The UNESCO Associated Schools Project

The Baltic Sea Project

NEWSLETTER No. 1 1998

The Baltic Sea Project

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Sweden: http://www.skolverket.se/baltic_sea

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Cover: *Magda Wojtowicz*, 12 years, Sopot, Poland
1st prize winner of the Finnish art competition, "Industries around the Baltic Sea"

Cover title: Fishermen working at dawn.

Logotype: *Karin Pettersson* and *Kjell_Åke Hilmberg*/Hompe

Letters to the editor

International readers have commented upon the Newsletter 1997:2 . Here are extracts from some of the answers:

- "The best article is "Demonstration of Wind and Water Erosion for Young Children" because of its ordinary contents and conviction! However, articles about actions on the Agenda 21 are not less interesting" Dsevenskaya, Science Teacher, Minsk, Belarus

- "The most interesting articles are those upon water, air, soil because they present reports, diagrams and the results of scientific activities in BSP schools" Lucretia Baluta, SEMEP, Romania

- "There are many articles I liked, but perhaps the editorial because of its look for unique ideas and perspectives and because an octopus job is an encyclopaedistic approach necessary for environmental education" Drasko Serman, University of Zagreb Medical School, Croatia

- "All articles in the Baltic Sea Newsletter are very interesting, not least the proceedings!"
S.K. Padhy, Society Reconstruction Foundation of India

- "How programmes develop" is very informative, and the articles "Demonstration of wind and water erosion" and "From Words to Action" gave some very concrete experiments!"
I.Palmberg, Senior lecturer in Biology education, Vasa, Finland

- "Environmental history" broadens the perspectives of Environmental Education! "Demonstration of Wind and Water Erosion" is very illuminating and the "Agenda 21" gives examples of good practice!" Brijker, Faculty of Teacher Education, the Netherlands

- "The articles on " the Vistula River", "The Industrial Landscape", "News on Agenda 21" provided good information on how to deal with environmental problems"
M.G.Srinivas, Indian Institute of Technology, Mumabi

Birthe Zimmermann, editor

Editorial

The year 1998

is announced "The International Year of the Ocean".
The purpose is to focus upon the environmental state of the salt waters covering 70.8% of the Earth's surface, and upon man's dependence on the ocean, for food, for transport, for recreational purposes. Sustainability is a must, and every year should be the year of the ocean...

Seas at risk

Magda Wojtowicz from Poland has created a beautiful piece of art used as cover for this issue of the BSP Newsletter. Her picture shows fishermen working at dawn. She has wanted to describe the hardness of the fishermen's work, and the need for the Baltic Sea to stay clean so that people can get fish to eat. She won the first prize in the art competition, "Industries around the Baltic Sea" announced by Pappilansalmi Lower Secondary School, Hamina, Finland. The competition is presented on pages 24-25. The water bodies on the earth are interconnected and what is done in one area might affect water in other areas.

Helcom (http://www.helcom.fi) has recently presented the main problems of the Baltic Sea in the following words: The concentrations of oxygen and hydrogen sulphide, the input to the Baltic Sea from run-offs and deposits from the atmosphere, the amount of nutrients, pelagic and benthic biology, heavy metals, oil pollution, helogenated hydrocarbons, artificial radionuclides, chemical munitions, sanitary conditions, nature conservation, fish stock and diseases.

So seas are at risk. The newspapers bring articles on radioactivity spreading from the Sellafield nuclear station in Great Britain along the coast of Norway, and through the Kattegat into the Baltic Sea; on oil spills killing thousands of water birds; on last summer's floods in Poland that caused outlets and deposits of material; on the ecosystem of Mariager fiord in Denmark that died during the hot months of August and September 1997; on toxic algae blooms affecting fish and man (read the article on pages 4-5).

Improved knowledge, further investigations on Water Quality, and International co-operation are important factors and important elements in the joint BSP work. So is public participation.

Public Participation Convention

In June 1998 European Ministers of Environment will meet in Aarhus, Denmark for the fourth "Environment for Europe" conference. The Public Participation Convention is a main topic, and NGOs have for the first time ever been invited to take direct part in the event.

Public participation has involved BSP students and teachers this school year through Baltic 21. Baltic 21 is an Agenda for the Baltic region with ongoing cross-sectorial work to achieve sustainability, and BSP schools have given ideas, and forwarded suggestions for solutions, some of which are quoted in this issue (page 22).

Air Quality.

Not only water, but also air combines the Baltic region. Man's use of resources, and the possible global warming is causing much debate, and some possible consequences are presented to the reader in the article on pages 6-7. Deposits from the atmosphere reaches the Baltic, and affects the quality of the water: Sulphur, nitrogen, tropospheric ozone, radioactivity and heavy metals influence man and beast. To deepen on these combined issues the BSP Learners' Guide no. 2, "Working for a Better Air Quality in the Baltic Region" has been recently published, dealing with a lot of the aspects in a way so that teachers and students can work with the problems, find out data, discuss the issues, and hopefully come forward with suggestions for solutions.

On the positive side:

Fishes in the Baltic region do show a decrease in heavy metals, seals are enlarging their numbers, and the sea eagles have increasing breeding success, and in Denmark light pollution has been prohibited by law due to pressure from environmental organisations starting with one active BSP teacher and his students (page 21).

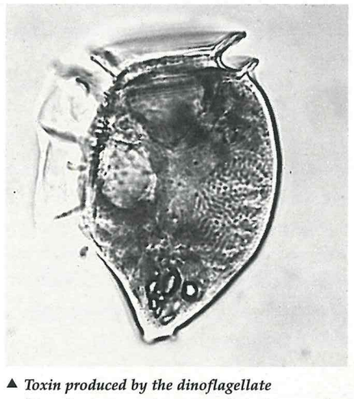
Birthe Zimmermann

TOXIC PLANKTON ALGAE IN THE BALTIC

The bluegreen alga Nodularia spumigena often causes algal blooms in the Baltic Sea. The alga produces nodularin, a liver toxin.

TV and newspapers reported repeatedly on toxic plankton algae in 1997. This was due to the unusually warm summer which resulted in massive blooms of bluegreen algae (cyanobacteria) throughout the inner Baltic from the Gulf of Finland to the Øresund. Such blooms are not a new phenomenon, they are known to have occurred also a hundred years ago but they were favoured last year as they develop to their maximum in warm, stable, nutrient-rich water. The blooms are often dominated by the filamentous species *Nodularia spumigena*, and all samples tested were found to be toxic, producing the liver toxin nodularin. Mass occurrences of bluegreen algae are treated with some concern as the toxins produced by these algae are very diverse and not fully known. In contrast to other plankton algae, many bluegreen algae (including *Nodularia*) are independent of nitrogen dissolved in the water as they are capable of incorporating nitrogen from the atmosphere into their cells. Blooms therefore occur as a response to release of phosphorus into the water, mainly from sewage, while nitrogen from agriculture has little effect. The liver toxins affect animals and humans that drink or swallow the water. The toxins are taken up by the liver whose cells are destroyed, resulting in severe bleeding from the liver and, if large amounts of toxins are taken up, destruction of the liver and death. Since few animals drink brackish water this problem is more confined to nutrient-rich (polluted) freshwater lakes and ponds which may develop huge blooms of bluegreen algae in summer. In addition, swimming in the bluegreen algae blooms often causes itching of the skin but this usually disappears after a day or two, apparently without any permanent ill effect. The toxins responsible for this phenomenon are poorly known, however, nor are the long term effects known and swimming in thick masses of bluegreen algae should therefore be avoided. Most concern regarding bluegreen algae these years are related to drinking water, since the usual measures taken to cleaning the water for drinking purposes do not remove the liver toxins. This is a serious problem in countries where drinking water is taken from lakes (Sweden, Norway) while countries using ground water is spared of this problem.

While bluegreen algae are confined to freshwater and brackish water, other toxic plankton algae show very different distribution patterns. The economically most serious group of toxic plankton algae in the Baltic, species of the dinoflagellate genus *Dinophysis*, are distributed throughout the Baltic and further into the North Sea. Toxins produced by many species of the genus (*D. acuminata, D. norvegica* and others) accumulate in mussels which survive but become toxic to predators, including humans.

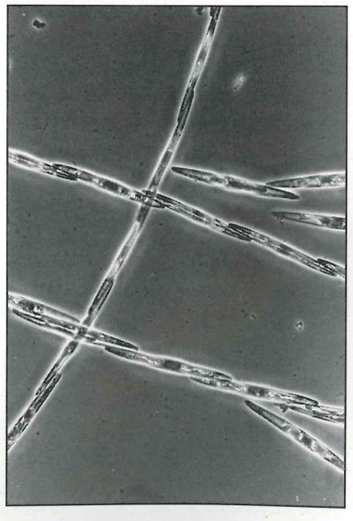


▲ *Toxin produced by the dinoflagellate Dinophysis norvegica accumulates in mussels.*

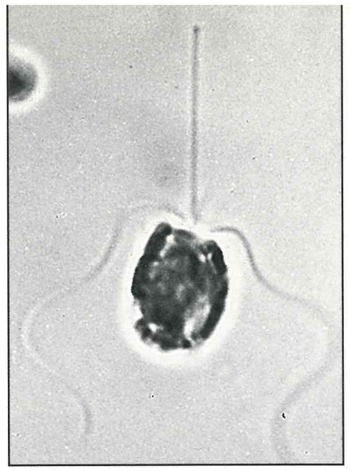
The short term effect of the toxins (dinophysis-toxin, okadaic acid) include diarrhoea and vomiting (DSP, or diarrhetic shellfish poisoning) but the long term effects are unknown.

