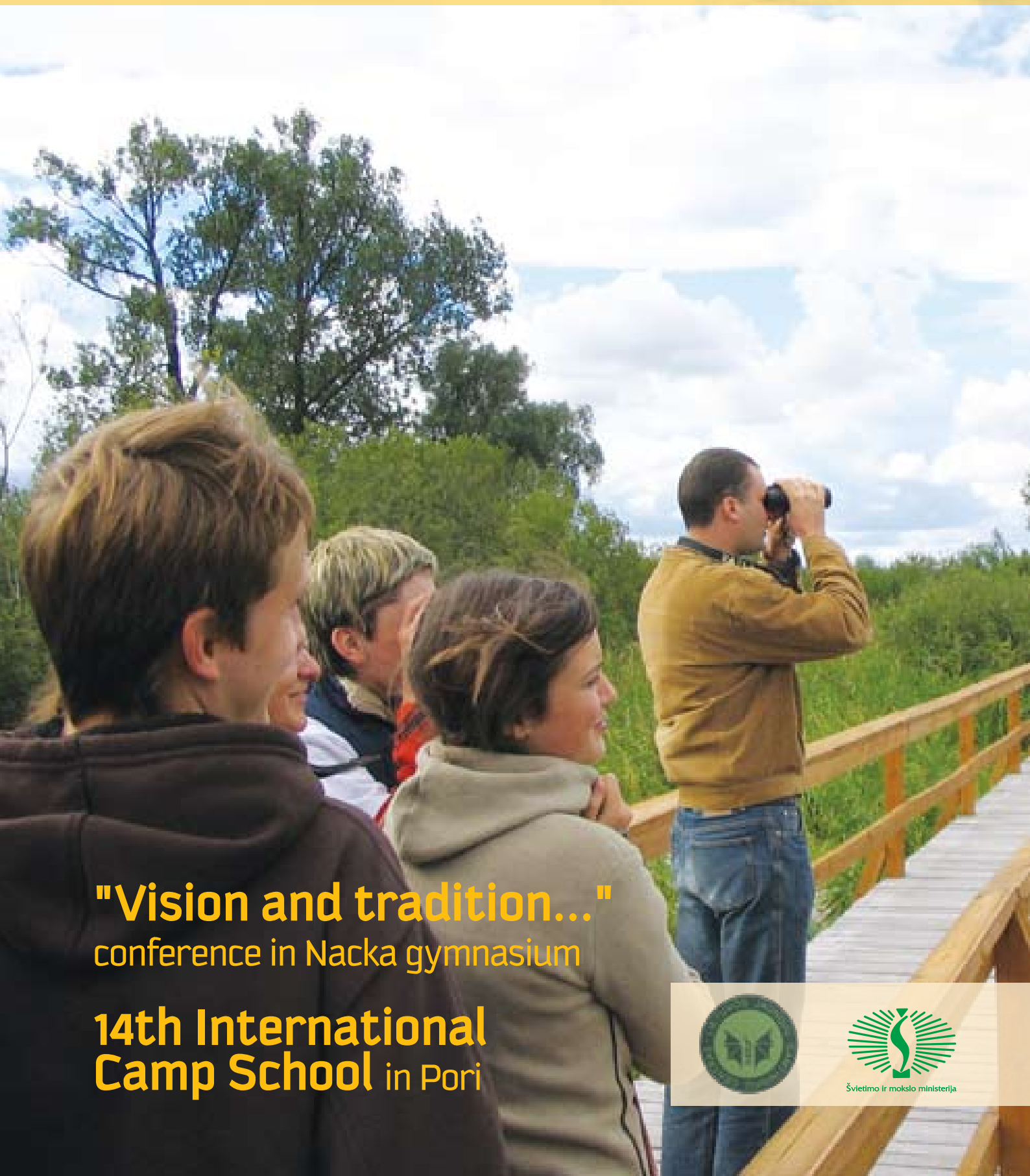


The Baltic Sea Project

NEWSLETTER No. 1-2 (28)



"Vision and tradition..."
conference in Nacka gymnasium

**14th International
Camp School** in Pori



Švietimo ir mokslo ministerija



The Baltic Sea Project

The Baltic Sea Project Newsletter is published twice a year

Circulation (current issue): 3500 copies.

First issued in Finland in June 1990 (500 copies)

All issues are available electronically at <http://www.b-s-p.org>

Editor: The Lithuanian National coordinator Rūta Jociūtė-Žolynienė

Proofreader: UAB "Magistrai", Gedimino ave. 43-3, Vilnius, Lithuania, phone +370 5 2619891, www.magistrai.lt

Authors are responsible for the choice and presentation of facts contained in signed articles, and for the opinions contained therein, which are not necessarily those of the BSP organisers. Published texts may be freely reproduced and translated (except where reproduction rights are reserved) provided that mention is made of the author and source.

Financial assistance: The Baltic Sea Project Newsletter is published in Lithuania with financial support from the Ministry of Education and Science of the Republic of Lithuania.

Distribution: The BSP Newsletter is sent free of charge to all BSP participants, organisations and other research institutions and government authorities.

All correspondence should be addressed to:

Rūta Jociūtė-Žolynienė

Lithuanian Young Naturalist's Center

Džiaugsmo St. 44, 11302, Vilnius, Lithuania

Tel.: 00 370 5 238 2600

Fax: 00 370 5 267 00 90

E-mail: ruta.jociute@b-s-p.org

www.bspinfo.lt

Logotype: Modified after Karin Peterson & Kjell-Ake Holmberg/Hompe

Cover: Students and teacher in Žuvintas swamp, Lithuania. Photo: Rūta Jociūtė-Žolynienė

The BSP objectives are to:

- increase the awareness of the students of the environmental problems in the Baltic Sea area and give them an understanding of the scientific, social and cultural aspects of the interdependence between man and nature,
- develop the students' ability to conduct research on changes in the environment,
- encourage students to participate in developing a sustainable future.

The BSP works with the following means:

- building networks of schools, teachers and educational institutions in the Baltic drainage area,
- creating and developing educational approaches and joint programmes for environmental and international education,
- organising joint activities and events, publishing the BSP Newsletter and issuing other relevant information.

The basic characteristics of the BSP schools:

- active participation in looking for solutions to the environmental problems in the Baltic Sea area,
- networking,
- pilot function in promoting environmental education in the spirit of the Rio Declaration, Agenda 21 & Baltic 21 and Agenda 21 for the Baltic region.

The educational approach for the BSP is to:

- achieve balance between a holistic view and individual subject studies,
- change the role of the student from passive recipient to active constructor,
- change the role of the teacher from supervisor to guide in a learning process,
- use networks to provide participants with opportunities to learn and pass along new ideas,
- use international co-operation as an inherent element of school work.



Production: Joint-stock company KOPA

Design: Jurga Dovydenaitė

Print: Joint-stock company KOPA

www.kopa.eu, phone +370 5 2331212

© KOPA® 2007

CONTENTS

EDITORIAL 4

EVENTS

Subsustainable Fishery	5
"Vision and tradition-in the spirit of Linne towards a sustainable Baltic" conference	6
Are we wiser today? The history of domestic waste water in Osby. A local conflict!	8
One world, one Globe-Globalisation... near you?	10
14th International Camp School in Pori, Finland	12

AIR QUALITY

Motor Vehicles and us	16
Frightening Levels of Pollution in Klaipėda	18

ENVIRONMENTAL HISTORY

Environmental History in after school activities	20
Linkuva Manor Estate: between the Past and the Present	21

WATER QUALITY

Ecological problems in the Curonian Lagoon	23
Let's drink nitrate-free water	25

VARIA

<i>"In the woods, we return to reason and faith..."</i> Ralf Waldo Emerson	27
The Baltic Sea Project further continues its Activities	28
Soils in Glogow and the surrounding area	29
Environmental Club "Žalieji namai"	30
National coordinators' reports 2006-2007	31
Programme coordinators' reports 2006-2007	37

Competition "Tales and legends of The Baltic Sea Region"

Rules of Competition	39
Entry form	40

International BSP Conference "Evolution of Environment"

Regulations	41
Participant's application form	42

BSP meetings and conferences in 2008 43

Contributions 43

Dear Readers,

In September 2007, Lithuania took over from Poland coordination of the Baltic Sea Project.

A lot of events took place during this period which I am eager to introduce to you.

First and foremost, I want to express my thanks to Barbara Maitin, the Phenological Studies Programme Coordinator, and Reet Kristian, the Estonian National and BSP Coast Watch Programme Coordinator, who worked under the project for a long time. These Coordinators did a great job to make programmes attractive to pupils. All project participants have got a warm and sincere thank you to you.

At the same time I would like to congratulate the new Coordinators – Vytautas Eidėjus, the Phenological Studies Programme Coordinator, and Karin Kuum, the Estonian National Coordinator. I wish you a great success.

Already the seventh issue of the Learners' Guide under the title Recycling was published in 2006. We are grateful to the team of publishers of this book - Ute Gronwoldt, Martin Jarrath, Stanislav Babitch, Claudia Domel, Gisela Knipper, Jenifer Lockett, John Lockley, Susanne Mellvig, Hansjorg Nieb, Franz Schurig and Volker Stiehl! Your contribution is outstanding and valuable both, to the participants of this project and to people concerned about environment.

You can download Recycling BSP Learners' Guide 7 from <http://www.b-s-p.org/lg7>

The conference "Vision and Tradition – in the spirit of Linne towards a sustainable Baltic" relevant to the Baltic Sea Project was held on 16-20 April 2007 in Nacka Gymnasium (Sweden). The conference hosted delegations of pupils and teachers from all Baltic Sea Project countries.

Pupils were invited to attend twelve sessions and discussions prepared and run by pupils, including Climate changes, Sustainable fishing, Eutrophication, Oil spills, Nationalism, Energy politics, Labour resources, Welfare measures, Environmental history, Water quality, Heavy metals, Biomangification. Teachers attended sessions organised separately for them. They were invited to eight lectures and educational programmes: Linné and environmental problems of today, Teaching sustainable development, Looking for information on the web, Different strategies for a sustainable development, Resilience with examples from the Baltic Sea, Integrating economic, social and environmental aspects on sustainable fishing, Integrating economic, social and environmental aspects on sustainable forestry, Finding common parameters to measure eutrophication. The conference participants visited differ-

ent museums and watched "Inconvenient truth" by Al Gore, the film which gave rise to countless discussions.

I would like to express my gratitude to the organisers of this conference - Susanne Mellvig and Rolf Ericsson for the wonderful organisation and interesting choice of lectures. More information about the conference is provided on page 6.

For the first time the international conference Agenda 21 NOW! held on 5 May 2007 had no technical problems and attracted huge numbers of participants from the whole world. See page 10 for more information.

More descriptions of the events of the current and previous years can be found among BSP Newsletter articles and in reports of national coordinators at the end of the journal.

On the last pages of BSP Newsletter you will find invitations to participate in a very interesting competition "Tales and legends of Baltic Region" and the conference "Evolution of Environment" pending in Vilnius in 2008.

The administration of the Baltic Sea Project page was successfully taken over from Poland. From now on all information you need will be posted on www.bspinfo.lt. Now this page is being upgraded to make it more attractive and user-friendly to you.

This is the first BSP Newsletter in Lithuania. I hope that everyone will find something personally interesting and useful in this edition.

I would like to encourage all teachers, pupils and other readers of this Newsletter to send in their articles and photos.

Finally, I would like to thank all BSP National and Programme Coordinators, teachers, pupils and my working group members for their support, ideas and proposals.

Let's work together for better future of the nature in the Baltic Sea region!

Rūta Jociūtė-Žolygienė

National and General Coordinator of the Baltic Sea Project associated with UNESCO ASPnet Project
E-mail: ruta.jociute@b-s-p.org
<http://www.bspinfo.lt>



Photo: Sergej Asociakov

Subsustainable Fishery

2006 was the fourth course on sustainable fishery. These courses still have the purpose of developing local teaching material and of course creating contacts in the countries around the Baltic Sea. This time we went to the lovely island of Bornholm. This year the participants came from Poland, Sweden, Estonia, Germany, Russia and Denmark.

At the courses we try to look at the theme in different perspectives. We do that by participating in several activities.

First on the program was visiting the local chairman of the fishermen. This was to give the participants an impression of the history of fishing, at and around Bornholm. Here we heard how the fishing fleet has changed over the last 30 years and how these changes have influenced society.

One of the other things we visited was a smokehouse in Sandvig Allinge. We were shown how they smoke fish. Today they use two different methods - one with electric and gas and the traditional way with wood.

Visiting "Natur Bornholm" proved to be delightful. In the exhibition we saw wildlife on Bornholm both above and below sea level. On a guided tour in the surrounding area we heard how Bornholm was developed. At the same time we were lucky enough to run into a world sensation. They had just found some rare fossils of jellyfish. Read more at www.fossil-art.dk. We were told that this was the second place in the world that they had been found. At lunch they served different specialities - delicious!

An essential element was the biological excursions. Here we mostly worked in shallow waters. We studied animals and plants and discussed similarities and differences between the different areas around the Baltic Sea (Germany, Poland, Denmark, Estonia, Sweden and Russia). Furthermore we considered what activities would be suitable for young people (13-14 years old), for example, catching and identifying animals and plants. It's really delightful to hear the students open up. This time we also tried some electronic devices for measuring the temperature, pH and oxygen level in the water.

Morten Malmqvist

Teacher

Sonderskov-Skolen, Grundvigs Alle 100, Sonderborg, Denmark



Photos: author



Vision and Tradition – in the spirit of Linne towards a sustainable Baltic

NACKA, SWEDEN, APRIL 16–20, 2007

This spring we had the wonderful opportunity to participate in the international BSP conference "Vision and Tradition" in Nacka Gymnasium in Stockholm, Sweden. There were four students and two teachers Ana Lavrinovič and Gražina Drebigienė, who is a BSP coordinator in Žemynos Gymnasium, Vilnius, Lithuania.

Our Gymnasium has been developing the project "Pollution in our Environment" for almost three years. The main goal of our work is to investigate SO_2 pollution in the Fabijoniškės, Justiniškės, Pašilaičiai and Šeškinės districts of Vilnius.

During the conference the students and the teachers were taking part in some of the seminars concerning the Baltic Sea region and the aspects of sustainable development. The students were divided into six seminar and five museum groups. There was a wide choice of seminars, which the students selected on their own.

The teachers attended these seminars:

1. Linne and the global environment.
2. How to teach sustainable development.
3. The Al Gore film "An inconvenient truth" and the lecture in Nacka Culture Center.

4. Resilience – robustness of social, economic and ecological systems.
5. The sustainability of the Baltic Sea – the environmental history told by the life stories of seals.
6. Sustainable fishing – considering social, economic and ecological aspects of cod fishing in the Baltic Sea.
7. Baltic Coastal Woodlands – a new approach to sustainable forestry.

