Development of NGOs related to eco-tourism (eco-tourism is not targeted solely to protected areas). Identifying vulnerable infrastructure and property affected by extreme weather conditions (e.g. rainfall, floods).
Interrelationship between the mentioned environmental issues	Without the implementation of the Programme, the projects planned in the framework of the Interreg V-A Romania-Hungary Programme do not have any positive effects on the cross-border area. The potential negative impacts of climate change still pose an important risk.	Nature protection, which has positive effects locally and globally.	The sustainable use of natural resources, the efficiency of the environment and nature protection have positive effects both locally and globally. The mentioned environmental issues have positive impacts on the social and economic life of the eligible regions.

The result is that the final version of the programme is the “Best alternative” as it has been improved in an iterative way in cooperation with programming, ex-ante evaluation and the SEA.

The last version of the programme planned the measures by taking into consideration the many-sided analysis of the cross-border area, and the effective ecological, social and economic situation. Consequently, the setting of the objectives is well-founded and matches the requirements of the EU. The required tasks and the planned means of realization are

coherent with one another, serving well the achievement of the objectives. All these guarantee the successful realization of the programme and meet the requirements of the global objective and sustainable development.

The opportunities are:

EU environmental regulations require joint actions in environmental protection; the improving relations of the two states have a positive impact on the border regions; the eligible area has a rich joint water base – both surface and underground, including thermal water; the eligible area has a favourable potential in exploiting renewable energy, such as biomass, geothermal energy, hydropower and solar energy; there is funding available for developing renewable energy producing facilities.

9 The description of the measures envisaged concerning monitoring

According to Article 10 of the SEA Directive, the significant environmental effects of the implementation of plans and programmes shall be monitored in order to identify at an early stage unforeseen adverse effects, and to be able to undertake appropriate remedial action.

The proposed monitoring system is based on the relevant environmental objectives specified in Chapter 5.1. In general, the purpose of environmental objectives is to improve environmental indicators. More specifically, the environmental objectives (in accordance with different environmental elements) are determined by national and international regulatory standards. These objectives represent those environmental topics, which can be influenced by the implementation of the cooperation programme.

In the legislation of both Romania and Hungary, specific and detailed regulations (e.g. limits) are typically regulated by ministerial implementing regulations. Therefore, it is recommended that the assessment and categorization of emerging tasks between 2014 and 2020 are carried out based on sectoral (industry-specific) legislation. Thus the fulfilment of the regulations (laws, programmes, EU directives, etc.) is verifiable.

The analysis of the impacts of programme implementation on the respective environmental issues should be one of the goals of the evaluation system. Tracking the achievement of environmental goals should be implemented via various indicators. The use of result indicators is suggested at strategic planning level, while during the fulfilment of legal regulations (including compliance with EU directives), the use of output indicators is recommended.

The monitoring system should be primarily building on project-level data. These measure direct impact (e.g. environmental quality improvement, quantified indicators). By monitoring and summarising the monitoring results of single projects, it will then be possible to estimate the overall environmental effect on the relevant environmental issues.

The monitoring at programme level should focus on significant environmental effects, as it takes into consideration long-term, indirect effects. At the programme level, the monitoring of environmental effects should be part of the monitoring framework of the programme.

As a general rule, the Environmental Report uses the monitoring arrangement proposed for the programming document to avoid confusion and duplication. Therefore, the proposed indicators for the programming document has been analysed from the environmental point of view, whether those are relevant for the environmental issues, environmental objectives and guiding questions.

The programme's specific result indicators or the programme's specific output indicators proposed for the programming document cover the most significant environmental effects at programme level. Therefore, only a limited number of new indicators are recommended based on the relevant environmental objectives.

The proposed environmental indicators, the programme specific result indicators or the programme specific output indicators are connected to the relevant environmental objectives. In this way the proposed monitoring arrangements are realistic and may use information generated during the environmental evaluation of the proposed projects. The SEA team proposes to selectively use monitoring indicators to monitor environmental effects based on the characteristics of the projects selected for funding.

The proposed indicators of the programming document relevant for the environmental objectives and the proposed SEA environmental indicators based on the relevant environmental objectives:

Legend for the correlation between the priority axes and the monitoring indicator:
++ - strong contribution
+ - indirect contribution

Environmental issuethe indicator is relevant for	Relevant environmental objective	The Priority Axis from which the indicator derives and the correlation between the Priority Axis and the Monitoring indicator	Monitoring indicator (that results from the Relevant environmental objective)	Justification on how the indicator links to the specific objective of the PA	Description	Evaluation criteria what is expected as a result
Biodiversity, flora, fauna, NATURA 2000	**O1** Protect and improve the conditions and functions of terrestrial, aquatic eco-systems against anthropogenic degradation, habitat fragmentation and deforestation	PA1 SO6/c ++	Surface area of habitats supported in order to attain a better conservation status	Common and programme specific output indicators with environmental relevance for SO6/c	Information is available in the programme document	

Biodiversity, flora, fauna, NATURA 2000	**O2** To provide a favourable state of prevention for the protected species and the sustainable use of biodiversity components.	PA1 SO6/b ++	I1: number of actions which have impact on habitats in the eligible area	The actions aim directly at eco-systems, with the improvement of their conditions or with the reduction of unfavourable impacts. The results can be efficiently measured by the specific parameters of the affected habitats.	**Measurement unit:** number, **Frequency of reporting:** yearly (if there are any projects) **Baseline:** no baseline **Target:** all the actions must have impact on the habitats **Source of data:** Project level progress reports, Monitoring data at JS[163] **Data provider:** beneficiaries of the projects	Positive impacts on wild habitats would be expected. Positive impact on biodiversity would be preferred.
Biodiversity, flora, fauna, NATURA 2000	**O3** Preserve the natural diversity of flora, fauna and habitats in the protected area and potential Natura 2000 sites	PA1 SO6/b ++ PA1 SO6/c ++	I2: number of actions which have impact on NATURA 2000 sites in the eligible area	The actions focus directly on the Natura 2000, with the improvement of their conditions or with the reduction of unfavourable impacts. The results can be efficiently measured by the specific parameters of the affected areas.	**Measurement unit:** number **Frequency of reporting:** yearly (if there are any projects) **Baseline:** no baseline **Target:** all the actions which concern Natura 2000 sites must have impact on that **Source of data:** Project level progress reports, Monitoring data at JS[164] **Data provider:** beneficiaries of the projects **Specific source** for providing the necessary data: http://natura.2000.hu, http://natura2000.ro,	Conditions and conservation of nature protection areas are preferred.

[163] or by the programme body that shall recieve the delegated attribution from the MA or directly by the MA, if the attribution shall not be delegated
[164] or by the programme body that shall recieve the delegated attribution from the MA or directly by the MA, if the attribution shall not be delegated

					EEA - Natura 2000 data - the European network of protected site	
Soil and land use	**O4** Limit point and diffused pollution of soil and facilitate soil protection from water and wind erosion.	PA1 SO6/c ++	I4: Number of actions having an impact on landscape and soil in the eligible area	The actions aim directly to natural and cultural heritage, with the improvement of their conditions or with the reduction of unfavourable impacts. The results can be efficiently measured by relevant actions.	**Measurement unit:** number **Frequency of reporting:** yearly (if there are any projects) **Baseline:** no baseline **Target:** all the actions must have impact on landscape and soil **Source of data:** Project level progress reports, Monitoring data at JS[165] **Data provider:** beneficiaries of the projects	It is expected that actions with positive impact on landscape and soil quality exceeds the actions with negative impact.
Water (surface waters, ground waters) **Air and fighting climate change**	**O5** Sustainability of water resources, protection of groundwater as sources of drinking water, systematic improvement of the chemical and ecological status of European waters.	PA1 SO6/b ++	Slight increase in water quality (ecological condition) of cross-border rivers at the measurement points in the eligible area	Programme specific result indicator with environmental relevance for SO6/b	Information is available in the programme document	

[165] or by the programme body that shall recieve the delegated attribution from the MA or directly by the MA, if the attribution shall not be delegated

Water (surface waters, groundwaters	**O6** Limit water pollution from point and diffuse pollution sources.	PA1 SO6/b ++	I3: number of actions impacting the elimination of pollution sources in the eligible area	The actions to be implemented focus on potential polluting sources in the water basin.	**Measurement unit:** number **Frequency of reporting:** yearly (if there are any projects) **Baseline:** no baseline **Target:** all the actions must have impact on the reduction of pollution sources **Source of data:** Project level progress reports, Monitoring data at JS[166] **Data provider:** beneficiaries of the projects	Positive impact on water quality is expected. Decrease of waste is expected.
Air and fighting climate change	**O7** Improvement and maintenance of air quality within the limits set by the laws.	PA2 SO7/b ++	I5: Number of sustainable routes in the eligible area	The actions aim directly to improve the cross-border road connections. The development of road links contributes to the improvement of air-quality and the reduction of GHG emissions.	**Measurement unit:** number **Frequency of reporting:** yearly (if there are any projects) **Baseline:** no baseline **Target:** all the actions must contribute to sustainable transport including bicycle roads, sustainable public transport, hiking routes, etc. **Source of data:** Project level progress reports, Database of count municipalities in Romania and database of Hungarian Road Company, Monitoring data at JS[167] **Data provider:** beneficiaries of the projects	
		PA2 SO7/c ++	Number of cross-border public transport services developed / improved	Common and programme specific output indicators with environmental relevance for SO7/c	Information is available in the programme document	

[166] or by the programme body that shall recieve the delegated attribution from the MA or directly by the MA, if the attribution shall not be delegated
[167] or by the programme body that shall recieve the delegated attribution from the MA or directly by the MA, if the attribution shall not be delegated

Water (surface waters, groundwaters) **Air and fighting climate change**	**O8** Promoting policies and measures to adapt to climate change.	PA1 SO6/b ++	Number of measurement points positively affected by the interventions (after the completition of the project)	Common and programme specific output indicators with environmental relevance for SO6/b	Information is available in the programme document	
		PA5 SO 5/b +	Improved quality of the joint risk management	Programme specific result indicator with environmental relevance for SO5/b	Information is available in the programme document	
Landscape	**O9** Ensure protection of natural and cultural landscape (e.g. by revitalization of brownfields)	PA1 SO6/c ++	I6: number of actions contributing to the rehabilitated land in the eligible area	Revitalization of former industrial sites is closely connected to the preservation of natural landscape, e.g. replacing the usage of soil in case of rehabilitated brownfields.	**Measurement unit:** number **Frequency of reporting:** yearly (if there are any projects) **Baseline:** no baseline **Target:** all the actions must contribute to the area of rehabilitated land **Source of data:** Project level progress reports, Monitoring data at JS[168] **Data provider:** beneficiaries of the projects	The areas affected by revitalization would be preferred in case of investment actions.

[168] or by the programme body that shall recieve the delegated attribution from the MA or directly by the MA, if the attribution shall not be delegated

Population and human health	**O10** Facilitate improvement of human health by implementing measures aimed at pollution prevention and mitigation of old burdens (e.g. brownfields, mining waste, etc.)	PA4 SO9/a ++	Population having access to improved health services	Common and programme specific output indicators with environmental relevance for SO9/a	Information is available in the programme document
		PA5 SO5/b ++	Population safeguarded by improved emergency response services (after the completition of projects)	Common and programme specific output indicators with environmental relevance for SO5/b	Information is available in the programme document
Material assets, cultural heritage inc. architectural and archaeological heritage	**O11** Ensure protection of natural and cultural landscape by revitalization of brownfields and protection of natural habitats from fragmentation due to traffic corridors	PA1 SO6/c ++	I7 Number of restored historical, natural and cultural heritage sites in the eligible area	The actions to be implemented focus on potential improvement of natural and cultural heritage sites.	**Measurement unit:** number **Frequency of reporting:** yearly (if there are any projects) **Baseline:** no baseline **Target:** all the actions must contribute to the improvement of cultural heritage **Source of data:** Project level progress reports, Monitoring data at JS[169] **Data provider:** beneficiaries of the projects

[169] or by the programme body that shall recieve the delegated attribution from the MA or directly by the MA, if the attribution shall not be delegated

The test of the internal compatibility of the proposed environmental indicators to the environmental objectives:

		I1	I2	I3	I4	I5	I6	I7
Biodiversity, flora, fauna NATURA 2000	O1 Protect and improve the conditions and functions of terrestrial, aquatic eco-systems against anthropogenic degradation, habitat fragmentation and deforestation	✓	✓	✓				
	O2 To provide a favourable state of prevention for the protected species and the sustainable use of biodiversity components.	✓	✓					
	O3 Preserve the natural diversity of flora, fauna and habitats in the protected area and potential Natura 2000 sites	✓	✓	✓	✓			
Soil and land use	O4 Limit point and diffused pollution of soil and facilitate soil protection from water and wind erosions			✓			✓	
Water (surface waters, groundwaters)	O5 Sustainability of water resources, protection of groundwater as sources of drinking water, systematic improvement of the chemical and ecological status of European waters.	✓	✓	✓				
	O6 Limit water pollution from point and diffuse pollution sources	✓	✓	✓		✓		
Air and fighting Climate change	O7 Improvement and maintenance of air quality within the limits set by the laws.					✓		
	O8 Promoting policies and measures to adapt to climate change.					✓		
Landscape	O9 Ensure protection of natural and cultural landscape (e.g. by revitalization of brownfields)	✓	✓		✓		✓	
Population and human health	O10 Facilitate improvement of human health by implementing measures aimed at pollution prevention and mitigation of old burdens (e.g. brownfields, mining waste, etc.)					✓		
Material assets, cultural heritage including architectural and archaeological heritage	O11 Ensure protection of natural and cultural landscape by revitalization of brownfields and protection of natural habitats from fragmentation due to traffic corridors							✓

Table: The internal compatibility of the proposed environmental indicators with the environmental objectives.

Frequency of collecting information and reporting

The data for indicators I1-I7 should be collected and monitored annually and will be included in the annual report presented to the Monitoring Committee. Therefore these indicators and data request should be incorporated in the project level progress reports.

The proposed indicators for the SEA report need to be correlated / completed with monitoring measures (please see measures from Chapter 7) for each specific axis, and need to be subject to evaluations on sustainable development – 2019, 2021 (ongoing evaluations) and 2023 (ex-post evaluation).

10 Transboundary impacts

According to Art.7 of the SEA Directive the likely significant effects of the cooperation programme must be taken into consideration in relation to those third countries which territories will be affected by the implementation of the Interreg V-A Romania-Hungary Programme.

The planned priority axes and thematic objectives in relation to the foreseeable negative effects on third countries, the expected cross-border impacts of the implementation of activities under the investment priorities have been investigated. In relation to the territory of the Interreg V-A Romania-Hungary Programme the effects on third countries need to be examined related to Ukraine and Serbia. The transboundary effects of the programme have been analysed according to the criteria of the European Directive 2001/42/EC on the assessment of effects of certain plans and programmes on the environment and Annex III of the Protocol on Strategic Environmental Assessment to the Convention on Environmental Impact Assessment in a Transboundary Context.