The problem is world wide but in the Baltic has been mainly confined to the inner Danish waters and the Swedish West Coast and toxin concentrations in mussels are now being carefully monitored.

Many questions remain unanswered, however, as all attempts to maintain the dinoflagellates in laboratory culture have failed.



Stress may cause production of fishkilling toxin in the diatom Pseudo-nitschia (x 500) ▶



The haptophyte Chrysochromulina polylepis caused a massive bloom in northern Kattegat and Skagerak in 1988. Its toxin is real fishkiller. (Scale bar=10µm)

▶▶ This is not the case with other toxic plankton algae from the Baltic area, practically all of which are being maintained and studied in laboratory culture. These algae fall into three main group whose members cause PSP (paralytic shellfish poisoning), ASP (amnesic shellfish poisoning) and fishkills.

PSP is not common in Baltic waters and the causative organisms, two species of the dinoflagellate genus Alexandrium (named after Alexandria Harbour in Egypt) occur mainly in the Kattegat, Skagerrak and the Limfjord.

PSP, one of the most serious plankton poisonings known, is occasionally found in mussels in the most highly saline waters of the Danish and Swedish waters (Skagerrak and the Limfjord).

It is caused by one or more nervetoxins collectively known as saxi toxins. ASP is likewise caused by a liver toxin, domoic acid. It has never been found in the Baltic but the causative organisms, members of the diatom genus *Pseudo-nitzschia*, occur from the Skagerrak throughout the Danish sounds.

They peter out south of the Øresund when salinity becomes too low. Toxin production has been proved in laboratory culture of Baltic isolates of *Pseudo-nitzschia* but the factors stimulating toxin production are not well understood, although stress is probably a factor. Toxins of the third group of toxic algae, the fishkillers, are generally poorly known. Such algae are not common in the highly saline areas of the Baltic where only the unarmoured dinoflagellate *Gymnodinium nagasakiense* (previously known as *Gyrodinium aureolum*) is a regular cause of concern. Blooms of this species enter the Baltic from the North during summer, spreading through the Kattegat and killing fish in mariculture farms. Wild fish flee the toxic algae but bottom fauna succumb.

In more brackish water this species is replaced with species of *Prymnesium*, a wellknown fishkiller of the group Haptophyta. It occurs regularly in brackish water and in 1997 was a major issue on Åland.

On the German coast this species has been known since the turn of the century and fishkills are also regular in many lowsaline Danish lakes and fiords.

Other fishkillers occur more irregularly, for example the haptophyte *Chrysochromulina polylepis* in the Northern Kattegat and the Skagerrak in 1988, and *Heterosigma akashiwo* (akashiwo is Japanese for algal bloom), a member of the Raphidophyceae. The latter is found at intervals, mainly in the Kattegat and the Limfjord, but so far without any known ill effects on the fish.

All these algae differ from bluegreen algae in lacking the ability to utilize nitrogen from the atmosphere.They all require both nitrogen and phosphorus dissolved in the water and in brackish water compete with bluegreen algae for phosphorus.

Have we always had the toxic plankton algae in our waters? Most of them probably yes, but their numbers keep fluctuating and they appear to compete and interact with other plankton algae in ways which are barely or not understood and therefore more or less unpredictable. We may expect them in the largest numbers in calm summers in any area polluted with nutrients. In cold and windy weather they become scattered and many of them are hardly seen.

On a world wide basis, toxic plankton algae are being watched with grave concern since increasing problems may be expected due to population growth and increased use of coastal waters for mariculture, and lake waters for drinking water. Ways of reducing nutrients in the waters are being hotly discussed and monitoring for toxic algae and toxins are introduced. The interest in the issue is perhaps illustrated best by the number of applications received for participation in the international courses on toxic algae at the IOC/DANIDA Centre for Toxic Algae at the University of Copenhagen.

Each course has room for 15 participants but each year receives over 100 applications from all over the world.

Øjvind Moestrup, Professor
Centre for Toxic Algae,
University of Copenhagen
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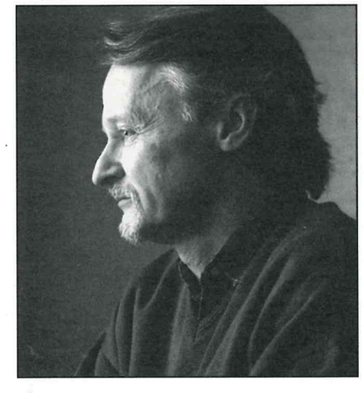


EUROPEAN FORESTS IN TOMORROW'S CLIMATE.

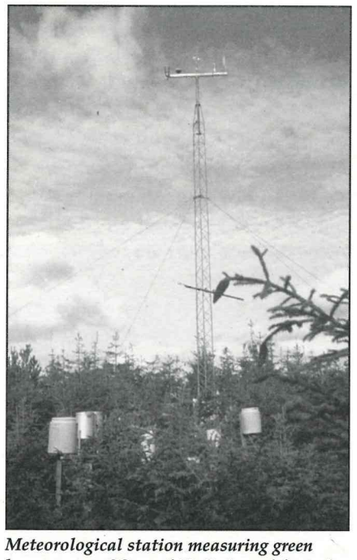
Climate changes

Within the next 50 years drastic climate changes are expected to take place, according to international climate experts.

The Green house effect is the main clue due to an increase in the combustion of fossil fuels and a subsequent rise in green house gases in the atmosphere, especially carbon-dioxide which is expected to double!

"But don't trees and other plants flourish on more carbon-dioxide which is the basis of photosynthesis together with water?"

Generally speaking yes - If carbon-dioxide was the limiting factor. But mostly other nutrients or water availability will limit growth.



Meteorological station measuring green house gases, CO_2 and N_2O, to and from the forest

What will happen to the tree species of today in another climate? To what extent will an increase in forest area and forest production sequester carbon-dioxide into the trunks and the crown and consequently reduce the green house effect?

Can changes in forestry prevent the mineralising of carbon- and nitrogen sources in the soil, and prevent further emission of green house gases? Can forests prevent the negative effects of draught, and what ground water level will there be in the forests over the next fifty years?

Lennart Rasmussen, Programme Manager, Research Coordinator

Ecological effect

An increase in carbon-dioxide will lead to an increased growth of trees, i.e. in nutrient rich soils. An increase in temperature will lead to an increase in the decomposing of organic substances and thus to an increase in the release of nutrients which will in turn lead to further growth. When organic matter is then decomposed not only nutrients but also carbon-dioxide will be released which will be used for further photosynthesis - a feed back balanced system. With increased average temperatures the growth season will be longer; not necessarily leading to an increased production since the respiratory rate of the trees will increase in parallel with the temperature increase. The complex balance of carbon-dioxide exchange rates between atmosphere and trees is being investigated in Denmark by Risoe National Laboratory. These investigations are part of similar studies in other European forests. To-day we only have restricted knowledge about the influence of climate change on ecological processes, but a drier climate will definitely reduce both decomposition and growth rates. Increased evaporation due to increased temperatures will eventually lead to a drier climate, but it is uncertain whether or not precipitation will in- or decrease.

Ultraviolet rays

The trees have to stand an increase in ultraviolet light caused by a reduction in stratospheric ozone. Some plants are more sensitive to ultraviolet light than others, and some species react by producing pigments and other metabolites. Southern species are therefore expected to oust species normally found in Denmark to-day, southern species will spread further north, and regionally to higher altitudes. The timber line will go up, and some alpine trees and scrubs will eventually disappear.

Conifers in northern Europe will move further north, and deciduous trees like oak, *Quercus sp.*, and beech, *Fagus silvatica*, will flourish.

But the spruce, *Picea abies*, will get into difficulties, and it is still the economically most important species in DK.

How quickly can the forest sector and the wood industry adjust to deciduous trees or other species of conifers when one consider the rotation time?

Adjustment in the agricultural sector will not suffer the same problems where the rotation time is short.

"Climex"

= Climate Change Experiments are carried out in giant green houses in Grimstad, Norway.

