

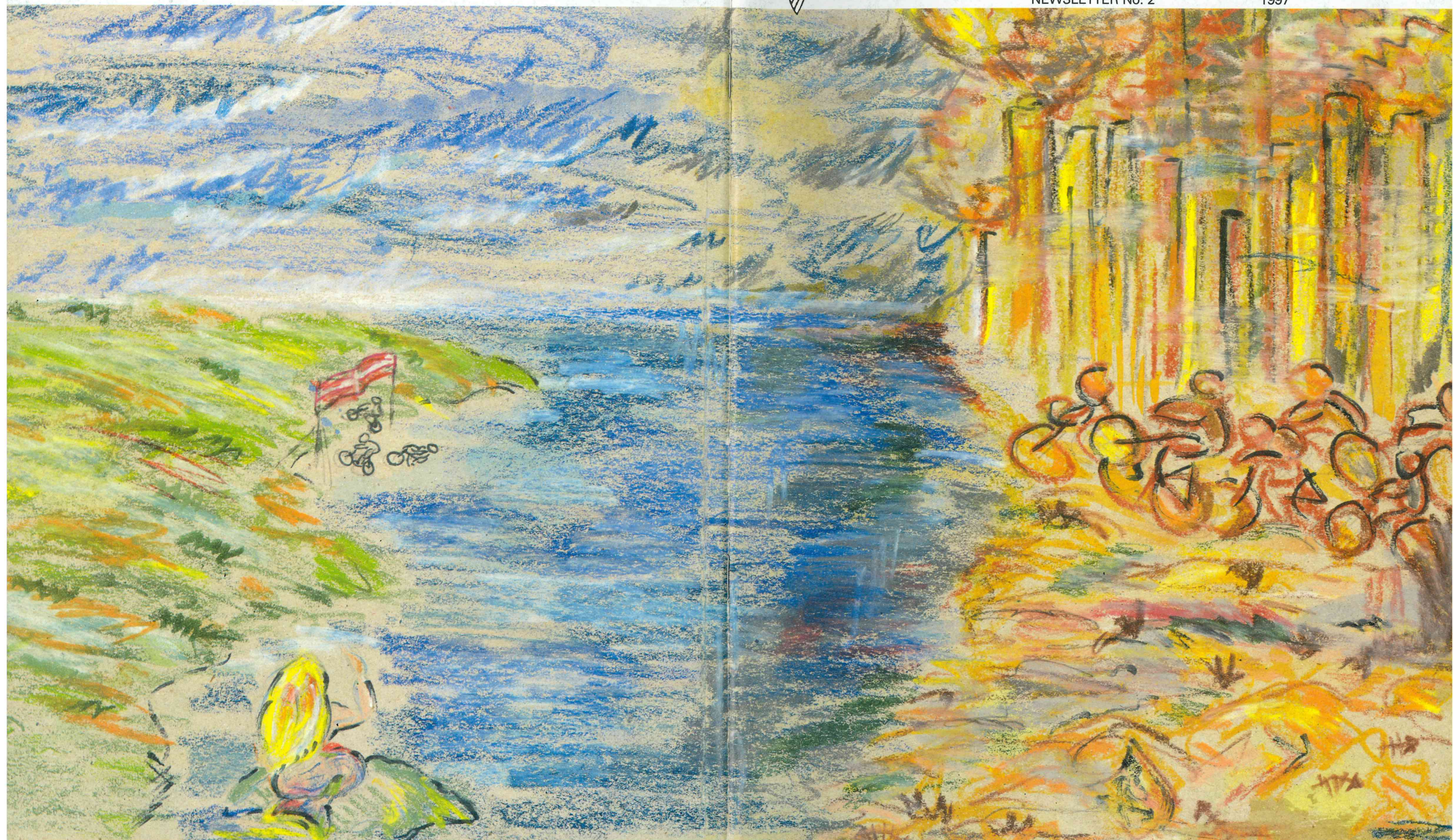
The UNESCO Associated Schools Project

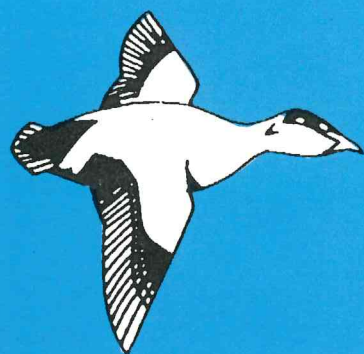


The Baltic Sea Project

NEWSLETTER No. 2

1997





The Baltic Sea Project

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Editor: Birthe Zimmermann

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CONTENTS:

Editorial	3
To the Reader	4
BSP programmes	5
Water Quality	6
Air Quality	7
Rivers	9
Waterwatch	13
Phenological studies	13
Bird Ecology	14
Env. history	15
Pedagogic	17
Green school yards	17
Wind and water erosion	18
Agenda 21 From Words to Action	20
Solutions	22
Baltic 21	25
Denmark	26
Networking	28
Estonia	29
Finland	30
Germany	31
Latvia	32
Lithuania	34
Poland	34
Sweden	36
Sister Projects	38
Proceedings	40
National Co-ordinators	41
Future Events	43

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Viki Ølgod Frandsen, form 1x, Amtsgymnasiet in Sønderborg, Denmark
Cover title: Denmark and the Baltic Sea

Logotype:

Karin Pettersson and Kjell-Åke Holmberg/Hompe



Denmark takes over

the general co-ordination of the Baltic Sea project on the threshold into a new millennium.

We are approaching the turn of the century and more focus will be put upon actions based on the Agenda 21.

Sweden's Siv Sellin has resigned as general co-ordinator. She has done an excellent job as general coordinator, with her great skills and her tremendous working capabilities. She resigned having implemented the Agenda 21 activities within the BSP supplying the students with excellent methods for further action competence.

As the new general co-ordinator I would like to introduce myself - but how?

In September I participated in the BSP course on environmental education in Riga. On arrival we were all kindly asked to introduce ourselves by making a drawing through which we were to tell the other participants three main things: 1) What are you good at? 2) What item do you always carry on or with you? and 3) What major dream do you have? - The task was difficult: I took a masters degree in Biology and English in 1977, and I have been a teacher of biology and English in a Danish upper secondary school ever since. I am married, and I have three wonderful children (16, 18 and 20 years of age). I am used to analysing matters, to debating issues, to finding points of interest, and to do loads of work. Besides I am fond of music and I like outdoor activities, bicycling, walking, bird watching, cross country skiing. But how does one present what one is good at!? In Riga I introduced myself 1) Good at teaching, 2) Always wearing glasses and when outside a pair of binoculars for bird watching, and 3) Dreaming that one day the Baltic Sea will be clean enough for the porpoise to swim all over - not only in the Danish straits.

Unique ideas.

It is a great challenge to take over the co-ordination from Sweden, and I agree on the idea that the general co-ordinator's job should be carried out by each country in turn. Finland started the project in 1989, Sweden took over in 1993. In the next three years I'll teach 40% of my time and work for the BSP 60% of my time. While Sweden was in charge Learners' Guide 1 was published, and the conferences "Save the Baltic Sea" and "From Words to Action" were held in 1994 and in June 1997. Wonderful demonstrations on how much has been achieved within the project by now. In Nyköping I had the opportunity to meet the national co-ordinators who are so important for the project. Without national co-ordination to support the schools the ideas of joint activities will fail. Each country comes forward with unique ideas, the articles found in this issue will prove it. Ideas are tested in the classroom and programmes develop. Learners guides are being written, and together it makes the project unique for the Baltic area.

Perspectives.

At the 9th co-ordinators' meeting in Nyköping representatives from the sister projects were specially invited, and I learnt that the dimensions of the project are wider and has large perspectives when combined. New dimensions are on the verge of being implemented and information technology will link partner schools together. Sorting loads of information and sharing ideas and data on investigations made far apart will eventually be part of environmental education, however, never replacing

joint activities and exchange programmes, conferences and meetings in which names become alive and students and teachers have the opportunity to meet one another.

An octopus job

To be able to do the general co-ordinator's job one really needs the capabilities of an octopus (a mutant one with the double or triple number of arms) to manage. I strongly believe in the objectives of the BSP (listed on page 40) and I shall work for continuation and further innovation. Over the years a number of excellent programmes have developed (presented on pages 5-17) and new ideas are brought forward. One excellent book Learners' Guide 1 on "Working for a better Water Quality in the Baltic Region" is soon to be followed by Learners' Guide number two "Working for a Better Air Quality in the Baltic Region" and Learners Guide number three, "Agenda 21". And yet more editorial groups are needed to do even more Learners' Guides. Hopefully more Learners Guides can be produced within the next three years. Producing a Learners' guide is an immense load of work, but it combines teaching methods around the Baltic Sea creating tools for every nation, every teacher, every student to use in his/her environmental work.

Through these joint activities we can influence the decision-makers and work for sustainability.

A local NGO said, "If you pollute: Do it locally! - If you get good ideas and find solutions: Spread them globally!" The words fit well with the objectives of the BSP!

Birthe Zimmermann

Baltic 21

On "An NGO Vision of an Agenda 21 for the Baltic Sea region" (see also "Baltic Sustainability" Newsletter 1997:1 page 4) The NGOs in Coalition Clean Baltic in October 1996 presented the opinion that a regional Agenda 21 must be based on a profoundly new thinking. New ethics, new lifestyles, new attitudes and new practices are required. That, in turn, will demand not only political courage but also wide partnership and public participation of unique dimensions. Six basic principles are of particular interest:

1. Sustainability must be accepted as the overriding principle and guideline in politics as well as in all other forms of decision-making.
2. The natural environment, and the resources and environmental services that it provides, are a

given and necessary restriction not to be exceeded by human activity. The concept of environmental space is one of the approaches that should be considered as a basis for human activities in the Baltic Sea Region.

3. The Baltic Sea Region must not draw unduly upon the natural resources and health of the ecosystems or the people of other regions. As far as possible, the Baltic Sea Region must become more self-supporting in terms of food, forage, wood, energy and raw materials for industry. Similarly, the Baltic Sea Region must not export its waste products to other regions of the world.

4. It is imperative to get the prices right - resource use and environmentally destructive activities must be made to carry their real ecological costs.

5. Only a holistic, cross-sectorial approach is possible and viable to shape sustainable nations and a sustainable Baltic Sea Region.

6. Public awareness, acceptance and participation is essential in a process to shape a sustainable Baltic Sea Region. Every effort must be made, for democracy and equality, to provide the inhabitants of the region with education, information, incentives and practical means of participation to motivate and encourage them in that process.

BALTIC 21 invites you all to public participation (read further on page 25) the time for you has come to go" From Words to Action"!

Birthe Zimmermann

BSP in Denmark

In the spring of 1996 the Swedish National Commission of UNESCO made an inquiry if Denmark would succeed Sweden in taking over the general co-ordination by July 1st 1997. The Danish National Commission and the secretariat were all in favour and because of the favourable reception by the Ministry of Education the necessary financial support was found on the condition that programmes might be implemented into voluntary youth work. Birthe Zimmermann from Sønderborg

Amtsgymnasium was made the general co-ordinator.

At the recently held 29th general UNESCO conference great satisfaction was expressed on the Baltic Sea Project and on the sister projects such as SEMEP (South East Mediterranean Project). Because of the positive results the countries around the Black Sea have started establishing a similar sister project.

The environmental projects give substance to UNESCO's Associated Schools Project (ASP).



The Danish National Commission and the educational committee wish the Danish BSP co-ordinator good luck with her work.

Svend Poulsen-Hansen

Deputy Secretary-General of the Danish National Commission for UNESCO

How programmes develop

- Ideas can be developed everywhere and by anybody within the BSP network.
- It is recommended that the ideas have been well tested.
- A program is suggested among the national co-ordinators at the annual conference. The general co-ordinator receives the program two months before, and the national co-ordinators one month before the meeting.
- A suggested program has then to be accepted the following year, so the decision on which programmes are shared BSP programmes is a democratic process.

ter between networking schools with restrictions as to the number of participants.

- Water quality (accepted)
- Air quality (accepted)
- Rivers (accepted)
- Waterwatch (accepted)
- Phenological studies (accepted)
- Bird ecology (accepted)
- Environmental history (suggested)

Each programme has a co-ordinator whose job is very important.

Results are handed in to the person in charge, and the combined results are then given back to the participants.

For this issue of the Newsletter the co-ordinator of each program has been kindly invited to present the programmes, and everyone has done so. In the following you can read of the experiences and also find some good examples of work done within each programme or perhaps as a parallel study.

Investigation of the water quality made by Tallinn Lilleküla High School.



Water Quality

A status Report

The common programme Water Quality of the Baltic Sea has now been an integrated part of UNESCO's Baltic Sea Project for seven years. The idea of the project came from a workshop for teachers in Kiel, 1990. Soon a protocol was created by teachers from Nynäshamn Gymnasium, Sweden, and Rungsted Gymnasium, Denmark, and although some minor changes have been made during the years, the main idea of the programme is the same:

- to bring students out to their local coast to study the life and the state of the sea
 - to train the students in collecting observations in a systematic way
 - to communicate the observations internationally
 - to give the students possibilities to compare their observations with similar observations from other places around the Baltic Sea and over time at the same place.
- The programme and the methods are described in Learners' Guide No 1: Working for better Water Quality in the Baltic Sea. All schools and other educational institutions associated to The Baltic Sea Project are welcome to join the programme.

Statistics

The first investigations were carried out in the spring of 1991, and since then schools have carried out investigations every spring and autumn. In total, 285 protocols from 55 schools and other educational institutions have been registered. Some schools have only been in the programme once, while other schools have joined every year. Table 1 shows the number of schools and investigations distributed by country.

Organisation

The programme is co-ordinated by Rungsted Gymnasium, and all results are collected there. Over the years a report is sent to the participating schools twice a year containing all results and descriptions of excursions sites. Together with the report new protocols for the coming investigations are distributed.

