

# **Implementation of the environmental policy in the Republic of Slovenia on the border area of the Mur/Mura River and in Goričko in the period from 2000 to 2005**



## Contents

1. INSTITUTIONAL FRAME FOR THE IMPLEMENTATION OF THE ENVIRONMENTAL POLICY IN SLOVENIA.....	2
2. GENERAL FINDINGS ON THE IMPLEMENTATION OF THE ENVIRONMENTAL POLICY IN SLOVENIA .....	2
3. AUDITED AREA .....	3
4. SURFACE WATER AND GROUNDWATER MANAGEMENT ON THE AREA OF THE MURA RIVER AND IN GORIČKO.....	3
4.1 Review of the pollution of the surface water and groundwater on the audited area .....	3
4.2 Found irregularities and inefficiencies .....	6
4.3 Recommendations .....	7
5. SOIL POLLUTION AND WASTE MANAGEMENT ON THE BORDER AREA OF THE MURA RIVER AND IN GORIČKO.....	7
5.1 Found irregularities and inefficiencies .....	8
6. THE PROTECTION OF BIOLOGICAL DIVERSITY AND THE REGION NATURA 2000 IN THE AREA OF THE MURA RIVER AND LANDSCAPE PARK GORIČKO .....	8
6.1 Found irregularities and inefficiencies .....	9
6.2 Recommendations .....	10

## **1. INSTITUTIONAL FRAME FOR THE IMPLEMENTATION OF THE ENVIRONMENTAL POLICY IN SLOVENIA**

The legal framework referred to the nature conservation in Slovenia for the period from 2000 to 2004 (audited period) included the following acts: Environment Protection Act, Nature Conservation Act, Water Act and provisions of regulations for each area, which define the issues of the above listed acts in detail. The strategic documents on the area of nature conservation which identify long-term and short-term objectives for the reduction of the pollution and measures for achieving the objectives are the following: National Environmental Action Programme (herein referred as NEAP) and on its basis adopted operational programmes. The NEAP includes the measures for the improvement of the conditions on the area of environment protection for the period from 1999 to 2008 (the measures by 2003 are described in detail). In November 2005 the Resolution on NEAP was prepared which includes the detailed measures for the period from 2005 to 2008.

From 2000 to 2004 Slovenia set an objective of adopting several regulations which regulate limited values of emission per pollution parameters, implementation and reporting on results of emission, imission monitoring and operational programmes for implementation of the measures for pollution reduction for each environmental area. The adoption of the regulations and preparation of the operational programmes was defined in the Slovene legislation but some regulations and programmes had to be adopted due to the EU accession process.

The auditee was the Ministry of the Environment and Spatial Planning (herein referred as Ministry of the Environment) and its two subordinate bodies – The Environmental Agency (herein EA) and the Inspectorate for the Environment and Spatial Planning (herein IESP).

## **2. GENERAL FINDINGS ON THE IMPLEMENTATION OF THE ENVIRONMENTAL POLICY IN SLOVENIA**

The Court of Audit of the Republic of Slovenia (herein referred as The Court of Audit) found out that in the audited period the Ministry of the Environment did not prepare regular reports on environment, and in the reports it did not appropriately present all necessary data on environment and indicators of monitoring of the environment.

The Court of Audit reviewed the NEAP and found out that in the period from 2000 to 2004 the Ministry of the Environment did not plan the objectives of the environmental policy in a way which would enable the evaluation of their effectiveness. For the objectives listed, there were no expected results and indicators for monitoring of the objectives were not identified. The measures which were planned for achieving the objectives did not include the assessment of how much they would help achieving the objective. The time schedule for the preparation and adoption of the measures referred to each objective was not planned appropriately – considering the exacting tasks which were set – therefore it was not possible to prepare and adopt them on time.

### **3. AUDITED AREA**

The audit was carried out on the area of 13 municipalities<sup>1</sup> on the border with Hungary, Slovenia and Austria, which cover 77 hectares<sup>2</sup> with the total population of 48.541.