We have also visited these museums: The National Museum of Science and Technology, The Boat "The Kronor" and Aquaria Water Museum, which nicely contributed to the information we received.

During this conference we had the chance to meet a lot of interesting people. Students were able to improve their knowledge in different subjects, especially in biology, chemistry, physics, ecology, and history.

In my opinion, the teachers will be able to put this new information into practice during their lessons.

We liked the conference very much and will always remember the workshops and experiences.



Photos: Rūta Jociūtė-Žolynienė, Simona Kavaliukaitė, Romualda Fedosejevaitė, Ana Lavrinovič

I hope we will have interesting conferences like this in the future. Thanks a lot to the organizers Sussane Mellvig and Rolf Erikson!

And many thanks to all the students and teachers!

Ana Lavrinovič
Chemistry teacher
Vilnius Žemyna gymnasium
Čiobiškio St. 16, Vilnius, Lithuania
E-mail: ana.lavrinovic@gmail.com



Are we wiser today?

THE HISTORY OF DOMESTIC WASTE WATER IN OSBY. A LOCAL CONFLICT!

This was the title of Ekbackeskolans contribution to the BSP meeting in Nacka in April 2007. Five students from our school held this workshop twice, and the preparations began in January 2007. Working with environmental history in education means, in our opinion, that the studies must include special parts. These parts are time and conflict. We used *Learning from Environmental History in the Baltic countries. Learners' Guide No. 6*, page 12, to find direction and a platform for our work.

The first important part is *time*. It's impossible to work with environmental history without a timeline. The timeline helps the students to develop knowledge about the present and the past. It is also an important tool for the students in the connection between the present and the past.

We started this project in current environmental questions about the quality of the Baltic Seawater. After that we searched for more general reasons for the present situation, and one of these reasons, which the student found, was wastewater from households. So we visited our local treatment plant and our guide told the students that the

plant was built in 1958, and in 1973 it was upgraded to be able to more efficiently clean wastewater.

We could now place three important years on our timeline: 2007 (present), 1973 (past), and 1958 (past). We also used this knowledge to formulate new questions: Why was the treatment plant built in 1958? What were the reasons? Were there any problems in the lake? Were the problems in the past the same problems we have today?

Our next step was to search our local archives to find answers why the treatment plant was built, and rather quickly we found that one important reason was the water closet. In 1923, the first WC was installed in our community, and it solved the problems of dirty water near the houses. All wastewater was led to the lake.

To give the period between 1923 and 1958 a structure and sense of course we used "The Racingtrack". The Racingtrack is a timeline which structures an environmental problem in different stages, all connected in a course with a starting-point and an end.



Photo: authors

I -----E -----D -----D -----M-----F -----/ catastrophe?

Effect-time Discovery-time Decision-time Result-time

I = Time when a substances or a process was introduced.

E = Time when the substance or process was affecting nature.

D = Time when the problems in nature were discovered by the people.

D = Time when it was decided what to do about the problem.

M = Time when the people measure there solution. Have we solved the problem?

F = Time for feedback.

The second important platform in our work was conflicts. We wanted to find conflicts about environmental problems in the past. Maybe we can learn from these problems when we discuss environmental problem in the present and in the future. Maybe the student could find people in the past who warned their community of a new substance or a new process. Maybe the students could found patterns when they compare conflicts in the past with conflicts in the present. Maybe this knowledge will engage young people in environmental problems and give them tools to solve them.

The workshop. In the archives the students found evidence of meetings between people with different opinions regarding the problem of dirty water in the northern part of the lake and who disagreed about building a treatment plant in the southern part of the lake. This conflict and the people in it were to be the basis of our workshop.

The students created characters with different names and of different sexes, ages and professions and made them take part in the meeting to discuss the water purification issue. These characters were then played by the students participating in the workshop and each was given a character card to be able to play there role. Our students were moderators. But first the participants listened to the history of water closets in Sweden.

The different characters were: politicians from both the countryside (representing the southern part of the lake) and urban areas (representing the northern part of the lake), scientists, owners of summerhouses, and the owner of a boarding house. Our students ended the workshop and the meeting by discussing the conflict with the participants using the following questions: *Who* is going to pay for the treatment plant? *Where* are we going to locate the treatment plant? *How* are we going to clean the water?

Bo Persson, Karin Mansson

Teachers

Ekbackeskolan

Vastra Storgatan St. 15, Osby, Sweden

bo.persson@lut.mah.se



Photo: author

One World, One Globe – Globalisation

... near *you*?

REPORT ON THE 24-HOUR AGENDA 21 NOW! INTERNET CONFERENCE 2007

Half a night, a day and another half night of conferencing, that's what Agenda 21 NOW! always is for the Agenda 21 NOW! team — the culmination of the annual team activities.

This year on the 9th of May, at the eighth conference, we had 24 hours of discussion about globalisation.

Yes, already the *eighth* Agenda 21 NOW! conference! As Agenda 21 NOW! is getting older, the team is more experienced. Things were easier in the eighth conference than in the first or second. The conference is becoming more multinational – never before were there more participants from more countries than this year.

Is Agenda 21 NOW! also getting better with the years?

We think this question can be answered clearly: Yes.

An Internet conference with an expected 1000+ registered participants requires a fast root server that can handle 150 or 200 participants at a time being online, reading, and writing, and thus discussing.

For the first time, no technical problems occurred during the conference. At least I haven't heard of any yet. Those of you who have taken part in former Agenda 21 NOW! conferences may remember there have always been times, especially in the European morning, when the conference hasn't run very smoothly or even hasn't run at all for a period of time. Nothing like that happened this year; the technical task force remained unemployed the whole day.

The reason for the absence of technical problems could very well be that this year, for the first time, the technical part was run solely by team members. The Linux root server was set up and fully operated by Johannes Steinmann, a 2005 graduate of Kandel Comprehensive. All other IT parts, particularly the conference software, were created and operated – as every year since our first conference on 5 June 2000 – by Thomas Detsch, who graduated at Anna-Schmidt-School, Frankfurt, on the very day of our first conference. Thomas has been a university student of IT since.

A technical success OK. What about the participants and contents?

This year, let's take a look at some user statistics.

1023 participants fully signed up for the 2007 conference. "Fully signed up" means: These 1023 people went through the whole registration process and received their user name and password to enter the conference.

The registered participants came from 68 countries. As in former years, it wasn't Germany who was in the lead in terms of the number of participants. Germany (174 registered participants) was second to Poland (178), followed by Australia (60), Indonesia (57), Canada (54), Japan (49) and Israel (42). A number of countries had 10 or more registered participants: Bulgaria, Denmark, Afghanistan, Uzbekistan, the Czech Republic, Lithuania, Switzerland, Turkmenistan, Chile, Estonia, Nigeria, Palestine, Bangladesh, Morocco and Russia.

More than ever, the participants were widely spread over the globe, allowing discussions between people living in very different corners of the earth.

Out of these 1023 registered participants, 552 logged into the conference on the Agenda 21 NOW! conference day and read through what was written in Agenda 21 NOW!'s conference rooms. 428 participants wrote at least one; 233 wrote five or more contributions.

This has happened in all eight conferences: About half of all registered participants log into the conference at least once during the conference day, and half of all those who log in are very active participants – participants who not only read but write more than a couple of contributions.

Concerning the content, it is a bit more difficult to say whether 2007 was successful.

A couple of days after it officially ended we opened again for a week of "Conference after the Conference". The aim was to discuss what had happened during the conference and to find out if the conference had been a success or not. Most importantly, we asked the registered participants to fill in a short questionnaire to help us find out what was good and bad and what should be changed in a next conference.

Here are some of the results:

81% of those who filled in the questionnaire said they liked the conference or liked it very much.

Only one participant claimed that he disliked the conference theme; all others rated the conference theme "quite good" or better.

The quality of the discussions was rated quite good (50%) or good (34%); 3% said "very good" and another 3% said "bad". It is obvious that "quite good" is quite good, but not good enough. Therefore, providing a better quality conference is one of the major future tasks for the Agenda 21 NOW! team.

56% of the participants who sent in the evaluation questionnaire said that they would have liked to discuss and eventually adopt a resolution, 36% said they didn't know.

Developing, discussing and eventually adopting a resolution demands more of the Agenda 21 NOW! participants than just having a discussion with someone sometime in a conference room. It means a bit of concentrated work for a number of participants and team members. Will the Agenda 21 NOW! participants really want to do that? In previous years we estimated no, but it seems we should try to work with a resolution during the next conference. A true challenge ...

All in all it seems to us that Agenda 21 NOW! in many ways is on the right track.

A big thank you to all the team members, experts, and the many participants who made the 2007 conference a lively one!

Since we started developing "Agenda 21 NOW!" in 1999 we have felt that this project is always a challenge. It seems to no longer be that much of a challenge technically, but making a "good" or "very good" conference – concerning the contents – definitely is, as it was for the very first conference. Besides all efforts concerning conference quality, there are two essentials we won't change:

1. The communication at Agenda 21 NOW! is written communication, so that everyone can see every discussion, participate in everything, and with any computer equipment.
2. Agenda 21 NOW! will remain monolingual – we will continue to stick to English as the only allowed language. English allows a maximum of participants from a maximum number of world regions. One language means no language barrier between participants.

Agenda 21 NOW! is not just a conference, it is a project, a process.

We are open to suggestions and we are open to reliable people who would like to take part in the making of Agenda 21 NOW! in the future. Welcome to Agenda 21 NOW! !

Agenda 21 NOW! in 2008

The next conference will be held on 8 May 2008. See for more information on website <http://www.agenda21now.org>

Martin Jarrath

Voordinator of Agenda 21 NOW!
c/o Hindenburg Gymnasium Trier

Augustinerstr. 1

D-54290 Trier

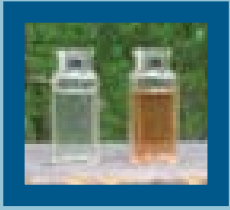
Germany

Phone +49 651 9795 0

Fax +49 651 9795 299

E-mail martin.jarrath@agenda21now.org

<http://www.agenda21now.org>



14th International Camp School 2007

A group of eight students and two teachers from Allsund Gymnasiet Sønderborg in Denmark on Sunday the 27th of May went to the 14th international camp school in Pori. This school camp was coordinated by the Finnish Meri-Pori Upper Secondary School as a part of the Baltic Sea Project.

The Baltic Sea Project is an international network among schools focusing on improving the environment in the Baltic catchments areas.

A gathering consisting of two groups of students from Poland, one group from Denmark, one group from Finland, teachers from Estonia and Lithuania joined this year's camp. The camp was full of fun and laughter, but it was also a camp full of hiking, meeting new people, and many new experiences.

The first day of the camp was mainly a "get to know each other" day. In addition, the principal and the leader of the camp gave us some information about the city of Pori and the school system in Finland.

School system in Finland

The school system in Finland is quite similar to the system in Denmark. It consists of nine years of primary school, and after that you can choose either Upper Secondary school or Vocational school. The Upper Secondary school that we visited had, as did the Vocational Secondary school, a classless system. Instead of classes, you choose courses, which take seven weeks. Some of the courses are compulsory while others are optional.

This school camp was intended for the Finnish students, who already had a course about Environment and Biodiversity, as an optional course.

Nature and geography of Finland

Finland is a Nordic country situated in Northern Europe. Finland borders Sweden, Russia, Norway and Estonia. Finland is a country with thousands of lakes and islands. More exactly 187.888 lakes and 179.584 islands. The landscape of Finland is mostly flat, with a few hills. Apart from the many lakes, the landscape is characterized by forest areas.

These facts are also characteristic of the city of Pori. It is a city of culture and nature, and it is situated in the western part of Finland, close to the Baltic Sea. It is located at the mouth of the Kokemäenjoki River. Pori is one of Fin-

land's oldest cities, which we particularly saw on our trip to the more remote part of Pori, the old fishing village of Reposaari.

Marshland

On Wednesday afternoon the 30th of May we went hiking in Isosuo Marshland Nature Protection Area in Pomarkku. It was a beautiful and interesting place.

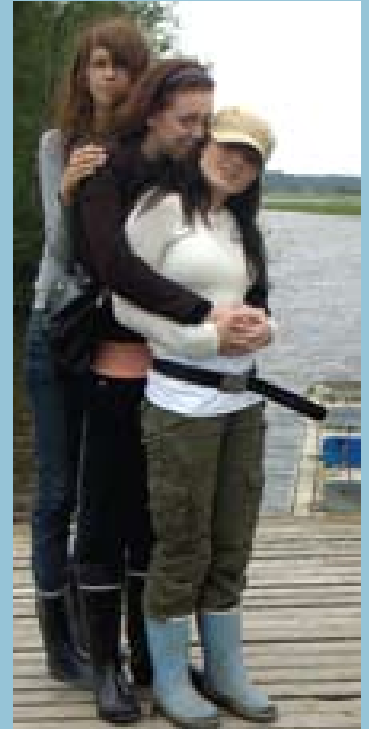
Most of the landscaping in Finland is covered by mire. After World War II the mire area made up a total of 10.4 million hectares, but during the last 50 years the area has been reduced by 1.5 million hectares or 30,000 hectares per year. This reduction is mainly due to the drainage of forestry and agriculture.

There are many different ways in which mires are born. One way is when a forest develops into mire. Nearly half of the mires were born in this way. Other ways that mires are born are when the land rises from the sea and becomes marshy or when various plants cover a lake and the lake becomes a mire.

On our walk in the Marshland area, we had to walk on wooden planks, which were placed all around. The mires are normally very deep, three to four meters, and without the planks we would fall in.

Bird, water, and air analysis

The international cooperation, the Baltic Sea Project, also consists of water, bird, and air analyses in the cooperating countries. On the 29th of May we were divided into groups consisting of students and teachers from the participating countries. The idea of studying the water, bird and air quality was to make an estimation of what impact mankind, climate change, and other factors have on nature.





Air analysis

Lichen are very sensitive to air pollution. Trafficked highways pollute the air with sulphur dioxide and other gasses. The lichen can therefore be used as a bioindicator for the air quality. To analyze the air quality, lichen diversity was analyzed on pine trees at distances of 10 m, 50 m, and 100 m from the highway. The coverage of lichen on the trees and the number of species were analyzed to give an indirect indication of the air quality. The results showed that at a distance of 50 m from the highway the average number of species was the largest compared to the other distances. Also, the coverage of lichen on the pine trees was highest at a distance of 50 m. From this we concluded that some species of lichen need very clean air and other species need polluted air. To see what development there has been in air quality the last couple of years, we compared these results with results from previous years. We saw that the number of species and the coverage had increased since the tests made in 2001. This meant that the air quality had become better since 2001.