Water Quality on your computer

It has always been the idea that one day, all results from this common programme should be available for all BSP schools in a computerized database that facilitates the search for data from other places and other periods. A computer programme is now ready

and will be distributed to schools joining the Water Quality programme before the end of 1997.

A guide to the programme is under preparation. The procedure for updating of the database will be described in the next issue of the BSP Newsletter together with some ideas of how to use the programme in the classroom.

The programme is designed by teachers from Rungsted Gymnasium and is distributed freely to schools in the Baltic Sea Project. The distribution is supported by the Danish Ministry of Education.

Do you want to join?

If you have not received the computer programme by the end of 1997, please send a letter to the address below with your name, school and full address. A copy of the programme will then be sent to you as soon as possible.

Knud Johnsen
Rungsted Gymnasium
Stadion Allé 14
DK-2960 Rungsted Kyst
Denmark

Country	No of schools	No of investigations*
Denmark	3	26
Estonia	3	14
Finland	3	15
Germany	8	30
Latvia	7	31
Lithuania	7	28
Poland	1	3
Russia	1	1
Sweden	22	137

*Investigations made in other countries are registered in the home country.

Air Quality

Air Quality was accepted in 1994 and two different protocols have been elaborated: **Estimation of air quality by bioindicators: Condition of firtrees and types of lichens,** and **Estimation of air quality by bioindicators: Percent coverage and species of lichens.** The protocols will be modified in Learners' Guide 2: Working for a better Air Quality in the Baltic Region". An editorial group is working on the book which is to be presented in the beginning of 1998.

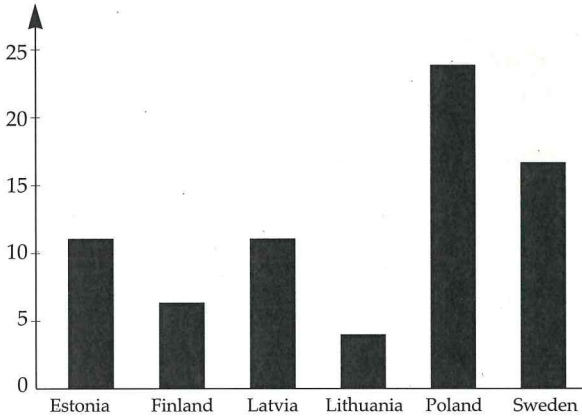
I want to thank everybody who take part in the program and a special thanks to Poland! As you can see from the diagram Poland have

participated sending most of the reports.

The Air Quality program can be used by all schools - the school does not have to be situated on the border of the Baltic Sea.

Co-ordinator
Birgitta Berggren
Harldsbogymnasiet
Kopparvägen 1
S-79143 Falun
Sweden

Number of reports



Car Count in Poland

Cracow Nowodworski Secondary School has participated in Schools Network Air Pollution (SNAP) and Ela Rup writes together with Iza Tutela on their work:

SNAP is organized by London University and many cities took part: Los Angeles, Toronto, Helsinki, Stuttgart, Rome, Johannesburg - and Cracow. We measured nitrogen dioxide and sulphur dioxide each week and the samples were examined in London because the

equipment was a bit complicated.

Then we counted traffic! We called it CAR COUNT - we had to count all the vehicles passing near our school during ten minutes each Monday. Once we counted the traffic on a Sunday for comparison presented in the scheme below.



Weekday	Cars	Taxis	Busses	Vans	Lorries	Bikes	Motor bikes	Other vehicles
Monday	96	25	4	10	2	1	2	2
Sunday	30	9	2	4	0	1	1	0

Vehicles passing Cracow Nowodworski Secondary school in 10 minutes!

Sulphur dioxide on plants

In an experiment made by Cracow Nowodworski Sec. School the effect of sulphur dioxide on plants was examined: Sulphur dioxide causes pollution and it is the reason of acid rains which has a negative effect on human health and on buildings. Magdalena Legutko writes:

"I put 10g of sulphur on a piece of paper. Then I set the paper on fire and covered it with a glass cover. A white steam of sulphur dioxide was created and I put plant leaves, flowers and fruit into the polluted atmosphere for one hour. After one hour the leaves had turned brown, the fruit had lost normal turgor and so they shrivelled and my conclusion is that sulphur dioxide has a negative effect!"

Magdalena's lab work.



Despite action plans Eutrophication is still a major problem in Danish coastal waters. The summer of 1997 was extremely hot, and signs like "Algae - No swimming" - are put up as huge amounts of algae occur, some of which are poisonous.

Rivers

One purpose of the project "Rivers" is to give pupils from different upper secondary schools in the countries in the Baltic catchment 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". You can obtain a copy of the paper through your national co-ordinator or through Sweden's national co-ordinator.

All chemical data plus the water quality class should be sent forward to:

Co-ordinator
Gunnel Öjelund
Söderslättgymnasiet
Boks 1008
S-231 25 Trelleborg
Sweden
Tel: +46-410-53630
Fax: +46-410-12269

Oxygen depletion

The small river of "Køge å": Suffocating from oxygen depletion during the summer of 1997

Anders (form 1c) from Køge Upper secondary Denmark writes:

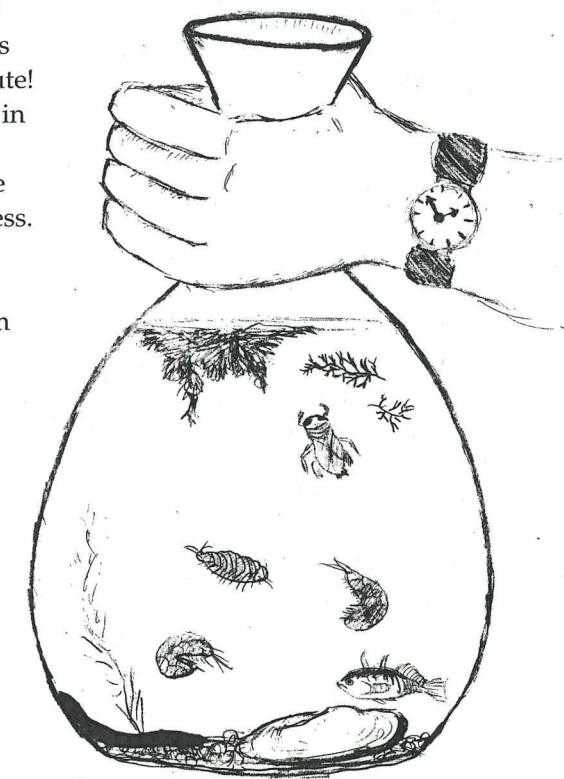
"This summer we had a major problem in Køge. Our river could not breathe. We had an unusually hot summer with high temperatures which caused the trouble. The sun made the plants grow and when eventually they died the bacteria used up the oxygen decomposing the organic substances. Fish get a problem when the level of oxygen decreases to less than 4 mg/l. This summer only 2-3 mg/L of oxygen was measured. It was a sad sight watching all the fishes on the surface - and the smell was awful, too..."

But not all the fishes died: Some were still alive and people helped them by supplying the river with

some extra water. A crew of volunteers pumped fresh water into the river so it could rehabilitate. The pumps pumped a thousand litres of water into the river each minute! Some of the water had its origin in the rivers itself - being oxidized from the atmosphere. After some time the river made some progress. The rescue team saved between 1/2-1 million fish from dying. Impressive, and it made the team a bunch of local heroes!

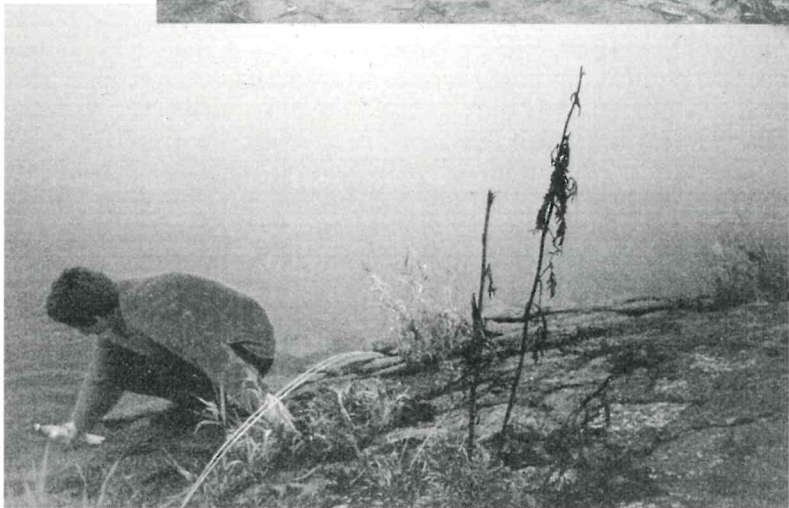
Our class made some investigations on the river also. We sensed the smell, measured the temperature but the most exciting was measuring the oxygen. We measured it at two different places with some strange results: 13 mg/L in the first place = good quality water, but only 1,8 mg/L at the second place - so the river is not sound yet...

Animals and plants from Køge å.
Made by Maiken 1C.



Vistula river

Students from Nowodworski Sec. School in Cracow investigated the Vistula river on four different locations: At Wisla (a small town near its spring) in Cracow, Warsaw and Gdansk where it enters the Baltic Sea. Student *Katarzyna Pluta* expected the river to become more polluted the further from the spring they came. Here is was she found:



The Vistula River.

Sampling location	Wisla	Cracow	Warsaw	Gdansk
Smell	No smell	Lightly putrified	Intensively putrified	Intensively putrified
Sediment	No sediment	Intensive	Light	Light
pH	8,28	7,45	7,25	7,14
water hardness	2 (very soft)	14 (average hard)	9,6 (lightly hard)	13,7 (average hard)
free carbon dioxide mg/ dm3	0,88	1,32	3,08	3,74
Sulphide mg/ dm3	4,8	3,2	8	1,2
Iron	No iron	No iron	No iron	No iron
Organic compounds (oxygen demand)	46,7	37,2	43,3	9,4
Chloride	2,3	600	269	106,7
Nitrate	No nitrate	No nitrate	No nitrate	Little nitrate

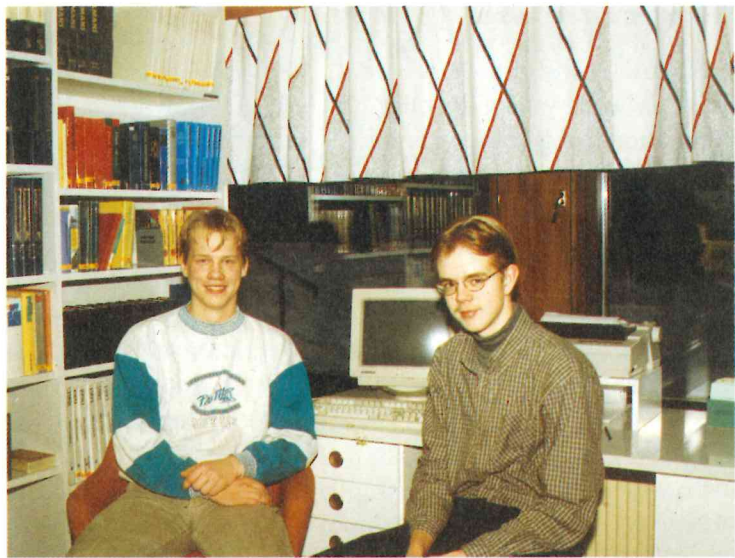
Chemical measurements on the Vistula river at four different localities.

Regulation?

Matthias Kanchos (at the right) and Roger Pettersson (left) live by Esse river, Pedersöre, Finland:

Living alongside of the Esse River has made us very interested in what is happening to the river. Therefore it felt natural to make a study of the damages which short-time regulation would cause to the river. Short-time regulation means that the water is stored in the night when little energy is needed. Then in the morning when the demand for energy increases the water is let through the power station. This is an easy way of making a hydro-electric power station more efficient but it also causes great damage to the environment:

The Esse River system has got a drainage area of 2054km² and runs through three big lakes, Alajärvi, Lappajärvi and Evijärvi. Because of the lakes the water quality is rather



good but the quality decreases on its way to the sea. The river is 60km long and there are 7 power stations built along the river. One of these is Kattilakoski, the biggest of them all. This power station was built for short-time regulation. In the 80es this was tried for short periods of time, but since then it has been uncertain whether or not the company would get permission, and a decision from the high

water rights court is to be expected this year...

Impact on fishes:

Due to the numerous obstacles in the Esse river salmon can no longer breed in the river and the most common species are now pike, perch, roach and bream. Fishing clubs have done a fine job by planting trout and sterling into the river and the results are beginning to show. A plan to make fishery more profitable and restore the rapids has been made. The short-time regulation is a great threat to this plan. The regulation affects most fish species that spawn in autumn or in the spring. The regulation will lead to the increase of ice pads which in the winter will smother the trouts' spawn. The regulation will affect insect life in the litoral zone and the varying water level will cause problems for most species. The burbot will be most affected of all species because of winter spawning. There are not many burbots left in Esse river and the regulation might mean the end of it.



How will regulation change Esse River?

The otter, *Lutra lutra*.

Finland is one of the last countries in Europe where the otter population is regaining strength due to efficient protection. In the Esse river the area between Hjulfors and Björkfors is suitable for the otter. The regulation will affect the otter as no ice tunnels(hides) are formed along the riverside and the loss of burbot will be harmful to the otter as burbot is the main food during the winter. But the otter can, of course, walk to other watercourses if the regulation will be carried out.

The freshwater pearl mussel, *Margaritifera margaritifera*.

The pearl mussel is close to extinction in most European watercourses. In Esse river a population of 3400 mussels will suffer if the regulation is carried out. The mussel has not multiplied in Esse river for 30 years but as they can grow very old (150 years) they can begin multiplying if conditions grow better.

