

PLANNING IN THE FIELD OF WATER MANAGEMENT

9.1 Planning in the field of water

Planning in the field of water management has a tradition reaching back many years in the CR. A new era of planning in the field of water started with the preparation of the CR for accession to the EU and the necessity of transposing the directives of the EU into the Czech legal system.

From the aspect of planning, 2003 can be considered crucial. Through Act No. 20/2004 Coll., Chapter IV – Planning in the Field of Water – the Water Act No. 254//2001 Coll., was amended, and thus brought into compliance with the Outline Directive for Water Policy of the EU.

The CR is now divided into 8 areas of river boards for which river basin area plans will be processed (see. Figure 9.1.1 – Areas of River Basins). The plans for areas of river basins are processed by river basin administrators, i.e., by the state River Board enterprises, in cooperation with regional authorities and central water authorities. The approval of the plans of river basin areas is in the competence of the relevant regions. In addition to the plans of the area river basins, a so-called Plan of Main Basins of the CR will also be created, which will be a strategic document of planning in the field of water designating the outline aims of protection and use of water in three international basins which are on the territory of the CR (see Figure 9.1.2 - Main River Basins of the CR). The MoA is responsible for creating the Plan of Main River Basins of the CR in cooperation with the MoE, the relevant central administrative authorities and regional authorities. The government approves the Plan of Main River Basins of the CR.

According to the Water Act, the process of planning in the field of water is divided up into individual stages. In 2003, the stage of preparatory work was commenced, which is followed up on an ongoing basis in 2004 with an analysis of the general and water management cha-



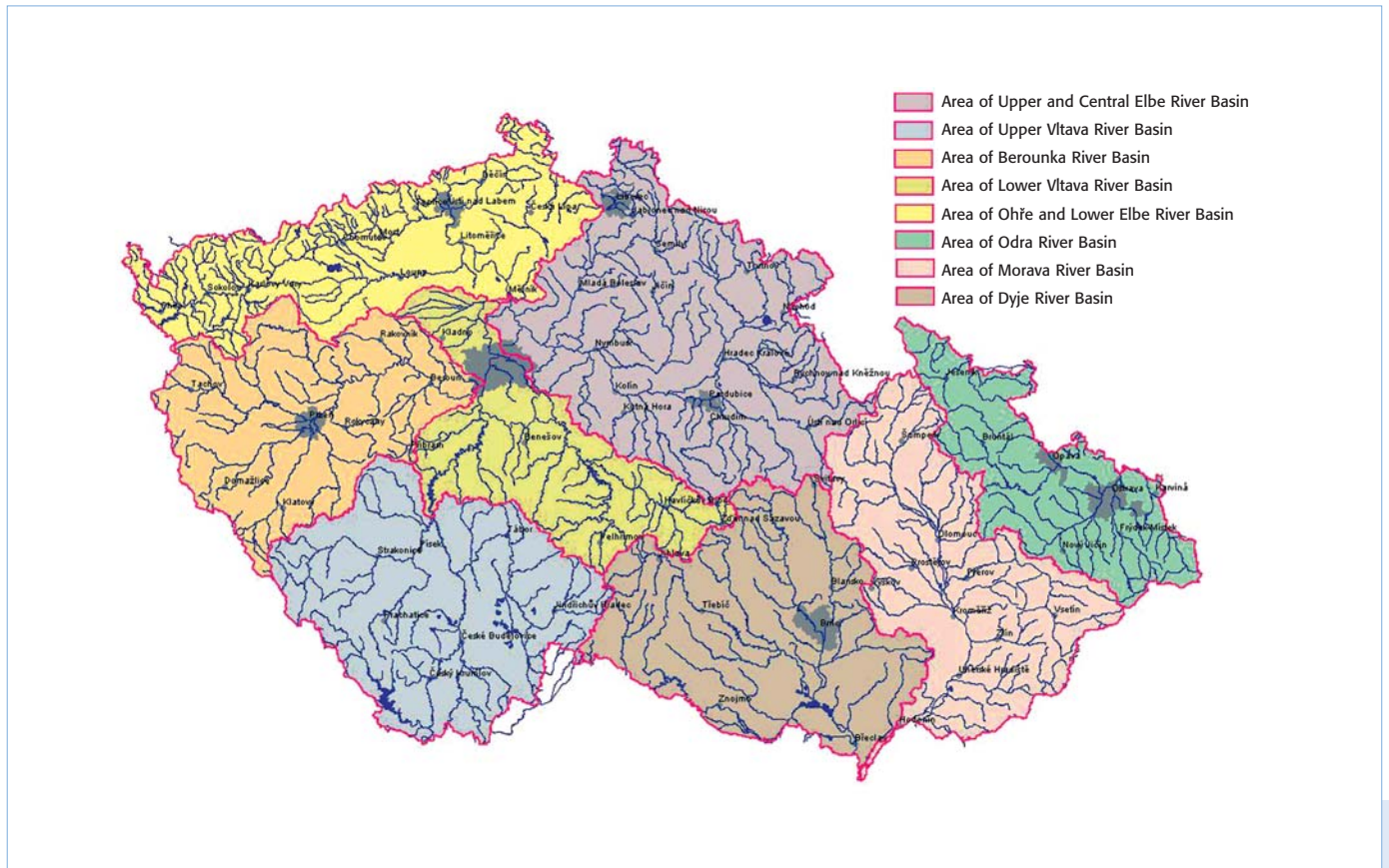
Bystřicka water reservoir - Morava river basin

acteristics of the river basin areas. One fundamental step in the process of planning the field of water was the definition of water units for surface and groundwater, which began in 2003 and was completed in the first quarter of 2004. The water units are the basic units where the member states of the EU are obliged to achieve a so-called “good state” by 22nd December 2015. Under the initial definition of water units in the CR, 1 022 units were defined for flowing surface water, and 76 water units were established for standing surface water. In addition, 137

units were defined for groundwater. The initial definition of water units was ensured by the WMRI T.G.M. in cooperation with the river basin administrators.

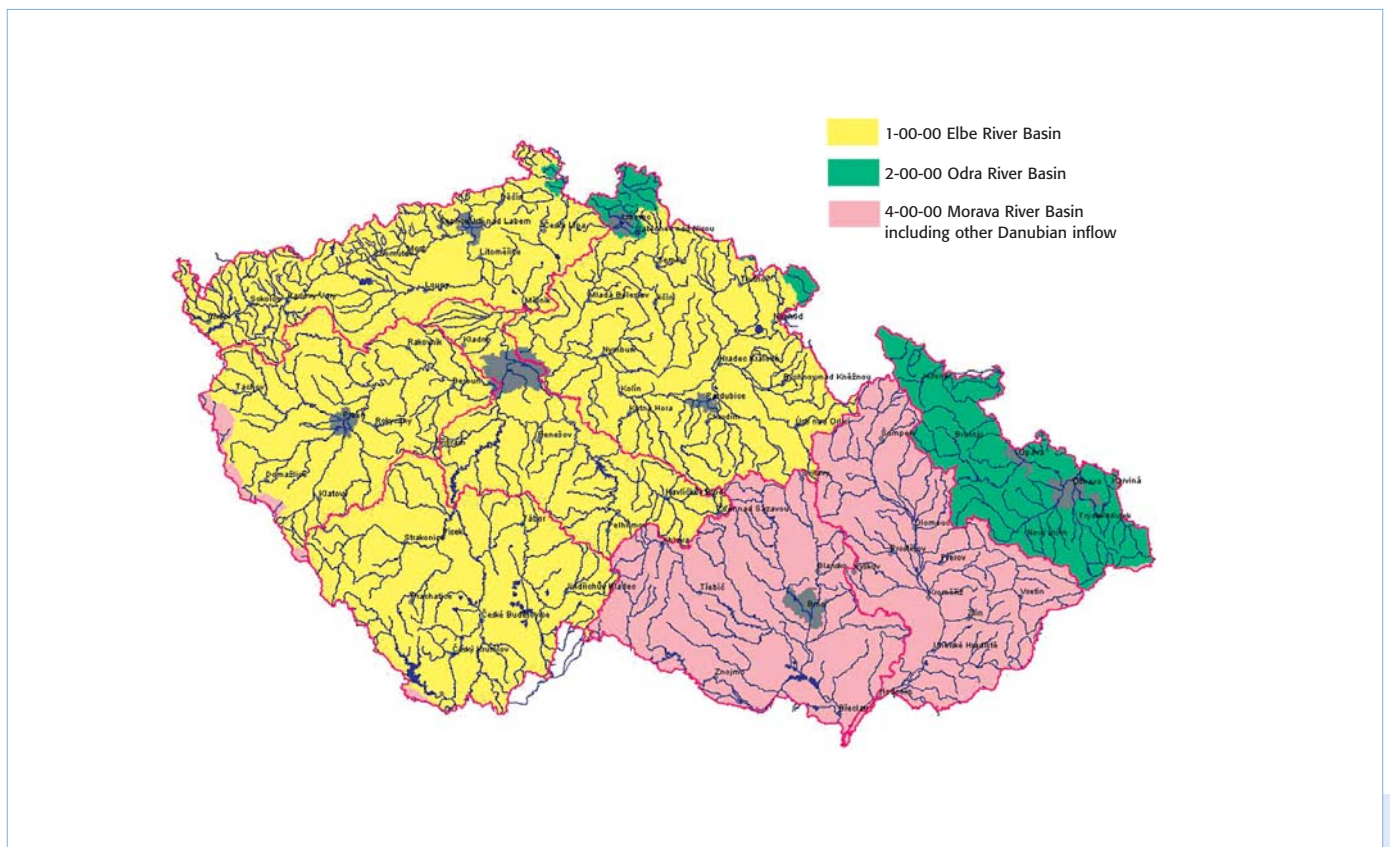
In 2003, the Twinning Project Implementation of Outline Directive for EU Water Policy in the CR, which was carried out at the MoE, continued. Under this Twinning Project, the methods and techniques described in the methodological materials of the European Commission were tried out in the environment of the Czech Republic. The main outputs of