	Criteria for determining of the likely significant environmental, including health, effects of the cooperation programme by the specificity of the programme and the type of actions planned as likely significant, and have cummulative nature (referred to in the Protocol on SEA to the Convention on Environmental Impact Assessment in a Transboundary Context)	**Analysis and assessment of the transboundary impacts of the cooperation programme on Ukraine and Serbia in view of the particular criteria**
	- the relevance of the plan or programme for the integration of environmental, including health, considerations in particular with a view to promoting sustainable development	The SEA analysis identified the key documents in terms of the environmental link with the cooperation programme. The environmental objectives for the programme have been formulated on the basis of national and European legislative and policy framework. The sustainable use of natural resources, the efficiency of the environment and nature protection will have positive effects both locally and globally. If environmentally friendly solutions are used, no significant negative impact will be expected. The implementation of the cooperation programme results in the improvement of the overall environmental condition of the eligible area. The objectives will likely have positive impacts on environmental issues.
	- the degree to which the plan or programme sets a framework for projects and other activities, either with regard to the location, nature, size and operating conditions or by allocating resources	The Priority Axes of the cooperation programme demand strategic approach. Due to this fact, and while the aims cover a large eligible planning area, the specific operative steps have to be implemented under the supervision of environmental authorities. It is expected that all projects implemented under PA1 or PA3 will require environmental permit. The potential transboundary impact of the proposed activities might be reduced or eliminated by the suggested measures. The possible adverse

		transboundary impacts are neutral or could be minimized with effective consideration of environmental and possibly other sustainability aspects.
	- the degree to which the plan or programme influences other plans and programmes including those in a hierarchy	The Environmental Report takes into account the requirements of the national and European legislative, strategic, planning and programming documents and does not conflict with those, as it has been presented in Annex 1. and Chapter 1.6 of the present Environmental Report. Projects planned under the cooperation programme do not affect Ukraine and Serbia as they comply with the provisions of the EU strategy on climate change adaptation, which aims to develop policies and regional beneficial measures.
	- the environmental problems relevant to the plan or programme	The key environmental problems of the area affected by the programme and key focus points regarding the targeted territory have been identified for each environmental issue. Taking into consideration the main objectives of the programme and the characteristics of the eligible area, the most important issues of the area are water management and biodiversity. The air and climate issue and climate change are also key issues. Impact of climate change, more frequent weather extremes result in increased risks of floods and drought. The Programme and its priority axes are aimed towards the improvement of the cross-border area, which will increase the living standards of the population and will contribute to better environmental status and health conditions. The joint surface and underground water basin will be well-protected against pollution. Coordinated and integrated interventions will be carried out including water quality monitoring. Natural waters will be rehabilitated in a joint manner. As a result of the various interventions foreseen, the water quality of cross-border rivers and water basin will improve, and also the potential negative impacts of climate change will be mitigated. The justification on the non-significant transboundary environmental, including health, affects of the Priority axes and specific objectives of the programme have been detailed in case of priority axes in the next table.
	- the probability, duration, frequency and reversibility of the effects, the cumulative nature of the effects	The effect of the implementation of the programme is likely to be positive and long-term. Any negative impact on the environment and human health is expected from the construction phases of large scale projects to be implemented under the Programme. In case of projects with a more direct, regional or local impact (typically transport projects) the possible adverse transboundary impacts are

		neutral or could be minimized with effective consideration of environmental and possibly other sustainability aspects.
	- the transboundary nature of the effects	The transboundary nature of the effects from the implementation of the programme is relevant only in respect to the partner countries. The objectives that will need transnational cooperation will likely have positive impacts on environmental issues, the potential transboundary impact of the proposed activities might be reduced or eliminated by the suggested measures.
	- the magnitude and spatial extent of the effects (geographical area and size of the population likely to be affected)	The projects planned in the framework of the Interreg V-A Romania-Hungary Programme do not affect negatively Ukraine and Serbia, only the inhabitants of the eight eligible cross-border counties. The planned activities likely affect only the eligible territories. No significant risks were forecast concerning the environment and human health as a result of the implementation of the Programme. People from third countries shall benefit from reduced emergency response time, but the indirect impact of this specific objective is not significant.
	- the effects on areas or landscapes which have a recognised national, Community or international protection status	The implementation of the cooperation programme will ensure the protection of natural and cultural landscape, contributes to the increase of energy generation from renewable resources, protects and improves the conditions and functions of terrestrial, aquatic eco-systems against anthropogenic degradation, habitat fragmentation and deforestation. The planned activities, the rehabilitation of various natural and cultural and historic values, will positively contribute to the protection of the natural and cultural heritage of the eligible programme area.
	- the value and vulnerability of the programme area likely to be affected due to the specific natural characteristics or cultural heritage, the exceeded environmental quality standards or limit values, the intensive land use (such as areas of intensive agricultural or forestry growing, production, areas with dense population, etc.)	Vulnerable areas will not be significantly affected as any activities to be implemented within these areas will undergo separate environmental permission procedures. By means of implementing joint actions in the field of natural and cultural heritage, a joint touristic potential will be offered, key natural, historic and cultural heritage will be rehabilitated in an integrated approach. Accessibility will be developed, applying environmentally friendly transport methods. Attractive and internationally competitive thematic routes will be developed, and joint tourism destinations will be established. The supported measures might positively contribute to the protection of natural heritage.

The next table shows the planned priority axes and thematic objectives in relation to the foreseeable negative effects on third countries, the expected cross-border impacts of the implementation of activities under the investment priorities, and the necessity to intervene for reducing the negative effects with regard to third countries.

Based on the current information the proposed objectives of the programme and planned activities will not have significant adverse transboundary environmental impacts, third countries would not be affected by a significant adverse transboundary impact because of and along the following, and therefore no interventions are needed with regard to third countries:

- The objectives that will need transnational cooperation will likely have positive impacts on environmental issues.
- The programme does not have significant effect on third countries (Ukraine, Serbia) due to the situation of employment and labour force of the cross-border region.
- The potential transboundary impact of the proposed activities might be reduced or eliminated by the suggested measures.
- In case of projects with a more direct, regional or local impact (typically transport projects) the possible adverse transboundary impacts are neutral or could be minimized with effective consideration of environmental and possibly other sustainability aspects.
- Projects planned under Interreg V-A Romania-Hungary Programme do not affect Ukraine and Serbia as they comply with the provisions of the EU strategy on climate change adaptation, which aims to develop policies and regional beneficial measures.

According to the criteria of the European Directive 2001/42/EC on the assessment of effects of certain plans and programmes on the environment, adequate transboundary consultation is required when the implementation of the programme is being prepared in a Member State which is likely to have significant effects on the environment of another Member State. In the case of the Interreg V-A Romania-Hungary Programme the involvement of and the consultation with third countries is not necessary as this programme will not affect Ukraine and Serbia.

Justification on the non-significant transboundary environmental, including health, effects of the Priority axes and specific objectives of the programme:

Priority axis 1: Joint protection and efficient use of common values and resources
Thematic objective 6: Preserving and protecting the environment and promoting resource efficiency
Expected cross-border impacts on third countries:
The sustainable use of the natural resources, the efficiency of the environment and nature protection have positive impact on natural resources both locally and globally under specific objective 6/b. The foreseen interventions are likely to contribute positively to the sustainability principle and to the protection of natural habitats. The indicative activities will have positive impact on the quality of rivers of the Romania and Hungary eligible area, on the transboundary water sources. The protection against pollutions, the efficient joint communication and actions will reduce the negative impacts of pollution both in the eligible area and in the area of Serbia also. The development of the supply system, dam construction and small stream reconstruction will have positive indirect effects in the eligible area. The planned activities under specific objective 6/b, the rehabilitation of various natural and cultural and historic values, will positively contribute to the protection of the cultural heritage of the eligible programme area.

Is it necessary to intervene with regard to third countries?
No interventions are needed with regard to third countries, because in case of specific objective 6/b the expected impacts are positive but those are significant in the eligible area, and in case of specific objective 6/c there will be positive effects in the eligible area.
Priority axis 2: Improve sustainable cross-border mobility and remove bottlenecks
Thematic objective 7: Promoting sustainable transport and removing bottlenecks in key network infrastructures
Expected cross-border impacts on third countries:
Infrastructure development under specific objective 7/b is one of the most important links between the two EU member states, providing hundreds of opportunities for cross-border cooperation, connecting peripheral settlement of the eligible border area and improving the connection of small villages and the larger sites. Specific objective 7/c will likely increase the role of public transport and bicycle transport in the eligible area positively contributing to the sustainability principle. Positive environmental impact will be the reduction of transport-related emissions.
Is it necessary to intervene with regard to third countries?
The programme is planned to support the development of road links to enhance cross-border mobility between Romania and Hungary, the planned connections (cross-border roads) will create direct links between Romania and Hungary. No interventions are needed with regard to third countries, because the projects planned in the framework of specific objectives 7/b and 7/c do not affect Ukraine and Serbia, therefore their impacts are not relevant.
Priority axis 3: Improve employment and promote cross-border labour mobility
Thematic objective 8: Promoting employment and supporting labour mobility
Expected cross-border impacts on third countries:
The programme does not have a significant effect for third countries (Ukraine, Serbia) due to the situation of employment and labour force of the cross-border region. The activities foreseen under the priority axes do not have significant effect to third countries as the establishment and development of cross-border business infrastructure facilities, like industrial parks, business incubators, clusters, and establishment of cross-border physical and online marketplaces, logistical capacities to promote the wider use of local (mainly food) products. Possible activities supporting employment friendly growth through the development of endogenous potential as part of a territorial strategy for specific areas do also have very limited effects on third countries and not in environmental terms. The main focus and expected result of activities under the specific objective 8/b are connected to the employment. In terms of sectors, there are a significant number of employed people in the agriculture sector, especially in the Romanian counties. The number of jobs in the Hungarian counties overall exceeds the national average for agricultural, public administration and household activities. All Romanian counties exceed their national average in industry, with Arad (RO) and Timis (RO) exhibiting especially large numbers. National indicators show a significant difference in overall employment in the agricultural service sector, which is visible in a county comparison, too. The planned reconstruction of roads will support the development of road links to enhance cross-border mobility between Romania and Hungary. Positive impact of the specific objective relates to the sustainability criteria, access to local products through the likely increasing cross-border sale thereof.

Is it necessary to intervene with regard to third countries?
The positive impact derives from the development of the endogenous potential of the eligible area and affects the eligible territories: therefore no interventions are needed with regard to third countries.
Priority axis 4: Improving health-care services
Thematic objective 9: Promoting social inclusion and combating poverty and any discrimination
Expected cross-border impacts on third countries:
The activities foreseen in specific objective 9/a are investments to improve health-care infrastructure and equipment, soft activities like know-how exchange and joint capacity development, or development of cross-platform central telemedical, e-health infrastructure do not have expected negative effect on the environment. Positive effects on the population of the eligible area and human health issues are likely through the balanced health-care system.
Is it necessary to intervene with regard to third countries?
No interventions are needed with regard to third countries because the projects planned in the framework of the Interreg V-A Romania-Hungary Programme do not affect Ukraine and Serbia, only the inhabitants of the eight eligible cross-border counties.
Priority axis 5: Improve risk-prevention and disaster management
Thematic objective 5: Promoting climate change adaptation, risk prevention and management
Expected cross-border impacts on third countries:
The actions supported under specific objective 5/b should have indirect, positive long-term environmental impacts. With the development of the preparedness of public authorities and civil protection organisation for emergency responses and the related services will decrease the risk and the impacts of disasters (caused mainly by floods, non-functioning ecosystems and man-made changes) on natural resources and human population of the eligible area. People from third countries shall benefit from reduced emergency response time, but the indirect impact of this specific objective is not significant.
Is it necessary to intervene with regard to third countries?
The projects planned in the framework of the Interreg V-A Romania-Hungary Programme does not affect significantly Ukraine and Serbia. No interventions are needed with regard to third countries.
Priority axis 6: Promoting cross-border cooperation between institutions and citizens
Thematic objective 11: Enhancing institutional capacity of public authorities and stakeholders and efficient public administration.
Expected cross-border impacts on third countries:
Neither positive nor negative primary effects are expected on third countries. The improvement of public administration and institutional capacity will likely have secondary, long-term positive impacts in relation to the eligible area. Positive impacts on cultural and common traditional issues of Romania and Hungary have to be enhanced in case of actions supported under specific objective 11/b.

Is it necessary to intervene with regard to third countries?
No interventions are needed with regard to third countries. The projects planned in the framework of the Interreg V-A Romania-Hungary Programme do not affect Ukraine and Serbia, therefore their effects are not relevant.

Further assessment of possible transboundary impacts should be analyzed at EAI level (at project level) during the planning of specific projects in the frame of the co-operation programme.

11 Technical appendices

ANNEX 1: SEA Process and methodology

The Strategic Environmental Assessment based on the SEA Directive EU/2001/42 aims at determining whether the Interreg V-A Romania-Hungary Programme is likely to have significant environmental effects, and it is an integral part of the whole programming process.

Therefore, the SEA has to be carried out during the preparation of the programme. The SEA requires the preparation of an environmental report and the carrying out of consultations, and has to be completed before the approval of the cooperation programme by the Commission.

This Environmental Report has been produced with the aim:

- to ensure the high level protection of the environment in the eligible area of the programme, and
- to contribute to the integration of environmental aspects into the preparation and adoption of the cooperation programme for period 2014-2020 of the cross-border area between Romania and Hungary with special regard to the promotion of sustainable development

It is an essential requirement to take into account the Environmental Report and the results of the consultations in the preparation of the cooperation programme and in the decision-making process.

The provisions of the SEA report are referred to in Article 2, Article 5 and Annex I of the SEA Directive. The SEA methodology used in this assessment fully incorporates the requirements of the SEA Directive, the methodological recommendations contained in the GRDP Handbook and the national SEA requirements.

The information to be provided and its location in the present report:

Information to be provided under Article 5 (1), 5 (2), 5 (3) and Annex I of the SEA Directive.	**Chapter or Annex of the present report**
the elaboration process of the environmental assessment, the description of the scoping	Annex 1. Introduction and methodology Annex 1. Point 3. Methodological approach
the consultation process with environmental authorities, the activity of the Romanian Working Group for Environmental Assessment, consultation with the public, and the way the results of the consultations have been taken into consideration	Annex 1. Introduction and methodology
an outline of the contents, main objectives of the plan or programme and relationship with other relevant plans and programmes	Chapter 1. An outline of the content, main objectives of the plan and programme and relationship with other relevant plans and programmes
the relevant aspects of the current state of the environment and the likely evolution thereof without the implementation of the plan or programme	Chapter 2. The relevant aspects of the current state of the environment and the likely evolution thereof and the environmental characteristics of areas likely to be significantly affected
the environmental characteristics of areas likely to be significantly affected	Chapter 2. The relevant aspects of the current state of the environment and the likely evolution thereof and the environmental characteristics of areas likely to be

	significantly affected
any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Directives 2009/147/EC and 92/43/EEC	Chapter 4. The existing environmental problems which are relevant to the plan or programme
the environmental protection objectives, established at international, Community or Member State level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation	Chapter 5.1. The environmental protection objectives, established at international, Community or Member State level, which are relevant to the programme
the likely significant effects on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors	Chapter 6.2. The likely significant effects on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors Chapter 10. Transboundary impacts
the measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme	Chapter 7. The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme
an outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information	Chapter 8. An outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information
a description of the measures envisaged concerning monitoring in accordance with Article 10.	Chapter 9. The description of the measures envisaged concerning monitoring
non-technical summary of the information provided under the above headings	Chapter 13. Non-technical summary

1. Legislative framework for SEA

In the new programming period of the European Union (2014-2020) the role of ex ante evaluation is reinforced, mainly because of the strong orientation of Cohesion Policy towards effective contribution to the three priorities of EU 2020 Strategy, i.e. smart, sustainable and inclusive growth and linked targets.

In line with this aim the Regulation (EU) No 1303/2013 of the European Parliament and of the Council of 17th December 2013 requires an ex ante evaluation to be carried out for each programme, in order to improve its quality and design that should also verify that objectives and targets set in the programmes can be reached.[170]

[170] Common Provision Regulation (No 1303/2013 of European Parliament and of the Council of 17 December 2013 laying down common provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund and laying down general provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund and the European Maritime and Fisheries Fund and repealing Council Regulation (EC) No 1083/2006)

Where appropriate, the ex-ante evaluation shall incorporate also the requirements for Strategic Environmental Assessment (SEA) done in line with Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment (SEA Directive). This is the case of the future programme for cooperation on the border region between Romania and Hungary, as well.

The assessment object of the SEA is the Interreg V-A Romania-Hungary Programme.

The SEA of the Interreg V-A Romania-Hungary Programme is planned and carried out in line with the relevant EC Directive and national legislations and was conducted by the Romanian Ministry of Environment and Climate Change (after the reorganisation Ministry of Environment, Waters and Forests):

- European Directive 2001/42/EC on the assessment of effects of certain plans and programmes on the environment
- Convention on Environmental Impact Assessment in a transboundary context (1991) (the Espoo Convention)
- Protocol on Strategic Environmental Assessment (2003)
- In Romania the Government Decision no.1076/2004. for setting up the environmental assessment procedure of certain plans and programmes (other relevant normative acts: OM 117/2006, OM 480/2006, OM 995/2006)
- In Hungary the 2/2005 (I.11) Government Decision on the SEA and the 100/2014. (III.25.) Government Decision which modifies the 2/2005 (I.11) Government Decision.

2. The environmental policy framework and objectives

The SEA analysis identified the key EU-related Romanian and Hungarian pieces of legislation and Policies in terms of the environmental linkages with the Interreg V-A Romania-Hungary Programme and it has been presented in Annex 3 of the report.

There is no significant difference between the legislative systems of the two countries in the field of environmental regulations. The relevant EU directives and policies have been adopted in national legislations, both at statutory and regulatory level.

There is a slight difference in the regulation of some environmental elements: for example, the concept of "impact area" is defined in a number of Hungarian decrees (See air quality protection - emission impact area; Noise protection - noise impact area). On the other hand, standards for the protection of land are regulated in several Romanian laws (Decision no. 1.403 of 19 November 2007 on the restoration of the soil, subsoil and terrestrial ecosystems that have been affected, and Decision no. 1.408 of 19th November 2007 concerning methods of investigation and assessment of soil and subsoil.), while Hungarian legislation deals with the relevant regulations in one law.

During the 2014-2020 planning period, the conservation/restoration/protection of biological diversity and issues relating to climate change should be emphasized. It is particularly important that these aspects have to be reflected at the strategic planning level. According to the “Guidance on Integrating Climate Change and Biodiversity into Strategic Environmental Assessment”, it is critical to identify the key issues from the perspectives of climate change and biodiversity early in the SEA process to ensure that they are assessed effectively throughout the process.

Based on the previously mentioned, the adoption of relevant international standards into domestic law has been completed, and biodiversity and climate change policies have been incorporated into national laws and regulations. Climate change–legislation has been

developed under the United Nations framework Convention on Climate Change, of the Kyoto Protocol and the transposition of EU policy. Legislation regarding climate change aims to limit emissions of greenhouse gases, according to European and international legislation, and promote policies and measures to reduce inevitable negative effects of climate change on human and natural systems.

It is necessary to identify the specific objectives in strategic planning and the determination of the monitoring indicators. What could be the main areas of intervention? The key issues relating to biodiversity are: maintenance of ecosystems, reducing the negative impact on habitats, population sizes, species/genetic diversity, etc.