Water analysis

Wastewater and nutrients from over-fertilized areas which are being led out into the sea have a very big influence on the life in the water. Also, pollution of the sea water with heavy metals and other bioaccumulating chemicals is being analyzed to study the quality of the water. Water samples were taken from three different areas, from Yyteri seashore, Lake Enäjärvi, and the Kokemäenjoki River. The samples were analyzed by measuring the pH of the water. The value of the pH in the water was measured with a pH electrode. The water was also tested with a spectrophotometer. The spectrophotometer was used to make an indirect measurement of nutrients in the water. The conductivity of the water was also tested to study the water for ions. The water was also tested for gaseous oxygen. This year's results were not that different from the previous year's results.



Bird analysis

Bird diversity was also studied in three different areas: Yyteri, Enäjärvi and Teemuoto.

The different species seen in these three areas were noted and the average number of species this year was compared to results from previous years. This year there were 51 different bird species, which is a lot more than in 2003, when there were only 27 different bird species. The number of species has gradually increased from 2003 to 2006, when the number of species was just a little higher than this year's number.

Bird ringing

Another activity we participated in was ringing tawny owls. There were three chicks in the nest, which is rather rare in Finland, because of the lack of food. Normally owls have only one or two chicks. The three owls were ringed around one of their legs with a metal ring. The rings were engraved with an identification code. This ring is used to follow the birds, so that when a dead bird is found, perhaps in another country, the ring can be sent back to Finland and they can study where the birds travel. The three chicks were also weighed and their wing lengths were measured.



Energy

There has been a growing need for energy in recent years. Some of the sources of energy in Finland today are wind, nuclear power, and coal. On the 30th of May we visited the Finish Fortum, a coal power plant, and on the 31st of May we visited Kirrinsanta, a wind power centre and Olkiluoto, a nuclear power plant. These three firms gave us a general idea of how the different resources are used to produce electricity.

Wind power plant

In recent years the subject of global warming has been in the headlines. Global warming is a consequence of our increased energy consumption and air pollution. Greenhouse gasses are being led out into the air and are among other things causing global warming. Greenhouse gasses are waste products from the production of electricity from

fossil fuels. To lower the amount of greenhouse gasses being led out into the air, new alternative ways of producing energy have been thought of. One of the alternative ways of producing energy in Finland is by wind power. Wind power is a renewable energy source, and because the energy is made directly from wind power there are not any waste products like greenhouse gasses.

The wind power centre we visited was located in Pori. In Pori, there are a total of 11 windmills, nine of these originate from Denmark. The newest windmill built in Pori is of Finnish design. It is 90 meters tall and the wing span is 6,359 m². Finish windmills have integrated heaters in the blades, because of the cold climate in winter.

In 2009, plans are to build a park of windmills to increase the amount of Finnish energy coming from windmills. There is a lot of ongoing research to discover the environmental effects.

Nuclear power plant

The main idea of nuclear power is to use fission to create heat. This heat is used to evaporate water. The steam is hereafter used to move a turbine, which creates electricity.

A specific isotope of uranium is needed as fuel for the nuclear reactor. The isotope which is needed is U-235. U-235 is fissile in comparison to U-238, which is not. Only a small percentage of the world's uranium is U-235. Therefore they need enriched uranium-235 for the fuel rods. The enriched uranium consists of three to five percent U-235. The fuel rods are changed every fourth year.

When a neutron hits a U-235 nucleus, this results in fission, because the neutron is absorbed into the nucleus. This creates the unstable isotope U-236, which splits into two smaller atomic nuclei. The reaction could look like one of the following two.



This releases a large amount of heat and two or three neutrons. When the neutrons are released as a result of the fission, they hurtle around at a very high speed and can therefore not be absorbed by the uranium.

Only a decelerated or moderated neutron can split a nucleus. Finnish reactors are therefore light water reactors. The water is used as a moderator. The neutrons can cause a chain reaction when they have been decelerated, and this is possible with the enriched fuel. To control the reaction in the reactor they have control rods, which consist of material which can absorb the neutrons so that the reaction is stopped.

Nuclear power, like wind power, is one of the alternative ways of producing energy without letting greenhouse gases out into the air, but it is not without waste products. In this case the waste products are radioactive chemicals that need to be stored so that they don't affect anyone with their radioactivity. Today, the fuel rods are disposed of in Posiva, a place close to the power plant. Finland has been planning for 25 years to make an underground facility at Eurajoki for disposal of nuclear waste. The fuel rods lose their beta activity in about a thousand years, and then they start to lose their alpha activity after that. The fuel rods are packed in a protective layer of iron and then surrounded by a layer of copper.

The Finnish nuclear power plant TVO was founded in 1969 and is privately owned. The reason Finland really likes nuclear energy is because it is a stable source of energy and it makes Finland an independent country.

Coal power plant

The idea of using coal to produce electricity is the same as with nuclear power, but instead of using fission to evaporate water, the necessary heat is created by burning coal. When coal is used to create electricity some of the waste products are greenhouse gasses. Other waste products are fly ash, bottom ash, and gypsum. Some of the waste products, such as gypsum, are reused.

The smoke from the burning of coal is cleaned before being led out into the air. Ammonia and lime stone are used to remove most of the NO_x and the SO_x from the smoke.

Comparison of Finnish and Danish energy consumption

Energy is an important resource for Finland and Denmark. It would be interesting to see which resources are being used to produce electricity in both countries. In Finland, 24.4% of the total production of electricity is from nuclear power, which is a lot more than Denmark, where there are no nuclear power plants and thereby no production of electricity from nuclear power. If we, on the other hand, look at the total production of electricity from wind power, Denmark produces 20% in contrast to Finland, where only 2% of the total production of electricity is from wind power. If we look at the use of coal as fuel to produce electricity, Finland's use of coal out of the total energy production is 4%. This is a lot lower than Denmark's use of coal, which is 46% of the total energy production.

The Butterfly

On the afternoon of Thursday the 31st of May we had to do some work in the region of Säkylänharju. Our job was to save the butterfly *Pseudophilotes vicrama*. It is 20 to 26 mm in size. The male is pale dusky-blue in color with a broad border, while the female is brown. This region is the only place in Northern Europe this butterfly lives. The butterfly larvae feed on the thyme plant. The reason these butterflies only live in this part of Finland is because the thyme



Photos: authors

plant needs sandy soil. These areas of sandy soil were created as a consequence of forest fires.

This plant needs sun to survive; therefore we had to remove all the other plants in the area so that the thyme plant could survive and spread.

Because of our work the butterfly has a greater chance of survival.

Our trip to Finland gave us a lot of experiences and knowledge. We saw nature from a new perspective and learned about Finland's viability and biodiversity. Another thing we gained a perspective of was the cooperation between the countries around the Baltic Sea. We had the opportunity to meet new people and make friendships.

Thank you for this great trip and excellent hosting.

Johanne Tarpgaard and Majbritt Luckmann

b08

Alsundgymnasiet Sønderborg

Grundtvigs Alle 86, DK 6400 Sønderborg, Denmark

www.ags.dk

Motor Vehicles and Us

Air is a gift of nature. You do not have to look for it, and it does not cost anything. Maybe this is the reason why it is little valued. Each day enterprises, plants, and transport emit a lot of various pollutants. Cars are one of the biggest pollution emitters. They also cause a lot of noise, which is harmful to nature.

The queues of cars that we saw each morning on the street near the school encouraged us to run the project "Impact of Motor Vehicles on the Environment". First of all, we set the goals and the targets, and formed the hypothesis of the project. Then we made a plan, and shared responsibilities. We decided to find out how many motor vehicles use our street and how they affect the environment. To achieve this goal we counted vehicles for 6 seconds travelling in both directions. We multiplied the number by ten and calculated the traffic intensity per hour. To receive precise data we counted vehicles twice a day on working days (at 8 a.m. and 2 p.m.) and once a day on weekends. The collected data was upsetting. On average, 1731 motor vehicles (1600 cars and 131 heavy vehicles) use this street per hour. The largest number of vehicles is around 8am, when everyone is in a hurry to get to school or work. On some days, the number of vehicles reached 2810. At noon we counted 1500 vehicles per hour at most. The least usage is on weekends: 300 – 400 vehicles per hour. Using certain formulas we calculated the concentration of carbon monoxide and the intensity of noise on the sides of the street:

the concentration of carbon monoxide in the air exceeds the admissible norms: at 8 a.m. – 4 times, at 2 p.m. – 3.2 times, giving an average of – 3.8 times;

the noise exceeds the admissible norms: at 8 a.m. – 2 times, at 2 p.m. – 1.1 times, giving an average of – 1.4 times.

After summing up the received data, we came to the conclusion that the highest pollution rate is at 8am when the traffic is most intensive. This conclusion confirmed our hypothesis that the pollution of the environment depends on the intensity of the traffic.

At the end of the project we decided to carry out a survey among the members of the school community in order to find out how they arrived at school (by car, by public transport or on foot). The results of the survey showed that 27 percent of pupils and 18 percent of teachers went to school by car. As we were disappointed by these numbers, we decided to promote the use of public transport and walking. Having collected a lot of useful information about the harm of the emitted gases and the noise made by motor vehicles, we published a leaflet. It urges people to think



Photos: author



about whether it is always necessary to go by car. The majority of pupils and teachers live in the surroundings of the school and could cover short distances on foot or take a bus for longer journeys. We presented our project on the information stand of the school and distributed leaflets both in the school and in the town.

Our school has been participating in the Baltic Sea Project since the first year, therefore we have carried out a lot of researches and projects. In class, pupils acquire the knowledge that helps them to understand and evaluate the surrounding world; however in many cases the acquired knowledge does not change pupils' behaviour. In order to change behaviour, one needs to change moral values first, i.e. the attitude towards nature and the world. It is human

nature to take care of things that are close. By exploring the surrounding environment, pupils learn more about it. Consequently, they learn how to respect, love, and care. When working with pupils, I try to create conditions that gradually develop their moral values. To reach this goal I am following the principle:

Explore – Learn – Love – Protect.

Rasa Salemonienė

Biology teacher of Kaunas Region Garliavos Jonučiai Secondary School
 Vasario 16-osios Str. 8, Garliava, Kauno rajonas, Lithuania
 e-mail: rs0322@one.lt

Frightening Levels of Pollution in Klaipėda

In 2003 pupils of the chemistry group of the Klaipėda Pupils' Self-expression Centre started a research on carbon monoxide pollution under supervision of the expert teacher Donata Žiaukienė. The results were startling and shocking: the amount of CO gas emitted into the air exceeds the norms from three to six times. The collected data

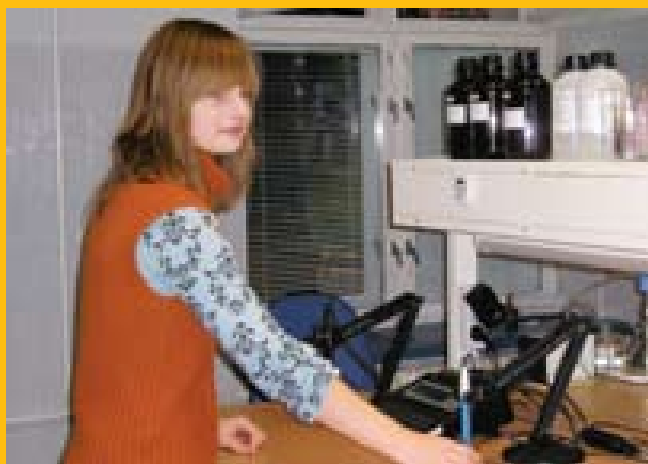


Photo: author

was presented at a number of conferences, contests, and schools. An article about the research was published in the daily "Klaipėda". Presenting the results of their research the pupils also submitted their proposals on how to reduce the pollution in the air and improve the quality. However the proposals fell on deaf ears. Thus it is no surprise that according to the results of researches carried out in 2004 – 2007, when not only the amount of CO, but also the acidity of rain and emission of other noxious gas such as sulphur dioxide and nitrogen dioxide were measured, the level of pollution rapidly increased.

A lot of people do not even realize how dangerous carbon monoxide gas is. It reduces the ability of blood to transfer oxygen, which results in headaches, nausea, and vomiting. Carbon monoxide is also the cause of heart and blood circulation diseases and coordination disorders. It is assumed that CO, which is in the air, increases the risk of heart attacks and has a negative impact on development of the foetus. When the concentration of carbon monoxide in the air reaches 0.06 percent, a human suffocates. Therefore after the frightening results of the research in 2003 it was decided to continue further observations of the variations of CO gas concentration in the air. The main source of carbon monoxide is motor vehicles. There are 90,000 cars in Klaipėda. Bearing in mind that 100 cars exhaust emissions amount to about 2.5 mg/m³ CO per hour it is not difficult to calculate how much carbon monoxide is emitted into the air each day. The concentration of this noxious gas is extremely high at intersections, because the pollution of the air increases when cars are stationary or driving slowly.

In comparison with the data of 2004 – 2007 the average CO concentration at the intersection of S.Daukanto St. and Herkaus Manto St. on working days was 73.9 mg/m³ in 2004. In 2005 it was 80.5mg/m³, and in 2006 – 2007 it reached 90 mg/m³, whereas since 2005 the norm has been 10 mg/m³.

The amount of emitted CO gas (mg/m³) at intersections of Klaipėda (on working days) in 2004:

Intersection	Admissible norm mg/m ³	Measured norm mg/m ³	Number of vehicles
S. Daukanto - H. Manto	14	73.9	2995
Liepų - H.Manto	14	67.6	2710
Taikos pr. - Sausio 15	14	90.0	3600
Naikupės - Minijos	14	80.0	3200
I. Simonaitytės - Smiltelės	14	69.3	2770

The amount of emitted CO gas (mg/m³) at intersections of Klaipėda (on working days) in August, 2005:

Intersection	Admissible norm mg/m ³	Measured norm mg/m ³	Number of vehicles
S. Daukanto - H. Manto	14	80.5	3220
Liepų - H.Manto	14	53.075	2123
Taikos pr. - Sausio 15	14	75.025	3001
Naikupės - Minijos	14	46.05	1842
I. Simonaitytės - Smiltelės	14	46.3	1852

The amount of emitted CO gas (mg/m³) at intersections of Klaipėda (on working days) in 2006 –2007:

Intersection	Admissible norm mg/m ³	Measured norm mg/m ³	Number of vehicles
S. Daukanto - H. Manto	10	90	3600
Liepų - H.Manto	10	75	3000
Taikos pr. - Sausio 15	10	60	2400
Naikupės - Minijos	10	93.025	3721

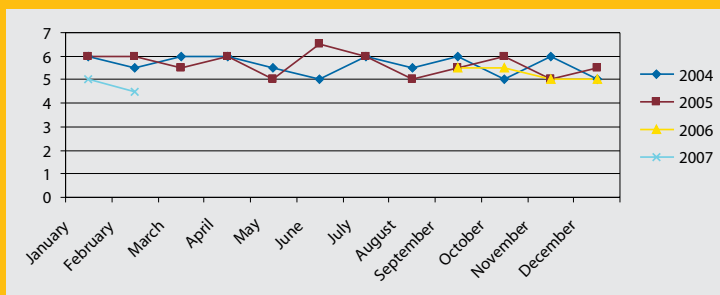
One more problem is cars parking in courtyards near apartment buildings. While starting an engine, the amount of pollutants emitted into the air is 50 times more than average. Thus, people who go to work by car pollute their living area and harm their health. To avoid this, cars should be kept in garages or parking places, and in order to reduce expense, it is better to choose public transport, or to go on foot or by bike.