### **4. SURFACE WATER AND GROUNDWATER MANAGEMENT ON THE AREA OF THE MUR/MURA RIVER AND IN GORIČKO**

The protection of the surface water and groundwater is defined by the regulations which foresee the implementation of the imission and emission monitoring and define the limited values of emission per pollution parameters. The operational programmes define the measures for the improvements of water pollution.

#### **4.1 Review of the pollution of the surface water and groundwater on the audited area**

On the basis of the data on imission monitoring of the quality of surface water which is carried out within the frame of the State monitoring and the data of international monitoring which is carried out by Permanent Slovene-Austrian Committee for the Mur/Mura River<sup>3</sup> it can be concluded that there is a trend of a decline in the Mur/Mura River pollution in the last twenty years<sup>4</sup> (from the biological quality to the chemical compounds in the river). The biological quality<sup>5</sup> of the Mura River was ranged among the worst in the 1970s, i.e. the fourth water quality level. Since the 1990s the monitoring carried out at water quality measurement stations Ceršak at Šentilj, on the entrance of the Mur/Mura River in Slovenia, and Petanjci in Gornja Radgona, at the end of the border with Austria, shows that common assessment of the quality of the Mur/Mura River is ranged in-between the second and third water quality level.

---

<sup>1</sup> Municipalities Šentilj and Gornja Radgona and 11 municipalities in region Goričko: Cankova, Dobrovnik, Gornja Radgona, Gornji Petrovci, Grad, Hodoš, Kobilje, Kuzma, Moravske Toplice, Puconci, Rogašovci, Šalovci and Šentilj.

<sup>2</sup> One hectare is equal to hundred square meters.

<sup>3</sup> Permanent Slovene-Austrian Committee for the Mur/Mura River was set up on the basis of the Agreement between FPR Yugoslavia and the Republic of Austria in 1956.

<sup>4</sup>The source is the Report: 10 years of the Permanent Slovene-Austrian Committee for the Mur/Mura River, September 2001, and data from data base 'eco water' of the State monitoring of the surface water of the Mur/Mura River.

<sup>5</sup>The biological water quality levels are defined on the basis of professional literature. There are four levels: the first level signifies biologically most appropriate water, and the fourth level the least appropriate water. The classification is carried out by biologists on the basis of sample analyses.

Table 1: The common assessment of the quality of the Mur/Mura River in the period from 1987 to 2003

COMMON ASSESSMENT																	
Water quality control point	year																
	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03
<b>Ceršak</b>	3-4	3	3	3	3	(2)-3	2-3	2-3	2 - 3	(2)-3	(2)-3	(2)-3	(2)-3	2-3	2-3	(2) -3	(2)-3
<b>Petanjci</b>	3-4	3	3	3	3	(2)-3	2-3	2-3	2 - 3	(2)-3	(2)-3	2-3	(2)-3	2-3	2-3	(2)-3	3
<b>Mota</b>	-	-	2-3	3	3	(2)-3	2-3	2-3	2 - 3	(2)-3	(2)-3	(2)-3	(2)-3	2-3	(2)-3	(2)-3	(2)-3

Source: AE; Reports on the implemented monitoring of the surface water for 2000, 2001, 2002 and 2003.

The findings of the Permanent Slovene-Austrian Committee for the Mur/Mura River show that the most important reason for the pollution of the Mur/Mura River on the border area in the 1970s was the waste water and the industrial effluents from the paper and cellulose industry on the Austrian side. The modernisation of the industry and construction of the waste water treatment plants helped to gradually improve the quality of water. In 2003 there was another pollution of the water identified (for ½ of the water quality level) between Šentilj and Gornja Radgona due to the municipal pollution in Slovenia.