Figure 9.1.1 Areas of River Basins



Source: MoA

Figure 9.1.2 Main River Basins of the CR



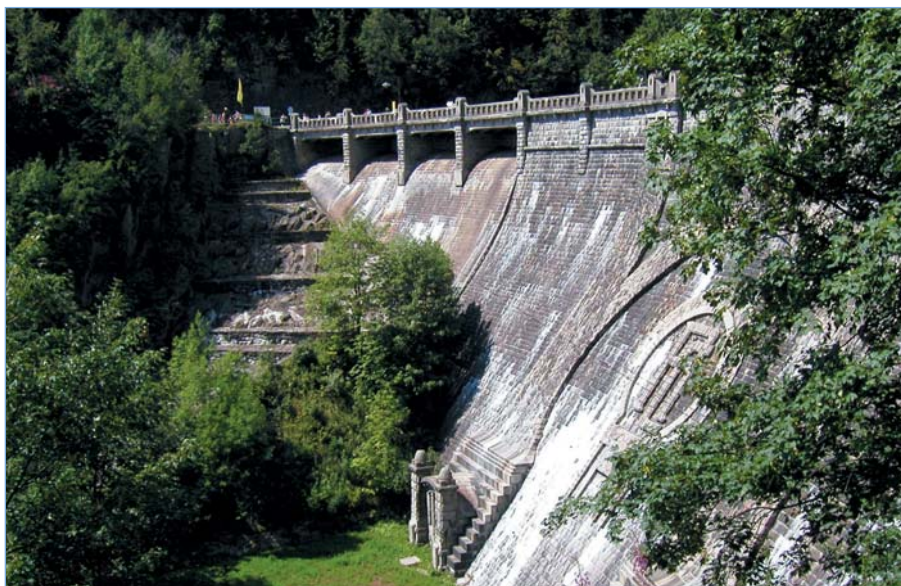
Source: MoA

this project are the Pilot Plan Orlice and the “Manual for Planning in River Basins of the CR – Practical Manual for Implementation”. The manual became the basic methodological material for planning in the field of water in the CR, and will be developed and augmented yet further according to the needs for implementation of the directives of the EU.

In addition to the Twinning Project for Implementation of the Outline Directive of EU Water Policy in the CR, the joint Czech-Belgian project “Heavily Influenced Water Units – Methods and Their use in Case Study in the Elbe Basin” was undertaken and is still underway. The output for 2003 from this project is the methodology for provisional identification and the definition of heavily influenced (and artificial) water units and the verification of this methodology in pilot territories.

In order to ensure the process of planning in the field of water at the national level and at the level of the individual areas of river basins, the Committee for Planning in the Field of Water was established at the MoA, and Committees for Plans of Area River Basins were established for the relevant river basin administrators. The Committee for Planning in the Field of Water at the MoA is an advisory body of public administration which ensures the coordination of the planning process. The committee consists of representatives of the central water authorities, river basin administrators and significant administrators of small watercourses and also of representatives of regional authorities, significant water users, and research and scientific institutions. The committee has fifty members. In 2003, it dealt primarily with the coordination of preparatory work necessary for the processing of the initial characteristics of the individual river basin areas. The committee for area river board plans at the individual river board administrators have a structure adapted to the relevant area water boards. Generally speaking, in addition to administrators of river boards, they also contain representatives of regional authorities and regional councils, and other subjects will be added to them on an ongoing basis in relation to the processing of plans.

The MoA and the individual river basin administrators have established a separate section dedicated to planning in the area of water on their Internet pages as one of the main instruments for providing information to the public about the process of planning in the field of water. These pages contain information about activities during planning in the field of water, minutes from the meetings of the committees and of any working groups, methodological and legislative materials and other necessary documents and information.



Labská water reservoir - Elbe river basin

9.2 Plans for development of water supply and sewerage systems of the regions

In 2003, in connection with the preparation of the Plans for the Development of Water Supply and Sewerage Systems (referred to hereinafter as “PDWSSS”), the MoA inspected adherence to the conditions for processing of PDWSSS given by Act No. 274/2001 Coll., accompanying decree No. 428/2001 Coll. for this act, by methodological instruction of the MoA ref. No. 10534/2002-6000 and by conditions given in the valid contracts for work and in their addenda.

The MoA ensured the coordination of further procedure for the processing of the individual regional PDWSSS. This coordination on the part of the MoA is ensured outside the other activities of participation at the meetings of the steering committees, which have been established in every region and which fulfil the function of coordination body responsible for the processing of PDWSSS and the subject ensuring the uniform approach of all parties making out PDWSSS, which is a basic condition for the processing of the concept for the development of water supply systems and sewerage systems on the territory of the state pursuant to section 29, letter d) of Act No. 274/2001 Coll. From the aspect of the content of the PDWSSS, attention is paid in particular to the problem areas of demographic development of the population, the development of specific needs for water, the solution to the economic part of PDWSSS (adherence to methodological instruction of MoA ref. No. 20494/2002-6000), processing of PDWSSS database.

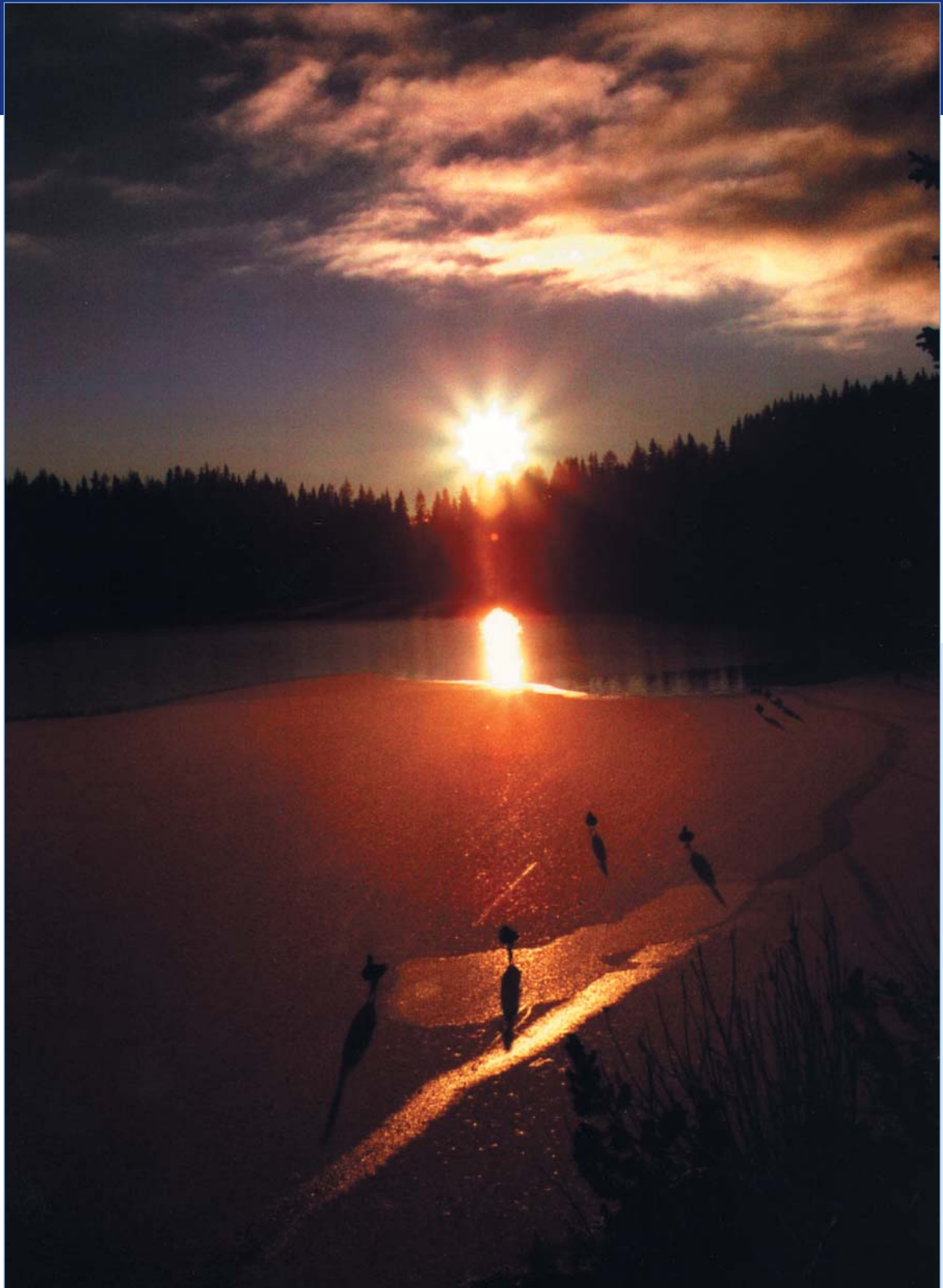
With the aim of ensuring the unified approach of those making out PDWSSS and performing the requirements of regional authorities and those making out PDWSSS for a technical and eco-

nomic guarantee, the MoA processed and issued or is preparing the following materials:

- data for economic part – a realistically fulfilable volume of resources for every region (in millions of CZK/year) was designated around which the draft for the time implementation of the measures should oscillate which ensures the implementation of the relevant directives of the Council of the EU, implementation of systems for supply of drinking water and removal and treatment of waste water (letter ref. No. 36 623/2003-7330 of the date 30th September 2003),
- definition and interpretation of the term “AGGLOMERATION”. The material was prepared as appendix No. 26 of the methodological instruction for processing PDWSSS ref. No. 10 534/2002-6000,
- concept for the removal and treatment of waste water focussing primarily on dealing with this issue in small and very small municipalities (approx. 3 800 municipalities with up to 500 inhabitants out of the total number of 6 305 municipalities). This concept also covers conditions for the application of centralised and local (individual) solutions for removing and treating waste water.