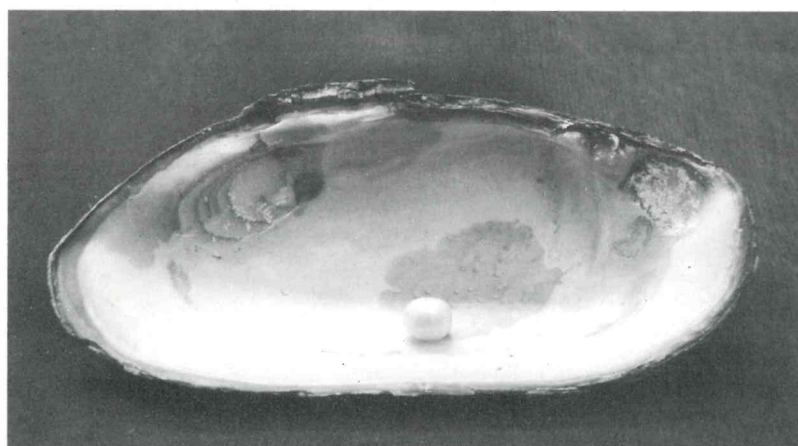
So the regulation of the Esse river is a hot issue! Who will benefit? The power station company would gain a benefit of 200.000 or 500.000 FIM. But the question is: Should we save the river or should we destroy life in it to produce more electricity!? Consumption of energy is increasing, and electricity must be produced somewhere, and water power is one of the cleanest power sources we can use. So the dilemma is which has the higher

value: Electricity or a river with its beautiful animals and plants!?

Roger Pettersson and Mathias Kanchos.

PS: After the article was written by the two Finnish students the higher water-rights court has given the power station a negative answer! Esse river will NOT be regulated! Finally people in charge seem to begin to understand the importance of environmental aspects!

Freshwater pearl mussel.



Latvian students investigating Pestava River.

Example from Latvia

The pupils from form 6-8 in Rujiena secondary school had a chance to participate in a two day rivers research camp in the end of May, 1997. The place was 4 km from our school so we went on foot.

The main task was to explore the small rivers in the neighbourhood, the Ruja, the Virkene and

the Pestava rivers. Virkene and Pestava rivers are tributaries to the river Juja. We made biological investigations and found very many different animals so we came to the conclusion that the biological situation is good in our small rivers.

We also made campfires and cooked our food. And we went on

a midnight rally scavenger hunting! This meant finding something aromatic, sharp, stinking, oblong etc.

Hopefully this tradition will continue - so I hope to see you in "Coast Watch 98 camp".

Ineta Mikelsona

BSP programme: Water watch

BSP programme: Water watch covers coast watch, stream watch and lake watch: It is a very popular programme. Coast watch is not a proper BSP programme but rather a European network program so 22 European countries participate. Stream watch and lake watch are regional BSP programmes: 9 Latvian, 16 Lithuanian and 74 Estonian schools have participated in the project last year. Some of them are active BSP schools but also schools outside the BSP participate.

Why is it popular? Because it is EASY! You have to fill in a question-

naire dealing with 500 metres of coast line and no special equipment is needed. It offers freedom for the teachers to develop further on the results and observations that was made outside: It is possible to add chemical analyses on the water quality, or to study living organisms into more details, or to finish the survey with a clean-up action. Discussion about counted litter can be made and the local authorities can be informed about the pollution, or the results from previous years can be used for comparison.

And perhaps even more impor-

tant: The programme can be done with pupils at all ages!

Teacher training supported by WWF, Sweden, has enabled teachers in Latvia, Lithuania and Estonia to attend courses in their country, another very important reason why the programme works!

Waterwatch 1997 is over but waterwatch 1998 is ahead: All proposals and remarks are welcome!

Contact co-ordinator

Reet Kristian

Nature House

Tallinn, Estonia

fax: +372-2451434

Phenological studies

BSP Programme: Phenological studies as a common BSP programme started in 1994.

The aim of the studies is to observe when spring appears in the different countries around the Baltic Sea. The participants have to observe the date they first see: the blackbird, the coltsfoot, the skylark, the white wagtail, the blue anemone, the white anemone, the brimstone butterfly, the cuckoo, and the white stork. In some years attention is paid to some special object or event: In 1995 it was the

blooming of the blue anemone, in 1996 the distribution areas of the white stork.

In 1998 we turn the attention towards the seasonal changes on the islands and compare them with the events on the mainland.

It is nice to notice that the number of participants is increasing every year: More than 400 observers participated in the program in 1997! Not only pupils (the youngest 7 years old!) but also many adult people (teachers, biologists, pensioners) participate.



Program co-ordinator

Anne Kivinukk

Nature House, Tallinn, Estonia

e-mail: anne@loodus.edu.ee

Bird Ecology

In the spring of 1992 we called up schools around the Baltic Sea to participate in the Baltic Sea Project and also to take part in the waterbird studies in the region.

We recommended the following bird watching programmes:

- 1: Spring and midwinter water bird counts
- 2: Counts on water birds washed ashore
- 3: Point counts on breeding birds

Ad 1: Now I can conclude that the midwinter water bird counts became more popular than other programmes.

For example in the winter of 1997 the midwinter water bird counts were carried out on the coast of the Baltic Sea as well as on inland waterways of four countries: Denmark, Estonia, Finland, and Lithuania: Nine schools participated and 24 species of birds were recorded in 29 sites (19 coastal, and 10 inland); Denmark: 4 coastal sites

Estonia: 13 coastal sites, 8 inland sites Finland: 1 coastal and 1 inland site Lithuania: 1 coastal and 1 inland site

I would like to express my great thanks to all the participants from Gedser Naturskole, Rungsted Gymnasium, Rødekro skole and Amtsgymnasiet i Sønderborg (Denmark), Kotka and Meri-Pori (Finland), Klaipeda (Lithuania) and Tallinn Lilleküla and Lügänu Keskool (Estonia)

Ad 2: The experience of Tallinn Lilleküla High School shows that the counts of water birds washed ashore can be joined with the coastal observation project - coast watch.

With the help of students we could get a good overview of the pollution sources of the coast of Tallinn Bay: Plastic bottles, aluminium cans and plastic carrier bags!

The counts of birds washed ashore on the Tallinn Bay Coast resulted in 2-3 birds found dead per each 500 m on the average.

Ad 3: Point counts of breeding birds requires very good knowledge on species detection. The timing of the field work falls into the period of summer holidays which might be the reason why schools have not been active in this programme.

Twice special BIRD OBSERVATION DAYS have been organised: 11th - 14th of January 1996 and April 18th - 21st 1996 in Estonia in order to:

- build up a common network for water bird studies on the coasts of the Baltic Sea
- get some practical experience in water bird field work
- support Estonian students in studying nature on the coasts of the Gulf of Finland and West-Estonia.

The best practical results were achieved during the April survey. The participants could pay a visit to the Matsalu Nature Reserve, a wetland area of international importance - a Ramsar site and an IBA site.

Conclusion: I regard it very important to continue the water bird surveys as they have become very popular and because they are relatively easy to organise.

The respective methods for studying water birds are available from me or from your national coordinator.

Program co-ordinator
Linda Metsaorg
Lilleküla High School
Tallinn, Estonia

*Bird watchers from Tallinn
Lilleküla High School, Estonia.*

Environment has a history!

For some time environmental history has been developing inside the BSP. It is a new subject even from the point of view of academic research and still more as a teaching subject. It is usually defined as the study of the historical relation between nature and society in a broad sense. More specifically it can be divided into the examination of changes in nature, the view of nature in society and the influence from society upon nature and vice versa.

In 1994 some results of environmental history were presented at the Karlskrona conference "Save the Baltic Sea" as two upper secondary schools had dealt with the river Helgeå (northern Skåne in Sweden) and its use since medieval times.

In 1995 some teachers met and decided to start a network for environmental history inside the BSP. The first result was an international course in Visby, Gotland, in September 1996. (See Newsletter 2/1996). In September 1997 there was a second meeting for environmental history in Sweden. About 40 teachers from Denmark, Finland and Sweden met in Lund and exchanged experiences and had lectures about views of nature, agriculture and ethics. Many teachers work with environmental history. One example is De Geergymnasiet in Norrköping, Sweden, with a big project on the conservation of industrial remnants (see below). Another example is from Rungsted, Denmark,

with a multimedia-project about a local river, Nivå.

Another result of network activities is a home-page with addresses and links to participating schools, useful links about environmental history and the Baltic Sea.

If you are interested in knowing more about environmental history in general or educational themes, please visit our home-page-
<http://hem2.passagen.se/bsp>
or send a letter to the co-ordinator:

Per Eliasson,
Ekbackeskolan, V. Storgatan 15
S-283 32 Osby, Sweden
e-mail:
per.eliasson@osby.mail.telia.com

"The Industrial landscape"

For centuries Norrköping was one of the main textile cities in Sweden. By the turn of the century a large area of factories had developed along the river, Motala Ström, running through the city.

When the entire textile industry was closed down between 1970 and 1970 a large area with empty factories was left in the centre of the city. Today many of the buildings have been innovated and put into new use, mainly for education, culture and companies.

"The industrial landscape" and

the radical changes in it is the theme of a school project with environmental and historical dimensions. The project has developed into an EU-Comenius project with DeGeergymnasiet in Norrköping, and partner schools in Manchester, England and Tampere, Finland: Both cities have an industrial past similar to that of Norrköping (Sweden's Manchester). Another common figure in all three cities is the rivers running through the centres. The rivers, once the reason for the location of the industries, have all been

dramatically affected by the industrialisation.

The students working in the project are studying "the industrial landscape" in their own city from various points of view, communication with their fellow students in the partner schools via e-mail. Thus they can compare the development in the cities in question, the problems, the solutions, and also discuss their working methods.

The common questions are: How have the "industrial landscapes" developed? And why? Why

Suggested BSP Programme: Environmental History

here? why such dramatic changes? How has the environment changed? What has affected the environment? The students have chosen to study subjects like: The river as an energy source. Water quality. Trade with raw materials and textile products. The closing down of factories. Building techniques. Housing conditions. The changing view of the "industrial landscape". In formulating the questions the students have had a big help from the BSP environmental history themes on the Internet!

By following the decision-making process in different matters the students will realise that the development is the result of conscious decisions, and that there

have been conflicting interests in the past as there are today.

Starting out with these questions the work by necessity becomes cross curricular and problem orientated. The students are working with the project in different subjects, e.g. civics, history, chemistry, biology, geography, art, textile and design, drama, English, economics, and computer science.

During the work process as well as during the documentation of the work the students benefit from contacts outside school, with local museums, city planning authorities, environmental authorities etc. The methodological advantage of a local study is that the students use local archives, and that the study

thus becomes more profound. The international comparison will help them to see the local development as part of a greater whole. The results will be documented in reports in a joint exhibition, on videotapes, and on the Internet.

Through the project the students will increase their interest in the local environment and its international connections, and increase their wish to influence the development.

Kate Sevón-Eriksson, teacher
DeGeergymnasiet
Norrköping
Sweden



Sara Jonsson, Evelina Eriksson, Camilla Söderlund, Marcus Oscarsson and Martin Pettersson are e-mailing to students in the partner schools.



Louise Samuelsson, Frida Högstedt, Madeleine Rannerud and Klas Oskarsson are planning their work together.

Pedagogics, Primary Schools



Green school yards

To continue the work at Krungårdsskolan's school yard (see also Newsletter 1997:1) we decided on a special planning meeting with pupils, staff and parents and the children in all classes made a lot of suggestions: So on April 29th we made a lot of painting work: an alphabet snake,

multiplication-squares, turtles, snails, and we made foot prints to every class in different sizes according to the children's age. We were almost 60 people working, children and adults, and we also decided to have a working day with the school yard each term! The children were delighted.

This year we have cleaned an outdoor classroom area and made it into a forest meadow. We use it every day for outdoor lessons in different subjects. The children have placed a lot of bird houses in different colours, made during

handicraft lessons. We have also planted fruit trees, apple, pear and plum. It is going to be a nice "old-fashioned" orchard! We are going to build an old-fashioned genuine fence around it in the local Swedish style - and around the meadow, too, if we can get the money.

The Krungårdsskolan's environmental group works with a compost- and recycling project. In this project we plan to build a greenhouse to grow vegetables and we work with waste selection education in this way.



Making the school yard colourful!



Agneta Svanberg-Arnrud, teacher
Krungårdsskolan, Box 54
S-384-21 Blomstermåla
Sweden

Demonstration of wind and water erosion for young children

My name is Ulla Bric. I teach children between 7 and 9 years of age in Uppsala, Sweden. I like to give lessons in environmental understanding. I have made the following demonstrations in many classes now. When the demonstration is over the children write down the whole story and make drawings of the fields. They like it very much and they remember how the farmers try to solve their problems.

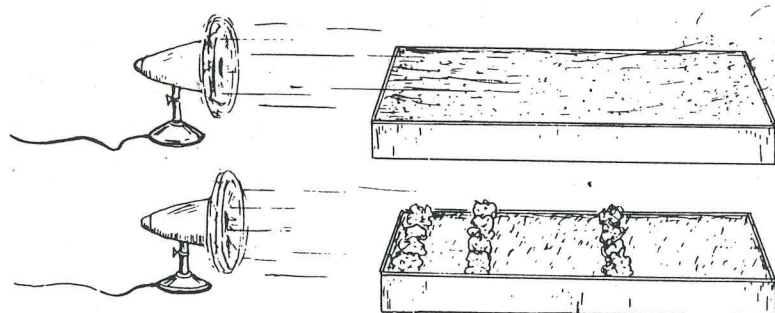
How to start: Tell a story for the small children, around 8 years old, so they understand the situation and become interested.

The African farmer: "In Africa there was a farmer, who lived in a very sandy district. Often strong winds came and blew away lots of the valuable black soil from her field. And under it there was only the poor sand. So her field got worse and worse. She had great problems to get food enough from it. As she also needed to make fire to cook, she had to take firewood from the trees around. The trees became fewer and fewer, and did

not any more stand in the way for the wind. And the wind could blow even stronger. She was afraid of the sandstorms that may come any time. Then it was dangerous to be outdoors. Even in her little cottage she got sand all over the place. She got sand in her mouth, eyes and everywhere..."