Traffic flow is not the only source of pollution in Klaipėda. Recently, chemical substances emitted into the air by factories have caused growing concern. "Klaipėdos nafta" in the northern part of the city heavily pollutes the air with carbon monoxide, and "Klaipėdos kartonas" in the western part emits sulphur, sulphuretted hydrogen, and acetic

aldehyde. Moreover, the first plant for plastic pellets (PET) has been built at the Jakai circular intersection, where the amount of pollutants emitted by motor vehicles already exceeds the norm by 16 times (the biggest concentration of pollutants in the city). The new plant occupies a territory of 12 ha and pollutes the environment not only with CO, SO₂, NO₂, but also with poisonous cancer-causing substances (acetic aldehyde etc.). The overall pollution exceeds the norm by 40 times. Regardless of this fact, there are plans to build two more PET plants in the Bandužiai and Rimkai areas. If these numbers do not change in the near future, Klaipėda will become a dangerous city to live in.

Since 2004 the acidity of rain has also been measured. It is measured using the pH scale. The pH of distilled water is seven. The lower this number is the more acidic the water becomes. Due to the increasing level of pollution in Klaipėda the pH of rain has decreased: from 6.5 in 2004 to 5 in 2006 – 2007. It is not critically low yet, but if no preventive measures are taken to reduce air pollution, in 5 – 15 years we will have rain that burns all flora as is happening in some excessively polluted regions of Russia and other countries. This rain is very dangerous for humans as it can cause skin allergies or even acid burns.

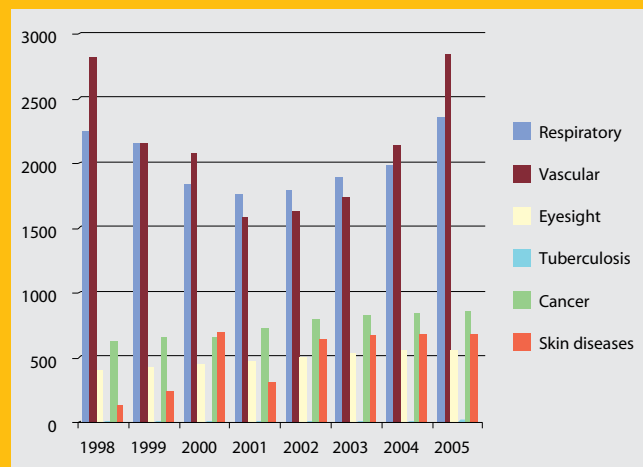
Comparative diagram of the acidity of rain at the intersection of S. S. Daukanto St. and H. Manto St. in 2004 – 2007



Such levels of pollution have certain consequences, which are very conspicuous even today. The first one is well known and has been widely discussed in recent years, i.e. the Greenhouse Effect. The lowest air temperature at the seaside in December, 2006 was minus 2°C, and the highest temperature reached 11°C. It has been the warmest December since the beginning of meteorological observations, and weather forecasters state that this summer will be the hottest in the last 100 years. Such climatic variations influence the consistency of seasons and cause an increasing number of typhonic winds, showers, and, on the contrary, droughts. Last year Lithuania suffered from extreme heat, while this year Klaipėda experiences frequent storms. Residents of Gargždai were startled by hail, when tennis ball size pieces of ice started falling from the sky and there was continuous lightning for an hour. Apart from the climatic variations, there is one more serious problem, i.e. increasing morbidity. More people in Klaipėda suffer from respiratory, blood circulation and cancerous diseases, which are often caused by air pollution. Thus, reports on morbidity changes should be publicly announced by the

hospitals of the city so that people realize what is going on and take care of the environment.

Morbidity within an 8 year period*



*Data taken from the Regional Hospital

The current situation is frightening, but, surely, it is not hopeless. There are a number of ways to reduce air pollution. However, the approval of the municipality and residents' willingness to use them are lacking. Below is a list of just a few ways to solve a number of the aforementioned problems and make Klaipėda a truly ecological city:

- limiting city traffic flow (direct traffic flow away from residential areas and other pollution sensitive zones);
- allocating funds for installation of filters on chimneys of bigger plants;
- developing the public transport system;
- creating more pedestrian zones and organizing "wellness weeks" (encouraging people to go to work by bike or on foot, or by public transport in cases where the workplace is too far);
- extending the duration of green lights to encourage a steady traffic flow;
- stopping the use of petrol that contains lead compounds;
- saving energy of various types, e.g., using economic bulbs, switching off TV sets and other electric appliances instead of leaving them on stand-by mode, selecting energy saving appliances;
- developing alternative energy resources (wind and solar energy power plants);
- planting more trees, taking care of forests, and saving the "green lungs" of the planet.

Rūta Sakalauskaitė

Student of the chemistry group of the Klaipėda Pupils' Self-expression Centre Strėvos Str. 5, Klaipėda, Lithuania



Photos: author

Environmental history in after school activities

Every year in May, at the end of the school year a big environmental event is held in Lapes Basic School. We had a magnificent "Paper Day", "Water Day", Forest Day" and other festivals in recent years. This year the members of the BSP project and their coordinator Rasa Stankiene decided to organize the event for the younger pupils, in which elements of environmental history and sustainable tourism were included. On 31 May more than a hundred school children of forms 1-4 went on a hike. They were divided into groups, given a route map, and had to find 16 stations: the old school building, the ruins of the old castle, the church, the monument, the old well, and others. There were five stations about nature: flowers, birds, animals,

mushrooms, trees. They also had to perform various tasks, answer questions, and find out certain information.

The end of the route was at school. Everybody was happy to receive a sweet prize. It was a good lesson in developing sensory experience, motor skills, and learning to sustain oneself outdoors.

Lina Brazaitienė

Teacher

Lapes Basic School

A. Merkio Str. 3, 54434, Lapės, Kauno rajonas, Lithuania

e-mail: mokykla@lapes.kaunas.lm.lt



Photos: authors

Linkuva Manor Estate: *between the Past and the Present*

Introduction

Time is relentless. Its demolishing power leaves traces everywhere. The Linkuva Manor is no exception. Once it was prosperous with its flourishing gardens and pure water spurting from the fountains. Now it is deserted and obscure. Though the estate, which is also referred to as the Veršvai Palace, is not far from the ilainiai area, people of the city do not have the slightest idea that there is a real manor close by. When we were there, for a moment I imagined it was stately and fully reconstructed. Why can it not be reconstructed?

History of the Linkuva Manor Estate

The village and the estate of Linkuva were founded in the first half of the 16th century. In the middle of the 16th century the estate was owned by Jonas Vydras and in the 17th century it went to the Mlodzianovskis family. In 1680 A. Mlodzianovskis, a Jesuit monk granted a part of the inherited estate to Kaunas Jesuit College, which owned the estate until 1773. During that time a chapel, a brick palace, a stable, cattle barns, servants' quarters, and a spirit distillery were built. After the liquidation of the Jesuit Order, the estate devolved upon the treasury. The steward of the estate was the treasurer of the county, M. Končius. In the 18th century, a nobleman J. Fergisas, who was the owner of the estate at that time, reconstructed the palace, pulled down the chapel and built a wooden church nearby. In the plan of the estate dated 1799 four ponds were indicated. Only the largest has survived.

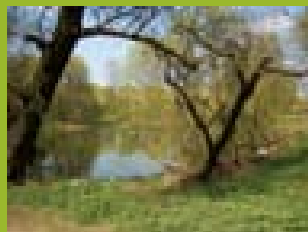
In 1797 the owner of the Linkuva estate was A. Zabiela. At the beginning of the 19th century it was owned by J. Strumila. In the 19th century the main manor house was reconstructed and the territory of the garden-park cleared up. During World War I the wooden palace and the farm buildings were destroyed by fire. After the land reform in 1922 the estate was parceled out and its centre was rendered to the archdiocese of Kaunas. In 1927 the archbishop of Kaunas, J. Skvireckas bought the estate. He then developed a prosperous farm, laid out a large garden and vineyard, and built new stables and other farm buildings. He reconstructed the palace and the former three-storey barn. He also built a two-storey annex to the palace and a balcony with an outside staircase.

In 1951 – 1983 the production centre of the training farm "Bolševikas" of the Veterinary Academy was established in the manor estate. During this period the garden withered, St. John's chapel was badly damaged, and the sculpture of St. Mary, which represented the archbishop J. Skvireckas, was moved to the nearby graveyard of Linkuva. New farm buildings were built.

Past Architecture of Linkuva Manor Estate

The representative part of the palace was decorated with two fountains.

In the park there were concrete sculptures of St. John, St. Mary, and the archbishop in sitting posture.



To commemorate the 550th anniversary of Christianity in Lithuania, a composition of sculptures called Christ the King funded by the archbishop was erected by the pond. The sculptures were designed and made by a nun, M. Leonora Šmulštytė. It comprises a complex composition of concrete oaks, whose interlaced branches make up the four alcoves of the chapel.

St. Trinity alcove, which represents the Polish king Jogaila preaching the Gospel to a crowd of people, is situated at the front.

St. Joseph holding the baby Jesus is on the left. The Grand Duke of Lithuania Vytautas is pictured in the background of the Gediminas Castle. St. Joseph's alcove commemorates the baptism of the grandees.

St. Casimir's alcove is on the right. It pictures the christening of a crowd.

In the fourth alcove of St. Mary of the Gates of Dawn, a group of people rejoice over the recovery of the region of Vilnius.

The pedestal of the monument is surrounded by a bas-relief with inscriptions. In the corners there are four chapels, which represent the Good Saviour, the Saviour, the Cross "Rūpintojėlis", and the Angel Guard.

Above the chapel, evangelists' symbols surround the hemisphere of the Earth, on which a two metre high sculpture of Christ the King is erected.

St. John's chapel is by the river, and it is difficult to get close to it. The place is littered with rubbish, syringes, and cigarette-ends.

Present Condition of Linkuva Manor Estate

After the recovery of independence of Lithuania there were plans to include the Linkuva manor into the list of reversionary objects. However, it appeared that neither the church, nor the government had enough money to restore the estate. The people residing in the manor house were allowed to privatize the apartments.

In 1994 there was a proposal to build an entertainment and games park for active recreation in the valley of the river.

Though the Linkuva manor is in the Veršvai landscape reservation (and littering in reservations is forbidden), the whole place is strewn with litter. The most littered places are at the pond and the Veršva River: tyres are scattered all over the place and litter floats in the silted pond. The old stable is on the brink of collapse. Nowadays it is not used and is like a shadow of the past, an old ghost. The municipality should finally pay attention to this unique part of Kaunas and undertake measures to revive it before it sinks into oblivion and is destroyed through time.

A lot of unique sculptures were destroyed during Sovietization, with the aim of eliminating the grand history of Lithuania and erasing the past from Lithuanian people's memory. The majority of these sculptures were catholic. As Russians profess orthodoxy, they destroyed the sculptures. The sculpture of St. Mary has survived because local residents transported it to the graveyard of Linkuva.

Sima Šimkutė, Eglė Litvinaitė, Paulius Šimkus

Students of Kaunas Jonas Basanavičius Secondary School and

Vilma Diržytė

Geography teacher of Kaunas Jonas Basanavičius Secondary School

Šarkuvos Str. 28, Kaunas, Lithuania

e-mail: dirvil@yahoo.co.uk

Ecological problems in the Curonian lagoon

We, Justas Doviakovskis and Julius Gabelis, students of the Klaipėda Students Self-Expression Centre, supervised by our Chemistry Teacher and Expert, Donata Žiaukrienė, investigated contamination of water of the Curonian Lagoon.

We selected three sites within the city of Klaipėda for carrying out water tests. The first site was in the Northern Cape, at the mouth of the river Danė. The second site was next to the New Ferry Crossing, not far from the middle of the water area of the Klaipėda Seaport, and the third one was in the heel of Alksniai bay, beyond the boundaries of the harbour, where a natural coast starts.

On the sites where water samples were taken we determined the smell, dissolved oxygen content, and pH, and we measured the water temperature.

In the chemical laboratories, we determined the colour, electrical conductivity, and salt content of the water samples as well as nitrates, chlorides, phosphates, sulphates, and oil products contained in them.

We summarised the results obtained: we entered data into tables and diagrams. Then we conducted a comparative analysis. When determining the smell of water in the Curonian Sea, we noticed that water taken close to the Klaipėda Seaport sometimes had a smell of fish and sometimes a weak smell of oil products. The smell of algae can be felt in spring and summer. The strength of smell changes related to temperature — the warmer it is, the stronger the smell (regardless of source).

Another test carried out was the determination of water pH. The pH in water of the Curonian Lagoon varies from six

to nine. The highest pH is observed in summer time — up to nine.

The concentration of hydrogen ions (pH) is one of the key quality indicators. The development and vital activity of water organisms and the intensity of chemical and biochemical processes depend on this concentration.

The condition of water also depends on temperature. In 2004 – 2006, the highest water temperature stood at 20.5° C on 20 August, whereas the lowest temperature was observed during the months of January — February. In 2006, from the beginning of July when it became very hot, the water temperature here jumped from around 18 – 22° C up to 29.5° C. This is an all time record. When water is so hot, young fish die and algae flourish. When there are many algae in the water, they start blooming. The water acquires an unpleasant smell and taste. Algae absorb oxygen causing an oxygen deficit in the water. Decay starts, and dying algae chemically decompose. Phenol, indole, skatole, and other poisonous substances are formed. These poisonous substances are also stored in fish tissues. Therefore, it is recommended to refrain from eating fish caught in such waters.

The fact that the high water temperature has a great impact on the quantity of oxygen in the water was confirmed by our tests — oxygen decreases significantly in summer time. The lowest quantity of oxygen is found in June — 5–6 mg/l, and the largest quantity of oxygen can be observed in December — 10.2 mg/l. The aforementioned "water blooming" depends not only on the temperature but also on the quantity of nitrates and phosphates in the water.