The MoA organises joint working meetings with representatives of the regions and those preparing PDWSSS with the aim of helping with coordination work, inspecting the application of methodology for processing PDWSSS, including mutual exchanges of experience and current information.

At the end of 2003, it was stated at discussions of the steering committees that there are as yet no problems which might threaten the quality, scope and deadlines for the processing of PDWSSS which are designated in the contracts for work and in any addenda thereto.



INTERNATIONAL RELATIONS

10.1 International cooperation on border waters

In 2003, international cooperation continued on border waters with Germany, Austria, Poland and Slovakia.

On 13th – 15th October 2003, in Bad Tölz, FRG, **the 6th meeting of the Czech-German Commission for Border Waters** (the Commission) was held. It discussed the results of the 5th meeting of the Standing Committee for the Bavarian Border Section, which was held on the dates 28th to 30th April 2003 and the 5th meeting of the Standing Committee for the Saxony Border Section, which was held on the dates 22nd to 24th September 2003. There was also discussion of the procedure for processing the principles of the individual areas of cooperation on border waters according to Article 5 of the Treaty between the CR and FRG concerning cooperation on border waters in the field of water management. This involved in particular the “Fundamentals for Direct Cooperation of Relevant Bodies and Specialist Offices”, “Fundamentals for Coordination of Administrative Proceedings” and “Fundamentals for Planning, Preparation and Carrying Out of Water Management Measures and Maintenance of Watercourses and for Construction, Operation and Maintenance of Water-Management Facilities”. The Commission dealt with tasks associated with the implementation of the outline directive 2000/60/EC on border waters, there was a discussion of the cooperation with the Permanent Czech-German Border Commission and of the issue of the list of border waters, stable accident profile on the border watercourse of the Elbe and questions associated with the continuation of work on the elimination of flood damage from August 2002 in the Saxony section of the state border. The intention “Customs Complex and

Services for Motorists at the Border Crossing Pavlův Studenec – Bärnau” was discussed as a new point of the Commission’s programme.

On the dates 7th – 11th April 2003, **the 11th meeting of the Czech-Austrian Commission for Border Waters** (the Commission) was held in Gmünden, Austria. The Commission approved the results of the work carried out after its 10th meeting and imposed tasks on experts of both treaty parties in the individual areas of cooperation. One of the main tasks of the meeting was to complete and approve the reworked “Directive for Warning Service on Czech-Austrian Border Waters” on the basis of experience from the flood in August 2002.

In the case of cooperation on border waters with Austria, special attention was given to the quality of water in the Dyje and the Pulkava, which are influenced by the discharge of waste water from a chemical plant in Pernohofen. From the “Report on Results of Investigation into Water State in the Dyje and Pulkava in 2003” processed by the WMRI T.G.M. and “Report on Monitoring of Water Quality in the Border Rivers Morava, Dyje and the Dyje Canal in 2003” prepared by the Morava River Board, s.e., it is evident that from the aspect of the chemical and biological analysis, the watercourses Dyje and Pulkava display no exceptional worsening of water quality, and the ascertained state did not differ significantly from that in 2002. At this meeting, the Austrian party acceded to the expansion of the joint “Programme of Investigation 2003” for the Dyje and Pulkava to include bacteriological analyses and evaluations of toxicity.

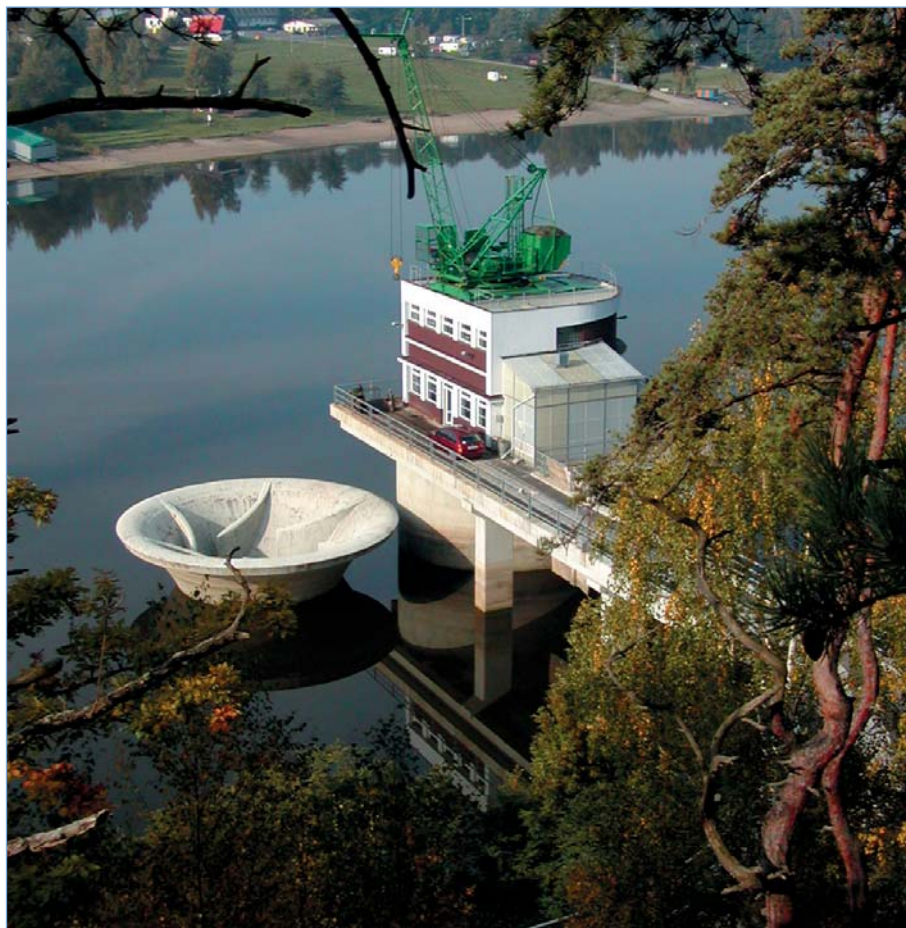
The “Report on the Monitoring of Water Quality in the Border Section of the Lužnice in 2003” was prepared by the Vltava River Board, s.e., and was intended to evaluate the influence of the company AGRANA-Stärke along with other communal sources of pollution on the river Lužnice. The results provi-

ded adequate information about water quality and were identical with the previous years. Discussions in 2003 demonstrated that on the territory of the CR there was no significant influencing of water quality as a result of the discharge of waste water from Austrian industrial plants.

At the 11th meeting of the Commission, the Czech party gave the Austrian party the group of areas covered in the newly prepared agreement concerning cooperation between both states on border waters. The Austrian party will make an expression on the proposal after internal Austrian discussion.

In 2003, on the days 16th – 18th September, **the 5th Meeting of the Representatives from the Governments of the CR and Poland for Cooperation on Border Waters was held.** At the meeting, there was discussion of the reports on the activities of the individual working groups, and the work plans of these groups for the future period were approved. The representatives took due note of the updated fundamentals for cooperation and the accompanying agreements processed by the individual groups. The representatives approved the results of construction approval proceedings and the billing of work carried out on a joint basis and took due note of the information about the state of quality of border waters and about the investment measures on these waters.

Questions of the influence of the planned reservoir Ratiboř and the weir Kopyto were discussed. On the basis of a feasibility study of the construction Ratiboř, the Working group for hydrology, hydrogeology and the flood service in the future period will evaluate the expediency of initiating work on a joint forecast model for evaluation of the influence of this reservoir on the groundwater regime, and it will also monitor and measure surface and groundwater in the current scope. The Working group for hydrology, hydrogeology and the flood service, working group



Hracholusky water reservoir - Vltava river basin

10.2 International and regional cooperation in the basin of the European rivers the Elbe, the Odra, the Danube and the Treaty on the Protection and Use of Border Watercourses and International Lakes

The Czech Republic has been a signatory to the Treaty for the Protection and Use of Border Watercourses and International Lakes (the Treaty) since May 2000. On the dates 26th to 28th November 2003, in Madrid, the 3rd meeting was held of the parties to the Treaty, in which representatives of the Czech Republic also participated.

