

**Tenth HELCOM PITF Regional Workshop
Wroclaw, Poland
8-9 October 2002**

SUMMARY AND CONCLUSIONS

Introduction

1. The PITF Preparatory Group has been arranging Regional Workshops to cover Hot Spots in all the Baltic Sea countries during the past 2.5 years. A preliminary evaluation of the Workshops has been prepared and the conclusions and positive experiences were reported to PITF 18/2001.

PITF encouraged the Preparatory Group (PG) to continue arranging Regional Workshops in collaboration with governments and representatives from the local, regional and national level and the International Financial Institutions (IFIs). The aim was to finalize the “round” of Regional Workshops, covering all the JCP Hot Spots, in autumn 2002 and to prepare a final report to the 19th meeting of PITF, which will be held in November 2002.

2. At the invitation of the Ministry of the Environment of Poland the Tenth PITF Regional Workshop was held in Wroclaw, Poland, on 8-9 October 2002. The Workshop was hosted by the Regional Board for Water Management in Wroclaw.

In accordance with the discussions at the HELCOM PITF 18/2001 meeting the Workshop was a sequence to the Sixth HELCOM PITF Workshop, which covered the Hot Spots in the southern Poland and was held in Cracow, Poland, in September 2001. The Agenda of the Workshop as well as the List of Participants are attached as Annexes 1 and 2, respectively.

3. The Workshop was opened by Ms. Adriana Dembowska on behalf of the Director of the Department of Water Resources of the Ministry of the Environment.
4. Mr. Ryszard Kosierb, Director of the Regional Board for Water Management in Wroclaw, addressed the Workshop and welcomed the participants. Mr. Kosierb described the tasks of the Regional Board for Water Management which also includes flood protection.
5. The Meeting elected Mr. Göte Svenson, Chairman of HELCOM PITF, as Chairman of the Meeting and Ms Adriana Dembowska from the Ministry of the Environment as Vice-Chairman of the Workshop.
6. Mr. Claus Hagebro from the Secretariat of the Helsinki Commission together with Ms. Monika Stankiewicz from the Polish Secretariat for the Helsinki Convention in Gdansk were elected as Secretaries to prepare the draft Conclusions of the Workshop to be agreed upon at the end of the Meeting.
7. The Agenda was adopted with slight changes to the order of presentations.

8. A brief overview of the Polish Hot Spots was presented by Ms. Monika Stankiewicz. So far 15 Polish Hot Spots have been deleted from the JCP List of Hot Spots. The List now contains 26 Polish Hot Spots (several divided into sub-hot spots).

Thematic presentations

9. The administrative system for water management in Poland was presented in depth by Ms. Barbara Monka, the Regional Board for Water Management in Wroclaw. The presentation described the authorities, the legislation and the instruments for water management. On a question about the relationship with the Odra Commission the Meeting was informed that there is no direct cooperation but that there is some exchange of information.
10. The Polish system of fees and fines for the use of the environment was presented by Ms. Adriana Dembowska. Poland has several Environmental Protection Funds at different administrative levels. The source of funding comes from fines and fees (F&F) which are distributed as described in the table.

Communal Funds (Gmina)	50% F&F for landfills, 20% of other F&F (except those for NOX and mining waters)
County Funds (Powiat)	10% of F&F (except as above)
the rest is shared by:	
Provincial Funds	78% (except as above)
National Fund for Environmental Protection and Water Management	28% and 100% of F&F for NOX emission and mining waters discharge

The system combining fees, fines, and funding possibilities has been very efficient in facilitating investments in environmental protection. It was mentioned that payment of fines could be postponed or redeemed if the penalised company implements investment projects protecting the environment and in this way removes the reason for which the penalty was imposed.

11. A total of 16 Hot Spots were discussed at the Workshop. The history, problems, and the recent development and implementation of environmental measures were described for each Hot Spot. Planned projects and investments were presented as well as the prospect of future deletion from the Hot Spot list.

12. Hot Spot presentations

MUNICIPAL HOT SPOTS

Hot Spot No. 74: "Jamno" Wastewater Treatment Plant in Koszalin

Information about the Jamno plant was presented. Modernisation of the plant started in 2000 and is expected to be finished by December 2002. The investments will be about 2.250 million Euros (9 million PLN). After completion the plant will comply with all requirements by

HELCOM Recommendations and the EU Wastewater Directive. The proposal for deletion will be forwarded as soon as reliable data from the completed plant is available, possibly during spring/summer 2003.