Experiment 1: An electric hairdryer, the lid of a shoebox and very fine sand to fill the lid. The lid with sand is the symbol for the farmer's field. If you do not find sand outdoors you can buy sand in a pet shop. Sit on the floor close to a wall socket (to connect the hairdryer) with the children in a circle around you.

Continue with the story: "This (the lid) is her field now. It has become so bad. She is outdoors working. The sky starts to get dark although it is in the middle of the day. Oh, no, is it a sandstorm coming? Poor me! Now she can even hear the noise of the storm. She takes her small children and rushes to her little cottage. Just in time! The sandstorm is over her.



(Start the hairdryer and blow on the sand in the lid. The sand will fly away over the floor.) Oh, no, all my soil will blow away!

One day she hears of a village nearby that had got tree saplings to plant from a tree plantation organisation. They tell her that the trees help very much when the terrible sandstorms come. She walks to the village to see if it is true. She gets some tree saplings from them to take home and plant herself..."

Discussion: Discuss with the children what the farmer should do. Where do you think she will plant her trees to best protect her field for the storm?

Experiment 2: You need a new lid of a shoebox now with two lines of glue, moss or lichen, sand and the hairdryer. Stick the moss or lichen to the glue. Let it dry. It should look like the trees in her field. Put sand in between.

Continue with the story: "The farmer decides to plant her trees in two rows. (Show the lid!) Once again it becomes dark and a terrible sandstorm approaches. She hides with her family in the cottage. Now she can even hear the noise of the storm. (Blow with the hairdryer over the lid.) When the storm is over she can see her field untouched by the wind. Wonderful!"

What do we learn from this: Soil can blow away with the wind if there are no roots holding it.

What to talk about afterwards:

With the leaves from her new trees she can make more soil for her acre "composting".

She can take some branches to cook food for her children, and have trees left anyway.

She can feed some animals, maybe a goat, with leaves from her trees.

She can pick fruit from her trees to give her children or sell to get money to pay the fee for the school for her children.

Maybe we could send some money from our class to Africa so more farmers can plant trees.

Demonstration of water erosion for young children

How to start: Tell a story for the small children, around 8 years old, so they understand the situation and become interested.

The farmer on the mountainside: "Once upon a time a poor farmer lived high up in the mountains. He had two fields, both on the steep slopes of the mountain. He had a big family, a wife and eleven children. They had very little to eat and one day he decided to take just a little of next year's seed for sowing. They were all hungry and to take a small amount of the seed could not be so bad, he thought. But his family became hungry many times and he took some more of the seed now and then. When it was time to sow he had just half the necessary amount of seed left. What to do?"

Discussion: Discuss the farmer's problem with the children. Do you think that he should sow half the necessary amount on both fields? Or should he sow all of it on one of them, and then have to leave one field without crop? The farmer decided to sow one field

properly. Next year he could hopefully sow both of them.

The experiment starts: You need soil, grass and oat (or grass and wheat) seed. Two similar bowls of glass or clear plastic, just about 5 cm high. Put soil in both bowls. These are the two fields. Sow the seed in one of the two bowls. Let it "rain" (water!) now and then. After three weeks the grass is 15 to 20 cm high.

Discussion: Look at the two fields. Compare the green field and the brown and quite dry field. What can happen now? Do you think the farmer will have some problems?

The experiment continues: Two persons (maybe two children) hold one bowl each over a big plastic bucket. They should keep the bowls at a steep angle. These are the two fields on the steep mountainside. A third person has two big pitchers filled with water. These are two big rain clouds.

The story continues: "The farmer looks on his two fields. One is very nice-looking and it is time for harvest. The other one will become just as nice next year, he hopes. He looks up in the sky. Oh, no! There come some heavy dark clouds towards his fields. It starts raining. First the rain comes to the fallow field. (Pour the water from one pitcher heavily over the bowl.) Oh, no! All the soil is flowing down the mountainside. He leans forward to see how all the little streams run all the way down to the big river in the valley (the bucket). There is now all the soil from his field. Oh, no! Poor us! And now the rain will come to my other field. What will happen now? (Pour the water from the other pitcher heavily over the other bowl.) But from the

field flows just clean water!" (Lift up the bowl. Under it you can see how all the white roots grab the soil in the bowl to make it stay.)

What do we learn from this: Soil can disappear with water if there are no roots to hold it.

What to talk about afterwards: How to make more soil? Maybe we should start a compost to see if we can make some soil.

In mountains ice and snow also makes soil from the mountain itself.

Another way is to remove the slopes. Build terraces!

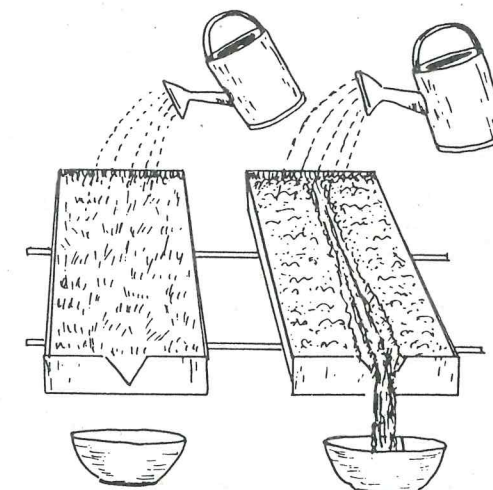
On slopes it is also important with trees to keep the soil when it rains. The trees are also very useful.

He can feed some animals, maybe a goat which likes mountains, with leaves from the trees.

He can pick fruit from the trees to give to his children or sell to get money to pay the fee for the school for his children.

Maybe we could send some money from our class to India so more farmers may plant trees.

Ulla Bric
Uppsäljaskolan
Akademivägen 2
S-757 56 Uppsala
Sweden



Agenda 21

The NYKÖPING CONFERENCE, **From Words to Action** June 11 - 14th 1997
AIM: In the beautiful medieval city of Nyköping, Sweden, the conference program had been developed according to one of the main objectives in the BSP work: To encourage students to participate in developing a sustainable future. Reaching the goal the student has to be an active constructor. Participation and taking responsibility are essential figures. Almost 300 people were together in Nyköping, and the students had prepared for the conference by working with themes based on Agenda 21. They had studied local environmental problems, suggested solutions, and also tried to influence people and local politicians. The conference would give

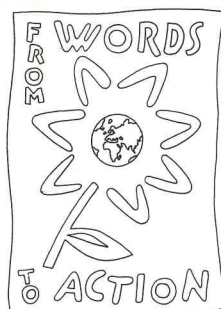
them opportunities to share their knowledge and ideas with students from other countries and to integrate them into a Baltic vision.

Organisation: The Swedish National Agency for Education organised the conference in co-operation with the Swedish National Commission for UNESCO and the city of Nyköping. Gripenskolan did an excellent job: Noting a blue T-shirt with the "From words to action"-logo one could always get an answer if in doubt. Several working groups had arranged accommodation, workshops, entertainment, programme design, excursions, decorations, guided tours of the city, press information, a secretariat and meals. The activities, the dinners, the dragon boat competition, the

medieval dinner, the archipelago - everything was perfectly organised BEAUTIFUL and even the weather agreed presenting Sweden in the most beautiful hot sunshine.

One of the planning objectives was to make the conference as ecologically friendly as possible. Disposable materials were to be avoided. A cotton bag with the conference logo, and a handy cup with the BSP logo was handed out on the first day for each participant to use during the conference - and to bring home for further use after the conference.

Participants. One hundred and eighty students from 50 schools and 100 other participants, including teachers, co-ordinators, lecturers, workshop leaders and other representatives from all the countries around the Baltic Sea. The



The international teachers' team before losing the dragon boat competition to the students' team...

Environmental theatre at the town hall.



sister projects, the Blue Danube, The Caribbean Sea, The Western Mediterranean Project and the South East Mediterranean Project were specially invited.

Opening ceremony.

The chairman of the Nyköping city council, *Göran Forsberg*, welcomed all nationalities and expressed his warm hopes that useful contacts would be made. *Anna Lindh*, Swedish Minister of Environment specially stressed the important role of young people for creating a sustainable Baltic region. *Kaisa Savolainen*, Director of Humanist, Culture and International Education, UNESCO, Paris emphasised the importance of seeking joint solutions to the problems ahead of us. "The conference" she said "is also an exercise in democracy: Take responsibility, understand how all members of a society are linked together and depend on one another and find out what action is needed. In his speech, *Ulf P. Lundberg*, Director General, National Agency for Education,



stressed Chapter 36 in the Agenda 21: Promoting education, public awareness and training. From chapter 25, *Jakob Ström* from a Swedish youth network for sustainable development stated that "young people are promised representation in all United Nations processes" and that "it is imperative that young people from every part of the world participate actively and at all levels of decision-making processes. *Sascha Kranendonk*, Wupperthal Institute, Germany, stated that the major causes for the continued global deterioration are the unsustainable patterns of consumption and production. Lifestyles should be looked at by ourselves, *Hellevi Helmfriid*, Skultuna Sweden said. She lacked a strategy for changing unsustainable consumption patterns in the industrialised countries. Look at the quality of life and at the fundamental needs.

Exhibition and presentations.

To qualify for participation each school had to send a written presentation to the national co-ordinators about their studies, and the selected schools brought with them posters, videos and other materials that were put on display in an exhibition hall. The exhibition was generally of very high quality, and three posters were awarded by the Municipality of Nyköping.



Action day in Nyköping, June 13th 1997.

The workshops were international including members from at least five different countries. They began with lectures according to theme, and they went very well. The slogan "FROM WORDS TO ACTION" came alive so that all of Nyköping will never forget it. Two of the workshops were active immediately: the videogroup getting most of the events onto their video recorders, and the environmental theatre group which made a performance right on the town hall open air space for the inhabitants of Nyköping, and in "Kulturen" the very last morning for all the conference attendants: well done, well performed, great enthusiasm on both sides - and the message was clearly understood! The other 8 workshops presented their ideas in written forms, on posters, confronting people with demands, questions, but all the workshops put forward suggestions as to the next step.



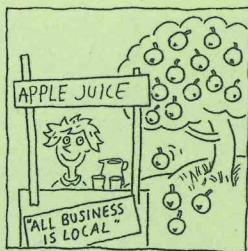


Here is what was decided in each of the workshops:

Nyköping Workshop: Being a green consumer:

All BSP schools according to their capacity and resources could undertake the following activities:

- Set up an ECO-RACE, a competition between shops in your community. Start by inviting a number of grocery stores and supermarkets to join the race. Visit them, perhaps on a regular basis like twice a year. Register the relative share of ecological products in a few categories of food. List your results and calculate which shop has the best supply of ecologically sound products. Award the winner and contact your local media to promote the selling of eco-products.
- Use the Internet to get information about environmental news, events, and organisations. Find out about eco-labels, EU regulations, consumer rights etc.



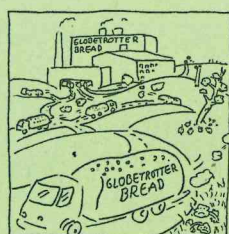
- Look for ecological labelling when you go shopping. Ask for Fair Trade-labelled products that pays a fair price to the producer.
- Contact the institutions that you are aware run eco-labelling (e.g. the Nordic Swan, the EU flower) Spread information about which labels exist and what they represent.
- Make the school buy locally and ecologically produced food. Ensure that the purchase of packaging is reduced to a minimum. Complain if food is brought in excessive packaging.

Nyköping workshop: The Waste Problem:

The BSP schools according to their capacity and resources could undertake the following activities:



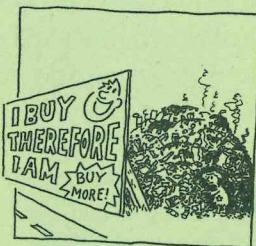
- Introduce systems of reuse/recycling of as many rest products as possible in your school and at home. Organise collection of materials for recycling. Make sure that there is a plant that do the recycling of every material that you collect. Ensure that copying is made double-sided.
- Contact decision-makers in your community and ask them for support towards your efforts of recycling and reuse. Also discuss with them the need to improve management of hazardous waste.
- Organise a compost for left-over food in your school. When it is ready, use the compost as fertiliser for flowers in the school yard. School kitchens should only buy locally produced food.
- Do not buy plastic bags in the grocery store every time you go shopping. Bring a cotton bag instead. Reject small plastic bags when buying only one or two goods.
- Buy second hand products which is a way of reusing.



Nyköping workshop: City and Nature:

All BSP schools according to their capacity and resources could undertake the following activities:

- Parking lots around schools should be diminished and public transportation prices lowered to decrease the use of private cars.
- School authorities should provide money for a transformation of the school yard, so that it becomes green, in accordance with the aspirations of both students and faculty. One objective should be to make the school more attractive to bio-diversity. There should be a possibility to grow vegetables in the school yard!
- Teachers should be given education on how to create green school yards.
- Try to keep informed about the planning and building projects in the home community. Request to be consulted by the decision makers before decisions are taken on such infrastructure projects. Decisions on new buildings and regional planning should be based upon the needs and participation of the local inhabitants.

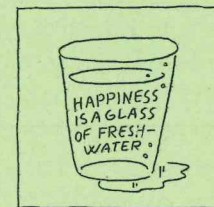


- Promote community or state recommendations or regulations to the effect that new buildings should be heated with renewable energy and have efficient insulation. Passive heating should be used with the big windows to the south and smaller windows towards the north. Building materials must be recyclable.

Nyköping workshop: Our Daily Water.

All BSP schools according to their capacity and resources could undertake the following activities:

- Replace water closets in the school and at home (if possible) with urine separating toilets.
- Save water when washing. Take a quick shower instead of a bath. Install water savers in the taps.
- Save rain water for several purposes - watering of flowers, washing of cars, flushing the toilets etc.