The meeting confirmed the undertakings adopted in Helsinki in June 1997 and in the Hague in March 2000 and emphasised the necessity of multilateral and bilateral cooperation in the protection of water extending beyond the borders of states pursuant to article 2, paragraph 6 of the Treaty. One important step was the addition of article 25 of the Treaty, which allows countries which are not part of the ECE/UN to accede to the Treaty. This fact has particular significance where member states share border waters or entire basins with non-member states. In their declaration, the participants at the 3rd meeting of parties to the Treaty appreciated the adoption of a “Protocol of Civil Liability and Compensation for Damage Caused by the Effects of Industrial Accidents on Waters Extending Beyond State Borders” in Kiev in May 2003, they took due note of output from the meeting of signatories of the Protocol Concerning Water and Health and undertook to continue helping the countries of eastern Europe, the Caucuses and Central Asia in creating environmental strategies.

Under the Treaty, the CR continued in cooperation with Slovakia on the work for the Pilot Project Morava, as part of the international project for the verification of the ECE/UN directive for the monitoring and evaluation of water quality in border waters. In cooperation with Slovakia and international consultants, the report “Recommendations for Monitoring and Evaluation of Border Water in the Basin of the River Morava” was completed and published.

Despite the fact that Czech experts actively participated in the preparation of the “Protocol Concerning Civil Liability and Compensation for Damage Caused by the Effects of Industrial Accidents on Waters Extending Beyond State Borders”, at the 5th ministerial conference “Environment for Europe” in 2003 in Kiev, the CR did not sign the protocol, like other EU member states which are

informed the representatives of the monitoring and evaluation of groundwater reserves in the area of Police nad Metují – Kudova Zdrój, Adršpach – Krzeszów and the basin of the Stěnava and informed them of the monitoring in the area of the influence of the brown-coal mine Turów. The representatives tasked this working group with the completion of the formulation of conclusions concerning the influence of the mine Turów on the territory of the CR and with the submission of this formulation at the 6th meeting of the representatives in 2004 for approval.

In 2003, work continued on the preparation of the new Agreement between the Government of the CR and the Government of Poland on Cooperation on Border Waters (the Agreement) initiated in 2001. The agreement should replace the now outdated Treaty Between the Government of the Czechoslovak Republic and the Government of the Polish People’s Republic Concerning Water Management on Border Waters from the year 1958. The 3rd and 4th rounds of expert negotiations on this Agreement were held on the days 23rd – 25th April in Poland and on 4th to 6th November in the CR. The negotiations have not yet been completed and will continue in 2004.

The 3rd meeting of the Czech-Slovak Commission for Border Waters (the Com-

mission) was held on the days 10th to 12th March 2003 in Bratislava, Slovakia. At this meeting the Commission discussed the activity of the working groups which, on the basis of the results from the discussion of the 2nd meeting, were entrusted with performing concrete tasks of mutual cooperation on border waters. The tasks imposed, primarily of a technical character, focussed on dealing with current water management questions where the CR emphasised the maximum effectiveness of activities ongoing in border waters. At the meeting, the “Fundamentals for Cooperation in the Field of Hydrology in Czech-Slovak Border Waters” was approved, as were the “Fundamentals for Cooperation in the Field of Protection of Water in Czech-Slovak Border Waters” designating the fundamental rules of activities for joint working groups for hydrology and for the protection of water and the “Fundamentals for the Surveying of Border Water Courses and Monitoring the Development of Riverbeds and Flooded Areas on Czech-Slovak Border Waters”. The representatives also exchanged information about new legal regulations in the field of water protection of both states and discussed questions of cooperation with the Standing Czech-Slovak Border Committee.

delaying signing in relation to the preparation of an EU directive concerning liability for environmental damage.

In 2003, the active participation of the Czech Republic in international commissions for the protection of the basins of the Elbe, Danube and the Odra (ICPE, ICPD, ICPO) continued. For the second year in a row, the Czech Republic chaired the ICPO. The work in the commissions focused primarily on tasks associated with the performance of the outline directive 2000/60/EC, protection from floods and prevention of accidents.

In Erfurt on the dates 21st to 22nd October 2003, the 16th meeting was held of the International Commission for the Protection of the Elbe (referred to hereinafter as the „ICPE“), which evaluated the work of the ICPE over the period since its 15th meeting. After a detailed analysis of the August floods of 2002, and on the basis of newly gained findings, the ICPE approved the updated “Action Plan for Flood Protection in the Elbe Basin”. The most important themes in this document concern the renewal of former flood areas, the creation of further retention areas along the Elbe and the modernisation of technical equipment intended to provide higher quality information about the possible incidence of flood situations.

One new element in 2003 was the participation of non-governmental organisations from the CR and from FRG at the meeting and their inclusion in the work of the ICPE. Non-governmental organisations will also participate in the plenary sessions and the meetings of the ICPE working groups in the future.

One of the important points of the 16th meeting was also the fulfilment of duties arising from the outline directive in the Elbe basin. Within the framework of the ICPE, work on the implementation of the outline directive focussed primarily on agreeing procedures for the implementation of analyses of characteristics for the area of the basin, which will constitute the basis for a joint plan for the basin along with a programme of measures for the international area of the Elbe basin.

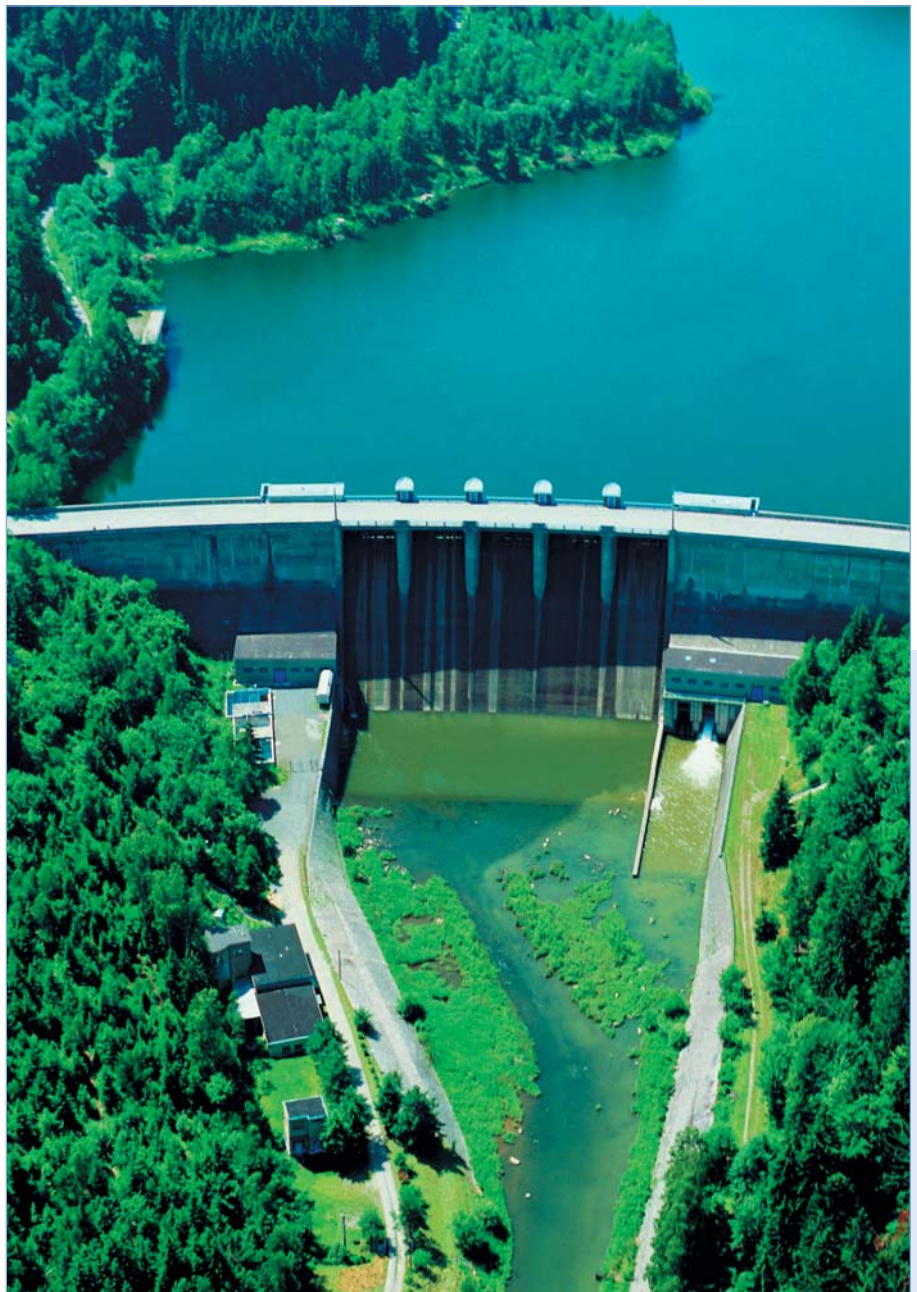
At the 16th meeting of the ICPE the “Third Report on the Performance of the Elbe Action Plan”, which analyses the period of 2000 – 2002, was submitted. From this report it is evident that in the years 2000–2002 further progress was achieved in the reduction of water pollution in the Elbe basin, as was an improvement in water quality in the Elbe, an improvement in the ecological situation in the riverine flood plains and in protection

against accident pollution. But there still remains a problem with the diffused leaching of nitrogen into watercourses in the Elbe basin from farmland.