There are two conceptual areas of intervention regarding issues of climate change, such as reducing the concentration of greenhouse gases in the atmosphere and adaptation. Some of the main issues in reducing the concentration of greenhouse gases in the atmosphere can be solved by consumption saving, reducing emissions of greenhouse gases and increasing carbon sequestration through natural structures or by increasing the forests surface. Adaptation means „adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities"[171]. Key aspects in the adaptation could be the preparation for extreme weather conditions (protection against floods and drought).

3. Methodological approach

3.1. General approach

The SEA is planned and carried out in line with the 2001/42/EC Directive (that defines strategic environmental assessment) and its national transposition.
Relevant methodological guidelines and materials have been taken into account:

- Experience and conclusions of previous SEAs
- Monitoring and evaluation of European cohesion policy - Guidance document on ex ante evaluation for the Programming Period 2014-2020, January 2013
- Guidance on Integrating Climate Change and Biodiversity into Strategic Environmental Assessment
- Guidelines on Climate Change and Natura 2000.

The methodological approach for the strategic environmental assessment process is the following:

1. Screening statement
2. Scoping and consultation on the Scoping Report
3. Environmental Report (including the activity of the Romanian Working Group for Environmental Assessment, the public consultation and the integration of comments from the consultation process in both member states)
4. Setting up the measures decided for monitoring: the significant environmental impacts of the programme implementation
5. Coordination with programming regarding the proposed measures decided ofr monitoring
6. SEA Statement

[171] Guidance on Integrating Climate Change and Biodiversity into SEA.

3.2. Concept of the consultation with environmental authorities and the public

The SEA Directive 2001/42/EC requires that the environmental authorities and the public of the partner states have to be consulted within the SEA Procedure. The participation of the relevant stakeholders in the SEA process is of major importance, since environmental impacts are closely related to social, economic and cultural aspects. The inclusion of stakeholders in a SEA is vital in order to incorporate their perspectives and points of view. On this basis the impacts can be assessed as well as the adequacy of planned actions and mitigation methods.

Within the SEA Procedure of the Interreg V-A Romania-Hungary Programme the involvement of the relevant environmental authorities and the public had been carried out in the following way:

1. Scoping Report: The Scoping Report was consulted first as the first main report in the SEA process. The Scoping Report had been consulted in both member states.
2. Activity of the Romanian Working Group for Environmental Assessment: Romania, in its capacity as MA for the programme and legal responsible of the programme, based on legislation, set up the Working Group for SEA. The Ministry of Environment and Climate Change of Romania (after the reorganisation Ministry of Environment, Waters and Forests) took over the SEA proceedings. The Romanian Working Group for Environmental Assessment was set up at the beginning of the elaboration of the Environmental Report. The meetings of the Romanian Working Group for Environmental Assessment were in the phase of the elaboration of the Environmental Report with the purpose to improve the Environmental Report. (Please see in details in Annex 7.)
3. Environmental Report: After the approval of the SEA Environmental Report by the Romanian Working Group for Environmental Assessment and the approval of the SEA Environmental Report by the JWG, the public consultation will be simultaneously performed in both member states. The Environmental Report must be accessible for consultation at the same time as the draft plan or programme (SEA Directive - Article 6.2 and Annex 1). Subsequently to the consultation responses being collected, an explanation shall be given showing how the Environmental Report and consultation responses have been taken into consideration in the cooperation programme (SEA Directive - Article 8).

Aspects emphasized in the consultation process:

- Clear and particular information was given related to which documents had to be made public, in which language and in what format, with the links where the SEA report has been published
- Clear and full visualization of opinions and comments provided by the partners, and their impact on the content of the CP
- Effective participation of economic, social and environmental partners

Consultation actions on the SEA:

- Consultation with the Ministry of Environment in both countries in order to decide on the method of consultation, the activity of the Romanian Working Group for Environmental Assessment and how to collect and summarise comments.
- Sending the notification to both countries: starting day for the "official consultation"
- Consultation held in both countries
- Collection of comments

- Making a proposal on how to integrate the comments into the programme and why not to include certain comments
- Amending the programme: according to the results of the consultation process in both participating countries
- Drafting the information note / SEA Statement

The whole schedule of the SEA process from the beginning, with deadlines, per country and as a whole, by stages such as Screening, Scoping, drafting the Environmental Report, setting up of the Romanian Working Group for Environmental Assessment formed by Romanian authorities, the activity of the Working Group, the adoption of the draft Environmental Report by the Romanian Working Group for Environmental Assesment, announcement of the public consultation, public access to documents (relevant Government Decision to be taken into account for Romania), public consultation, consultation with the Hungarian authorities, the completion of the Environmental Report taking into account the results from the consultation, decision-making, monitoring, with deadlines, adoption of the Environmental Report by the competent authorities, has been presented in Annex 7 with legal references.

3.2.1. The Scoping Report and consultation

The scoping was the first main step within the Strategic Environmental Assessment process of the Interreg V-A Romania-Hungary Programme with the aim to identify the specific objectives, to determine the current state of the environment and the environmental objectives to be achieved, to summarize the relevant regulatory background and the methodology planned. The Scoping Report determined the framework of the environmental assessment, and also contained the statement on screening. The Scoping Report provided the necessary background information. The content of the Scoping Report was the following:

1. Introduction
1.1. Purpose of the Scoping Report
2. Determining the subject of the programme to the SEA
2.1. The outline of the programme
2.2. Objectives and areas of intervention
2.3. Sectors that the programme covers
3. Determining the likely significance of effects
3.1. Framework for the future EIA development
3.2. Environmental affects at regional and transboundary level
3.3. Characteristics of the effected territory
3.4. Characteristics of the environmental effects of the programme
4. Defining the scope of the assessment
4.1. Relevant plans, programmes and environmental protection objectives
4.2. Identified environmental problems
4.3. SEA objectives
4.4. Baseline information
4.5. Methods of the assessment
5. Structure of the SEA report
6. SEA Procedure
6.1. Consultations
7. Expected environmental effects on third countries

ANNEX 1. The extract of environmental aspects from the draft SWOT analysis of the Programme (in accordance with the 4th National Environmental Programme)
ANNEX 2. List of relevant national and international legal and policy framework including guiding questions

ANNEX 3. Consultation and comments received on the Scoping Report
ANNEX 4. Executive summary of the Scoping Report in Romanian language
ANNEX 5. Executive summary of the Scoping Report in Hungarian language

The prescribed environmental authorities and the national legal requirements have been consulted first with the relevant authorities in both countries. The environmental bodies were invited to express their opinions on the Scoping Report – including the Screening Statement.

The consultation on the draft Scoping Report – including the determination that the programme requires a SEA - took place between 19th March 2014 and 15th May 2014 both in Romania and in Hungary. The Scoping Report was sent out for consultation with the approval of the Joint Working Group of the Interreg V-A Romania-Hungary Programme. As part of this consultation, the environmental authorities from Romania and Hungary were invited to review the draft Scoping Report. The environmental authorities from both countries were provided with an official letter, the whole Scoping Report and an executive summary in the national languages. The official letter contained information of the SEA process and the stage of the scoping, and an official request to take motion for a resolution. The whole draft Scoping Report was made available on the Hungary-Romania Cross-Border Co-operation Programme 2007-2013's programme's website: https://www.huro-cbc.eu and on the website of the Ministry of Environment and Climate Change in Romania (after the reorganisation Ministry of Environment, Waters and Forests) http://www.mmediu.ro/categorie/evaluare-de-mediu-pentru-strategii-planuri-programe/60.ro.

Both in Romania and Hungary environmental authorities sent comments and observations on the content of the Scoping Report. The comments and suggestions received in this consultation phase have been taken into consideration both in the final Scoping Report, in the elaboration of the Environmental Report and in the preparation of the cooperation programme. Please see details of Scoping in Annex 1.

The results of the consultation on the Scoping Report and the Scoping Phase were as follows:

- The environmental authorities agreed with the Scoping Report. The scope of the SEA was approved by the environmental authorities in both countries.
- The screening statement – as part of the Scoping Report – has also been accepted. The environmental authorities have fully agreed that the programme will have a significant impact on the environment and the elaboration of the SEA is necessary.
- The confirmed scoping study presented the types of impacts to assess, and the level of detail of the environmental assessment.

The Scoping Report was finalized after reflecting on each observation received from the relevant participants. After the Scoping Report, which contained the screening statement also, the decision was taken that the Strategic Environmental Assessment is needed in case of the Interreg V-A Romania-Hungary Programme. The final Scoping Report identified the scope and the level of detail of the information which must be included in the Environmental Report.

In Romania the draft of the Environmental Report was improved as a result of the activity of the Romanian Working Group for Environmental Assessment. After the approval of the Environmental Report by the Romanian Working Group for Environmental Assessment, a 30 days consultation was organised with the wider public.

In Hungary, the next step of the process started after the approval of the draft Environmental Report by the Romanian Working Group for Environmental Assessment. After this approval,

a consultation has been organised with the environmental authorities and parallel with the wider public.

This schedule ensured that the 30 days consultation period was implemented simultaneously in both countries.

3.2.2. The Environmental Report and consultation

The consultation on the final draft Environmental Report take place between 6th May 2015 and 5th June 2015 both in Romania and in Hungary. As part of this consultation, the environmental authorities and the public from Romania and Hungary are invited to review the final draft Environmental Report[172].

In Romania, the environmental authorities are provided with the whole report and the Non-etchnical Summary in Romanian language. The Programme document was provided in English, with a summary version in Romanian language. The documents are made available on the website of the Ministry of Regional Development and Public Administration http://www.mdrap.ro/dezvoltare-regionala/-4970/-7572/-1369 and on the website of the Ministry of Environment and Climate Change in Romania (after the reorganisation Ministry of Environment, Waters and Forests) http://www.mmediu.ro/categorie/evaluare-de-mediu-pentru-strategii-planuri-programe/60.ro.

In Hungary, the environmental authorities and the public are provided with the whole report in English and the Non-technical summary in the national language. The documents are made available on the Prime Minister's Office special website concerning develoment policy: http://palyazat.gov.hu/.

Subsequently to the consultation responses being collected, an explanation shall be given showing how the Environmental Report and consultation responses from both countries have been taken into consideration in the final cooperation programme.In both countries the statement on the SEA provides information on how environmental considerations have been integrated into the plan or programme and how the Environmental Report prepared pursuant to Article 5 of the Directive, the opinions expressed pursuant to Article 6 of the Directive and the results of consultations entered into pursuant to Article 7 of the Directive have been taken into account in accordance with Article 8 of the Directive and the reasons for choosing the plan or programme as adopted, in the light of the other reasonable alternatives dealt with.

In Romania the Official information on the Strategic Environmental Assessment procedure of the Interreg V-A Romania-Hungary Programme informs the public on how the SEA process has been implemented in Hungary. This Official Information includes information on how the environmental authorities and the public were involved in the consultation of the Environmental Report and the contributions received from these stakeholders. The Official information shall include: information submitted by the SEA consultant on how the partner state organised the national environmental assessment procedure, in order to inform the public and Romania. This document is to be posted on the official websites of the Romanian Ministry of Environment and the Romanian Ministry of Regional Development and Public Administration, for public consultation.

This chapter will be supplemented and finalised after the consultation process on the draft Environmental Report.

[172] The environmental authorities and the members of the Romanian Working Group for Environmental Assessment had the opportunity to submit their observations to the programme during its established interval for public consultation

3.3. Involvement of environmental bodies

3.3.1. Romanian Working Group for Environmental Assessment

In Romania the list of authorities involved in the consultation of the Scoping Report and in the Romanian Working Group for Environmental Assessment was different. The list of authorities involved in the consultation of the Scoping Report was generated on the bases of the communication with the Romanian Ministry of Environment and Climate Change (after the reorganisation Ministry of Environment, Waters and Forests), and was accepted by the JWG based on the Scoping Report. Romanian authorities were invited by the Hungarian Prime Minister's Office to participate in the consultation action related to the Scoping Report. The Draft Scoping Report includes the list of authorities to be consulted which, by reason of their specific environmental responsibilities, are likely to be concerned by the environmental effects of the programme.

As part of the Strategic Environmental Assessment process the Romanian Working Group for Environmental Assessment has been set up. The list of authorities involved in the Working Group was generated in accordance with the Addresses of Romanian Ministry of Environment and Climate Change (after the reorganisation Ministry of Environment, Waters and Forests) no. 115849/DM/22.07.2014, no.115882/DM/25.07.2014 (Romania) and further updated by the Romanian Ministry of Environmental representative, according to the issues raised during the Romanian Environmental Working Group meetings[173][174].

The Romanian Working Group for Environmental Assessment has convened 4 times and formulated comments and recommendations related to the draft versions of the Environmental Report (19th August 2014, 12th September 2014, 17th October 2014 and 20th November 2014). The final draft of the Environmental Report has been completed and accepted by the Romanian Working Group for Environmental Assessment on 20th November 2014.

3.3.2. Involvement of environmental bodies in Hungary

The list of authorities involved in the SEA process of the Interreg V-A Romania-Hungary Programme is based on the relevant national legislation (Government Decree 2/2005 (I.11.) Annex 3). Based on this legislation the same authorities were involved in the consultation of the Scoping Report and in the consultation of the Environmental Report. . The Annex 2 of this report includes the list of authorities which wereconsulted in relation to the Scoping Report and are to be consulted in relation to the Environmental Report in Hungary, which, by reason of their specific environmental responsibilities, are likely to be concerned by the environmental effects of the programme.

3.4. Public participation

The involvement of stakeholders and the involvement of the public in the SEA process are key elements in the consultation actions. In the consultation phase of the Scoping Report, the whole draft Scoping Report was made available on the Hungary-Romania Cross-Border Co-operation Programme 2007-2013's programme's website: https://www.huro-cbc.eu and on the website of the Ministry of Environment and Climate Change (after the reorganisation Ministry of Environment, Waters and Forests) in Romania

[173] The setting-up of the Romanian Working Group for Environmental Assessment was due to the fact that Romania was nominated as a Managing Authority by the two member states.
[174] The list of the members of the Romanian Working Group for Environmental Assessment has been presented in Annex 1 of this report

http://www.mmediu.ro/categorie/evaluare-de-mediu-pentru-strategii-planuri-programe/60.ro. The consultation of the Environmental Report will give the opportunity to key groups and institutions, environmental agencies, NGOs, representatives of the public and those groups that are potentially affected by the likely environmental impact of implementing the cooperation programme to express their opinions in written form through the webpage of the programme. The Environmental Report will be posted for consultation on the official sites of the Romanian Ministry of Environment and Climate Change (after the reorganisation Ministry of Environment, Waters and Forests) http://www.mmediu.ro/categorie/evaluare-de-mediu-pentru-strategii-planuri-programe/60.ro and the Romanian Ministry of Regional Development and Public Administration in Romania http://www.mdrap.ro/dezvoltare-regionala/-4970/-7572/-1369, on the Prime Minister's Office special website concerning develoment policy: http://palyazat.gov.hu/.

4. Relationship with other parts of the planning process

The SEA process of the Interreg V-A Romania-Hungary Programme was started parallel with the elaboration of the programme document, and according to the planned timing, it will be completed before its adoption. During the process close co-operation with the programming was planned and was realized. The Screening statement and the scope were elaborated at the earliest possible stage in order to ensure that the environmental effects of implementing the programme will be taken into account during its preparation and before its adoption. It is ensured that close co-operation in the phase of the elaboration of the Environmental Report will be considered similarly.

In the frame of the Scoping consultation, some of the stakeholders sent environment-related suggestions that are directly related to the content of the cooperation programme. The received suggestions were forwarded to the planners of the programme and discussed. The table in Annex 6 presents the related responses to each suggestion.

Based on the JWG decision, the CTS including the agreed TOs and IPs has been revised and sent to JWG for approval in written procedure closed on 30/05/2014. Therefore the new CTS revised and approved contains some fine-tuning and insertion of new elements. As it was agreed with the planning team consultation on the final CTS and the final draft of the cooperation programme is required.

This chapter will be supplemented and finalised after the consultation process on the draft Environmental Report.

5. Sources of information

Information has been collected in the frame of the environmental assessment to identify the environmental issues and trends that characterise the Romania-Hungary Cross-Border Area. The determination of the initial status had to be based on a proper regional/territorial database.

During the assessment, basic information was gathered by national and European databases.

In Hungary for general statistic information, the Eurostat database, and/or the Hungarian Central Statistical Office on-line database (http://statinfo.ksh.hu/Statinfo/index.jsp) were applicable. The former contains mainly national data, while the latter can be used to obtain regional/territorial information on the relevant eligible area.

In Romania for general information, also Eurostat, and/or the Romanian National Institute of Statistics (http://www.insse.ro/cms/) can be used. The official statistics in Romania is organized and coordinated by the National Institute of Statistics. This institution is a specialized body of the central general government, subordinated to the Government.

For specific (e.g. environmental) information, special databases were partly available, depending on the given scope, EU environmental reports, publications about Europe's environment published by European Environment Agency, EC's environmental portal, national reports on the state of the environment or nature conservation data or equivalents to these in the different partner states on the field of nature protection, Nature Conservation Information System for map displaying the protected areas, Air Quality Protection Information System.