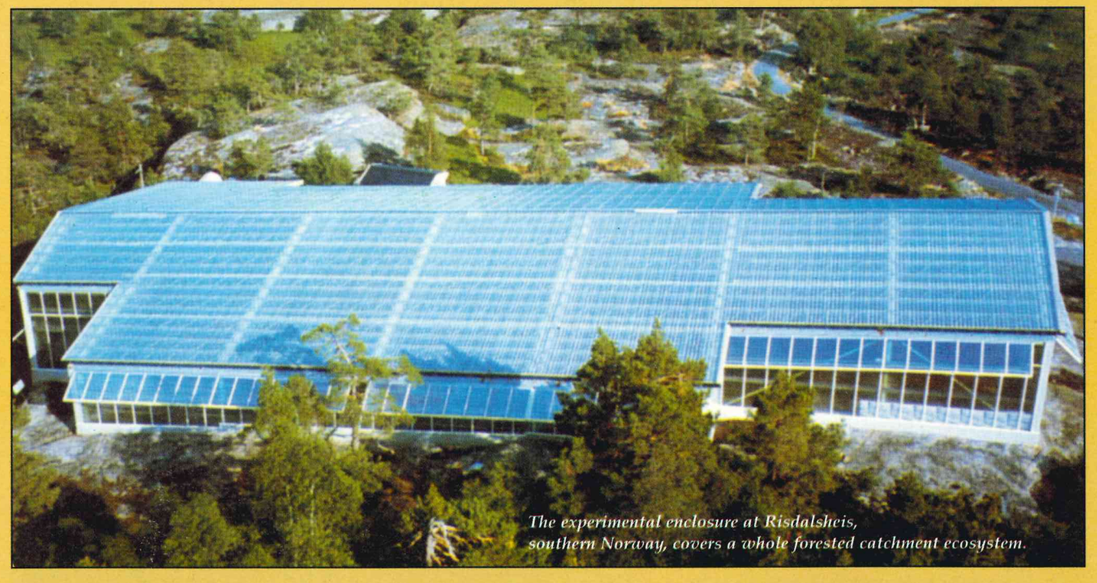
1200 square meters of mountain forest have been covered, the temperature has been increased five degrees C and the carbon-dioxide level is doubled. In another green house heating cables have been placed at the forest floor.

Soil chemistry, plant physiology, botany and zoology are being investigated as well as contents of nutrients in tree trunks, leaves and needles.

Results from the first two years show that assimilation and turnover rate of organic substance has increased. But at the same time nutrients are getting less available. So, will the turnover rate decrease or will it stabilise at the increased level?

The next step is to follow if nitrogen will be mineralised, accumulated or washed out of the ecosystem.

The results will be used for model calculations and predictions enabling forestry to adapt to future effects of climate changes, and for predicting the benefit of reducing the emissions of carbon-dioxide.



The experimental enclosure at Risdalsheis, southern Norway, covers a whole forested catchment ecosystem.

by *Lennart Rasmussen*,
Risoe National Laboratory, Plant Biology and Bio-geo-chemistry Department.
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http://www.risoe.dk

SPECIAL ASP OFFER TO BSP SCHOOLS!

All schools participating in the BSP project, are cordially invited to join the UNESCO Associated Schools Project Network (ASPnet), committed to the ideals of UNESCO.

Launched in 1953, ASPnet promotes education for a culture of peace and international understanding in order to prepare children and young people to meet the pressing challenges facing humanity today within the context of the planet's limited resources.

ASPnet schools and institutions conduct pilot projects, such as the Baltic Sea Project, on one of four main themes:

1) world concerns: problems and solutions;
2) human rights, democracy, tolerance;
3) intercultural learning;
4) environmental issues.

Once a year every school submits a report on their innovative activities to the ASP co-ordinator in their country.

Activities carried out within the framework of the BSP could qualify schools to become members of the world wide ASP network, a copy of the annual report regularly sent to the BSP General Co-ordinator, Ms. Birthe Zimmermann, would then also have to be sent to each country's ASP co-ordinator.

Membership to the world wide ASPnet, now counting over 4.700 schools in 147 countries, can be obtained through the UNESCO National Commission of each Member State.

Sigrid Niedermayer-Tahri, UNESCO

More about ASPnet and conditions for joining is available from:

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75352 Paris 07SP, France
Fax: 33.1.45.68.56.22
e-mail: aspnet@unesco.org

Newspaper cuttings

White-tailed Sea Eagle's Home in Mecklenburg-Antipomerania, (Germany)

Last year 144 white-tailed sea eagles were counted in Mecklenburg-Antipomerania. This is the highest rate in our country, says Mr Christian Scharnweber of the National Institute for Environment and Nature. Nearly every other white-tailed eagle lives in M-A, especially in the region of the Vorpommersche Boddenlandschaft, Usedom, Rügen and the Mecklenburgische Seenplatte. This is really a positive result, Scharnweber adds. But the success is relative, because only every other couple had successful breeding. In 1990, only one hundred pairs were registered. Around 1900, white tailed eagles were almost extinct with only four nesting locations known. In the 1920s protection of this species began…

ROSTOCKER ZEITUNG, February 16th, 1998

Montag, 16. Februar 1998 Rostocker Zeitung Nr. 39

Seeadler in M-V zuhause

Ueckermünde (OZ/M.K.) In Mecklenburg-Vorpommern wurden letztes Jahr 144 fest ansässige Seeadler-Brutpaare gezählt. Dies sei die höchste Zahl, die in diesem Jahrhundert überhaupt festgestellt wurde, sagte Christian Scharnweber vom Staatlichen Amt für Umwelt und Natur Ueckermünde der OZ.
Rund jeder zweite deutsche Seeadler ist damit in M-V beheimatet, vor allem in der vorpommerschen Boddenlandschaft, auf Usedom und Rügen, sowie in der Seenplatte. Unterm Strich sei dies ein sehr positives Ergebnis, führte Scharnweber aus. Es werde allerdings dadurch relativiert, dass nur jedem zweiten Paar auch ein Bruterfolg gelungen sei. 1990 wurden noch 103 Paare gezählt.
Um 1900 waren Seeadler im damaligen Grossherzogtum Mecklenburg fast ausgerottet.Nur noch vier Horste waren bekannt. Erst in den zwanziger Jahren setzte ein wirksamer Schutz ein.

Increased export of electricity from Denmark

Elkraft points out that increased Danish export of electricity will lead to a reduction in the pollution of the Baltic Sea due to the fact that Danish production methods emit less than emissions from Polish, Baltic or Russian power plants.

POLITIKEN 22. Dec. 1997

Environmental friendly gasoline threatens the ground water:

MTBE -methyl tertiary butyl ether - has since 1987 replaced lead in gasoline, and now it has been found in concentrations up to several milligrams per litre ground water. The synthetic organic compound is stable and accumulates in ecosystems. MTBE is suspected to cause irritation of mucous membranes of the lungs, and possibly cancer. Detection of MTBE in drinking water is easy as it has a strong smell if the concentration exceeds 0.2 mg per m^3. An alternative to MTBE in gasoline could be bio-ethanol made from sugar beet.

DANMARKS AMTSRÅD
no 3, Feb 17, 1998

Which trees have to fall?

127 old trees are on the list to be felled by the chain saw this year in Rostock. But for each hollow tree boxes will be put up to provide birds and bats with nesting facilities.

WARNOWKURIER,
Feb. 18th 1998

Ignalina output on the decrease

Lithuania's nuclear power station in Ignalina generated 12 billion kWh of electricity in 1997.

Compared with 1996 production of electricity was reduced 6%. The plant was unable to achieve its capacity level of 14 billion kWh in 1997 because the first reactor block underwent repairs for six months and the second block was down for two months. In addition export of electricity was halted for some time

LITHUANIAN WEEKLY

New policy in Lithuania

Lithuania's Supreme Electoral Commission has confirmed the final results of polling in the presidential election, declaring immigrant environmentalist Valdas Adamkus the winner.

From the Valdas Adamkus' Electoral Platform: "I will initiate and back environmental, ecological and energy-saving projects creating preconditions for quality living. The state must do its utmost in guaranteeing its citizens clear air, pure water and a tidy environment!"

LITHUANIAN WEEKLY

Winter flood in Silute.

The winter flooding in the western Lithuanian district of Silute continued on January 8th with the water level reaching 70 cm on a 350meter section of the Silute - Rusne road. The water level reached 35 cm the day before, january 7th. Caused by a pile-up of ice at the delta of the Nemunas River, the flood has also engulfed over 10 000 hectares of meadows, and started creeping up on farmsteads in five nearby villages. Local residents may travel from Silute to Rusne and back on amphibious vehicles.

LITHUANIAN WEEKLY

Chlorine does not kill all viruses:

Riga, with a population of more than 840 000, takes drinking water from the River Daugava. Water purifying station "Daugava" was built in 1979 and its technology is worn out. Water is being filtered with coagulators that clean it mechanically and liquidate the tiny parts there. Then water runs to the reservoir where is it disinfected with chlorine, and only then in the water networks of the city. At present a common project in the reconstruction of the water purifying station in Riga is worked out by Sweden, Switzerland and Latvia. It is foreseen that water will de disinfected by ozone. It will make better taste and smell of the water, as well as reduce the number of viruses.