The 6th meeting of the International Commission for the Protection of the Danube (referred to hereinafter as the „ICPD“) was held on 1st and 2nd December 2003. The meeting discussed the activities of the expert groups of the ICPD (for strategic questions, integrated river board management, monitoring and evaluation of data, emissions, accident prevention, ecology, flood prevention and the subgroup for GIS and economics) in the period between the 1st meeting of the Standing Working Group, held mid-way through 2003, and the 6th plenary session of the ICPD, and the approved programmes of their work for the period 2004 to 2006. There

was also discussion and approval of the budget of the ICPD and procedure of work on the regional project GEF, which supports the activities of ICPD, especially when implementing the outline directive 2000/60/EC.

The RBM working group prepared a draft report for the European Commission for the entire Danube basin (Roof Report, Part A) and a structure for the national report (Part B) in compliance with the outline directive 2000/60/EC. There was discussion of the preparation for the cartographic and geographic system of the ICPD. Not all countries agree with the use of the Euro Global Map, which for this purpose is currently being tested by the working subgroup GIS. The ICPD took due note of the report of the head of the subgroup for economics and the draft list of economic indicators and struc-



Kružberk water reservoir - Odra river basin



Kadaň water reservoir - Ohře river basin

tures of economic analyses which will be part of the report for the European Commission.

The ICPD approved the 2001 Monitoring Yearbook (TNMN Yearbook 2001) prepared by the working group for monitoring and evaluation of data and asked the group to adjust the monitoring network in compliance with the requirements of the outline directive. The ICPD approved the typology of the river Danube.

The ICPD took due note of the criteria for the evaluation of communal, industrial and agricultural point sources of pollution and diffuse sources of pollution in connection with the designated pressures according to the outline directive, and it entrusted the group EMIS with the task of defining criteria in compliance with the requirements of the group of integrated river board management. It agreed an inventory of emissions and asked the secretariat for it to be published in the Danube Information System DANUBIS. The ICPD took steps to conclude voluntary agreements with detergent manufacturers for the elimination of phosphates from their products in the entire Danube basin.

The ICPD took due note of the methodology of the working group for accident prevention for designating contaminated terri-

tories in flood zones. It approved the recommendation for securing contaminated territories in flood zones and asked the individual countries to prevent further contamination of these territories. This question will also be taken into account in the prepared Action Programme for Sustainable Flood Protection.

The 6th plenary session of the International Commission for the Protection of the Odra (referred to hereinafter as the „ICPO“), from pollution was held on the days 4th – 5th December 2003. The meeting took due note of the inspection of accounts and agreed the measures proposed by the auditors of the accounts. It discussed questions associated with the budget of the ICPO and approved the budget. There was discussion of the activity of the individual working groups, the ad-hoc working groups for reports and the economic analysis and subgroups for GIS established to support the implementation of the outline directive 2000/60/EC, the approval of their altered mandates and appointment of their chairman and deputy chairman.

The ICPO entrusted the working groups with performing many tasks associated with introducing the outline directive. In April 2003, there was a joint meeting of the chairmen of all the working groups and sub-

groups headed by the chairman of the working group for introducing the outline directive. At the meeting, fundamentals and priorities were designated for cooperation for the introduction of the outline framework in the international basin of the Odra. Amongst other things, the ICPO instructed the working group for the introduction of the outline directive to prepare a long-term strategy for work with the public during the implementation of the outline directive and instructed the subgroup GIS to prepare information about the possibilities of processing the requisite maps for the reports 2004 and 2005. The working group for biodiversity and hydromorphological aspects will evaluate the possibility of designating the section of the Czech-Polish border meanders as the reference section for the large submontane meandering rivers, will agree a harmonisation of typology for border sections and will fulfil other tasks associated with the processing of reports for the European Commission. For the purposes of introducing an outline directive, the Polish and German delegation will ensure the inclusion of the Štětín Gulfs in the international areas of the Oder basin. The ICPO is working with the pilot project Lužická Nisa focusing on the pilot introduction of the outline di-

rective in the sub-basin of the Lužická Nisa river.

The ICPO also decided to augment the Rules of Procedure with a paragraph explaining which costs are paid from the joint budget of the ICPO and which are paid individually by the treaty parties themselves, and it approved its definitive wording. The members of the ICPO were acquainted with work on the project UNEP "Oder Initiative on Integrated Coastal Area and River Basin Management". It was decided that mutual cooperation be initiated between the ICPO and the bilateral commission for cooperation on border waters between the CR and Poland and between FRG and Poland.

10.3 Preparation of Czech Republic for accession to European Union, including procedure for implementation of EU regulations

Within the context of planning the transposition of EU regulations, many decrees became effective or were adopted as part of the secondary legislation for the basic regulation of water law.

As part of fulfilling the transposition of EU regulations into national legislation, as of 1st January 2003 decree No. 590/2002 Coll., Concerning Technical Requirements for Waterworks, as an accompanying legal regulation to Act No. 254/2001 Coll., Concerning Water and the Amendment to Certain Acts (the Water Act), as subsequently amended.

In 2003, a further significant part of the secondary legislation for the basic regulation of water law was adopted. In the course of the year, six highly significant decrees were adopted (No. 7/2003 Coll., Concerning Water Records, No. 139/2003 Coll., Concerning Records of State of Surface and Groundwater and the Method of Inputting Data in the Information System of Public Administration, No. 140/2003 Coll., Concerning Planning in the Field of Water, No. 159/2003 Coll., which Designates Surface Water Used for Swimming, No. 195/2003 Coll., which Amends Decree No. 432/2001 Coll., Concerning Documents for Application for Decision or Expression and Concerning Particulars of Permits, Consents and Expressions of Water Authority and No. 333/2003 Coll., which Updates Decree No. 470/2001 Coll., which Designates a List of Important Water Courses and the Method for Carrying Out activities Associated with the Administration of Water Courses).

In 2003, three key government orders were adopted in order to implement the trans-

position of EU regulations in the CR, these being government order No. 61/2003 Coll., Concerning Indicators and Values of Allowable Pollution of Surface Water and Waste Water, Particulars of Permission for Discharge of Waste Water into Surface Water and into Sewers and Concerning Sensitive Areas, government order No. 71/2003 Coll., Concerning Designation of Surface Water Suitable for Life and the Reproduction of Native Species of Fish and Other Aquatic Creatures and Concerning the Ascertaining and Evaluation of the State of Quality of that Water and government order No. 103/2003 Coll., Concerning the Designation of Vulnerable Areas and the Use and Storage of Fertilisers and Farmyard Manure, Crop Rotation and Carrying Out of Anti-erosion Measures.

At the end of 2003, an amendment to the Water Act (Act No. 20/2004 Coll.) was also approved, which completed the transposition of the Directive of the European Parliament and Council 2000/60/EC from 23rd October 2000, establishing the framework for the activity of the Community in the field of water policy in the legislation of the CR.

In the second half of 2003, there was also an amendment to the Strategy of Financing for Implementation of Council Directive 91/271/EEC, Concerning the Treatment of Municipal Waste Water, and approved by the government through resolution No. 1268 of the date 17. 12. 2003. Within the context of this amendment, the so-called Concrete List of Agglomerations of the CR Intended for Various Temporary Categories of Transitional Periods was made more precise.

The implementation of council directive 91/676/EEC, Concerning the Protection of Water from Pollution by Nitrates from Agricultural Sources, is a highly demanding task of the Ministry of Agriculture.

The MoA is also responsible for the successful course of implementation of the nitrate directive in the CR in the field of farming (fundamentals of correct agricultural practice focussing on protection of water from pollution by nitrates from agricultural sources, action programme) and the department of the MoE is responsible for it in the field of water quality (identification of polluted or threatened water, designation of vulnerable areas, monitoring of water quality).

The transposition of the nitrate directive is ensured by section 33 of Act No. 254/2001 Coll., the Water Act. The section referred to defines the term of vulnerable area and by means of a government order it imposes the duty to designate vulnerable areas and regulate in

them the use and storage of fertilisers and farmyard manure, crop rotation and the carrying out of anti-erosion measures (action programme according to nitrate directive). Government order No. 103/2003 Coll., Concerning the Designation of Vulnerable Areas and Use and Storage of Fertilisers, Farmyard Manure, Crop Rotation and the Carrying Out of Anti-Erosion Measures in these Areas (referred to hereinafter as the "government order") has been effective since 11. 4. 2003 (with deferred effectiveness of chapter III from 1. 1. 2004).

The draft for the designation of vulnerable areas was prepared according to the natural boundaries of 4th order basins, i.e., basins with an area of approximately 20 - 25 km². The overall scope of the vulnerable areas thus designated represents approximately 42,5 % of the area of agricultural land, i.e., approximately 36 % of the area of the CR.

In the government order, in order to ensure the possibility of application in practice, the boundaries of the basins designating vulnerable areas are transferred to the administrative type of boundaries, cadastral territory, where the area of agricultural land represents approximately 44 %.