Hot Spot Nos 82, 83.1, and 84 “Czajka”, “Poludnie” and “Pancerz” WWTPs in Warsaw

The strategy for wastewater treatment has been revised and the “Pancerz” plant (Hot Spot No. 84) will be abandoned. Instead the Czajka and Poludnie will be modernised and constructed, respectively.

For Czajka the requirements are fulfilled for most parameters, but the nitrogen discharge is still too high. Investments are estimated to 285,000 Euro. Hot Spots 82 and 84 are expected to be deleted in 2009 when Czajka is fully operational.

The Poludnie plant is under construction in a two-stage process. The originally planned treatment efficiency for nitrogen and phosphorus are being reconsidered in order to meet HELCOM and EU requirements. Investment costs will be about 158 million Euros. Hot Spot 83.1 is expected ready for deletion in 2004.

Hot Spot No. 85: “Hajdow” WWTP in Lublin

Modernisation of the Hajdow sewage treatment plant is in progress. The investment is estimated to approximately 23 million Euros including a SCADA control system financed by the Danish EPA. Some work has been completed and 50% of the wastewater is treated with the new technology. For the moment the nitrogen and phosphorus discharge is too high. The sludge is polluted with heavy metals (in particular Cd and Ni). In future the sludge will be deposited in a special depot or incinerated. The modernisation will be concluded in 2006 and the Hot Spot will be ready for deletion.

Hot Spot Nos. 97.1 and 97.2: “Pomorzany” and “Drzetowo” WWTPs in Szczecin

There was no paper presenting the wastewater treatment situation in Szczecin but the situation and the planned future investments were carefully described. The Pomorzany plant will be constructed in 2003–2008. The wastewater from the Drzetowo will be connected to the plant. In addition the existing mechanical/chemical smaller Zdroje plant will be modernized and extended with biological treatment. The Zdroje plant will be finished in 2007. The two plants will comply with the HELCOM and EU requirements after the completion of the projects. The name of Hot Spot 97.2 should be changed to “Zdroje”.

Hot Spot No. 100: Group Sewage Treatment Plant in Lodz

The Group Sewage Treatment Plant for the Lodz Urban Conurbation is under construction and will be finished in 2005. The investment amounts to about 500 million PLN. For the moment the discharge of nitrogen is too high and several other parameters are not complying with the HELCOM and EU standards. The plant may be ready for deletion in 2006. More information can be found on www.gos.lodz.pl

Hot Spot No. 101: “Lacza” WWTP in Zielona Gora

The Lacza treatment plant has been completed. The plant complies with national standards as well as with the HELCOM and EU standards. The plant applies for deletion as a JCP Hot Spot.

INDUSTRIAL HOT SPOTS

Hot Spot No.76.2: Gdansk Refinery

The Gdansk Refinery has an Environmental Management System consistent with ISO 14001 and a policy aiming at limitation of polluting emissions. The produced petrol has no lead and the diesel oil has low sulphur content. Produced waste is provided to external parties for industrial use or disposal. The refinery has a three-stage wastewater treatment plant and 44% of wastewater is reused. The cooling systems are closed. The refinery complies with HELCOM Recommendations 23/8 and 23/11. The industry is proposed for deletion.

Hot Spot No. 81.1: "Anwil" Nitric Plant in Wloclawek

Anwil industry produces chemical products for the processing industry and agriculture. Wastewater is treated in a Central Industrial Wastewater Treatment Plant before discharge. Some wastewater is directed to the Group Wastewater Treatment Plant in Wloclawek after pre-treatment. The technologies used and the activities implemented in order to limit discharges were described including the results obtained. About 40 million PLN was invested in 2000-2001. The industry will apply for deletion in 2003.

Hot Spot No.83.2: "Siekierki" Heat and Power Plant in Warsaw

The Siekierki heat and power plant used to have problems with dust emissions to the air, wastewater discharge including thermal effects, and the ash deposit. Investments have been made resulting in a 10 times reduction of dust emissions and substantial reduction of NOX and SO₂ emissions. The Polish norms are easily fulfilled but these may soon be strengthened due to new EU regulations. No relevant HELCOM Recommendations exist.