The cleanness of water in the taps of the flats in Riga depends not only upon the purifying systems. Water supply networks in Riga are very old and accidents happen from time to time, and pollution gets into the water pipes. There are water pipes from the beginning of the century in the centre of Riga, but to replace them throughout Riga is too expensive and complicated.

FOKUSS, Latvia

Nowhere else are Pines so Stately!

Shipbuilders and timber sellers have already recognised Riga - pine as one of the best in the whole world. Pines in neighbouring Finland, Lithuania and Germany are not as stately as in Latvia: ... Ten years ago it seemed that many pines would perish - particularly in the Riga area. The needles turned yellow in large quantities and fell off the branches and the tree tops dried out. Specialists forecast that pines were endangered and would become extinct within 20 to 50 years. Then the big plant producing super phosphate was closed down. For years the plant had polluted the air with gaseous nitrogen and sulphur oxide. After closing the plant the condition of the air has improved, and the pines recover. Now the branches turn green vigorously, and once dried tops are encircled by dense green needles!

LAUKA AVIZE, Latvia 1998, 07.02

Butinge - a threat to nature in Latvia.

Lithuania is going to create another threat to Latvian environment and to the health of Latvians by building an oil-extracting terminal in Butinge. Although Lithuania ensures safety world experience shows that leakage of oil into the sea will influence destructively upon the environment in Latvia and in the Baltic Sea.

Oil spills form a thin membrane on the surface, not allowing oxygen to diffuse into the water. Most organisms cannot live without oxygen, and the oil also threatens the existence of water birds. Although Lithuania acknowledges the dangerous influence of the terminal it has not taken into consideration presentations from Latvia. The environment and society as such will suffer from some foolish economic competition between two neighbouring states.

"LIESMA", Latvian newspaper, Feb. 6th 1998

Under the airport-"The lake of oil" (LEGNICA).

In September 1993, after the Russian soldiers had withdrawn, the airport area was examined by the experts from Military Technical Academy, who confirmed that several meters underground there was a lake of oil-derived substances. Its liquidation has been very expensive and long- drawn- out. The clearing of the airport has continued since 1995 and consisted in pumping out the oil from a few dozens of holes drilled in the ground.

This year, in March, site-surveys will be carried out to measure the extent to which the airport will have been cleaned after two years' time. If the results of the survey turn out to be satisfactory, the process of the ecological purification of the ground in the airport will be completed this year. However, nobody can guarantee there will not be any impurities washed out to the surface from deep layers of the soil in few years' time.

Newspaper : ROBOTNICZA, Poland

The War Against Lead

In the Legnica province, 15.5 % of children have in their organisms 10 or more mg/dl of lead in blood. In the areas exposed to the influence of copper-works (Ukowice , Krotoszyce) this index amounts to 25 - 26 mg/dl.

This is an immense quantity of lead in blood, in comparison to Western countries. Lead is very dangerous for children's development.

The Foundation for the Benefit of Copper-Basin Children organises a three-week medical camp in the Bieszczady Mountains for children suffering from lead-poisoning. Ten thousand children have already attended the camp. The lead level dropped below 10 mg/dl in 80% of the participants of the camp.

Adjusting an adequate diet to a child's age belongs to future treatment of the disease.

The Academy of Physical Education in Poznañ, is to work out the physical training in order to activate children's metabolism (it should help to bring the disease under control). Nevertheless, lead in the central nervous system may be eradicated by a special treatment with the use of propolis.

Poland Newspaper :

SLOWO POLSKIE


Nr 24 (15 615) Nakład 42 382 A *Czwartek, 29 stycznia 1998* Ind. 350 419 PL ISSN 0137-9291

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SŁOWO POLSKIE

Wrocław Jelenia Góra Legnica Wałbrzych

„Dangerous Radon"

Teachers and students have been connected to the International Project „Radonet", which has the intention of presenting the content of radon in classrooms and flats. The investigations have been carried out by students, using detectors: small yoghurt containers on the bottom of which are slabs called „Tastraks". Radioactive atoms of hydrogen, colliding with the slab left visible traces after chemical treatment. The investigations confined :

- if the condignation is high, then radiation is low
- the radiation increases in rooms, where the TV-set or the computer is on
- the hardening is higher in unventilated rooms and in the places where smoking people work.

Newspaper : RAJ 2/98 r.

Rhoca gil threatens ground water and health in Sweden:

The Swedish Government order ed a tunnel built through Hallandsåsen so trains could spare eight minutes.

"Skanska" got the order but had a problem of water leaking into the tunnel. Even though the responsible people in charge knew the danger, the leakage was filled with Rhoca gil. Tests show that many workers have nerve damages, the landscape and the animals around Hallandsåsen are affected and more will come. They have started to clean up the hill, but when or if it will be restored some day who will be held responsible? And all for 8 minutes...

DALA DEMOKRATEN, Sweden

Amalgam
- an environmental problem

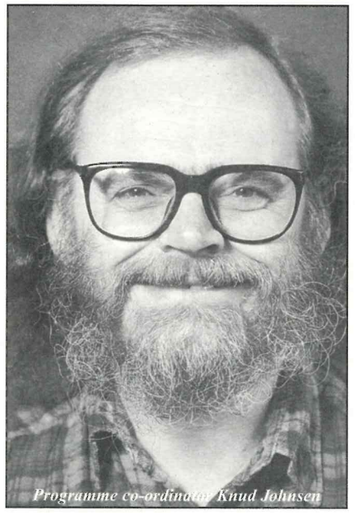
People born in Sweden in the forties were the first to receive free dental care leading to many amalgam fillings.

Today one fifth of the mercury pollution comes from burned off amalgam fillings in crematories. When people born in the forties eventually die the mercury rate will double!

There is a solution of reducing the mercury rate 95% but it is extremely expensive

DAGENS NYHETER

WATER QUALITY IN THE INTERNATIONAL YEAR OF THE OCEAN:


Programme co-ordinator Knud Johnsen

As mentioned in the last issue of the Newsletter (1997:2) a computer programme for the common programme Water Quality of the Baltic Sea is now available. The database for the programme **WaQua** is continuously updated at Rungsted Gymnasium. This spring disks with the updating files have been sent to a number of schools, but in the future you can get it from our homepage on the Internet at the following address:

http://inet.uni2.dk/~rung-gym

Among other information about Rungsted Gymnasium (mostly in Danish) you will find a specific site for the Baltic Sea Project. Follow the instructions, and you will get the data-files to your computer. Please notice that the files are of use only together with the WAQUA programme. If you want a copy of the WAQUA programme, please send me a letter.

Knud Johnsen
Rungsted Gymnasium
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DK-2960 Rungsted Kyst
Denmark

"ELSINGORE - GATEWAY TO THE OCEANS"

August 25th - 30th:

International teacher's training course on Water Quality in Elsingore, Denmark:

Elsingore is situated 40 km north of Copenhagen where the strait, Øresund, is narrowest. The strait creates the threshold between The Baltic Sea and the oceans in both the hydrographical, biological and historical sense of the word. The brackish water of the Baltic Sea with its varying salinity meets the constantly salt waters of the oceans with an immense impact on bio-diversity

Historically the Danes demanded a fee here from each ship passing through the strait on its way from the Baltic area onto the oceans of the world.

Aim: Lectures, discussions and practical investigations to put focus on biological, geographical and historical aspects. The actual environmental problems and their solutions politically and practically will be dealt with.

The course is organised by teachers from Rungsted Gymnasium and Køge Gymnasium in cooperation with the general coordinator.

Costs: Participants pay the travel expenses themselves. (Teachers from Estonia, Latvia, Lithuania, Poland and Russia can apply for scholarships through their national coordinator).

The Participation Programme in UNESCO, The Ministry of Foreign Affairs, the Ministry of Education and the Ministry of Environment in Denmark have been applied for financial support.

Language: **English**.

Number of participants: 25

Applications should reach the general coordinator **through your national coordinator**

by **June 15th 1998.**

"Ocean - mass of salt water that covers most of the earth's surface, divided into the Atlantic, the Pacific, the Indian, the Arctic and the Antarctic. "

"Sea - the salt water that covers most of the earth's surface and encloses its continents and islands. Particular area of the sea, smaller than an ocean: the Mediterranean, the Caribbean, the South China, or large inland lake of fresh or salt water: the Caspian, the Baltic, the Sea of Galilee.
(From: Oxford Advanced Learner's Dictionary)

OUR COMMON BALTIC

Stensund Folk College in Trosa, Sweden, 29 June to 10 July 1998 **Our common Baltic** is a two-week summer course organised by CCB (Coalition Clean Baltic) and Stensund Folk College in cooperation. The target group includes members of environmental organisations in the Baltic Sea Region.

