



REPUBLIKA SLOVENIJA
MINISTRSTVO ZA INFRASTRUKTURO

Appendix on Protected Areas to the Environmental Report for the Strategic Environmental Assessment (Appropriate assessment) for the Transport Development Strategy in the Republic of Slovenia

Contractor:



Ljubljana, October 2014

Project title: Appendix on Protected Areas to the Environmental Report for the Strategic Environmental Assessment (Appropriate assessment) for the Transport Development Strategy in the Republic of Slovenia

Contract No.: 2430-13-371726

Contract manager: Marjeta Vozelj

Production date of the Annex: July 2014; amendment: October 2014

Task No.: 1307-13 VO

Client: Republic of Slovenia
Ministry of Infrastructure
Langusova ulica 4
1535 Ljubljana

Contractor: AQUARIUS d.o.o. Ljubljana
Cesta Andreja Bitenca 68
1000 Ljubljana

Director: Martin Žerdin, MSc

Responsible holders: Martin Žerdin, MSc and BSc in Biology
Leonida Šot Pavlovič, BSc in Biology

Associates: Natalija Libnik, BSc in Biology
Lea Pačnik, BSc in Biology
Mojca Vrbajnščak, BSc in Biology

CONTENTS

ABBREVIATIONS AND SYMBOLS

ARSO	Slovenian Environment Agency
DARS	Motorway Company in the Republic of Slovenia
DRSC	Slovenian Roads Agency
EEA	European Environment Agency
EIA	Ecologically important area
EC	European Council
EU	European Union
GURS	Surveying and Mapping Authority of the Republic of Slovenia
HT	Habitat type
IBA	Important bird area
PPT	Public passenger transport
MAE	Ministry of Agriculture and the Environment
MESP	Ministry of the Environment and Spatial Planning
MI	Ministry of Infrastructure
WMP	Water management plan
Strategy	Transport development strategy in the Republic of Slovenia
CHR	Cultural heritage register
SAC	Special area of conservation
pSAC	Possible special area of conservation
SPA	Special protection area
TEN-T	Trans-European Transport Network
SFS	Slovenia Forest Service
IRSNC	Institute of the Republic of Slovenia for Nature Conservation
SEA	Strategic Environmental Assessment

1 TITLE AND BRIEF DESCRIPTION OF THE STRATEGY

The Environmental Report assesses the draft of the Transport Development Strategy in the Republic of Slovenia prepared by the Ministry of Infrastructure in October 2014 (9.5 version).

The Transport Development Strategy in the Republic of Slovenia is one of the programmes which are likely to have significant impact on the environment. Thus, in accordance with Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment, the strategic environmental assessment has to evaluate the consequences of the effects of measures planned in the Strategy on the environment before its adoption and take a position on measures which are unacceptable due to their environmental impact or non-compliance with environmental objectives. Directive 2001/42/EC stipulates that member states must take a position and also consult on cross-border effects of planning plans and programmes.

On 4 June 2013, the relevant ministry issued Decision no. 35409-24/2012/14 on the basis of which a strategic environmental assessment has to be implemented during the drafting of the Strategy on the basis of the Environmental Protection Act, including the assessment of the acceptability of impacts caused by the execution of plans in protected areas on the basis of the Nature Conservation Act (Appropriate assessment).

Table 1: Key facts about the assessed Strategy

Responsibility: Ministry of Infrastructure

Programme title: Transport development strategy in the Republic of Slovenia

Production date: June 2014; amendment: July 2014, October 2014 (9.5 version)

Decision-making procedure: Proposal is adopted by the Government

Purpose of the programme: Determine the strategic vision of the development of transport infrastructure in the Republic of Slovenia

Reason for the preparation: Comprehensiveness of implementation of the transport policy

Subject: Implementation of European transport policy measures

Planning period: 2014 to 2020 with a vision to 2030

Area: Republic of Slovenia

The purpose of drafting the transport development strategy is to:

- determine the comprehensive development of transport and transport infrastructure by 2030 (and beyond, if this is necessary for the comprehensiveness of the task),
- facilitate regular and proportionate financing of transport infrastructure,
- facilitate the basis for drawing EU funds in the financial perspective: 2014-2020.

2 Data on the Strategy

Entire territory or area which the programme encompasses

The Strategy refers to the territory of the Republic of Slovenia. With a surface area of 20,273 km², Slovenia is one of the smallest European countries. With 2 million citizens (0.5 per cent of the EU population) and a population density of 98 inhabitants/km², Slovenia is a relatively thinly populated member state. The settlement pattern is characterised by densely populated valley (plain) areas, where almost 60 per cent of the entire population live on less than 20 per cent of the territory. The population density is low in the hilly pre-Alpine and Dinaric-Carst areas, where small scattered settlements prevail and the population is ageing. The situation is similar in areas along the national border.



Figure 1: Scope of the Strategy – the Republic of Slovenia (source: http://sl.wikipedia.org/wiki/Geografija_Slovenije)

Determining the intended use of space, its scope and guidelines, arrangement of activities in space or spatial guidelines and spatial scope of all planned activities affecting nature

The relevant report assesses the national Strategy on the strategic level. There is no comprehensive presentation of the intended use of space at the state level. Since the report discusses the entire territory of Slovenia, the text below summarises the characteristics of determining, and the presentation of the intended use of, space.

The umbrella documents directing the spatial development of Slovenia and the use of space include:

1. Spatial Planning Act - ZPNačrt (Official Gazette of the Republic of Slovenia, nos. 33/07, 70/08, 108/09, 80/10-ZUPUDPP, 106/10, 43/11-ZKZ-C, 57/12, 57/12-ZUPUDPP-A, 109/12, 35/13);
2. Act regarding the siting of spatial arrangements of national significance in physical space - ZUPUDPP (Official Gazette of the Republic of Slovenia, nos. 80/10, 106/10–pop, 57/12 - ZUPUDPP-A);
3. Decree on the Spatial order of Slovenia (Official Gazette of the Republic of Slovenia, no. 122/04);

4. Rules on the detailed content, format and method of drawing up the regional spatial plan (Official Gazette of the Republic of Slovenia, no. 99/07);
5. Rules on the content, format and drawing-up of municipal spatial plans and on criteria for specifying dispersed settlement areas in need of restoration and for specifying areas for new settlement (Official Gazette of the Republic of Slovenia, no. 99/07);
6. Rules on the content, format and drawing-up of municipal detailed spatial plan (Official Gazette of the Republic of Slovenia, no. 99/07);
7. Ordinance on the Spatial Planning Strategy of Slovenia (Official Gazette of the Republic of Slovenia, no. 76/04);
8. Spatial planning strategy of Slovenia – preparation of amendment.

The intended use is determined with a plan at the level of municipalities. The areas of the basic intended use of space are defined according to the physical characteristics of space and the anticipated purpose of a particular space. The areas of the basic intended use of space may be divided into surfaces of detailed intended use which also include surfaces intended for the public good. Areas of protection and restriction are also displayed graphically in spatial planning elements. Determining the intended use at the level of programme assessment from the viewpoint of protected areas is not relevant.

Scope and other basic data on all planned activities affecting nature

2.3.1 Description of the Strategy

Reasons for drafting the Strategy

At its 37th regular session on 15 November 2012, the Government of the Republic of Slovenia issued an initiative to draft the Strategy when discussing information in relation to the proposal for a regulation on guidelines for the development of the trans-European transport network and the proposal for a regulation establishing the Connecting Europe Facility. With Decision no. 54948-24/2012/4, the Government ordered the Ministry of Infrastructure and Spatial Planning to prepare a harmonised plan of investments in transport infrastructure by 2020 with a vision by 2030. In April 2013, the Ministry of Infrastructure appointed a working group to prepare the Strategy on the National Programme for the Development of Public Transport Infrastructure in the Republic of Slovenia by 2020 with a vision by 2030.

The purpose of drafting the Strategy is to:

- determine the comprehensive development of transport and transport infrastructure by 2030 (and beyond, if this is necessary for the comprehensiveness of the task),
- facilitate regular and proportionate financing of transport infrastructure,
- facilitate the basis for drawing EU funds in the financial perspective: 2014-2020 (the so-called ex-ante conditionalities).

Vision of transport development in the Republic of Slovenia

The transport policy vision is defined as the provision of sustainable mobility of population and supply to the economy. The definition is derived from the basic traffic and transport activity, which represents the moving or transferring of people, goods and information in space and time. The word 'provision' means that the country will ensure the sustainable mobility of the population and sustainable supply to the economy with transport policy measures. The word 'sustainable' relates to the efficient operation of a transport system which operates at the intersection of environmental, social and economic perspectives. The measures at the intersection of environmental and economic perspectives are implementable, but not necessarily socially acceptable; measures at the intersection of social and economic perspectives are fair, but not necessarily environmentally acceptable; measures at the

intersection of the environmental and social perspectives are tolerable, but not necessarily economically acceptable. The vision of the transport policy strives to implement such measures to provide the sustainable mobility of the population and sustainable supply to the economy. The schematic diagram of all three perspectives with interactions is shown in the figure below.



Figure 2: Schematic diagram of sustainable development perspectives (source: Strategy)

General objectives and measures of the development of transport and transport infrastructure in the Republic of Slovenia

The general objectives of transport policy are determined on the basis of the vision, which ensure its realisation. The general objectives of the transport policy are:

- to improve mobility and accessibility;
- to improve supply to the economy;
- to improve traffic safety and protection;
- to reduce energy consumption;
- to reduce costs to users and operators;
- to reduce environmental burdens.

The last objective (the reduction of environmental burdens) is also crucially related to the objective of reducing the burden of diseases caused by inadequate transport pursued by the Ministry of Health. Therefore, the measures defined on the basis of this objective will also include the field of health.

The objectives are harmonised with the objectives of the TEN-T regulation concerning a technical specification for interoperability relating to the 'infrastructure' subsystem of the trans-European conventional rail system (2011/275/EU).

Based on the aforementioned general objectives, individual basic measures on the first level are determined which enable the attainment of individual objectives. The determined measures guarantee the fulfilment of various objectives, some of which complement each other, others compete, and at the same time increase the level of fulfilment of each objective.

The basic measures are:

- o optimisation of the public passenger transport system;
- o raising awareness of the public and education;
- o modernisation of the existing transport infrastructure;

- o new construction of optimum transport infrastructure;
- o provision of suitable connections between the port and hinterland;
- o expansion and technological modernisation of the port;
- o expansion and technological modernisation of airports,
- o development of logistics centres;
- o introduction of modern means of transport;
- o provision of technical applicability of means of transport.

The integration of objectives and measures is shown in the Figure below. The figure indicates which general objectives are fulfilled by individual measures. Thus, e.g. the measure 'New construction of optimum transport infrastructure' fulfils all six objectives.

MEASURES \ GENERAL OBJECTIVES		1 to improve mobility and accessibility	2 to improve supply to the economy	3 to improve traffic safety and protection	4 to reduce energy consumption	5 to reduce costs to users and operators	6 to reduce environmental burdens
1	optimisation of the public passenger transport system						
2	raising awareness of the public and education						
3	modernisation of the existing transport infrastructure						
4	new construction of optimum transport infrastructure						
5	provision of suitable connections between the port and hinterland						
6	expansion and technological modernisation of the port						
7	expansion and technological modernisation of airports						
8	development of logistics centres						
9	introduction of modern means of transport						
10	provision of technical applicability of means of transport						

Figure 3: Matrix of general objectives and measures (source: Strategy, 2014)

Determining special objectives, sub-objectives and measures of the Strategy

The Strategy pursues six general objectives. Four specific objectives are assigned to these six objectives which more specifically determine measures for the elimination of established problems. Sub-objectives are determined for each specific objective which are specified aspects and/or areas where certain issues have to be resolved.

Specific objectives and sub-objectives of the Strategy:

- Specific objective no. 1: Improvement of transport connections and harmonisation with neighbouring countries:
 - Sub-objective 1a: Eliminating congestion at borders
 - Sub-objective 1b: Improvement of accessibility of international interurban passenger transport (including transit traffic)

- Sub-objective 1c: Improvement of accessibility of international interurban freight transport (including transit traffic)
- Specific objective no. 2: Improvement of national and regional connections within Slovenia:
 - Sub-objective 2a: North-eastern Slovenia
 - Sub-objective 2b: South-eastern Slovenia
 - Sub-objective 2c: North-western Slovenia
 - Sub-objective 2d: Goriška region
 - Sub-objective 2e: Koroška region
 - Sub-objective 2f: Primorska region
 - Sub-objective 2g: Central Slovenia
 - Sub-objective 2h: Accessibility within regions (to regional centres)
- Specific objective no. 3: Improvement of accessibility of passengers to the main city agglomerations and within them:
 - Sub-objective 3a: Ljubljana
 - Sub-objective 3b: Maribor
 - Sub-objective 3c: Koper
- Specific objective no. 4: Improving the organisational and operational structure of the transport system to ensure system efficiency and sustainability:
 - Sub-objective 4a: Harmonisation of legislation, rules and standards with European requirements and best practice
 - Sub-objective 4b: Improving the organisational system structure and cooperation between respective stakeholders
 - Sub-objective 4c: Improving the operational system structure
 - Sub-objective 4d: Improving the transport system safety
 - Sub-objective 4e: Environmental impact reduction/mitigation
 - Sub-objective 4f: Improving energy efficiency
 - Sub-objective 4g: Financial sustainability of the transport system

The table below provides descriptions of specific objectives and their sub-objectives (Table 2).

Groups of measures are envisaged in the Strategy within all 21 sub-objectives, which are divided into general measures and measures relating to rail, road, public transport, air and maritime transport and urban centres. A description of, and a reason for, providing the measure is added for each measure. The measures are not presented at the level of concrete projects, but at the level of established needs (at the strategic level).

The measures are described in the Environmental report in Annex 1.1 (Tables 1-5). The left column of the tables shows to which means of transport or transport area a specific measure refers. The R mark denotes railways, Ro denotes roads, A denotes air traffic, M denotes maritime transport and U denotes urban centres. Green cells denote that the measure definitively attains the specific sub-objective, whereas yellow indicates that the attainment of the objective is not completely certain. The measures are numbered according to the following principle: measures 1 to 10 include measures on the elements of the network, measures 11-30 include measures on the network, and measures over 30 include organisational measures.

Annex 1.2 of the Environmental report includes tables which denote sub-objectives and transport measures for attaining an individual sub-objective.

Table 2: Table with description of special objectives and their sub-objectives (source: Strategy, 2014)

OBJECTIVE (general and specific)	DESCRIPTION
GENERAL PURPOSE AND OBJECTIVES OF THE STRATEGY SPECIFIC OBJECTIVES	<p>The general purpose of the plan is to achieve an efficient and sustainable system for the transport of passengers and goods in the territory of the Republic of Slovenia.</p> <p>The following general objectives, which comply with the rules, standards and regulations of the European Union, will be taken into account in all the measures proposed in the plan to fulfil this purpose, i.e.:</p> <ul style="list-style-type: none"> – improvement of mobility and accessibility; – improvement of supply to the economy; – improvement of traffic safety; – reduction of energy consumption; – reduction of users' costs; – reduction of environmental burdens.
1 Improvement of transport connections and harmonisation with neighbouring countries	<p>Slovenia is an important transit country for passenger and goods transport and a country of origin and destination (for all transport modes concerned). The main objective is to provide sufficient network capacity which also meets the TEN-T standards (speed, axis load, length of trains) and to eliminate major congestion at state borders.</p>
1a Elimination of congestion at borders	<p>Congestion at state borders during the tourist season (road to HR, AT) and single-track railway lines (AT, HU) and operational issues (IT) (railway line).</p>
1b Improvement of accessibility of international passenger transport (including transit traffic)	<p>Capacity issues (the area of Ljubljana for transit traffic, airport terminals), and issues related to the level of services (interurban passenger trains) for transit traffic. Multimodal accessibility of the main network.</p>
1c Improving the accessibility of international freight transport (including transit traffic)	<p>Capacity issues (port of Koper, the Koper-Ljubljana railway line, Ljubljana railway hub), compliance with TEN-T standards (where these apply and are economically justifiable). Issues remain especially with the increasing importance of the NAPA ports (increase of transshipment). Multimodal accessibility of the main network.</p>
2 Improvement of national and regional connections within Slovenia	<p>Ljubljana, Maribor and Koper are the main economic, political and administrative centres. Regional centres provide basic services in a particular region. Thus, better connections of all regions to these three main national centres is to be ensured (shorter travel time, level of services for public transport, better conditions of roads, where this is necessary), as well as proper services and accessibility within the scope of the region with its regional centre.</p>

OBJECTIVE (general and specific)	DESCRIPTION
2a North-eastern Slovenia	The objective of the plan is to improve the connection of Pomurje with Maribor. North-eastern Slovenia comprises two statistical regions, i.e. Štajerska and Pomurje. With its motorway connections, the area is well linked to the international (TEN-T) and the regional network. The Pragersko-Maribor-Šentilj and Pragersko-Hodoš railway corridors are part of the core TEN-T network, and it is thus important to provide sufficient capacity and compliance with the TEN-T standards. Adequate multimodal suburban and city connections have to be provided to the cohesion centre of Maribor.
2b South-eastern Slovenia	The objective of the plan is to improve the connection of Bela Krajina (Črnomelj, Metlika) with Novo mesto and Ljubljana. South-eastern Slovenia covers the Spodnje Posavska statistical region and a part of the South-eastern Slovenia statistical region (Bela Krajina). The main problem is the accessibility of the Bela Krajina area to the regional centre of Novo mesto and the motorway network (third development axis).
2c North-western Slovenia	The objective of the plan is to improve the connection of Bled and Bohinj with Ljubljana. North-western Slovenia encompasses the Gorenjska statistical region, whereby the area of Kranj and Škofja Loka is also closely connected to the capital Ljubljana. The main problem is particularly the Ljubljana-Jesenice single-track railway line, which represents a bottleneck for freight transport, while passenger transport services have to be improved as well. Problems occur also in the suburban connection of Škofja Loka to Ljubljana, tourist centres of Bohinj and Bled and the area of Cerkno.
2d Goriška region	The objective of the plan is to improve the connection of Bovec, Tolmin and Cerkno to Nova Gorica and Ljubljana. The Goriška area covers the Goriška statistical region, where accessibility from the Soča River valley to the regional centre of Nova Gorica and Central Slovenia represents the main problem (fourth development axis).
2e Koroška region	The objective of the plan is to improve the connection of Koroška to Celje and Ljubljana. The major problem of Koroška is its poor accessibility to the motorway network due to low traffic flow on some sections and poor characteristics (third development axis).
2f Primorska region	The objective of the plan is to improve the connection of Ilirska Bistrica (the border with Croatia) to Postojna and Ljubljana. In the area of Primorska the biggest problems are the traffic flow of the Koper-Ljubljana corridor for goods transport (especially the existing railway lines) and the connections to tourist centres and the Croatian border.
2g Central Slovenia	The objective of the plan is to improve the connection within Central Slovenia to Ljubljana. The area of Central Slovenia extends beyond the statistical region since it also includes Notranjska, the area of Kočevje (3A development axis), Zasavje and Spodnja Štajerska (Celje) where traffic flows mainly gravitate towards Ljubljana. The accessibility to Ljubljana (the Ljubljana motorway ring, suburban and regional connections) and the low level of public transport services are regarded as major issues.

OBJECTIVE (general and specific)	DESCRIPTION
2h Accessibility within regions (to regional centres)	The objective is to increase (especially through general measures) accessibility to regional centres. According to the objectives of the spatial development of the Republic of Slovenia, everyone should have the option to reach one of the urban centres in Slovenia in 45 minutes by PPT or at least by private vehicle.
3 Improvement of accessibility of passengers to the main city agglomerations and within them	Ljubljana, Maribor and Koper are the main economic, political and administrative centres. Thus, a better connection of all Slovenian regions to these three main national centres (shorter travel time, level of services for public transport, better conditions of roads, where this is necessary) has to be ensured on the one hand, while on the other hand, these are the centres of three important Slovenian regions and thus suitable connections have to be provided within them. Ljubljana is also a hub of two Pan-European or TEN-T corridors (northwest-southeast and southwest-northeast or east-west and north-south) and Maribor is a hub in the comprehensive TEN-T network in the EU, whereas Koper is the only Slovenian port which is an important logistics centre or the origin of goods for Slovenia and Central Europe.
3a Ljubljana	The smooth flow of transit rail and road transport has to be ensured in a way that reduces negative impacts on the environment to the minimum. Multimodal accessibility to the point of international, interurban and suburban passenger and goods transport with a focus on sustainable development must also be improved. A sustainable city transport system has to be developed. A system of transfer points is to be established to provide convenient and quick transfers between different means of transport. The central transfer point will be a passenger station which will act as a meeting point of international, interurban, suburban and city transport and where transfers between all means of transport will be possible. A logistics centre has to be established to enable transshipment between rail and road transport and also the development of supplementary activities.
3b Maribor	The smooth flow of transit, especially rail, transport has to be enabled. Multimodal accessibility to the point of international, interurban and suburban passenger and goods transport, with a focus on sustainable development must also be improved. A sustainable city transport system has to be developed. The system of transfer points is to be established to provide convenient and quick transfers between different means of transport. A logistics centre has to be established which will enable transshipment between rail and road transport and also the development of supplementary activities.
3c Koper	In the direction of the border with the Republic of Croatia, a smooth flow of transit transport has to be enabled, which is problematic especially during the tourist season. The railway connection of Koper to its hinterland has to improve significantly. A sustainable transport system which will also enable environmentally acceptable accessibility has to be ensured in the area of the coastal region and within the city. Further development of the port and logistics centre has to be enabled where transshipment between shipping, railway and road transport is possible, including the further development of supplementary activities.
4 Improving the organisational and operational structure of transport system to ensure system efficiency and sustainability	One of the steps needed to improve the efficiency and sustainability of the transport system is the improvement of organisational and operational structure. An inadequately organised and inappropriately implemented and maintained transport system will not be successful regardless of the amount of funding for its development. A more sustainable system not only means the better utilisation of financing, but also a system which is safer, more energy-

OBJECTIVE (general and specific)	DESCRIPTION
	efficient and has less impact on the environment and society.
4a Harmonisation of legislation, rules and standards with European requirements and best practice	<p>To fully attain the objectives of the new policy of the trans-European transport network, uniform requirements have to be defined regarding the infrastructure, and clear standards for the infrastructure of the trans-European transport network have to be established. This will also include the application of smart mobility systems such as the future air traffic management system (SESAR), the European Railway Traffic Management System (ERTMS) and railway information systems, systems of maritime control (SafeSeaNet) and vessel traffic management information systems (VTMIS), intelligent transport systems (ITS) and interoperable, interrelated solutions for future generations of management systems of multimodal transport and information systems (also for charging fees). More efficient, transparent and financially sustainable planning, management and implementation of public transport on the basis of the Public Service Contract pursuant to Regulation (EC) No 1370/2007 also falls under this aspect/vision. To release the potential of private funding, the regulative framework also has to be improved and introduce an financial instrument introduced. The evaluation and approval of the projects have to be efficient and transparent to limit the time, costs and uncertainties.</p>
4b Improving the organisational system structure and cooperation between respective stakeholders	<p>Countries are still the most important entities obliged to form and maintain transport infrastructure. However, other entities, including partners from the private sector, also play an important part in implementing the multimodal trans-European transport network and related investments, including regional and local bodies, infrastructure operators, concessionaires, or managers, operators, etc. of ports and airports, navigation air transport services, etc. Better quality and higher efficiency/performance will be attained through their improved mutual cooperation. Better cooperation with the public will improve the integration of society and ensure development of the transport system, which will fulfil the needs of users.</p> <p>The improvement of the organisational structure of the transport system and reorganisation of the structure of respective stakeholders for the optimisation of their means are necessary for improving the sustainability and quality of transport systems.</p> <p>To improve the monitoring of maritime transport and strengthen maritime control, it is necessary to consolidate the cooperation and exchange of information between the bodies involved in operational maritime control. The implementation of measures to consolidate this cooperation and the establishment of the common environment for the exchange of information (e.g. data on the locations of ships, data on cargoes, sensor data, maps and charts, meteorological and ocean data, etc.) will reduce the managerial and operational costs of maritime transport activities, while the stakeholders will be equipped with more up to date and the best available information about conditions at sea. The improved coordination will enable better exploitation of technical means and the exchange of information and data between individual bodies and sectors, also internationally. Thus the duplication of data collection will be avoided and the more efficient operation of competent authorities at sea will be enabled.</p>

OBJECTIVE (general and specific)	DESCRIPTION
4c Improving the operational system structure	<p>The quality, accessibility and reliability of the public transport services will become more and more important, due to, <i>inter alia</i>, the ageing of the population and the need to promote public transport. Suitable frequency, convenience, easy access, reliability of services and intermodal integration are the main characteristics of the quality of service. The reliability of information about the time of travel and possible routes is equally important for the smooth door-to-door mobility of passengers and cargo. Human resources are a key component of every high-quality transport system. It is also generally known that deficiencies in workforce and qualifications of workers will become a serious transport issue in the future. On the other hand, the improvement of operational measures and a strategy with a more efficient application of transport and infrastructure using upgraded systems for managing transport and information systems (e.g. ITS, SESAR, ERTMS, SafeSeaNet) are the main objectives for ensuring the sustainability of the sector. The proper maintenance of the existing transport network, capacities and vehicle fleet is very important for the sustainability and quality of the transport system. In this regard, the priority objective is to establish a system for proper maintenance.</p>
4d Improving transport system safety	<p>One of the main objectives of the plan is to improve the safety of the transport system/network by implementing measures in the entire network, such as checking/evaluation of road traffic safety, ITS/TMS, traffic calming measures, measures promoting the use of public transport, etc.</p> <p>A centre for the control and management of the vessel traffic service (VTS centre) has to be established in the field of maritime transport safety due to the outdated control system and insufficient availability of radio communications. The grounds for establishing the VTS centre with adequate technical equipment and control service organisation are also supported by the requirements of Directive 2002/59/EC establishing a Community vessel traffic monitoring and information system.</p>
4e Environmental impact reduction/mitigation	<p>Preventing, reducing or mitigating impacts on the environment due to transport-related activities are among the main objectives of the plan. The Strategy mainly aims at reducing greenhouse gas emissions related to transport (the transport sector is one of their main sources) and air pollution. This will be attained through a set of measures in the field of habits related to mobility (modal shift to public transport and environment-friendly transport modes, e.g. walking and cycling) and the improvement of vehicle technology (more efficient and green). Preventing, reducing and mitigating (potential) impacts on the environment is important for the existing as well as new infrastructure. The protection of natural and constructed environments and landscapes, preservation of biotic diversity and ecosystem services, protecting heritage and ensuring a healthy environment (reducing the number of people disturbed by transport impacts such as noise and emissions) are necessary conditions for developing a sustainable transport network.</p>
4f Improving energy efficiency	<p>Better and more energy-efficient habits in regard to mobility are among the priorities of the European guidelines and the plan. To attain this objective, more efficient utilisation of the transport network has to be promoted; in particular, stimulating users to use public transport and environment-friendly transport modes. The use of modern, more efficient and greener vehicles has to be encouraged by taking into account the use of alternative fuels and providing resources for economic management of end-of-life vehicles.</p>

OBJECTIVE (general and specific)	DESCRIPTION
4g Financial sustainability of the transport system	One of the priorities of the European Union is to increase the financial sustainability of the transport sector and reduce the needs for subsidies, which currently present an important part of national budgets. The increase in financial sustainability will be attained through measures in the field of organisation and operation, i.e. with more efficient network management (attained by better planning - which will attract more users - and management - e.g. with a public service contract which would allow a possible offer of service in the future, whereby a shift to market economies would be possible). New financial instruments, e.g. the European Union incentive for project bonds, may provide financial support to public-private partnerships to a greater extent.