Nyköping workshop: Air quality

All BSP schools according to their capacity and resources could undertake the following activities:

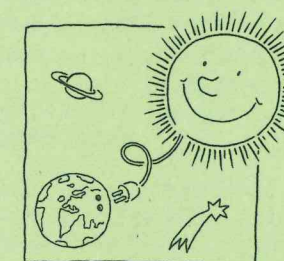
- There should be a bicycling path to and from the school, with safety considerations like no crossings of major streets or railways. The school yard must provide good conditions for the parking of bicycles.
- Work for improvements in the public transportation from suburbs to the city centre. The centre should be blocked from motorised individual traffic.
- Promote the introduction of better engines for fossil fuel traffic, with ethanol powered busses, sun power cars etc. Bio-gas from waste and landfills can also be used.
- Ensure that the price for public transportation is low and that busses, trams and trains run on a frequent schedule.



Nyköping workshop: Energy for the future.

All BSP schools according to their capacity and resources could undertake the following activities:

- Form a group of interested students who want to influence the other people at school. Arrange an energy day to start a process that will end up in energy saving in school and at home.
- Develop an action plan for sustainable energy production. It can be a plan for how the school be heated, lighted etc. with renewable energy sources.
- Elaborate energy saving schemes for the school. Discuss at home how energy consumption can be reduced.



- Avoid air traffic which is tremendously inefficient. For long-distance travel, always try to choose the train.
- Educate in the school and community on the risks involved with present energy production systems. Inform about opportunities for renewable energies.

- Keep a monthly record of energy consumption in the school. Inform all students and the faculty. If the students save energy, the school should return the value of the savings for some activities at the end of the year.

Nyköping workshop: Save the Baltic Sea.

All BSP schools according to their capacity and resources could undertake the following activities:

- Inform in the schools about the work that has been done at the conference. Make a poster and write articles in the school paper and in local papers.



- Every school should have an Environmental Council that is responsible for environmental information, composting and discussions with teachers and school authorities on environmental questions.
- Support ecological farming and food production, including recycling technologies and local production. Every municipality should start job-creation programmes in ecological farms.
- Make a timetable to phase out toxic compounds in industry, transportation, agriculture, public administrations, and households. Ask for an appointment with local decision-makers for a presentation of the plan.
- Promote fishing restrictions in adaptation to the ecology of the fish population!

Cultural events and evening programmes

Teachers and students from Gripenskolan had prepared a varied cultural programme: Fanfares opened the exhibition every morning, at each night had a different program: Wednesday evening there was a dragon boat competition with a BSP teachers team being beaten by a BSP students team.

Thursday afternoon students took the participants on a guided walking tour through the city ending at the castle. The municipality of Nyköping had invited everybody to a medieval dinner in the courtyard of the castle - and the evening was prepared with such high quality of entertainment and food that a wonderful atmosphere was created which was important for the continued work.

On Friday evening an excursion for all participants was made to a beautiful nature reserve where a picnic dinner was served while Swedish folk dancers entertained.

The final evening, Saturday, was an international dinner with entertainment by students from all participating countries.

Closing of the conference. On Sunday morning the students presented their work including their experiences with round table discussions with politicians on Saturday afternoon. The video group presented the conference on their recordings, and the environmental theatre group gave their second performance.

The conference was closed with congratulations to the students for their fine work by *Göran Forsberg*,

chairman of the Nyköping City Council, and *Berit Hörnquist* called the work "knowledge-building in a meaningful context". She thanked the Municipality of Nyköping and Gripenskolan for their excellent collaboration and warm hospitality. She thanked the resigning general co-ordinator of the Baltic Sea Project, *Siv Sellin*, for her excellent work and wished Denmark good luck with the co-ordination. She wished the teachers and students good luck with their continuing co-operation in the BSP. She felt sure that work on the projects "From Words to Action" would continue in all the schools around the Baltic Sea and would act as a means of support in the creation of an Agenda 21 for the Baltic Sea region.



AN AGENDA 21 FOR THE BALTIC SEA REGION

SENDS YOU ALL THIS INVITATION:

INVITATION

Dear participants of the Baltic Sea Project

The Baltic 21 Secretariat would hereby like to invite the students and teachers that participate in the Baltic Sea Project to share their ideas and views on sustainable development for the Baltic Sea Region.

At your conference "From Words to Action" you discussed among other things this issue and came up with proposals on how sustainable development can be achieved. We think that this could be an inspiring input to the Baltic 21 process. We therefore would like to ask you to visit our web site (<http://www.ee/baltic21>) and send in your ideas and views on sustainable development to our discussion forum at the Forum page.

Please note that most of the Baltic 21 work will be done by February/March next year, so in order to influence the work, your contribution should be sent in by December or January at the latest.

Best regards,

Kristina Dahlberg, Ass. Project Manager

Baltic 21 Secretariat

Ministry of Environment, Strömsborg,

S-103 33 Stockholm, Sweden

tlf: +46 8 440 1938 Kristina Dahlberg: +46 8 440 1937

fax: +46 8 440 1944 e-mail: kristina.dahlberg@baltinfo.org

What is Baltic 21?

Baltic 21 is an initiative taken by the region's Prime Ministers at their summit in Visby in May 1996 (presented in Newsletter 1996:1 page 5 and 1996:2 page 4). This decision was later followed up by the Foreign Ministers meeting in the Council of Baltic Sea States (CBSS) in June 1996. The project was officially started by the Ministers of Environment, meeting in October 1996 in Saltsjöbaden. The Saltsjöbaden Declaration provides the basis for the Baltic 21-set-up and process.

The emphasis of Baltic 21 is on the environment and on regional co-operation. All Baltic Sea countries take part in the Baltic 21 process. Not only the national governments are involved, but also the environmental movements, the business sector, universities, intergovernmental organisations like Helcom and the international development banks. To support the process, Sweden provides a small secretariat.

Work with Baltic 21 focuses on seven sectors, of crucial importance for achieving sustainable development. Each sector is led by two countries or in some cases by international organisations. For each sector goals and scenarios for sustainable development should be elaborated, as well as an action programme.

Sector:	Lead Parties:
Agriculture	Sweden and Helcom
Energy	Denmark and Estonia
Fisheries	International Baltic Sea Fisheries Commission (IBSFC)
Forestry	Finland and Lithuania
Industry	Russia and Sweden
Tourism	Finland and Baltic Tourism Council (BTC)
Transports	Germany and Latvia

At the present time, the sector work is in full action. Over 200 persons are involved in this work and a number of workshops are taking place during the autumn and the winter. Final sector reports will be prepared during the winter 97/98 and a draft regional Agenda 21, based on this work, will be ready for negotiation in spring 1998.

APPEAL

All pupils/classes/schools and especially those who participated in the Nyköping conference are kindly invited by March 15th 1998 to send to the general co-ordinator material on the following:

- In what way did you follow up upon "From Words to Action" in your school?
- Have you done some of the suggested activities mentioned in combination with the specific workshop (listed on pages 22-23)? List the ones you made or plan to make, and give examples on how you managed (plan to manage) to do the different activities.
- Have you been in contact with local decision makers? How, when, what about?
- Have you established or influenced the Environmental Council/ Green committee at your school?
- Have you perhaps changed your personal attitude?
- Has participation influenced upon your lifestyle or that of your home?

Send your contribution marked "Agenda 21" to:
general co-ordinator
Ms BIRTHE ZIMMERMANN
 Søndre Landevej 18, DK-6400 Sønderborg, Denmark

Green Flag / Green School

The Danish part of a European Eco-school project for primary schools. Rødekro primary school participates:

- The international demands for participants:
- Establish an eco-council at your school
 - Make a plan for eco-action
 - A minimum of 15% of the pupils must be engaged
 - Make eco-rules for each new subject
 - Make one new subject each year
- All participating countries work on the same themes: **water - waste - energy**. The individual demands might differ but the aim must assure the continuity in the eco-work at school. The work should be connected to daily life in school and in the local community. Eco-teaching aims at improving the environment at home and at school.

Eco-council: The eco-council consists of representatives from the

administration, pupils (at least 1/3 of the members), teachers and the technical staff. The council plans the work, distribute different tasks to specific workshops and inform parents and the media. The council formulate eco-rules and an action plan. The council meets app. 6 times a year.

Action plan. The action plan should present guide lines for immediate and future work in order to keep discussions developing.

Eco-rules. For each new subject a new set of eco-rules is put forward. The rules are the "codex" for the children to show the way they have to work to improve the environment. The rules should therefore be realistic.

Rødekro primary school has participated for three years on the themes water, waste and energy. One day in the "water-year" the water was cut. The fire-department placed one of their water engines

in the school yard so all water to be used on this day was taken into school in buckets. This way we were able to measure how many litres we spend each day. And that day the shower after football was cooold.. In the "waste - year" we analysed household waste into different groups, and in the "energy-year" a sun panel was created to heat up the water for the showers.

The mayor of Rødekro has handed us the green flag three times, and now we try to follow the rules in our every day lives, at school and at home.

Ole Sönchsen,
 Rødekro skole, Vestergade 14
 DK-6230 Rødekro

Green flag secretariat:
 e-mail:
 friluftsraad@inet.uni-c.dk

Education in Environmental History, an experiment

Classes at the Amtgymnasium in Sønderborg, have twice visited the Nydam Moor area west of Sønderborg. In the Iron Age (about 350 AD) 3 or 4 large pre-viking ships were ceremonially sunk at this place together with hundreds of weapons and other kinds of artefacts. At that time the place was a little lake. Nothing is known about the situation at that time, but archaeological finds from Nydam and other moors on the Jutland Peninsula indicate that fierce battles between Scandinavian armies have been fought at that time.

1500 years later the little lake had developed into a moor and peat digging disclosed the sacrifices. But the main finds were handed over to the Germans as a part of the peace treaty after the 1864 War six years later, and today they are on display at the Gottorp Castle in Sleswig.

These years, the archaeologists may have their last chances ever in excavating new iron- or wooden remains. The reason is a new plant in the area with more than 2 m long spear roots-*Equisetum palustre*, the Horsetail. The roots penetrate the fragile material in the moor, but worse they also bring down oxygen to accelerate the demolishing processes. Other processes could be

alteration in some chemical soil-conditions, maybe in connection to changes in the water level in the area.

In the 1570s to the North of the moor, a 5000m long canal was made by Danish tenants on the order of Duke Hans the younger at Sønderborg Castle. Through this canal the water from a small natural water-course, "Snogebækken" was diverted through Nydam Moor to a large artificial millpond close to the shore at Sandbjerg. Here the water was stopped by a large 300m long dam - one of the largest in Denmark, and led through two waterwheels at the Duke's watermill. Now, only the walls supporting the waterwheels exist.

The grinding process continued until 1916 when the mill burned down. Today the pond, the ruins and the nearby 18century Sandbjerg Castle are owned by the University of Århus.

The aim of studying this area with classes is **to combine historical knowledge with biological processes and problems**.

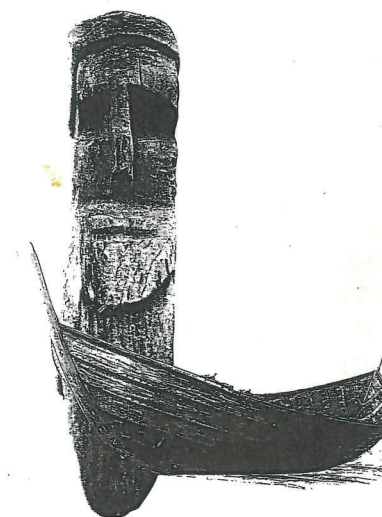
We analyse and discuss the following problems:

How can a lake develop into a moor. (Succession and cultivation).

Why are buried materials preserved until today? (Anaerobic/aerobic conditions, regulation of the water level in relation to cultivation, contents and conditions of the soil).

How is the area used now? (Composition of species according to biotic and abiotic conditions).

How was the area used? (Historical analyses at the area including the knowledge of the changes within cultivation have an impact on the biological conditions).



Can the present day cultivation have an impact on the water quality in the nearby watercourses and the millpond? (Comparison of Macro Index Measurements and chemical analyses).

What can be the causes of the recent sudden destruction of the archaeological artefacts in the moor? (Use of fertilisers, pesticides, different species of grazing animals ...).

Our hope is that a knowledge of the past will enhance the students' experience of our nature today, and that they will be aware that what we do to nature today has an clear impact in the future.

The resulting reports are written in English to make communication possible with schools in Finland, Iceland, and Sweden.

Ole Drostrup (history),
Niels Kornum (biology)
 teachers at Amtsgymnasiet
 Grundtvigs Alle 86
 DK-6400 Sønderborg



Anette at "Snogebækken" studying biodiversity by Macro-Index.

Wloclawek visits Sønderborg

In september 1997 40 pupils and 4 teachers from Wloclawek in Poland visited Sønderkovskolen, and a revisit has been arranged in May 1998 for 60 pupils and 5 teachers.

Pupils from Sønderkovskolen write: Monday morning the Danish and the Polish pupils were very excited. The Polish pupils were visiting their Danish penfriends. The Danish students had prepared breakfast for everybody. At 9:30 am the Polish bus arrived and the Danish pupils stood with flags to welcome the polish guests. All the pupils met their penfriends and after that we had breakfast. Then the Polish pupils were shown our school our principal told them about our school and the school system and then we took our guests home. In the afternoon everybody and the Danish parents were at school to get some information about the week. Then we all had dinner, and after that four of the Danish pupils played some songs with their band.

On Tuesday we visited the town Hall. The vice-mayor, Kurt Jessen, told us about the city and the city's

bearing to recycling and environment. In his lecture he told us about the history of Sønderborg. he told that it was the first town in the entire world that had been exposed to a bombardment. Of course he also told us about the environment in Denmark and especially in Sønderborg. He said he was proud of the development that was made. As an example ten years ago you could not fish in Flensborg Fjord, but now there are plenty of fish. Kurt Jessen also told us about the Danish royal family and their role in the reunion of 1920 when Christian the 9th crossed the old border on a white horse. He also told about the war in 1864 where Denmark lost southern Jutland.

Then we visited ASA. ASA is a union of the towns on Alsen and Jutland that is connected to The Alsen Sound (between Jutland and the island of Als). ASA has many recycling places so you can turn your garden waste into compost for free, and they will make compost out of it. ASA does also take things which cannot be recycled like broken electric equipment, steel things and batteries. There are also containers for wood and stones.