The results of the analysis of the presence of chemicals in the Mur/Mura River show the trend of the reduction of the pollution. The pollution with organic components (measured as index of chemical need for oxygen) was reduced by about 75 per cent from the 1970s to the beginning of the 1990s and the contamination with organic chlorine components was reduced by about 90 per cent in the 1990s (measure as a parameter of the sum of each adsorbed halogen organic component). Eventhough the trends of decline in pollution were identified, the average annual values are still among the highest in Slovenia due to the waste water and industrial effluents. In the area surrounding the Mur/Mura River the monitoring found the presence of ammonium ion, nitrate, phosphorus in the period from 2000 to 2004, mainly due to extensive agriculture and pig farming. The presence of the components was among the highest in Slovenia eventhough it did not exceed the allowed levels. On the basis of the quality monitoring of the Mur/Mura River for freshwater fish living conditions it was found out that in 2003 on the water quality measurement station Mota the levels of phosphorus and ammonium exceeded the limits and the recommended level of nitrate was exceeded too.

The assessment of the chemical condition of the Mur/Mura River for 2002 and 2003 was carried out on all water quality measurement stations. In both years the chemical condition on water quality measurement stations Petanjci and Mota was assessed as good and on water quality measurement stations Ceršak (where the Mur/Mura River enters Slovenia) as poor.

The biggest polluters of the Mur/Mura River in Slovenia are pig – farming and paper industry. Due to the immoderate pollution of the Mur/Mura River the two companies had to implement the improvement programmes and construct appropriate waste water treatment plants. The improvement processes were not completed during the audit implementation. The control over the improvement programmes and measurements of emissions were regularly carried out by IESP.



In order to reduce the emission from water sources three operational programmes were adopted<sup>6</sup>. They envisaged the construction of waste water treatment plants and sewage systems in Slovenia and on the audited area. In order to reduce the presence of nitrate in the groundwater and surface waters action programme for protection of waters against nitrate pollution from agricultural sources for the period 2004–2008 was adopted<sup>7</sup>. In the period from 2000 to 2005 those programmes were not initiated although the municipalities invested in the municipal waste water treatment plants, waste water systems and drinking water supply. The financial sources were municipal budgets and taxes on waste water. The value of the constructed waste water treatment plants and sewage systems in the period from 2000 to 2004 on the audited area amounted to 8.844 thousand € (8,4 per cent from the municipal budgets and 17,4 per cent from taxes and 4,2 per cent from the State budget).

The monitoring of the pollution of the groundwater in Slovenia has been carried out since 1987. On the area of the Mur/Mura River, mainly on the fields of Prekmursko polje, Mursko polje and Apaško polje, there was groundwater pollution by pesticide identified (i.e. nitrate and atrazine). The average annual values of nitrate and atrazine were constantly above the allowed limits. Due to the ban on the use of atrazine, the use of the metal-chlorine occurred. In some areas the metal-chlorine exceeded the allowed values (even up to 20 times).

The pollution with pesticide is the consequence of the immoderate and incorrect use of pharmaceutical agents as weedicide, against the mildew and pests on cultivable areas. The

---

<sup>6</sup>Operational programme for the collection and treatment of urban waste water with the water-supply projects programme adopted in 1999; Operational programme for the collection and treatment of urban waste water in settlement areas with 2000-15 000 PE and below 2000 PE, adopted in 2001; Operational programme for the discharge and treatment of urban waste water from 2005 to 2017, adopted in 2004.

<sup>7</sup> The operational programme was set up on the basis of the Directive of the European Council 91/676/EEC (Nitrate Directive) and was adopted in 2004.

network of the groundwater and the fact that they are not explored makes it difficult to locate the sources of pollution. Due to the above described pollution on the area of the Mur/Mura River, there is a constant problem of exceeding concentration of nitrate in drinking water. In 2000 the concentration of nitrate constantly exceeded the allowed level in the four drinking water supply systems.

The operative programme for the protection of water against the pollution with nitrate from the agriculture began in 2004 therefore in the audited period the auditors could not assess the achieved results.

On the basis of the undertaken imission monitoring of the groundwater it is evident that the following agents were periodically present in the higher quantities in the groundwater on the field Apaško polje: nitrate, adsorpted organic components, atrazine, destil-atrazine and pesticide.