2.3.2 Classification of interventions as per the Rules on assess the acceptability of impacts caused by the execution of plans and activities affecting nature in protected areas

The assessment for the entire territory of the Republic of Slovenia was prepared as per the sub-objectives of the Strategy. Different measures of transport policy are anticipated for the attainment of these sub-objectives.

The measures of the Strategy are not placed with regard to space or time and are also not defined in detail. Those measures which serve as the basis for interventions for which the assessment in compliance with the SEA Directive is necessary will be assessed again, some at the level of operational programmes and some at the level of plans.

According to the Rules on assessing the acceptability of impacts caused by the execution of plans and activities affecting nature in protected areas (Official Gazette of the Republic of Slovenia, nos. 130/04, 53/06, 38/10, 03/11; hereinafter: the Rules), the measures of the Strategy are classified under Chapter 7 in the field of transport infrastructure of Annexes 1 and 2 to the Rules. In compliance with the aforementioned Annex to the Rules, areas of direct and long-distance impacts of transport infrastructure facilities range up to 2,000 m.

Anticipated period of programme implementation

The anticipated period of implementation of the Strategy is between 2014 and 2020, with a vision by 2030.

Needs for natural resources

At the level of the programmes, it is not possible to anticipate the needs for natural resources with accuracy. Transport measures from which interventions derive, for which an assessment in compliance with the SEA Directive is necessary, will also be assessed at the level of plans. During these assessments, more information on the planned projects will be known and it will then also be possible to determine the needs for natural resources in more detail on the basis of specific projects.

The needs for natural resources due to the construction of new rail and road connections or the expansion of existing ones and the expansion of ports and airports:

- forest,
- agricultural land,
- mineral resources,
- fossil fuels.

The occupation of forest and agricultural land and increased use of mineral resources and fossil fuels could occur due to the construction of infrastructure.

Anticipated emissions, waste and waste management

It is impossible to predict quantities of emissions and waste at the level of the Strategy. Only general data on emissions and waste are provided below. Transport measures from which interventions derive, for which an assessment in compliance with the SEA Directive is necessary, will also be assessed at the level of plans. During these assessments, more information will be known and it will then also be possible to determine the anticipated emissions and waste in more detail.

Air emissions

During the construction or reconstruction of transport infrastructure, emissions of pollutants have a short-term impact on the environment, and the influence of these emissions is for the most part reversible.

Emissions in road, air and maritime transport are significant during the operation of transport infrastructure. The transfer from road to rail or maritime transport always reduces the pressure of air pollution.

By implementing measures for attaining objectives of the Strategy, a positive impact is expected due to reducing pollutant emissions, particularly due to the transfer of goods and partly also passenger road transport to rail transport. Other measures of the Strategy will also contribute to positive impacts due to the reduction of pollutant emissions, especially those directed at reducing congestion and increasing the use of public road and rail transport.

When implementing the Strategy, the following guidelines and mitigating measures have to be observed:

- Irrespective of the fact that the largest contribution to attaining environmental objectives relating to national pollutant emission ceilings in the field of transport will be made with the renovation of the vehicle fleet with vehicles which meet the constantly rising environmental standards, the Strategy must also focus on measures which have a significant impact on pollutant emissions, in particular:
 - pay attention to examining exhaust gasses when implementing services of regular control of the state of motor vehicles in technical inspections when planning and implementing environmental protection measures from the Strategy,
 - regular renovation of the road vehicle fleet in public transport and, when purchasing new vehicles, ensure that these are in compliance with the state of technology,
 - limit access to, or use of, commercial light-duty vehicles in city centres if they fail to comply with the environmental standards which apply to new vehicles,
 - pay the same attention to other forms of sustainable mobility (cycling, pedestrian zones) as to promoting the use of public transport in urban centres.
- Since the aforementioned measures of the Strategy are mostly local, it is recommended that some be included also in the Detailed programmes of measures for reducing pollution with PM₁₀ particles, which are prepared on the basis of the already adopted Ordinances on the air quality plans in areas of excessive ambient air pollution.
- Reducing private passenger traffic should be a priority of all large cities with a large number of daily commuters. In addition to measures to reduce private passenger transport in cities which are based on internalising environmental costs and which refer to the limited duration of parking and high parking fees, we should start implementing strategies to improve public transport, urban and local. People would frequently use public transport if it were cost-efficient and did not additionally aggravate the daily tempo of life.

Emissions into soil, surface water and groundwater

The operation of roads, railways and ports may lead particularly to soil, surface and groundwater pollution due to:

- unsuitable drainage of polluted water in surface water or groundwater,
- unsuitable drainage of polluted rainwater (from car parks, carriageways, etc.),
- maintenance of railway lines (use of herbicides),
- port traffic (e.g. ballast water).

Soil, surface and groundwater emissions may occur during the construction and reconstruction of transport infrastructure and also after construction. They are largely limited to the local environment, while in case of major pollution accidents the impact is also felt regionally and across the border. During the construction and reconstruction of transport infrastructure, the impact is usually short term and mostly reversible. After the construction, the impact is usually less extensive, but permanently irreversible.

When implementing the Strategy, the following guidelines and mitigating measures have to be observed:

- When siting transport infrastructure in space, it is necessary to avoid placing facilities in water protected areas.
- When siting transport infrastructure in space, it is necessary to avoid placing facilities in areas risk of flood and related erosion. In the case of interventions in these areas, it has to be proven that the existing flood risk of the wider area is not increased.
- When planning interventions in areas with extremely high, very high and highly vulnerable aquifers, it is necessary to study and plan appropriate technical solutions that prevent the negative impact of the construction and operation as well as in the case of exceptional events (e.g.: spillages of dangerous substances).
- Transport infrastructure should not be sited on coastal land. According to Article 37 of the Water Act, an exception is possible only on the basis of expert argumentation stating that the facility cannot be sited elsewhere without disproportionately high costs. The costs of reducing ecosystem services in the case of interventions in the coastal belt have to be included in the cost calculation.
- A measure to permanently reduce negative impacts on the quality of the sea should be added to maritime transport measures.

Noise emissions

Almost all transport policy measures indirectly or directly influence noise pollution. An increased impact on noise pollution is expected during the construction and use of infrastructure and network.

The impact during the construction will be of short term and reversible. Impacts during operation will be long term. As a rule, new transport corridors mean greater impacts on the environment directly along corridors, but at the same time they reduce impacts on the environment by redirecting traffic flows to existing roads whose surroundings are usually densely populated.

The direct impact of all measures of rail, road and maritime transport is estimated as insignificant in all transport sub-measures from the viewpoint of noise protection, since measures of noise pollution which derive from the legislation determine that noise pollution has to be reduced to legally prescribed limits in all anticipated measures. Implementing additional noise protection measures will be necessary in the areas of major urban centres and transport corridors of railway infrastructure. Transport policy measures will indirectly relieve the existing road network, which will result in a reduction of noise pollution in the area of major transport hubs on the motorway network and in urban centres (Ljubljana, Maribor, Celje, Koper). Measures on the railway network and in the field of public transport will contribute the most to relieving the road network in major urban centres.

Increased noise pollution is expected in the vicinity of airports, especially in the case of increased volumes of air traffic. Among the measures in question, the Maribor and Portorož airports are potentially problematic from the aspect of noise protection, as both are located near residential buildings and tourist activity.

When implementing the Strategy, the following guidelines and mitigating measures have to be observed:

When siting measures on the road and railway network in space, it will be necessary to provide general and technical solutions which ensure that noise pollution caused by traffic is not excessive. All necessary mitigating measures stem from the legislation and the Operational programme on noise protection and are harmonised with the transport policy programme. When preparing spatial acts for infrastructural interventions, the following guidelines for attaining the objective of reducing environmental noise pollution have to be observed:

- provide measures to reduce emissions at noise to the greatest extent possible (network, vehicle fleet, logistics measures, traffic rerouting),
- in areas with an exceeded limit of environmental burden, measures have to be implemented for the prevention and transmission of noise in the environment (noise barriers and embankments, covered galleries, etc.) and for the provision of living conditions in buildings (passive protection),
- implementing measures in quiet populated areas and/or in areas which under noise protection legislation are defined as especially noise sensitive (residential buildings, health care facilities, tourist areas) should be avoided,
- implementing measures in quiet open areas (protected areas in accordance with the regulations on nature preservation) should be avoided.

All important mitigating measures that ensure reduction of noise emissions at source and prevent noise pollution, which is in accordance with the EU and Slovenian legislation in the field of noise protection, have already been included in the transport policy measures. The most important measures among the general transport policy measures concerning protection against noise are measures that ensure a reduction in noise emissions, such as updating vehicle fleet (railway passenger transport and freight transport, public transport, road vehicles), the modernisation of road and railway infrastructure and measures to reduce the impact of noise on the environment. Measures that indirectly influence the redirection of traffic flows on long-distance transit transport corridors (to the railway network as a priority) and in the urban environment (public transport) are also important. Almost all general transport policy measures will have a positive impact on reducing noise pollution by road and rail transport.

Waste management

It is not possible to assess the amount of waste generated due to the measures of the Strategy. The construction of new and reconstruction of the existing transport infrastructure are a source of large quantities of waste, which at the same time puts pressure on the use of natural resources. Waste is not generated only temporarily during construction, but permanently because of the maintenance of transport infrastructure. The impact of the generation of waste is permanent and in many cases irreversible in terms of natural resources, which is why this negative impact should be reduced with waste management measures.

The economical management of resources can be supported with a measure that encourages a reduction in environmental burdens by using recycled materials in the construction and reconstruction of roads.

3 DATA ON PROTECTED AREAS

Protection objectives of a protected area which contribute to the conservation value of an area

The relevant report that assesses the strategy and protection objectives were summarised from the Nature Conservation Act (Official Gazette of the Republic of Slovenia, nos. 56/99, 31/00, 110/02-ZGO-1, 119/02, 22/03-UPB1, 41/04, 96/04-UPB2, 61/06-ZDru-1, 63/07 Constitutional Court Decision Up-395/06-24, U-I-64/07-13, 117/07 Constitutional Court Decision U-I-76/07-9, 32/08 Constitutional Court Decision U-I-386/06-32, 8/10-ZSKZ-B) and the Decree on special protection areas (Natura 2000 areas) (Official Gazette of the Republic of Slovenia, nos. 49/04, 110/04, 59/07, 43/08, 33/13, Constitutional Court Decision – no. 39/13, 3/14).

The applicable Operational programme for managing Natura 2000 areas for the 2007-2013 period (Ministry of the Environment and Spatial Planning, 2007) determines detailed protection objectives in Annex 4.2 which refer to internal areas of Natura 2000 and derive from protection objectives as per the Decree on special protection areas for each individual Natura area (new Natura 2000 areas or their

changes are not included in this programme). Protection measures and other prescribed content are also determined. These objectives have to be observed when assessing plans and during individual interventions. The relevant report is strategic, so detailed objectives are not defined in it, since individual interventions in space are also not spatially defined.

Table 3: Display of protection objectives of protected areas

Protected areas	Protection objectives
<p>Natura 2000 sites Regulation on special protection areas (Natura 2000 areas) (Official Gazette of the Republic of Slovenia, nos. 49/04, 110/04, 59/07, 43/08, 33/13, Constitutional Court Decision – no. 39/13, 3/14) – Article 6</p>	<p>1. Preservation or attainment of favourable status of plant and animal species and habitat types allocated to Natura areas</p> <p><u>The following indicators indicate a favourable status:</u></p> <ul style="list-style-type: none"> - natural distribution of a habitat type and size of surfaces which the habitat type covers within its distribution are stable and growing; - special structure and natural processes or suitable use which ensures the long-term preservation of a habitat type exist and are likely to exist in the foreseeable future; - data on the population dynamics of species or typical species of a habitat type show that they are maintaining their own long-term existence as a component of their habitat types; - the natural area of distribution of species or typical species of a habitat type is not shrinking and will not shrink in the foreseeable future; - a sufficiently large habitat for long-term preservation of populations of species or typical species of a habitat type exists and will probably exist in the future. <p>The status of qualifying species and habitat types is given in the Report prepared on the basis of Article 17 of the Habitats Directive (92/43/EEC) and the Report prepared on the basis of Article 12 of the Conservation of Wild Birds Directive (79/409/EEC).</p> <p>2. Preserving the integrity of Natura areas in order to preserve their ecological structures, functions and protection potential</p> <p>3. Preserving the connectivity of Natura areas</p>
<p>Protected areas Nature Conservation Act (Official Gazette of the Republic of Slovenia, nos. 94/04, 46/04)</p>	<p>1. Preserving protected areas and observing regulated protection regimes</p>

Display of conservation, safeguarded, protected, degraded and other areas, in which a different regime is prescribed for the purpose of environmental protection, nature conservation, the protection of natural resources or cultural heritage

Protected areas

Natura 2000 areas

The Government of the Republic of Slovenia adopted the Decree on special protection areas (Natura 2000 areas) (Official Gazette of the Republic of Slovenia, nos. 49/04, 110/04, 59/07, 43/08, 33/13, Constitutional Court Decision – no. 39/13, 3/14) which determines Natura 2000 areas and protection guidelines for the preservation or attainment of favourable status of wild fauna and flora, their habitats and habitat types whose conservation is in the interests of the EU, and other rules of conduct for preserving these areas.

Protected areas

Protected areas are state measures to preserve valuable natural features and biodiversity. There is a classification of wider (national, regional, landscape park) and narrower (integral natural reserves, nature reserves and natural monuments) protected areas that are subject to regulated protection arrangements. These are protected by state or municipal regulations.

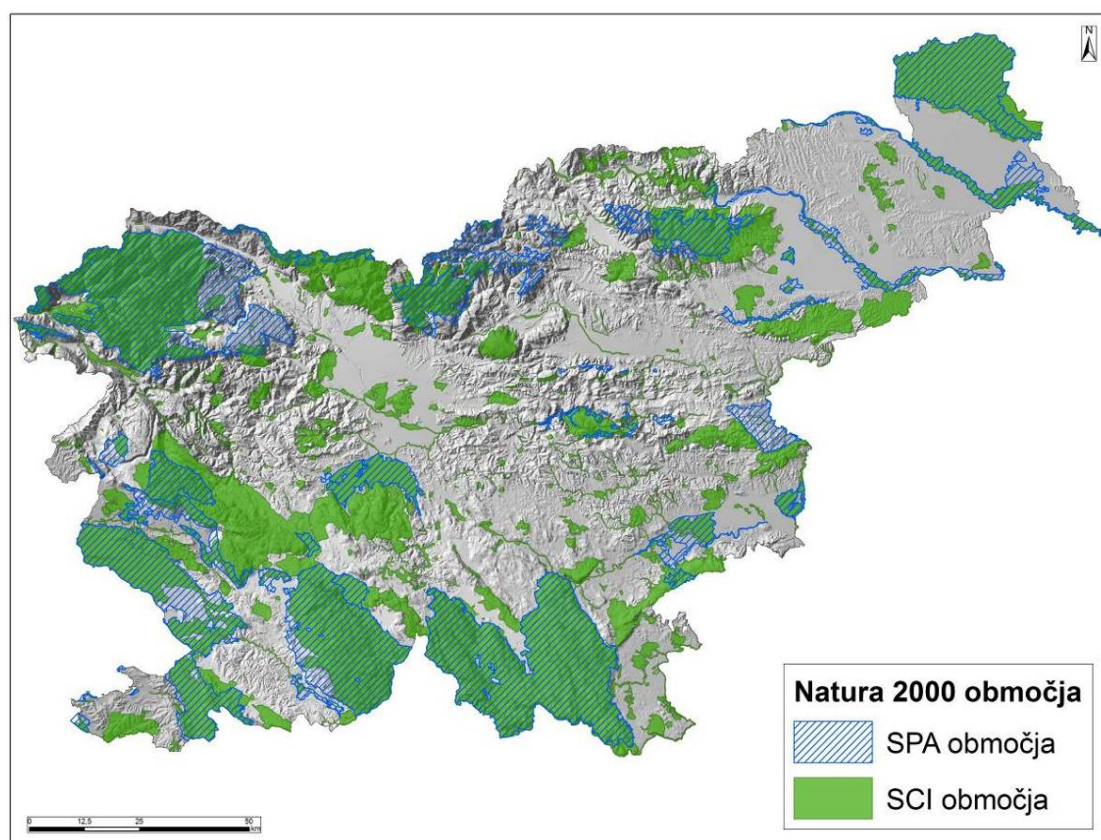


Figure 4: Display of Natura 2000 areas (source: Geoportal ARSO, 2014)

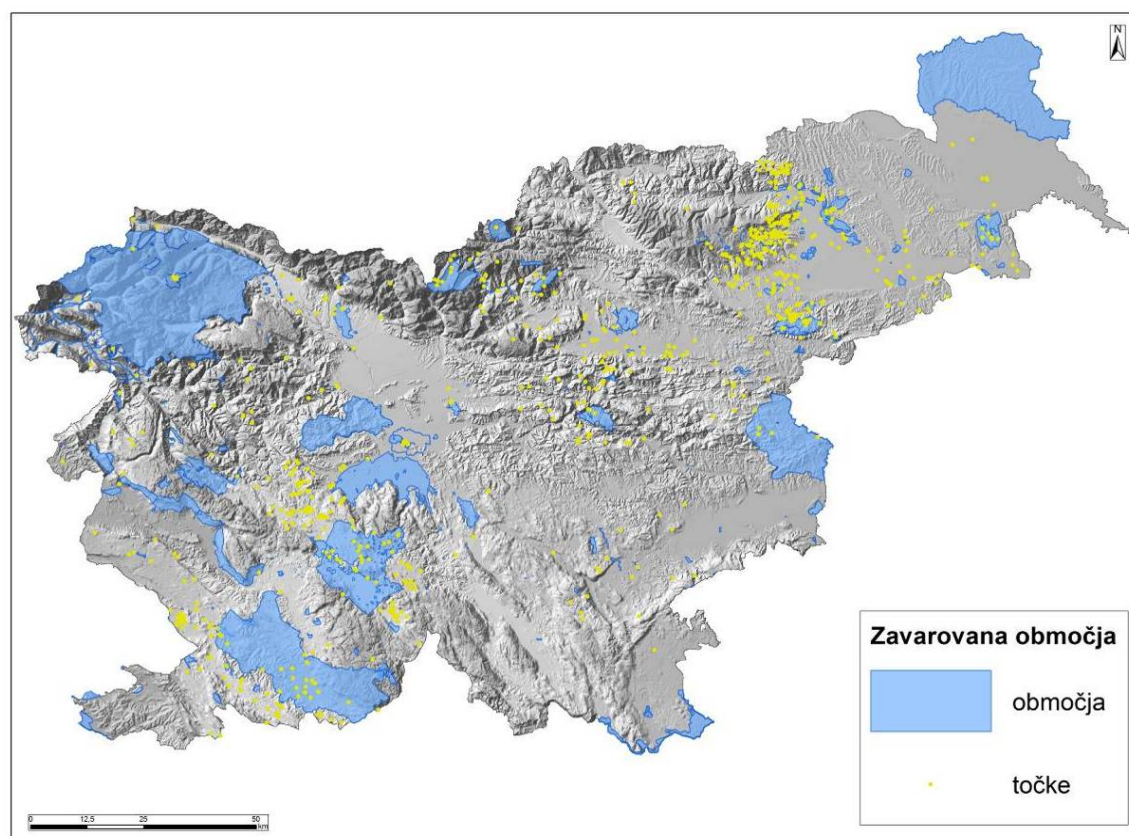


Figure 5: Display of protected areas (source: Geoportal ARSO, 2014)

Valuable natural features and ecologically important areas

Valuable natural features

As per Article 4 of the Nature Conservation Act, valuable natural features include all the natural heritage in the territory of the Republic of Slovenia. The Rules on the designation and protection of valuable natural features (Official Gazette of the Republic of Slovenia, nos. 111/04, 70/06, 58/09, 93/10) stipulate that there are 2,743 valuable natural features/areas, 5,885 valuable natural features/sites and 9,083 valuable natural features/caves in the territory of the Republic of Slovenia. There are also 69 areas of anticipated valuable natural features. All anticipated valuable natural features total 1,366,238.11 ha, which amounts to 67.4% of Slovenian territory (ARSO, 2014).