Later we visited the waste water treatment system. We saw how all the water from the drains in Sønderborg is cleaned chemically

and mechanically. When the water has been cleaned biologically also it flows out into the Baltic Sea. Not all countries clean that much, and that is a shame.

On Wednesday we went on a bus ride - first of all to Esbjerg museum of Fishery. We saw how Danish sailors caught fish for more than a hundred years illustrated with fishing boats, old fishing equipment and plades. There were also a lot of fishes. After that we went to the city and went shopping and had a lot of fun. Then we went to Ribe Cathedral and we went the many steps to the top and had a great view of Ribe and Ribe River.

Then we went to Rømø, a little island in the North Sea. The Polish students live 500 km from the sea. Finally we went to Møgeltonder where Prince Joachim and Princess Alexandra of Denmark live. We thought we could get into the garden, but the gate was locked.

At Thursday morning all went to school at 8 am and ahead of us was a long working day. The whole week we had been in groups. We were informed to make a poster, a newspaper or a little book on what we had experienced during the week. At night the Danish teachers had made a party for all the pupils. We had fun and at 10pm we were tired and went home. The next morning we all met at 8am. We talked for a while and then the Polish pupils started their long trip home.

Tina, Jonas and Casper
form 8b
Sønderkovskolen
Sønderborg



Danish-Polish breakfast.



Tallinn School among the winners of European Environmental Competition:

Tallinn Lilleküla High School along with two other European schools has been declared the third prize winner of the ECCE project (ECCE = Environmental Co-operation for the Environment) arranged by European Secondary Schools Association (ESHA) in conjunction

with Amoco and the European Commission PHARE program. 167 schools from 29 European countries participated. Each school was required to team with two other schools in two other countries. The BSP school in Tallinn teamed with Liceo Scientifico Sattale in Italy and the team was led by Finland's Kajaanin Keskuskoulu in Kajaani. The theme of this team was: "The water surface pollution" in bodies of water located in the neighbourhood of each school. Thus pollution on Lake Vimpelilake (Finland), the Mediterranean (Italy) and the Baltic Sea (Estonia) was investigated. The latter dealt with Kopli Bay which is part of the Gulf of Finland. Representatives of prize winning teams from 48 schools

attended the grand final in the European Parliament preceded with a debate in which the students addressed key issues involving economic development and the environment. Mr G. Spindler, chairman of the Amoco Foundation said, "Increasingly all people are coming to realise that we live in one giant ecosystem where any action can produce results that are difficult to foresee. We live in one global community on Spaceship Earth. We share its voyage. We must also share its destiny. It is reassuring to know that our future is in such capable hands as these young people have demonstrated."

Linda Metsaorg



Energy program team.

Cultural heritage

nutrients and sugar move about in the tree.

In the 6th form we studied Air Quality in "Air Pollution Project Europe" and participated in Energy Project "Spare". Through this we also learnt that environmental education is essential and that our economic attitude must regard nature. We arranged a pupils' conference in April 1997 "Life of our world lies in our hands"

think that the graves are an important part of our culture and that the pupils must know about it and preserve it.

Sirje Piht, Teacher at
Loo Secondary School
EE 3001, Harjumaa

Loo Secondary School in Harjumaa has been working on different environmental issues:

In October 1996 we studied spruce in the 2nd form. We learnt all about the tree, its cones, its natural habitat and which animals live in or near spruces. Then we wrote little stories and poems and played "a tree" game showing how water,

Now we have started work on our cultural heritage: An old historical church is situated 2 km from our school. There are so many old graves that we need to take care of. So we work together clearing away bushes and trees and make campfires. We



Estonian pupils clear church yards of cultural interest.

Visiting Esbjerg Museum of Fishery.

Art competition

Hamina, 9th October 1997. To schools that participate in the Baltic Sea Project. Dear Friends of The Baltic Sea, The Baltic Sea has a long coastline with numerous harbours, from which ships carry various goods and merchandise produced by industrial plants in surrounding countries. Industry is an important factor in the livelihood and well-being of people living close to the Baltic Sea. It also contributes to the restoration of the Baltic Sea by trying to lead factories into a more environment-friendly direction within the resources of each individual country.

Dear schools,

We announce an art competition, the subject of which is **INDUSTRY AROUND THE BALTIC SEA**

We wish you, children and adolescents (age 6-18) handle the subject by e.g. describing the industry of your home town/country or its future prospects or by inventing an imaginary factory of the future on the shores of the Baltic Sea.

MATERIAL: Material and technique of your own choice, colourful, size A3. Use your imagination.

PRIZES: The best ten works will be awarded. 1st prize 200\$, 2nd prize 150\$, the rest 50\$ each.

In addition each participant will receive a diploma and each school some information on the outcome of the competition and on the exhibition which will be based on the works of the competition. The works will not be returned.

NOTICE: We ask you to include the following information in each work: Nationality, name of the school, title of the work, name and age of the artist and a few words about the motivation behind the picture written in your own language and summarised in English.

We ask that the deadline **February 28th 1998** will be respected.

Our address is.

Pappilansalmen yläaste, Pappilankatu 1
FI 49400 Hamina, Finland

tlf. +358-5-7495 306

fax: +358-5-7495 303

e-mail: pappis@planet.fi

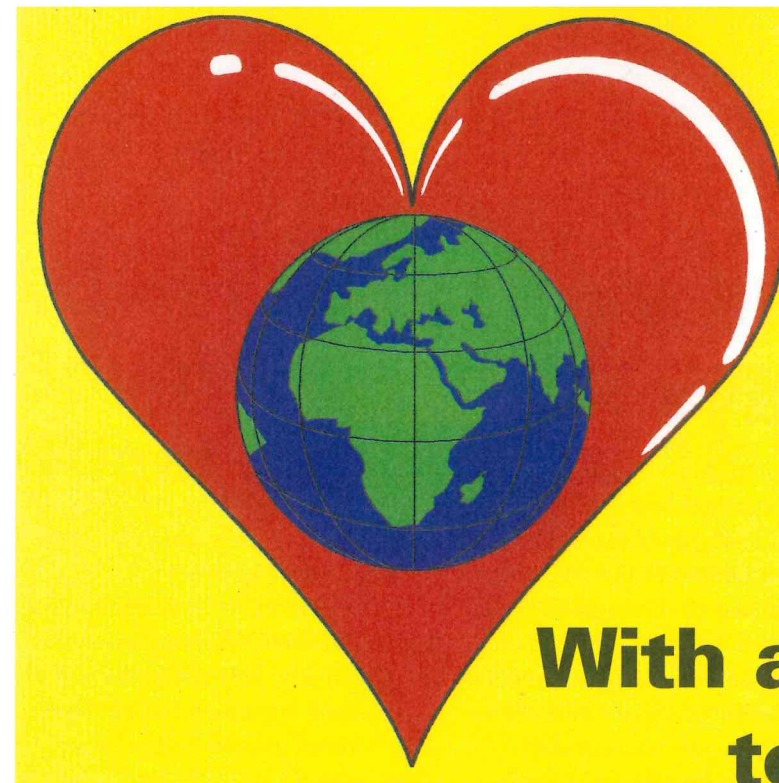
JOIN THE COMPETITION!

Torsti Vaino, Principal. Anneli Ahola,
Chairman of the board.

Merja Lehtiharju, teacher of art.



Drawing made by: Ana-Maria Sucitu, form 6a, SEMEP school Rumania.



With action to passion

Innovative ideas leading towards a summer camp in 1998: "Experience Nature - Preserve Diversity" presented by Gisela Knipper, National co-ordinator, Hildesheim, and Hans Rotter and Volker Stiehl, Music, art, theatre, Hildesheim:

"We don't live on the earth, we live with it"

"ECOSOPHY - Our world - My surroundings".

To limit motoring, to sort out rubbish, to reduce water consumption, to save energy, to keep an eye on wrappings, there are so many ways to behave ecologically. The difficulty is to transform connections recognised by reason into daily activities. "The spirit is willing but the flesh is weak". Knowledge to define the holistic human being is needed, head and belly, intellect and emotion. Rationalism is based on data and numbers, but our senses recognise the world differently. The task is to create situations in which sensual recognition can be conveyed. A theatre performance opens the possibility to create relations to nature that might even lie beyond man. To find from the analysis of the surrounding world of life (Oikos legein) to a love and passion for the space of the living (Oikos sophein) and

with that a responsible behaviour and a sensible awareness - is to teach and practise aesthetic behaviour in artful proceedings. In this way cultural ability arises from which a new feeling in dealing with man and nature is growing: "Eco-sophy"! The dominating idea is the aesthetic dialogue between nature and culture to create a unit of art and symptoms. From this union grows a feeling of emotion, enthusiastic devotion by movement, rhythm and dynamics. This is ecstasy in its positive feature and can lead to passion and even fiery action, enabling man to break through boundaries of self, thus standing beyond knowledge and ability. By this a transmigration of the soul happens, and at that point actors and audience likewise are able to act like a native medicine man (so called Shamane): Always in ecstasy the "Shamane" is the man of "emptiness" into which magic and mystic substance enter as "knowledge" of that which lies beyond his sphere and over him. So for man ecstasy in its highest form is the blasting and emptying of ego and the marriage with a "greater one" beyond this world.

The demands on the performers in such a synaesthetic and dramatic experiment are high: When they

are convincing a magic circle might enclose the performers and include the audience as well. "Performances" are an intermediate field, a no-man's land between nature, man and establishment. When they are realised with conviction, a magic arises and the work of art reaches high creative energy for the place and the space. The orientation of the comprehension is only an expression on the dialogue between man and nature.

Two Eco-sophy" projects have so far been made: a summer camp in 1995 and a meeting in 1997 performing: "Hymn to the Sea" and "World tree and Sun gate - The Night Watch". Another BSP summer camp "Experience nature - Preserve Diversity" is being prepared for September 1998 at Timmendorfer Strand where a theatre performance will be made with sound and sculptures from nature materials and human beings with the title: "Of Earthen Sound and Man's Song".

Volker Stiehl,
teacher of music and drama,
Hildesheim

The exciting Days at Laani

At the very end of the summer holidays from August 25th to 27th an environmental BSP summer camp took place in Laani in Latvia. Teachers and pupils 13-17 years old from 11 schools participated. Laani is a small very picturesque location on the Baltic coast not far from Salacgriva. The main task was to acquire new methods in environmental investigation and to do a respective investigation of Laani territory.

The pupils had four workshops to choose among: Biological investigations on small rivers air quality, biological analysis of the sea, and chemical analyses of the sea. The pupils learned to distinguish between different lichens, to use microscopes to study microorganisms of zooplankton and algae - and afterwards the pupils were unanimously sure that you must keep your mouth shut while swimming in the sea! The workshop activities interchanged with social activities such as ball games, races on the beach, rope-pulling contests between boys and girls. The most exciting activity was a night rally: We had to proceed in groups following in a giant's foot steps with the only light coming from a small electric torch. It took us along a path, upon

steep slopes, lured us straight into the sea - and afterwards everyone felt elated and happy.

In the end all workshops gave a report on their results. Time went by so quickly. Hopefully there will be another opportunity next summer - many thanks to the organisers!

Anda Dekсне
Ruina Secondary School

Investigation life on the Baltic Coast



Water Month

WATER MONTH in Riga Secondary School no 49 Water - Late in the autumn this word means something wet or connected with rain and even slush. Last November

the word meant something in specific to pupils and teachers at Riga Secondary School no 49, because we wanted to understand water better. Pupils from 1st to 12th form took part in the event. During the first week we learnt about water in all subjects by touching, sensing, watching, searching.

The pupils collected small "rain drops" for their good work

During the second week practical actions took place with or about water - doing sums, reading and writing about water and the pupils were awarded with more small water drops.

"Water through my imagination" was the theme of the third

week reciting poems, folk songs, writing fairy tales - and collecting even more rain drops.

Finally in the fourth week all knowledge on water was summed up. "The little inhabitant of Riga" by M. Caldupe was performed in order to teach the pupils that watercourses, springs, rivers, lakes and seas have got their own language and that everyone must know it in order to understand its waters better. Diplomas were given children who had collected water drops: Five little drops made one big one, and we organised an exhibition for the best works.

Maira Jaunusane, teacher

What I learnt from the Environmental Course in Carnicava (Riga) September 18-21, 1997

Ilga Vetsteina got inspiration from the course: "When I arrived home I organised a parents' meeting and told them that we ought to do an NIGHT ADVENTURE TRAIL. The parents agreed to help me. On October 3rd all parents, brothers and sisters of class 3a gathered in the park of Laeplesis on the bank of the river Daugava. Dagava is Latvia's largest river flowing into the Baltic Sea 50 km away. Laeplesis is the hero in an old tale of our town. He was very strong, but fighting the Black Knight they fell into the waters of Daugava.. Now the park contains castle ruins. In the evenings the park is dark and full of mysteries. The

30 children listened to stories of the ancient times while the parents made up control points for the night adventure trail. The lit fires and waited for darkness to come. ..Darkness fell. Children should find their parents going through five control points. In each point the children must get one magic little stone.

1: The vicious witch had turned a man into a stone. the stone has to collect 1 million fairy tales. Only two more fairy tales are needed before the witchcraft will disappear and the stone will return to its human form. Telling fairy tales the children get a magic stone marked

"good" - in the distance sparkles appear ...

2: "Follow in the dragon's tracks" a stone tells the pupils handing over a stone marked "Friend".

The foot prints are cut out of cardboard and some of them have

forward. The reward is a magic stone with the word "golden".

5: The guard of the bewitched castle mentions that there is a fire behind the big trees - and a lot of people. One only has to know the password - another magic stone says "value" - and so now the children can make the pas-

sword in the castle ruins: "Good friend is (of) golden value" - a Latvian proverb - and happily the children can be combined with their parents around the fire!