These substances are mainly brought to the Curonian Lagoon by the Nemunas, as this river brings 98% of water to the Curonian Lagoon. The biggest problem is that the Nemunas brings not only pollutants from Lithuania, but also from Russia and Byelorussia. It is believed that half of the pollutants brought by the Nemunas to the Curonian Lagoon come from Byelorussia.

The largest quantities of nitrates are found in spring. In summer, a lot of nitrates are consumed by plants; therefore, their quantity in the water decreases. In autumn, when plants use less nitrates, their percentage in the water increases. In winter, nitrate concentration is at its highest.

Every year, there are spills of oil and petroleum products on the coasts. In November 2006, we detected the largest quantity — 0.84 mg/l, whereas the smallest quantity, i.e. 0.16 mg/l, was found in July. Extremely hazardous products include diesel fuel, petrol, and fuel oil. However, these disasters are of little concern to the majority of people; thus, our hopes are that a greater focus will be placed on the reduction of pollution caused by oil and petroleum products — and cleaning in the future; in particular, bearing in mind the fact that the Curonian Lagoon is very closely linked to the Baltic Sea and its eco-system. Along the northern drift of the Curonian Lagoon, the salt content and water clarity increases at the sea-gate. In 2006, the highest salt content was detected in June and stood at 11.5 promilles, whereas the smallest salt content was found in April and was 3.2 promilles.

The salt content of the Curonian Lagoon and the living conditions of lagoon fauna depend on the inflow of sea water. The current condition of water in the Curonian Lagoon is fairly poor and it should be a matter for concern.

Each of us can contribute to the cleaning of water in the Curonian Lagoon: by cleaning the coasts, collecting waste, planting trees, and disseminating our collected and analysed information among the public at large.

It is great news that the Government has already drafted the Programme for Improvement of Water in the Curonian Lagoon. The key objectives of this programme are as follows:

- It is projected that it will be possible to swim in the Curonian Lagoon after ten years.
- To reduce the pollutants formed in the basin of the Nemunas and carried to the Curonian Lagoon by 2010.
- To upgrade and install sewage treatment facilities in larger areas.
- To equip manure sites, slurry and sewage collectors so they comply with the EU requirements by 2008.
- To pay more attention to international co-operation so that cleaner water can be brought to the Lagoon from the cities of Neman and Sovetsk in the Kaliningrad District, where cellulose plants are located.
- Our hopes are that this programme will be successfully implemented.

Justas Doviakovskis, Julius Gabelis

Students of the Applied Chemistry Club at the Klaipėda Students Self-Expression Centre
Strėvos Str. 5, Klaipėda, Lithuania



Photos: authors

"Let's Drink Nitrate-Free Water"

[CAMPAIGN]

Being the essential element of life, water is particularly important to human beings, animals, and plants. However, only 1% of the total earth's water is fresh and can be used for drinking. Underground drinking water can be extracted by installing wells or drilling boreholes. Although the extracted water looks clean and tasty, it is often contaminated with bacteria and nitrates.

Our purpose was to investigate water samples taken from the wells in the neighbourhood of Vilky kiai and determine its quality according to the quantity of nitrites and nitrates.

Our school helped us to acquire the tests necessary for the study. We walked and also drove around villages in order to investigate the water in the wells.

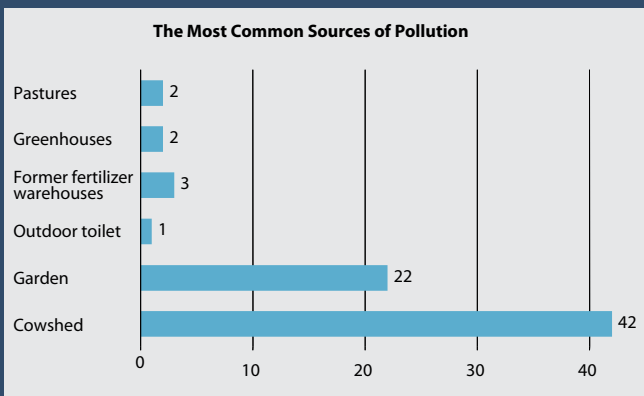
The test allows determination of the quantity of nitrates and nitrites contained in water within one minute. These poisonous substances are hazardous to human health, and in particular children are sensitive to their impact. Water contaminated with nitrates and nitrites does not have any specific taste, smell, or colour. These substances cannot be removed by boiling or by filtering with household filters. In small children, nitrates prevent oxygen transmission to tissues, which results in oxygen hunger. People who constantly drink water contaminated with nitrates are at increased risk of oncological diseases.

Testing:

1. We placed a test strip into a sample and kept it there for 2 seconds.
2. Having pulled the strip out of the water, we waited one minute for colours to appear. It took us another minute to compare them with the scale of colours given on the test packages.

We tested water in 71 wells in 10 villages. Only 15 wells contained clean water which was suitable for drinking. The maximum permissible concentration of nitrates in drinking water indicated by the World Health Organisation is 50 mg/l for adults and 10 mg/l for babies less than six months of age and the maximum permissible concentration of nitrites is 0.5 mg/l. The obtained results of nitrate contamination were as follows:

- Up to 10 mg/l-15 wells (21.12%),
- 25 mg/l - 19 wells (26.76%),
- 50 mg/l - 18 wells (25.35%),
- 100 mg/l - 14 wells (19.71%),
- 250 mg/l - 3 wells (4.22%),
- 500 mg/l - 2 wells (2.81%).



We found one well contaminated with nitrites (water from a deep borehole). Water from 13 wells was used by families who had children less than seven years of age, of which water contamination in seven wells exceeded 50mg/l.

We have concluded that people often drink contaminated well water without being aware of it. Our plans are to present the results of the study to the owners of contaminated wells and invite scientists to explain to people where nitrates in water originate from and most importantly, how to remove nitrates from drinking water.

Giedrė Jurksaitytė, Danguolė Masionytė,
 Students of Vilkyškiai Secondary School,
 Members of the Ecology Club *Lāšelis*
 Vilkyškiai, 99254, Pagėgių savivaldybė, Lithuania
 e-mail: vilkyskiu_vidm@takas.lt



Photos: author

"In the woods, we return to reason and faith..."

"In the woods, we return to reason and faith"

Ralph Waldo Emerson

Will we ever be able to appreciate the immense riches of the forests if we are not taught to respect them as children? Some of us might, but for the majority it will be too late. This is what we believe in our school, 34 Nicholas Copernicus Primary School in Katowice, Poland. We want our children to treat forests as these magical places to which they will be returning as grown-ups to seek peace, inner balance and unity with nature. If this is to happen, they need to become friends with the forest, understand it, respect, love and know its laws.

This spring, students of two classes, 1a and 2c, made a trip to the Woodland Education Centre, where they learned about the forest diversity in our region. They had a chance to watch various animal species and find out about their lifestyles and habitat. They were told and shown how to recognize birds by their songs and animals by their fur. They tried to calculate the age of trees by counting their rings. They observed the causes and results of forest destruction and saw how pollution affected trees.

Excited about this new and fascinating way to learn about the environment, the children wanted to know and see more. To meet these expectations and sustain their enthusiasm, teachers took them to the Forest Animals Emergency Centre and Shelter in Mikołów, a nearby town. The shelter was founded 14 years ago by Mr. Jacek Wąsiński and its goal is to rehabilitate and raise orphaned wild animals,

about 40% of whom are eventually able to return to their natural habitats. The children were very happy to see over 100 species of wild forest animals, especially that some of them are in the Polish Animal Red Book, which means that they are extremely rare and almost impossible to find elsewhere. Deeply moved by sad stories of some of the shelter's animals, the children decided to help. They will be collecting waste paper and donating the money they earn this way for one of the shelter's inhabitants.

Aware that protecting forest animals will not be effective without protecting their natural habitat, the kids eagerly joined the forest planting event. In April 2007, they planted oak trees, learning at the same time how to recognize trees, how long it takes for a forest to grow and how to look after it.

These children have already felt the excitement of protecting nature and we may be sure that what they learn now will remain in their hearts forever. Let's give a similar opportunity to all other children – let's help them develop their environmental awareness, compassion and sensitivity.

Teachers: Kornelia Magiera, Małgorzata Zabięto-Grochowska, Anna Milerska (anna-mi@tlen.pl)

Students: class 1a, class 2c

Szkoła Podstawowa nr 34 im. Mikołaja Kopernika
ul. Zielonogórska 3; 40-710 Katowice; Poland
www.sp34kat.one.pl; sp34_katowice@interia.pl



Photos: Rūta Jociūtė-Žolynienė

The Baltic Sea Project further continues its Activities

On 21 – 22 November 2006, the final conference of the BSP School Co-ordinators was held in Aukštadvaris, Lithuania.

The conference was opened by Rūta Jociūtė — Žolynienė, the BSP National and General Co-ordinator. The participants were greeted by Ona Sigutė Versockienė, Director of the Lithuanian Centre of Young Naturalists, and Vaclovas Plegevičius, Director of Aukštadvaris Regional Park, who invited them to a tour around the picturesque spots of the park.

Aukštadvaris Regional Park was established on the basis of Aukštadvaris Landscape Reserve in 1992 in order to preserve the valuable landscape of the upper reaches of Verknė and Strėva, its natural eco-system, and natural and cultural heritage values and also to manage and use them in an expedient manner.

Having arrived in the neighbourhood of Aukštadvaris, we could see its magnificent mounds paying testimony to Lithuania's great past, amazing hills, rich flora and fauna, natural surroundings, crystal-clear lakes, and flowing rivers.

The participants of the conference listened closely to the Park Director who told them about the largest pit in Lithuania — the Devil's Pit — and other places that are equally amazing, namely Antaveris Pit, Strėva Cave, American Precipice, and Gedamonys Hill, the highest hill in the Dzūkija Highlands.

Having admired the eye-catching landscape, we returned to the conference hall where the school co-ordinators presented the activities of their schools in the Baltic Sea Project in 2006. Each school is unique, rich in its traditions and distinguished for its interesting experiences.

Algimantas Matonis, who works as a teacher in Kalviai School in the district of Kaišiadorys, claimed that children willingly participate in the BSP activities and feel important because they have an opportunity to publish their works in the Baltic Sea Project Newsletter and participate in Lithuanian and international conferences and events. Edita Tupikovsienė, Teacher of the Vilnius-based Vilnis Basic School, enthusiastically told us that this project was very significant for their school because it encouraged students to work in an active and motivated manner. Saulius Tamošiūnas, Teacher in the Varėna-based Ažuolas Secondary School, introduced the club *Eurika*, whose ac-

tivities are associated with the BSP programmes. Genutė Kuzmickienė, Teacher of the Vilnius-based Radvilos Gymnasium, emphasized the method of projects that is often applied in her school, which opens the way for curiosity, research, and experiments. Gražina Drebeckienė, Teacher of the Vilnius Žemyna Gymnasium, was happy that gymnasium students maintain close contacts with BSP participants from other states and that they are interested in their activities, and they organise common events and willingly participate in them. We heard many valuable thoughts from other school co-ordinators as well.

The BSP co-ordinators are teachers/enthusiasts who help their students work, teach them to understand things and seek to achieve their targets. They also encourage students to engage in creative work and present new ideas. Among the BSP co-ordinators are Laima Sabaliauskienė from the Kaišiadorys-based A. Brazauskas Secondary School, Laima Dainutienė from the Kaunas-based Purienos Secondary School, Egidija Katilavičienė from the Šiauliai-based Romuva Gymnasium, Vilma Diržytė from the Kaunas-based Jonas Basanavičius Gymnasium, Birutė Jasinskienė from the Mastaičiai Basic School in the district of Kaunas and many others.

Having evaluated their own and their colleagues' activities, the participants of the conference discussed ways to improve their activities and they also discussed potential further co-operation models and actions to be carried out in 2007.

Having summarised the BSP activities in 2006, the National and General Co-ordinator of the Baltic Sea Project Rūta Jociūtė — Žolynienė encouraged all co-ordinators to look for new ideas, to apply new methods, and to actively participate in the international project by involving as many community members as possible.

Genutė Kuzmickienė

Teacher in the Vilnius-based Radvilos Gymnasium
Gelvonų Str. 55, 07004, Vilnius, Lithuania
e-mail: genutekuzmickiene@walla.com

Gražina Drebeckienė

Teacher in the Vilnius-based Žemyna Gymnasium
Čiobiškio Str. 16, 07181, Vilnius, Lithuania
e-mail: rastine@zemynosgimnazija.vilnius.lm.lt



Photo: PhotoDisc

Soils in Głogów and the surrounding area

The soil of Glogow is varied. The valley of Odra is covered by fertile alluvia soil. Part of the area consists of lush meadows, so do some places at Krzycki Trend, middle Szprotawa and Rudna. These soils are peaty in places; during dry years they provide a rich hay harvest.

In South Glogow there is a considerable amount of wheat, as well as beetroot soil lying on loess. It's the most exposed area of South soil in Lower Silesia.

Because of this, the area of Glogow constitutes one of the areas of intensive and efficient agriculture in the farmer legnickie district. In North Glogow there is mainly poorer soil made of sand and clay? There are substantially fewer human settlements there than in the southern part.

To protect the soil we should:

- propagate crop rotation,
- make popular ecological agriculture around the contaminated area,
- limit the use of pesticides and chemical fertilizers,
- limestone soil that shows a high degree of acid and develop sustainable methods to get rid of weeds, diseases, and vermin
- eliminate plants for direct consumption from cultivation and introduce industrial plant cultivation, which as flax (*Linum sp.*) and trees planted in the forest,
- derelict land reclamation,
- fruit and vegetables should be brought to our markets from outside the Glogow area,
- introduce field forestry in order to reduce the process of erosion,
- educate consumers about healthy food.

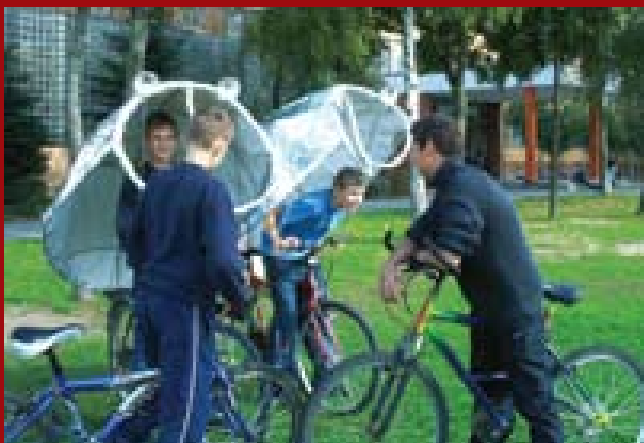
Danuta Madroszkiewicz
Teacher
III LO ul. Obozowa 3, 67 – 200
Głogów, Poland



Photos: author

Environmental Club *Žalieji namai*

Šiauliai Romuvos Gymnasium established the environmental club "Žalieji namai" ("Green house"), which was officially registered in Lithuania in September of 2006. The primary goals of the club are: to promote love for nature, to foster environmental traditions, to encourage the students to analyze the reasons for regional environmental problems and to contribute to their solutions.