The course includes field studies of the Baltic Sea ecosystem, e.g. a visit to the Askö Marine Laboratory. We sail for five days in the Swedish archipelago with the ship Amalia, built in 1899.

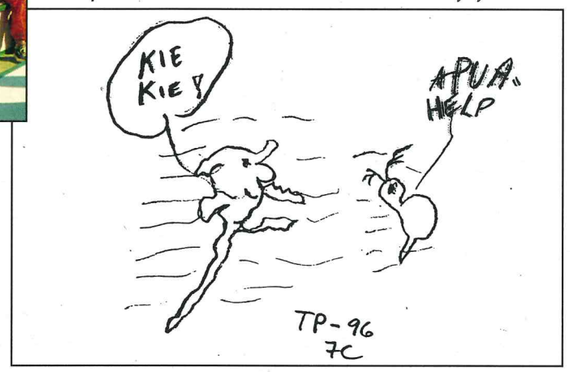
The atmosphere of traditional sailing and the fishfarmer lifestyle goes together with a modern, international network of people engaged in our common natural heritage, the Baltic Sea. The course also includes ecological engineering for wastewater treatment working in the Stensund Aquaculture. Seminars, lectures, study visits and a final action for the public makes the course a valuable experience for future work for the Baltic Sea.

You can contact us over our Stensund Ecological Center, general homepage:
http://www.algonet.se/~stensund/aquaelogic.htm


Drawing by Kasper Bachmann, class 3c at Sønderskovskolen / primary school, Sønderborg, Denmark.

Pupils from Pappilansalmi lower secondary school in Hamina, Finland, worked with water quality during an autumn schoolday on board the ship "Vikla".

Plankton from the eastern Gulf of Finland!



Ulko-Tammio

Seventh graders from Hamina went by boat to the island of Ulko-Tammio: "The sun was shining, the wind blew through our hair, and on the sea huge waves made the boat bounce up and down.

Fortunately we did not get seasick! At Ulko-Tammio Esko Vanhale, the guide of the national park, took us for a long walk, and told funny stories about the animals - one of them a tame badger that always comes at the crack of dawn to finish the oatmeal. We were shown the recycling system of the island, which encouraged visitors to also take care of their wastes outside the park area.

We saw a butterfly trap, the blue light of which lures butterflies at night. We also climbed a bird watching tower from where a number of islands far away in the Baltic Sea could be seen. At a seaside meadow we found Solomon's seal, *Polyganatum multiflotum*, and species of violets, *Viola sp*.

We collected samples of different algae, and put them between some newspaper pages to press them.

The bladder wrack, *Fucus vesiculosus*, was a surprise for us - we thought it would be much bigger from the picture in the book.

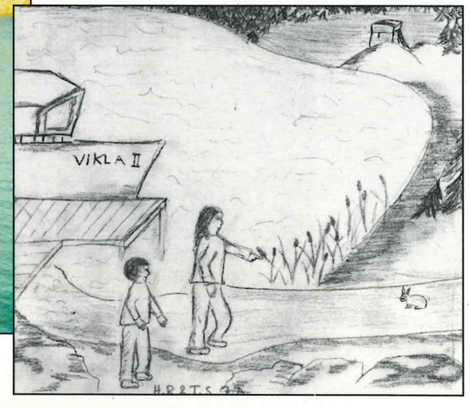
We found a place with a lot of green algae, *Enteromorpha sp.* We looked for animals like Amphipods, bivalves, gastropods and also insects living among the algae: It was fun! While searching them we found a "yellow-eared" ringed snake. It got scared of us, and swam away quickly. We examined the water: the pH was 7.4, and the temperature of the sea water was 16.5 degrees. We took a sample to estimate the salinity - it was 0.37%!

Both ammonium and phosphate showed zero. With plankton nets we tried to find out if there was any big species of Cladocera in the water, but we could not find any. Mostly we found Cyanobacteria, diatoms and Rotaria.

It is good that our school takes part in the Baltic Sea Project. It is important to take care of the Baltic Sea or else it will soon be just a polluted pool where you could not even swim!

Seventh graders
from Pappilansalmi Lower Secondary school,
Pappilankatu 1,
SF-49400 Hamina,
Finland

Plankton investigations!



"Vikla"

Learners' Guide no. 2

Drawing made by Edita Zaveckaite, Lithuania

Programme coordinator Birgitta Berggen among Latvian students estimating air quality in Nyköping, Sweden, June 1997

The Baltic Region is not only bound together by its water but also by its air, and studies of air pollution and its effects is a natural continuation of the cooperative efforts within the BSP.

Therefore a programme was developed for estimating air quality by using bio-indicators, which came to serve as the starting point for producing a second handbook.

The result is Learner's Guide No 2, "Working for better Air Quality in the Baltic Region" which was finalised during the autumn and winter and forwarded to all BSP schools in January 1998. The book describes the air pollution problems of the Baltic region and various solutions to the problems.

It gives examples of field studies and other educational approaches developed under the framework of the Baltic Sea Project. The students and teachers contributed with their experiences.

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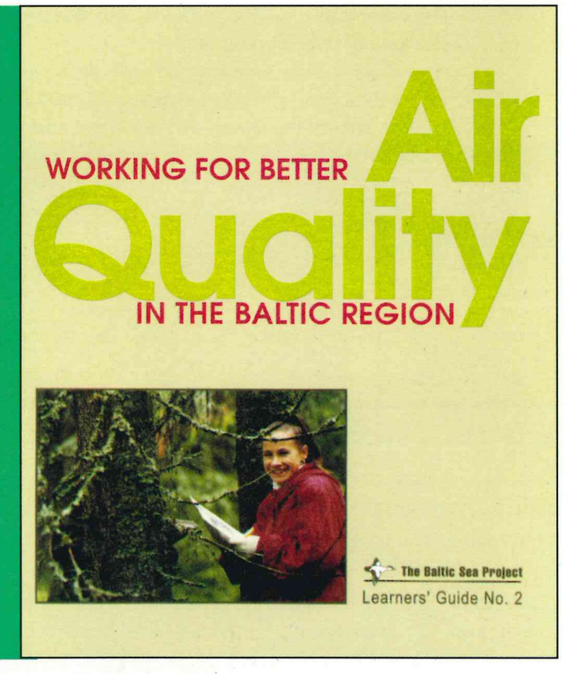
The book can be ordered through:
Liber distribution, Publication service
S-162 89 Stockholm, Sweden.
Phone: +46-8-69 09 576
Fax: +46-8-69 09 550
Please note the fax number;
there is a misprint in the book!

Ordering no: 97:332

Price: 60, - s kr. per book;
Purchasing 10 or more books:
40, - s kr. per book.



Simo Korpela and Karri Jutila, Meri-Pori, Finland, preparing dot-sheets for estimating % coverage of lichens during work phase discussions in Denmark, October 1997.

MATHS IN ESTIMATING PERCENT LICHEN COVERAGE

An international teacher's discussion took place among Finnish, Swedish, German and Danish teachers during the preparation of the book "Working for better Air Quality in the Baltic Region":

When estimating percent coverage by "the dot method" (see "Air Quality" figure 5:11 on page 86) is the method then significant in mathematical terms?

Teacher of maths, Claus Thormann, provided form 1y with the basic mathematical tools shown below, and form 1y grabbed transparent sheets with 100 dots, and transparent sheets with no dots, and went to work.

For each huge old tree the dot method was used and the percent coverage estimated. Then on the transparent sheet without dots the lichen were drawn using different colours for each species. Back in the classroom the coverage was calculated in three different ways:

method 1: The dot method
Coverage (%) = Dots covered by lichen / Total number of dots

method 2: The square method
Estimate for each square if the lichen covers it 1/5, 1/4, 1/3, 1/2, 3/5, 2/3, 3/4 or 4/5.
Full coverage is 1. Sum up.
Coverage (%) = Sum / total number of squares
Task A: Use method 1 and 2 and compare the results!

method 3: The circle method
Estimate r (radius) of the circle that the lichen covers. (Area) $A = \pi \times r^2$
If two circles overlap: One circle has radius r_1 and the angle of overlapping is v_1
The other circle has the radius r_2 and the angle of overlapping is v_2
The area of overlapping is then:
$A = \pi/360\ (r_1^2 \times v_1 + r_2^2 \times v_2) - ½\ (r_1^2 \times \sin v_1 + r_2^2 \times \sin v_2)$
Coverage is then area of circle 1 + area of circle 2 - overlapping area!
Calculate the area of the squares in question, and the percentage!
Task B: Use method 1 and 3 and compare the results!

Results:

*Crustose coverage by **the dot** method, average % coverage*	*Crustose coverage **calculated** by either square or circle method*	*Foliose coverage by **the dot** method, average %*	*Foliose coverage **calculated** by either square or circle method*	*Fruticose coverage by **the dot** method, average % coverage*	*Fruticose coverage **calculated** by either square or circle method*
8%	*6,5%*	*32,6%*	*28 %*	*0,8%*	*0,75%*

Total % coverage (dot method/average): 41.4 % = Zone 4: Good Air Quality
Total % coverage (calculated): 35.25 % = Zone 4: Good Air Quality

Conclusion: The results using the easy dot method show slightly higher percentages, but the method is indeed valuable for estimation of air quality: The category of air quality is the same.