Determining the base values in the field of nature protection, the "Nature Conservation Data" (yearly published report) of the Hungarian Ministry of Rural Development can be applied. The document contains key information about the areas of conservation and legislation on the proposed measures. The Nature Conservation Information System was also a useful tool for displaying the protected areas in the form of maps, providing information on complex strategic planning (http://geo.kvvm.hu/tir/)

For Romania determining the base values in the field of nature protection, the "National report on the state of the environment in 2012" (yearly published report) of the Ministry of Environment and Climate Change (after the reorganisation Ministry of Environment, Waters and Forests) can be applied http://www.anpm.ro/Mediu/raport_privind_starea_mediului_in_romania-15. Another document can be accessed from http://www.anpm.ro/Mediu/biodiversitate-14; the document contains key information about the areas of conservation and legislation on the proposed measures.

Sector-specific databases based on reporting obligations and/or monitoring system measures. Air quality data can be gathered via the Air Quality Protection Information System (LAIR, http://okir.kvvm.hu/lair/), and the Hungarian Air Quality Network (http://www.kvvm.hu/olm/index.php?lang=en). The former is based on emission reports and technical parameters; the latter contains information about emissions measuring systems.

National Administration 'Apele Române' (NAAR) operates under coordination of the Ministry of Environment and Climate Change (after the reorganisation Ministry of Environment, Waters and Forests) and is responsible for the implementation of policies and legislation related to water management.

Specific sector databases are based on reporting obligations and/or monitoring system measures. Air quality data can be gathered by the Air Quality Protection Information System http://www.calitateaer.ro/

The Environmental Report is based on the Cooperation Programme Document, April 2015.

The 1th Chapter of the present Environmental Report contains the description and outline of the Programme. Chapters 2 and 3 of the present Environmental Report contain the last available data; therefore data from the years 2011, 2012 and 2013 have also been presented. All the information presented in these chapters was based on the environmental reports, environmental information systems and environmental statistical sources, as follows:

Romania:

- ANNUAL REPORT ON THE STATE OF ENVIRONMENT in Satu Mare County-2013 (apmsm.anpm.ro)
- ANNUAL REPORT ON THE STATE OF ENVIRONMENT in Bihor County-2013 (apmbh.anpm.ro)

- ANNUAL REPORT ON THE STATE OF ENVIRONMENT in Arad County- 2013 (apmar.anpm.ro)
- ANNUAL REPORT ON THE STATE OF ENVIRONMENT in Timiş County- 2013 (apmtm.anpm.ro)
- NATIONAL REPORT ON THE STATE OF ENVIRONMENT IN 2012 (www.anpm.ro)
- Summary of Water Quality in 2013 (www.rowater.ro/List/Sint)
- National Institute of Statistics- Silviculture- Area of forest land fund by land category, forest species, macro regions, development regions and counties 2013 (www.insse.ro/Statistical DB TEMPO – Online)

Hungary:

- Environmental Conditions of Hungary 2013 (http://issuu.com/holndonnerpeter/docs/neki_konyv_web)
- Environmental Situation Report of Hungary 2013 (published by the Hungarian Central Statistical Office)
- Water Management Information System (Vízgazdálkodási Információs Rendszer)
- National Environmental Information System (Országos Környezetvédelmi Információs Rendszer)
- Natura Conservation Information System (Természetvédelmi Információs Rendszer)
- Wastewater Information System (Települési Szennyvíz Információs Rendszer)
- Regional Environmental Statistical Databases of the Hungarian Central Statistical Office
- Hungarian Central Statistical Office Statistical review Nov 2013
- The drinking water quality status of Hungary 2012, National public Health and Medical Officer Service Hungary
- National Meteorological Information Services (Országos Meteorológiai Szolgálat)

The difficulties encountered in compiling the required information:

During the collection of basic data the following difficulties were encountered and caused discrepancies in the relevant data presented for each country:

- however, data at regional level was included in as many cases as the data was available, in some cases there was no available specific data with respect to the programme's eligible area, but only for the whole country
- there were cases when there was no data available from the last two years (2012 and 2013), only prior to it
- the data was available in different measurement units in the two countries

ANNEX 2: List of authorities involved in the SEA process

List of authorities involved in consultation acts in HUNGARY:

The list of authorities involved in consultation acts, related to the Scoping Report and related to the Environmental Report, are based on the Annex 3 of the 2/2005 (I.11) Government Decision on the SEA (Hungary).

Permanent stakeholders

Regarding the protection of the environment, nature and the landscape:

- National Inspectorate For Environment, Nature and Water
- Upper-Tisza Regional Inspectorate For Environment, Nature and Water
- Tiszántúl Regional Inspectorate For Environment, Nature and Water
- Lower-Tisza Regional Inspectorate For Environment, Nature and Water
- Hortobágy National Park Directorate
- Körös-Maros National Park Directorate

Regarding the protection of the environment and urban health:

- public health administration bodies of the Government Offices in the four affected counties

Office of the Chief Medical Officer (National Public Health and Medical Officer Service)

Regarding the protection of woodlands, soil, the quantitative protection of agricultural land and the protection of the agri-environment:

- Ministry of Rural Development

The following actors involved by the reason of their environmental reference to the thematic objectives of the CP

Stakeholders involved by competency

Regarding the local protection of the environment and nature

- notaries of the local government of the settlement

Regarding the protection of the built environment

- chief architects of the department for construction of the Government Offices in the four affected counties

Regarding the quantitative protection of waters

- Upper-Tisza Regional Inspectorate For Environment, Nature and Water
- Tiszántúl Regional Inspectorate For Environment, Nature and Water
- Lower-Tisza Regional Inspectorate For Environment, Nature and Water

Regarding the protection of forests

- forestry directorates of the Government Offices in the four affected counties

Regarding the protection of soils

- plant and soil protection directorates of the Government Offices in the four affected counties

Regarding the quantitative protection of arable lands

- cadastral agencies of the Government Offices in the four affected counties

Regarding the protection of geological values and mineral reserves

- Mining District Authority of Miskolc
- Mining District Authority of Szolnok

Regarding the protection of natural characteristics of natural health-giving factors and health resorts

- National Directorate of Health Resorts and Thermal Spas of the National Chief Medical Officer's Administration

Regarding the protection of cultural heritage (protection of monuments, archaeology)

- Cultural heritage protection office of the Government Offices in the four affected counties

Regarding the chemical safety

- National Institute of Chemical Safety

Regarding the prevention of major industrial accidents

- directorates of emergency management of the Government Offices in the four affected counties

Regarding the protection of geological and mineral wealth:

- Ministry of National Development

Regarding the protection of the natural conditions of natural medical factors, health resorts:

- Ministry of Human Resources

Regarding the protection of cultural heritage (protection of historic buildings, archaeology):

- Ministry of Human Resources

Regarding the protection of the built environment

- Ministry of Internal Affairs

Regarding chemical safety:

- Ministry of Human Resources

Regarding the prevention of serious industrial accidents:

- National Directorate General for Disaster Management

Governmental Officies of the affected counties involved

The Governmental Offices were also invited by the Hungarian Prime Minister's Office to participate in the consultation action related to the Scoping Report and the Environmental Report:

- Szabolcs-Szatmár-Bereg county
- Hajdú-Bihar county
- Békés county
- Csongrád county

List of authorities involved in the SEA process in ROMANIA

Members of the Romanian Working Group for Environmental Assessment

- Ministry of Regional Development and Public Administration
  - Managing Authority for Interreg V-A Romania-Hungary Programme (
  - DAMPCTE – evaluation unit
- Ministry of Internal Affairs
  - Public Policy Unit
  - General Inspectorate for Emergency Situations
- Ministry of Environment and Climate Change (after the reorganisation Ministry of Environment, Waters and Forests based on the Decision G. no. 8 of 21th January 2015 on the organization and functioning of the Ministry of Environment, Waters and Forests)
  - General Directorate for Impact Assessment and Pollution Control
  - Directorate of Biodiversity
  - General Directorate for Climate Change
- Department of Waters, Forests and Fisheries
  - Directorate of Strategies, Policies, Projects and Water Resources Management
  - Directorate of Strategies, Policies, Projects and Fishery Resources Management
  - Directorate of Forest Resources Management
- National Administration "Romanian Waters"
- Ministry of Health
  - National Institute of Public Health
- Ministry of Economy
  - General Directorate for Industrial Policy and Competitiveness and European Affairs
- Ministry of European Funds
  - General Directorate for Unit of Analysis, Programming and Evaluation
- Department of Energy
  - General Directorate for Energy and Environment
- Ministry of Agriculture and Rural Development
  - General Directorate for Agricultural Policies and Strategies
- Ministry of Culture
- Ministry of Transport
  - General Directorate of Strategy, Management
- National Company of Motorways and National Roads in Romania – CNADNR SA
- Romanian National Railway Company – CNCF CFR SA
- Agency for Environmental Protection Bihor
- Administration of Natural Park Apuseni
- Administration of Natural Park Cefa
- Association for Bird and Nature Protection "Milvus Group"
- National Agency for Mineral Resource
- National Agency for Land Improvement

Consultation on the Scoping Report in Romania

The following authorities were invited by the Hungarian Prime Minister's Office to participate in the consultation action related to the Scoping Report:

- Ministry of Regional Development and Public Administration
  - Managing Authority for Interreg V-A Romania-Hungary Programme
- Ministry of Environment and Climate Change (after the reorganisation Ministry of Environment, Waters and Forests)
  - General Directorate for Impact Assessment and Pollution Control
- Ministry of Agriculture and Rural Development
  - General Directorate for Agricultural Policies and Strategies
- Ministry of Public Finance
- Ministry of Economy
  - General Directorate for Industrial Policy and Competitiveness and European Affairs
- Ministry for Communications and Information Technology
- Ministry of National Education
- Ministry of Health
  - National Institute of Public Health
- Ministry of Transport
  - General Directorate of Strategy, Management
- National Agency for Small and Medium Enterprises
- National Authority for Tourism

The County Councils were not members of the Romanian Working Group for Environmental Assessment, but were also invited by the Hungarian Prime Minister's Office to participate in the consultation action related to the Scoping Report:

- Satu Mare County
- Bihor County
- Timis County
- Arad County

ANNEX 3: List of key EU-related Romanian and Hungarian legislation and Policies

Biodiversity, flora, fauna NATURA 2000

EU

Habitats (92/43/EC)
Birds (79/409/EEC)
78/659/EEC on the quality of fresh waters needing protection or improvement in order to support fish life
79/923/EEC on the quality required for shellfish waters
COM(2006) 302 (on an EU Forest Action Plan 2007-2011);
EU is a party to the Convention on Biological Diversity (CBD) (1993)

RO

GD no. 1460/2008 approving the National Strategy for Sustainable Development – Horizon 2013 - 2020 – 2030 (Of.J. no. 824/08.12.2008);
Law no. 13/1993 (Of.J. no.62/25.03.1993) for Romania's accession to the Convention on the conservation of wildlife and natural habitats in Europe, adopted in Bern on September 19 1979;
Law no. 13/1998 ratifying the Convention on the conservation of migratory species of wild animals, adopted in Bonn on June 23 1979 – Of.J. no. 24/26.01.1998;
Law no. 5/1991 ratifying the Convention on wetlands of international importance, especially as aquatic bird habitat, adopted in Ramsar, on 2 February 1971, Of.J. no. 18/26.01.1991
Law no.58/1994 ratifying the Convention on Biological Diversity (CBD);
Law no. 89/2000 ratifying the Agreement on the conservation of the african-eurasian migratory aquatic birds – Of. J. no. 236/30.05.2000;
Law no. 90/2000 for Romania's accession to the Agreement on the Conservation of Bats in Europe, adopted in London on December 4, 1991;
Law no 389/2006 (O.J no. 879/27.10.2006) ratifying the framework convention on protection and sustainable development of the Carpathians, adopted in Kiev on 22 Mai 2003 and Law 137/2010 (O.J. no.477/12.07.2010) ratifying the Protocol on conservation and sustainable use of biological diversity and landscape diversity, adopted and signed in Bucharest on 19 June 2008;
Government Emergency Ordinance no. 57/2007 (Of.J. no. 442/29.06.2007)on the protected natural areas, natural habitats, wild flora and fauna adopted by Law no. 49/2011 (Of.J no.262/13.04.2011), with subsequent amendments;
Law no.5/2000 regarding approving the National Spatial Plan - Section III - Protected Areas;;
G.D no. 1284/2007H.G. nr.1284/2007 (M.O. nr. 739/31.10.2007) regarding the establishment of special protection of faunistic areas as integrated part of the European Ecological Network Natura 2000 in Romania, amended by G.D. no. 971/2011 (Of. J no. 715/11.10.2011);
Order M.M.D.D. no.1964/2007 (Of.J. no. 98/07.02.2008) regarding the creation of the protected area of sites of community importance as integrated part of the ecological network Natura 2000 in Romania, amended by Order M.M.P. no. 2387/2011 (Of. J no.846/29.11.2011)
GD no.230/2003 (Of.J.no.190/26.03.2003) on the delimitation of the biosphere reserves, national parks and natural parks and the setting – up of their administrations;
The Order of Minister of Agriculture, Forests, Waters and Environment no.
552/2003 (Of.J.no.648/11.09.2003) for the approval of the internal zoning of national
and natural parks from the point of view of the conservation of the biological
diversity necessity;
GD no.2151/2004 regarding the establishment of new protected areas
(Of.J.no.38/12.01.2005).
(Of.J.no.24/11.01.2006);
G.D. no. 1586/2006 (Of.J. no. 937/20.11.2006) for the Classification of some protected areas in the category of wetlands of international importance;
Order MMGA no. 604/2005 (Of.J. no. 655/22.07.2005) for Classification approval of caves and cave sectors – natural protected areas;
The Order of Minister of Environment and Water Management no. 207/3.03.2006 for the approval of the Standard Data Form and the manual for Natura 2000 (Of.J.no284/29.03.2006);
MMP Order no. 19/2010 (Of. J no.82/08.02.2010) approving the methodological Guide for proper assessment of the potential effects of plans and projects on protected natural areas of community interest ;
Forest code adopted by Law no. 46/2008 (Of.J no.238/27.03.2008), with subsequent amendments;
Law no. 407/2006 (Of.J. no.944/22.11.2006) on hunting and wildlife fund, with subsequent amendments;
Government Emergency Ordinance no. 23/2008 (Of.J. no.180/10.03.2008) on fishing and aquaculture adopted by Law no.310/2009 (Of.J. nr.680/09.10.2009), with subsequent amendments;
Order no. 159/1266 2011 (Of.J. no. 511/19.07.2011) approving the conditions to practice fishing recreational/sporting, the regulation to practice fishing recreational/sporting and the models and fishing permits recreational/sporting in protected natural areas

HU	National Strategy and Action plan for Biodiversity Conservation (NSAPBC Law no. 2007. CXXIX on protection of soil Law no. 2009. XXXVII on the forest, the forest conservation and forest management Law no. 1998. XXVIII. on protection and Welfare of Animals Law no. 1997. XLI on the fishing and angling Law no. 1996. LV on wildlife conservation, wildlife management and hunting Law no. 1996. LIII on protection of nature Law no. 1995. LXXXI on the promulgation of the Convention on Biological Diversity GD no. 275/2004 on nature conservation areas of Community importance GD no. 67/1998 on restrictions and prohibitions on protected and strictly protected aquatic communities GD no. 346/2008 on the protection of woody plants MO 14/2010 on land involved in nature conservation areas of Community importance

Soil and land use

EU	Framework Directive on Waste (75/442/EEC) Landfill of waste (99/31/EC) Packaging and packaging waste), as amended by Directive 2004/12/EC Hazardous Waste (91/689/EEC) Incineration of waste (2000/76/EC) Prepared Mining Waste Directive Stockholm Convention on POPs EC is a party to the Basle Convention, Regulation No. 259/93 (EC) The Council Decision 2003/33 establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 99/31/EC Directive 2010/75/EC on industrial emissions (IPPC)
RO	G.D. no.870/2013 (Of.J no.750/04.12.2013) approving the National Waste Management Strategy 2014 – 2020; Law no. 211/2011(Of.J. no.837/25.11.2011) on waste regime ; GD No 349/2005 (Of.J.no.394/10.05.2005) on the landfill of waste Order of the Minister of Environment and Water Management No 95/2005 on defining of the criteria which must be fulfilled by waste in order to be found on the specific list of a landfill and the National List of accepted waste for each class of landfill (Of.J.no.194/8.03.2005); Order of the Minister of Environment and Water Management No 757/2004 on the approval of the Technical Norms regarding the landfill of waste (Of.J.no86/26.01.2005). GD no.621/2005 (Of.J.no.639/20.07.2005) on the management of packaging and packaging waste GD no. 856/2008 (Of.J. no.624/27.08.2008) on the management of waste from extractive industries; O.M no. 344/708 2004 (Of.J. no.959/19.10.2004) approving technical Norms on environmental protection and in particular the soil, when sewage sludge is used in agriculture; Law no. 261/2004 (Of.J. no.638/15.07.2004) ratifying the Convention on persistent organic pollutants, adopted at Stockholm on 22 May 2001; G.D. no.53/2009 (Of.J.no.96/18.02.2009) for the National Plan for the protection of groundwater against pollution and deterioration; National Strategy for Polluted Sites Law no.278/2013 (Of.J no.671/01.11.2013) on industrial emissions;
HU	Law no. 2012 CLXXXV. on waste Law no. 2000. XXV on chemical safety GD no. 219/2004 on protection of groundwater GD no. 98/2001 on activities related to hazardous waste GD 442/2012 on packaging and waste management related actions MD 20/2006 on waste disposal, as well as certain rules and conditions for the landfill MD 3/2002 on the incineration of technical specifications, operating conditions, and in the incineration process emission limits