After the night adventure the children wrote about the event and depicted emotions in colours. Ilze

wrote, "I thought that there would be only the fire in the park but this night was full of surprises!" The children and their parents were excit-

ed, and I was happy, too. This evening the children saw partners in their parents - and in the teacher. I was thankful for the parents being active, and one mother playing the old hag said, "I never played such a difficult part in my life."

The environmental course also taught me to bring the children outdoors more. We collect branches and leaves, and work with them, and I got new ideas on how to work with materials from nature!

Ilga Vetsteina
Skolas iela 6a
Lielvārde, LV 5070

Meeting the gnome!



Agenda 21 helps students preserve nature

It is hard to believe in old stories about the Nemunas - about its clear waters and about trout and salmon swimming in the water. All that has turned to be a fairy tale that we no longer believe in. We can't swim there, we can't fish there, we only see a dreary view. We cover up from the rain because the rain is acid. We kill nature, and destroy ourselves at the same time. What

comes next? How are our children and the next generations going to live? What will we show them? Trees that are cut down, lakes that are bogged up, soil that is trampled down. Our outlook is sad. Reality is sad. We want to preserve nature, we want to construct rather than destroy. Maybe it will be difficult at first, but we shall work hard and we shall never surrender. So let us save every

drop of water, as it can slake our thirst, let us not pollute the air, as every mouthful of fresh air gives us life and every ray of sunshine brings relief.

We consider Agenda 21 a wonderful opportunity to stop the destruction!

Erika, Julija and Albertas from Kaunas Sec. school no 35.



Illustration from report on the Vistula river.

The pollution chain

Focus on illegal dumps

In Complex of Secondary Schools professor M. Raciborski's students are interested in ecological problems and therefore they have investigated waste and dumps. Some of them are legal, other so-called "wild dumps" are illegal:

The amount of waste increases due to what is called progress in civilisation. At this stage of economic development the amount of refuse increases. Also the quality of waste differs: Synthetic substances, plastic, paper and metal displace organic substances. Kitchen equipment, garden furniture, electric items have got limited persistence and end up as scraps. All these objects are found in the dumps.

The students at our school have taken up activities to enlighten the inhabitants of the town of the serious waste problem. Under the leadership of Mr Jacek Bryla and Ms Bożena Pietrzyk they interviewed the staff at the municipality of the possibility of selling empty glass bottles at the grocer's. Then we went to find the illegal dumps - and found eight on the outskirts of town. They contained mainly plastic, glass containers, wrappings, textiles, rubber and some dangerous paints, varnish, medicines, manure and chemical substance packages. Children might play here, and the watercourses might easily be contaminated in case of heavy precipitation. The dumps are also visited by wild and domestic animals. We filmed it all! then we arranged a session with the local public and invited the Municipal administration, local Civil Service, the local factory, workers and students to our

school. The classroom was decorated with ecological posters painted by us. During the session we presented our results:

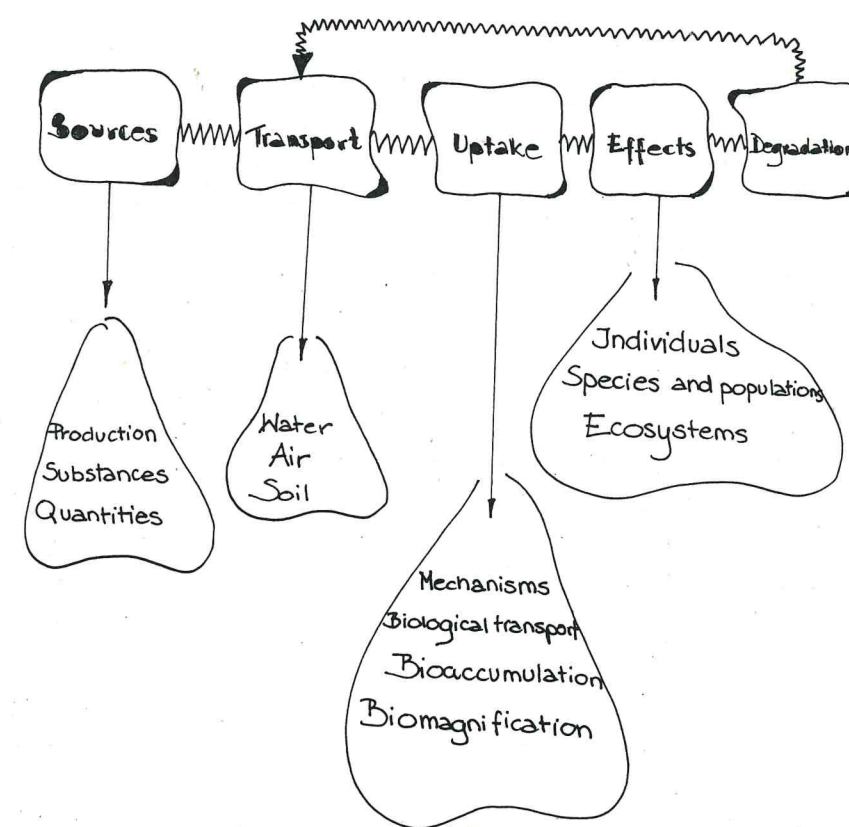
- the film showing the small illegal dumps in contrast to beautiful surrounding scenery
- a photo newspaper focusing on imperilled elements of the environment
- the students' work on quantitative and qualitative compositions of the dumps
- suggested solutions how to solve the problem

The result was a debate of great interest with the local factory talking of the difficulties of getting rid of the waste, and the students solution:

- to enlighten their friends at school about the problem
- To reduce buying goods wrapped in packages
- to collect reiterated materials and bring them to the purchasing centre
- to create clean and beautiful surroundings around the houses
- not to litter in public places
- continuation in "clean up the world" activities

We got good and visible results. Our students will participate in a spring cleaning of our town!

Regina Piotrowicz, headmaster
Ostrowiecka 25
27-520 Cmielów,
woj. Tarnobrzeg



Ecology Olympics

A report from the 3rd UNESCO International Ecology Olympics October 1st-5th 1997 in St. Petersburg made by Swedish participants from Nacka Gymnasium outside Stockholm:

Preservation of natural and cultural environment was the main topic for the invitation, and the contest implied a project on: Solving ecological problems of the city, preserving the natural and cultural environment and preserving and studying natural and cultural relicts from the list of the World Heritage. We had very little time to prepare since we only got the invitation ten days before departure, but we managed to prepare a video about Nacka and a poster on our lake project.

Apart from us, one hundred students from Norway, Latvia, Ukraine and of course Russia participated.

On arrival in St. Petersburg we were met and taken to a sports palace and the teams at once had to present their projects for a jury. Unfortunately the recorder broke down so the videotape was never shown. We could see that there were many interesting projects but unfortunately we could not hear the presentations.

Another task was to answer the question: Where do you find the most optimal place ecologically for a dust heap? Only a small part of the instructions and discussions were translated into English. This was very frustrating for our students since it was impossible to do a good job. But despite this the students found the task interesting. Then there was a national competition in ecology on computers, and

here the questions were made in both Russian and English.

An excursion was made to Pesochni and school number 466 situated in beautiful surroundings with green and white houses with gardens. In mixed groups the students had different tasks:

1. "The air medium": Define ecological air conditions by lichen indication, qualitative composition of solid atmospheric fallouts (dust) and measuring the concentrations of CO₂ in the air.

2. "Water point": Define the ecological condition of the water bodies by indexes of species diversity of water organisms, organoleptic index, salinity, pH, hardness and surface temperature.

3. "Plant cover and avi-fauna": Define soil fertility, characterise growth cover of the area and define the bird species diversity of the area.

4. "Weather point": Characterise to-days weather by clouds, speed and direction of the wind, ambient temperature and make a weather forecast for tomorrow.

5. "Urban environment and nature" Mark visual environmental interventions, the radiation situation and mark ecologically dangerous factors within eye-shot.

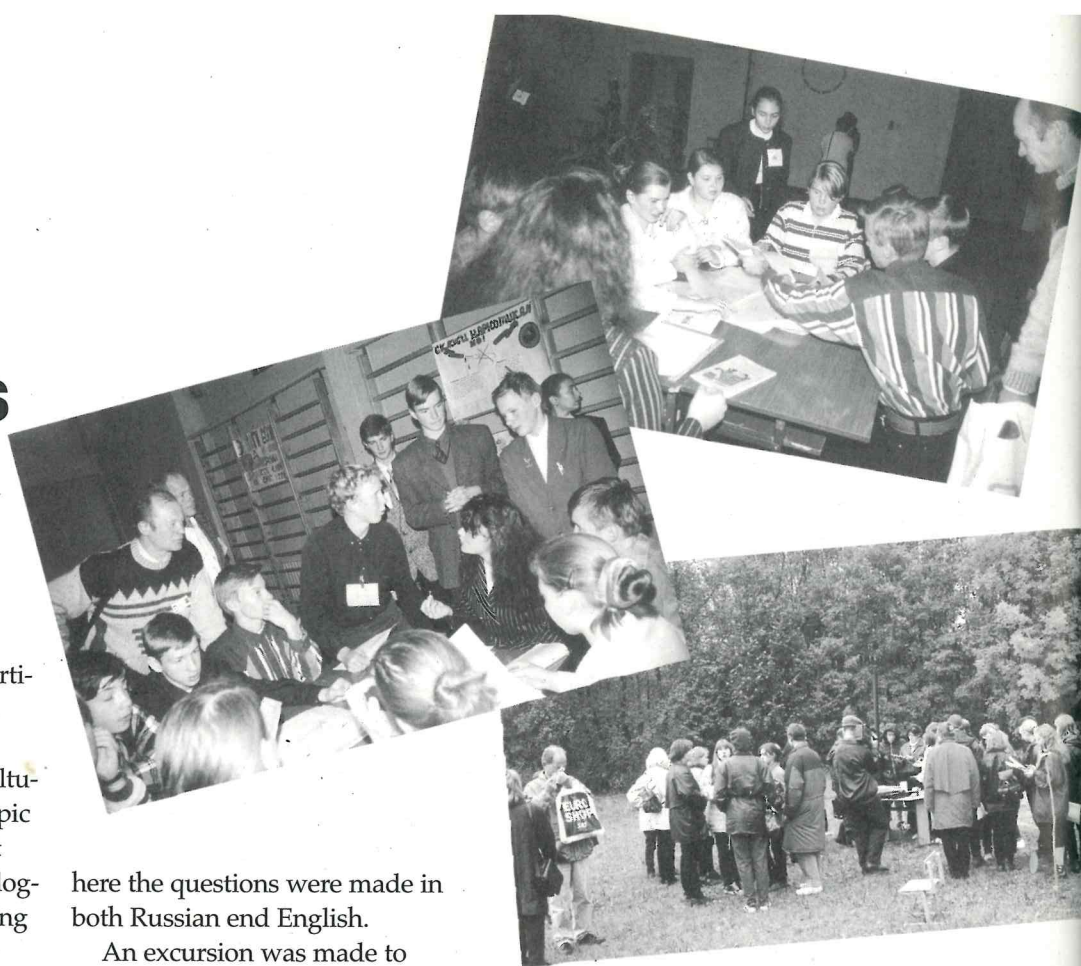
The final ceremony took place at

the sport palace. The jury announced Eastern Cultures High School from St. Petersburg the winner.

Cultural events went along - "Creative Work Palace" one night and beautiful songs at school number 369, fantastic folk lore dancing in Pesochni where all were invited to participate, sight seeing in St. Petersburg with visits at Jusopovs Palace (concert) and the Winter Palace. St Petersburg is a fabulous city very much worth coming back to. We recommend all students interested in ecology and environmental tasks as well as problem solving together over the national borders to take part in the 4th Ecological Olympiad next year. We would like to express our gratitude for the kind reception and assistance during the days of the Olympiad.

Catarina Danielsson, Ylva Larsson, Lovisa Lundell, Måns Tham, students

Susanne Mellvig and Lars Davidsson, teachers at Nacka Gymnasium Griffelvägen 17 S-131 40 Nacka



Impressions from Estonia

Students from Falun Upper Secondary participated in the Pine Needle Project Conference in Tartu April 10th -13th 1997.

"Oil shale creates problems", says Elisabeth Ahnberg, Falun:

Oil shale industry is very important in Estonia. Mining began in 1916 as a result of fuel crises during War I. Oil shale is used as raw material for oil, gas, chemical industry. It was used as fuel for the Baltic Navy and commercial shipping, and gas as fuel for the City of St. Petersburg. A decline has occurred in the production of electricity and in 1990 when the Soviet Union collapsed the state stopped supporting the industry. From an environmental point of view it is good that oil shale industry is reduced. Oil shale contains a lot of minerals, some highly toxic, and also radioactive elements. Estonia has two big power plants in Narva in the North East part of the country. They burn 22million tons of oil shale per year. They emit 386000 tons of sulphur dioxide per year - more than the total emission in Sweden. Watercourses are disrupted, and pollution has destroyed the ground water and major lakes in the area. The consequences are a decline in fish species.

"Estonians are friendly people" Cathrin Eriksson writes:

The trip to Estonia gave me a lot of new experiences and funny things to remember. We were there for four days and it was nice to establish contacts with people our age. We were exactly like them - but inside my head I had a picture of a poor country with poor people, but the people were so nice. They wanted us to come back in the summer, they were friendly and made parties for us. I could not help feeling ungrateful because they gave us a lot of food, and we did not eat anything, but I gave them my great thanks. They smiled always - also when the bus nearly broke and lunch was late: Estonians are friendly people in a very good mood!

"The Estonian countryside shows big contrasts", reports Anna Peterson, Falun:

On one side you could see ruins from the Russian times, and on the opposite side of the road a brandnew petrol station. In the country side it was grey - and then all of a sudden the forest was green. The farms were deserted, the fields lay fallow. The sandcaves are beautiful. It is great fun to go there in the dark and bats are hanging down. To realise that you have to think globally really struck me. But we also taught each other words, so "Tere" (Hello), headööd (good night) and "Ma armastan sind" (I love you) are in my vocabulary by now. It was great fun in Estonia, and I really hope we can meet these people again sometime!