The students take an active part in different projects. One of them is called "Judėjimas – sveikata", aimed at involving the gymnasium community into a healthy way of life and promoting cycling. We consider our school environment to be of key importance so we participate in environmental projects such as "Mokyklos žalios rūbas" and "Aplinka ir mes". We have already planted some oak trees around the school. We have also started to arrange a rock garden and carry out phenological observations.

One of the most important activities of our club was to organize the international conference "The Individual and the Environment". The presenters came from Italy, Latvia, and from different Lithuanian secondary and basic schools, as well as from gymnasiums. We also have a traditional festival called "Pauksciu sugrizimas" when we make nesting boxes and put them into the trees in the school territory and in the park nearby.

Janė Miltenienė

President of the Environmental Club and Biology teacher of Šiauliai Romuvos Gymnasium
Dainų Str. 7, Šiauliai, Lithuania
e-mail: romuvos.gim@siauliai.lt

National coordinators' reports 2006–2007

DENMARK



National coordinator:
Soren Levring
Sonderskovskolen
Grundvigs Alle 100
DK-6400 Sonderborg, Denmark
E-mail: soren.levring@sonderborg.dk

Activities in 2007:

A number of new schools have joined the BSP programme in Denmark this year. Seven secondary schools and seven primary and lower secondary schools are now active members of this programme.

New consultant Janus Henrichsen has helped the Danish schools.

We have presented a new UNESCO ASPnet project platform: www.unesco-asp.dk/bsp.

All participants in the BSP are invited to join the platform, which uses text from the international website and contains all kinds of BSP programmes.

It succeeded bringing 30 teachers and principals from 15 Danish schools, by bus, with a Russian driver, from Gdansk to St. Petersburg in 13 days, visiting 7 countries and 10 different schools.

I hope the schools can be in contact in the future.

Conference about Webcams

At the conference, these things were worked with

- Using the programme **Skype** and another programme called **Festoon**
- Ideas of how to make video conferences using Skype

As a result of the conference, the use of Skype could be recommended. To make communication with Skype workable, it's necessary to:

- Make agreements and appointments for the working group.
- Choose a chairman
- Publish a list of skype contact people
- Confirm the contact by the participants
- Work out a timetable for virtual meetings
- Test the equipment before involving pupils
- Respect turns for who's next in the speech line

ESTONIA



National coordinator:
Karin Kuum
Estonian Youth Work Centre
Uuslinda Str. 10
EE-11415 Tallinn, Estonia
Tel. 00372 6 380758
Fax. 00372 6 380756
E-mail: keskkond@etk.ee

There are 18 BSP schools in Estonia. The most popular programmes in Estonia are "Phenological Studies", "Bird ecology" and "Air Quality".

International activities:

- Estonian national coordinator participated in the BSP National and Programmes coordinators meeting on 15-17 December, 2006.
- 4 teachers and 8 students from 4 BSP schools have participated in the Baltic Sea Project conference on education for sustainable development in the Baltic Region, Nacka, on April 16-19, 2007.
- Estonian national coordinator participated in the Baltic Sea Project Environmental Camp School on environmental studies in Pori, Finland, on May 27 – June 1, 2007.
- Denmark BSP teachers group visited Estonia, on October 23-25, 2007. Visit consisted meeting with Kadrina School teachers and students. Participants from Kadrina, Estonia and Denmark exchanged experiences about BSP.

National activities:

- 28-30 September, 2006 BSP conference in Toolse (41 participants) for teachers and students.
- 24-25 November, 2006 BSP teachers conference in Tartu (16 participants)
- 16-17 November, 2007 BSP conference "Ida-Virumaa – environmental problems" in Kohala (40 participants) for teachers and students.

Baltic Sea Project with its conferences and materials is an opportunity for Estonian students and teachers, who are interested in environmental problems and sustainable development.

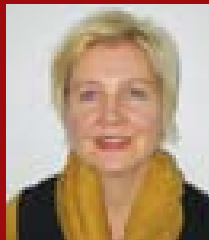
Our last conference in Kohala was centered on the theme of oil shale, which is the main energy source in Estonia. We visited places related to mining. Students participated in role-play of "Local government meeting – creating a new

oil shale mine", playing parts of local businessmen, chemists, green-people, farmers, pensioners and other village people.

FINLAND



National coordinator:
Liisa Jaaskelainen
National Board of Education
Box 380
Kumpulantie 3, Finland
E-mail: liisa.jaaskelainen@oph.fi



Network coordinator:
Tuovi Ronkainen
Porkkala upper secondary school
Kirkkotallintie 6 A
FI-02400 Kirkkonummi, Finland
E-mail: tuovi.ronkainen@kirkkonummi.fi

National coordination

National coordination of the BSP-Finland is divided like earlier. I continue with the BSP at the Finnish National Board of Education (FNBE). The FNBE has decided to allocate some money to the municipality of Kirkkonummi for networking of BSP schools for the school year 2007 - 2008. Tuovi Ronkainen from the Porkkala upper secondary school is the network coordinator. It is a general policy of the FNBE to circulate tasks of international school network coordinators.

School network, revision of the catalogue of school activities and virtual networking

In the BSP-Finland we have in autumn 2007

- 2 primary schools
- 1 lower secondary school
- 6 general upper secondary schools
- 2 vocational (agriculture and countryside experts).

We are open to have about 15 – 20 schools and other educational institutes in our network. Basic information concerning each school has been sent to the General Coordinator in order to revise the Catalogue of school activities. This year we added information on e-mail addresses of the contact person and www-site of the schools to the basic information sheet.

- Kindly revise your information in the Catalogue.
- Kindly get connected with our BSP schools in Finland directly if your interests match.

National gathering

We were 20 BSP teachers and other BSP key persons at the Finnish Marine Research Institute (see www.fimr.fi) on the 25th of September, 2007, to plan our future work. Before all we decided to learn to use virtual networks much more

intensively during the three years period to come. This has already started and Tuovi will tell more about it. Technically it is possible that the site of the BSP-Finland will be at the server of the FNBE. The www-service of the FNBE as a whole in also in the revision. Because the state of the Baltic Sea and possibilities to better the situation are very complex ones we could benefit a lot of using concept maps. A practical tool for free can be found at <http://cmap.ihmc.us/>.

- A learning task, at least for myself, is to learn to draw concept maps virtually.
- We may organize a workshop for BSP teachers in Finland in winter 2008 in order to learn use of Cmaps and to shape virtual set on education for the Baltic Sea.

Virtual set on education for Baltic Sea

The BSP-Finland will produce a thematic teaching and learning set on education for the Baltic Sea. This will be added to the www-site made for education for sustainable development. The material will also include suggestions for learning tasks.

We may work on this material by using virtual concepts maps and the use of them may be the main methodological emphasis in the material.

NORDPLUS-programme gets open to the Baltic countries

Nordic countries (Denmark, Finland, Iceland, Norway and Sweden) have cooperated actively since the 50's and they are having a plenty of exchange programmes. For the years 2008 – 2011, the Nordic Council of Ministers will launch a new phase for exchange programme for students and teachers called NORDPLUS (Northern plus). The new phase opens the programme to Estonia, Latvia and Lithuania, for the first time. This will loosen financial problems related to mobility between 6 BSP participating countries. The programme will be administered by national CIMO offices. **Deadline for applications is the 1st of March, 2008.** Possible additional deadlines may be announced later.

The BSP will be presented at the launching event (8.1.2008) of the new phase of NORDPLUS in Helsinki as an example of Baltic-Sea-crossing cooperation benefitting of financial support of NORDPLUS. Finland chairs Nordic cooperation this year.

HELCOM's Baltic Sea Action Plan to 2021

The final version will be adopted at the upcoming meeting of the ministers of the environment of the Baltic Sea coastal countries scheduled to be in Krakow, Poland

The holistic Baltic Sea Action Plan is designed to solve all major environmental problems affecting the Baltic Sea. Of the many environmental challenges, the most serious, and proving difficult to tackle with conventional approaches, is the continuing eutrophication of the Baltic Sea, caused by excessive nutrient pollution loads of nitrogen and phosphorus to the sea originating from agriculture and untreated sewage. This leads to problems like increased

algae blooms, murky waters, oxygen depletion and lifeless sea bottoms. Compared to pristine conditions in the 19th century, nitrogen input to the Baltic Sea has increased ninefold, resulting in extensive summer algal blooms, as can be seen almost everywhere in the main basin of the Baltic Sea.

The Baltic Sea Action Plan, which the HELCOM Member States decided to jointly draft in 2005, sets an ambitious target of achieving a good ecological status of the Baltic Sea - a sea with diverse biological components functioning in balance and supporting a wide range of sustainable human economic and social activities. It incorporates input of major stakeholders groups, and the findings of numerous project studies, workshops, and key regional environmental policies. This plan has already been widely heralded as a pilot project for the European seas under the EU Marine Strategy and a model to be followed by other regional marine conventions around Europe.

The plan's four segments include measures to curb eutrophication caused by excessive nutrient loads entering the sea, prevent pollution involving hazardous substances, improve maritime safety and accident response capacity, and halt habitat destruction and the decline in biodiversity. The core policy of the plan is based on the application of the innovative ecosystem approach to environmental management. This is detailed by a set of strategic goals and ecological objectives defined by HELCOM for achieving a commonly acceptable good status of the marine environment, as well as a number of environmental indicators and target levels for each objective to measure progress towards achieving good ecological status of the sea.

According to a HELCOM study, a total annual reduction of up to 135,000 tonnes of nitrogen and 15,000 tonnes of phosphorus will be needed to rescue the troubled sea. Most of the reductions are required in such sub-basins as the Baltic Proper, the Gulf of Finland, the Danish Straits, and the Kattegat.

See http://www.helcom.fi/press_office/news_helcom/en_GB/HOD24_outcome/

To be considered in our future activities.

Potential Cooperation with Science Center HEUREKA

We have started a discussion concerning cooperation between the science center HEUREKA (located in Vantaa, neighbouring city to Helsinki) and the BSP-Finland, the FNBE and the Finnish National Commission for Unesco in order to create educational programmes for different groups of learners who care about the Baltic Sea. Activities could start in spring 2009, may be open to hundreds of pupils and students, different study modules. Cooperation between science centres located in different countries possible.

GERMANY



National coordinator:

Ute Gronwoldt

Ministry for Education, Science,
Research and Culture

Brunswiker Strasse 16-22

D-24105 Kiel, Germany

E-mail: balticseaproject@gmx.de

No national meetings for BSP Schools.

Reasons:

1. no financial support by Ministries or UNESCO, problems with sponsoring
2. the new statute for schools doesn't allow any absence for teachers at teaching time.

Two private meetings for the editors' group of the "Learner's Guide No. 7".

The distribution of the Learners' Guide No. 7 started in January 2007.

We sent out about 2500 books of 3000 of "Learner's Guide No. 7" in German language and 5000 books of 7000 in English language to now.

We sent it out for BSP and UNESCO project schools in the Baltic countries and Germany, to all our "Sister" projects and National commissions of UNESCO, UNESCO office in Paris and all interested organisations and persons.

"The Green dot" distributed the books to all communities in partnership and "Mc Donald's, München", sent them out in addition to their binder called "Um Welten besser".

Since July 2007 the distribution is done directly by me – but we have to bring to account the mailing expenses.

Delegation from Carl Jacob Burkhard Gymnasium participated at Nacka schools meeting.

LATVIA



National Coordinator:

Velga Kakse

Ministry of Education and Science,
Centre for Curriculum Development
and Examination

Valnu Str. 2, LV-1050 Riga, Latvia

Tel. 00371 7 814354

Fax. 00371 7 223801

E-mail: velgak@latnet.lt

There are 17 active BSP schools in Latvia in 2007. 77 teachers and about 640 students are involved.

Participating in the BSP programmes:

1 school is working with "Water Quality in the Baltic Sea" programme, 10 schools – with "Rivers" programme, 7 - with "BSP Coast watch" programme, 14 - with "Phenological studies" programme, 14 – with "Air Quality" programme, 11 - with "Environmental history" programme and 2 -with "Bird Ecology" programme.

Problem is that only some schools are sending the results to the programme coordinators.

International activities:

Teachers and students from 2 BSP schools have participated in the International BSP conference "Evaluation of environment", Vilnius, February 23-24, 2007.

5 teachers and 9 students from 5 BSP schools have participated in the Baltic Sea Project conference on education for sustainable development in the Baltic Region, Nacka, April 16-19, 2007.

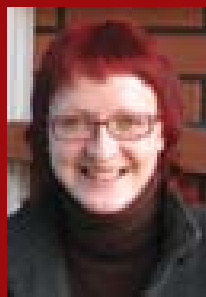
National activities:

We have organized the BSP teachers meeting in Riga on December 9th, 2006. Teachers from 19 BSP schools have participated. There were exchange of experience how to work with the Learner's Guide No 7 and how we are implementing the UNECE strategy "Education for sustainable development" working with the BSP programmes.

In August 27-29 we have organized summer seminar for BSP teachers and students in Ogresgals. There were different workshops: Air Quality, Water Quality, Art, Environmental history, Environmental reporters. Excursion to island Dole, different sport activities and campfire as every summer gathers students and teachers from different BSP schools.

Cooperation between BSP schools organizing different events and excursions. For example: Students and teachers from Aizpute secondary school visited Staicele secondary school and together organized workshop "Environmental history". Ogresgala basic school have good cooperation with Lielvarde secondary school. Ogresagala basic school have got the Ecoschool Green Flag and is as environmental education centre for all district.

Students from BSP schools (Vecpiebalga secondary school, Aizpute secondary school, Valmiera State Gymnasium, Ogresgala basic school, Skriversi secondary school and others) every year have participated in the National Environmental Project Olympiad with the interesting projects.

LITHUANIA

National coordinator:
Rūta Jociūtė-Žolynienė
Lithuanian Centre of Young Naturalist's
Džiaugsmo Str. 44
11302 Vilnius, Lithuania
Tel. 00370 5 2382600
Fax. 00370 5 2670090
E-mail: ruta.jociute@b-s-p.org

A total of 29 Lithuanian schools take part in the project. Six schools joined the project in the autumn of this year.

This year was successful and rich in events. Schools themselves held conferences, campaigns, and seminars and conducted research.

The most popular programs were the phenological observation and air quality programs, but schools took part in all programs.