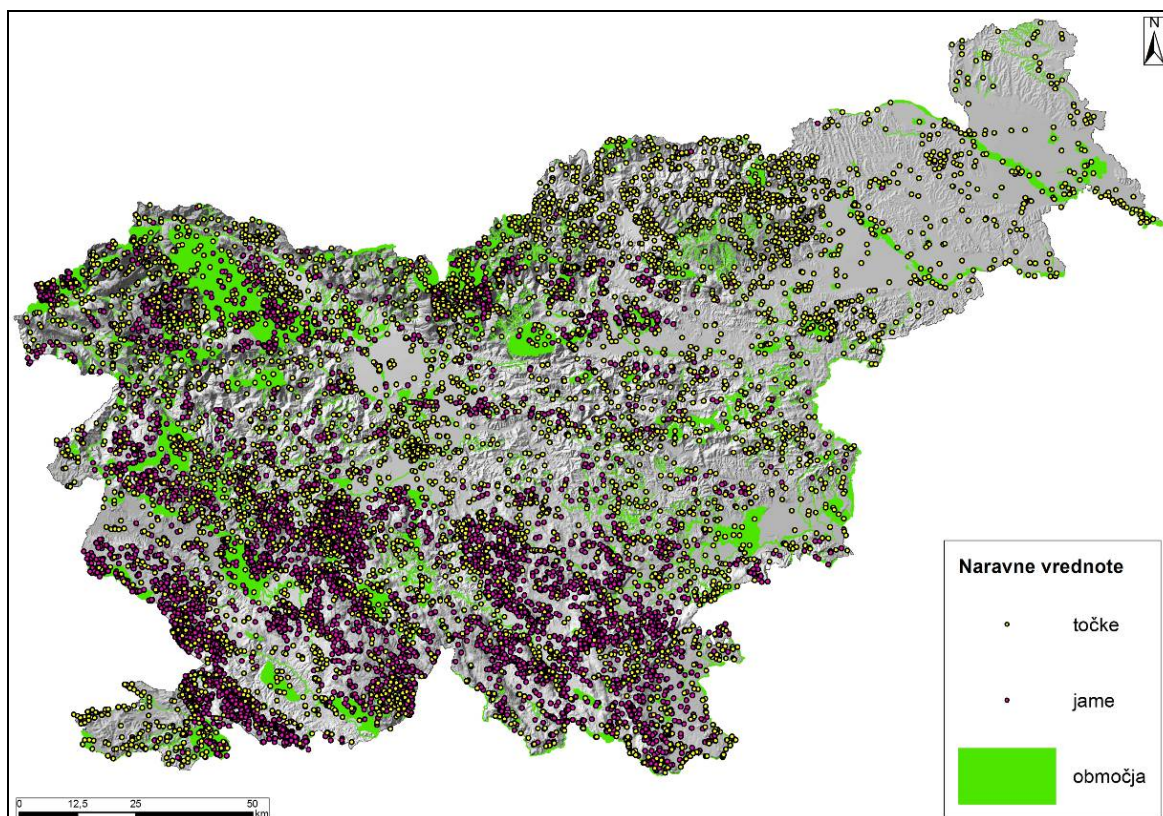


Figure 6: Display of valuable natural features in Slovenia (source: Geoportal ARSO, 2014)

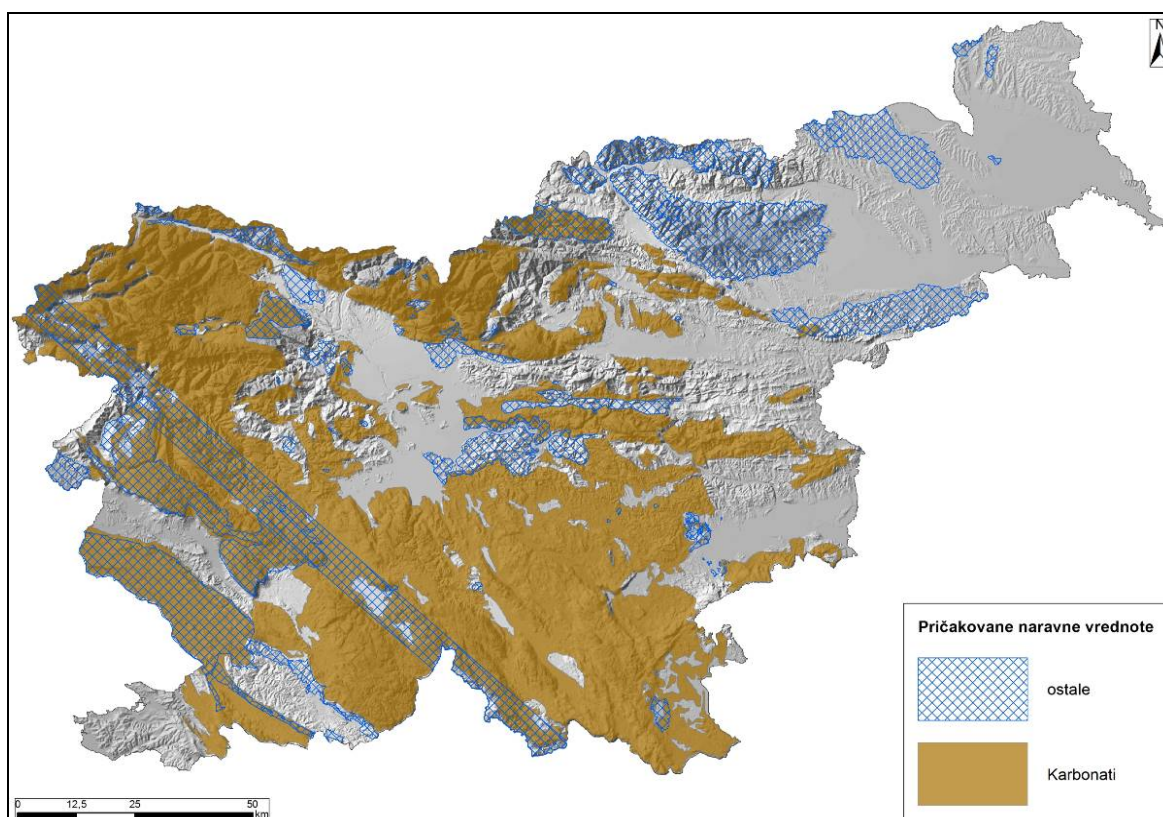


Figure 7: Display of anticipated valuable natural features in Slovenia (source: Geoportal ARSO, 2014)

Ecologically important areas

Ecologically important areas are defined in the Decree on ecologically important areas (Official Gazette of the Republic of Slovenia, nos. 48/04, 33/13, 99/13) and are areas of a habitat type, part of a habitat type or larger ecosystem units which significantly contribute to the preservation of biodiversity. Certain protection guidelines and rules of conduct apply to these areas that must be observed in the arrangement of space and use of environmental goods.

Slovenia has 275 ecologically important areas and 32 caves designated as ecologically important areas (Geoportal ARSO, 2014). The majority of ecologically important areas is covered by the central part of the habitat of large carnivores, the Julian Alps and the Kočevska region. Ecologically important areas have a total area of 1,372,261.53 ha or 67.7% of Slovenian territory.

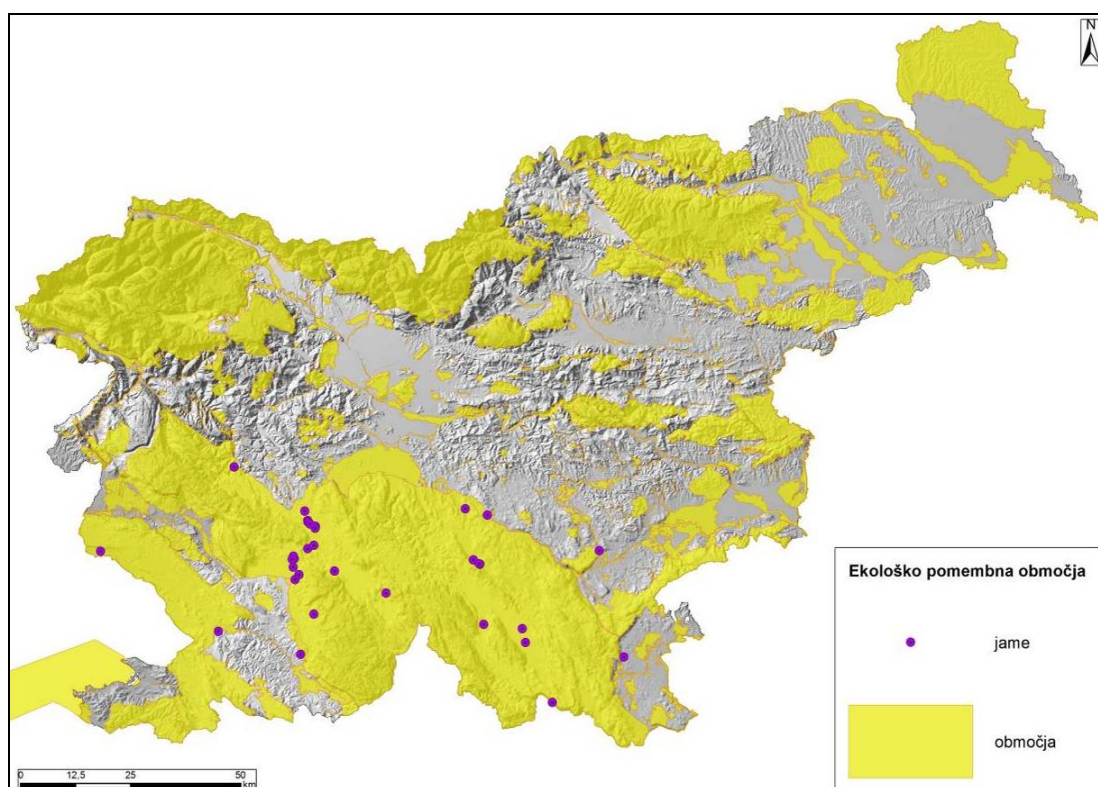


Figure 8: Display of ecologically important areas in Slovenia (source: Geoportal ARSO, 2014)

Protective forests and forest reserves

The Regulation on protective forests and forests with a special purpose (Official Gazette of the Republic of Slovenia, nos. 88/05, 56/07, 29/09, 91/10, 1/13) defines areas of protective forests and forest reserves for the whole of

Slovenia.

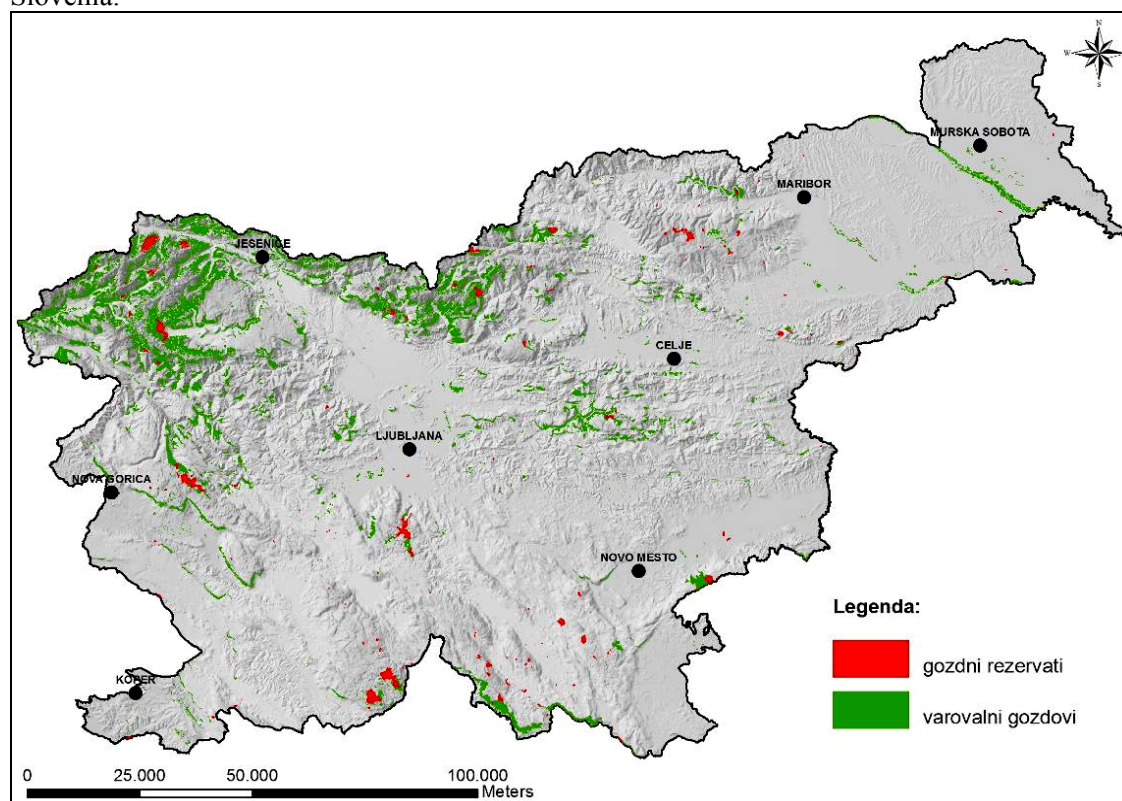


Figure 9: Representation of protective forests and forest reserves (source of basis: Slovenia forest service, 2013)

Water protection areas of drinking water sources

Water protection areas covering approximately 4,491 km² have been adopted or proposed for water sources in public use in Slovenia, which is approximately 22% or one-fifth of Slovenian territory. An even larger area has potential water sources. The area with captured and potential water sources comprises over a half of Slovenian territory.

The figure below displays water protection areas in Slovenia at national and municipal levels and drinking water catchments.

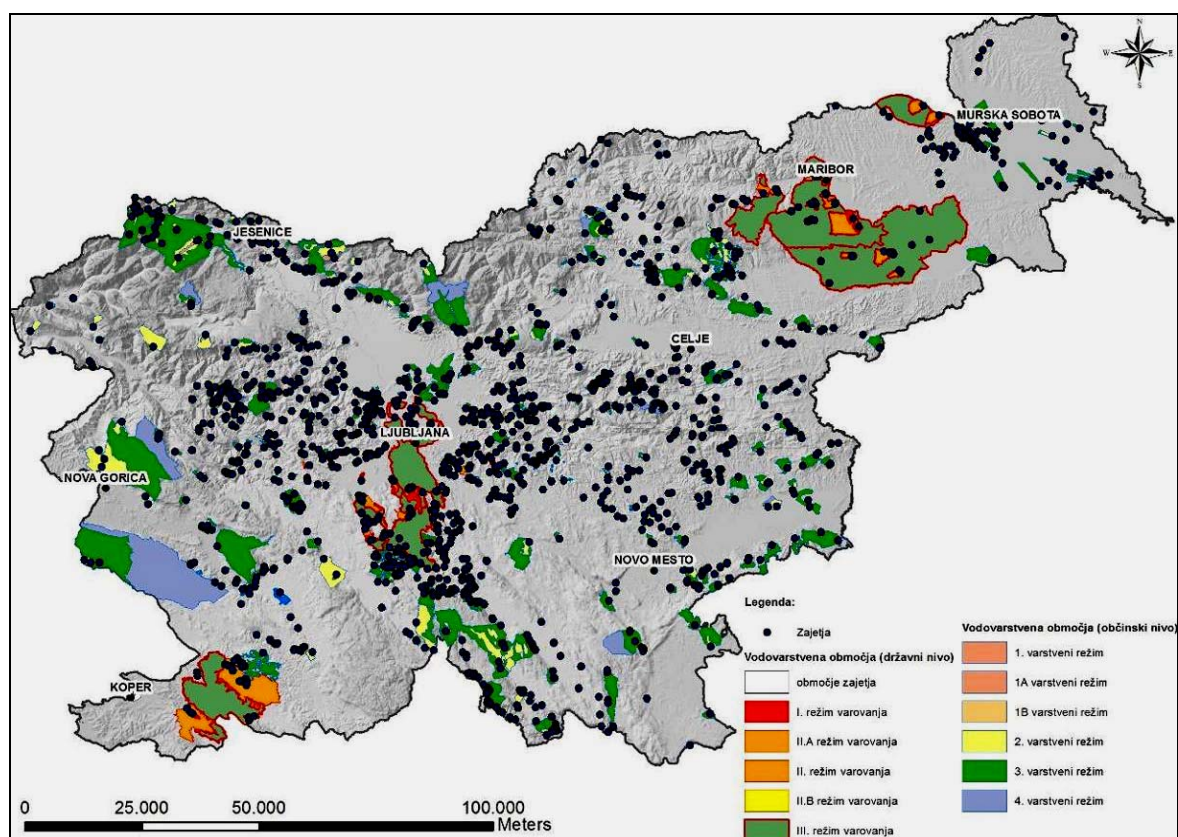


Figure 10: Display of water protection areas (source: Geoportal ARSO, 2014)

Areas at risk of floods, erosion and landslides

The Waters Act, i.e. Articles 86, 87, 88 and 89 determines areas at risk of floods, erosion and landslides. The largest flood areas are the Ljubljana Marshes, the Dravinja River, the Krka River downstream of Otočec, the Lower Savinja River Valley, the Sava River between Krško and the state border, the Sotla River and the Cerknica Field.

The flood warning map gives information on the extent and frequency of floods in individual areas.

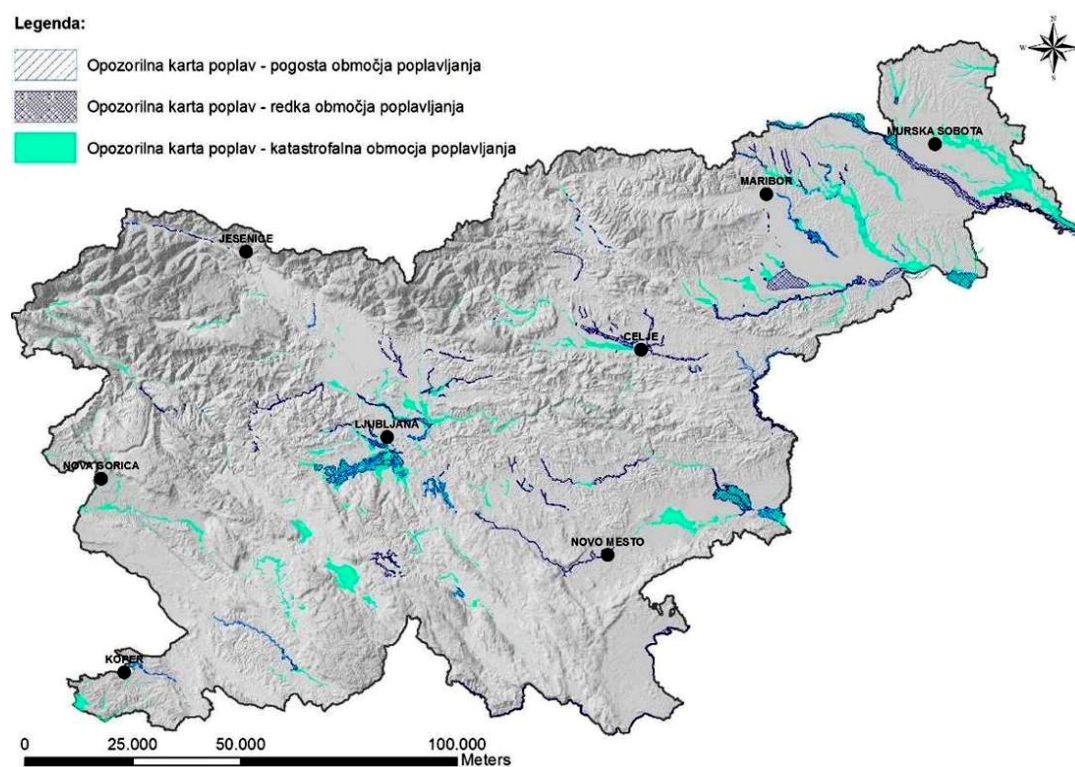


Figure 11: Flood warning map (source: Geoportal ARSO, 2014)

In accordance with the EU Floods Directive, the area of significant impact of floods is determined for the country.

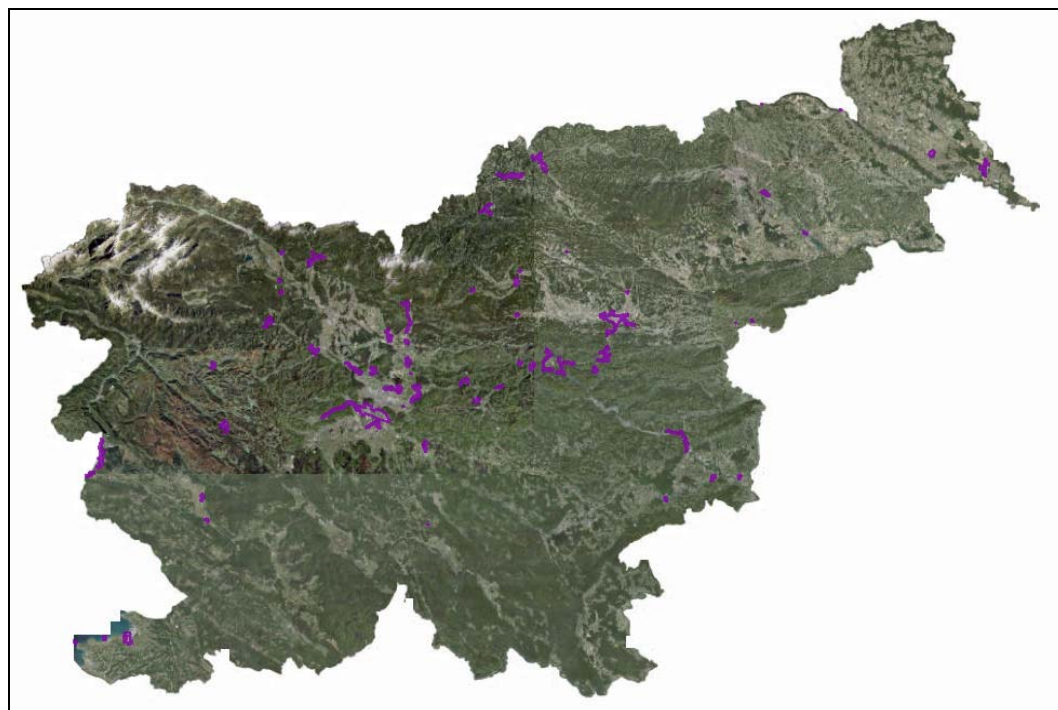


Figure 12: Areas of significant flood impact (source: Geoportal ARSO, 2014)

The integral map of flood risks is in preparation and available at Geoportal ARSO.

Protected areas of cultural heritage

The Cultural Heritage Register at the Ministry of Culture (CHR, September 2013) includes 32,035 units of heritage. The heritage areas cover an area of 3,224.94 km² or approximately 16% of Slovenian territory.

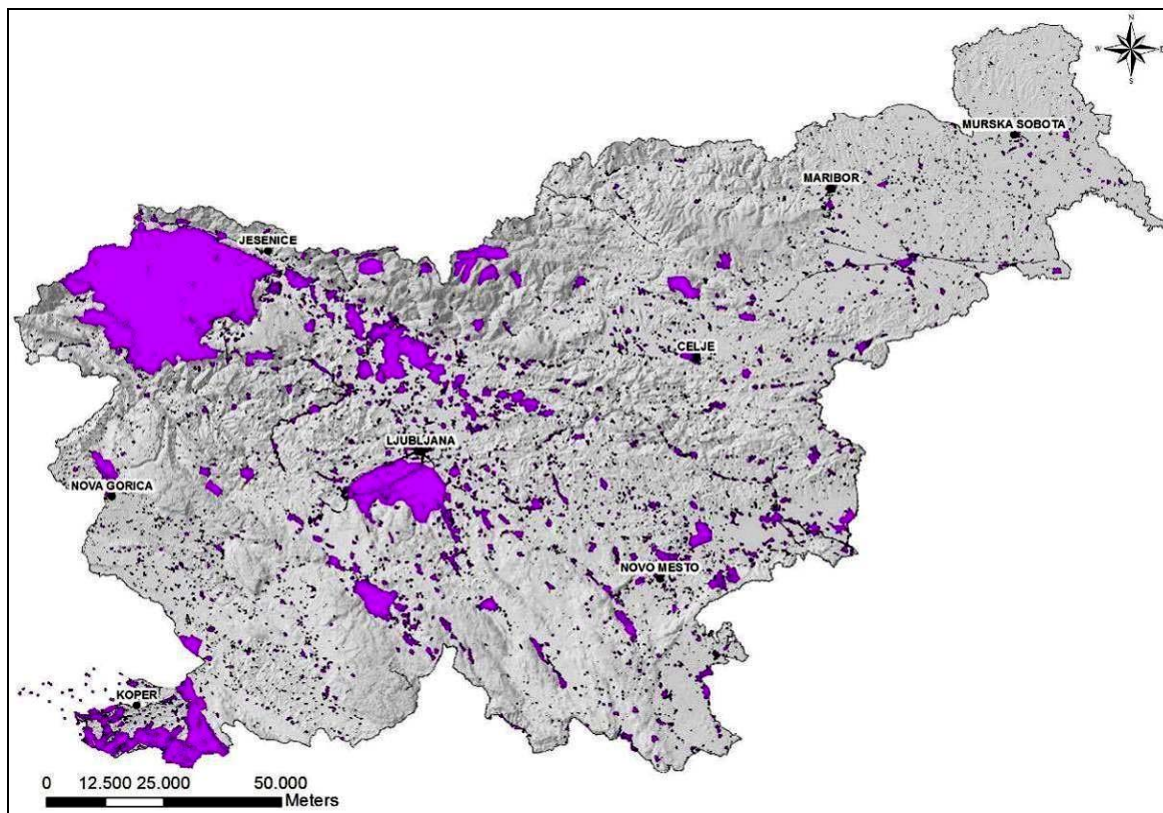


Figure 13: Display of facilities and areas of cultural heritage (source of bases: CHR, September 2013)

Summary of applicable legal regimes in protected areas or their sections, data on the acquisition of nature protection guidelines or expert bases and the extent of compliance with the plan

3.3.1 Legal regimes and protection guidelines

Natura 2000 areas

Protection guidelines of Natura 2000 areas are defined in the Decree on special protection (Natura 2000 areas) (Official Gazette of the Republic of Slovenia, nos. 49/04, 110/04, 59/07, 43/08, 33/13, Constitutional Court Decision – no. 39/13, 3/14), i.e. in Articles 7 and 15.