Siekierki produces no organic wastewater but SS and oil used to cause problems. A new system for coagulation of ash "colloids" results in a water quality better than the Vistula and the treated water is used for cooling.

The ash management has been improved and today all ash is reused for different purposes. The industry has been deleted from the "List-of-80" and has plans for future improvements. Siekierki wishes to apply for deletion in 2002.

Hot Spot No.98.1: "Police" Chemical Plants

A detailed description of the products and the environmental protection activities of Police were presented. Management processes for waste, water/wastewater and air emissions were described and where possible comparison with HELCOM Recommendations 17/6 and 23/11 was made. Environmental investment projects from 1998-2001 to the price of about 58 million PLN were described as well as planned future investments. The industry wishes to apply for deletion in 2002.

Hot Spot No. 104: "Rokita" Chemical Plants in Brzeg Dolny

The plant was described and data for emissions of gas and dust to the atmosphere, wastewater, and process waste were presented. Three HELCOM Recommendations are relevant. They seem to be fulfilled apart from a requirement regarding COD. There is no data on toxicity analyses. Compliance with all HELCOM Recommendations is foreseen by the industry when the modernisation has been completed in two years time.

COASTAL LAGOONS AND WETLANDS

Hot Spot Nos 73 and 113: Vistula Lagoon and Szczecinski Lagoon

An informative paper about the two coastal lagoons (Vistula and Szczecinski Lagoons) was presented. The background for the ICZM activities was given and the present situation analysed.

It was mentioned that these “joint-Hot Spots” are difficult to manage and that the criteria for deletion are not clear. It was proposed that Poland and Germany present papers (preferably a joint paper) about the problems of the Szczecinski Lagoon and the handling of joint Hot Spots in general to the next PITF meeting.

Final discussion

13. A timetable for deletion of the Polish Hot Spots was considered (Annex 3). The table will be updated for all the Polish Hot Spots. It seems that several Polish Hot Spots are now ready for deletion and that more will come during the next few years.
14. Poland was invited to present proposals for deletion of the relevant Hot Spots to PITF. The proposals must be clear and present monitoring data and other information in relation to the established criteria for deletion of Hot Spots.
15. The Workshop expressed the wish that Poland, in cooperation with the HELCOM Secretariat and the Preparatory Group, should compile a Thematic Report with an assessment of the Hot Spots as well as a presentation of the findings at the Workshops.

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AGENDA FOR THE WORKSHOP

1. Welcome
2. Election of the Chairman
3. Adoption of the Agenda
4. Overview of Hot Spots in Poland
5. Address by Key note speakers
6. Stock taking
7. Timetable for actions
8. Discussion and identification of necessary actions and actors
9. Reporting and conclusions

Tenth HELCOM PITF Regional Workshop 8-9 October 2002, Wroclaw

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Polish JCP Hot Spots – Timetable for deletion; submitted by Poland

Hot Spot name	Environmental impact	Projects planned/in course of implementation	Necessary actions	Proposed date for commence of hot-spot deletion procedure
Vistula Lagoon Hot Spot No. 73	<p>Transboundary area. The biggest cities within the catchment area are: Kaliningrad (Russia), Olsztyn and Elblag (Poland). The lagoon catchment area (23,871 km²) is about 30 times larger than the lagoon itself. In the Polish part of Vistula Lagoon coastal area 2 landscape parks are established. Municipal wastewater management in the Polish part do not raise objections.</p> <p>Main source of pollution is load discharged by the rivers. Main problem affecting the Vistula Lagoon environment on the Polish side are:</p> <ul style="list-style-type: none"> • eutrophication; • excessive concentration of tourism; • flood threat. <p>The idea of integrated management is complicated due to the structure of public administration (2 provinces) and division between 2 countries. Lack of explicit criteria makes impossible the determination of deletion timeframes/date from the JCP Hot Spot List.</p>			
WWTP “Jamno” in Koszalin Hot Spot No. 74	<p>Mechanical-biological WWTP with chemically supported phosphorus reduction. Whole city population served (120,000 inhabitants). Sewerage system covers 90 % of city area.</p> <p>Average 24-h pollution concentration in treated wastewater [mg/l] and reduction (%) as of 25/26 June 2002:</p> <p>BOD₅ – 2.75 (99 %) COD – 16.1 (98 %) N-tot – 9.75 (91 %) P-tot – 0.28 (98 %).</p> <p>Sludge amount – 10,000 t/year (25 % d.w.); disposed of at municipal landfill. The quality of sludge is good enough to make possible use for agricultural purposes.</p>	<p>Modernisation (development of biological stage to enhance nitrogen reduction) finished.</p> <p>Start-up is planned to be terminated in December 2002.</p>	<p>Relevant HELCOM Recs. fulfilled.</p>	<p>Maybe preliminary information to PITF in November 2002; application to LAND in May 2003.</p>
Gdansk Refinery Hot Spot No. 76.2	<p>Annual emission of gaseous pollution to the air in 2001:</p> <p>SO₂ – 5,506 t NO_x- 1,751 t CO - 751 t</p> <p>Other (methylene chloride, 1,2-dichloroethane, benzo-a-pirene, aliphatic and aromatic hydrocarbons, xylene, butanol, hydrogen sulfide) – 45 t dust - 90 t.</p> <p>Annual amount of wastes (including hazardous) in 2001: generated – 13,891.2 t.</p>		<p>ISO 14001 System of Environmental Management implemented. Relevant HELCOM Recs. implemented. BAT introduced.</p>	<p>October 2002</p>