Vilnius Žemynos Gymnasium and Kaunas Purienu Secondary School took part in the international conference "Vision and Tradition: In the Spirit of Linne Towards a Sustainable Baltic" in Nacka Gymnasium in Sweden. A number of individual schools took an active part in the internet conference discussions on globalisation, Agenda 21 NOW!

A conference called "Environmental Development" was held in the spring and was attended by nearly 100 participants from Lithuania, Latvia, and Russia.

In May, an exhibition of works by "The Values of Biodiversity in the Environment of Youth" competition winners was held in the exhibition hall of the Lithuanian National Commission for UNESCO.

In June, a seminar for teachers was organised near Čepkeliai Marsh. Teachers heard lectures given by young scientists on the topics of genetically modified organisms and the newest teaching methods and discussed the activities of youth organisations and the usefulness of such activities for teachers and for the implementation of projects.

The annual holiday camp for pupils was organised during the last week of August. Pupils took part in ecodramas, sessions dedicated to preserving Lithuanian traditions, and bird-watching at the Žuvintas Reserve, and they learned to distinguish eatable wild plants.

In October, the annual meeting of teachers of the schools participating in the Baltic Sea Project was held.

RUSSIA



National coordinator:
Prof. Stanislav Babitch
Department of Regional Economics
and Environmental protection
Saint-Petersburg State University of
Economics
Sadovaja Str. 21
191023 Saint-Petersburg, Russia
E-mail: stanislavbabitch@mail.ru

In Russia, seven schools from St. Petersburg and schools from Tikhvin, New Ladoga, Kingisepp, Sel'co, and Kolpino take part in the BSP programme. In 2007, the interest of the Russian schools in the BSP programmes has grown noticeably.

The main event of the spring was a trip of the Russian delegation of teachers and schoolchildren, representing schools in St. Petersburg, New Ladoga, Kolpino and Tikhvin, to a conference in Nakka, Sweden. At this conference, two workshops were prepared and presented by our students (from the Saint Petersburg State University of Economics, Department of Environmental Protection).

In the spring, as usual, a meeting of the representatives of schools was held, and the program of work for the summer and autumn was generated. The main event of the summer of 2007 was an expedition to the Solovetsky islands. A combined team from BSP schools, more than 20 people, took part in it. The main aim of the expedition was the practical application of the new methodical program of integrated research of coastal ecosystems. The program was prepared in the spring by teachers at the Children's Ecological Centre of the Kirovsky area of St. Petersburg and by School 389.

The program included these areas of research:

1. Plants and animals of littoral zone of the sea
2. Supervision of birds
3. Studying the ecosystems of various types of bogs
4. Supervision of orchids
5. Supervision of whales
6. Entomological supervision

In BSP schools, interest in international conferences and exchanges with other BSP countries increases. In August and October, we welcomed two BSP delegations of teachers—from Lithuania and Denmark—and in November our students visited Vilnius at the invitation of the Children's Ecological Centre of Vilnius. We consider that the exchange of delegations is one of the main aims of the work of the BSP now.

SWEDEN



National coordinator:
Jonas Oskarsson
Katedralskolan, Samuel Odmanstv
Str. 1
S-35239 Vaxjo, Sweden
Tel. 0046 0 47041752
E-mail: jonas.oskarsson@katedral.
vaxjo.se

POLAND



National coordinator:
Dr. Jolanta Mol
Stowarzyszenie Komputer I Sprawy
Szkoły "KISS"
Ul. Raciborska 3
PL-40074 Katowice, Poland
Tel. /fax. 0048 32 2 519811, 0048 32
2 061581
E-mail: jola.mol@pro.onet.pl,
bspnews@kiss.pl
www.bsp-pl.org

Number of schools:

all together 85, primary schools – 10, gymnasiums – 7; the rest of schools are grammar schools and other upper secondary schools. Schools are situated in all 16 administrative regions in Poland

The most popular BSP programmes:

Bird Ecology, Air Quality, Rivers, Environmental History, Phenological Studies

We organized:

THE 5th FINAL CONFERENCE OF THE POLISH COORDINATION OF the BALTIC SEA PROJECT in Katowice and Zloty Potok for 160 students and teachers from nine Baltic countries, September 2006 – National and General Coordinator, teachers, scientists of Silesian University and teachers and students from Konopnicka School in Katowice

Addition of the Baltic Sea Project Newsletter No 2 (28)/2006 – National and General Coordinator and the proofreader, December 2006

Set up website for Polish BSP schools in Polish – English version, National Coordinator

Competition for Polish teachers – "Education for Sustainable Development in my school subject. Diversity in the Baltic Region". It was a very difficult competition for Polish teachers. We got about 1000 confirmations but only 7 teachers sent their works. The main reason is that teachers don't know what is the meaning of sustainable development. You can see results on www.bsp-pl.org; National Coordinator, March 2007.

Art competition for students – "Baltic Sea Region today, yesterday, tomorrow", May 2007. We got 270 art works from

25 schools situated in 11 provinces. You can see results on www.bsp-pl.org; National Coordinator, March 2007.

Conferences and workshops

"Sustainable Fisheries in the Baltic Sea". Bornholm, Denmark. September, 25th – 27th 2006 – 2 schools, 5 participants

International ESD conference "Vision and tradition. In the spirit of Linnè towards a sustainable Baltic". The second BSP conference in Nacka, April 16-20, 2007 – 5 schools, 20 participants

"The 14th international environmental camp school of Meri-Pori Upper Secondary".

24. 05–1. 06. 2007; 2 schools, 12 participants

Articles in "The Baltic Sea Project Newsletter" No 2 (28) / 2006

Politicians – 2, Polish ASPnet National Coordinator, Principal of Konopnicka School - Katowice, scientists of Silesian University - 2, schools – I LO - Lancut, ZSP No 5 - Krosno, I LO – Nowy Sacz, II LO – Katowice, I LO – Miechow, ZSR CKU – Gdansk, ZS No 2 – Kolobrzeg, XVIII LO – Bydgoszcz, III LO – Walbrzych, X LO – Gdynia, SP 34 Katowice, Kindergarten No 4 – Katowice, LO – Glogow, Meeting Maths – II LO Katowice, Polish BSP Coordinator

School year 2007/2008

Teacher training course "Biodiversity in the industrial region of the Upper Silesia" – 40 teachers from 24 schools from 20 towns in 8 Polish provinces, scientists of Silesian University, Air Quality, Bird Ecology and National BSP Coordinators and teachers and students from Konopnicka School in Katowice; September, 2007

International Competition for BSP schools from nine Baltic Countries – "Tales and legends of the Baltic countries", National Coordinator, October 2007 – May 2008

Polish BSP Newsletter – till March 2008

Polish version of LG 5 "Baltic 21. An AGENDA 21 for the Baltic Sea Region" – set up in internet, IT version, National Coordinator and a proofreader, till June 2008

FINLAND



Pine Needle Project

Coordinator:

Simo Korpela

Meri-Pori Environmental Upper
Secondary

Rieskalantie

FI-28800 Pori, Finland

E-mail: simo.korpela@satabaana.net

Programme coordinators' reports 2006-2007

Air Quality Programme



Coordinator:
Dr. Beata Wegrzynek
Silesian University
ul. Wierzobowa 10/10
PL-42500 Bedzin, Poland
Tel. 0048 32 2009448
Fax. 0048 32 2555873
E-mail: bwegrzyn@us.edu.pl

Country	No. of schools participating in AQ	No. of protocols
Poland	6	20
Latvia	5	7
Lithuania	4	6
Estonia	3	3
Total: 4	18	36

According to sending protocols, the smallest air pollution, like in previous years, is observed in Estonia, Lithuania and Latvia. But in some regions in Poland (southern and east-northern part of the country) situation has been getting better a little bit.

Bird Ecology Programme



Coordinator:
Andrzej Sliwinski
LO im. T. Kosciuszki
Maria Konopnicka str. 2
PL-32-200 Miechow
Poland
Tel. 0048 41 3831035
E-mail: andrewsl@wp.pl

Every year at the first weekend of October takes place European Birdwatch, organised by BirdLife International.

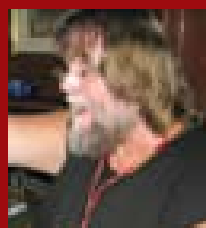
This year almost 1,000 European Birdwatch events were held in 30 countries. During the two days, more than 17,000 participants observed 3.3 million birds – a record for the last three years and a remarkable illustration of Europe's abundant bird life. Among other Baltic Sea Countries taking part in the Birdwatch, Sweden is the country with largest number of birds seen: 957,520 and with the most diverse bird list: 237 species.

Coast Watch Programme



Coordinator:
Peter Uhl Pedersen
Birkevang 303
3250 Gilleleje, Denmark
E-mail: peter.uhl.pedersen@skolekom.dk

Oicosophy Programme



Coordinator:
Volker Stiehl
Hauptstrasse Str. 14
D-38274 Klein Elbe, Germany
E-mail: stivol@t-online.de

Environmental History Programme



Coordinator:
Bo Persson
Ekbackeskolan
Västra Storgatan Str. 15
S-28300 Osby, Sweden
E-mail: bo.persson@lut.mah.se

My rapport for 2007 begins in the teachers training course in Katowice in april 2005.

In April 2005 I was one of many participants in the Teachers' Training course in Katowice.

I think that these days were very useful from a teacher's perspective who wants to work with environmental history. As a teacher it sometimes could be difficult to transfer high-quality-knowledge into the classroom. But in my opinion we got that help in Katowice. One very important way to develop the work in the classroom is to share experiences (both good and bad) with each other. Therefore I sent a mail to the participants in the course and I also got answers including future plans and their opinions about the course. I was also invited to a danish BSP-meeting in Malmö where I was talking about working with Environmental history

After that our contact has not been so very frequent. During this period (from 2005 -2006)

I received two reports from mgr Magdalena Hawry³kiewicz Coordinator of BSP ASP UNESCO and students of XVIII High School at SOSW nr 1 im. L. Braille'a, Bydgoszcz, Poland and Kaunas Julijanava Secondary School, Lithuania

The BSP-meeting in Nacka on 2007 was very successful. My students ask me if we could go again this year. So, thank you Susanne and Rolf.

There was at least one work-shop in Nacka which used Environmental history as a tool to understand present environmental problem, and it was ours.

But that is all I can report to you. I have no reports sending to me. I have no indication in environmental history activities from our schools so in that way it is not a positive report. I don't know what to do. Maybe it is time for another Teachers training course in Environmental history.

Phenological Studies Programme



Coordinator:
Vytautas Eidėjus
Lithuanian Center of Young Naturalist's
Džiaugsmo Str. 44
LT-11302 Vilnius, Lithuania
E-mail: vytautas.edejus@gf.vu.lt

Phenological studies are very useful outdoor activity. This Programme doesn't require special equipment, it is easy to work alone and with group, and motivate students to observe environment during for all spring period.

This year 23 schools from Lithuania, Latvia, Estonia, Germany, and Poland have participated in Phenological Studies Programme. Last year there were one country and 7 schools more reporting the results of their observation. Classes, groups of students or nature clubs and individual researches were observing 12 species indicating spring periods. Total number of pupils which have participated is only 273 and it is twice less than in the last year.

There are several reasons which explain lower activity in this programme: high changeable of coordinators, no changes in Phenological Studies Programme, and few information and not interesting.

As a new coordinator I am going to do changes in this Programme and to do this Programme more attractive for students and teachers.

Firstly, there will be more indicator species in the spring studies in next year. Secondly, each species will have "Work Box", which promotes students to continue research not only outside, but and at home, and motivates them to interest in other activities.

In 2008 if there won't be technical difficulties in the BSP website will start useful birds voices and plants guideline. This attractive education tool will help teachers to moti-

vate their students to participate in Phenological Studies Programme.

And finally, in autumn (2008) a new sub-programme "Autumn Phenological Studies" will start. In these observations students will continue researches and deal with other cycle of nature.

Rivers Programme



Coordinator:
Susanne Mellvig
Nacka gymnasium
Griffelvägen 17
S-13140 Nacka, Sweden
Tel. 00460 8 7188154
Fax. 00460 8 7188298
E-mail: susanne.mellvig@nacka.se

One purpose of the project "Rivers" is to give pupils from different upper secondary schools in the countries in the Baltic catchments area an opportunity to compare environmental influences.

Another purpose is to give a view of suitable chemical analyses that have to be made in schools to get information about the water quality in small or big rivers with connection to the Baltic Sea.

Rivers can be examined biologically and chemically. The biological investigation can take place during the period of vegetation growth.

The chemical investigation has to be done during the second week of November.

The instructions are given in the paper "Rivers" in www.bspinfo.lt website.

You can also obtain the paper through your national coordinator or through Sweden's national co-ordinator.

All chemical data plus the water quality class should before May 1st be sent to Susanne Mellvig, Nacka gymnasium, Griffelvägen 17, 131 40 Nacka, Sweden.

Schools who took part in the River project 2007 were three, one from Denmark, one from Poland and one from Lithuania.

Water Quality Programme



Coordinator:
Liesma Abolina
Ilguciems secondary school
Dzirciema Str. 109
LV-1055 Riga, Latvia
Tel. 00371 7 814354
E-mail: liesma@promedia.lv

Competition 'Tales and legends of The Baltic countries'

Organization of international BSP competition for students of BSP UNESCO schools and Polish primary, lower secondary and secondary schools

Competition theme: 'Tales and legends of The Baltic countries'

Competition opens in October 2007

Closing date for entries (date as postmarked): 1 April 2008

Final result announcement on Polish website: by 10 June 2008

Competition entrants: the competition is open to about 350 BSP schools in nine Baltic countries and to all interested students and teachers of Polish schools which are not BSP members.

Jury panel: specialist in literature, Anna Milerska, MA – English and Polish scholar and translator, Krzysztof Kafel, PhD – specialist in ESD, Piotr Murawa, MA - artist

Prize funder: The National Fund for Environmental Protection and Water Management

COMPETITION RULES

General requirements:

1. Organizers of the competition:

Polish Coordinator of the Baltic Sea Project in UNESCO ASPnet and Stowarzyszenie "Komputer i Sprawy Szkoły KISS" with the financial support from The National Fund for Environmental Protection and Water Management.

2. Competition is open to students and teachers of primary, lower secondary and secondary schools.

3.1. The competition objectives are to induce students' interest in the folklore of the Baltic Sea area, diversity of forms of traditional oral transmission, variety of tales in the region, understood as folktales passed on to next generations, fictitious but linked to certain places, people, names etc. in a way that makes it impossible to tell apart the facts and fantasy and undergoing slight modification while passed on. The Baltic Region is viewed as culture, customs, tradition, languages and landscapes of all nine Baltic countries therefore all schools of these countries are welcome to take part in the competition, not only schools of the coastline. The interest in local folklore may let the children and youth strengthen family ties and get closer to local community. It may also promote pro-regional activities undertaken by schools. In addition, it gives a chance to preserve fragments of local cultural heritage by collecting and recording folktales existing so far only in spoken tradition.