The action programme is the most effective and currently most expensive measure for the implementation of the nitrate directive. It is declared in a government order as the use and storage of fertilisers and farmyard manure, crop rotation and the performance of anti-erosion measures in vulnerable areas with effect from 1. 1. 2004 for a four-year period, at the end of which the programme will be evaluated and, if needs be, a proposal will be submitted for revision (in a manner similar to that in the case of vulnerable areas). The action programme which is based on the general fundamentals of good agricultural practice focussing on the protection of water from pollution by nitrates from agricultural sources represents a system of measures which aim to reduce the risk of nitrates leaching into surface water and groundwater.

The AWMA administers the monitoring of surface water for the purposes of the Council Directive 91/676/EEC (nitrate directive) on the territory of the entire CR in selected profiles which characterise pollution by nitrates from agricultural sources. Within the context of this monitoring programme, at present a total of 640 profiles are being monitored. These are divided up into main – 397 profiles, localised in vulnerable and non-vulnerable areas, and secondary – 243 localised only in vulnerable areas.

Monitoring of the quality of groundwater for the purposes of the nitrate directive is ensured via the state network of groundwater of the CHMI.



FISHERIES AND FISHPOND MANAGEMENT

11.1. Fisheries and fishpond management in 2003

Fishponds are an integral part of the Czech and Moravian cultural landscape. Czech fishery is principally based on the farming of carp (86,1 %). Along with carp, other species of fish are farmed in fishponds, primarily herbivorous (5,2 %) and predatory fish (3,6 %). Some 20,000 tons of market fish are produced annually. In addition to conventional fish farming, salmonid fish – in particular the rainbow trout and, to a lesser extent, the brown trout – are farmed in special facilities (total market production is 700 tons per year).

In 2003 there was an increase of fish production from 19,2 thousand tons in 2002 to 19,7 thousand tons in 2003, i.e., an increase of 2,5 %. The floods of August 2002 caused significant damage to the production potential of fishponds, especially from the aspect of stocking for 2003. The exceptional conditions in terms of temperature and water flow in 2003 caused significant fish deaths on the one hand and an extraordinary increase on the other hand, in particular from the aspect of natural production. Despite these exceptional circumstances, the overall production capacity for freshwater fish, especially carp, exceeds the demand on our market. With regard to this fact, it remains important to focus our production on foreign markets.

Approximately half of the market fish caught are exported alive, which corresponds to the requirements of customers. After leaving essential stocks, the same amount is delivered to the commercial network in the CR. Domestic consumers are also primarily interested in live carp. The sales referred to are well secured and comply with all hygiene and veterinary requirements. Because the consumer buys the experience of the traditional Christmas holiday along with the fo-

od, sales of carp are not threatened by competing products.

The processing of freshwater fish is ensured at a good level. In the CR, there are sufficient processing plants with modern equipment, most of which comply with the parameters for export of products to the EU. There are few cases where there remains a need for technological improvement of the operations. With regard to the tradition of selling live carp, there is only a slow growth in the demand for processed fish. Approximately 10 % of all farmed freshwater fish are currently sold in the form of products.

No changes in the production volumes of fish farmed in our country are forecast. If we are interested in maintaining carp as an ecological product, it is not realistic to increase the amount of carp farmed in a unit of area. Moreover, the current market demand is ful-

ly covered. Further sales of fish produced in the CR will be influenced by imports of salmonid fish in processed state and also by the volume of imported frozen sea fish, the processing of which into final products is also carried out in those operations where there is free capacity.

Fish sales on the domestic market were a total of 9,1 thousand tons, and there was a year-on-year increase of 1,5 %. 7,8 thousand tons of live fish were sold, 1,3 thousand tons (expressed in live weight) of fish processed into products for the domestic market were taken out of stock. 9,9 thousand tons of freshwater fish and fish products were exported in 2003. Year-on-year the amount of exported fish remained virtually unchanged (99,9 %), the proportion of live fish dropped (9,4 thousand tons), there was an increase in the export of fish products (0,5 thousand



Březová water reservoir - Ohře river basin

Table 11.1.1 Development of production for the period 1993 – 2003 in thousand tons live weight

Year	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Production, live weight	20,1	18,7	18,7	18,2	17,6	17,2	18,8	19,5	20,1	19,2	19,7

Source: Fisheries Association CR

Table 11.1.2 Overview of catch of market fish as of 31.12. 2003 within the CR according to place of catch

Catch	t	%
From fishponds	18 972	96,45
From special facilities	646	3,29
From reservoirs	52	0,26
Total catch of fish	19 670	100,00

Source: Fisheries Association CR

Table 11.1.3 Overview of catch of market fish as of 31.12. 2003 within the CR according to representation of species

Catch of fish (representation of species)	t	%
Carp	16 935	86,1
Salmonid fish	711	3,6
Tench, cisco	243	1,2
Herbivorous fish	1 026	5,2
Predatory fish	232	1,2
Others	523	2,7
Total	19 670	100,0

Source: Fisheries Association CR

tons). In 2003, a total of 31,2 thousand tons of fish and fish products was imported to the CR, which is an increase of 3,3 % in comparison with 2002. Of this 479 tons was freshwater fish. The rest were sea fish and other seafood products.

Several dozens of private, municipal, school and other organisations participate in fisheries and fishpond management in the CR. The most important subjects are federated in the Fisheries Association CR, which has 42 members. In 2003, the members of the Fisheries Association produced 16 609 tons of fish and fish products on a total area of 3 520 hectares. There are also 47 further fish farming subjects recorded in the CR, which produced 2 461 tons of fish for market production. A qualified estimate of extensive annual fish production is approximately 600 tons from approximately 2 000 hectares.

One of the weak points of fish farming is the fact that there is a predominant demand for live carp. After the experience that under our conditions the interest in processed carp is not increasing, it is wholly logical that the further procedure will consist of support for the sale of live carp. There are limited possi-

bilities for using fishponds for angling, including for people who are not members of angling associations. Market fishing gives fish farming subjects security of sales and is reflected in greater revenues.

At present, production fish farming in the CR is focussed on the method of managing water surfaces whilst taking into account the requirements for nature protection and respecting the non-production functions of fishponds. These functions are primarily the accumulation and retention of water (flood prevention) and also the abstraction of water for irrigation and for supplying industry and inhabitants, the use of water for sporting and recreation purposes and for fire fighting and energy purposes.

The Czech fisheries industry is attempting to establish a place for itself amongst the global competition using marketing tool. Against this background, there is an attempt to fix the trademark “Czech Carp” in the minds of domestic and foreign customers as a brand representing a high-quality, tasty and healthy product. In this direction, for five years many advertising activities have been carried out in the competence of the member subjects of the Fisheries Association CR, and they will continue with changes.

In addition to the fisheries industry, sports angling is widespread throughout the CR. As of 31. 12. 2003, the Czech Angling Association had a total of 265 671 members in 479 local organisations. As of the same date, the Moravian Angling Association had 79 224 members in 103 local organisations.

Damages caused by predators in 2003 were expressed in the Study on the Number of Predators and Level of Damages Caused in 2003, which was prepared by a team of specialists from the Fisheries Association CR in cooperation with other fisheries subjects. Year-on-year there was a significant increase in damages caused by fish-eating predators from CZK 369 million to CZK 570 million. Damage caused to fish in free water are excluded from the granting of compensation.

Of the predators causing damage to members of the Fisheries Association CR, the European cormorant was responsible for 9 %, nesting population, and 48 %, migratory population, the European heron was responsible for 24 %, and the Eurasian otter was responsible for 19 %. Damages caused by specially protected creatures remain at a low

level (less than CZK 12 million). None of the protected creatures is a threatened species in our country. Indeed, in built-up areas, their population density has a tendency to increase, and they are penetrating as yet unused areas. In places there has been overpopulation with the negative results for the affected localities because they have practically no natural enemies.

In addition to technological losses resulting from the multi-year cycle under complex natural conditions and the negative influence of specially protected creatures (fish predators), poaching, i.e., unauthorised fishing, also occurs in our country. Despite stricter legislation, the level of losses arising from this type of crime is estimated to be an average of 2 % of annual market fish production.

In addition to damages caused to fishponds with production farming, damages are also suffered by sporting areas. In 2003, the Czech Angling Federation recorded a total of 159 cases with a total damage of CZK 4,456 million crowns. In 2003, the Moravian Angling Federation recorded 22 cases of fish dying with damages of CZK 1,093 million.

11.2. Changes in state of fishponds

The floods of August 2002 caused considerable damage to fishponds. Fishpond managers in southern and western Bohemia were worst affected. The collapse of dykes devastated fishponds constituting more than 1 % of the overall area of fishponds (500 ha), and dykes, outlets and sluices were badly damaged, and fishponds with an area of 4 500 ha (9 % of the total area of small reservoirs) were heavily clogged by erosion from the basins.