Hot Spot No. 76.2 – continued	managed– 13,398.2 t. landfilled – 286.7 t (including 156.6 municipal waste). Refinery is equipped with 3-stage mechanical-biological-chemical WWTP, which is supplied with 5 separate sewerage systems (technological, oil-contaminated, sanitation, drainage and rain-water). Depending on the contamination streams of wastewater are treated appropriately. The effluent from the WWTP fulfils all the requirements set in water permits and HELCOM Recommendation. Cooling water system is closed. In 2001 44 % of treated wastewater was re-used by the Refinery.			
Anwil S.A. in Wloclawek Hot Spot No. 81.1	Chemical plant (organic and inorganic production). Annual pollution load in 2001 [t]: COD – 254 N-NO ₃ – 126.7 N-NH ₄ – 172.8 Chlorides – 2,257.3 Sulphides – 1,624.9 Suspended matter – 134.6 Cd – 0.045 Cu – 0.0249 Ni – 0.132 Pb – 0.254 Cr – 0.084 Zn – 0.264. Wastewater is pre-treated before discharging to municipal WWTP. Annual air emission in 2001 [t]: Dust – 747.7 Gas – 8,167.3. Solid waste amount in 2001 [t]: produced – 66,805 (including 60,852 hazardous) utilised within the plant – 57,426 (hazardous) delivered to external companies – 4,176 (incl. 3,390 hazardous) landfilled – 5,164 (incl. 27 hazardous).	Modernisation of wastewater management	Modernisation of wastewater management	2003
WWTP “Czajka” in Warsaw Hot Spot No. 82	Mechanical-biological WWTP serving east-bank part of Warsaw (500,000 inhabitants). Industrial wastewater makes 12 % of inflow. Designed capacity 400,000 m ³ /d, actual inflow below 220,000 m ³ /d. Annual average pollution concentration [mg/l] and reduction in 2001: BOD ₅ – 12 (93.9 %) COD 61 (91.1 %) N-tot – 19.5 (60.7 %) P-tot – 1.34 (88.9 %).	Development and modernisation of WWTP to capacity 500,000 m ³ /d. Supply of wastewater from north part of west-bank Warsaw equipped with combined sewerage system (previously indicated as Hot Spot No. 84)	Development and modernisation of the plant to enable treatment of wastewater from north-part of west-bank Warsaw and enhancing of nitrogen reduction.	2009