In order to solve the problem of water supply in the area of Pomurje, the municipalities located there signed a letter of intent to build and manage the common system of water supply for Pomurje region and to construct the system of waste and communal water treatment. Pomurje region is faced with the problem of pollution and the low level of groundwater, which is the main source of the drinking water on the area. The water shortage is evident in Goričko, other areas were faced with higher temperatures and less rainfall in the last few years. In the field Apaško polje there are two main water storages Podgrad and Segovci polluted due to agriculture (mainly by nitrates, there is also the presence of manganese and iron). In some areas there is a trend of lowering the groundwater level. The project of water supply has not started but the study on long term water supply in Pomurje region was developed in April 2005. The study presents different possibilities of solving the problem of water supply on the area. The final version of the solution has not been selected.

## **4.2 Found irregularities and inefficiencies**

In line with the Water Act it is necessary to adopt a national programme for water management and to prepare a plan of water management on the area of the Danube River by 2009. By August 2003 it was necessary to prepare and adopt a temporary plan of water management on that area. The Court of Audit found out that the Ministry of the Environment did not prepare the temporary plan in the set time limits.

In the audited period the Ministry of the Environment implemented all necessary measurements of pollution in line with the parameters, but it did not prepare nor publish the report on the implemented imission monitoring of the surface water for 2003 in due time. The Ministry did not prepare the report on the implemented monitoring of the surface water referred to the living conditions of the freshwater fish for 2003.

In reviewing the appropriateness of the adopted operative programmes The Court of Audit found out that in the programmes adopted in 1999 and 2001 the expected results of the programme, the indicators, criteria for monitoring the objectives, the methods of monitoring the programmes and reporting on the results were not identified. Operational programmes adopted in 2004 show some progress but they did not include the indicators and criteria for

monitoring the objectives. One programme did not define the annual objectives.

The Court of Audit assessed that the Ministry of Environment implemented regular control over the pollution on the audited area. Never the less there is a need to improve the communication and exchange of data between the bodies involved in the process in order to achieve transparency on management and monitoring of improvement procedures.

### **4.3 Recommendations**

The Court of Audit made the following recommendations to the Ministry of the Environment:

- The Ministry of the Environment should improve the international cooperation in defining the measures for achieving the objective of ranking the Mur/Mura River into the second water quality level (the result should be achieved on all water quality measurement stations along the Mur/Mura River on the border area),
- The Ministry of the Environment should prepare the instructions for the operative programmes which would define: the identification of objectives, expected results, measures for achieving the results, indicators for monitoring the set objectives, regular monitoring of the operative programmes and personal responsibility for the preparation of the reports on operative programmes,
- The Ministry of the Environment should provide better cooperation between the subordinate bodies in implementing the control over the pollution of surface and groundwater and in managing the improvement procedures. There should be continuous communication and the transparent procedure between the subordinate bodies.

## **5. SOIL POLLUTION AND WASTE MANAGEMENT ON THE BORDER AREA OF THE MUR/MURA RIVER AND IN GORIČKO**

On the area of the Mur/Mura River and in Goričko the soil pollution with nitrogen was identified – due to excessive use of fertilizers. The area is covered by upper soil stratum which is thin and its water retention is poor. Therefore the danger of groundwater pollution is more distinctive.

In 2003 the first monitoring of soil in Slovenia took place. It was carried out in the area of water supply system and their hydrographical bases which were endangered due to biopharmaceutical agents. On the field Apaško polje there were no components of atrazine, prometrin, diklobenil nor terbutilazin identified. But the substances of metolachlorine and terbutilazin were identified which is the evidence of the use of pesticide on the fields.

Among the sources of pollution there are landfill sites due to waste water leakage. On the audited area there is one regional landfill site, i.e. Puconci. This landfill site includes the old part which is already filled up and a new part in a function of a regional landfill site. The old part is not completely closed and the landfill management has carried out all the necessary monitoring of waste water. The inspections had not found any irregularities.