Table 4: Protection guidelines and rules of conduct in Natura 2000 areas

Protection guidelines (Article 7)	Rules of conduct for conservation of a potential Natura 2000 area (Article 15)
(1) The protection guidelines on the conservation of Natura sites are aimed at planning and implementing measures, activities and other human interventions in such areas with a view to achieve the protection objectives.	(1) The protection guidelines on the conservation of potential Natura sites are guidelines on planning and implementing measures, activities and other human interventions in such areas in order to prevent the deterioration of their status.
(2) The interventions and activities in Natura sites shall be planned so as to preserve to the largest possible extent: <ul style="list-style-type: none"> - the natural distribution of habitat types and habitats of flora and fauna; - appropriate features of abiotic and biotic elements of habitat types, their specific structures and natural processes or appropriate use; - or improve the quality of the habitats of flora and fauna, especially those parts of the habitats essential to the most important stages in their life cycle, such as breeding sites, group accommodation, hibernation, migration and feeding; - the habitat connectivity of populations of flora and fauna, and enable reconnection if the latter has been broken. 	(2) When implementing interventions and activities in potential Natura sites planned as per the guidelines under the preceding paragraph, all available technical and other measures shall be implemented in order to minimise negative impacts on habitat types, flora and fauna and their habitats as much as possible as per the fourth and fifth paragraphs of Article 7 of this Decree.
(3) When implementing interventions and activities planned according to the preceding paragraph, all possible technical and other measures are carried out so as to minimise the negative impact on habitat types, flora and fauna and their habitats.	(3) In potential Natura sites, the acceptability of plans, programmes, spatial and other acts has to be assessed, or the acceptability of interventions in nature in a manner stipulated by regulations governing nature conservation.
(4) The timing of interventions and activities should be adjusted as much as possible to the life cycles of flora and fauna, i.e.: <ul style="list-style-type: none"> - relating to animals, any interventions and/or activities should not coincide, or should coincide as little as possible, with periods when animals require peace or are unable to retreat, especially in the breeding period, when raising their young, in stationary or low mobility stages and hibernation, - relating to plants, seeding, natural planting or other forms of reproduction are enabled. 	(4) Notwithstanding the provision under the preceding paragraph, the acceptability assessment of interventions in nature shall not be required in the cases referred to in the second paragraph of Article 8 of this Decree.
(5) No non-native flora or fauna or genetically modified organisms shall be introduced to Natura sites.	(5) Within any potential Natura site, internal zones may be designated according to the manner and procedure as stipulated by Article 9 of this Decree.
(6) More detailed and concrete protection guidelines are determined on the basis of protection guidelines which shall be taken into account in spatial	(6) In potential Natura sites, monitoring shall be implemented in accordance with Article 10 of this Decree.

planning, the use of environmental goods and water management. More detailed protection guidelines may be developed within the management programme under Article 12 of this Decree, or within nature protection guidelines where concrete protection guidelines shall also be developed.	
	(7) In order to prevent a deterioration in status, and in accordance with the second, third, fourth and fifth paragraphs of Article 12 of this Decree, measures and activities for potential Natura sites shall be determined in the management plan, whereby such measures and nature conservation tasks shall be subordinate to those implemented in Natura sites relating to their financing and timing.
	(Article 15.b) Code of conduct for an area nominated as a Natura site by the European Commission To prevent the deterioration of status of priority habitat types and habitats of priority plant and animal species, and disturbance which could compromise the conservation of species that were the reason for nominating the areas as Natura sites by the European Commission, the first and second paragraphs of Article 15 of this Decree shall be applied.

Protected areas

General protection regimes for protected areas are defined by the Nature Conservation Act and are determined in more detail in ordinances on protection for each unit or area individually. Acts on protection are passed by the Government or competent bodies in local communities. National parks, protected areas of exceptional importance for the state or of great international significance are protected by an act passed by the National Assembly of the Republic of Slovenia.

In general, acts on protection stipulate the following:

1. the borders of a protected area in a clear topographic plan on a scale of 1:25,000 or another suitable scale which enables the accurate determination of borders to a land plot;
2. type of protected areas;
3. determining the manner of implementing public service for protected area management;
4. possible need to adopt a management plan;
5. financial resources for implementing protection and development of local population.

Protected areas and influence areas are integral parts of national spatial plans and spatial plans of local communities.

General protection guidelines are given in the paragraphs below.

Small protected areas

Natural Monument (Article 64 of the Nature Conservation Act)

A natural monument shall be an area containing one or more valuable natural features which have an outstanding form, size, content or location or are a rare example of a valuable natural feature.

- In the protected area, it shall be prohibited to carry out activities affecting nature in a manner that may worsen the state of a valuable natural feature or change, damage or destroy it, and to change the conditions or status so that the valuable natural feature is changed, damaged or destroyed or that its aesthetic value is reduced.
- By the instrument of protection, the following may be prohibited or restricted in the protected area:
 1. carrying out activities affecting the physical space,
 2. excavation or filling of land,

3. changing the water regime,
4. causing vibrations and explosions,
5. economic exploitation of natural resources,
6. changing vegetation,
7. any other activity which could significantly threaten the protected area.

Protected areas – small protected areas

General protection regime for natural monuments which are small protected areas is given in Article 64 of the Nature Conservation Act:

1. A natural monument shall be an area containing one or more valuable natural features, which have an outstanding form, size, content or location or are a rare example of a valuable natural feature.
2. In the protected area, it shall be prohibited to carry out activities affecting nature in a manner that may worsen the state of a valuable natural feature or change, damage or destroy it, and to change the conditions or status so that the valuable natural feature is changed, damaged or destroyed or that its aesthetic value is reduced.
3. By the instrument of protection, the following may be prohibited or restricted in the protected area:
 1. carrying out activities affecting the physical space;
 2. excavation or filling of land;
 3. excavating or removing rocks, minerals or fossils;
 4. waste disposal and wastewater discharge;
 5. changing the water regime;
 6. removing alluvial material;
 7. causing vibrations and explosions;
 8. economic exploitation of natural resources;
 9. navigation and anchoring;
 10. motor vehicle and vessel transport;
 11. flying below a specified altitude, the taking off and landing of aircraft;
 12. hunting, fishing and gathering plants or animals;
 13. changing vegetation;
 14. researching and removing research material from the wild;
 15. sport and recreation activities;
 16. setting up commercial and other signs;
 17. visiting and reviewing;
 18. making fire;
 19. carrying out military activities;
 20. any other activity which could significantly threaten the protected area.
4. In laying down the prohibitions or restrictions concerning activities referred to in the preceding paragraph, the characteristics of the protected area and the purpose of protection shall be considered.

Strict nature reserve (Article 65 of the Nature Conservation Act)

A strict nature reserve shall be an area of naturally preserved geotypes, habitats of endangered, rare or representative plant or animal species, or an area important for biodiversity conservation, where natural processes take place without human influence.

- In the protected area, it shall be prohibited to carry out activities that threaten the conservation of the area, to intentionally destroy plants and animals, or to stay in the area, except for persons conducting surveillance.
- The detailed rules of conduct in the area of strict nature reserve shall be laid down by the instrument of protection.

Natural reserve (Article 66 of the Nature Conservation Act)

A nature reserve shall be an area of geotypes, habitats of endangered, rare or representative plant or animal species, or an area important for biodiversity conservation which is maintained also through sustainable human activity.

- In the protected area, it shall be prohibited to carry out activities by means or in a manner which might cause significant changes in the biodiversity, structure and function of ecosystems, and to carry out activities in the period when the existence of plants or animals may be threatened.
- By the instrument of protection, the following may be prohibited or restricted in the protected area:
 1. carrying out activities affecting the physical space;
 2. excavation or filling of land;
 3. changing the water regime;
 4. removing alluvial material;
 5. causing noise, explosions and vibrations;
 6. economic exploitation of natural resources;
 7. navigation and anchoring;
 8. motor vehicle and vessel transport;
 9. flying below a specified altitude, the taking off and landing of aircraft;
 10. carrying out agro- and hydro-meliorations;
 11. changing chemical properties of the soil;
 12. changing vegetation;
 13. removing hedges, individual trees and other small natural structures;
 14. planting monocultures;
 15. gathering fruits, mushrooms or plants and their parts;
 16. disturbing, killing or taking animals from the wild;
 17. introducing and repopulating wild animal species;
 18. hunting, fishing and gathering plants or animals;
 19. artificial snowmaking;
 20. researching and removing research material from the wild;
 21. sport and recreation activities;
 22. visiting and reviewing;
 23. carrying out military activities;
 24. making fires;
 25. any other activity which could significantly threaten the protected area.
- In laying down the prohibitions or restrictions concerning activities referred to in the preceding paragraph, the characteristics of the protected area and the purpose of protection shall be considered.

Large protected areas (Articles 67 and 68 of Nature Conservation Act)

Large protected areas shall be natural areas with great abiotic, biotic and landscape diversity and high density and diversity of valuable natural features, which may also be functionally interconnected in a complex way.

According to the type of the large protected area, the following may be prohibited, restricted or otherwise regulated in the protected area by an instrument of protection of a large protected area:

- carrying out interventions and activities threatening the original state of nature;
- constructing infrastructure intended for dwelling, hunting, fishing, tourism and sport, except in locations reserved for these purposes;
- constructing new transit public community, energy and transport facilities;
- constructing secondary dwellings;
- constructing new facilities;
- excavating or filling of land;
- causing explosions or vibrations;
- economic exploitation of natural resources, except for construction in a protected area;

- removing alluvial material;
- changing the water regime, except for essential maintenance;
- vehicle and vessel transport;
- flying below a specified altitude, the taking off and landing of aircraft;
- paragliding, hang-gliding or flying with other hot-air airships or ultra-light gliders outside areas intended for these purposes;
- flying aircraft below 300 m from the highest point of the protected area;
- agriculture in a manner and by means which may significantly change biodiversity, structures and types of ecosystems or the surface layer of soil;
- disturbing, killing or taking animals from the wild, except for ecological and other justifiable reasons;
- hunting and implementing game management measures;
- fishing and implementing fish farming measures;
- gathering plants and their parts;
- building pens and animal breeding facilities;
- introducing plants or animals of non-indigenous species;
- changing vegetation;
- artificial snowmaking;
- disposal of waste not generated in the protected area;
- camping and making fires outside areas intended for these purposes;
- researching and removing research material from the wild;
- organising mass sport, tourist or other public events;
- carrying out water sports and other sports activities outside areas intended for these purposes;
- carrying out military activities;
- any other activity which could significantly threaten the protected area.

In laying down the prohibitions or restrictions concerning activities referred to in the preceding paragraph, the characteristics of the protected area and the purpose of protection shall be considered.

National park (Article 69 of the Nature Conservation Act)

A national park shall be a large area with many valuable natural features and great biodiversity. Nature in its original state with preserved ecosystems and natural processes is present in the major part of the national park. In a smaller area of the park, there may be areas with significant human impact which is in harmony with nature. A national park, the purpose of protection, development orientations, protected areas, protection regimes, the manager and other shall be determined by law.

Regional park (Article 70 of the Nature Conservation Act)

A regional park shall be an extensive area of ecosystems and landscapes characteristic of a region with large portions of nature in its original state and areas of valuable natural features interwoven with parts of nature where human influence is significant but balanced with nature. The detailed rules of conduct in the area of a regional park shall be laid down by the instrument of protection.

Landscape park (Article 71 of the Nature Conservation Act)

A landscape park shall be an area with a pronounced quality and long-term interaction of people and nature, which has high ecological, biotic or landscape value. The detailed rules of conduct in the area of a landscape park shall be laid down by the instrument of protection.

3.3.2 Data on the attainment of nature protection guidelines and expert groundwork

Nature protection guidelines were not issued for the Transport Development Strategy.

Review of areas of actual land use

A record of actual land use is kept by the Ministry of Agriculture and the Environment for the entire territory of the Republic of Slovenia, i.e. in graphic form on the basis of digital orthophoto images (DOF), satellite images and other sources. Data from the record on actual land use are public and accessible on the website of the Ministry: <http://rkg.gov.si/GERK/>.

Forests prevail in the structure of land use in Slovenia, which cover about 59.5% of the entire territory, and their surface has been gradually growing. Forests are followed by permanent grassland, fields and gardens, built-up and similar land, agricultural land being overgrown, extensive orchards, trees and shrubs, vineyards, dry, open land with special vegetation cover, water, open land without or with insignificant vegetation cover, uncultivated agricultural land, agricultural land covered with woodland trees, marsh meadows, intensive orchards, olive groves, hop fields, other swampy land, other permanent plantations, permanent plants on field surfaces, woodland plantations, nurseries, rushes, root-stock nurseries and marshes with the smallest surface (Ministry of Agriculture and the Environment, 2013).

Table 5: Actual land use in Slovenia (Ministry of Agriculture and the Environment, 2013)

Actual use	Area (ha)
Forest (2000)	1,209,923.57
Permanent grassland (1300)	349,454.56
Fields and gardens (1100)	182,118.92
Built-up and similar land (3000)	109,128.47
Agricultural land being overgrown (1410)	31,882.55
Extensive orchard (1222)	25,117.85
Trees and shrubs (1500)	22,645.77
Vineyard (1211)	19,929.45
Dry, open land with special vegetation cover (5000)	17,095.24
Water (7000)	13,955.36
Open land without or with insignificant vegetation cover (6000)	13,390.68
Uncultivated agricultural land (1600)	10,666.20
Agricultural land covered with woodland trees (1800)	10,449.99
Marsh meadow (1321)	5,947.65
Intensive orchard (1221)	4,242.77
Olive grove (1230)	1,972.74
Hop field (1160)	1,972.27
Other swampy land (4220)	1,416.56
Other permanent plantations (1240)	464.16
Permanent plants on field surfaces (1180)	336.14
Woodland plantation (1420)	288.47
Nursery (1190)	136.39
Rushes (4210)	77.87
Root-stock nursery (1212)	46.71
Marshes (4100)	40.03
TOTAL	2,032,700.37

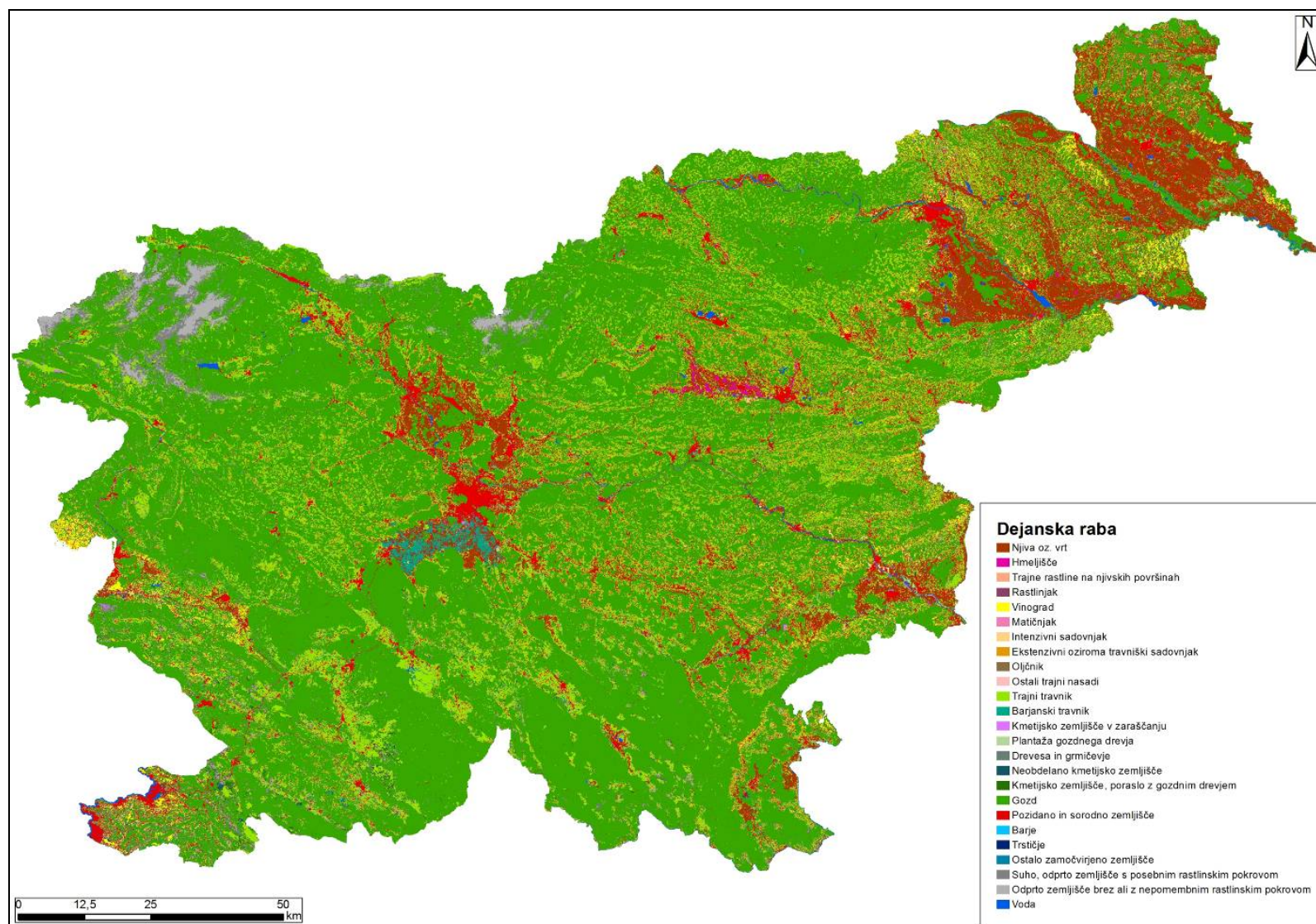


Figure 14: Actual land use in the Republic of Slovenia (source: Ministry of Agriculture and the Environment, 2013)

Species and habitat types for which Natura 2000 areas were determined, including data provided in the standard data form for data on Natura 2000 areas

The report represents an evaluation of the strategic transport policy relating to the objectives (Chapter 3.1) and not an impact assessment of individual qualifying species or habitat types. The lists and data on qualifying and key species are thus not relevant.

The Natura areas, qualifying animal and plant species and habitat types are defined in the Decree on special protection areas (Natura 2000 areas) (Official Gazette of the Republic of Slovenia, nos. 49/04, 110/04, 59/07, 43/08, 33/13, Constitutional Court Decision – no. 39/13, 3/14).

Key data on each individual Natura 2000 area are collected in standard data forms (SDF). The SDFs are kept at the Ministry of the Environment and Spatial Planning and the Slovenian Environment Agency and are updated on a regular basis. The data are divided into the following chapters:

- Chapters 1 and 2: general data on the area (name, code, geographical location, size etc.);
- Chapter 3: data on the ecological status of species and habitat types in the area (HT: degree of representation, HT area share, level of structure preservation, total assessment of the species: data on the size of population, degree of habitat preservation, level of population isolation, total assessment);
- Chapter 4: description of the area (main characteristics, i.e. habitats and their shares in the area, significance of the area, vulnerability, ownership etc.);
- four additional chapters follow (protection status, connection with CORINE biotopes, activities in and in the vicinity of the area and their impact etc.) which do not include data for Natura 2000 areas in Slovenia yet.

Data from SDF are public and available at the website of the Nature Conservation Atlas (<http://www.naravovarstveni-atlas.si/nvajavni/>).

Management plans for nature protection areas and guidelines deriving from them

In 2007, the Natura 2000 Management Programme 2007-2013: Operational Programme was prepared **for Natura 2000 areas** (Ministry of the Environment and Spatial Planning, 2007). Annex 4.2 of the Operational programme of the Natura 2000 site management programme provides detailed protection objectives and measures for Natura 2000 sites (SAC in SPA). Concrete protection objectives for SPA areas are determined only in the Decree on special protection areas (Natura 2000 areas).

The Nature Conservation Act and the Decree on special protection areas (Natura 2000 areas) enable the preparation of detailed management plans for areas where this is necessary. The Institute of the Republic of Slovenia for Nature Conservation, as the project applicant, set out to systemically resolve questions relating to the efficient and sustainable management of Natura 2000 areas with the project 'Natura 2000 in Slovenia – management models and information system'. Five pilot Natura sites (Boletina, Jelovica, Jovsi, Petelinjek, Snežnik) were selected within the project, entailing various actions to resolve concrete nature protection issues. These pilot areas encompassed six special areas of conservation (SAC) and two special protection areas (SPA) for the conservation of species and habitats which are in the interests of the Community and have a favourable protection status. These are areas (prior to amendments to the Decree on special protection areas in April 2013): SPA Snežnik – Pivka and SAC Snežnik, SPA Jelovica, SAC Blato pri Jelovici, SAC Ledina na Jelovici, SPA Kozjansko – Dobrava – Jovsi, SAC Dobrava and Jovsi, SAC Ličenca in SAC Boletina. The areas selected thus obtained a fundamental document for sustainable development harmonised with all

stakeholders or interests. The **detailed management plans** also define protection objectives, guidelines and measures for these areas (<http://www.zrsvn.si/>, cited in October 2013).

The manner of management in **protected areas** is defined in the Nature Conservation Act (ZON). A summary is given in the following. The management of a protected area involves conducting tasks of protection of valuable natural values and tasks necessary for the fulfilment of the purpose for which the area was protected and which are determined by the instrument on protection. The founder (state or municipality) may directly manage the protected area with a public utility unit; establish a public institution for this purpose; authorise a public institution which was established in order to direct the sustainable management of environmental goods or award a concession for management. The management of a protected area is implemented on the basis of the protected area management plan if this is determined in the instrument on protection. National and regional parks must have management plans (Article 53 of the ZON-UPB2; Official Gazette of the Republic of Slovenia, no. 96/04).

The protected area management plan is a programme act determining development guidelines, the manner of implementing protection, use and management of the protected area and detailed guidelines on the protection of valuable natural values in a protected area while observing the development needs of the local population. The protected area management plan is determined by the body which adopted the instrument of protection. The management plan also serves as the basis for spatial planning and the use of environmental goods.

3.6.1 Important environmental policies in the field of nature protection

EU Biodiversity Strategy to 2020 (COM(2011) 244): This strategy realises two important commitments, i.e. to halt the loss of biodiversity in the EU by 2020, and to protect, evaluate and restore biodiversity and ecosystem services in the EU by 2050.

The objective of this strategy is to halt the loss of biodiversity and the deterioration of ecosystems in the European Union by 2020 by defining six priority objectives:

- Objective 1: Conserving and restoring nature
- Objective 2: Maintaining and improving ecosystems and their services (restoration of at least 15% of damaged areas)
- Objective 3: Ensuring sustainable agriculture, forestry and fishery
- Objective 4: Ensuring the sustainable use of fisheries resources
- Objective 5: Combating invasive alien species, which threaten 22% of native EU species
- Objective 6: Measures to prevent biodiversity loss

The planning and implementing of transport policy may impact the attainment of the following strategy objectives:

- Objective 1: Conserving and restoring nature
- Objective 2: Maintaining and improving ecosystems and their services (restoration of at least 15% of damaged areas)

Objectives with the same message were formed in the Biodiversity Conservation Strategy of Slovenia (2002-2012) (Ministry of the Environment and Spatial Planning, 2001): This is a strategic document adopted by the Government on 20 December 2001 which determined for the 2002–2012 period a set of specific objectives and guidelines for the coordinated implementation of measures contributing to the attainment of the three main goals of the Convention on Biological Diversity. These objectives are:

- conservation of biodiversity,
- sustainable use of its components,
- fair and just division of benefits of genetic resources.

The objective of the Biodiversity Conservation Strategy of Slovenia for transport infrastructure is:

- Providing mobility of people and goods in a way which preserves biodiversity.

To attain this objective, the Strategy envisages the following guidelines:

- Redirecting transport to environmentally more acceptable and insufficiently utilised capacities (e.g. railway transport),
- Managing pollution due to transport by avoiding unnecessary or surplus transport and establishing structural development in industry and urbanism which will be less intensive relating to transport,
- Technical optimisation of vehicles and fuels to reduce emissions and the use of energy, and developing new motor drive methods and connecting the collection and recycling of discarded vehicles,
- Including principles of biodiversity conservation in transport policy and the development of infrastructure, which also means avoiding areas of high nature conservation value as much as possible,
- Preventing or limiting the negative impacts of constructing infrastructure and infrastructural activities on landscapes and ecosystems, and better utilisation of existing infrastructure,
- Preventing the fragmentation of ecosystems due to the construction of new infrastructural facilities and providing suitable passages for animals.