WWTP "Poludnie" in Warsaw Hot Spot No. 83.1	Wastewater from the southern part of west-bank Warsaw (25 % of the total city area and population) are not treated at present. Construction of WWTP has already been started. Designed capacity is 112,000 m ³ /d, further extension to 224,000 m ³ /d possible.	Construction of WWTP in progress. Designed treatment parameters and efficiency in line with HELCOM Recs. requirements, except for total nitrogen (15 mg N/l at the outlet)	Completion of WWTP construction. Designed technology has to be modified with regard to nitrogen removal (to achieve 10 mg N/l at the outlet).	Second part of 2004
Heat and Power Plant "Siekierki" in Warsaw Hot Spot No. 83.2	Annual air emission in 2001 [t]: SO ₂ – 21,277 NO ₂ – 6,110 CO – 756 dust – 2,681. Steam and water boilers equipped with modern dust collectors (over 99 % de-dusting efficiency). Introduced modern technologies emission reduction of NO _x (low-emission burners, low-temperature vortex installations on burners) and SO ₂ (low-sulphur coal assortments used). Total volume of solid waste produced (fly-ash and slag) used in construction and cement industries.	Modernisation of steam boiler – installation of sack filter (99.9 % de-dusting efficiency) and low-emission burners (enabling 45 % NO _x emission reduction). More stringent EU requirements for air emission are to be observed from 2006. To follow these requirements low-sulphur coal (S content below 0.55 %) is to be used on four unit burners.	Lack of relevant HELCOM Recs. Due to reduction of the impact on the environment the Plant was deleted from the national "Dirty 80s List"	October 2002
WWTP "Pancerz" in Warsaw Hot Spot No. 84	The plant was supposed to serve the northern part of west-bank Warsaw. The City Council decided to give it up and direct the wastewater to WWTP "Czajka" (Hot Spot No. 82).			2009
WWTP "Hajdow" in Lublin Hot Spot No. 85	Mechanical-biological plant serving approx. 400,000 inhabitants (450,000 PE). Designed capacity 165,000 m ³ /d, actual inflow 80,000 m ³ /d. When modernisation is completed the total capacity will reach 120,000 m ³ /d. Average pollution concentration [mg/l] and reduction [%] in 2001: BOD ₅ – 8 (97.7 %) COD – 48 (93.6 %) N-tot – 26.2 (64.1 %) P-tot – 7.4 (21.1 %). Solid waste and sludge disposed of on municipal landfill. Due to high heavy metal contamination use for agricultural purposes not possible.	Modernisation aimed at enhancement of nitrogen and phosphorus reduction as well as sludge dewatering.	Modernisation aimed at enhancement of nitrogen and phosphorus reduction.	2006
Agriculture in Vistula river basin Hot Spot No. 95	The idea of identification of specific areas being the main sources of agricultural run-off is still under elaboration.			

<p>WWTP “Pomorzany” in Szczecin Hot Spot No. 97.1</p>	<p>Not functional wastewater management system in the city:</p> <ul style="list-style-type: none"> not sufficient treatment of the wastewater discharged from the existing mechanical WWTPs; large part of the city area not equipped with sewerage; untreated wastewater discharged to Odra River (storm water system used); bad condition of large part of sewerage <p>Actually 84 % of wastewater generated is discharged to Odra river without any treatment.</p>	<p>Construction of mechanical-biological WWTP “Pomorzany”. Construction of sewerage where needed and modernisation of the existing one. Introduction of integrated waste management system.</p>	<p>Construction of mechanical-biological WWTP. Construction of sewerage where needed and modernisation of the existing one. Introduction of integrated waste management system.</p>	<p>2008</p>
<p>WWTP “Zdroje” in Szczecin Hot Spot No. 97.2</p>	<p>The plant “Drzetowo” was supposed as a second one serving the city of Szczecin. The City Council has decided to give it up and construct only one plant treating the total wastewater volume from the city (WWTP “Pomorzany” Hot Spot No. 97.1). Additionally, the small mechanical WWTP “Zdroje” with a planned capacity of 18.000 m³/d will be modernised and extended with a biological part by the year 2007. The name of the Hot Spot changed to “Zdroje”.</p>			<p>2008</p>
<p>Chemical Plant “Police” Hot Spot No. 98.1</p>	<p>Fertilisers production (fertilisers, titanium white and other chemical products). The Plant is served by the own WWTP supplied by the municipal wastewater from the city of Police as well. Annual average pollution concentration [mg/l] and reduction [%] or annual load [kg] in 2001: COD – 26.9 (66.8 %) P-tot – 0.37 (99.4 %) N-tot – 2.48 (48 %) Hg – 0.007 (256 kg) Cd – 0.006 (228 kg) Cu – 0.013 (503 kg) Ni – 0.032 (1220 kg) Pb – 0.029 (1,117 kg) Cr – 0.072 (2,758 kg) Cr-VI – 0.048 (1,849 kg) Zn – 0.122 (4,664 kg). Wastewater-free fertilisers production. Annual air emission in 2001 – concentration [mg/m³] and load [t]: NO_x – 7.03 (41.77 t) Dust – 16.86 (148.29 t) Fluorides – 1.98 (12.24 t). Phosphogypsum is disposed of on the Plant’s landfill managed in appropriate way.</p>	<p>Reduction of wastewater discharges – installation of vacuum pumps on the concentration unit of phosphoric acid production. Supply of additional streams of wastewater from the neighbouring settlements.</p>	<p>The Plant is granted with ISO 9002 and “Responsible Care” Certificates. In acknowledgement of phosphogypsum management the Plant was certified by US EPA Environment Center. BAT is introduced. <u>In spite of application</u> of all appropriate techniques of pollution reduction and treatment some HELCOM requirements for dust and fluorides emission are only partly observed.</p>	<p>October 2002</p>