The elimination of flood damages began in 2002 from own resources and with the use of state financial resources via the MoA. Work focussed on restoring the fishponds to operation. In 2003, repairs and reconstruction of the damaged fishponds was carried out systematically, primarily from the programme 229 210 “Renewal, dredging and reconstruction of fishponds and reservoirs” with a total volume of almost CZK 621,0 million, of which CZK 521,9 million was a grant from the state budget. The majority of fishponds with collapsed dykes were repaired in 2003 under the sub-programme 229 218 “Rectification of damage to fishponds and reservoirs following the floods of August 2002”. The total volume of grants in this sub-programme was CZK 76,5 million, used for repairs to the fishponds: Podhájský, Dolejší, Hořejší, Velký Bělčický, Metelský, Pustý (Strakonice area), Nový Vdovec, Na-

Table 11.1.4 Catches in reservations of Czech Angling Federation in 1991 - 2003

Year	Non-trout waters			Trout waters		
	Catch (thous. of)	Catch (t)	Average (kg/ha)	Catch (thous. of)	Catch (t)	Average (kg/ha)
1991	2 088	2 107,5	90,3	318	128,3	40,1
1992	2 241	2 338,0	101,4	318	135,0	38,7
1993	2 169	2 393,5	103,8	277	116,5	33,4
1994	2 466	2 768,5	98,7	312	122,9	35,6
1995	2 405	2 767,0	92,5	323	131,6	38,6
1996	2 045	2 454,0	89,2	309	118,1	25,1
1997	2 063	2 359,5	80,3	315	118,8	36,3
1998	2 310	2 803,0	92,6	334	127,5	40,0
1999	2 498	2 992,3	98,5	337	124,9	39,2
2000	2 554	3 312,6	107,9	318	128,3	40,5
2001	2 546	3 374,5	109,2	332	130,5	39,5
2002	2 518	3 625,0	117,0	304	126,0	38,0
2003	2 446	3 800,0	122,5	286	122,8	38,0

Source: Czech Angling Federation

Table 11.1.5 Catches in reservations of Moravian Angling Federation in 1991 - 2003

Year	Non-trout waters			Trout waters		
	Catch (thous. of)	Catch (t)	Average (kg/ha)	Catch (thous. of)	Catch (t)	Average (kg/ha)
1991	633	730,3	107,2	115	57,3	85,6
1992	728	802,7	116,2	113	57,1	94,1
1993	720	800,2	115,5	87	46,5	85,9
1994	838	1 013,2	150,8	98	54,6	107,7
1995	796	1 003,1	149,0	104	58,2	107,7
1996	706	898,8	134,3	91	53,4	98,2
1997	650	812,5	121,9	99	57,5	104,6
1998	725	958,2	143,1	116	64,7	117,8
1999	767	1 010,5	150,7	107	62,1	113,1
2000	778	1 148,5	168,9	100	61,6	114,6
2001	730	1 105,8	162,6	92	35,5	67,9
2002	768	1 199,8	175,6	86	32,2	62,0
2003	722	1 176,4	172,7	67	27,5	52,7

Source: Moravian Angling Federation

děje and Víra, Julius Horní (Jindřichův Hradec area), Dlouhý (Central Bohemia) and Kacerna (Plzeň area), the dyke of which was totally destroyed. For the remainder, completion is planned in 2004.

The MoA gathered together a total of 337 applications for support for the programme 229 210, of which 71 applications were in the sub-programme for the elimination of flood damages from 2002. The available resources and quality of submitted applications made it possible to issue decisions for the participation of the state budget in the financing of a total of 128 projects, of which 37 were for the elimination of flood damages. Within the context of projects included in programme 229 210, 1,225 million m³ of sediment was removed, 64 safety spillways or safety facilities were reconstructed or built, 31 outlet facilities were reconstructed.

In 2003, the grant title ran out for provision of financial resources from the state budget for the dredging of fishponds according to appendix No. 11, part D, letter c) to Act No. 579/2002 Coll. Under this title, nine projects were realised which had been initiated in 2002, as were 6 projects initiated in 2003 with a total grant level of CZK 25,5 million. Within the context of this grant title, 239 thousand m³ of sediment was removed.



Střekov weir - Elbe river basin



Bojkovice water reservoir - Morava river basin

12.

RESEARCH AND DEVELOPMENT IN WATER MANAGEMENT

12.1 Research and development in the competence of the Ministry of Agriculture

In 2003 specific research and development in the field of water management financed by the Ministry of Agriculture as part of research projects amounted to more than CZK 17 million.

In 2003, there was specific financing of research and development in the field of water management implemented from the budget of the MoA in the amount of CZK 17,301 million for research programmes for the period of 2000–2004 and 2003–2007 for 14 projects in selected thematic areas.

The summarised overview of the projects dealt with is given in Table 12.1.1. Data concerning the projects dealt with and their outputs is published on the Internet pages www.vyzkum.cz.

These projects focus on the comprehensive research of the issue of the protection and use of water as a natural non-renewable resource, on questions of managing water in the soil and the countryside with the aim of increasing water retention in the countryside, on the issue of care for watercourses and flood prevention from the aspect of applying the public interest, and on dealing with problems associated with ensuring high-quality drinking water and the improvement of treatment processes.

Research and development in the field of protection, preservation and use of basic natural resources – soil and water in agriculture and for the development of the countryside is ensured by the Melioration and Soil Protection Institute Prague.

In the projects shown in Table 12.1.1, the bearer of which is Melioration and Soil Protection Institute (referred to hereinafter as the „MSPRI“), the following problem areas are dealt with:

■ **Farming in vulnerable areas** (application of council directive 91/676/EC) with the aim of gaining new findings for the implementation of the EC nitrate directive under the conditions of the CR, in particular the designation of vulnerable areas and the processing of fundamentals for good agricultural practice and methodologies for action programmes and the processing of

the methodology “Protection of Surface Water from Nitrates from Water Erosion” for broad practice,

■ **Application of system for alternative management of the soil and water in the countryside** aimed at a synthetic creation of a methodology (manual) of synthetic maps of vulnerability of groundwater polluted by agriculture for the entire CR,



Table 12.1.1 Projects dealt with in 2003 as part of Research Programmes of MoA for the period of 2000 - 2004 and 2003 - 2007

Name of project	Coordinator	Period of research	Resources used in 2003 from the chapter of the MoA (thous. CZK)
area A			
Protection, preservation and continuous use of basic natural resources in agriculture and for development of the countryside			
Application of system of alternative management of protection of soil and water in the countryside	MSPRI	2000 - 2004	6 455
Area F			
Water management, care for watercourses, flood protection			
Verification of methods for deriving hydrological data for evaluation of safety of waterworks following floods	CHMI	2001 - 2004	1 730
Area G			
Water management, sewer systems and water treatment			
Optimisation of processes of treatment of drinking water allowing the separation of oocyst single-cell creatures <i>Cryptosporidium</i> spp.	W&ET Team	2000 - 2004	180
Integrated approach when planning reconstruction and modernisation of waste water treatment plant	WMRI T.G.M.	2000 - 2004	780
Research into effect of water treatment on its quality when it is held in the distribution system for extended periods	WMRI T.G.M.	2001 - 2004	1 500
Reconstruction and modernisation of water treatment plants and water supply systems	WMRI T.G.M.	2001 - 2004	1 500
Minimising amount of produced treatment sludge	CHTUP	2001 - 2004	1 000
Restructuring			
Changes in properties of drained and long-term irrigated soils with impacts on soil and water protection	MSPRI	2003 - 2007	460
Increasing anti-erosion effectiveness of crops grown	MSPRI	2003 - 2007	310
Traditional systems and technologies			
Development of new technologies for the breeding of economically important river species of fish and crayfish threatened by the degradation of the natural environment	SU - FHRI	2003 - 2007	903
Rational water management			
Rationalisation of use, maintenance and repair to water drainage constructions	MSPRI	2003 - 2006	632
Evaluation of increase of climatic drought in agriculture and amelioration of its effects by irrigation	MSPRI	2003 - 2007	420
Diagnostics, monitoring and revitalisation of drainage systems on agricultural soils from the aspect of protection of water quality	MSPRI	2003 - 2006	634
Permanently sustainable management of forests			
Development of hydric function of forests of small mountainous basins	FMHRI	2003 - 2007	797
Total			17 301

Source: MoA

■ **Verification of methods for deriving hydrological data for the evaluation of the safety of waterworks after the flood**, where, within the context of joint solution for the entire CR, data about the retention water capacity and data about the infiltration conditions of agricultural and forestry soil as the basis for modelling the retention capacity of the countryside under flood conditions

was processed in digital and analogue (map) form in the grid of the kilometre system,

■ **Changes in properties of drained and long-term irrigated soils with impacts on soil and water protection** resulting from intense human involvement and the ascertaining of impacts on the regime and quality of water, including designation of methods for the elimination of negative impacts,

■ **Rationalisation of use, maintenance and repair to water drainage constructions** with a proposal for a set of methods and technical resources supporting the long-term function of drainage systems in the managed countryside, rationalisation of maintenance and repairs to drainage systems and proposals for methods of current evaluation function for drainage under the altered management conditions,

■ **Increasing anti-erosion effectiveness of crops grown** with the aim of quantifying the anti-erosion effectiveness of the crops grown and the used agricultural techniques with the application of the revised universal equation for the calculation of the long-term loss of soil through erosion (RUSLE) and selection of the most effective anti-erosion measures and the designation of conditions for their application, from the technological, costs and ecological aspect,

■ **Evaluation of increase of climatic drought in agriculture and amelioration of its effects by irrigation** with aims of designating areas threatened by climatic drought at present and in the case of global climate change, ascertaining the development of the coefficient for the irrigation deficit for crops and the need for irrigation water with respect for the soil properties in the recent period 1961 to 2000 and up to the years 2030, 2050 and 2075 whilst taking into account climate



Kamenická water reservoir - Ohře river basin



Sedlice water reservoir - Vltava river basin

- concept of countryside planning, including water management within complex land adjustments,
- development of application data and geographic systems for land and water.