The Sea and US

SEMEP (South East Mediterranean Project) arranged as a co-operation between UNESCO, The National Youth Foundation and the Greek Government its First SEMEP Summer School in Thessalonika Agricultural and Industrial Institute, August 2nd-10th 1997. The theme was "The Sea and US". The aim was to make a holistic investigation on the Mediterranean and before attending the summer school the students had a period of training. The summer school program dealt with:

- Scientific investigations - observing and identifying species and analysing samples
- Sociological factors - pollution of the sea, the seashore, the sea and us
- Technological aspects - the use of equipment

During the summer school the participants were also introduced to archaeological, historical and artistic aspects of the region. Students and teachers from Albania, Bulgaria, Croatia, Cyprus, Greece, Israel, Italy, Jordan, Lebanon, Malta, Palestine, Rumania, Slovenia, Turkey and UNRWA participated

and presented their results showing posters, photographs made as a workshop competition, and performances on environmental issues.

UNESCO works for democracy, culture and human rights and these aspects were carried out in practise. As the summer school was a major event the sister projects were invited, so the Blue Danube, The West Mediterranean Project, the Caribbean Sea Project and the Baltic Sea Project were specially invited. From the BSP both the resigning and the new general co-ordinator were kindly invited. Following the summer school the SEMEP co-ordinators meeting took place with debates on the progress development within SEMEP and on possible links to the sister projects. For the school-year 1997-1998 the theme "Water and Life" was decided. It

fits well with 1998 as the International Year of the Ocean.

Birthe Zimmermann



Malta pupils: Do the pieces fit the puzzle.



Green Challenge

In Rumania a grafitti contest was made entitled "Green Challenge". Students from SEMEP schools and art schools in Rumania met and worked on previously yellowish walls on Eforie Sud.

Is the Black Sea Blue?

In the sun the sea is blue
I think it smiles at you
And the children - all they run
to catch the rays of the sun.

But the seagulls
what do they think?
To the wind they make thrills,
But you don't know what they really think.

Is it green for them or what?
It seems they want to cut it
and discover - what - colour
and they don't think of any flower

All they know for sure
is that the sea is their cure
They know it is theirs
but we know it is ours, too

*Lungu Smaranda (age 12, form 6a) from
E Scoala no 43 in Din Constanta, Rumania*



We're Close, Man and Land
We are close, man and land
We try for the people's best
for our land be prosperous,
and its wealth will never end.

Beauty nature virgin we love.
with green woods and clear rivers
wild beast, flowers and plants
as we are close, man and land

Together we play and sing
Our future we want it bright
Children of all the world
in pure nature and healthy lives

*Lenisa Vangjeli, (15 years) 10th grade,
RR. "Nikola Lena" no. 106, Tirana, Albania*



The objectives in the BSP are to

- increase the awareness of the students about 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 abilities of the students to study 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 and publishing the BSP newsletter and other relevant information.

The basic characteristics of BSP schools are

- 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 and Agenda 21.

The educational approach for the BSP is to

- achieve a 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.

Main activities in the Baltic Sea Project June - December 1997:

June 11th - 14th the conference "From Words to Action" took place in Sweden. Using different chapters of Agenda 21 as starting point the participants had prepared for the conference which consisted of workshops, an action day, a round table discussion with politicians from the municipalities of participating schools.

A **Learners' Guide no 3** entitled "Agenda 21" will be published by the resigning general co-ordinator.

The resigning and the new general co-ordinator represented the BSP at the **first SEMEP summer school** in Greece, August 7th-10th and participated at the SEMEP co-ordinators' meeting August 10th - 13th. Students and teachers from the South east Mediterranean project worked in internationally mixed groups on water quality and presented their results on posters, on photos and in performances and speeches. Humans rights, peace and democracy were important topics dealt with. Archaeological, cultural and artistic sites were visited along with the summer school activities.

A course on **Environmental Education for Primary Schools** took place in Carnicava outside Riga, Latvia, September 18th - 21st. It was organised by Children Environmental School in cooperation with the Ministry of Education and Science Centre for Curriculum Development. Teachers from Denmark, Estonia, Sweden, Latvia, and Lithuania participated. The aim of the course was to encourage primary school teachers to integrate environmental education in the school curriculum. Natural materials used in teaching for indoor and outdoor activities.

A parallel meeting was held in the editorial group on **Learners' Guide no 2** on "Working for better Air

Quality in the Baltic Sea area" in order to make the book ready for publishing.

On September 25th-27th an **Environmental History-course** was made in Lund, Sweden subtitled: Who is responsible for the Baltic Sea pollution? Teachers from Denmark, Finland and Sweden participated. The course consisted in lectures and excursions, and more than 40 teachers took part.

The **3rd International Ecology Olympiad** took place in St. Petersburg, Russia from October 1st - 5th. The main topics were "The City and environment" and a competition on computers dealing with ecological knowledge. One hundred students and teachers from Norway, Sweden, Ukraine, Latvia and Russia participated.

On 17th-18th October a **Rivers-course** was held in Stenungssund, Sweden for Swedish teachers. One aim was to develop the Rivers Programme further to also include acidification.

October 24-28th at Amtsgymnasiet in Sønderborg, Denmark: **The 3rd International BSP theme arrangement** was made as a follow-up upon the Nyköping conference, and students presented among other things the video production from the Agenda 21 conference. Students and teachers from networking schools in Finland, Germany and Sweden participated.



DENMARK

The Danish National UNESCO Commission has taken over the general co-ordination of the BSP with financial support from the Danish National Board of Education. A special scout-school, Brejning Efterskole in Børkop, has joined the Danish BSP schools to widen the implementations to further youth groups. In Denmark five Upper Secondary Schools, three Primary schools, two Nature schools and one Scout school participate in the BSP and in most of the BSP programmes.

A national BSP-homepage has been developed by Gedser Naturskole and plans for further developments are made.

Monthly Agenda 21 working sheets (in Danish) for Primary schools are in progress. Internet address: <http://www.netby.nerds-can.dk/Oest/Maelkevej/bsp.dk>

Plans are made for development of the homepage and to give access through the Ministry of education.

In October a 3-day meeting was held for all Danish BSP schools on Bornholm. The aim was to discuss further proceedings, to widen the number of active BSP schools in Denmark, to make plans for activities and courses and to develop networks further. An in-service training on Fisheries was made parallel to the meeting with lectures on parasites, salmon hatching industries and consequences on fish populations and industries on Bornholm.

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ESTONIA

There are 22 schools participating in the BSP. The attention was given to the Agenda 21 as preparations for the meeting in Nyköping. The research works were presented by students from Loo Secondary school and Viljandi C.R.Jacobsons school.

A big trash-action was organised by Tartu Kivilinna High school.

Several students, conferences took place this year: An international Pine needle conference was organised by Tartu Kivilinna High school in April. More than 80 students and teachers participated from schools participating in the pine needle project.

Tallinn Secondary school had a students, seminar on "Environment and Health in the Baltic Region" 16th-20th of August. The problems of air pollution, smoking, drugs etc were discussed.

Traditionally the conference "Environment and Home" took place in May at Kuressaare Ühisgümnasium on Saaremaa.

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FINLAND

Finnish BSP teachers had a meeting at Langinkoski High School October 10th - 11th. The teachers decided to have a BSP meeting in 7th-9th of May 1998. This meeting is for students and teachers.

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GERMANY

On December 11th- 12th German BSP teachers will meet in Neustrelitz to prepare the summer camp 1998. During these two days we'll point out the centres of our work in 1998 (based upon Agenda 21) and prepare the summercamp "Experience Nature - Keep Diversity".

The 2nd summer camp September 6th - 9th 1998 on the way to Baltic Sea "From Action to Passion" with the title, "Natur bewahren - Vielfalt bewahren" (Concerning chapters 15 of Agenda 21). Like in 1995 the camp will take place at Timmendorfer Strand. To save costs the 100 students will live in tents on the school ground, and they will bring their bikes. Six workshops will be offered. To continue with Ecosophy (read page 31) Volker Stiehl and Hans Rotter prepare a suggestion for a workshop with sound sculptures. Further we have an offer for a workshop with the theme Prima Climate (a school project to save energy). For the first time the camp will be bi-national as we invite students from Amtsgymnasiet in Sønderborg, Denmark. The idea was born in Nyköping when Danish students had interest in Ecosophy and we realised that German is taught in Danish schools. A perfect combination! We look forward to have great days together.

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National coordinators



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RUSSIA

The 3rd International Ecological Olympiad, "Safety Natural and Cultural Heritage of Cities" took place in St. Petersburg on October 1st - 5th. More than 120 students from Russia, Ukraine, Sweden, Latvia, Hungary, the USA, Turkey, China and Norway participated. The main idea of the Olympiad was the problem of safety natural and cultural heritage of cities.

The first step of the competition took place at the greatest exhibition hall in St. Petersburg. Participants presented their projects solving environmental problems connected to preservation of natural and cultural memorial places. An international jury team consisting of representatives from Russia, Sweden, Turkey and Ukraine noted some works as very interesting: "Bachchisaray's Tragedy" by the team from Krem, "Ecological,

Cultural and Social Memory of St. Petersburg's Parks" by the team from Municipal Youth Centre of St. Petersburg, and "Cultural and Natural Memorial Places in China" by the Chinese team.

The second step took place in a picturesque park in a St. Petersburg suburb. All works were supported by the headmistress of school No 466 Tatjana Sirkkia. This school is the leader of Natural Expeditional Investigations in the St. Petersburg region. The works were sponsored by "Christmas+" a form that provides schools and universities in the north west region of Russia with chemical equipment: textbooks on ecology, chemistry, physics, biology and geography. Equipment for ecological and analytical control of air, water, and soil. Chemical reagents, and equipment and instruments for laboratories and natural investigations.

The third and fourth steps (ecological constructing and ecological testing) took place in school No. 639 - a main BSP school in the St. Petersburg area (headmistress: Ms Irina Krylova) a former philological and cultural school, now introducing a complex ecological programme. The first educational end methodological centre, "World Heritage" was founded at its base.

The team of eastern Cultural Liceum (St. Petersburg) was the winner in 1997. Second came Krem's team (Ukraine) shared with Tajzi-village (Leningrad region). The team from Sweden (Nacka gymnasium), Municipal Ecological Children's centre team (Autovo) and the Picalevo team (north west Russia) shared the third place.

On November 8th - 13th a big conference on Ecological education took place where plans for 1998 were made.

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SWEDEN

There are around 60 schools and institutions involved in the Baltic Sea Project in Sweden. Most schools are upper secondary schools but there are also primary schools and secondary schools. The schools are involved in many BSP-programmes - Water Quality of the Baltic Sea, Rivers, Air Quality and Phenology being the most popular ones. Many schools have chosen to work with themes in the BSP like Save the Baltic Sea, From Words to Action and Environmental History. Schools are also presently developing environmental education in for example the following areas: green schoolyards, environmental theatre, ecological economy, energy and environment and ethic and environment.

A meeting was held in Lund in September on the theme: "Environmental history in the Baltic region - who is responsible for the pollution of the Baltic Sea". The participants were teachers from most theoretical subjects in school. The lectures dealt with views of nature, agriculture from historical and environmental points of view and ethical questions. Teachers from Denmark and Finland also participated. A meeting was held in Stenungsund in October in the programme Rivers with special emphasis on acidification and how to use bioindicators in the studies. The teachers also shared experiences of action oriented education.

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Future events

- February 28th:** Deadline for the art competition "Industries Around the Baltic Sea" (page 30)
- March 15th:** Contributions for Newsletter 1998:1 to the general co-ordinator (address below)
- April 16th-19th:** The 10th International co-ordinators' meeting in Denmark.
- April 26th-27th:** International course on: Estimation of Air Quality by means of Bio-indicators, Falun, Sweden
- May 25th-29th:** The Fifth International Environmental Camp School, Meri-Pori, Finland
- August:** The International Year of the Ocean. International Water Quality Course, Denmark.
- September 6th - 9th:** Second bi-national summer camp, Timmendorfer Strand, Germany
- September:** Environmental Problems of the North Sea: Sustainable Fishing. Lysekil, Sweden
- September:** Environmental history of the city, Norrköping, Sweden

Appeal

Will you contribute to the Newsletter? All contributions are welcome such as:

- Art work for covers
- newspaper cuttings with environmental aspects from your country
- educational ideas
- articles on your work - if you send photos with people, please name them
- Agenda 21 follow-up events (appeal on page 26)

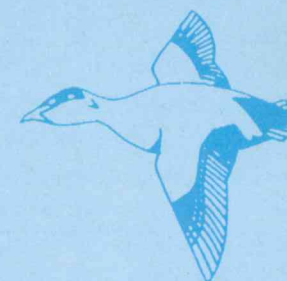
• You are also kindly invited to put forward ideas on: BICYCLING...BRIDGES...BALTIC...BONDS...BROTHERHOOD ... BREATH...BOUNDARIES ...BIODIVERSITY...BIKE-BIOSPHERE.....BSP:
 You may suggest HOW to connect the BSP schools in a possible bicycling tour around the Baltic Sea, - Please forward your suggestions in one or more of the following forms:

- a drawing (A3 - as a cover for the next Newsletter!?)
- a poem
- a song with notes
- as a suggestion on how to really manage a bicycling tour around the Baltic Sea!
- as a cartoon (with few or no words)
- as a fairy tale (you are welcome to illustrate your story!)
- as an "add" for bicycling
- a slogan like "Bridging the Baltic by bike..."

Send your contribution(s) to:
 General co-ordinator
 Ms BIRTHE ZIMMERMANN
 Söndre Landevej 18,
 DK-6400 Sønderborg, Denmark -

or:
 AMTSGYMNASIET in SÖNDERBORG,
 Grundtvigs Allé 86
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Deadline March 15th 1998
 Please write in English
 The next Newsletter will be published in May 1998.



Willow art made in
 Riga, September 1997.