Paper Mill "Szczecin-Skolwin" in Szczecin Hot Spot No. 98.2	Packing paper and newsprint production. No pulp production. The Mill is equipped with own WWTP treating industrial wastewater (10,000 m ³ /d) and minor amount of the municipal wastewater from the city of Szczecin (2,000 m ³ /d). Average pollution concentration [mg/l] in 2001: BOD ₅ – 10.56 COD – 56.83 Suspended matter – 7.46 N-tot – 7.92 P-tot – 0.35.	Construction of de-inking of waste paper unit in progress. It will enable: <ul style="list-style-type: none"> • production based on used paper instead of pulp; • closing of energy-consuming grinder room. 	Lack of relevant HELCOM Recs.	(2002)
Left-bank WWTP in Poznan Hot Spot No. 99.2			No information.	
WWTP serving Municipal Agglomeration of Lodz Hot Spot No. 100	Construction of WWTP in progress. WWTP is planned to serve the city of Lodz and neighbouring cities. Actually 99 % of wastewater undergo mechanical treatment and 86 % biological one. Annual average pollution concentration [mg/l] and reduction [%] in 2001: BOD ₅ – 23.34 (88.9 %) COD – 68.39 (85.2 %) N-tot – 28.83 (43 %) P-tot – 2.64 (64.5 %).	Completion of all WWTP's units to serve the whole agglomeration area. Construction plans include heating and power plant where natural gas will be utilised.	Completion of all WWTP's units to serve the whole agglomeration area. Construction plans include heating and power plant where natural gas will be utilised.	2006
WWTP "Lacza" in Zielona Gora Hot Spot No. 101	Mechanical – biological plant based on 3-stage biological treatment. Actual capacity 51,200 m ³ /d (195,000 PE). The plant serves 94 % of population. Sewerage covers 90 % of city area. Annual average pollution concentration [mg/l] and reduction [%] in 2001: BOD ₅ – 6.2 (99 %) COD – 26 (97 %) N-tot – 14.5 (73 %) P-tot – 0.4 (96 %). The sludge is utilised in municipal composting plant. The sludge quality enables the use for agricultural purposes.	Further development of sewerage (with accompanying equipment such as pump stations) is planned on the remaining part (10 %) of city area.	Relevant HELCOM Recs. fulfilled.	October 2002
Poultry Plant in Prochowice Hot Spot No. 102.1	The PLANT is equipped with own mechanical-biological plant where wastewater from poultry slaughter and processing units, production of feed meal and social part of the plant.	Modernisation of WWTP	No information.	