Birthe Zimmermann and form 1y
Amtsgymnasiet, Grundtvigs Alle 86, Dk-6400 Sonderborg

A Learners' Guide entitled "Working for Better Quality of Rivers and Water Courses in the Baltic Catchment Area" is still to be elaborated.

But steps forward have been taken, and the work is in progress. Traditionally water courses have served as a resource (drinking water), for energy (mills, power plants), for fish production (fish farming), for getting rid of waste (sewage, industrial wastes), for drainage (agriculture), for recreational purposes (canoeing, bird watching, sports fishing, ice skating) etc.

Each different kind of usage has different consequences with different suggestions for solutions.

Within the BSP programmes have been developed that serve as methods for estimating the water quality by chemical methods and biological investigations, and other aspects of water courses have been taken into consideration in subjects such as civics, social science, and environmental history.

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BSP programme: Water watch

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BSP Programme: Phenological studies.

It is good to see that the number of participants is growing from year to year. In 1997 421 observers and groups from 92 schools took part, and a new country - Norway - joined us! Reports have been sent out to all participating schools - a great thanks to Estonian Foundation for their support!

Some observers noticed that spring of 1997 was late. Students at Naukseni Sec. School in Latvia wrote that they had frost till the end of May (25.05), and Liina Nikonorova from Estonia observed frost at night till June 5th! Pupils from Didzvaris Sec. School in Lithuania registered the day of the first snow as November 25th 1996, and the last day of snow on April 26th 1997!

Karin Jepsen from Sønderborg, Denmark states: "There are only few storks in Denmark. This year they arrived very late, about May 10th. We fear the breeding success might be low if the young ones will not be big enough in time to return to the winter habitat."

For the students the most difficult part was the measurement of daily temperatures.

Next year it will be necessary to register only the last night of frost. We also plan to pay special attention to the phenological changes on the islands of the Baltic Sea.

We hope that the participants can get some valuable information from the studies, and look forward to our co-operation again next year.

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BSP Programme: Bird Ecology

Midwinter Water bird Counts 1998/ Results

by Linda Metsaorg, Estonia

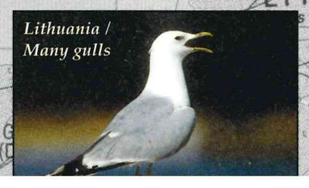
In the period between January 6th and 25th 1998 the midwinter bird counts were carried out on the coast of the Baltic Sea as well as on inland waters in five Baltic countries: Denmark, Estonia, Finland, Lithuania and Sweden. Fourteen teachers and two hundred and ten students participated in the project. There were 22 days used for counting. Thirty species of birds were observed in 27 sites, and the total length of coastline surveyed was more than one hundred kilometres. This winter has been extremely mild, no frost at all. Mostly the visibility was good, and the wind weak. All participants enjoyed the walk along the coast and the field work very much.

Finland:
Goosander, *Mergus merganser* (70)

Mute swan,
Cygnus olor (7)

Sweden
Grey Lag Goose, *Anser anser* (60)
Canada goose *Branta canadensis* (2200)

Vejle Fjord:
Barnacle goose, *Branta bernicla* (1000ind.)



Lithuania /
Many gulls

Estonia
Goldeneye, *Bucephala clangula* (536)

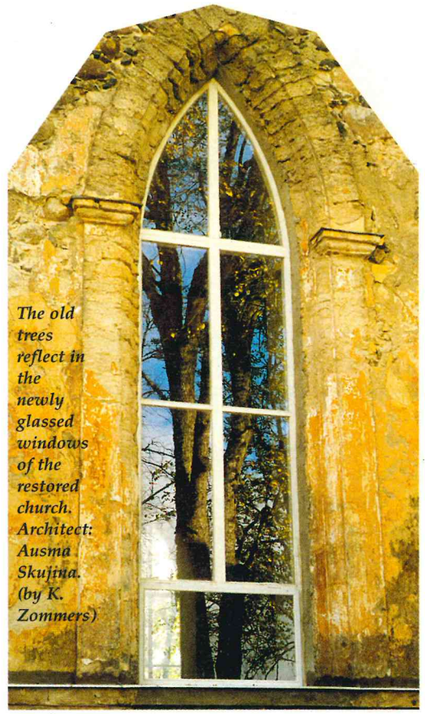
Mute swan,
Cygnus olor (510)

Sønderborg Bay:
Eider, *Somateria mollissima* (38 ind.)

"Environmental History will help in understanding and dealing with the environmental problems of today"
Siv Sellin

Programme co-ordinator:
Per Eliasson,
Ekbackeskolan,
V. Storgatan 15
S -283 32 Osby,
Sweden

http://hem2.passagen.se/bsp/index.htm



The old trees reflect in the newly glassed windows of the restored church. Architect: Ausma Skujina. (by K. Zommers)

"NEW" RUINS IN VIECPIEBALGA, LATVIA:

Inspired by the Visby course on Environmental History in 1996 *Daine Jansone*, teacher of history, has started with students the serious work of exploring the world around us from a historical point of view.

During the last 15 years changes in architecture has taken place in our region due to *Ausma Skujina*, designer of buildings like the kindergarten (photo on page 32), a water tower, a bus stop, and some residences.

At the cemetery the dead-house has been rebuilt, the gate of the oldest cemetery has been restored, famous sculptors were invited to make the memory place for our local people, writers and literary heroes.

The burial place of Kárlis Skalbe, one of Latvia's most famous writers, and his family was designed near his memorial museum. It is made like a huge stone boat which brought the writer's family abroad at the end of War II and back for burial now, when Latvia is an independent country again.

The most important event in 1997 was the consecration of the newly rebuilt church. It was destroyed in 1944, and has stayed in ruins for more than fifty years. It took app. 10 years to restore the church, and the architect, *A. Skujina*, won the 1997 year prize for her excellent restoration work.

The radical changes during the last 10 years concerning property has given us the "new" ruins: Administration buildings of the former collective farms, and buildings of the water purifying stations.

As our students come from other communities as well, we have begun the exploration of old estate parks and cemeteries in the region. Pupils have explored the area of 100 km2 over the last two years, getting to know the use of the farmlands in the periods when owners have got back their properties.

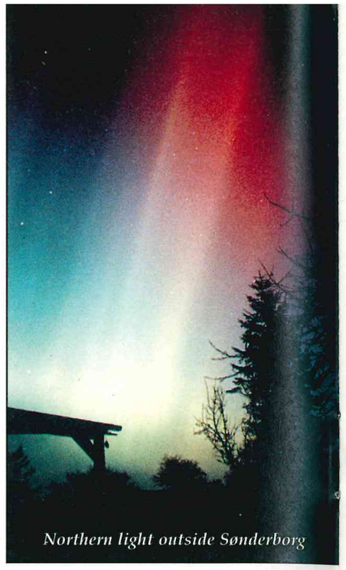
The results will be presented in May 1998, when the international conference will take place in Vecpiebalga with the Dr. Elke Knappe-Institute of regional Geography, Leipzig, Germany and scientists from Latvian University.

The materials on nature, history and culture of our region will be exhibited in an old stone building next to school.

We seek BSP-partners for a EU COMENIUS project on these aspects!

Janus Balodis, pupil of 9th grade
Mirdza Zommers, teacher of geography and English
Klávs Zommers,
teacher of environment
Vecpiebalga Regional Country Gymnasium
Césu rajons, LV-4122, Latvia

THE SKY I LOVE...


Northern light outside Sønderborg

During recent years we have witnessed a number of magnificent displays on the sky at night:

In 1996 and 1997 the two super comets, Hyakutake and Hale Bopp were clearly visible. The comet Hale Bopp was among the most brightest comets ever recorded.

Astronomy classes and astronomy clubs world-wide take magnificent photos, and this object was seen by nearly all humans on the northern hemisphere. Within the next few years the sky will show phenomena equally exciting.

Within 1998-99 the leonid meteor showers are expected to show their 33 year maximum, at end of November "falling stars" may become visible in significant numbers. During August 1999, schools placed on a line from UK, France, to Romania may experience a very seldom phenomena, a total solar eclipse.