Water (surface waters, ground waters)

EU	Water Framework Directive (2000/60/EC), Nitrates Directive (91/676/EEC), Urban Waste Water Treatment Directive (91/271/EEC), Directive 2010/75/EC on industrial emissions (IPPC) Water Policy (2000/60/EC) Stockholm Convention on POPs
RO	Water Law no.107/1996 as amended by Law no.310/2004, Law no.112/2006,Law 146/2010,Law 283/2011,Law 187/2012 and GEO 69/2013;

GD no.351/2005 on the approval of the Action Programme for reducing the pollution of aquatic environment and groundwater caused by the discharge of some dangerous substances (Of. J no. 428/20.05.2005), as amended by GD no.783/2006 (Of. J no. 562/29.06.2006,GD no. 210/2007,GD no. 1038/2010 and GD no. 707/2013;
O.M. no.161/2006 (Of.J. no.511 bis/ 13.06.2006) approving the Norms regarding the classification of surface water quality to determine the ecological status of water bodies;
GD no.188/2002 (Of.J.no.187/20.03.2002) on the approval of the norms regarding the wastewater discharge conditions in the aquatic environment,, as amended by GD no 352/2005 (Of.J.no.398/11.05.2005) and GD no 210/2007 (Of.J.no.187/19.03.2007);
G.D. no.964/2000 (Of.J. no. 526/25.10.2000) approving the Action Plan for the protection of waters against pollution caused by nitrates from agricultural sources;
G.D. no.80/2011 (Of.J. no.265/14.04.2011) approving the National management for the international portion of the Danube river basin on Romania's territory
Land Improvements Law no. 138/2004, republished, as subsequently amended and supplemented (O.G. no. 88/13.02.2009)
National Strategy and Action Plan for Water Management
National Strategy for Flood Risk Management in the medium and long term

HU

Law no. 1995. LVII on water management
GD no. 27/2006 on the protection of waters against pollution caused by nitrates from agricultural sources
GD no. 221/2004 on certain rules of river basin management
GD no. 220/2004 on the protection of surface water quality
GD no. 123/1997 on water resources, the long-term water resources and water facilities for drinking water supply protection
GD no. 38/1995 on public utility potable water supply and the disposal of sewage public utility
GD no. 219/2004 on protection of groundwater
GD 2/2005 (I.11.) on certain plans and environmental assessments modified by GD 100/2014

Air and fighting climate change

EU

Emission Ceilings (2001/81/EC)
Directive 2010/75/EC on industrial emissions (IPPC, LCP)
Fuels (98/70/EC, 99/32/EC)
VOC (94/63/EC, 99/12/EC)
Non-Road Mobile Machinery (97/68/EC)
Directive 2008/50/EC on ambient air quality and cleaner air for Europe
Directive 2004/107/EC relating to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air
Stockholm Convention on POPs
Gothenburg Protocol 1999
European Climate Change Programme
Decision No. 93/389/EEC for a Monitoring Mechanism of Community CO2 and other Greenhouse Gas Emissions
Proposal of the Taxation of Energy Products Directive
Emission Trading Directive and Linking directive
UNFCCC and Kyoto Protocol
Climate Energy Legislative Package adopted in 2009
EU Strategy on adaptation to climate change

RO

Law no. 104/2011 (Of.J. no.452/28.06.2011)on ambient air quality;
Law no.271/2003 for ratification of the Gothenburg Protocol National Reducing Plan for sulphur dioxide and nitrogen oxides emissions and powders from large combustion plants and the measures take on account the conformation of the limit values for the emission, approved by Joint Ministerial Order MEWM 833/13.09.2005, MEC 545/26.09.2005 MAI 859/2005 (Of.J.no.888/4.10.2005);
Law no.8/1991 for ratification the Convention on long-range transboundary air pollution, done at Geneva on 13 November 1979 (Official J. nr. 18/26.01.1991);
GD no.568/2001 (republished in Of.J.no.595/29.08.2007) on setting up the technical requirements for limiting the VOC emissions resulting from storing, loading, unloading and distribution of petrol from terminals to service stations, amended by GD no.958/2012 (Of.J.no.689/05.10.2012);
Order of the Minister of EWM no. 781/2004 on the approval of Methodological Norms regarding the measurement and analyses of volatile organic compounds resulted from storage and loading/ unloading of petrol at terminals (Of.J.no.1243/23.12.2004);
Order of the Minister of Industry and Resources no. 337/2001 approving the Norms regarding the technical inspection of the installations, equipment and devices used for reducing VOC emissions resulted from storing, loading, unloading and distribution of petrol from terminals and service stations (Of.J.no.10/10.01.2002), as amended by Order of the Minister of Economy and Commerce no.122/2005 (Of.J.no.324/18.04.2005) and Order of the Minister of Economy no. 728/2013 (Of.J.no.271/14.05.2013);

HU	G.D. no.440/2010 establishing measures for the emission limitation of certain pollutants from large combustion plants (Of.J. no.352/27.05.2010); Law no.278/2013(Of.J. no.671/01.11.2013) on industrial emissions National Strategy of Romania on Climate change, 2013-2020, approved by GD 536/2013 Romania's Short- Medium and Long Term Masterplan for Transport GD no. 31!62005 on the EIA and IPPC permitting process GD no. 306/2010. (XII. 23.) on protection of air MD no. 4/2011. (I. 14.) VM of the Minister of Rural Development on ambient air quality limit values and the emission limit values of stationary point sources of air pollutants; MD no. 6/2011. (I. 14.) VM of the Minister of Rural Development on the rules governing the checking, controlling and evaluation of ambient air quality and the emission of stationary sources of air pollutants;

Landscape

EU	European Landscape Convention
RO	Law no. 363/2006 (Of.J. no.806/26.09.2006) approving the national Spatial Development Plan Section I – Transport Networks; Section II - Water, approved under Law 171/1997; Section III - Protected areas, approved under Law 5/2000; Section IV - Settlement network, approved under Law no.351/2001; Section V - Natural risk areas, approved under Law no.575/2001; National Strategy for Sustainable Development of Romania, Horizons 2013 - 2020 - 2030 approved by G.D. no. 1460/2008 (Of.J.no. 824/08.12.2008 National Strategy for Polluted Sites
HU	Law no. 1997 LXXVIII on protection of built environment Law no. 1996 XXI. on regional development and land settlement MD 253/1997 on national town planning and building requirements

Population and human health

EU	Quality of water intended for human consumption (98/83/EC) Protection of ground water against pollution caused by certain dangerous substances (80/68/EEC) Landfill of waste (99/31/EC) Waste regime (75/442/EEC) Noise (2000/14/EC) The action plan of the EU Community Public Health Programme for 2003-2008, which was adopted by Decision No. 1786/2002 of the European Parliament and Council WHO (1998) The "Health for All in 21st Century" Strategy; European Sustainable Cities European Regional/Spatial Planning Charter ('Torremolinos Charter'), adopted in 1983 by the European Conference of Ministers responsible for Regional Planning (CEMAT) The European Commission Green Book for the future policy on noise, (1996) Aalborg Charter
RO	Law no.458/2002 (republished in Of.J.no.875/12.12.2011) on the quality of drinking water; GD no.351/2005 on the approval of the Action Plan for reduction of the pollution of aquatic environment and groundwater, caused by the discharge of certain dangerous substances (Of.J.no.428/20.05.2005), as amended by GD no.783/2006(Of. J no. 562/29.06.2006), GD no. 210/2007(Of. J.no. 18//19.03.2007),GD no.1038/2010 (Of. J.no. 746//9.11.2010),G.D. no.707/2013 (Of. J.no. 597/25.09.2013); DG.D. no.1756/2006 (Of.J. no.48/22.01.2007) on the limitation of noise emission in the environment caused by equipment for outdoor use; G no 321/2005 for reassessment and management of the environmental noise (republished in Of.J. no.19/10.01.2008), modified by G.D. no.1260/2012(Of.J no.15/09.01.2013); GD no.188/2002 (Of.J.no.187/20.03.2002) on the approval of the norms regarding the wastewater discharge conditions in the aquatic environment, as amended by GD no.352/2005 (Of.J.no.398/11.05.2005) and GD no 210/2007 (Of.J.no.187/19.03.2007;
HU	GD 284/2007 on certain rules of protection against ambient noise and vibration GD 280/2004 on assessment and management of environmental noise GD 25/2002 on the National Urban Waste Water Collection and Treatment Implementation Programme GD no. 201/2001 on drinking water quality requirements and control arrangements MD 25/2004 on strategic noise maps, and detailed rules for the preparation of action plans MD 27/2008 on determining the ambient noise and vibration limits

Material assets, cultural heritage including architectural and archaeological heritage

EU

RO

Law no.363/2006 (Of.J. no.806/26.09.2006) approving the national Spatial Development Plan
Section I – Transport Networks;
Section II - Water, approved under Law 171/1997;
Section III - Protected areas, approved under Law 5/2000;
Section IV - Settlement network, approved under Law no.351/2001;
Section V - Natural risk areas, approved under Law no.575/2001;
Government Ordinance no.43/2000 (republished in the Of.J. no. 951/24.11.2006) regarding the protection of archaeological heritage and declaration of some archaeological sites as areas of national interest, as amended;
Law no. 422/2001 (republished in Of.J. no. 938/20.11.2006) regarding the protection of historical monuments, modified by E.G.O 77/2009 (Of.J. no. 439/26.06.2009), by Law 261/2009(Of.J. no.493/16.07.2009), by Law 329/2009 (Of.J. no. 761/09.11.2009),by E.G.O no. 43/2010(Of.J. no.316/13.05.2010), by E.G.O no. 12/2011 (Of.J. no. 114/15.02.2011),by Law no.187/2012 (Of.J. no.757/12.11.2012);

HU

Law no. 2001. LXIV. on protection of cultural heritage amended by Law no. 2012 CXCI.

ANNEX 4: Intermediary alternative as a discarded alternative: Selected priority axis and key areas of intervention[175] as discussed on the 12th December 2013 by the 6th Joint Working Group Meeting.

Priority Axes	TO	IP	KAI	Desired change	Specific objective	Activity	Output indicator
PA1: Supporting the shift towards low carbon economy	4. Supporting the shift towards a low-carbon economy in all sectors	4/a promoting the production and distribution of energy derived from renewable sources;	KAI A1.1: Support to the production and distribution of renewable energy	Increase in the use of energy from renewable sources in the border area.	Increased production of energy from renewable sources.	1. Support to small-scale renewable energy production facilities. 2. Support to the development of local distribution systems of renewable energy.	1. Number of renewable energy production and distribution facilities supported.
		4/c supporting energy efficiency, smart energy management and renewable energy use in public infrastructures, including in public buildings and in the housing sector;	KAI 1.2 Support to improving energy efficiency in public buildings	Reduced energy consumption of public infrastructure facilities.	Reduced energy consumption of public infrastructure facilities.	1. Support to the refurbishment of public buildings in order to increase energy efficiency.	1. Size of facilities with increased energy efficiency. 2. Decrease in energy consumption
PA2: Joint protection and efficient use of common values and resources	6. Preserving and protecting the environment and promoting resource efficiency	6/b Investing in the water sector to meet the requirements of the Union's environmental acquis acquis and to address needs, identified by the Member States, for investment going beyond those requirements	KAI2.1: Cross-border water protection	Causes of ground and surface water pollution in the CB area are reduced/eliminated	Reducing causes of water pollution	1. Investment into improving water quality 2. Protection of the common water basin 3. Investment into water quality and quantity monitoring	1. Additional population served by improved water supply

[175] The intermediary version of the CP used the terminology of the key areas of interventions, but later modified as investment priorities.

		6/c Conserving, protecting, promoting and developing natural and cultural heritage	KAI 2.2: Protection and promotion of joint cultural, historic and natural heritage as tourism destinations	Improved conditions of joint cultural, historic and natural heritage as tourism attractions	Common cultural, historic and natural values protected and visited as tourism destinations	1. rehabilitate and preserve cultural, historic, and natural heritage 2. development of thematic routes built around cultural, historic and natural values 3. Sustainable use of common geothermal resources	1. Surface area of habitats in better conservation status 2. Increase in expected number of visits to supported sites of cultural and natural heritage and attractions
PA3: Improve sustainable cross-border mobility and remove bottlenecks	7: Promoting sustainable transport and removing bottlenecks in key network infrastructures	7/b Enhancing regional mobility through connecting secondary and tertiary nodes to TEN-T infrastructure, including multimodal nodes	KAI 3.1: Cross-border road development linked to TEN-T	Accessibility of TEN-T infrastructure from the entire CB region	Improved accessibility of settlements in the border area	1. Building new cross-border roads 2. Improving the accessibility of cross-border TEN-T lines from smaller settlements	1. Total length of newly built roads 2. Total length of reconstructed or upgraded roads
		7/c Developing and improving environment-friendly (including low-noise), and low-carbon transport systems including inland waterways and maritime transport, ports, multimodal links and airport infrastructure, in order to promote sustainable regional and local mobility	KAI 3.2: Strengthening sustainable cross-border mobility	Reduction of traffic emissions in the CB area	Assuring shift towards more sustainable / green forms of transport	1. Coordinated development of key railway and tram-train lines connecting major cities in the eligible area, 2. Development of cross-border public transport services, 3. Development of key conditions of cross-border bicycle transport	1. number of new cross-border public transport services, 2. length of new cross-border bicycle roads 3. Increase of passenger trips using supported cross-border transport services

PA4: Improve employment and promote cross-border labour mobility	8: Promoting sustainable and quality employment and supporting labour mobility	8/a supporting the development of business incubators and investment support for self-employment, micro enterprises and business creation	KAI 4.1: Developing cross-border business cooperation	Increased role of RO and HU enterprises in supplying services and products to the joint market of the eligible area	Increased cooperation of Romanian and Hungarian businesses	1. Establishment of cross-border business infrastructure facilities - industrial parks, business incubators. 2. Establishment of cross-border physical and online marketplaces, logistical capacities to promote the wider use of local (mainly food) products	1. Number of new business infrastructure facilities 2. Number of new markets established
PA5: Promoting social inclusion and combating poverty	9: Promoting social inclusion, combating poverty and any discrimination	9/a investing in health and social infrastructure which contribute to national, regional and local development, reducing inequalities in terms of health status, promoting social inclusion through improved access to social, cultural and recreational services and the transition from institutional to community-based services	KAI 5.1: Joint health-care development	Access to good quality health-care services on both sides of the border;	Integrated health care services in the cross-border area	1. Investment to improve health-care infrastructure 2. Establishment of standards and procedures of cross-border healthcare 3. Know-how exchange and joint capacity development 4. Development of cross-platform central telemedical infrastructure,	1. Capacity of supported health services
		9/b support for physical economic and social regeneration of deprived urban and rural communities and areas;	KAI 5.2 Integrated development of deprived rural and urban communities	Improved physical conditions in rural and urban areas struck by deprivation and segregation.	Public services and infrastructure improved in deprived areas	1. Integrated development of deprived rural areas (with special emphasis of joint poor areas). 2. Social urban rehabilitation of segregated urban areas.	1. Number of deprived rural communities improved. 2. Number of segregated urban areas improved.

PA6: Promoting cross-border cooperation between institutions and citizens	11: Enhancing institutional capacity and an efficient public administration support of actions in institutional capacity and in the efficiency of public administration	11/a Enhancing institutional capacity of public authorities and stakeholders and efficient public administration through actions to strengthen the institutional capacity and the efficiency of public administrations and public services related to the implementation of the ERDF, and in support of actions under the ESF to strengthen the institutional capacity and the efficiency of public administration.	KAI 6.1: Strengthening cross-border institutional cooperation	More active joint actions of institutions	Increased cross-border institutional cooperation	1. Cooperation of labour market institutions, 2. Cooperation of educational and vocational institutions, 3. Cooperation of emergency response institutions, 4. Cooperation of enterprise support institutions	1. Number of projects promoting legal and administrative cooperation
		11/a Enhancing institutional capacity of public authorities and stakeholders and efficient public administration through actions to strengthen the institutional capacity and the efficiency of public administrations and public services related to the implementation of the ERDF, and in support of actions under the ESF to strengthen the institutional capacity and the efficiency of	KAI 6.2: Strengthening cross-border people-to-people, community-to-community cooperation	Stronger and more frequent day-to-day cooperation of people and local communities.	Active cross-border people-to-people, community-to-community relations;	1. People-to-people cooperation, 2. Community-to-community cooperation	1. Number of events promoting cooperation between citizens and communities 2. Number of new municipality cooperation

		public administration.					

ANNEX 5: Summary of public consultation[176] and comments received on the Environmental Report

The Annex will be supplemented and finalised after the consultation process on the draft Environmental Report.