12.2 Research and development in the competence of the Ministry of the Environment

In 2003, in the competence of the Ministry of the Environment, the main researcher dealing with problems of water protection was Water Management Research Institute T.G.M., Czech Hydrometeorological Institute also dealt with some tasks (or cooperated significantly on their solution).

A summarised overview of the projects dealt with within the context of the research projects of the MoE in 2001 – 2006 is given in the following table.

change, and to propose a method of optimising the irrigation conditions of soils, crops and the countryside by irrigation, including water management and economic evaluation,

■ **Diagnostics, monitoring and revitalisation of drainage systems on agricultural soils from the aspect of protection of water quality** with proposal of set of methods and technical resources for diagnostics, monitoring and revitalisation of drainage systems on farmland.

The research project “**Comprehensive solution to problems of managing soil, water and the countryside**” ascertained in particular the essential development of the relevant scientific departments with the attainment of

the results applicable in the applied research in development and practice.

Its solution was, inter alia, focussed primarily on these problem areas linked to the needs of water management:

- analysis and optimisation of hydrological processes in the countryside,
- creation of systems for the protection of lands and countryside against extreme meteorological-hydrological situations and rationalisation of use of water in dry periods,
- methods of managing drainage and irrigation systems,
- revitalisation of small flows of small reservoirs and adjustment of biotopes of wetlands and peat bogs,

Table 12.2.1 Projects dealt with in 2003 within the framework of the research programmes of the MoE in the years 2001 - 2006

Name of project	Coordinator	Period of solution	Resources used in 2003 from the chapter of the ME (thous. CZK)
Main area: Pollution and control of water			
Evaluation of quality and chemical state of groundwater	WMRI T.G.M.	2001 - 2003	4 300
Establishing register of protected areas, including map documentation of register's content	WMRI T.G.M.	2003 - 2006	2 900
Morava IV	WMRI T.G.M.	2003 - 2006	8 300
Elbe IV	WMRI T.G.M.	2003 - 2006	12 738
Odra III	WMRI T.G.M.	2003 - 2006	5 500
PCB/PCT	WMRI T.G.M.	2001 - 2004	2 400
Possibilities and methods of using sludge and sediments from waste water treatment plants	WMRI T.G.M.	2002 - 2005	2 200
Proposal for technical requirements and procedures when gathering together equipment before its alteration if it contains PCBs or is contaminated by it	WMRI T.G.M.	2003 - 2003	684
Integration of data of remote survey of the country for the information needs of care for selected elements of the environment – flood protection, water protection	WMRI T.G.M.	2001 - 2003	1 700
Methodological creation of cartographic output from digital data	WMRI T.G.M.	2001 - 2003	1 500
Main area: influence of environment on health			
Proposal of methodology for designating flood risks and damages in flood zones and their verification in the Elbe basin	WMRI T.G.M.	2002 - 2005	2 140
Main area: Hydrology a limnology			
Influence of climatic changes on amount and quality of water sources and hydrological conditions in the Czech Republic	WMRI T.G.M.	2002 - 2003	1 300
Research into methods for complying with Aarhus treaty by creation of remote access to unified information	WMRI T.G.M.	2003 - 2003	2 000
Influence, analysis and possibilities of use of protective function of valley reservoirs for flood protection in the Elbe valley	WMRI T.G.M.	2003 - 2005	4 620
Research into relationship between meteorological causes for development of heavy rainfall and hydrological reaction of basin	CHMI	2003 - 2005	847
Main area: Geology and mineralogy			
Hydrogeological zoning	WMRI T.G.M.	2002 - 2005	4 750
Total			57 879

Source: WMRI T.G.M.

CURRENT CONTACTS OF IMPORTANCE FOR WATER MANAGEMENT

AS OF 1. 8. 2004

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EXPLANATION OF ABBREVIATIONS IN TEXT

AGN	European Agreement on Main Inland Waterways of International Importance	CHCO_{cr}	chemical consumption of oxygen, oxidation by potassium dichromate	P_{total}	total phosphorous
AOX	adsorbable organic halogens	CHMI	Czech Hydrometeorological Institute	Q_a	long-term average flow
APNC	Agency for Protection of Nature and the Countryside of the Czech Republic	CHTUP	Chemical-Technological University in Prague	Q_{ma}	long-term average monthly flow
AWMA	Agricultural Water Management Administration	ICPD	International Commission for Protection of Danube Basin	Q_N	maximum flow achieved or exceeded once every N years
B.a.a.	Balt after adjustment	ICPE	International Commission for Protection of Elbe Basin	RUSLE	Revised Universal Soil Loss Equation
BCEE	Branch Classification of Economic Activities	ICPO	International Commission for Protection of Oder Basin	s.e.	state enterprise
BCO	biochemical consumption of oxygen	Inc.	joint stock company	SB	state budget
BCO₅	five-day biochemical consumption of oxygen	ISPA	Instrument for Structural Policies for Pre-Accession	SEFCR	State Environmental Fund of the Czech Republic
CBC	Cross Border Co-operation	LF CR	Land Fund of the Czech Republic	SFA	state financial activity
CEI	Czech Environmental Inspectorate	LSIF	Large-Scale Infrastructure Facility	SFTI	State Fund of Transport Infrastructure
CR	Czech Republic	Ltd.	limited liability company	SHEPS	small hydroelectric power station
CSO	Czech Statistical Office	m.a.s.l.	metres above sea level	Spolchemie	Federation for Chemical and Metallurgical Production, joint-stock company
CTS	Czech Technical Standard	MDF	Main drainage facility	SS	suspended substances
CWWTP	central waste water treatment plant	MF	Ministry of Finance	SU-FHRI	Fishery and Hydrobiological Research Institute in Vodňany of the South Bohemia University in České Budějovice
CZK	Czech crown	MLD	Ministry for Local Development	TFA	tangible fixed assets
DANUBIS	Danube Information System	MoA	Ministry of Agriculture	TNMN	
DDD	1,1-dichloro-2,2-bis (p-chlorophenyle) ethane	MoE	Ministry of the Environment	Yearbook	Trans National Monitoring Network Yearbook
DDE	2,2-bis (p-chlorophenyle) 1,1-dichloroethylene	MoH	Ministry of Health	UNEP	United Nations Environment Programme
DDT	1,1,1-trichloro-2,2-bis (p-chlorophenyle) ethane	MoT	Ministry of Transport	UNO	United Nations Organisation
DIS	dissolved inorganic salts	MSPRI	Melioration and Soil Protection Research Institute	VAT	value added tax
EC	European Community	N-NH₄	ammonium nitrate	W&ET	
ECE	Economic Commission for Europe	N-NO₃	Nitrogen NO ₃	Team	Water & Environmental Technology Team
EEC	European Economic Community	OECD	Organisation for Economic Co-operation and Development	WMRI	
EIB	European Investment Bank	p.a.	per annum	T.G.M.	T.G. Masaryk Water Management Research Institute
EU	European Union	PAH	polycyclical aromatic hydrocarbons	WSS&SS	water supply systems and sewerage systems
euro	common currency of the European Economic and Monetary Union (euro)	PCB	polychloro-biphenyls	WWTP	waste water treatment plant
FMHRI	Forestry Management and Hunting Research Institute	PCT	polychloro terphenyls		
FRG	Federal Republic of Germany	PDWSSSR	Plans for Development of Water Supply Systems and Sewerage System of Regions		
GEF	Global Environmental Facilities	PHARE	Poland-Hungary Assistance with the Reconstruction of their Economies		
HSaW	Health and Safety at Work	PRRS	Programme for Revitalisation of River Systems		
CHCO	chemical consumption of oxygen	PSWMEP	Programme of Small Water Management Ecological Projects		



REPORT ON THE STATE OF WATER MANAGEMENT IN THE CZECH REPUBLIC BY DECEMBER 31, 2003

Text

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Composition, Graphic Design, Technical Realisation

Lesnická práce, Ltd.
publishing house for forestry
Kostelec nad Černými lesy

Production

Mr. Oto Lasák

Technical Realisation

Mrs. Alena Pecháčková
Mr. Oto Lasák
Mr. Martin Březina

Authors of the Photos

VOD-KA Inc. - competition photographs 2001-2004
Archives of River Boards, state enterprises
Archives of Lesnická práce, Ltd.

CD-ROM supplement

Evaluation of catastrophic floods of August 2002
(made by Ministry of the Environment)

Exposure and Print

Astroprint Úmyslovice
Tiskárna Devera Třebestovice

Unsalable

ISBN 80-86386-54-6

Data reprint not allowed without the given source

Published by Ministry of Agriculture
at Lesnická práce, Ltd.

Prague 2004



MINISTERSTVO ZEMĚDĚLSTVÍ
ČESKÉ REPUBLIKY

PUBLISHED BY
MINISTRY OF AGRICULTURE
OF THE CZECH REPUBLIC
PRAGUE 2004

ISBN 80-86386-54-6

WWW.MZE.CZ