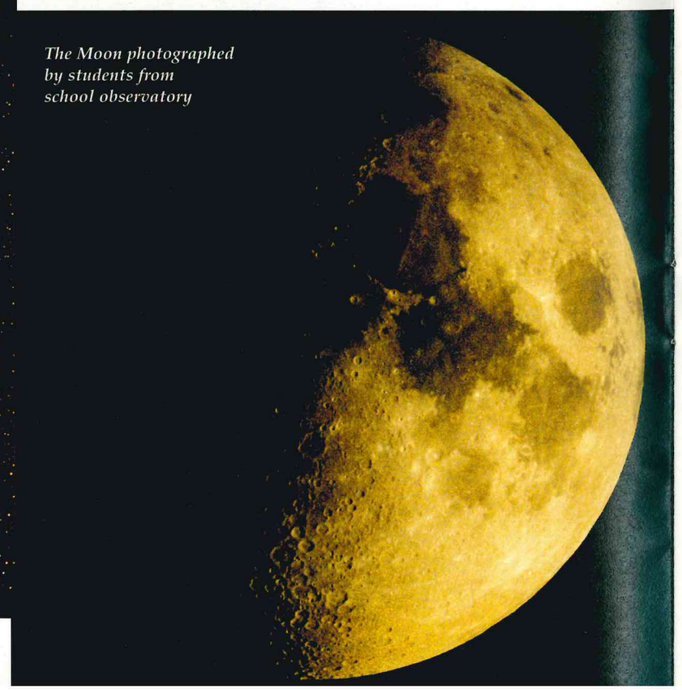
This particular eclipse will be very exciting, and right now the Sun is heading toward its next sun-spot maximum, and several complex sunspot groups are being formed on the solar surface.

This will make the 1999 eclipse particular interesting: During totality, large streams of hot gas will be clearly visible while they run out into space. The increased solar activity has another, marvellous side effect: aurora. Aurora was observed in March 1998 in Estonia by BSP members as faint green curtains visible for short periods of time.

During the former sunspot maximum, in 1989-91 , several auroras were observed all over Europe as bluish, red, yellow curtains moving as fast wave like patterns across the sky.

So there is no doubt, the sky above us is worth looking at, both for phenomena like meteor showers and auroras and also for moments of inspiration. The quiet, dark sky, far away from city lights, a sky full of stars, telltale star constellations, and the beautiful bluish Milky way overhead:
That is the sky I love!


Hale Bopp, April 6th 1997 photographed by students from school observatory


The Moon photographed by students from school observatory

THE SKY I HATE

Unfortunately, an undisturbed sky is no longer an experience possible for everybody. Amateur Astronomers and Wildlife Associations world-wide regard the increasing light pollution with increasing concern. Electric energy is wasted irrespective of world wide concern on CO2 pollution.

Bad street illumination is clearly visible even from space satellites, and a new age of sky commercials has started. During the second world war, long range searchlights were applied to detect air-crafts attacking during night time. Today, modern versions of these searchlights are successfully applied by an increasing number of companies for advertising.

Companies advertise with long range lasers, able to dominate the sky within a radius of 50 km. In the city of Sønderborg, Denmark, a local high tech company applied a computer controlled long range search light beam in short periods, without any public warning. As a result, the local newspaper gave strange eye witness reports: People claimed to have seen a real UFO!

The searchlight was put on all night long and gave the owner what he wanted, public attention. "Before this action, nobody knew our company. Now everyone knows who and where we are..." The beam was on for fifty nights before actions were made to stop it: Do protests help? Does it help to fight? The answer is YES !

Several associations and private people protested, and the green-minded city of Sønderborg in 1995 put a local ban on this kind of commercials as one of the first towns in Denmark. Several companies tried to evade the city ban protesting against the local ban. A local Disco mounted a new projector in 1996, and the combined searchlights were able to draw a UFO symbol on the sky.

After 3 days it was stopped by the authorities after several citizen protests. The year after, in 1997, a local car tire company officially applied for permission to release another kind of sky commercial. A huge balloon was to be mounted on a long wire. During calm nights the balloon was to be raised into the atmosphere, bright light sources mounted on this balloon should display blink-text advertisements like "This Week: Special Offer in Radial Tyres ..."


Long range searchlight in Sønderborg (1995) for advertising on the night sky

At the same time private consumers and conscientious companies are asked to invest money in energy saving techniques, special lamps, proper shielding, etc.

And the technical evolution does not stop with searchlights, it is possible to make what is called a "stroboscopic effect": With this technique, light can be combined with music,- loud music will give a high light intensity, and vice versa.

Apart from being an obvious waste of CO2 and consuming loads of electrical energy, will this kind of concentrated searchlight be harmful to nature? It is a well documented fact, that certain animals/insects avoid high activity during e.g. full-moon nights, simply minimising the risk of being caught. Concentrated light beams seem to affect night migrating passerines. Year after year, they travel from Northern Scandinavia down to Africa, and back again. These birds actually navigate very precisely by means of the stars, by methods not yet understood. There is no doubt that these birds may become affected by such sudden, concentrated searchlight beams.

A light polluted sky - that is the sky I hate!

Mogens Winther,
teacher of Physics, Astronomy and Maths
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www.amtsgym-sdbg.dk/as/sky.htm

References: R.R.Bjorge, "The Canadian Field Naturalist", 1987 p. 346-350
Internet addresses: http://sky-view.com/searchlights.cfm
www.lasertainmnet.com

PS: In March 1998 the Ministry of Environment in Denmark took legal action on these sky projectors:
Commercial Searchlights are banned according to Wildlife and Nature Conservation Law § 21.

Atmospheric Haze Measurements: Invitation!

I have built a small instrument described in "Scientific American". It is easy to make, and it works immediately upon assembling. Please contact me if you are interested in making haze measurements of your local atmosphere: Perhaps we can compare haze in our countries, and maybe make a new BSP program me together. **Please contact:**

Ole Sünksen
Rødekro Skole (a primary school with 350 pupils)
Vestergade 14
DK-6230 Rödekro, Denmark

BALTIC 21

Ongoing cross-sectorial work within 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.

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

Through December 1997 and January 1998 BSP schools and students were invited to public participation by giving suggestions through the Internet, and BSP students with Internet access acted. Here are some examples of Public participation comments, ideas and suggestions for solution given from students to the Baltic 21 http://www.ee/baltic21

"Reduce prices on public transport, increase prices on gasoline"

"Separate traffic and make special bicycle paths"

"Put taxes on fertilisers and pesticides or better, grow crops ecologically"

"Lower prices on ecological goods"

"Secure the nuclear power stations in the former Soviet Union"

"Make more people go together in one car - make car-pools, make parking lots at meeting points!"

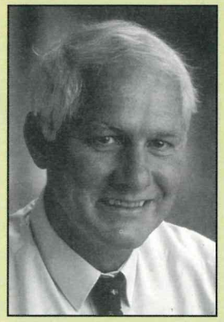
"Use solar energy more, reduce prices on solar cells - for instance for heating up water"

"Make sure that sorted waste does in fact stay sorted - for recycling purposes."

"Give more information on good practice - it takes time to change behaviour"

Birthe Zimmermann

Minister of Environment and Energy, Mr Svend Auken, Denmark



Environment for Europe

The fourth "Environment for Europe" conference, where Ministers of Environment from all European countries meet, takes place in Aarhus, Denmark on June 23rd-25th. Public participation Convention is one of the main issues. A parallel event named "ECO forum/ Aarhus 98" takes place at a nearby school, Brobjergskolen, on June 20-25th. NGOs present their work at a huge exhibition. The BSP has been invited to present our work in posters, videos, interactive computer programmes. The general coordinator asked the Danish Minister of Environment and Energy about his expectations for the conference, and upon the public participation convention. Here is his answer:

Europe in Aarhus

June 23-25 the 4th Pan-European Conference for Environment Ministers "Environment for Europe" will be held in Aarhus, Denmark. Environment Ministers from up to 60 countries from the Northern Hemisphere and up to 70 international environmental organisations and non-governmental organisations will participate.

The key issue is improvement of the environmental situation in Central and East Europe and NIS. One of the main attractions will be the adoption and signing of the new International Convention on Access to Information, Public Participation in Decision Making and Access to Justice in Environmental Matters. In many countries this convention will expand the rights of the environmentally concerned public significantly when ratified and implemented. Consequently, the convention will become a valuable tool for the real drivers in environmentally policy - ordinary citizens, grassroot movements and the press.
The conference will deal with a number of other significant initiatives:

- Adoption and signing of two new protocols limiting air-pollution
- Adoption of a Pan-European Strategy to Phase-out Lead in Petrol by 2005
- Adoption of Guidelines and Policy Statement on Energy Efficiency

Furthermore, The European Environment Agency has prepared an updated assessment of the state of the European Environment. This very comprehensive report shows progress in environmental policies, som reductions in harmful emissions, but very small progress in the state of the environment.
The conference will also try to identify new ways to strengthen environmental policies in the NIS, and find western support for that. I am convinced that the Aarhus Conference will be a major step forward in building a healthy environment for the whole of Europe.

By the Danish Minister for Environment and Energy
Mr. Svend Auken

COMPETITION: CREATE A CONFERENCE LOGO

IN JUNE 2000 THE FOURTH INTERNATIONAL BSP CONFERENCE FOR STUDENTS AND TEACHERS WILL BE HOSTED BY SØNDERBORG, DENMARK.
THEME OF THE CONFERENCE: "BALTIC 21"
MAKE A LOGO FOR THE CONFERENCE!