ANNEX 6 Summary of comments received in the frame of the Scoping consultation on the content of the CP

Suggestions to the content of the CP	
Comments from the environmental authorities and other stakeholders	**Answer to the Comment[177]**
Ministry of Health (Romania) received on 19th April 2014. : PA3 – Improve sustainable cross-border mobility and remove bottlenecks, point 7c regarding the developing and improving environment-friendly, low-noise and low-carbon transport systems for promoting sustainable mobility at local and regional level. Suggestion to the intervention area KAI 3.2 "Promoting sustainable cross-border mobility with impact on health".	Based on the above-mentioned JWG decision on TOs and IPs in the (Common territorial strategy) CTS, the mobility PA3 became PA2, thus KAI 3.2 became KAI 2.2. Nevertheless the aim of KAI 2.2. "Strengthening sustainable cross-border mobility" is to give a broader interpretation to any of the fields of activity – by not restricting it to health care. Even PA4 Improving the quality and accessibility of health care services receives a standalone chapter. Moreover PA5 Improve risk-prevention and disaster management deals with those types of activities that precisely match the needs mentioned by the Ministry of Health (RO) above.
Ministry of Health (Romania) received on 19th April 2014: PA5 – Promoting social inclusion and combating poverty and any discrimination, point 9a regarding investing in health and social infrastructure for reducing inequalities in terms of health. Suggestion to the intervention area KAI 5.1 – Joint health care development aimed to improve the health care services for decrease of "health migration". The intervention area can include investments to improve the medical infrastructure and equipment, the know-how exchange and the common development capacity, to develop a common platform for telemedicine and an e-health infrastructure.	Based on the general comment, namely fine-tuning of the CTS according to the decision of JWG on TOs and IPs, PA4 Improving the quality and accessibility of health-care services is the relevant PA in terms of health care. The aim of the respective KAI 4.1. Joint health care development is to improve access to proper health care services across the eligible area. Rationale on page 67 clearly stipulates the logical needs as well as the types of activities foreseen on page 68 give a clear picture on actions to be supported, namely 4.1.1 investment to improve health care infrastructure and equipment, 4.1.2 know-how exchange and joint capacity development, 4.1.3 development of cross-platform central telemedical, e-health infrastructure, meaning that the comment of the Ministry of Health (RO) entirely matches the proposal presented in the CTS.

[176] In case of Hungary, this consultation action is public consultation and consultation with the relevant authorities listed in Annex 1.
[177] In the version of the cooperation programme document bases for the Scoping Report key areas of intervention terminology has been used, but later modified as investment priorities.

Suggestions to the content of the CP	
Comments from the environmental authorities and other stakeholders	**Answer to the Comment[177]**
Ministry of Health (Romania) received on 19th April 2014: PA6 - Promoting cross-border cooperation between institutions and citizens, point 11 b regarding legal and administrative cross-border cooperation between institution and citizens. Suggestion to the intervention area KAI 6.1. – strengthening cross-border institutional cooperation and KAI 6.2. - strengthening cross-border community to community cooperation by improving the collaboration concerning the health care services and the capacity to respond in emergency situations.	The types of activities of PA6 Promoting cross-border cooperation between institutions and citizens, KAI 6.1 envisage actions, such identification of specific joint potentials in cross-border cooperation in various fields, among others also in health-care. As far as the emergency situation concerns, KAI 5.1 Support to the development of joint emergency response and disaster management of PA5 Improve risk prevention and disaster management is planned to finance types of activities such as investments into emergency response and risk prevention facilities and equipment, improvement of emergency response communication, harmonisation of protocols and procedures, joint training and practices of organisations involved in emergency response and disaster management the eligible area. Nevertheless, the types of activities clearly articulate the fields to be supported and separate PA also deals with the topic, there is no need for narrowing field of KAI 6.1 and 6.2 in wording.
Ministry of Health (Romania) received on 19th April 2014: Regarding the ground water pollution the future action is to stop the growing nitrate contamination by implementing the directives on the waters nitrate concentrations in sensitive areas. The first phase of the water quality programme will be held in 2015 and aims to achieve adequate boron, fluorides, nitrate, arsenic, ammonia, iron, manganese and lead level. Regarding the possibility of surface waters pollution it must be taken agro-technique actions to achieve a good ecological status. A potential action in the future could be the noise impact assessment, the impact of noise on health. The noise maps are the basic elements of the action plan to reduce the noise in the most affected areas. The existing noise maps show that despite the efforts made, the main source of noise remain the traffic.	Reducing ground water pollution may be considered in the frame of KAI 1.1 Cross-border water protection and management. According to the decision of the JWG, noise impact assessment is out of scope of the future cooperation programme. Despite the importance of these activities, they have a less significant cross-border character. It can be tackled in mainstream cooperation programmes in HU and RO.
National Inspectorate For Environment, Nature and Water (Hungary) received on 28th April 2014: Suggestion: to support the two countries in actions protecting the thermal water basin	Types of activities foreseen of PA1 Joint protection and efficient use of common values and resources, KAI 1.2 Protection and promotion of joint cultural, historic and natural heritage as tourism destinations are creation and rehabilitation of facilities based on the sustainable use of common geothermal potential of the cross-border area. Moreover under PA 1 KAI 1.1 Types

Suggestions to the content of the CP	
Comments from the environmental authorities and other stakeholders	**Answer to the Comment[177]**
	of activities foreseen 1.1.2. deals with protection and sustainable use of the common water basin.
National Inspectorate For Environment, Nature and Water (Hungary) received on 28th April 2014: Suggestion to PA3: to implement air pollution monitoring systems in main traffic nodes	According to the decision of the JWG, air pollution is out of scope of the future cooperation programme. Despite the importance of these activities, they have a less significant cross-border character. It can be tackled in mainstream cooperation programmes in RO and HU.
National Inspectorate For Environment, Nature and Water (Hungary) received on 28th April 2014: Suggestion to PA6: the possible co-operation of industrial stakeholders	According to our understanding, industrial stakeholders are for-profit organizations not fitting the portfolio of possible beneficiaries.
Government Office of Csongrád County (Hungary) received on 30th April 2014: Suggestion: to inspire the future beneficiaries for the utilization of renewables, such as biomass, geothermic energy, solar power, precision agriculture (application of pesticides).	According to the decision of the JWG the thematic objective 4 (Supporting the shift towards a low-carbon economy in all sectors) is out of scope of the future cooperation programme, Despite the importance of these activities, they have a less significant cross-border character. It can be tackled in mainstream Operational Programmes in RO and HU.
Government Office of Csongrád County (Hungary) received on 30th April 2014: Suggestion to PA3: beside the large scale flood and inland water protection projects the promotion of cooperation between municipalities and agricultural SME's.	The objective of PA3 (in the new version PA1, KAI1.1) is water protection and management. If that requires cooperation between municipalities and agricultural SMEs – no problem with it. Be aware, though, that direct support to enterprises is not part of the proposed programme.
Government Office of Csongrád County (Hungary) received on 30th April 2014: Suggestion to PA5 and 6: to incorporate social issues related to the common health care investments.	The social care is an issue of high importance, the infrastructure of social care institutions is mostly inadequate, but according to the JWG decision it does not belong to the selected KAIs and activities. The mainstream programmes may include the development of social infrastructure.
Government Office of Csongrád County (Hungary) received on 30th April 2014: Suggestion to PA3: to incorporate developments of environmentally friendly infrastructure (bicycle paths, solar powered transport)	PA2 (former PA3) includes the following related activities suggested in the comment: 2.2.2 Development of cross-border public transport services 2.2.3 Development of key conditions of cross-border bicycle transport
Lower-Tisza Regional Inspectorate For Environment, Nature and Water (Hungary) received on 30th April 2014: In general, beside the development of infrastructure, raising the awareness of natural	Standalone awareness raising activities may not be supported. Awareness raising may, however, be part of integrated water management, or even disaster management interventions.

Suggestions to the content of the CP	
Comments from the environmental authorities and other stakeholders	**Answer to the Comment[177]**
causes should play a role during the programming phase.	

12 Other appendices

ANNEX 7: The SEA process and schedule

The Annex will be supplemented and finalised after the consultation process on the draft Environmental Report in the final version of the report.

The table contains the planned schedule, the realised actual timing will be corrected in the final version of the Report.

STEP of the SEA procedure: Screening	
Date for the undertaken step	12th December 2013 - 6th January 2014
Documents for the undertaken step	**Precondition:** approved TOs and IPs In line with SEA Directive Article 3 and Annex II The Screening statement has been incorporated in the Scoping Report. According to the SEA Directive and both the Romanian and Hungarian national legislations, the SEA is automatically required for the programme as it is likely to have significant environmental effects. The screening-scoping process confirmed that there are likely to be significant environmental effects and SEA is required.
Romanian legal reference	In line with Government Decision no.1076/2004. Art 5. (2)
Hungarian legal reference	In line with Government Decree 2/2005 (I.11.) §1, §4and Annex 1 In line with the decree the screening statement can be incorporated into the Scoping Report.
STEP of the SEA procedure: Scoping	
Date for the undertaken step	12th December 2013 - 6th January 2014 Elaborated Scoping Report: 6th January 2014.
Documents for the undertaken step	In line with SEA Directive Article 3 **Precondition:** approved TOs and IPs The Scoping Report including screening was made available in English language. The screening-scoping process confirmed the scope and the level of detail of the Environmental Report. 1. Consultation on the Scoping Report in the Scoping Phase between 19th March 2014 and 15th May 2014.
Romanian legal reference	In line with the Government Decision no.1076/2004. Art 14. (1)
Hungarian legal	In line with Government Decree 2/2005 (I.11.) §1, § 4 (3) and Annex 1

reference	
STEP of the SEA procedure: Setting up of the Romanian Environmental Working group	
Date for the undertaken step	n.r.
Documents for the undertaken step	The Romanian Working Group for Environmental Assessment was set up at the beginning of the elaboration of the Environmental Report, as Romania became the Managing Authority for the programme. The Ministry of Environment and Climate Change (after the reorganisation Ministry of Environment, Waters and Forests) of Romania took over the SEA proceedings. The meetings of the Romanian Working Group for Environmental Assessment were in the phase of the elaboration of the Environmental Report. The topics for the meetings of the Romanian Working Group for Environmental Assessment are based on the article 6(3) from SEA Directive. The first meeting of the working group was on the 19th August 2014, in Bucharest, where the first version of the Environmental Report has been presented by the participants.
Romanian legal reference	In line with SEA Directive 2001/42/CE Article6(3)
Hungarian legal reference	There is no obligation in this regard in Hungary.
STEP of the SEA procedure: Consultation on scoping in Romania and in Hungary	
Date for the undertaken step	19th March 2014 – 15th May 2014. The comments incorporated after consultation: 27th May 2014.
Documents for the undertaken step	In line with SEA Directive Article 5.4 and 6.3. The required documents to be made available are the Draft Scoping Report an executive summary. These required documents were the object of consultation in Romania and in Hungary and have been made available in English language. With regard to the SEA of ETC Programmes and in line with the EC recommendation the JTS translated the executive summary of the Scoping Report into national languages. The environmental authorities were provided with an official letter, the whole Scoping Report in English and an executive summary in the national languages. The information gathered in the framework of the consultation with the Romanian and Hungarian authorities has been submitted to the CP planners and will be taken into account in the preparation of the Environmental Report and of the CP. The relevant documents have been made available on the Hungary-Romania Cross-Border Co-operation Programme 2007-2013's programme's website: https://www.huro-cbc.eu. The comments were received by post or on the following e-mail address: seaconsultation2020@huro-cbc.eu. The official letter was sent to the authorities on 19th March 2014 in both countries. In Romania: ▪ Ministry of Environment and Climate Change (after the reorganisation Ministry of Environment, Waters and Forests) Impact Assessment and

	Pollution Control Department communicated that they had no observations on the Scoping Report. The Ministry accepted the scope and the level of detail of the Environmental Report. The formal letter was received on 28th April 2014. ▪ Ministry of Health expressed its opinion on the proposed priority axes. The formal letter was received on 9th April 2014. ▪ The comments received have been integrated into the final Scoping Report and into the Environmental Report. ▪ Decision taken by the General Directorate Pollution Control, Impact Assessment that Interreg V-A Romania-Hungary Programme to carry out the environmental assessment of that. In Romania the Ministry of Environment and Climate Change (after the reorganisation Ministry of Environment, Waters and Forests) displayed the Scoping Report for consultation also on the ministry's website: http://www.mmediu.ro/categorie/evaluare-de-mediu-pentru-strategii-planuri-programe/60.ro. In Hungary: ▪ The comments received have been integrated into the final Scoping Report and into the Environmental Report. The final Scoping Report incorporated the conclusions of the opinions expressed. The summary description on the process and results of the scoping phase has been elaborated and incorporated into the final
Romanian legal reference	In line with the SEA Directive Article 5.4 and 6.3.
Hungarian legal reference	In line with Government Decree 2/2005 (I.11.) .§, 1§ 4 (3) and Annex 1
STEP of the SEA procedure: Drafting the Environmental Report	
Date for the undertaken step	Elaboration of the first draft of the Environmental Report: 1st July 2014 – 15th August 2014.
Documents for the undertaken step	**Preconditions:** **1. CP Final draft 1** **2. Approval of the CP FINAL draft 2** In line with SEA Directive Article 5 Elaboration of the 1st draft of the Environmental Report on the likely significant effects of the programme on the environment according to Annex I of the Directive, including consideration of: **1.** The current state of the environment and the likely evolution thereof without implementation of the programme **2.** The environmental protection objectives, established at international, community or national level, which are relevant to programme and the way those objectives have been taken into account **3.** The likely significant effects on the environment of the programme **4.** The measures envisaged to prevent, reduce or offset the likely significant environmental effects of each area of intervention **5.** Measures for monitoring environmental effects

Romanian legal reference	In line with the SEA Directive Article 5
Hungarian legal reference	In line with Government Decree 2/2005 (I.11.) §, 7§ 8and Annex 4
STEP of the SEA procedure: Activity of the Romanian Environmental Working Group	
Date for the undertaken step	19th August 2014 – 20th November 2014.
Documents for the undertaken step	The Romanian Working Group for Environmental Assessment has convened 4 times and formulated comments and recommendations related to the draft versions of the Environmental Report draft No1-4. The required documents to be made available were the Draft Environmental Report in Romanian and in English language, the draft programme document in English and the summary in Romanian of the programme document. These required documents were the subject of the activity of the Romanian Working Group for Environmental Assessment. **First meeting** of the SEA Environmental Working Group: ▪ The meeting took place on 19th August 2014. ▪ The official invitation was sent to relevant authorities on 8th August 2014. **Second meeting** of the SEA Environmental Working Group: ▪ The meeting took place on 12th September 2014. ▪ The official invitation was sent to relevant authorities on 5th September 2014. **Third meeting** of the SEA Environmental Working Group: ▪ The meeting took place on 17th October 2014. ▪ The official invitation was sent to relevant authorities on 10th October 2014. **Fourth meeting** of the SEA Environmental Working Group: ▪ The meeting took place on 20th November 2014. ▪ The official invitation was sent to relevant authorities on 13th November 2014. The information gathered during the activity of the Romanian Working Group for Environmental Assessment has been submitted to the CP planners to be taken into account in the preparation of the Environmental Report and of the CP. The final draft Environmental Report incorporated the conclusions of the opinions expressed.
Romanian legal reference	In line with the SEA Directive Article 5 and 6
Hungarian legal reference	There is no obligation in this regard in Hungary.
STEP of the SEA procedure: Official information	

Date for the undertaken step	20th November 2014.
Documents for the undertaken step	The Romanian Working Group for Environmental Assessment accepted the report on its fourth meeting. The official announcement was sent to the Romanian Ministry of Environment and Climate Change (after the reorganisation Ministry of Environment, Waters and Forests) Directorate for Impact Assessment and Pollution Control on 24th April 2015.
Romanian legal reference	In line with the SEA Directive
Hungarian legal reference	There is no obligation in this regard in Hungary.
STEP of the SEA procedure: Consultation on the Environmental Report – public and stakeholder consultation	
Date for the undertaken step	Submission of the consultation version of the cooperation programme and the final draft Environmental Report (including non-technical summary) to the ministries (RO-HU) 6th May 2015. Announcement of the Romanian Consultation via electronic media for the public Announcement of the Hungarian Consultation via electronic media for the authorities and the public The period for consultation was in 30 days from the 6th May 2015 to the 5th June 2015.
Documents for the undertaken step	In line with SEA Directive Article 6. **Precondition:** Approval of the SEA Environmental Report by the Romanian Working Group for Environmental Assessment Approval of the SEA Environmental Report by the JWG before the public consultation (not in this phase) A period of 30 days is set for sending and receiving observations. The required documents to make available are the draft/consultation versions of the CP and the draft Environmental Report and the Non-technical summary. In Romania: ▪ for the public consultation in Romania on the official sites of the Ministry of Environment and Climate Change (after the reorganisation Ministry of Environment, Waters and Forests) and Ministry of Regional Development and Public Administration ○ the Draft Environmental Report in Romanian and English language, ○ the draft programme document in English, ○ the summary in Romanian of the programme document, ○ a schedule of the SEA procedure, and ○ an Official information on how the partner state (Hungary) has covered the environmental assessment procedure, in order to inform and the public in Romania.