Description of the existing starting situation of nature protection areas

Nature protection areas include protected areas and areas in the Natura 2000 network and are intended for the conservation of valuable natural features. There is a classification of wider (national, regional, landscape park) and narrower (strict nature reserve, nature reserve and natural monument) protected areas which are protected by state or municipal regulations.

Natura 2000 sites

A special protection area or Natura 2000 site is an area that lies in the territory of the EU and is important for the conservation and achievement of a favourable status of bird species and other animal and plant species, their habitats and habitat types, the preservation of which is in the interests of the EU. The determination and conservation of Natura 2000 sites is defined in the Habitats Directive (Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and on wild fauna and flora). When Natura sites are being designated, all habitat types outlined in Appendix I are taken into account, as are all plant and animal species outlined in Appendix II of the Directive. In addition to the above, the birds outlined in Appendix I to the Birds Directive (Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds) for which special areas of protection are designated in the country (SPA – Special Protection Areas) were also taken into account.

In April 2004, the Government of the Republic of Slovenia adopted the Decree on special protection areas (Natura 2000 areas) (Official Gazette of the Republic of Slovenia, nos. 49/04, 110/04, 59/07, 43/08, 33/13, Constitutional Court Decision – no. 39/13, 3/14) whereby it determined Natura 2000 sites and protection guidelines on the conservation or achievement of a favourable status of wild plant and animal species, their habitats and habitat types, whose conservation is in the interests of the European Union, as well as other rules of conduct on the conservation of these sites. On the basis of the Alpine Biogeographical Seminar held in May 2005 and the Continental Biogeographical Seminar held in April 2006, the European Commission confirmed the Slovenian proposal of areas in the Continental Biogeographical Region on 13 November 2007. In January 2008, the Commission confirmed the supplemented list of Natura 2000 areas in the Alpine region. Thus all potential Natural 2000 areas in Slovenia (pSAC) were confirmed by the European Commission (SAC). Based on the conclusion of both seminars, Slovenia had to designate some other sites in accordance with the Habitats Directive as habitat types or species which the European Commission found insufficiently defined.

In April 2013, the Government of the Republic of Slovenia expanded Natura 2000 by about 480 km²; 477 km² on land and 3 km² on sea. This was an increase of 2.4% of state's territory to a total of 37.16% on land. Slovenia thus met the unfulfilled requirements from the Birds Directive and the

Habitats Directive. The European Commission reminded Slovenia of its non-compliance twice in 2012 (March and November 2012), and also determined technical corrections to the borders of Natura 2000 areas. These corrections minutely harmonised the borders of areas with those in nature or, if these did not exist, with plot and other administrative borders in space.

Slovenia now has 354 areas, of which 323 areas are determined on the basis of the Habitats Directive (total area of 6,639 km² or 32.1% of Slovenia's territory); 31 areas (total area of 5,077 km² or 24.6% of Slovenia's territory) are determined on the basis of the Birds Directive. The areas according to the Birds Directive and the Habitats Directive partially **overlap**, i.e. there are 4,033 km² of such areas. Therefore, 79% of the area under the Birds Directive is also under the Habitats Directive. Some 61% of the surface of areas under the Habitats Directive is also the area under the Birds Directive.

The number of species as per the Habitats Directive rose to 114 (before 105) and as per the Birds Directive to 118 (before 103; this number does not include birds of prey or waterfowl, which are referred to in the Directive as a group and not by name; the entire group is recorded as one species). The number of habitat types increased by 60 (before 56).

In protected areas (Triglav National Park, regional and landscape parks, reserves and natural monuments), some 29% of surfaces are Natura 2000 sites, which also include 3.1 km² of sea. Some 71% of the Slovenian Natura 2000 network is covered by forests, which is approximately 15% more than the European average and, in general, indicates they are well preserved. Despite this, certain forest types, especially the lowland flood type, were cleared extensively in the past and do not exhibit a favourable conservation status. From non-forested areas, the Natura 2000 network includes about 20% of utilised agricultural land; among these, extensive meadows are the most important. In many areas, these still have a favourable conservation status, while the natural pressure reducing the favourable conservation status is considerable through overgrowth due to the abandonment of farming and as a result of intensification of their use. Agricultural areas with high natural value are one of the major opportunities for increasing biodiversity and protecting endangered habitats in specific rural areas. Generally, they can be characterised as typical of areas of extensive agriculture with a great biodiversity of species and habitat.

An extremely important role in the Natura 2000 network is played by caves, which are the subject of conservation in over 70 areas. From the surface point of view, inland waters represent only one per cent of the network, but their significance for the preservation of the network is immense. A lot of water however is not in the most favourable conservation status. Human dwellings are important for the reproduction, rest and overwintering of certain species, which is why some built-up areas are essential in Natura 2000 sites. These are especially birds (e.g. white stork, Eurasian scops owl) and mammals (e.g. bats).

Interventions and activities have to be planned in Natura sites (SPA and SAC areas) in accordance with Article 7 of the Decree on special protection areas, so that the following is achieved to the greatest extent possible:

- Maintaining the distribution of habitat types and habitats of flora and fauna;
- Maintaining the appropriate abiotic and biotic characteristics of components of habitat types and their specific structures and natural processes, and an appropriate use;
- Maintaining and improving the quality of the habitats of plant and animal species, especially those parts of the habitat essential to the most important stages, such as breeding sites, in particular, group accommodation, overwintering, migration and feeding of animals;
- Maintaining the habitat connectivity of populations of plant and animal species, and enabling reconnection if the latter is broken.

In these areas, an acceptability assessment should be performed for interventions as per Article 28 of the Nature Conservation Act. If an activity is carried out, all possible technical and other measures must be foreseen and implemented to minimise the adverse effect on habitat types, plants and animals and their habitats (<http://www.natura2000.gov.si/>, cited in October 2013).

1. The conservation status of species and habitat types from the Report as per Article 17 of the Habitats Directive (92/43/EEC)

According to Article 17 of the Habitats Directive, EU Member States are required to produce a report every six years on the implementation of measures under this Directive. The report includes, in particular, information concerning the conservation measures referred to in the first paragraph of Article 6; an evaluation of the impacts of these measures on the conservation status of natural habitat types listed in Annex I and species listed in Annex II; and the main monitoring results from Article 11. The largest part of the report consists of the assessment of indicators of the conservation status of species and habitats listed in all Annexes in the entire country.

Data below are summarised from the 2008 Report (the new report is not yet available):

As per the Annexes of the Habitats Directive, there are 60 habitat types and 203 species in Slovenia on which it is necessary to report. Of these, 45 habitat types and 152 species are in the Alpine region, while 44 habitat types and 183 species are in the continental region. The majority of habitat types have been granted the final assessment of 'favourable' conservation status, while for most species, the final assessment of the conservation status is 'inadequate'.

Final conservation status of HT:

- 44% are favourable
- 35% are inadequate
- 21% are poor.

In Slovenia, the best conservation state is in forest, marine, coastal and offshore habitat types and heathland habitats. Given that the pressure on the coast and marine area is quite great, it seems that a favourable assessment of marine, coastal and offshore habitats is contradictory. However, these estimates are based on the fact that most of these areas of habitat types are protected and their favourable status has been guaranteed in the long term. Pressures and threats identified during the single assessments display a bad status of conservation of freshwater habitat types, grassland and scrubs, including moors and marshes. The most common among them were human activities linked to sport and leisure, with the changing hydrographic characteristics of the area, displacement of sand and gravel from streams, alteration and abandonment of agricultural land use and natural succession.

Final conservation status of species:

- 20% of all species have a favourable conservation status
- 50% inadequate
- 10% poor, and
- 20% of species have an unknown conservation status.

Half of the species have a final conservation status marked 'inadequate'. However, we can link species with a poor conservation status to the habitat types whose conservation status is also poor. In Slovenia, the most alarming status according to estimates is that of crustaceans, fish, amphibians, reptiles, dragonflies, butterflies and beetles. The most common threats and pressures on species are changes in hydrographic features, changes to agricultural land use, urbanisation, pollution and land drainage. According to estimates, we can conclude that mammals have the best conservation status. However, we have to be aware that the assessment has not been made for more than half of the species (mainly bats). Therefore, further research on this group may reveal a completely different situation (Nature Protection 21, 2008).

2. Conservation status of species in the SPA areas and in the territory of Slovenia from the Report as per Article 12 of Directive 79/409/EEC on the conservation of wild birds on the implementation of this Directive in the 2005-2007 period

The report was prepared in March 2009 by the Ministry of Environment and Spatial Planning on the basis of expert groundwork prepared by the Institute of the Republic of Slovenia for Nature Conservation and contributions of the Slovenian Environment Agency. When preparing the expert groundwork, the Institute of the Republic of Slovenia for Nature Conservation also included the amendments from the Slovenian Forest Service, the Bird Watching and Bird Study Society of Slovenia (DOPPS - BirdLife Slovenia), managers of some protected areas (Sečovlje Salina Nature Park, Notranjska Regional Park, Škocjanski zatok Nature Reserve) and proposed amendments provided by the NIB, the DOPPS and the University of Maribor, Faculty of Natural Sciences and Mathematics. Annex 1 of the aforementioned report includes a description of the conservation status of species in the SPA areas and in the entire territory of Slovenia. The data below refer to the 2009 Report (a new report has not been drafted yet).

Conservation status of species in the SPA areas

The conservation status of all 321 species in 26 SPA areas defined by the Decree on special protection areas (Natura 2000 areas) (Official Gazette of the Republic of Slovenia, nos. 49/04, 110/04, 59/07, 43/08, 33/13, Constitutional Court Decision – no. 39/13, /3/14) is discussed in Appendix A to Annex I. It is explained by population estimates, monitoring results, evaluation of a habitat and the conservation status of species in each SPA area. Conservation status was accorded to 321 species in 26 SPA areas. For three species of the SPA Drava (the common pochard, little grebe and tufted duck), the conservation status for the wintering period was accorded as per the request of the Ministry of the Environment and Spatial Planning.

A favourable conservation status was established for 69 species (22%) of birds in 22 SPA areas.

A poor conservation status was found for 62 species (19%) of birds in 19 SPA areas. The most worrying is the status of some farmland birds. Due to the intensification of agriculture and in some cases also the abandonment of land, a poor conservation status was established in 13 species in the SPA Snežnik/the Pivka River, the Reka River valley, Slovenske Gorice - doli, Goričko, the Mura, the Drava, Krakovo forest/Šentjernej plain, the Ljubljana Marshes, Lake Cerknica, Planina field and the Karst. Most problematic is the intensification of agriculture, especially early mowing, excessive fertilisation, reducing the share of meadows and wetlands, and thus shrinking the extent and quality of habitats. This is reflected in declining population trends of corncrake, Eurasian curlew, whinchat and northern lapwing. In the case of the Eurasian scops owl, lesser grey shrike and barred warbler, the degradation of a mosaic cultural landscape (for example, the loss of hedges, shrubs) and the disappearance of meadow orchards were recorded as an additional negative impact. The European roller and lesser kestrel are already considered extinct species. Also problematic is the overgrowing or abandonment of dry meadows, thus reducing the habitat of the rock partridge, tawny pipit and ortolan bunting. Among forest bird species, there is concern regarding grouse (the hazel grouse, capercaillie, black grouse), white-backed woodpecker and three-toed woodpecker in the SPA areas of Jelovica, Pohorje, Kočevsko-Kolpa and Trnovo forest. The key reason for declining populations of these latter species is grubbing and fragmentation of habitat. Forest grouse populations are declining due to overgrowing of meadows, pastures, forest edges, the deforestation and degradation of characteristic habitat, non-compliance of hunting activities with hunting management plans, and disturbances caused by mass tourism and recreation. Declining populations of white-backed woodpecker and three-toed woodpecker are the result of grubbing of habitat in forests with a large volume of deadwood. A poor conservation status has also been recorded for several species related to freshwater habitats and wetlands within the SPA areas of the Reka River valley, the Mura, the Drava, Krakovo forest, Šentjernej plain and Lake Cerknica. The most noticeable impact and consequences are those caused by the regulation of low-lying river stretches and their tributaries. Nesting opportunities for the sand martin and common kingfisher have reduced by regulation of embankments. By changing river dynamics, the nesting opportunities of common tern, gull and common kingfisher have also been reduced, while the degradation of gravel bars has affected the little ringed plover and common sandpiper. The overgrowth of oxbows and drainage of wetlands has had a negative impact on the spotted crane, little crane, little bittern, river warbler and Savi's warbler. The wintering population of bean geese on the SPA area of the Drava River has been drastically reduced by hunting from the

Croatian side of Lake Ormož. The nesting populations of some species of duck, grebe and shorebirds in the SPA area of Cerknica Lake fluctuate mainly due to environmental factors, such as falling water levels during the nesting period. Due to natural factors (strong storms during the nesting period, predators), populations of little tern and common tern also fluctuate in the SPA area of Sečovlje salt-pans.

A questionable conservation status has been found for 190 species (59%) of birds in 25 SPA areas. The estimates could not be identified due to insufficient data. The data on population size did not exist for 13 species in 9 SPA areas even at the time of defining IBA or SPA areas, while in other cases we do not have the current monitoring data from which to draw conclusions on their conservation status.

A list of national population sizes of species from the Decree on Natura 2000 areas is in the Appendix B to Annex I, which, as a rule, are among the better known species.

Protected areas

Protected areas are state measures to conserve valuable natural values and biodiversity. There is a classification of wider (national, regional, landscape park) and narrower (strict nature reserve, nature reserve and natural monument) protected areas that are subject to regulated protection arrangements. They are protected by state or municipal regulations.

Wider:

National park

A national park (NP) is a large area with numerous valuable natural features and great biotic diversity. The major part of a national park consists of indigenous nature with preserved ecosystems and natural processes, while a smaller part of the national park can have areas of more extensive human influence, which is, however, harmoniously linked to nature.

Regional park

A regional park (RP) is an extensive area of regionally characteristic ecosystems and landscape with large parts of indigenous nature and areas with valuable natural features that intertwine with parts of nature that are significantly influenced by people, but nevertheless in equilibrium with nature.

Landscape park

A landscape park (LP) is an area with an accentuated quality and long-term intertwinement of people and nature with a high ecological, biotic and landscape value.

Narrower:

Integral nature reserve

An integral nature reserve (INR) is an area of naturally preserved geotopes, habitats of endangered, rare or characteristic plant and animal species or an area important for the preservation of biotic diversity where natural processes take place without human influence.

Nature reserve

A nature reserve (NR) is an area of geotopes, habitats of endangered, rare or characteristic plant and animal species or an area that is important for the preservation of biotic diversity that is maintained through balanced human activities.

Natural monument

A natural monument (NM) is an area that contains one or several valuable natural features with outstanding form, size, content or location, or rare examples of valuable natural features.

Currently, Slovenia encompasses: 1 national park, 3 regional parks, 44 landscape parks, 1 integral natural reserve, 54 natural reserves, 322 natural monuments/areas, 840 natural monuments/sites, 91 monuments of designed nature/areas, and 28 monuments of designed nature/sites (ARSO, 2014). Some 268,662 ha are protected, which is 13.3% of Slovenian territory.

Key characteristics of habitats or species in the area

The assessment was drafted for the programme. The data on the key characteristics of habitats or species are thus not relevant.

Data on seasonal impacts and the impact of natural disturbances on key habitats or species in the area

Since Slovenia's landscape is very diverse, we record various natural phenomena. Extreme natural phenomena which may have a negative impact on key habitats and species in nature protection areas include floods, landslides, rockslides, glaze ice, hail, windfall, frost, drought, fires and diseases of woodland trees and other plant species. Individual areas in Slovenia which may be affected by natural phenomena are shown in the figures below.

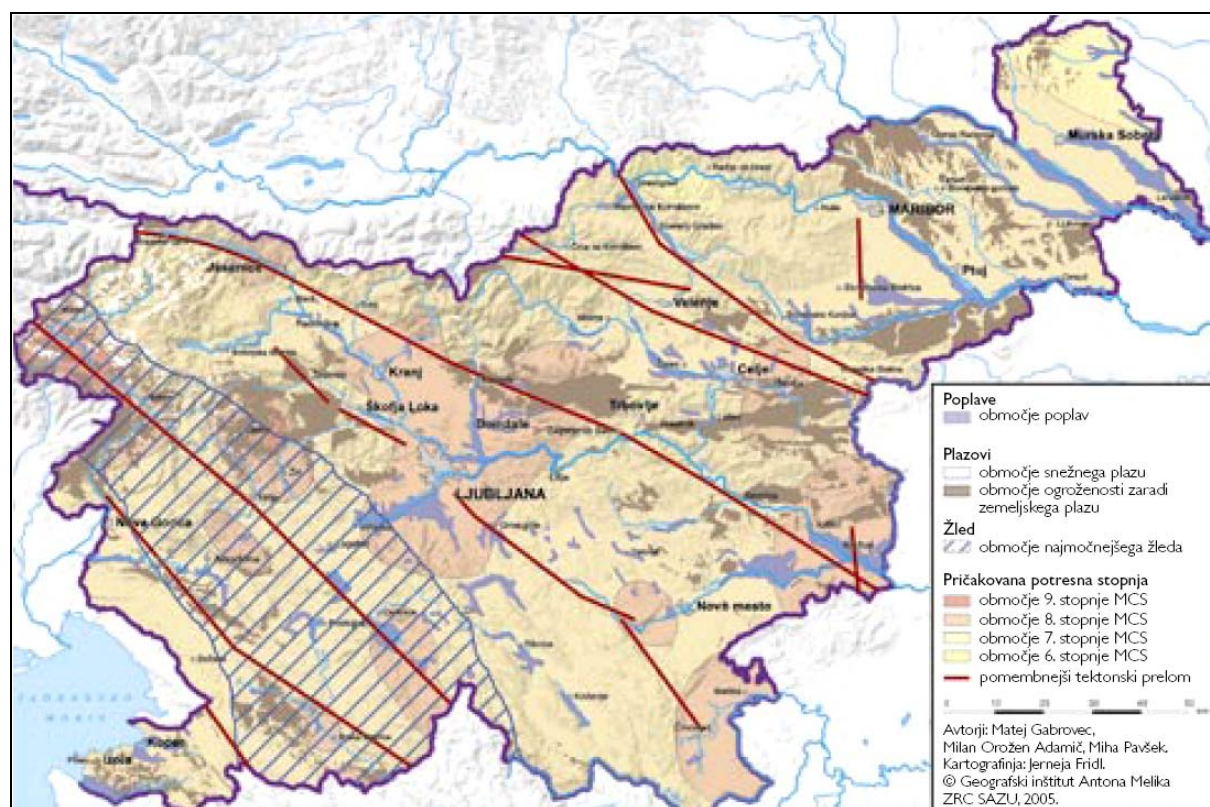


Figure 15: Risk of natural disasters in Slovenia (source: Geografski obzornik, 2005, issue 52, no.1)

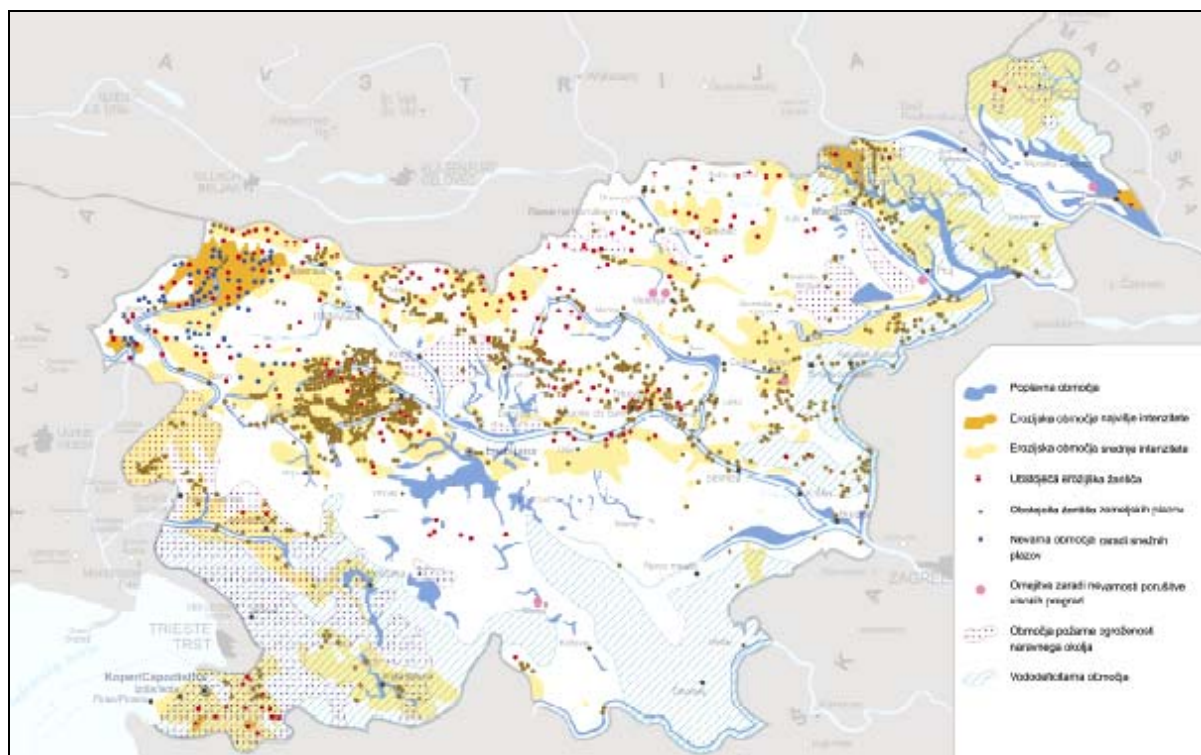


Figure 16: Display of flood, erosion, fragile areas etc. which condition a limited use of space (source: Resolution on the National Environment Protection Programme)

The chapter below is summarised as per the National Programme for the Protection against Natural and Other Disasters (Official Gazette of the Republic of Slovenia, no. 44/02).

Floods

Minor floods occur annually in all five river basins in Slovenia. Four types of flood are typical of Slovenia: lowland and torrential floods, flooding of Karst fields and flooding of the sea. Over 300,000 ha of surfaces are at risk of flooding; most of these are narrow valley bottoms in torrential ravines. Large and more extensive floods may be expected over 94,000 ha of surfaces. The most extensive flood areas are lowland-flat areas of north-eastern and sub-Pannonian Slovenia and in pre-Alpine valleys and basins which water the Šavrini hills.

Landslides and rockslides

Landslides are very frequent in Slovenia and occur over about one third of the territory. Surfaces prone to landslides are unstable and conditionally stable surfaces which usually slide when soil is macerated or due to unsuitable interventions in space which disrupt the existing balance of different soils. Landslides occur almost everywhere in Slovenia, except in the area of the Primorska and Dolenjska Karst. They do not occur in the predominant area of carbonate Alpine-Dinara ridges and on plateaus, including coarse shingle and moraine deposits in the valleys of the Soča, the Sava, the Savinja, the Drava and the Mura. Rockslides are also very frequent in Slovenia, and are very dangerous. They are most frequent in eastern and north-eastern Slovenia. Rockslides occur in meadows, orchards, fields and vineyards, where the greatest quantities of rainwater collect, which additionally weight grassland slopes.

Erosion

Current research show that erosion processes in Slovenia occur on almost 9,000 km² or 44% of its territory. More than 4,000 km² of these surfaces are in torrential areas which are furrowed by more than 10,000 torrential streams. Leaching and removing of erosion material and filling of fertile land with waste deposits is greater than the restoration of fertile soil. About 30,000 ha of surfaces are severely damaged by erosion; one third of these are open focal zones of deep and bank erosion and areas of landslides and rockslides.

Drought

In the boarder sense of the word, drought is an extended period of water shortage which may occur for different reasons. On the basis of data analysis for the period between 1961 and 1999, it may be stated with certainty that precipitation in the vegetation period in most of Slovenia is not distributed well. The shortage of rain for crops in the vegetation period occurs only in Primorska and Prekmurje. Relative late summer droughts and late winter or early spring droughts occur. Droughts are very rare in the natural environment in Slovenia; however, this is different for crops, especially where the selection of crops is unsuitable relating to bedrock, type and thickness of soil and general precipitation conditions. All droughts are connected to the expansion of subtropical anticyclones over the Mediterranean and southern Europe. The lack of rain is further enhanced by northern Foehn winds when it rains or snows on the northern side of the Alps and dry and warm winds blow on the southern side.

Frost

Frost denotes damage to plants caused by low air temperatures. Low air temperatures do not damage all plants or plant parts in the same way, since damage depends on the resistance of individual plants, which is genetic and partly acquired by hardening.

Cold spring spells are typical of Slovenia, and usually caused by invasions of cold air from the north or east. Cold spells of an advection-radiation character are the most dangerous, since even more severe radiation cooling occurs with the invasion of cold air at night when the skies are clear. Such types of cooling are usually most fatal to budding fruit trees, since the temperature in the ground layers of atmosphere may drop several degrees below zero. Cold spells may be expected throughout April. Low air temperatures at this time may damage or even completely destroy all produce.