Copper Mining and Metallurgy Complex "Polish Copper" Copper Metallurgy Plant "Glogow" in Zukowice Hot Spot No. 102.2			No information.	
Copper Mining and Metallurgy Complex "Polish Copper" Copper Metallurgy Plant "Legnica" in Legnica Hot Spot No. 102.3			No information.	
WWTP in Wroclaw Hot spot No. 103	Mechanical-biological WWTP with chemically supported phosphorus removal. The start-up finished in July 2001. Sewerage covers 94 % of city area. The WWTP treats approx. 60 % of the total wastewater volume (70,000 m ³ /d). The designed capacity is 120.000 m ³ /d. The remaining 40 % undergo treatment on irrigation beds with capacity of 40.000 m ³ /d. Annual average pollution concentration [mg/l] in 2001: BOD ₅ – 9.0-10.0 COD – 33.0-41.0 N-tot – 9.0-10.7 P-tot – 1.1-1.2. Sludge is landfilled according to established rules.		No information.	(2002)
Chemical Plant "Rokita" in Brzeg Dolny Hot Spot No. 104	Air emission (incl. emission from the separate company responsible for energy supply to plants) in 2001[t]: SO ₂ – 398,851 NO _x – 513,849 Propylene – 126,998 Aliphatic hydrocarbons – 9,482 Ethylene oxide – 13,186 CO ₂ – 199,482 Dust – 211,990. Solid waste in 2001 [t]: produced – 70,650 (incl. 9,106 hazardous) utilised or rendered – 12,228 (incl. 6,141 hazardous). The Plant introduced automatic wastewater monitoring.	Modernisation of Plant's WWTP in progress. The wastewater volume was reduced due to closing down of phenol, betanaphthol, sorbite, TRI and chloroacetic acid production units. In the plant protection products unit the following measures were taken: <ul style="list-style-type: none"> • installation of modern technology of herbicides conditioning; • removal of chlorophenol 	BAT is not elaborated yet for the techniques used in the plant. The requirements of HELCOM Recs. are mostly fulfilled, except COD concentration at the outlet. As modernisation of WWTP is almost completed, the parameter will be observed in the nearest future. The Plant is granted with "Responsible Care" Certificate.	2003

	<p>Annual average of pollution concentration [mg/l] and load [t] in 2001:</p> <p>COD – 367 [1,473] Phosphorus – 1.6 [6.4] Nitrogen – 9.19 [36.8] Hg – 0.006 [37] Cd – 0.002 [13] Cu – 0.017 [96] Ni – 0.036 [180] Pb – 0.020 [158] Cr – 0.113 [478] Zn – 0.200 [1,302].</p>	<p>historical stockyards; further land reclamation was done as well;</p> <ul style="list-style-type: none"> reduction of wastewater and air emission due to installation of cyclone (collecting dried herbicides on de-dusting line). <p>With regard to reduction of mercury emission the following measures were undertaken:</p> <ul style="list-style-type: none"> modernisation of products cleaning from mercury remaining pollution; reduction of mercury content in wastewater due installation of new filter; modernisation of WWTP. 		
<p>Chemical Plant “Wizow” in Boleslawiec Hot Spot No. 106</p>	<p>Production of phosphoric acid based on Kola apatite. Solid wastes resulting from production (phosphogypsum, natrium fluosilicate and post-neutralisation mud) are landfilled or utilised, whenever possible. Technology used enables the reduction of dust and fluorides emission (fluidic and wet scrubbers).</p> <p>Air emission in 2001 [t]: Fluorides – 900 Dust – 13,000. Closed water cycle (97 % reduction of water intake and wastewater discharged). Pollution load discharged in wastewater in 2001 [kg]: P-tot – 737 Fluorides – 57.</p>	<p>Continuous reclamation of slopes of phosphogypsum dump.</p>	<p>Relevant HELCOM Recs. fulfilled.</p>	<p>(October 2002)</p>
<p>Agriculture in Odra river catchment Hot Spot No. 112</p>	<p>The idea of identification of specific areas being the main sources of agricultural run-off is still under elaboration.</p>			

Szczecin Lagoon Hot Spot No. 113	<p>Transboundary area. The state border divides the lagoon into Small Lagoon (Germany) and Great Lagoon (PL). The Lagoon is a part of Odra river estuary. Odra basin covers approx. 1/3 of Polish territory. National Park (with status of BSPA) was established on the Wolin Island. Odra river waters are the main source of pollution, however the slow but systematic improvement of their quality is noted. Another important source of pollution is city of Szczecin (Hot Spot No. 97).</p> <p>Problems affecting the environment of Szczecin Lagoon are:</p> <ul style="list-style-type: none">• high eutrophication;• threats to water resources;• storages of specific toxic waste (grave-yards) located near the lagoon;• lack of proper prevention system against flood and droughts;• damages caused by the Russian army formerly stationing in Poland (Swinoujscie). <p>Lack of explicit criteria makes impossible the determination of deletion timeframes/date from the JCP Hot Spot List.</p>
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Map of Polish Hot Spots