	were posted. In Hungary: ▪ for the public consultation in Hungary on the official sites of the Ministry of Rural Development ○ - the Draft Environmental Report in English language, ○ - the Non-technical summary in Hungarian language ○ - the draft programme document in English, ○ - the summary in Hungarian of the programme document were posted. The interested public will be offered the opportunity to express their opinions through the website in written form. The required documents are available on the websites of the relevant Ministries: In Romania: ▪ on the website of the Ministry of Regional Development and Public Administration: http://www.mdrap.ro/dezvoltare-regionala/-4970/-7572/-1369 ▪ and on the website of the Ministry of Environment and Climate Change in Romania (after the reorganisation Ministry of Environment, Waters and Forests) http://www.mmediu.ro/categorie/evaluare-de-mediu-pentru-strategii-planuri-programe/60.ro. In Hungary: ▪ on the Prime Minister's Office special website concerning develoment policy: http://palyazat.gov.hu/. The summary of the consultation, the collection and answer on the comments will be incorporated into the final Environmental Report.
Romanian legal reference	The period for consultation take place from the 6th May 2015 to the 5th June 2015 Public consultation in Romania took 30 days according to the agreement with the Romanian Ministry of Environment and Climate Change (after the reorganisation Ministry of Environment, Waters and Forests) as competent authority fo the SEA process. In line with the SEA Directive.
Hungarian legal reference	The period for consultation took place from the 6th May 2015 to the 5th June 2015 Public consultation in Hungary takes 30 days in line with Government Decree 2/2005 (I.11.) §7, §8 (3). In line with the SEA Directive.
STEP of the SEA procedure: Consultation with third countries	
Date for the undertaken step	n.r.
Documents for the undertaken step	In line with SEA Directive Article 7. In relation to the territory of the Interreg V-A Romania-Hungary Programme of the cross-border area between Romania and Hungary, the effects on third countries need to be examined related to Ukraine and Serbia. Based on the

	current information the proposed objectives of the programme and planned activities will not have significant adverse transboundary environmental impacts, third countries would not be affected by a significant adverse cross-border impact, **therefore the involvement of and the consultation with third countries is not necessary (justified in chapter 10.).**
Romanian legal reference	In line with SEA Directive Article 7.
Hungarian legal reference	In line with Government Decree 2/2005 (I.11.) §9§
STEP of the SEA procedure: Finalisation of the Environmental Report, monitoring issues	
Date for the undertaken step	Based on the consultation and comments the incorporation of the results: two weeks after the end of the consultation period.
Documents for the undertaken step	In line with SEA Directive Article 8, 9, 10 Compliance with the SEA Directive updated final documents including non-technical summary Drafting the official statement in line with Art. 9 (b) of the SEA Directive. The information gathered in the framework of the consultation with the environmental authorities and the public will be taken into account in the finalisation of the CP.
Romanian legal reference	In line with SEA Directive Article 8, 9, 10 Sending the final Environmental Report to the Ministry of Environment.
Hungarian legal reference	In line with Government Decree 2/2005 (I.11.) §7, §8 and Annex 4 Sending the final Environmental Report for approval.
STEP of the SEA procedure: Publication on the decision	
Date for the undertaken step	Sending the final Environmental Report to the competent authorities together with the CP: expectedly by the end of June 2015.
Documents for the undertaken step	In line with SEA Directive Article 9 (1), 10 Government decisions on the CP and Environmental Report. Final Environmental Report including non-technical summary and official statement, available for the authorities and the public. The publication of final Environmental Report and SEA statement expectedly by the end of June 2015.
Romanian legal reference	In line with SEA Directive
Hungarian legal reference	To be submitted to Government decision in line with Government Decree 2/2005 (I.11.) §10 In line with Government Decree 2/2005 (I.11.) §11. information will be given on the decision to the environmental authorities and the public, and the CP and the final Environmental Report will be made available including non-technical

	summary and official statement. The information will contain a summary of how the environmental considerations have been integrated into the programme, how the received comments and findings of the consultations have been taken into consideration and the monitoring measures.

ANNEX 8: List of maps

13 Non-technical Summary

Introduction and the methodology of the impact assessment

This Non-technical Summary represents a summary of the Strategic Environmental Assessment Report of the Interreg V-A Romania-Hungary Programme. This Non-technical Summary follows the structure and requirements of the Annex 1. of the SEA Directive.

The assessment object of the SEA is the Interreg V-A Romania-Hungary Programme of the cross-border area. According to Article 4(1) of the SEA Directive the Strategic Environmental Assessment of the Interreg V-A Romania-Hungary Programme has been elaborated during the preparation of the programme as an integral part of the whole programming process.

The SEA of the cooperation programme is planned and carried out in line with the relevant EC Directive and national legislations:

- European Directive 2001/42/EC on the assessment of effects of certain plans and programmes on the environment
- Convention on Environmental Impact Assessment in a cross-border context (1991) (the Espoo Convention)
- Protocol on Strategic Environmental Assessment (2003)
- In Romania the Government Decision no.1076/2004 for setting up the environmental assessment procedure of certain plans and programmes (other relevant normative acts: OM 117/2006, OM 480/2006, OM 995/2006).
- In Hungary the 2/2005 (I.11) Government Decision on the SEA and the 100/2014. (III.25.) Government Decision which modifies the 2/2005 (I.11) Government Decision.

The SEA process of the Interreg V-A Romania-Hungary Programme was started in parallel with the elaboration of the programme document. According to Art 6 (3) of Directive 2001/42/EC, the Romanian Working Group for Environmental Assessment has been set up as part of the consultation actions required.

The whole Strategic Environmental Assessment process started in 12th December 2013 and was planned to be finalised after the consultation of the Environmental Report with the public in both member states. The Environmental Report is based on the Cooperation Programme Document, April 2015.

The strategic environmental assessment process included the following:

1. Screening statement
2. Scoping and consultation on the Scoping Report
3. The preparation of the Environmental Report (including the activity of the Romanian Working Group for Environmental Assessment)
4. Carrying out public consultation
5. Taking into account of the Environmental Report and the results of the consultations:the integration of comments from the consultation process in both member states
6. The provision of information on the decision according to Article 9 of the Directive

As a first main step within the Strategic Environmental Assessment process the Scope of the assessment has been elaborated with the aim to identify the main areas of intervention, to determine the current state of the environment and the objectives to be achieved, to summarize the relevant regulatory background and the methodology planned. The Scoping Report determined the framework of the environmental assessment, and also contained the

statement on screening. The Scoping Report provided the necessary background information.

The consultation phase of the Scoping Report took place between 19th March 2014 and 15th May 2014 both in Romania and in Hungary. In the framework of this consultation the whole draft Scoping Report was made available on the Hungary-Romania Cross-Border Co-operation Programme 2007-2013's website: https://www.huro-cbc.eu and on the website of the Ministry of Environment and Climate Change in Romania (after the reorganisation Ministry of Environment, Waters and Forests) http://www.mmediu.ro/categorie/evaluare-de-mediu-pentru-strategii-planuri-programe/60.ro. Following the consultation on the Scoping Report and the Scoping Phase, the environmental authorities agreed with the Scoping Report and concluded that the programme will have a significant impact on the environment and the elaboration of the SEA is necessary.

The SEA Directive 2001/42/EC requires that the environmental authorities and the public of the partner states have to be consulted within the SEA Procedure. Within the SEA Procedure of the Interreg V-A Romania-Hungary Programme, consultation has to be carried out considering the Scoping Report and the Environmental Report. The participation of the relevant stakeholders in the SEA process was of major importance, since environmental impacts are closely related to social, economic and cultural aspects.

In Romania the list of authorities involved in the consultation of the Scoping Report and in the Romanian Working Group for Environmental Assessment was different. The list of authorities involved in the consultation of the Scoping Report was generated on the bases of the communication with the Romanian Ministry of Environment and Climate Change (after the reorganisation Ministry of Environment, Waters and Forests), and was accepted by the JWG in the frame of the decision on the Scoping Report. Romanian authorities were invited by the Hungarian Prime Minister's Office to participate in the consultation action related to the Scoping Report.

The list of authorities involved in the Romanian Working Group for Environmental Assessment was generated in accordance with the Addresses of Romanian Ministry of Environment and Climate Change (after the reorganisation Ministry of Environment, Waters and Forests) no. 115849/DM/22.07.2014, no.115882/DM/25.07.2014 (Romania) and further updated by the Romanian Ministry of Environmental representative, according to the issues raised during the Working Group meetings[178][179].

The Romanian Working Group for Environmental Assessment has convened 4 times and formulated comments and recommendations related to the draft versions of the Environmental Report (19th August 2014, 12th September 2014, 17th October 2014 and 20th November 2014). The final draft of the Environmental Report has been completed and accepted by the Romanian Working Group for Environmental Assessment on 20th November 2014.

In Hungary the list of authorities involved in the SEA process of the Interreg V-A Romania-Hungary Programme is based on the relevant national legislation (Government Decree 2/2005 (I.11.) Annex 3.). Based on this legislation the same authorities were involved in the consultation of the Scoping Report and in the consultation of the Environmental Report. The Annex 2 of this report includes the list of authorities to be consulted in relation to the Scoping Report and to be consulted in relation to the Environmental Report in Hungary, which, by

[178] The setting-up of the Romanian Working Group for Environmental Assessment was due to the fact that Romania was nominated as a Managing Authority by the two member states.
[179] The list of the members of the Romanian Working Group for Environmental Assessment has been presented in Annex 1 of this report

reason of their specific environmental responsibilities, are likely to be concerned by the environmental effects of the programme.

The Environmental Report is launched for a 30 days public consultation procedure in both countries.

The public consultation of the Environmental Report takes place between 6th May 2015 to the 5th June 2015 both in Romania and in Hungary. The framework of this consultation gives the opportunity to key groups and institutions, environmental agencies, NGOs, representatives of the public and those groups that are potentially affected by the likely environmental impact of implementing the cooperation programme, to express their opinions in written form. The Environmental Report has been posted for consultation on the official sites of the Romanian Ministry of Environment and Climate Change (after the reorganisation Ministry of Environment, Waters and Forests) http://www.mmediu.ro/categorie/evaluare-de-mediu-pentru-strategii-planuri-programe/60.ro and the Romanian Ministry of Regional Development and Public Administration in Romania http://www.mdrap.ro/dezvoltare-regionala/-4970/-7572/-1369, on the Prime Minister's Office special website concerning develoment policy: http://palyazat.gov.hu/.

The results of the consultation on the Environmental Report will be presented here and finalised after the consultation process on the draft Environmental Report in the final version of the report.

Outline of the Programme content, main objectives and priorities and relationship with other relevant plans and programmes

The member states have declared the same eligible area. The strategy of the programme is to be implemented through a pool of 6 thematic objectives, 8 investment priorities and 8 connected specific objectives. The outcome of the objectives and the fields of intervention are the following:

TO 6: Preserving and protecting the environment and promoting resource efficiency

Priority Axis 1: Joint protection and efficient use of common values and resources

Investment priority 6/b: Investing in the water sector to meet the requirements of the Union's environmental acquis and to address needs, identified by the Member States, for investment that goes beyond those requirements.

Specific objective 6/b: Improved quality management of cross-border rivers and ground water bodies

Investment priority 6/c: Conserving, protecting, promoting and developing natural and cultural heritage

Specific objective 6/c: Sustainable use of natural, historic and cultural heritage within the eligible area

TO7: Promoting sustainable transport and removing bottlenecks in key network infrastructures

Priority Axis 2: Improve sustainable cross-border mobility and remove bottlenecks

Investment priority 7/b: Enhancing regional mobility by connecting secondary and tertiary nodes to TEN-T infrastructure, including multimodal nodes

Specific objective 7/b: Improved cross-border accessibility through connecting secondary and tertiary nodes to TEN-T infrastructure

Investment priority 7/c: Developing and improving environment-friendly (including low-noise), and low-carbon transport systems, including inland waterways and maritime transport, ports, multimodal links and airport infrastructure, in order to promote sustainable regional and local mobility.

Specific Objective 7/c: Increased proportion of passengers using sustainable – low carbon, low noise – forms of cross-border transport

TO8: Promoting sustainable and quality employment and supporting labour mobility

Priority Axis 3: Improve employment and promote cross-border labour mobility

Investment priority 8/b: Supporting employment-friendly growth through the development of endogenous potential as part of a territorial strategy for specific areas, including the conversion of declining industrial regions and enhancement of accessibility to, and development of specific natural and cultural resources

Specific Objective8/b: Increased employment within the eligible area

TO9: Promoting social inclusion and combating poverty and any discrimination

Priority Axis 4: Improving health-care services

Investment priority 9/a: Investing in health and social infrastructure which contributes to national, regional and local development, reducing inequalities in terms of health status, promoting social inclusion through improved access to social, cultural and recreational services and the transition from institutional to community-based services

Specific Objective 9/a: Improved preventive and curative health-care services across the eligible area

TO5: Promoting climate change adaptation, risk prevention and management

Priority Axis 5: Improve risk-prevention and disaster management

Investment priority 5/b: Promoting investment to address specific risks, ensuring disaster resilience and developing disaster management systems

Specific Objective 5/b: Improved cross-border disasters and risk management

TO11: Enhancing institutional capacity of public authorities and stakeholders and efficient public administration.

Priority Axis 6: Promoting cross-border cooperation between institutions and citizens

Investment priority 11/b: Enhancing institutional capacity of public authorities and stakeholders and efficient public administration by promoting legal and administrative cooperation and cooperation between citizens and institutions

Specific Objective 11/b: Intensify sustainable cross-border cooperation of institutions and communities

The Interreg V-A Romania-Hungary Programme is in accordance with the relevant national strategies, programmes and plans with environmental aspects, and contributes to the objectives of those.

Current state of the environment, the environmental characteristics of the areas likely to be significantly affected and the existing environmental problems

Biodiversity, fauna, NATURA 2000:

In the whole eligible area continental, pannonian, and alpine bio-geographical regions exist, the flora and the fauna have specific and diverse features according to the climate and landscape[180]. The counties of the eligible area in Hungary have similar features. Three bio-geographical regions – pannonic, alpine and continental – are represented on the programme's eligible territory on the Romanian side[181].

The whole eligible area has a diverse natural environment and is rich in protected natural areas - among others, many NATURA 2000sites. The NATURA 2000 network established by the European Union covers a significant part of the total eligible border area. 21% of the territory of Hungary and 22.68% of the territory of Romania represents NATURA 2000 site[182]. In the four eligible Romanian counties the territory of natural parks representing approx. 1% of the total area of eligible counties[183], National parks and the landscape protection areas (LPA) in Hungary account for nearly 9% of the total cooperation area[184].

Soil and land use:

The soil quality of the whole eligible area is from average to good in general; the types of soil provide favourable conditions for agricultural activities. Major sources of soil degradation include soil erosion due to wind, erosion due to water, landslides, drought and regular excess of humidity in the soil[185][186].

Solid waste is a problem in the entire area. The amount of municipal solid waste per capita in both countries is lower than the EU average. The level of coverage with regular waste collection services is about 85-90% in the relevant counties of the eligible area[187]. Currently only a very limited amount/proportion of it is reused or recycled. Most of the solid waste is dumped in landfills, though recultivation is taking place and selective waste collection is increasing gradually[188].

The geothermal capacity of the CBR (cross border region) is considerable. The important natural resource of thermal water is present across the whole cooperation area and has high-quality therapeutic features. Although the geothermal capacity represents a source of renewable energy, it is mainly used for touristic purposes.

Water (surface waters, ground waters):

The total eligible area is rich in water resources – both surface water (lakes and rivers) and groundwater are generally of good quality. In connection with the significant presence of water resources, water management must be an important asset of the area.

Drinking water is of good quality, although high arsenic and nitrite concentrates create problems in certain parts in the Hungarian side of the border. Significant improvements were

[180] Source: http://www.meteoline.hu/?m=602
[181] Source: National Report on the State of the Environment Romania
[182] Source: http://www.eea.europa.eu/data-and-maps/data/natura-2000
[183] Source: Annual Report on the State of the Environment in Bihor County-2013 (apmbh.anpm.ro), Annual Report on the State of the Environment in Arad County- 2013 (apmar.anpm.ro), Annual Report on the State of the Environment in Timiş County- 2013 (apmtm.anpm.ro)
[184] Source: www.csongrad-megye.hu;www.bekesmegye.hu;www.hbmo.hu; www.szszbmo.hu
[185] Source: Annual Report on the State of the Environment in Bihor County-2013 (apmbh.anpm.ro), Annual Report on the State of the Environment in Arad County- 2013 (apmar.anpm.ro), Annual Report on the State of the Environment in Timiş County- 2013 (apmtm.anpm.ro)
[186] Source: Environmental Situation Report of Hungary 2013 (published by the Hungarian Central Statistical Office)
[187] Source: http://epp.eurostat.ec.europa.eu/portal/page/portal/environment/waste/main_tables
[188] Source: http://epp.eurostat.ec.europa.eu/portal/page/portal/environment/waste/main_tables

realized in the field of water infrastructure development between 2005 and 2011 in both countries and complex programmes are in progress to improve drinking water quality.

Air and fighting climate change[189]:

The air quality in the whole eligible counties is average or mainly good. The greenhouse gas emission per unit of energy use declined continuously in Hungary and Romania as well. In 2012 the quantity of greenhouse gas emissions from transport (total tonnes of CO_2 equivalent Gg) was 14,578.0 for Romania, which means 44% of the EU average. Generally, the pollution levels are modest in the eligible area. In recent years the quantity of air pollutants form heating has been reduced as a result of a major change in energy sources.

While the area has a good potential for generating energy from renewable sources, the potential negative impacts of climate change still pose an important risk. Unfortunately, most of the area has modest adaptive capacity and thus is quite vulnerable to climate change. All the Romanian counties are characterised by the lowest overall capacity to adapt to climate change – in fact, they are amongst the lowest 25% of all European and NUTS3 regions. The Hungarian counties have just a slightly better situation by having low overall capacity to adapt. More active steps need to be taken in this field, harmonized also on cross-border level.