Glaze ice

Glaze ice occurs as an ice layer on objects when supercooled water drops freeze when the temperature of the water is below freezing or when un-supercooled water drops freeze on very cold objects. It occurs in winter, particularly during thaws with the passage of warm fronts. It causes great damage to trees and electrical and phone lines. Glaze ice occurs in Slovenia at the meeting point of cold north-western air masses which move close to the ground and warm and moist air masses which come from the south-west from high latitudes; it is thus typical particularly of south-western Slovenia. It is most common in high Karst areas and its margins, mostly on the continental or the coastal side. It also emerges in valleys, where cold air persists. It most frequently affects Brkini, the Senožeče hills with Vremščica, Zgornja Pivka, the foothills and slopes of the high Karst, Snežnik, Javornik, Hrušica, Nanos, Trnovo Forest and Čičarija.

Fires

Fires are most frequent in nature in spring when people clear meadows and fields and burn waste. About 33% of fires expand from open fireplaces, usually due to wind. Only 3.4% of fires are the result of self-ignition. Forests in the sub-Mediterranean part of the country are at the greatest risk of fire. Most fires occur in February, March, July and August. Fires are most frequent in the Sežana forest management area, which includes Karst, coastal and inshore parts and Slovenian Istria. By cultivating forests which are less sensitive to forest fires, forestry experts can reduce the fire risk (particularly by planting more deciduous trees). The sustainable reformation of forests by introducing forest stands less sensitive to fire is being implemented gradually, but is a very slow process.

4 DATA ON ESTABLISHED IMPACTS AND THEIR ASSESSMENT

Definition of established harmful effects of activities affecting nature on protection objectives of individual protected areas, their integrity and connectivity, including cumulative impacts

When assessing the direct and long-distance impact of the Strategy, the impact on protected areas as per the Rules on the assessment of the acceptability of impacts caused by the execution of plans and activities affecting nature in protected areas has to be evaluated.

The Appendix was prepared without matrices and in compliance with Article 25.a of the Rules on the assessment of the acceptability of impacts caused by the execution of plans and activities affecting nature in protected areas, which states: “For operational programmes and other plans and their parts which are not plans in the field of spatial planning and all planned activities which cannot be established from their description or by drawing conclusions because no concrete locations for the execution of plans or insufficient information on the type of execution of plans exist, the matrix from Annex 6 of these Rules shall not be complete when drafting the assessment of acceptability.” For individual measures within the Strategy which could have a significant impact on nature protection areas, a comprehensive assessment of acceptability will be implemented at the level of a detailed plan or activity, which will also include matrices.

4.1.1 Verification of compliance with the objectives of the EU Biodiversity Strategy to 2020 (May 2011) and the objectives of the Biodiversity Conservation Strategy of Slovenia

The EU Biodiversity Strategy to 2020 realises two important commitments, i.e. to halt the loss of biodiversity in the EU by 2020, and to protect, evaluate and restore biodiversity and ecosystem services in the EU by 2050. The objective of the Biodiversity Conservation Strategy of Slovenia for transport infrastructure is:

- Provision of the mobility of people and goods in a way which preserves biodiversity.

The Transport Development Strategy includes the following transport measures which support the objective of the Biodiversity Conservation Strategy of Slovenia:

- Redirecting transport to environmentally more acceptable and insufficiently utilised capacities (e.g. railway transport);
- Managing pollution due to transport by avoiding unnecessary or surplus transport and establishing structural development in industry and urbanism which will be less intensive relating to transport;
- Technical optimisation of vehicles and fuels to reduce emissions and the use of energy, and developing new motor drive methods and connecting the collection and recycling of discarded vehicles;
- Including principles of biodiversity conservation in transport policy and the development of infrastructure, which also means avoiding areas of high nature conservation value as much as possible,
- Preventing or limiting the negative impact of constructing infrastructure and infrastructural activities on landscapes and ecosystems, and better utilisation of existing infrastructure,
- Preventing the fragmentation of ecosystems due to the construction of new infrastructural facilities and providing suitable passages for animals.

The Transport Development Strategy should also include the following measure: ‘Preserving and, if necessary, implementing ecological connections which enable genetic exchange between populations’, which is intended to comply with the objective ‘Preservation of favourable status of all indigenous animal and plant species’.

Observance of both biodiversity conservation strategies in the existing situation

Slovenia has problems observing these guidelines. In the existing situation, the greatest problems are transport corridors of interrupted migration routes. Transport corridors frequently fragment the habitat of species, and interrupt migration routes or prevent the migration of certain species (especially mammals and amphibians).

The report entitled Landscape Fragmentation in Europe (EEA and FOEN, 2011) attests to the fact that the fragmentation and loss of precious habitats are becoming increasingly pressing problems also at the EU level. The report highlights that biodiversity is heavily affected by landscape fragmentation due to transport infrastructure and construction. The fragmentation and isolation of populations significantly contribute to reducing populations of wildlife, and increase their endangerment in Europe. Despite planning concepts which should conserve large dense areas of natural ecosystems, we have been witnessing extensive fragmentation in Europe for the past 20 years.

Attaining the objectives of the Biodiversity Conservation Strategy

When planning the infrastructure network, biodiversity has to be protected as per the TENT-T Regulation. The measures proposed in the Transport Development Strategy do not include the reduced transport impact on wild animals and, as a result, also biodiversity. Thus measures have to include those which ensure the preservation of migration corridors of wild animals and the attainment of the objectives of the Biodiversity Conservation Strategy and support the 7th Environment Action Programme of the EU whose sub-objective is “Loss of biodiversity and the degradation of ecosystem services, including pollination, shall be stopped by 2020, whereby ecosystems and their services are preserved and at least 15% of degraded ecosystems restored”.

When considering the aforementioned, the Transport Development Strategy will contribute to the attainment of environmental objectives of the Biodiversity Conservation Strategy at the EU and Slovenia’s level.

The measures of the road, rail, maritime, air and urban transport may nevertheless have a substantial impact on attaining the objectives of the Biodiversity Conservation Strategy. Road and rail infrastructure may intersect with natural corridors of wild animals which they use for their daily or seasonal migration. These are barriers to wild animals (particularly mammals and amphibians, in some cases also birds and bats). The affected species may have various problems (primary ecological effects):

- Loss of habitat and its extinction,
- Fragmentation of habitats,
- Decrease in population due to collisions,
- Negative changes in the environment, such as hydrological, chemical, noise and light disturbances due to headlights and
- Open space along a road/railway/directing animals into settlements.

Growing settlements along newly constructed roads have secondary ecological effects which impact the ecological burdening of the environment (Iuell et al., 2003).

High biodiversity is typical of pristine water and riparian belts; such space has great value also due to the numerous ecosystem services which it offers (i.e. redressive services: redressing ecosystem processes, improving air quality, redressing climate, water treatment, redressing soil erosion, retention surfaces for floodwater, and also for cultural services, e.g. recreation). Special attention has to be paid when intervening in water and inshore land (which is permissible as per the Waters Act for arrangements of national importance which cannot be placed anywhere else without causing disproportionately high costs), particularly in the case of infrastructure along a watercourse. A mitigation measure is anticipated.

The measures defined in the Transport Development Strategy are strategic. Infrastructure corridors are not sited in space or drafted at the project level, which is why the strategic environmental assessment for individual infrastructural corridors may be prepared only in later planning phases.

The impact on attaining the objectives of the Biodiversity Conservation Strategy has been assessed as insignificant (grade C) if the Transport Development Strategy is included in general guidelines and mitigation measures which have to be observed in further phases of transport policy planning and when preparing spatial acts.

When observing guidelines, the impact on protected areas will be insignificant (grade C).

4.1.2 Impact assessment of sub-objectives of the Transport Development Strategy

Groups of transport measures are anticipated within the Strategy's sub-objectives which represent the new construction of transport infrastructure or renovation of the existing infrastructure, whereby numerous impacts on protected areas are possible, including qualifying/key species and habitat types. A general review of possible impacts of infrastructure on protected areas due to the siting of transport infrastructure in space is given below:

- Infrastructural interventions and activities in a natural environment have a negative effect on the natural distribution of habitat types and habitats of plant and animal species, their quality and integration of populations. When development is sited in areas with nature protection status, the impacts can be especially extensive and devastating because they can permanently degrade the level of preservation of natural environment and the protection objectives of protected areas and Natura 2000 areas. Special attention has to be paid in the case of siting routes in protected areas where the permanent loss of qualifying habitat types and habitats of species may occur and impact the integrity and connectivity of habitats of species.
- When bridging watercourses within new transport connections, direct and permanent negative impact on habitats of species and riparian HT may occur. The negative impact is particularly expected in the case of siting routes in protected areas where a permanent loss of areas of riparian qualifying HT and habitats of qualifying species of animals may occur. Priority habitat types are usually found along watercourses, which are also important habitats for animals living in the riparian zone (riparian birds, mammals such as bats, otter, beaver and other mammals, amphibians etc.).
- Road and rail infrastructure are line facilities which may intersect natural corridors of wild animals which they use for their daily or seasonal migration. Such lines are a barrier to wild animals (particularly mammals and amphibians, in some cases also birds and bats). Different negative impacts may thus affect these species. Permanent impacts on qualifying/key species are present during the operation of transport infrastructure, which may be divided into direct and long-distance. Roadkills have a direct impact, while the infrastructure facility in itself is a barrier to a migration path also for more remote populations of animals (long-distance impact). The fragmentation of habitats and interruption of flying/migration paths due to existing transport connections and planned ones have a negative impact on the integrity of protected areas. The impact may also be cumulative if several traffic routes cross migration corridors.
- Collisions with, and roadkills of, wild animals with vehicles, train constructions, power lines or aircraft is also possible. In the 2001-2013 period, 110 brown bears (*Ursus arctos*) were killed on our roads, 79 on the railway; no data is available for other qualifying species of large carnivore (Slovenia Forest Service, 2014). Due to environmental fragmentation at the local level, collisions with amphibians occur very frequently on transport infrastructure. Over 1,500 black spots of roadkilled amphibians have been registered in Slovenia, of which over 100 black spots have a very high frequency of roadkill. The most frequent victims are groups of brown frogs and toads; qualifying species of amphibians are seldom victims of roadkill. Presetnik et al. (2014) collected data on collisions of bats with vehicles for the Eurobats working area. It was established that all qualifying species of bat have been victims of collisions with vehicles on roads, and collisions with aircraft were also recorded only for Bechstein's bat (*Myotis bechsteini*). The record on collisions of bats with trains includes no data on qualifying species. The data thus show that victims of transport are not only bats which fly low (*Rhinolophus* and *Myotis*) but also those which fly higher.

- Noise has a negative impact particularly on birds and mammals and is not present only in the immediate vicinity of a facility, but beyond (long-distance impact). The newest technology enables the reduction of noise pollution in the natural environment. The increased level of noise due to new connections may have a negative impact on the size of animal populations, particularly during breeding (mostly birds and mammals). Noise may disrupt breeding and influence the size of local populations.
- Unsuitable lighting may also affect remote populations of animal species sensitive to light. Indirect and remote impacts of lighting through the reduction of insect populations would be seen particularly in those groups of animals which feed on them (e.g. bats which have shelters or give birth nearby or where they feed). Insects are important pollinators of plants and a decline in their population would have a negative impact on plant cycles. The impact of lighting during operations has been assessed as remote and permanent.
- Indirect and remote impacts on water and underground habitats during transport infrastructure operations may also cause a permanent release of pollutants caused by traffic flow and transport infrastructure maintenance (fuel residue, heavy metals from exhaust gasses, substances from wear to parts of vehicles, anti-freeze substances and sprays for treating roadside surfaces etc.). An indirect impact is also possible in railway operations when leaching hazardous substances from railway embankments which are used during regular maintenance (spraying with herbicides, maintenance of vehicles and tracks etc.). The impact is negligible the discharge of polluted rainwater from infrastructural facilities is suitably arranged. A more extensive impact may be caused by spillages of hazardous substances.

The impact assessment is presented below for individual sub-objectives of the Transport Development Strategy. The emphasis is on the fragmentation of habitats, which proved to be the key problem when siting transport infrastructure in space. It will be possible to assess individual measures more comprehensively in later planning phases (operational programmes or spatial plans) when more information is available about specific measures (spatial definition, technical solutions).

Assessment of sub-measure no. 1a

Groups of measures	Code	Measures
General	R.36	Modernisation of legislation and planning guidelines
	R.37	Development of a concept for maintaining the railway network
	Ro.41	Modernisation of legislation and planning guidelines
Railway	R.1	Koper–Ljubljana
	R.2	Zidani Most–Dobova (HR)
	R.3	Ljubljana–Jesenice (AT)
	R.6	Divača–Sežana (IT)
	R.7	Pragersko–Hodoš (HU)
	R.8	Maribor–Šentilj (AT)
	R.21	ETCS/GSM-R
Road	Ro.1	Draženci–Gruškovje motorway (HR)
	Ro.2	Karavanke Tunnel
	Ro.32	Traffic management, monitoring and counting, and information system

The general measures have no impact on protected areas, grade A.

The measures on the railway anticipate the construction of new lines and upgrading of existing ones. The measures on roads anticipate the construction of new roads. A negative impact on areas with

nature conservation status is possible, particularly in the case of siting new construction in these areas (high probability within the framework of measures R.1, R.3, R.6, R.8 and Ro.1).

General guidelines have to be observed on measures in the road and railway groups. Additional mitigation measures (grade C) are anticipated for R.1, R.3 and R.8:

- R.1 passes through the area of migration corridors of large carnivores and thus a negative impact may be expected on the cohesion of Natura 2000 areas whose qualifying species include bear, wolf and lynx: SAC Krim Hills-Menišija, SCI Notranjska triangle, SAC Trnovo Forest-Nanos, SAC Javorniki-Snežnik, SAC Vremščica;
- R.3 should avoid passing through protected areas or cross them to the least extent possible. Attention should be paid to the area of Šmarna gora, since the area is declared SAC Šmarna gora and EPO Šmarna gora-Skaručenska ravan, and Skaručenska ravan is a valuable natural feature.
- the traversing of migration paths of birds in the area of the Drava River is possible in R.8, which is defined as SPA Drava.

Assessment of sub-measure no. 1b

Groups of measures	Code	Measures
General	R.32	Multi-annual contract on the implementation of public services
	R.34	Modernisation of passenger train fleet
	R.37	Modernisation of legislation and planning guidelines
	Ro.42	Improvement of financial sustainability of the road network and the toll collection system
Railway	R.2	Zidani Most–Dobova (HR)
	R.3	Ljubljana–Jesenice (AT)
	R.4	Ljubljana Railway Hub (LRH)
	R.5	Ljubljana–Zidani Most
	R.8	Maribor–Šentilj (AT)
	R.9	Pragersko–Maribor
	R.10	Zidani Most–Pragersko
	R.21	ETCS/GSM-R
	R.22	Electrification
Road	Ro.1	Draženci–Gruškovje motorway (HR)
	Ro.2	Karavanke Tunnel
	Ro.12	Motorway network around Ljubljana
	Ro.32	Traffic management, monitoring and counting, and information system
	Ro.35	Filling stations for alternative fuels
Maritime	M.5	Port of Koper
Air traffic	A.1	Ljubljana Airport – rearrangement and upgrading of infrastructure
	A.2	Maribor Edvard Rusjan Airport
	A.3	Portorož Airport – extension of the runway

The general measures have no impact on protected areas, grade A.

The group of measures for the railway and road networks anticipate the construction of new routes and/or upgrading of existing ones. A negative impact on areas with nature conservation status is possible, particularly in the case of siting new construction in these areas (this is possible particularly

within the framework of measures R3, R.4, R.5, R.8, R.9, R.10 and Ro.1). R.8 is highlighted, since an additional mitigation measure is anticipated due to the possibility of crossing migration paths of birds in the area of the Drava River, which is defined as SPA Drava. Ro.12 is also problematic due to the high probability of intervening in the habitats of qualifying species of the Ljubljana Marshes.

Among the measures on the railway network, electrification (R.22) has a potential impact on protected areas (particularly SPA which are defined on the basis of the Birds Directive). The majority of lines in Slovenia are already electrified; the electrification of certain local lines is anticipated. The loss of individual birds due to collision with cables is possible; however, the impact will not be significant (grade B).

The observance of general guidelines suffices for other measures from the road and rail groups.

The measures for air transport anticipate arrangements at Brnik and Portorož airports. When arranging Portorož Airport (A.3 measure) interventions in areas with important nature conservation status may occur (the Sečovelje Salina Nature Park, Natura 2000, SPA, valuable natural feature, Ramsar wetlands – ID 586). A negative impact on the characteristics of the Sečovelje salt-pans is possible due to which they were declared an internationally important Ramsar locality (wetland), a Natura 2000 site and a protected area at the national level. Mitigation measures are anticipated, grade C.

Assessment of sub-measure no. 1c

Groups of measures	Code	Measures
General	R.31	Reorganisation of railway access charges
	R.35	Modernisation of goods train fleet
	R.37	Development of a concept for maintaining the railway network
	R.40	Developing the network into intermodal hubs and agglomerations according to demand
	Ro.42	Improving the financial sustainability of the road network and toll collection system
	M.21	Developing the network into intermodal hubs and agglomerations according to demand
	A.21	Developing the network into intermodal hubs and agglomerations according to demand
Railway	R.1	Koper–Ljubljana
	R.2	Zidani Most–Dobova (HR)
	R.3	Ljubljana–Jesenice (AT)
	R.4	Ljubljana Railway Hub (LRH)
	R.5	Ljubljana–Zidani Most
	R.6	Divača–Sežana (IT)
	R.7	Pragersko–Hodoš (HU)
	R.8	Maribor–Šentilj (AT)
	R.9	Pragersko–Maribor
	R.10	Zidani Most–Pragersko
	R.21	ETCS/GSM-R
	R.22	Electrification
Road	Ro.2	Karavanke Tunnel
	Ro.3	Development of the concept of stop sites on the motorway network
	Ro.12	Motorway network around Ljubljana
	Ro.32	Traffic management, monitoring and counting, and information

		system
	Ro.34	Developing the network into intermodal hubs and agglomerations according to demand
Maritime transport	M.1	Port of Koper – extension of piers 1 and 2
	M.2	Port of Koper – construction of pier 3
	M.3	Port of Koper – rearrangement of port infrastructure
	M.4	Port of Koper – deepening of entry channels
	M.12	
Air traffic	A.1	Ljubljana Airport – rearrangement and upgrading of infrastructure

The general measures have no impact on protected areas, grade A.

The group of measures for the railway and road networks anticipate the construction of new routes and/or upgrading of existing ones. A negative impact on areas with nature conservation status is possible, particularly in the case of siting new construction in these areas (this is possible particularly within the framework of measures R.1, R.3, R.4, R.5, R.6, R.7, R.8, R.9 and R.10). Mitigation measures (grade C) are anticipated for R.1, R.8 and Ro.12:

- R.1 passes through the area of migration corridors of large carnivores and thus a negative impact may be expected on the cohesion of Natura 2000 areas whose qualifying species include large carnivores: SAC Krim Hills-Menišija, SCI Notranjska triangle, SAC Trnovo Forest-Nanos, SAC Javorniki-Snežnik, SAC Vremščica;
- the traversing of migration paths of birds in the area of the Drava River is possible in R.8, which is defined as SPA Drava;
- Ro.12 may have possible negative impact on the area of the Ljubljana Marshes (LP, SPA and SAC Ljubljana Marshes);
- R.3 may pass through several protected areas. Attention should be paid to the area of Šmarna gora, since the area is declared SAC Šmarna gora and EPO Šmarna gora-Skaručenska raven, and Skaručenska raven is a valuable natural feature.

Among the measures on the railway network, electrification (R.22) has a potential impact on protected areas (particularly SPA which are defined on the basis of the Birds Directive). The majority of lines in Slovenia are already electrified; the electrification of certain local lines is anticipated. The loss of individual birds due to collision with cables is possible; however, the impact will not be significant (grade B).

The observance of general guidelines suffices for other measures from the road and rail groups.

The measures of maritime transport anticipate arrangements at the Port of Koper. When implementing measures M.1, M.2 and M.4, impacts on areas with nature conservation status may occur. The observance of general guidelines suffices.

The measures for air transport anticipate arrangements at Brnik Airport. A significant negative impact on protected areas is not expected, grade B.

Assessment of sub-measure no. 2a

Groups of measures	Code	Measures
General	R.32	Multi-annual contract on the implementation of public services
	R.34	Modernisation of passenger train fleet
	R.37	Development of a concept for maintaining the railway network

	R.38	Reorganisation of operations/timetables
	U.38	Management and information on transport and logistics
Railway	R.2	Zidani Most–Dobova (HR)
	R.4	Ljubljana Railway Hub (LRH)
	R.5	Ljubljana–Zidani Most
	R.22	Electrification
	R.24	Safety
Road	Ro.1	Draženci–Gruškovje motorway (HR)
	Ro.13	Connecting Gorenjska and Štajerska
	Ro.14	Connecting Štajerska and Dolenjska
	Ro.16	Road network around Maribor
	Ro.19	Celje city network
	Ro.20	Connecting Ormož with Ptuj/Maribor
	Ro.22	Connecting Kozjansko, Rogaška Slatina and hinterland with the central network
	Ro.32	Traffic management, monitoring and counting, and information system
	Ro.33	Environmental protection and road safety
Public transport	U.12	Maribor P+R

The general measures have no impact on protected areas, grade A.

The group of measures for the railway and road networks anticipate the construction of new routes and/or upgrading of existing ones. Negative impacts on areas with nature conservation status are possible, particularly in the case of siting new construction in these areas (this is possible particularly within the framework of measures R.4, R.5, Ro.1, Ro.13, Ro.14, Ro.16, Ro.19 and Ro.20). The observance of general guidelines suffices for measures from the road and rail groups.

Among the measures on the railway network, electrification (R.22) has a potential impact on protected areas (particularly SPA which are defined on the basis of the Birds Directive). The majority of lines in Slovenia are already electrified; the electrification of certain local lines is anticipated. The loss of individual birds due to collision with cables is possible; however, the impact will not be significant (grade B).

Assessment of sub-measure no. 2b

Groups of measures	Code	Measures
General	R.32	Multi-annual contract on the implementation of public services
	R.34	Modernisation of passenger train fleet
	R.37	Development of a concept for maintaining the railway network
	R.38	Reorganisation of operations/timetables
	U.38	Management and information on transport and logistics
Railway	R.3	Ljubljana–Jesenice (AT)
	R.4	Ljubljana Railway Hub (LRH)
	R.22	Electrification
	R.24	Safety

Road	Ro.4	Connecting Bela Krajina with Novo mesto
	Ro.5	Novo Mesto city network
	Ro.14	Connecting Štajerska and Dolenjska
	Ro.22	Connecting Kozjansko, Rogaška Slatina and hinterland with the central network
	Ro.32	Traffic management, monitoring and counting, and information system
	Ro.33	Environmental protection and road safety
Public transport	U.3	Grosuplje–Ljubljana corridor

The general measures have no impact on protected areas, grade A.

The group of measures for the railway and road networks anticipate the construction of new routes and/or upgrading of existing ones. Negative impact on areas with nature conservation status is possible, particularly in the case of siting new construction in these areas (this is possible particularly within the framework of measures R.3, Ro.4, Ro.14 and Ro.22). Public transport foresees measure U.3, which permits new construction. The observance of general mitigation measures suffices, with the exception of R.3; grade C.

Among the measures on the railway network, electrification (R.22) has a potential impact on protected areas (particularly SPA which are defined on the basis of the Birds Directive). The majority of lines in Slovenia are already electrified; the electrification of certain local lines is anticipated. The loss of individual birds due to collision with cables is possible; however, the impact will not be significant (grade B).

Assessment of sub-measure no. 2c

Groups of measures	Code	Measures
General	R.32	Multi-annual contract on the implementation of public services
	R.34	Modernisation of passenger train fleet
	R.37	Development of a concept for maintaining the railway network
	R.38	Reorganisation of operations/timetables
	U.38	Management and information on transport and logistics
Railway	R.3	Ljubljana–Jesenice (AT)
	R.4	Ljubljana Railway Hub (LRH)
	R.22	Electrification
	R.24	Safety
Road	Ro.2	Karavanke Tunnel
	Ro.6	Connecting Bohinj and Bled with Ljubljana
	Ro.7	Connecting Bovec, Tolmin and Cerklje with Ljubljana
	Ro.8	Škofja Loka city network
	Ro.13	Connecting Gorenjska and Štajerska
	Ro.15	Connecting Škofja Loka/Medvode with Ljubljana
	Ro.32	Traffic management, monitoring and counting, and information system

	Ro.33	Environmental protection and road safety
Public transport	U.1	Kamnik–Ljubljana corridor
	U.2	Kranj–Ljubljana corridor
	U.4 (ž)	Connecting Ljubljana with the airport
	U.4 (c)	Connecting Ljubljana with the airport

The general measures have no impact on protected areas, grade A.