3.2. The task for competition participants is to create teams of two or three, with a teacher as one member supervising the work. The whole team does the field research talking to people and collecting tales. One member takes the role of a writer, another is an illustrator and the teacher supervises the merits and organizational matters during the field research.

3.2a. The whole team doing the research is responsible for talking to the locals, collecting the tales present in oral tradition of the region and selecting the most interesting one to be prepared as a competition work.

3.2b. The writer is responsible for composing the literary side of the work according to the following criteria: original, unpublished and wholly based on the team research work must be typed using Times New Roman 12 pt on one or two pages of A4 paper. The same work must also be prepared in electronic version. The work must be submitted in two language versions: the team's mother tongue and English. The jury will judge the English versions while the best works will be published in Polish BSP UNESCO Newsletter in both language versions. The chosen work will be sent to Rūta Jociūtė-Žolynienė, the editor of 'The Baltic Sea Newsletter', to be printed in English.

3.2c. The illustrator is responsible for illustrating the tale. The technique and colour is optional (watercolors, crayons, ink, colorful paper etc.). Soft pastels or charcoal are not recommended since the work may be damaged while scanned. There may be more illustrations (up to four) as long as they all can be put on one A4 page. It is recommended for the author to put a signature in bottom right-hand corner of the page. (visible on a scanned work)

3.2d. The teacher – students guardian- is responsible for guiding the students throughout the activities (like helping with the research, sug-

gesting a potential theme, choosing the literary form etc). The teacher is also responsible for students' safety during field research (especially on primary school level) and helping with the translation into English.

3.3. If it is not possible to create a team of three, the team may consist of a student and a teacher where both members work as researcher in the first stage.

3.4. The work submitted to the competition must NOT be previously published, must NOT violate other person's copyright therefore must be created as the result of cooperation of all team members who own all rights to it.

4. The competition is open in October 2007 and closing date for entries is on 1 April 2008 (date as postmarked)

5. Final results will be announced by 30 May 2008

6.1. One team consisting of three or two members may be the author of one competition entry (with the teacher as team member).

6.2. Each team may submit only one work.

6.3. Each school may submit any number of teams, therefore each school may submit any number of works and the same teacher may be a member of numerous teams.

6.4. Each submitted work must consist of two parts: a literary and artistic one.

6.5. One submitted work (the text together with the illustrations) cannot be larger than three A4 pages.

7. Competition Rules and Entry Form are available on the BSP websites: Polish - <http://www.bsp-pl.org/> and international - <http://www.bspinfo.lt> since October 2007.

8. Entries

8.1. Each entry must consist of:

8.1. a. a work including two parts (a literary and artistic one), printout of the legend + original artistic work as well as the text in two language versions (mother tongue and English) on a CD.

8.1. b. filled in, stamped and signed Entry Form which is included in Competition Rules in Annex 1

8.2. Entries must be posted to:

Stowarzyszenie Komputer i Sprawy Szkoły "KISS", ul. Lompy 2/10, 40-040 Katowice, Polska

Tel/fax: +48 32 2 519 811

8.3. Entries will be accepted until 1 April 2008 (date as postmarked)

8.4. Entries sent only in electronic version (without original artistic work), entries without filled in Entry Form or entries which do not fulfill other formal requirements included in Competition Rules will NOT be accepted.

8. The judging panel's decision will be taken no later than 30 May 2008 and the results will be announced within ten days on websites : <http://www.bsp-pl.org/> and <http://www.bspinfo.lt>

Additional arrangements

1. All entries may be used (wholly or in fragments) by Organizer, General BSP Coordinator and National BSP Coordinators in promotional materials. They may also be published on Organizer's and BSP UNESCO's websites accompanied with the authors' names.

2. Authors of all entries consent all copyrights and financial rights to the Organizer with no time or territorial limits in accordance with Authors' Declaration included in Entry Form.

3. Submitted entries will not be returned.

4. Organizer reserves the right to cancel the competition or change its rules without explaining the reasons.

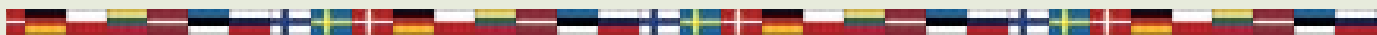
5. Present Competition Rules is the only document specifying the regulations of this competition.

Competition will be closed in June 2008

Organizer stipulates following prizes for students and teachers: 15 prizes of the following kind: digital cameras, iPods, MP3 for winners and diplomas for honored participants. Prizes will be sent by post.

Prize funder: The National Fund for Environmental Protection and Water Management

Please, address any further questions to Stowarzyszenie "KISS", on phone +48 606 788 747 or e-mail: bspnews@kiss.pl



Entry Form of team submitting to International BSP Competition ‘Tales and legends of The Baltic countries’

TITLE OF THE TALE/ LEGENDS

NAMES AND SURNAMES OF TEAM MEMBERS:

1. Writer

2. Illustrator

3. Teacher – guardian

Teacher’s e-mail Teacher’s phone number

SCHOOL ADDRESS:

School name

Street

Postal code Town/City Country

Tel. Fax

School e-mail School website

School stamp

School Head Teacher signature

AUTHORS’ DECLARATION

I declare that i am the author of the submitted work and i accept the regulations included in the competition rules.
I hereby transfer the copyright and financial rights of the submitted work to the competition organizers and i consent to publication of the work on the internet or in other media.

SIGNATURES

AUTHOR 1

AUTHOR 2

TEACHER

Place, date

International BSP Conference "Evolution of Environment" in Vilnius, Lithuania, April 9–12, 2008

*The Young Lithuanian Environmentalists Centre
The Baltic Sea Project
Vilnius Žemyna Gymnasium*

REGULATIONS

I. The Organizing Committee of the Conference

1. The organizing committee of "Evolution of the Environment":
 - 1.1. Rūta Jociūtė-Zolynienė — the national and long-term coordinator of BSP;
 - 1.2. Ona Sigutė Versockienė — the head of the Young Lithuanian Environmentalists Centre;
 - 1.3. Rūta Krasauskienė — the principal of Vilnius Žemynos Gymnasium;
 - 1.4. Gražina Drebeckienė — a teacher/expert in biology at Vilnius Žemynos Gymnasium;

II. General Regulations

2. "Evolution of the Environment", an international conference for students and teachers.
3. The conference is being organized by Vilnius Žemynos Gymnasium, the Young Lithuanian Environmentalists Centre and the national and general coordinator of the Baltic Sea Project.
4. Students present their projects and teachers share their experience.
5. The projects that are presented have to reflect students' observations and investigations of the programmes:
 - 5.1. Water quality in the Baltic Sea;
 - 5.2. Rivers;
 - 5.3. BSP coast watch;
 - 5.4. Air quality;
 - 5.5. Phenological studies;
 - 5.6. Bird ecology;
 - 5.7. Environmental history;
 - 5.8. Oicosophy;
6. Summaries of the students' projects will be printed in the conference material.
7. The reports have to be presented in English.
8. Summaries of the presentations have to be presented in English.
9. The language of the conference is English.

III. Aims and Goals

10. To train students' environmental abilities.
11. To form practical skills and to encourage students to perceive the laws of nature.
12. To form scientific thinking and investigational skills.

IV. Participants

13. Secondary school students and teachers from abroad and Lithuania. The projects can be prepared by one or two students or a group of students.

V. The Date and the Place of the Conference

14. "Evolution of the Environment" will be held from 9 to 12 April 2008 at 10.00 a.m. in Vilnius Žemynos Gymnasium; address Čiobiškio St. 16, LT-07181, Vilnius, Lithuania

VI. Requirements for the Project

15. The projects have to be based on the programmes of the Baltic Sea Project.
16. A summary of the project has to be written using Microsoft Word and Times New Roman print size 12. The authors' and tutors' surnames, the name of the school, and the title of the project should be printed using size 18. The size of the text must be 16x23.5 cm.

The summaries of the presentations are to be in English and they have to be saved on a CD. The disk and the application form can be posted or emailed:

rastine@zemynosgimnazija.vilnius.lm.lt.

17. You are asked to send the summary of the material you are going to present at the conference in English.
18. The time limit of a student's presentation is 5–7 min.
19. National coordinators from foreign countries can present two groups of participants who will represent their country at the conference. A group consists of 4–6 students and 1–2 teachers.
20. Participants from Lithuanian schools can suggest one presentation from a school.
21. Applications and projects have to be sent by February 16, 2008. We will watch the date of the postmark.
22. Applications and summaries of the projects (supplement 1) can be emailed to rastine@zemynosgimnazija.vilnius.lm.lt or posted to Gražina Drebeckienė, Vilnius Žemynos gimnazija, Čiobiškio g. 16, LT-07181, Vilnius, tel. (8-5) 24 00 561, mob. tel. +37068287319
23. You shouldn't miss the deadline. Otherwise your projects will not be accepted and your CDs will not be returned.

VII. Accommodation

24. The participants from Lithuania are asked to write on the application form whether they will be willing to stay at Ecotel Vilnius.
25. All the participants of the conference will be accommodated at Ecotel Vilnius.

VIII. Meals

26. Meals will be provided three times a day (breakfast, dinner, supper) from 5 p.m. on 9 April to noon on 12 April.

IX. Local Transport

27. The expenses of local travel (from Vilnius Žemyna Gymnasium to the hotel and the Young Lithuanian Environmentalists Centre) will be fully paid by the organizers.



Participant's application form

The title of the work (in block letters)

Participant's name and surname (in block letters), form, date of birth, telephone number, e-mail

School (address, telephone number, fax)

Report or visual presentation

Necessary equipment for the presentation of the work (overhead projector, audio and visual aids, etc.)

Arrival

Date (precise)

Time (precise)

Means of transport (private car, bus, train, plane) — underline

The airport your plane leaves from. Flight number.

Do you want to be met at the airport?

Departure

Date (precise)

Time (precise)

Means of transport (private car, bus, train, plane) — underline

Airport of your destination

Do you want to be seen off?

The names and surnames of all the members of the delegation (with the exception of Lithuanians, please include gender); e-mail addresses

1. Teacher

2. Teacher

3. Student

4. Student

5. Student

6. Student

7. Student

8. Student

Delegation leader (name and surname), mobile telephone number and/or e-mail address

BSP meetings and conferences in 2008

April, 1 st	Competition "Tales and legends in Baltic Countries"	Hosted by Poland. All BSP countries can participate. E-mail: jolanta.mol@pro.onet.pl
April, 9 th -12 th	International conference for teachers and students "Evolution of environment" in Vilnius	Hosted by Lithuania. All countries can participate. E-mails: rastine@zemynosgimnazija.vilnius.lm.lt ruta.jociute@b-s-p.org
May, 8 th	"Agenda 21 NOW!" internet conference	Hosted by Germany. All countries can participate E-mail: martin.jarrath@agenda21now.org
May, 25 th -30 th	International Environmental camp school in Pori	Hosted by Finland E-mail: simo.korpela@satabaana.net
June, 5 th	Kite action "Look around"	All countries can participate. E-mail: ruta.jociute@b-s-p.org
September, 3 rd -6 th	International summer camp "Nature and art"	Hosted by Lithuania. All countries can participate. E-mail: ruta.jociute@b-s-p.org
September, 22 nd -24 th	International workshop with Poland for students "Fishery course no. 4"	Denmark and Poland. E-mails: soren.levring@sonderborg.dk jolanta.mol@pro.onet.pl
November, 6 th -8 th	Meeting for BSP National and BSP Programmes coordinators	Hosted by Lithuania. E-mail: ruta.jociute@b-s-p.org

Contributions:

Would you like to contribute to our Newsletter?

You are very welcome!

We are looking forward to receiving and publishing your contributions, such as:

- accounts of your work
- art works for the covers (size: 42x24 cm)
- letters to the editor, in which you are welcome to express your opinion on various environmental issues and articles published in the Newsletter-newspaper and magazine clips presenting environmental issues in your country (the original article must be included)
- activity pictures presenting you and your students performing the BSP activities

There are, however, a few rules which you **HAVE TO** observe if you want your article to be published in the BSP Newsletter. There are:

1. Keep your articles short, precise and interesting

2. All contributions are to be e-mailed at

ruta.jociute@b-s-p.org

or sent by post (on CD) at:

Ruta Jociute-Zolyniene

Lithuanian Centre of Young Naturalit's

Dziaugsmo St. 44

LT-11302 Vilnius, Lithuania

3. No article is to exceed two A4 pages (text plus pictures)

4. All articles are to be composed as **WORD** documents

5. Please **DO NOT** include any photos, pictures, illustrations or any other scanned materials directly **IN** the Word document; they are to be enclosed as **SEPARATE** attachments

6. All photos and illustrations are to be saved in **JPEG** format (more than 1 Mb size)

The next issues will be published in May and December 2008.

www.bspinfo.lt

Webmaster: Sergej Asociakov, info@gamtininkai.lt



Transport and Communication *Developing the 21st Century*

9th International Internet Conference for students aged 14+

► Get the unique experience of an international internet conference! Students from a lot of countries, international experts and the conference team are waiting for you! Join our conference, work and discuss from any internet computer worldwide, at your school, at home or in your internet café!

8 May, 2008
00:00 - 24:00 h UTC

► **Transport and Communication ...**

How did the goods you have used today come to you? What transport did you use yesterday? How did you communicate with friends the day before yesterday? And how will all this be within 20 years from now? Can there be sustainable transport and communication?

Let's discuss these questions together. Worldwide. At our next conference!

► **New: Agenda 21 NOW! Decisions.** A good conference has great discussions and ends with a decision. Work with Transport and Communication, be prepared when the conference starts and take part in the decision making. The Agenda 21 NOW! Decisions will be presented to UNESCO and in public after the conference.

► Agenda 21 NOW! is an annual telecommunication project initiative by a team of teachers and students from five schools* in three countries and also a pilot project of the German UNESCO ASPnet.

► For further information please visit our website or contact the Agenda 21 NOW! team:

Martin Jarrath
Agenda 21 NOW! coordinator
c/o Hindenburg-Gymnasium Trier
Augustinerstr. 1, D-54290 Trier, Germany
Phone +49 651 9795 0, Fax +49 651 9795 299
E-mail info@agenda21now.org

We hope to see you on the net on 8 May, 2008!

www.agenda21now.org

within UNESCO ASPnet Germany



*Agenda 21 NOW! is made by (from north to south): Nacka Gymnasium, Nacka (Sweden), Allsundgymnasium in Sønderborg (Denmark), Hindenburg-Gymnasium Trier (Germany), Comprehensive School Kandel (Germany).