## **5.1 Found irregularities and inefficiencies**

The National programme of the environment protection defined three objectives for the reduction of the soil pollution. Furthermore the measures for achieving the objectives and time limits were identified. The costs for each measure were assessed, possible sources of financing and the responsible people were selected. The indicators, as e. g. the presence of individual parameter of pollution, for measuring the achieving of the objectives were not defined. The measures for achieving the objectives were not planned in such a way to be able to assess how the measurement can help to achieve the set objectives. We believe that objectives planned in such a way do not provide the means for the assessment of their realisation.

The measures that were planned in the NEAP referred to the reduction of the soil pollution were not implemented. All of those measures were transferred to the Resolution of the NEAP. The regulations for setting up and implementing the State monitoring of soil must be adopted by 2008, the review of the soil pollution must be ready by 2006. The time limits referred to measures on the area of soil pollution are consistent with the time limits defined by EU directives.

## **6. THE PROTECTION OF BIOLOGICAL DIVERSITY AND THE REGION NATURA 2000 IN THE AREA OF THE MUR/MURA RIVER AND LANDSCAPE PARK GORIČKO**

The protection of biological diversity can be achieved by defining and by setting up the specific protected areas, where specific protective directives are in place, mainly for safeguarding fauna and flora, as well as regulations defining activities for their preservation. The area which was audited had two specific protected areas defined: Landscape Park Goričko and Regional Park Mur/Mura on the basis of the decree on specific protected areas.

While the territory of the landscape Park Goričko was defined and in October 2003 formally founded, the territory of the Regional Park Mur/Mura has not been defined yet. It should cover the whole area of the Mur/Mura River from the River's entrance to Slovenia to its exit from Slovenia.



The Region Natura 2000 should cover the area along the Mur/Mura River from Gornja Radgona to Mota. The area on the border between Slovenia and Austria, i.e. from Šentilj to Gornja Radgona is a part of the Regional Park Mur/Mura but it is not included in the Region Natura 2000. The bordering area of the Mur/Mura River on the Austrian side is included in the Region Natura 2000.

## **6.1 Found irregularities and inefficiencies**

In line with the NEAP it would be necessary to prepare action plan of protection of the biological diversity and to adopt the system of legislation referred to the biological diversity by 2002 but the objective was not met. The objective of preparation the legislation was transferred to the Resolution of the NEAP and the time limit to 2008.

Eventhough the Landscape Park Gričko was formally founded in 2003, it did not started implementing all its activities in 2004 due to lack of personnel. The Court of Audit believes that the Landscape Park Goričko could perform better if the evaluation of the habitats was implemented and the management plan was adopted.

There should be a management plan for the Landscape Park Goričko adopted in six weeks after the Park's foundation. The minister responsible for the environment should adopt temporary guidelines until management plan is adopted. It was found out that none of the documents were adopted in due time. Temporary guidelines were adopted in November 2005.

Within the frame of the PHARE project which was intended to help establish the Landscape Park Goričko there was a letter of intent for establishing the trilateral park Goričko – Raab – Őrség prepared for the mutual co-operation of the Landscape Park Goričko, Austrian Park

Raab and Hungarian Park Órség. The Court of Audit believes that it would be helpful to define legal basis for their co-operation and on that basis sign an international agreement as it was foreseen in the contract for the implementation of the PHARE Project from 2003. Such an approach would help to plan and define the objectives and activities of the international co-operation and their monitoring. The international activities were coordinated and implemented during joint meetings, exhibitions, excursions and activities. In our opinion the activities should be clearly defined in order to meet the objectives and that could lead to closer international cooperation.

## **6.2 Recommendations**

The Court of Audit made the following recommendations to the Ministry of the Environment:

- The ministry should strengthen the international cooperation in nature conservation and in border areas management. The neighbour states should achieve joint objectives by defining the priorities of border areas management and by unifying the viewpoints and objectives referred to the sustainable use of water.
- The ministry should strengthen the cooperation between the Hungarian Park Órségi, Landscape Park Goričko and Austrian Park Raab and prepare joint management plan of the Park of the three countries. That would help to improve the exchange of experience and promoting best practice in park and protected areas management.