The group of measures for the railway and road networks anticipate the construction of new routes and/or upgrading of existing ones. The measures in the public transport anticipate both. Negative impacts on areas with nature conservation status are possible, particularly in the case of siting new construction in these areas (this is possible particularly within the framework of measures R.3, R.4, Ro.4, Ro.6, Ro.7, Ro.8, Ro.13 and Ro.15, U.1, U.2 and U.4-railway). The observance of general guidelines suffices for measures of all three aforementioned groups; specific mitigation measures are also anticipated for measures R.3, Ro.7 and Ro.15.

Among the measures on the railway network, electrification (R.22) has a potential impact on protected areas (particularly SPA which are defined on the basis of the Birds Directive). The majority of lines in Slovenia are already electrified; the electrification of certain local lines is anticipated. The loss of individual birds due to collision with cables is possible; however, the impact will not be significant (grade B).

It should be emphasised that the variant for the measure U.4, which anticipates the improvement of bus connections to the airport (U.4 road), has proved the better variant. This variant does not anticipate any interventions in space. The measure is of an organisational nature (improvement of public transport: Airport-Ljubljana direct line) and does not present a significant impact on nature, while U.4 (railway) anticipates a new railway line, which may present significant negative impacts on attaining the environmental objective (possible route through the protected area of Šmarna gora and Sava-Medvode-Kresnice and several valuable natural features).

Assessment of sub-measure no. 2d

Groups of measures	Code	Measures
General	R.32	Multi-annual contract on the implementation of public services
	R.34	Modernisation of passenger train fleet
	R.37	Development of a concept for maintaining the railway network
	R.38	Reorganisation of operations/timetables
	U.38	Management and information on transport and logistics
Railway	R.6	Divača–Sežana (IT)
	R.22	Electrification
	R.23	Renovation and upgrading of other lines
	R.24	Safety
Road	Ro.21	Nova Gorica city network
	Ro.32	Traffic management, monitoring and counting, and information system
	Ro.33	Environmental protection and road safety

The general measures have no impact on protected areas, grade A.

The measure (R.6) for railways anticipates the construction of a new line or the upgrading of the existing one. The measure (Ro.21) for roads anticipates the construction of a new road. Negative impacts in areas with nature conservation status are possible, particularly when siting new construction in these areas. The observance of general guidelines suffices.

Among the measures on the railway network, electrification (R.22) has a potential impact on protected areas (particularly SPA which are defined on the basis of the Birds Directive). The majority of lines in Slovenia are already electrified; the electrification of certain local lines is anticipated. The loss of individual birds due to collision with cables is possible; however, the impact will not be significant (grade B).

Assessment of sub-measure no. 2e

Groups of measures	Code	Measures
General	R.32	Multi-annual contract on the implementation of public services
	R.34	Modernisation of passenger train fleet
	R.37	Development of a concept for maintaining the railway network
	R.38	Reorganisation of operations/timetables
	U.38	Management and information on transport and logistics
Railway	R.22	Electrification
	R.23	Renovation and upgrading of other lines
	R.24	Safety
Road	Ro.9	Connecting the Koroška region with the motorway system
	Ro.32	Traffic management, monitoring and counting, and information system
	Ro.33	Environmental protection and road safety

The general measures have no impact on protected areas, grade A.

The measure (R.6) for railways anticipates the construction of a new line or the upgrading of the existing one. The measure (Ro.21) for roads anticipates the construction of a new road. Negative impacts in areas with nature conservation status are possible, particularly when siting new construction in these areas. The observance of general guidelines suffices.

The measure (Ro.9) for roads anticipates the construction of a new road. Negative impacts in areas with nature conservation status are possible, particularly when siting new construction in these areas. Mitigation measures have to be observed, grade C.

Assessment of sub-measure no. 2f

Groups of measures	Code	Measures
General	R.32	Multi-annual contract on the implementation of public services
	R.34	Modernisation of passenger train fleet
	R.37	Development of a concept for maintaining the railway network
	R.38	Reorganisation of operations/timetables

	U.38	Management and information on transport and logistics
Railway	R.1	Koper-Ljubljana
	R.6	Divača-Sežana (IT)
	R.11	Postojna-Ilirska Bistrica-Šapjane (HR)
	R.21	ETCS/GSM-R
	R.23	Renovation and upgrading of other lines
	R.24	Safety
Road	Ro.17	Road network around Koper
	Ro.18	Connecting Ilirska Bistrica (HR) with the motorway system
	Ro.32	Traffic management, monitoring and counting, and information system
	Ro.33	Environmental protection and road safety

The general measures have no impact on protected areas, grade A.

The measures for railways anticipate the construction of new lines or upgrading of existing ones. The measures for roads anticipate the construction of a new road.

We particularly highlight measure Ro.18, which may very probably pass through the impact area of the Škocjan Caves Regional Park, which is under UNESCO protection and also included among Ramsar wetlands (ID 991). Due to the possibility of groundwater pollution and thus negative impacts on the biodiversity of caves, a specific mitigation measure is anticipated, grade C.

R.1 runs through the area of migration corridors of large carnivores, so negative impacts may be expected on the cohesion of Natura 2000 areas whose qualifying species include large carnivores: SAC Krim Hills-Menišija, SCI Notranjska triangle, SAC Trnovo Forest-Nanos, SAC Javorniki-Snežnik, SAC Vremščica. A specific mitigation measure is also anticipated for this measure, grade C.

Assessment of sub-measure no. 2g

Groups of measures	Code	Measures
General	R.32	Multi-annual contract on the implementation of public services
	R.34	Modernisation of passenger train fleet
	R.37	Development of a concept for maintaining the railway network
	R.38	Reorganisation of operations/timetables
	U.38	Management and information on transport and logistics
Railway	R.1	Koper-Ljubljana
	R.2	Zidani Most-Dobova (HR)
	R.3	Ljubljana-Jesenice (AT)
	R.4	Ljubljana Railway Hub (LRH)
	R.5	Ljubljana-Zidani Most
	R.11	Postojna-Ilirska Bistrica-Šapjane (HR)

Road	Ro.10	Connecting Hrastnik with Zidani Most
	Ro.11	Connecting Kočevje with Ljubljana
	Ro.12	Motorway network around Ljubljana
	Ro.13	Connecting Gorenjska and Štajerska
	Ro.14	Connecting Štajerska and Dolenjska
	Ro.15	Connecting Škofja Loka/Medvode with Ljubljana
	Ro.19	Celje city network
	Ro.32	Traffic management, monitoring and counting, and information system
	Ro.33	Environmental protection and road safety
Public transport	U.1	Kamnik–Ljubljana corridor
	U.2	Kranj–Ljubljana corridor
	U.3	Grosuplje–Ljubljana corridor
	U.4 (c)	Connecting Ljubljana with the airport
	U.11	Ljubljana P+R (park and ride)
	U.4 (ž)	Connecting Ljubljana with the airport

The general measures have no impact on protected areas, grade A.

The group of measures for the railway and road networks anticipate the construction of new routes and/or upgrading of existing ones. The measures in the public transport anticipate both. Negative impacts in areas with nature conservation status are possible, particularly when siting new construction in these areas (this is possible particularly within the framework of measures R.1, R.3, R.4 and R.5, and all measures for roads and public transport (except U.4-road). The observance of general guidelines is necessary for all three groups.

Additional mitigation measures are anticipated for R1 due to the high probability that it would pass through the areas of migration corridors of large carnivores and thus have a negative impact on the cohesion of Natura 2000 areas whose qualifying species include large carnivores: SAC Krim Hills-Menišija, SCI Notranjska triangle, SAC Trnovo Forest-Nanos, SAC Javorniki-Snežnik, SAC Vremščica.

Additional mitigation measures are also anticipated for Ro.11, due to the high probability that it will pass through the area of migration corridors of large carnivores, which is why a negative impact may be expected on the cohesion of Natura 2000 SAC Kočevsko (large carnivores are the qualifying species).

Specific mitigation measures are also anticipated for R.3, Ro.12 and Ro.15, due to the high probability of a negative impact on the integrity and cohesion of Natura 2000 network.

It should be emphasised that the variant for measure U.4, which anticipates the improvement of bus connections to the airport (U.4 road), has proved the better variant. This variant does not anticipate any interventions in space. The measure is of an organisational nature (improvement of public transport: Airport-Ljubljana direct line) and does not present significant impacts on nature, while U.4 (railway) anticipates a new railway line, which may present significant negative impacts on the attainment of the environmental objective (possible route through the protected area of Šmarna gora and Sava-Medvode-Kresnice and several valuable natural features).

Assessment of sub-measure no. 2h

Groups of measures	Code	Measures
General	R.32	Multi-annual contract on the implementation of public services
	R.34	Modernisation of passenger train fleet
	R.37	Development of a concept for maintaining the railway network
	R.38	Reorganisation of operations/timetables
	R.39	Reducing the environmental impacts
	U.31	Introducing integrated tickets
	U.32	Introducing on-demand public transport services
	U.33	Adjusting timetables (harmonised)
	U.35	Information platform
	U.36	Supporting non-profit groups in transport
	U.38	Management and information on transport and logistics
Railway Road	R.24	Safety
	Ro.7	Connecting Bovec, Tolmin and Cerklje with Ljubljana
	Ro.9	Connecting the Koroška region with the motorway system
	Ro.10	Connecting Hrastnik with Zidani Most
	Ro.11	Connecting Kočevje with Ljubljana
	Ro.19	Celje city network
	Ro.20	Connecting Ormož with Ptuj/Maribor
	Ro.21	Nova Gorica city network
	Ro.22	Connecting Kozjansko, Rogaška Slatina and hinterland with the central network
	Ro.31	Improving the accessibility of regions without a direct connection to the TEN-T network
	Ro.32	Traffic management, monitoring and counting, and information system
Public transport	Ro.33	Environmental protection and road safety
	U.13	Slovenia P+R
	U.14	Development of stations
	U.16	Enhancing intermodality (P+R, etc.)
Public transport	U.17	Cycle network
	U.17	Cycle network
Maritime	M.12	Highways of the sea and development of short-distance maritime traffic

The general measures have no impact on protected areas, grade A.

The road measures anticipate the construction of new roads or the reconstruction of existing ones. A negative impact in areas with nature conservation status is possible, particularly when siting new construction in these areas. All measures in the group discussed present the possibility of new construction; general guidelines have to be observed.

Due to the high probability of negative impacts on the integrity and cohesion of Natura 2000 network, measures Ro.7, Ro.9 and Ro.11 are particularly highlighted. Additional mitigation measures are anticipated for the aforementioned measures, grade C.

Assessment of sub-measure no. 3a

Groups of measures	Code	Measures
General	R.32	Multi-annual contract on the implementation of public services
	R.34	Modernisation of passenger train fleet
	R.37	Development of a concept for maintaining the railway network
	R.38	Reorganisation of operations/timetables
	R.39	Reducing the environmental impacts
	U.31	Introducing integrated tickets
	U.35	Information platform
	U.36	Supporting non-profit groups in transport
	U.39	Review/modernisation of local/regional central transport plans
Railway	R.1	Koper–Ljubljana
	R.3	Ljubljana–Jesenice (AT)
	R.4	Ljubljana Railway Hub (LRH)
	R.5	Ljubljana–Zidani Most
Road	Ro.12	Motorway network around Ljubljana
	Ro.32	Traffic management, monitoring and counting, and information system
	Ro.34	Developing the network into intermodal hubs and agglomerations according to demand
	Ro.35	Filling stations for alternative fuels
	Ro.36	Internalisation of external costs
	Ro.37	Restrictive parking policy
Public transport	U.1	Kamnik–Ljubljana corridor
	U.2	Kranj–Ljubljana corridor
	U.3	Grosuplje–Ljubljana corridor
	U.4 (ž)	Connecting Ljubljana with the airport
	U.4 (c)	Connecting Ljubljana with the airport
	U.11	Ljubljana P+R (park and ride)
	U.15	Separation of transport types – priority is given to public transport, elimination of congestion
	U.16	Enhancing intermodality (P+R, etc.)
	U.17	Cycle network

The general measures have no impact on protected areas, grade A.

The group of measures for the railway and road networks anticipate the construction of new routes and/or upgrading of the existing ones. The measures in the public transport anticipate both. A negative impact in areas with nature conservation status is possible particularly when siting new construction in these areas. General guidelines have to be observed.

Additional mitigation measures are anticipated for R1, due to the high possibility that it would pass through the area of migration corridors of large carnivores and thus a negative impact may be expected on the cohesion of Natura 2000 areas whose qualifying species include large carnivores: SAC Krim Hills-Menišija, SCI Notranjska triangle, SAC Trnovo Forest-Nanos, SAC Javorniki-Snežnik, SAC Vremščica.

Additional mitigation measures are also anticipated for measures R.3 and Ro.12 due to the high probability of negative effects on the integrity and cohesion of the Natura 2000 network (R.3: SAC Šmarna Gora, R.12: SPA and SAC Ljubljana Marshes). Additional mitigation measures are anticipated for the aforementioned measures, grade C.

It should be emphasised that the variant for measure U.4, which anticipates the improvement of bus connections to the airport (U.4 road), has proved the better variant. This variant does not anticipate any interventions in space. The measure is of an organisational nature (improvement of public transport: Airport-Ljubljana direct line) and does not present a significant impact on nature, while U.4 (railway) anticipates a new railway line, which may present a significant negative impact on the attainment of the environmental objective (possible route through the protected area of Šmarna gora and Sava-Medvode-Kresnice and several valuable natural features).

Assessment of sub-measure no. 3b

Groups of measures	Code	Measures
General	R.32	Multi-annual contract on the implementation of public services
	R.34	Modernisation of passenger train fleet
	R.37	Development of a concept for maintaining the railway network
	R.38	Reorganisation of operations/timetables
	R.39	Reducing the environmental impacts
	U.31	Introducing integrated tickets
	U.35	Information platform
	U.36	Supporting non-profit groups in transport
	U.39	Review/modernisation of local/regional central transport plans
Railway	R.7	Pragersko–Hodoš (HU)
	R.8	Maribor–Šentilj (AT)
	R.9	Pragersko–Maribor
	R.10	Zidani Most–Pragersko
Road	Ro.16	Road network around Maribor
	Ro.32	Traffic management, monitoring and counting, and information system
	Ro.34	Developing the network into intermodal hubs and agglomerations according to demand
	Ro.35	Filling stations for alternative fuels
	Ro.36	Internalisation of external costs
	Ro.37	Restrictive parking policy
Public transport	U.12	Maribor P+R
	U.15	Separation of transport types – priority is given to public transport, elimination of congestion
	U.17	Cycle network

The general measures have no impact on protected areas, grade A.

The groups of measures for the railway and road networks anticipate the construction of new routes and/or upgrading of existing ones. Negative impact in areas with nature conservation status is possible, particularly when siting new construction in these areas. General guidelines have to be observed.

Additional mitigation measures (grade C) are anticipated for R.8 due to the possibility of crossing migration paths of birds in the area of the Drava River, which is defined as SPA Drava.

Assessment of sub-measure no. 3c

Groups of measures	Code	Measures
General	R.39	Reducing the environmental impacts
	U.32	Introducing on-demand public transport services
	U.35	Information platform
	U.36	Supporting non-profit groups in transport
	U.39	Review/modernisation of local/regional central transport plans
Railway	R.1	Koper–Ljubljana
Road	Ro.17	Road network around Koper
	Ro.32	Traffic management, monitoring and counting, and information system
	Ro.34	Developing the network into intermodal hubs and agglomerations according to demand
	Ro.35	Filling stations for alternative fuels
	Ro.36	Internalisation of external costs
	Ro.37	Restrictive parking policy
Public transport	U.17	Cycle network

The general measures have no impact on protected areas, grade A.

The measures on the railway anticipate the construction of new lines and/or the upgrade of the existing ones. The measures on roads anticipate the construction of new roads. Negative impacts in areas with nature conservation status are possible, particularly when siting new construction in these areas. General guidelines have to be observed.

Additional mitigation measures are anticipated for R1 due to its route through an area of migration corridors of large carnivores, and thus a negative impact on the cohesion of Natura 2000 areas may be expected: SAC Krim Hills-Menišija, SCI Notranjska triangle, SAC Trnovo Forest-Nanos, SAC Javorniki-Snežnik, SAC Vremščica (large carnivores are the qualifying species).

Assessment of sub-measure no. 4a

Groups of measures	Code	Measures
General	R.36	Modernisation of legislation and planning guidelines
	Ro.41	Modernisation of legislation and planning guidelines
	U.34	Administrative capacities and training
	U.39	Review/modernisation of local/regional central transport plans
	M.34	Administrative capacities and training
Railway	R.21	ETCS/GSM-R
Maritime transport	M.11	Filling stations for alternative fuels
	M.12	Highways of the sea and development of short-distance maritime traffic

The group of measures has no significant impact on protected areas, grade A.

Assessment of sub-measure no. 4b

Groups of measures	Code	Measures
General	R.36	Modernisation of legislation and planning guidelines
	R.37	Development of the concept for maintaining the railway network
	Ro.41	Modernisation of legislation and planning guidelines
	U.33	Adjusting timetables (harmonised)
	U.36	Information platform
	U.37	Supporting non-profit groups in transport
	U.38	Management and information on transport and logistics
	U.39	Review/modernisation of local/regional central transport plans
	M.34	Administrative capacities and training
Road transport	Ro.32	Traffic management, monitoring and counting, and information system

The group of measures has no significant impact on protected areas, grade A.

Assessment of sub-measure no. 4c

Groups of measures	Code	Measures
General	R.37	Development of a concept for maintaining the railway network
	U.33	Adjusting timetables (harmonised)
	U.36	Information platform
	U.37	Supporting non-profit groups in transport
	U.38	Management and information on transport and logistics
	U.39	Review/modernisation of local/regional central transport plans
	M.34	Administrative capacities and training
Railway	R.21	ETCS/GSM-R
Road transport	Ro.32	Traffic management, monitoring and counting, and information system
Air traffic	A.10	Air navigation services
Maritime transport	M.13	Improving transport system safety

The group of measures has no significant impact on protected areas, grade A.

Assessment of sub-measure no. 4d

Groups of measures	Code	Measures
General measures	R.37	Development of a concept for maintaining the railway network
	U.35	Vehicle fleet modernisation
Railway	R.24	Safety
Road transport	Ro.33	Environmental protection and road safety

Air traffic	A.10	Air navigation services
-------------	------	-------------------------

The group of measures has no significant impact on protected areas, grade A.

Assessment of sub-measure no. 4e

Groups of measures	Code	Measures
General	R.34	Modernisation of passenger train fleet
	R.35	Modernisation of goods train fleet
	R.37	Development of a concept for maintaining the railway network
	R.38	Reorganisation of operations/timetables
	R.39	Reducing the environmental impacts
	U.35	Vehicle fleet modernisation
Railway	R.22	Electrification
Road transport	Ro.33	Environmental protection and road safety
	Ro.35	Filling stations for alternative fuels
	Ro.36	Internalisation of external costs
	Ro.37	Restrictive parking policy
Maritime transport	M.11	Filling stations for alternative fuels
Air traffic	A.11	Filling stations for alternative fuels

Electrification (R.22) has a potential impact on protected areas (particularly SPA which are defined on the basis of the Birds Directive). The majority of lines in Slovenia are already electrified; the electrification of certain local lines is anticipated. The loss of individual birds due to collision with cables is possible; however, the impact will not be significant (grade B).

Assessment of sub-measure no. 4f

Groups of measures	Code	Measures
General	R.34	Modernisation of passenger train fleet
	R.35	Modernisation of goods train fleet
	R.37	Development of a concept for maintaining the railway network
	U.35	Vehicle fleet modernisation
Railway	R.22	Electrification
Road transport	Ro.33	Environmental protection and road safety
	Ro.35	Filling stations for alternative fuels
Maritime transport	M.11	Filling stations for alternative fuels
Air traffic	A.11	Filling stations for alternative fuels

Electrification (R.22) has a potential impact on protected areas (particularly SPA which are defined on the basis of the Birds Directive). The majority of lines in Slovenia are already electrified; the electrification of certain local lines is anticipated. The loss of individual birds due to collision with cables is possible; however, the impact will not be significant (grade B).

Assessment of sub-measure no. 4g

Groups of	Code	Measures
-----------	------	----------

measures		
General	R.31	Reorganisation of railway access charges
	R.32	Multi-annual contract on the implementation of public services
	R.33	Enhancing financial sustainability
	R.37	Development of a concept for maintaining the railway network
	Ro.42	Improvement of financial sustainability of the road network and the toll collection system
	Ro.43	Development of a concept of road network maintenance (including road reconstruction at the secondary and tertiary levels)
	U.31	Introducing integrated tickets
Road transport	Ro.32	Traffic management, monitoring and counting, and information system
	Ro.36	Internalisation of external costs

The group of measures has no significant impact on protected areas, grade A.

Table 6: Impact on conservation objectives of protected areas

Conservation objectives	Impact assessment
<p>1. Conservation or attainment of a favourable status of plant and animal species and habitat types for which the Natura area was determined (the status of qualifying habitat types and qualifying species except birds is evident in the Report as per Article 17 of the Habitats Directive (92/43/EEC); the status of qualifying bird species is evident in the Report as per Article 12 of the Birds Directive (79/409/EEC).</p> <p>2. Conservation of the integrity of Natura areas in terms of preserving their ecological structures, functions and conservation potential</p> <p>3. Conservation of cohesion of Natura areas</p>	<p>When constructing new transport facilities and expanding existing ones (referring to roads, railway, ports and airports), the following may occur:</p> <ul style="list-style-type: none"> • <u>Loss of surfaces</u> of habitat species and habitat types and individual animals of certain species (direct, permanent impact, also cumulative) and • Direct or indirect <u>impact on the functionality</u> of a certain habitat. • New routes in space frequently fragment the <u>living space</u> of wild animals and cut across flight and migration paths or prevent the migration of certain groups of animals (particularly mammals and amphibians; in the case of crossing flight and migration corridors, collisions of birds and bats are also possible), which may permanently disable the movement of animals between individual populations and result in a decline in biodiversity in a certain area – a negative impact on the integrity and cohesion of Natura 2000. • <u>Collisions are possible</u>, particularly with mammals during daily migrations in areas of transport routes; road-kills of amphibians and collisions with birds are possible during migratory seasons (spring, autumn). In the case of regular and frequent road-kill, a decline in individual populations is also possible. <p>Negative impacts are possible due to the aforementioned for the attainment of conservation objectives in protected areas. Guidelines and mitigation measures are anticipated to avoid significant impact; grade C.</p>
<p>1. Conservation of protected areas and the observance of statutory protection regimes</p>	

The comprehensive assessment of the acceptability of individual measures within the Transport Development Strategy which could have a significant impact on nature protection areas and thus have to be assessed as per the Rules on the assessment of acceptability of impacts caused by the execution of plans and activities affecting nature in protected areas, has to be implemented at the level of a

detailed plan or intervention, as per Article 25.a of the Rules on the assessment of the acceptability of impacts caused by the execution of plans and activities affecting nature in protected areas (Official Gazette of the Republic of Slovenia, nos. 130/04, 53/06, 38/10, 03/11).

Transboundary effects

Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment demands that Member States define and consult on the cross-border effects when preparing plans and programmes (i.e. those which may influence other Member States).

The measures of the Strategy are not placed in terms of space and time, and are also not defined in detail. The measures were drafted at the strategic level, so it is not possible to define the probability of cross-border effects. This will be possible only at a later stage.

The measures on which the interventions for which an assessment in accordance with the SEA Directive is needed are based will be re-assessed, some of them at the level of operational programmes, and others at the level of plans. More data on the planned projects will be known then and at that point it will be possible to define measures which may have cross-border effects with more certainty. We further outline only the possibility of transboundary effects on the European Natura 2000 network:

The construction of motorways, expressways and railways without suitably arranged crossings for wild animals could cause remote cross-border impacts. Negative impacts are possible primarily on large carnivores (brown bear, wolf and lynx which are qualifying species of Natura 2000), whose habitats are very extensive and which migrate across several borders (the Dinaric-Alpine area for brown bear, lynx and wolf). New routes would additionally fragment the habitat of large carnivores. Closing the corridors of large carnivores may permanently disable the transition of individuals between populations. The conservation of corridors for large carnivores is a long-term and important nature conservation task of European significance. The integration of populations of large carnivores in the broader Alpine space with the vital Dinaric populations is of key importance for the continued existence of large carnivores in Central Europe and for the cohesion of Natura 2000 areas.