The current level of cross-border traffic is fairly limited: the existing infrastructure can cope with this level of traffic without major problems.

Unfortunately, the majority of border-crossings occur by passenger cars and trucks, the most polluting forms of transport. The railway plays an insignificant role; the railroad infrastructure has been run-down, even between large towns with extremely long travel times, while public transport by bus is practically non-existent. The eligible area is well-provided with airports, in Romania: 4 (Timişoara, Arad, Oradea, Satu–Mare), in Hungary: 2 (Debrecen and Szeged), but these are not part of a cross-border multimodal system that would contribute to the more efficient utilization of these capacities.

Landscape:

The soil quality of the whole eligible area provides favourable conditions for agricultural activities.

The major sources of landscape degradation include soil erosion, the extraction of mineral resources and the oil extraction industry.

In the mountainous and hilly areas of the Romanian eligible area there are also other diverse subsoil natural resources: hydrocarbons – oil in Timis, Arad and Bihor Counties – natural gases in Timis County. There can also be found metalliferous and non-metalliferous mineral resources: bauxite from Craiul Mountains, skarn with galena, sphalerite, pyrite, molybdenum, bismuthine from the Bihor Mountains, refractory clays (Şuncuiuş and Bălnaca) marble (Chişcău, Băita, Vaşcău), compact limestone quartz (in the gorge Borz area – Soimi, Cărpinet, Chistag) in Bihor County; complex ores (pyrite, zinc, lead, gold and silver), iron ore (limonite, siderite), perlite, and bentonite (near Orasu Nou and Călineşti Oas) in Satu Mare County[190].

In Hungary, in the eligible area, rock-oil and natural gas deposits are of smaller quantity, are difficult to extract and are depleting fast – based on the published Environmental Conditions of Hungary 2013.

Population and human health:

[189] http://www.espon.eu/main/Menu_Projects/Menu_AppliedResearch/climate.html
[190] Source: Annual Report on the State of the Environment in Bihor County-2013 (apmbh.anpm.ro), Annual Report on the State of the Environment in Arad County- 2013 (apmar.anpm.ro), Annual Report on the State of the Environment in Timiş County- 2013 (apmtm.anpm.ro)

The cross border counties have an aggregate population of 4 million people. Based on the most recent data available in the Eurostat database (2013), the vast majority of the countries' population is between the age of 15 and 64, the counties do not have such a large proportion of people above the age of 65.However, considering the data from 2005, this proportion is increasing in the eligible area[191]. The counties with a high ratio of disadvantaged population show a little bit more unfavourable picture[192].

Material assets, cultural heritage including architectural and archaeological heritage:

The eligible area is rich in touristic attractions - both in cultural and in natural heritage. The entire eligible area has quality thermal water and remarkable natural landscapes, as well as numerous nature conservation areas. The cultural heritage of the eligible area includes various historical monuments, churches, original ethnographical and folklore elements.

There are 1496 Historical Monuments and 1438 archaeological sites (10% of all archaeological sites in Romania) located in the Romanian eligible counties, the historical monuments included in this list are archaeological monuments, architectural monuments, public monuments, respectively memorial and funeral monuments of local and national interest.

The eligible counties on the Hungarian side of the border are exceptionally rich in cultural, artistic and intellectual traditions. Several museums are located in many settlements, where primarily landscape, natural values, typical villages, folk traditions, crafts, and architecture are presented. Also several museums present a famous person's life, memorial exhibitions and memorial houses are visible. The theatrical life of the eligible counties has a long-standing tradition in particular; several permanent and non-permanent theatre companies exist.

Environmental protection objectives

The relevant environmental issues and objectives have been selected and formulated on the bases of national and EU objectives and obligations listed in the Annex 3 of the Environmental Report. The implementation of the Interreg V-A Romania-Hungary Programme will contribute to the following environmental objectives:

Biodiversity, flora, fauna, NATURA 2000:

O1 Protect and improve the conditions and functions of terrestrial, aquatic eco-systems against anthropogenic degradation, habitat fragmentation and deforestation
O2 To provide a favourable state of prevention for the protected species and the sustainable use of biodiversity components.
O3 Preserve the natural diversity of flora, fauna and habitats in the protected area and potential Natura 2000 sites

Soil and land use:

O4 Limit point and diffused pollution of soil and facilitate soil protection from water and wind erosion.

Water (surface waters, ground waters):

O5 Sustainability of water resources, protection of groundwater as sources of drinking water, systematic improvement of the chemical and ecological status of European waters.

[191] Source: http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/main_tables, http://www.ksh.hu/docs/hun/xstadat/xstadat_eves/i_wdsd003b.html?1146
[192] Source: National Institute of Statistica www.insse.ro-TEMPO -online time series

O6 Limit water pollution from point and diffuse pollution sources.

Air and fighting climate change:

O7 Improvement and maintenance of air quality within the limits set by the laws.
O8 Promoting policies and measures to adapt to climate change.

Landscape:

O9 Ensure protection of natural and cultural landscape (e.g. by revitalization of brownfields)

Population and human health:

O10 Facilitate improvement of human health by implementing measures aimed at pollution prevention and mitigation of old burdens (e.g. brownfields, mining waste, etc.)

Material assets, cultural heritage including architectural and archaeological heritage:

O11 Ensure protection of natural and cultural landscape by revitalization of brownfields and protection of natural habitats from fragmentation due to traffic corridors

The likely significant effects on the environment

For each specific objective of the programme, possible effects on the relevant environmental issues were analysed, referring to "guiding questions" and environmental protection objectives, based on legislation and strategic policies on international, community or state level:

PA1: Joint protection and efficient use of common values and resources (TO6. Preserving and protecting the environment and promoting resource efficiency)

Specific objective 6/b: Improved quality management of cross-border rivers and ground water bodies

Integrated cross-border water management will address the effects of climate change. The transboundary surface and groundwater basins will be well-protected against pollution. Coordinated and integrated interventions will be carried out including water quality monitoring, gathering accurate information and data. The current database could be exchanged and made available on both sides of the border. Natural waters will be rehabilitated in a joint manner. As a result of the various interventions foreseen, the water quality of cross-border rivers and water basins will improve, and also the potential negative impacts of climate change will be mitigated. The geothermal potential of the eligible area will be utilized.

Specific objective 6/c: Sustainable use of natural, historic and cultural heritage within the eligible area

By means of implementing interventions envisaged, which will result in improved conditions of the values, a joint touristic potential will be offered, key natural, historic and cultural heritage will be rehabilitated in an integrated approach. Accessibility will be developed, applying environmentally friendly transport methods, if possible. Attractive and internationally competitive thematic routes will be developed if possible, and joint tourism destinations will be established. As a result, the increase of the number of visitors is expected. Tourism can be foreseen to develop to a competitive extent.

PA2: Improve sustainable cross-border mobility and remove bottlenecks (TO7: Promoting sustainable transport and removing bottlenecks in key network infrastructures)

Specific objective 7/b: Improved cross-border accessibility through connecting secondary and tertiary nodes to TEN-T infrastructure

With the implementation of the actions the overall travel time will be shorter, and accessibility across the border will be enhanced. The access of TEN-T networks will be solved for settlements on the periphery. Time-consuming travel will be shortened. As a result of the various interventions, it is expected that the average travel time of passengers crossing the border will decrease.

Specific Objective 7/c: Increased proportion of passengers using sustainable – low carbon, low noise – forms of cross-border transport

Public transportation (including timetable harmonization, establishment of cross-border public transport links between major settlements of the eligible area) will be developed. Establishment of multimodal transport methods creates links between various transport modes. Cross-border environmentally friendly transport solutions will be offered by building bicycle routes. As a result, an increase in the number of the users of cross-border public transport services and bicycle routes can be expected.

PA3: Improve employment and promote cross-border labour mobility (TO8: Promoting sustainable and quality employment and supporting labour mobility)

Specific Objective 8/b: Increased employment in specific territories with above average unemployment within the eligible area

The business environment will be improved (industrial areas), cooperation will be enhanced based on mutual advantages, and facilities will be developed, enabling the cross-border sales of local products. Cross-border mobility will also be improved in the entire area. The accessibility of important facilities, cultural or natural values will be strengthened. The employment rates of the eligible territories are expected to increase.

PA4: Improving health-care services

Specific Objective 9/a: Improved preventive and curative health-care services across the eligible area

The health-care system will be balanced in the eligible area. The outdated and run-down infrastructure and equipment will be replaced by efficient diagnostic and treatment methods. The results will be that cross-border patient information and medical history become mutually available and transparent, which will be realized through a cross-border communication system, telemedical infrastructure and knowledge transfer. The harmonization of development plans will bring solutions to the differences between the national health-care strategies and ensure the consistency and balance of both preventive and curative medical care in the eligible area. As a result, an increase in the number of people benefiting from improved health services across the border can be expected, resulting in a balanced treatment system.

PA5: Improve risk-prevention and disaster management (TO5: Promoting climate change adaptation, risk prevention and management)

Specific Objective 5/b: Improved cross-border disasters and risk management

Emergency response actions will be jointly handled with integrated capacity. Immediate help will be provided from the other side of the border. Emergency response time will be reduced. As a result, an increase in the number of people benefiting from the joint emergency response system can be expected.

PA6: Promoting cross-border cooperation between institutions and citizens (TO11: Enhancing institutional capacity of public authorities and stakeholders and efficient public administration.)

Specific Objective 11/b: Intensify sustainable cross-border cooperation of institutions and communities

Communities close to the state border will share and develop in a coordinated way their facilities, infrastructure and capacities, avoiding parallel tasks and duties. Jointly created and exchanged best practices and benchmarking methods will be used. The regulatory background could be harmonized. The administrative burdens will be reduced. Cooperation, joint cultural, educational and sports programmes will bring people and communities closer. As a result, an increase in the number of institutions and also of people benefiting from the cooperation can be expected, which contributes to harmonization.

Providing support to initiatives and events promoting and preserving cultural diversity and common traditions – involving the local civil society. Examples may include support to small-scale cooperation initiatives of communities, civil organizations and institutions in the fields of culture, sports, and youth. Other leisure activities are essential from a social and cultural point of view.

The impact matrix from Chapter 6.2 of the Environmental Report represents the test of the objectives of the programme against the SEA objectives, which shows the synergies and determine the environmental aspects to be improved or to be taken into consideration when implementing the programme. In case of each specific objective, their impacts on the environmental objectives have been described, together with the intensity and direction of their relationship.

In general, the implementation of the cooperation programme results in the improvement of the overall environmental condition of the eligible area. The sustainable use of natural and cultural resources, the use of environmentally friendly solutions will have positive effects on the environment. It is expected that the programme will ensure the protection of natural and cultural landscape, the protection of habitats. The cooperation programme complies with the climate change provisions. It is also expected that the programme will improve the living standards of the population and will contribute to a better environmental status, better health conditions and it could increase the energy generation from renewable resources.

The measures envisaged to prevent, reduce and offset any significant adverse effects on the environment

The presumably considerable impacts on the environment have been evaluated and as a result of this, proposed measures have been presented. The relevant interventions have to be handled in a joint manner, considering the possible effects on the different intervention areas. In case of actions implemented for flood protection infrastructure, negative impact on wildlife habitats has to be minimized. Improvement of data collection and monitoring system for a more accurate assessment of water resource balances (quantity, quality) is also needed.

Related to natural and cultural heritage valorisation objective, projects with no landscape changing impacts should be supported. In case of loss of natural factors (trees, green surfaces, etc.) compensation will be implemented, according to the legislation in force. To the extent that the project is affecting green spaces in the eligible area, it shall be necessary, according to regulations, to replant the affected areas both in Romania and Hungary.

In Romania, regulation OM 135/2010 outlines certain measures regarding compensation and as it is established in Law 46/2008 of the Forestry Code, in case of the removal of forests, new areas are to be replanted elsewhere.

In Hungary the Act XXXVII. of 2009 on the forest, the forest conservation and forest management and the Government Decree 346 of 2008. (XII.30.) on the protection of woody plants, outlines certain measures regarding compensation.

Related to planning, coordination and management of regional transport systems objective, careful and nature protection focused planning might prevent from potential negative impacts on biodiversity, land reduction and landscape, thus consideration of environmental resources and nature conservation aspects are indispensable at the implementation of these specific projects.

Sharing information is essential for coordination and common development, reducing parallel tasks and duties, providing efficient cross-border cooperation. The application of best practice guidance and benchmarking methods will shorten the implementation period. With the harmonization of the legislation background, project development is expected to be more efficient.

The specific objectives require non-structural and structural measures. Non-structural measures mainly mean the development of institutional and legislation background, with the adaptation of best practice and assessment guidance, while structural measures reflect on infrastructural-related questions, applying integrated elements.

The projects to be selected and financed should attach due care to the environmental factors and should be required to bring environmental regulatory documents. Environmental regulatory acts will impose the compliance with the environmental requirements.

An outline of the reasons for selecting the considered alternatives

With the purpose to fulfil the requirements of the Strategic Environmental Assessment Directive 2001/42/EC in relation to the reasonable alternatives, the following alternatives of the programme have been considered:

- the “Zero option” as first alternative without the implementation of the programme,
- an alternative programme strategy as an “Intermediary alternative” and
- the implementation of the programme, the final programme version as the “Best alternative”.

Without the implementation of the Programme, each environmental issue would be negatively affected. Biodiversity would not improve or loss of biodiversity would occur, it may even sustain more serious damage. Negative effects can increase regarding soil erosion. Regarding the fight against climate change, the current negative trends would continue. The lack of maintenance of water supply systems would lead to microbiological and/or chemical contamination. The lack of reconstruction of water utilities would jeopardise the safety of the services as well. Environmental risk caused by climate change and the volume of possible damage would increase, more frequent weather extremes would result in increased risks of floods and drought.

With the implementation of the intermediary alternative, natural habitats would have high risks related to the reduction of wildlife, the deterioration of living conditions, the unfavourable physiological effects, the intensified wind and water erosion. The risk of groundwater pollution would become lower, increased production of energy from renewable sources would be expected, brownfields would be revitalised.

The final version of the programme is the best alternative as it has been improved in an iterative way in cooperation with programming, ex-ante evaluation and the SEA. The last version of the programme planned the measures by taking into consideration the many-sided

analysis of the cross-border area, and the effective ecological, social and economic situation. The conditions and functions of eco-systems will be improved; further damage to designated wildlife, geological sites and protected species can be avoided. The natural diversity of flora, fauna and habitats can be preserved. The reduction of soil pollution from diffuse sources, the risk of groundwater pollution could be reduced. The adverse effects of climate change can be improved. The protection of natural and cultural landscape could be ensured. The implementation of this alternative facilitates improvement of human health. Consequently, the setting of the objectives is well-founded and matches the requirements of the EU. The required tasks and the planned means of realization are coherent with one another, serving well the achievement of the objectives. All these guarantee the successful realization of the programme and meet the requirements of the global objective and sustainable development.

The measures envisaged concerning monitoring

According to Article 10 of the SEA Directive, the significant environmental effects of the implementation of plans and programmes shall be monitored in order to identify at an early stage unforeseen adverse effects, and to be able to undertake appropriate remedial action.

As a general rule, the Environmental Report uses the monitoring arrangement proposed for the programming document to avoid confusion and duplication. Therefore, the proposed indicators for the programming document have been analysed from the environmental point of view.

The programme's specific result indicators or the programme's specific output indicators proposed for the programming document cover the most significant environmental effects at programme level. Therefore, only a limited number of new indicators are recommended based on the relevant environmental objectives.

The following table represents the programme indicators that are considered as relevant for the environmental environmental objectives, and the proposed SEA environmental indicators based on the relevant environmental objectives.

Environmental issue	**Monitoring indicators (that result from the Relevant environmental objective)** *The programme's specific result indicators or the programme's specific output indicators are marked with italic.* **The proposed SEA environmental indicators are marked with bold type letters.**
Biodiversity, flora, fauna, NATURA 2000	*Surface area of habitats supported in order to attain a better conservation status*
	I1: number of actions which have impact on habitats in the eligible area
	I2: number of actions which have impact on NATURA 2000 sites in the eligible area
Soil and land use	**I4: Number of actions having a impact on landscape and soil in the eligible area**
Water (surface waters, groundwaters)	*Slight increase in water quality (ecological condition) of cross-border rivers at the measurement points in the eligible area* *Number of measurement points positively affected by the interventions (after the completition of the project)* *Improved quality of the joint risk management*

	I3: number of actions impacting the elimination of pollution sources in the eligible area
Air and fighting climate change	*Slight increase in water quality (ecological condition) of cross-border rivers at the measurement points in the eligible area* *Number of cross-border public transport services developed / improved*
	I5: Number of sustainable routes in the eligible area
Landscape	**I6: number of actions contributing to the rehabilitated land in the eligible area**
Population and human health	*Population having access to improved health services* *Population safeguarded by improved emergency response services (after the completition of projects)*
Material assets, cultural heritage inc. architectural and archaeological heritage	**I7: number of restored historical, natural and cultural heritage sites**

14 Non-technical Summary in Romanian language

The Annex will be provided for the consultation process on the draft Environmental Report in the final draft version of the report.

15 Non-technical Summary in Hungarian language

The Annex will be provided for the consultation process on the draft Environmental Report in the final draft version of the report.