No cross-border impacts are expected if guidelines and mitigation measures are observed.

Findings in the case of verification of alternative solutions, provision of verified solutions and reasons for selecting the proposed solution

In order to assess the compliance of measures of the Transport Development Strategy with the environmental objectives, we divided the measures into two groups, i.e.:

- the group of general measures (so-called horizontal measures) and
- the group of alternative measures which differ from one another according to the transport mode (measures for railway transport, for road transport, for maritime transport and air transport).

The general (horizontal) measures have the following characteristics:

- express a high level of internal consistency with other measures,
- are mutually complementary;
- are necessary irrespective of the transport mode, and
- do not compete with any other group of measures.

The group of general measures has no alternatives. The application of general measures is necessary to attain the Strategy's objectives, regardless of the selected mode of transport. Since general measures are not an alternative to other groups of measures, their compliance with the environmental objectives is not being assessed.

The Environmental report includes the assessment results of individual groups of alternative measures relating to compliance with environmental objectives. It was established that almost all anticipated measures in public transport and the majority of measures for the road, railway, air and maritime networks comply or partly comply with the environmental objectives, whereby it will be necessary to

ensure at least the basic mitigation measures which arise from the legislation in order to reduce environmental impacts. Individual measures in the railway, road and air transport networks are assessed as conditionally compliant according to the respective environmental objectives. These measures of the transport policy are:

Railway transport:

- R.1 Koper–Ljubljana;
- R.3 Ljubljana–Jesenice.

Road transport:

- Ro.9 Connecting the Koroška region with the motorway system;
- Ro.10 Connecting Hrastnik with Zidani Most;
- Ro.11 Connecting Kočevje with Ljubljana;
- Ro.12 Motorway network around Ljubljana;
- Ro.15 Connecting Škofja Loka/Medvode with Ljubljana;
- Ro.16 Road network around Maribor;
- Ro.18 Connecting Ilirska Bistrica (HR) with the motorway system.

Air transport:

- A.2 Maribor Edvard Rusjan Airport;
- A.3 Portorož Airport.

The need to site conditionally environment-compliant transport measures has to be presented in a special acceptability study within which all possible negative environmental impacts have to be evaluated and to which additional mitigation measures have to be added to make the intervention environmentally acceptable.

The analysis of alternatives revealed that, by a suitable placing of spatial interventions and implementation of all necessary mitigation measures, all groups of alternative measures are acceptable from the environmental point of view. The most environmentally-friendly alternative is public transport; rail and maritime transport are more adequate alternatives than road transport, while air transport is the least suitable alternative.

Explanation of the possibilities of mitigating adverse effects with an indication of suitable mitigation measures and reasons for the specific selection of individual mitigation measures

4.3.1 Guidelines and mitigation measures for protected areas

General guidelines

When selecting measures to attain the transport objectives and sub-objectives of the Strategy, the following order should be observed:

- reconstruction of existing connections has priority over the construction of new traffic routes,
- construction of parallel connections with existing roads and railway connections has priority over siting in natural space,
- if it is not possible to avoid interference with pristine nature, interference with protected areas, EPO and areas of valuable natural features should be avoided,
- variants with less impact on migration paths of wild animals should be given priority (those with long sections in tunnels, covered burrows; those which cross fewer migration paths).

Appropriate passages for wild animals through the transport infrastructure have to be provided which are in line with positive practice in the European Union. Prior to planning the construction of an ecoduct, a study has to be implemented or the results of previous studies have to be

summarised to ensure the siting of a facility in a suitable place and in an appropriate manner (form, size and arrangement of the facility and surroundings). Facilities for the migration of small animals (amphibians, small mammals, reptiles) have also to be planned, i.e. on the basis of the results of previous studies or additional research if necessary.

In siting transport infrastructure, it is necessary to avoid locating facilities in Natura 2000 areas. If interventions are inevitable, interventions and activities must be planned in accordance with the Decree on special protection areas (Natura 2000 areas) (Official Gazette of the Republic of Slovenia, nos. 49/04, 110/04, 59/07, 43/08, 8/12) so that they preserve the integrity of Natura areas (in terms of preserving ecological structures, functions and protection potential) and the cohesion of Natura 2000 areas. Interventions and activities in Natura 2000 areas are designed to:

- preserve the natural distribution of habitat types and habitats of flora and fauna;
- maintain the appropriate abiotic and biotic characteristics of components of habitat types, their specific structures and natural processes or appropriate use;
- maintain or improve the quality of plant and animal habitats, especially those parts essential for the most important stages of their life cycles, such as breeding sites, group accommodation, hibernation, migration and feeding;
- maintain the habitat connectivity of populations of plant and animal species, and enable reconnection if the latter is broken.

In the implementation of interventions and activities planned according to the preceding paragraph, all possible technical and other measures must be carried out so as to minimise the negative impact on habitat types, flora and fauna and their habitats.

The electrification of railways: suitable technical solutions have to be found in order to prevent collisions with power lines in the areas of migration paths of birds. The consideration of the measure will reduce losses of individual birds, which will also increase the probability of attaining or preserving a favourable status of populations.

The period of implementing interventions adjusts to the life cycles of flora and fauna as much as possible:

- relating to animals, any interventions and/or activities should not coincide, or should coincide as little as possible, with periods when animals require peace or are unable to retreat, especially in the breeding period, when raising their young, in stationary or low mobility stages and hibernation,
- relating to plants, seeding, natural planting or other forms of reproduction are enabled.

By observing the measure, disturbances to the life cycles of animals and plants will be smaller and thus the probability of attaining or preserving the favourable status of the populations will be higher.

When siting transport infrastructure, it is necessary to avoid siting of facilities in protected areas. If the interventions cannot be avoided and if this is permitted under the Act on the protection of an individual area, it is necessary to observe the guidelines, starting points and conditions for nature protection in areas which are under protection regimes adopted in acts on protection.

Transport infrastructure should not be sited on coastal land which has retention surfaces and great biotic value (ecosystem services, high biodiversity). Such interventions may cause significant impacts on the ecological status of watercourses, a reduction of retention surfaces, including cumulative impacts on the biodiversity and ecosystem services of the area. According to Article 37 of the Waters Act, an exception is possible only on the basis of expert argumentation stating that the facility cannot be sited elsewhere without disproportionately high costs. Also, the costs of reducing ecosystem services in the case of interventions in the coastal area have to be included in the cost calculation. The observance of the aforementioned guideline will make the calculation of costs more concrete and adequately balanced. Less siting in the coastal area is anticipated, which will prevent significant negative impacts on the biodiversity of the coastal area.

In accordance with the objective of the Resolution on National Environmental Action Plan 2005–2012 (Official Gazette of the Republic of Slovenia, no. 2/06): ‘Increasing the share of different categories of protected areas by 10 per cent – to 22 per cent of Slovenian territory by 2014’ which has not yet been attained, protected areas are expected to expand in the future. Therefore, the siting of transport infrastructure in areas proposed for protection should be avoided in order to prevent possible conflicts and negative impacts on attaining the environmental objectives of nature conservation.

A new measure with the following title should be added to the Strategy: Provision of migration corridors for wild animals and safety against collisions with wild animals. The content of this measure should read:

- Reduction of the fragmentation of habitats of species by establishing passages for wild animals on existing traffic routes (especially for species from groups of mammals and amphibians). For this purpose, a study must be first conducted or data from previous monitoring of wild animal roadkill are summarised. The facilities for the migration of wild animals are then arranged on the basis of study findings. The measure must include a priority list of black spots of amphibian road-kill where crossing facilities are then arranged, including redirecting fences. To improve traffic safety (to prevent collisions with large mammals), the setting-up of chemical deterrent devices, sound devices, light reflectors and combined devices is possible on unfenced traffic routes, depending on location and traffic volumes.
- Ensure the preservation of existing migration paths with newly planned infrastructural corridors by constructing suitable facilities or other arrangements for the movement of wild animals (particularly carnivores, deer, bats and amphibians). For planning needs, the purpose study must be prepared in the first phase (or the results of the previous studies are summarised if available) which includes data on species whose migration will be affected by the intervention, and guidelines for the project designer to plan the facility or arrangement (location, form, size, greening of the facility and surroundings, etc.).

This measure will enable the connectivity of habitats (re-establishment or preservation of migration paths).

The comprehensive assessment of the acceptability of individual measures which could have significant impacts on nature protection areas has to be carried out at the level of a detailed plan or activity in accordance with Article 25.a of the Rules on the assessment of the acceptability of impacts caused by the execution of plans and activities affecting nature in protected areas.

4.3.2 Mitigation measures for individual sub-objectives

Sub-objective 1a

In R1, the following has to be observed: Appropriate passages for wild animals have to be provided in the area between Vrhnika and Logatec which will be planned according to good practice in the European Union.

R.3 should be designed to keep the impact on the integrity and functionality of the protected areas low or eliminate it completely (special attention has to be paid to the Šmarna Gora area).

In R.8, the following has to be observed: Appropriate technical solutions (e.g. the implementation of bridging in box-shape construction) have to be foreseen to prevent collisions of birds with power lines when spanning the Drava River.

Sub-objective 1b

In R.8, the following has to be observed: Appropriate technical solutions (e.g. the implementation of bridging in box-shape construction) have to be foreseen to prevent collisions of birds with power lines when spanning the Drava River.

In Ro.12, the following has to be observed: The priority is to invest in the measures of public passenger transport. If the completion of the motorway network is necessary, already existing traffic routes should be extended if possible, while interventions in the pristine environment have to be avoided to the greatest possible extent.

R.3 and Ro.12 should be designed to keep the impact on the integrity and functionality of protected areas low or eliminate it completely (special attention has to be paid to the Šmarna Gora area and the Ljubljana Marshes).

In A.3, the following must be observed:

- the expansion of the airport is permissible only if the number of airport operations decreases and the number of passengers increases;
- interventions in protected area of the Sečovelje salt-pans have to be avoided to the greatest extent possible;
- a negative impact on the characteristics of the Sečovelje salt-pans area has to be prevented, on the basis of which they were designated a Ramsar locality, Natura 2000 site and landscape park;
- the expansion of the airport into the habitats important for preserving biodiversity in the area of the Sečovelje salt-pans is not permitted.

Sub-objective 1c

In R.1, the following has to be observed: Appropriate passages for wild animals have to be provided in the area between Vrhnika and Logatec, which will be planned according to positive practice in the European Union.

In R.8, the following has to be observed: Appropriate technical solutions (e.g. the implementation of bridging in box-shape construction) have to be foreseen to prevent collisions of birds with power lines when spanning the Drava River.

In Ro.12, the following has to be observed: The priority is to invest in the measures of public passenger transport. If the completion of the motorway network is necessary, already existing traffic routes should be extended if possible, while interventions in the pristine environment have to be avoided to the greatest possible extent.

R.3 and Ro.12 should be designed to keep the impact on the integrity and functionality of protected areas low or eliminate it completely (special attention has to be paid to the Šmarna Gora area and the Ljubljana Marshes).

Sub-objective 2b

R.3 should be designed to keep the impact on the integrity and functionality of the protected areas low or eliminate it completely (special attention has to be paid to the Šmarna Gora area).

Sub-measure 2c

In Ro.15, the following has to be observed: The priority is to invest in the measures of public passenger transport. If new construction is necessary, existing traffic routes should be extended if possible. Interventions in the pristine environment should be avoided to the greatest extent possible.

R.3 should be designed to keep the impact on the integrity and functionality of the protected areas low or eliminate it completely (special attention has to be paid to the Šmarna Gora area).

Sub-objective 2f

In R.1, the following has to be observed: Appropriate passages for wild animals have to be provided in the area between Vrhnika and Logatec, which will be planned according to positive practice in the European Union.

In Ro.18, the following has to be observed: The road should be planned outside the area of the Škocjan Caves Regional Park (the area is under UNESCO protection and included among Ramsar wetlands). If the route passes through the influence area of the Škocjan Caves Regional Park, suitable technical measures have to be provided which enable the efficient prevention of remote groundwater pollution in the area of the Škocjan Caves.

Sub-objective 2g

In R.1, the following has to be observed: Appropriate passages for wild animals have to be provided in the area between Vrhnika and Logatec, which will be planned according to positive practice in the European Union.

In Ro.15, the following also has to be observed: The priority is to invest in the measures of public passenger transport. If new construction is necessary, existing traffic routes should be extended if possible. Interventions in the pristine environment should be avoided to the greatest extent possible.

R.3 should be designed to keep the impact on the integrity and functionality of the protected areas low or eliminate it completely (special attention has to be paid to the Šmarna Gora area).

Sub-objective 2h

In Ro.7, Ro.9 and Ro.11, the following has to be observed: The priority is to invest in the measures of public passenger transport. If new construction is necessary, existing traffic routes should be extended if possible. Interventions in the pristine environment should be avoided to the greatest extent possible.

In Ro.11, the following has to be observed: Appropriate passages for wild animals through transport infrastructure have to be provided which are in line with positive practice in the European Union.

Sub-objective 3a

In R.1, the following has to be observed: Appropriate passages for wild animals have to be provided in the area between Vrhnika and Logatec, which will be planned according to positive practice in the European Union.

R.3 and Ro.12 should be designed to keep the impact on the integrity and functionality of the protected areas low or eliminate it completely (special attention has to be paid to the Šmarna Gora area and the Ljubljana Marshes).

Sub-objective 3b

In R.8, the following has to be observed: Appropriate technical solutions (e.g. the implementation of bridging in box-shape construction) have to be foreseen to prevent collisions of birds with power lines when spanning the Drava River.

Sub-objective 3c

In R1, the following has to be observed: Appropriate passages for wild animals have to be provided in the area between Vrhnika and Logatec, which will be planned according to positive practice in the European Union.

Determination of a timeframe for implementing mitigation measures, the provision of implementation holders and method of monitoring the performance of implemented mitigation measures

The Report includes general guidelines and mitigation measures which have to be observed when drafting the Strategy (and included in the text of the Strategy) and mitigation measures which apply to individual sub-objectives (or transport measures within the framework of sub-objectives). All guidelines and measures have to comply with the following:

General guidelines have to be included in the Transport Development Strategy in the Republic of Slovenia. The author and drafter of the Strategy (PNZ d.o.o., DRI d.o.o. and the Ministry of Infrastructure) is responsible for implementation. During the strategic environmental assessment for the Transport Development Strategy in the Republic of Slovenia, the consideration of measures is supervised by the ministry responsible for the environment.

During the preparation of the plan for an individual measure, the implementation of specific mitigation measures which apply to individual transport measures within the framework of sub-objectives is the responsibility of the authors and drafters of the project documentation. The performance of implemented measures is monitored by the ministry responsible for the environment during the strategic environmental assessment for individual plans.

Monitoring

We suggest monitoring the status of protected areas or qualifying HT and species within the framework of monitoring the status of nature and biodiversity, which should be implemented with the following indicators:

- Wildlife roadkill
- Habitat fragmentation [SEBI013]

The changes recorded by indicators are verified every three years by the drafter of the Strategy, the Ministry of Infrastructure.

5 SOURCES OF DATA OR THE METHOD OF THEIR ACQUISITION AND METHODS USED TO FORECAST IMPACTS AND ASSESSMENTS

Bibliography and other sources

- Aquarius d.o.o. Ljubljana. June 2014. Starting points for the drafting of the Environmental Report for the programme of transport infrastructure development in the Republic of Slovenia.
- ARSO, 2003.
- Slovenian Environment Agency. Environmental indicators in Slovenia, 2014; website: <http://kazalci.arso.gov.si/>.
- Slovenian Environment Agency. Report on the status of the environment in Europe 2010 – Slovenia's contributions. Website: <http://www.arso.gov.si/soer/>.
- EEA, 2014: <http://www.eea.europa.eu/data-and-maps/indicators/fragmentation-of-natural-and-semi/fragmentation-of-natural-and-semi>.
- Forman, R. T. T., L. E. Alexander. 1998. Roads and their major ecological effects. Annual Review of Ecology and Systematics 29: 207-231.
- Geoportal ARSO. 2014. Digital spatial data are available at website: <http://gis.arso.gov.si/geoportal/catalog/main/home.page>.
- Green Infrastructure, 2007, 'Towards a green infrastructure for Europe — Developing new concepts for integration of Natura 2000 network into a broader countryside', EC study ENV.B.2/SER/2007/0076. (available at: http://ec.europa.eu/environment/nature/ecosystems/docs/green_infrastructure_integration.pdf 16. 6. 2014).
- Geografski obzornik, 2005. Figure: Slovenia's risk due to natural disasters. Volume 52, No. 1.
- http://gis.arso.gov.si/atlasokolja/profile.aspx?id=Atlas_Okolja_AXL@Arso, cited in June 2014.
- http://nfp-si.eionet.europa.eu:8980/Public/irc/eionet-circle/javna/library?l=/natura_dopolnitve/2000_sprejeto_2013&vm=detailed&sb=Title.
- <http://rkg.gov.si/GERK/>, cited in June 2014.
- <http://www.arso.gov.si/>, cited in June 2014.
- <http://www.naravovarstveni-atlas.si/nvajavni/>, cited in June 2014.
- <http://www.natura2000.gov.si/>, cited in October 2013.
- <http://www.zgs.gov.si/>, cited in June 2014.
- http://www.zrc-sazu.si/sites/default/files/komac_erozija_v_sloveniji.pdf, cited in October 2013.
- <http://www.zrsvn.si/>, cited in June 2014.
- http://sl.wikipedia.org/wiki/Geografija_Slovenije, cited in July 2014.
- Iuell B., Bekker H.(g.j.), Cuperus R., Dufek J., Fry G., Hicks C., Hlaváč V., Keller V., Rosell C., Sangwine T., Tørsløv N., Wandall B.le Maire. 2003. COST 341. Habitat Fragmentation due to Transportation Infrastructure. Wildlife and Traffic. A European Handbook for Identifying Conflicts and Designing Solutions.
- Landscape fragmentation in Europe. EEA. European Environment Agency. 2011. Copenhagen. Publication. (available at: <http://www.eea.europa.eu/publications/landscape-fragmentation-in-europe> (18 June 2014).
- MESP: Ministry of the Environment and Spatial Planning: *Poročilo o stanju okolja v Sloveniji 2009* (Report on the status of the environment in Slovenia 2009), documents for public debate, published on the Internet, report dated 9 July 2010.
- MI. 2014. Transport Development Strategy in the Republic of Slovenia - draft (June 2014, amended on July 2014, October 2014 - 9.5 version).
- Ministry of the Environment and Spatial Planning, March 2009: *Poročilo po 12. členu Direktive 79/409/EGS o ohranjanju prosto živečih ptic o izvajanju te direktive v obdobju 2005-2007* (Report on the basis of Article 12 of the Directive 79/409/EEC on the preservation of free-ranging birds

with regard to the implementation of this Directive in the 2005-2007 period). Ministry of the Environment and Spatial Planning, 2009.

- Report of the Republic of Slovenia as per Article 17 of the Habitats Directive (Ministry of the Environment and Spatial Planning, 2008).
- Presetnik, P., J. Matthews, B. Karapandža, 2014. Bat Casualties In Traffic - an EUROBATs region perspective. XIIIth European bat research symposium, 1 - 5 September 2014, Šibenik, Croatia.
- Natura 2000 management programme for the period from 2007 to 2013 (Ministry of the Environment and Spatial Planning, 2007)
- Cultural Heritage Register of the Ministry of Culture, September 2013.
- The EU Biodiversity Strategy to 2020, May 2011.
- Analysis of achieving the objectives of the Strategy for Biodiversity Conservation in Slovenia, Zavod Symbiosis, 2012.
- General nature conservation guidelines for arranging space, 1.1 version. Institute of the Republic of Slovenia for Nature Conservation, May 2013.
- Wildlife roadkills (data obtained from the official SFS – submitted via email from Mr Miha Marenče, received on 30 June 2014). Slovenia Forest Service, 2014.
- Water Management Plan (Decree on the river basin management plan for the Danube Basin and the Adriatic Sea Basin (Official Gazette of the Republic of Slovenia, no. 61/11)).

Legislation

- Environmental Protection Act (Official Gazette of the Republic of Slovenia, nos. 41/04 – ZVO-1, 20/06-ZVO-1A, 39/06-ZVO-1-UPB1, 70/08-ZVO-1B, 108/09 – ZVO - 1C, 48/12 – ZVO-1D, 57/12 – ZVO-1E, 97/2012 Constitutional Court Decision: U-I-88/10-11, 92/2013).
- Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds.
- Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.
- Cave Protection Act (Official Gazette of the Republic of Slovenia, no. 2/04).
- Act on the Ratification of the Convention on the Conservation of European Wildlife and Natural Habitats – the Bern Convention (Official Gazette of the Republic of Slovenia, no. 55/99).
- Act Ratifying the Convention on Biological Diversity (Official Gazette of the Republic of Slovenia, no. 30/96).
- Nature Conservation Act (Official Gazette of the Republic of Slovenia, nos. 96/04 –ZON-UPB2, 46/14 - ZON-C).
- Decree on the categories of valuable natural features (Official Gazette of the Republic of Slovenia, nos. 52/02, 67/03).
- Decree on protected wild plant species (Official Gazette of the Republic of Slovenia, nos. 46/04, 109/04, 84/05, 115/07, Constitutional Court Decision: 13.03.2008, 96/08, 36/09, 102/11).
- Decree on the protection of wild fungi (Official Gazette of the Republic of Slovenia, no. 58/11).
- Decree on protected wild plant species (Official Gazette of the Republic of Slovenia, nos. 46/04, 110/04, 115/07, 36/09).
- Decree on special protection areas (Natura 2000 areas) (Official Gazette of the Republic of Slovenia, nos. 49/04, 110/04, 59/07, 43/08, 33/13, Constitutional Court Decision no. 39/13, 3/14).
- Decree on habitat types (Official Gazette of the Republic of Slovenia, nos. 112/03, 36/09, 33/13).
- Decree on ecologically important areas (Official Gazette of the Republic of Slovenia, nos. 48/04, 33/13, 99/13).
- Rules on the assessment of the acceptability of impacts caused by the execution of plans and activities affecting nature in protected areas (Official Gazette of the Republic of Slovenia, nos. 130/2004, 53/06, 38/10, 03/11).
- Rules on the inclusion of endangered plant and animal species in the Red List (Official Gazette of the Republic of Slovenia, nos. 82/02, 42/10).
- Rules on the designation and protection of valuable natural features (Official Gazette of the Republic of Slovenia, nos. 111/04, 70/06, 58/09, 93/10).

Methods used

The results of the impacts of programme implementation on the protected areas and their integrity and cohesion were assessed in accordance with the Rules on the assessment of the acceptability of impacts caused by the execution of plans and activities affecting nature in protected areas (Official Gazette of the Republic of Slovenia, nos. 130/2004, 53/06, 38/10, 03/11). The amendment to the Rules on the assessment of the acceptability of impacts caused by the execution of plans and activities affecting nature in protected areas (Official Gazette of the Republic of Slovenia, no. 38/10) no longer permits grade X.

A – no impact/positive impact

B – insignificant impact

C – insignificant impact under conditions (while implementing mitigation measures)

D – significant impact

E – devastating impact

Size classes **A, B, C** ‘IMPACTS OF THE PLAN ARE NOT HARMFUL’.

Size classes **D, F** ‘IMPACTS OF THE PLAN ARE SIGNIFICANT AND HARMFUL’.

When preparing the assessment, the existing publicly available data on the status of wild flora and fauna, their habitats and habitat types were used.

The supplement was prepared without matrices and in compliance with Article 25.a of the Rules on the assessment of the acceptability of impacts caused by the execution of plans and activities affecting nature in protected areas, which states: “For operational programmes and other plans and their parts which are not plans in the field of spatial planning and all planned activities which cannot be established from their description or by drawing conclusions, because no concrete locations for the execution of plans or insufficient information on the type of execution of plans exist, the matrix from Annex 6 of these Rules shall not be complete when drafting the assessment of acceptability.” For individual measures within the Strategy which could have a significant impact on nature protection areas, a comprehensive assessment of acceptability which also includes matrices will be implemented for detailed plans or activities.

The ArcGIS 10.2 computer programme was used to produce images; the bases include 3D terrain and the border of Slovenia (source: GURS, 2008).

6 AUTHORS OF THE REPORT AND POSSIBLE SUBCONTRACTORS

Responsible holder:

Martin Žerdin, MSc, BSc in Biology

Leonida Šot Pavlovič, BSc in Biology

Associates:	Production of chapters:
Natalija Libnik, BSc in Biology	Acceptability assessment of the programme on protected areas, mitigation measures, data on the programme, the existing status, cartography
Mojca Vrbajnsčak, BSc in Biology	Acceptability assessment of the programme on protected areas, mitigation measures
Lea Pačnik, BSc in Biology	Acceptability assessment of the programme on protected areas, mitigation measures, data on the programme