CONDITIONS:
SIZE: A4 - (MAKE SURE THAT THE LOGO CAN BE REDUCED TO THE SIZE OF NAME TAGS)
COLOURS: TWO OR THREE
DEADLINE: OCTOBER 15TH 1998
SEND IT TO THE GENERAL COORDINATOR (ADDRESS: SEE PAGE 47)

1ST PRICE: A BICYCLE!
THE WINNER WILL RECEIVE THE AWARD AT THE CONFERENCE OPENING CEREMONY.

INDUSTRIES AROUND THE BALTIC SEA

The Pappilansalmi Lower Secondary School announced an art competition on "Industry around the Baltic Sea" (Newsletter 1997: 2 page 30) for BSP schools. Forty-one BSP schools participated, representing all nine countries.
The most enthusiastic participants were Latvia with 10 schools, Lithuania with 10 schools, Estonia with 6 schools, Poland with 5 schools and Russia with 4 schools. We received 488 works of art altogether!

The task was to describe the industry of your home town or country, or to create imaginary industries of the future on the shores of the Baltic Sea.

The standards of the paintings was high. The subject was dealt with individual style, and several techniques were used. Unfortunately some of the materials, i.e. leaves and twigs, suffered damage during transportation.

By looking at the pictures one noticed many kinds of industries on the shores of the Baltic Sea: Dairies producing milk, cheese and ice cream; bakeries producing bread; fishing industries; industries producing jewellery, paper, oil and chemicals. Perhaps the future brings a factory situated under the sea or perhaps new life is made out of wastes.

The winners are presented on pages 24-25. The first prize was won by Magda Wojtowicz, 12 years, from Sopot, Poland. Her picture shows fishermen working at dawn (the cover illustration). Number two was Ivan Kuznetzov, 10 years from St. Petersburg.

His drawing carries the title "the Mask for the Industries". Number three to ten were all awarded the third prize.

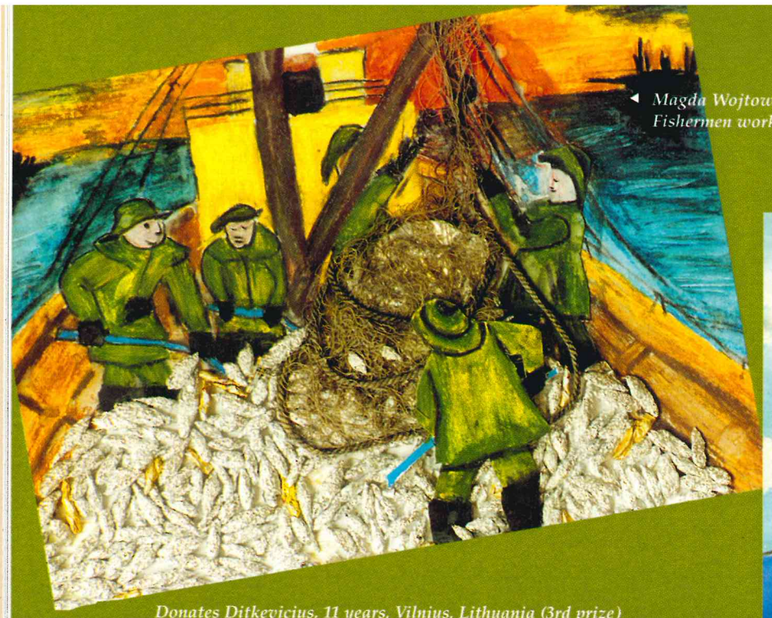
The artists believe in the co-operation between factories in different countries, or they believe that new raw material can be found. Many praise the Baltic Sea in glowing colours.

There were a lot of good paintings without rewards. All pieces of art were included in an exhibition arranged in the spacious hall of the Town Hall in Hamina. The exhibition aroused interest both among the public and in the press.

A warm thanks to all participants! We wish you enthusiasm in your work for the benefit of the Baltic!

Torsti Vaino, principal
Anneli Ahola, Chairman of the board

Pappilansalmen Lower sec. school,
FIN- 49400 Hamina, Finland

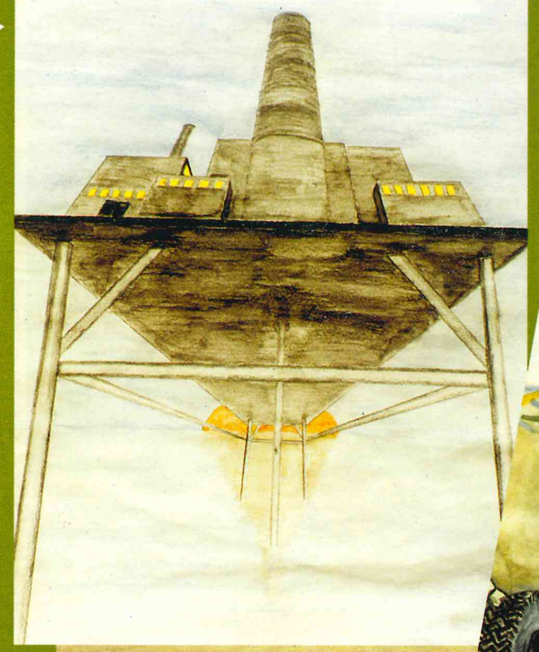


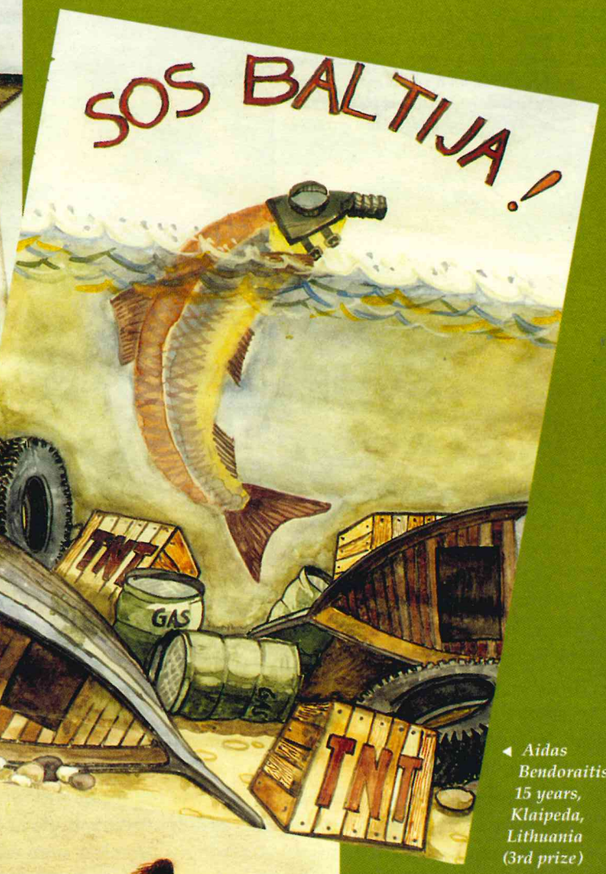
Magda Wojtowicz, 12 years, Sopot, Poland: Fishermen working at dawn. (1st prize)

Donates Ditkevicius, 11 years, Vilnius, Lithuania (3rd prize)

Leo Karvinaho, 15 years, Hamina, Finland (3rd prize)

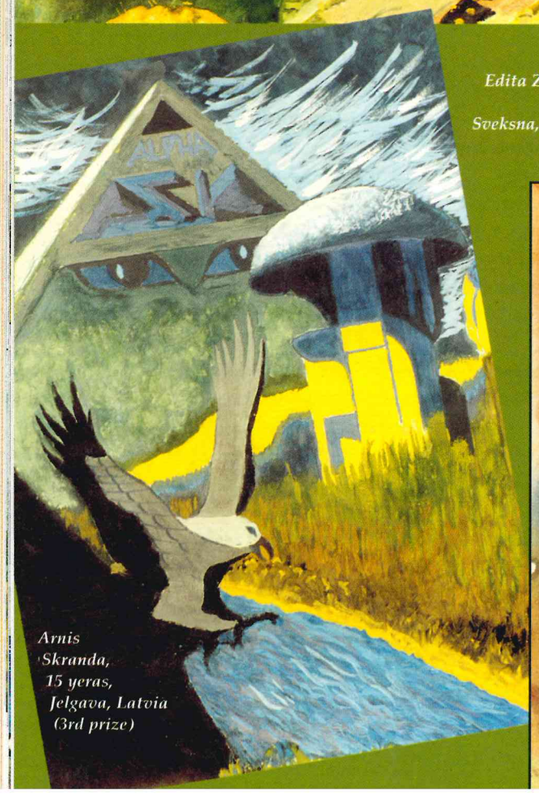
Hanna Rautiala, 16 years, Hamina, Finland (3rd prize)



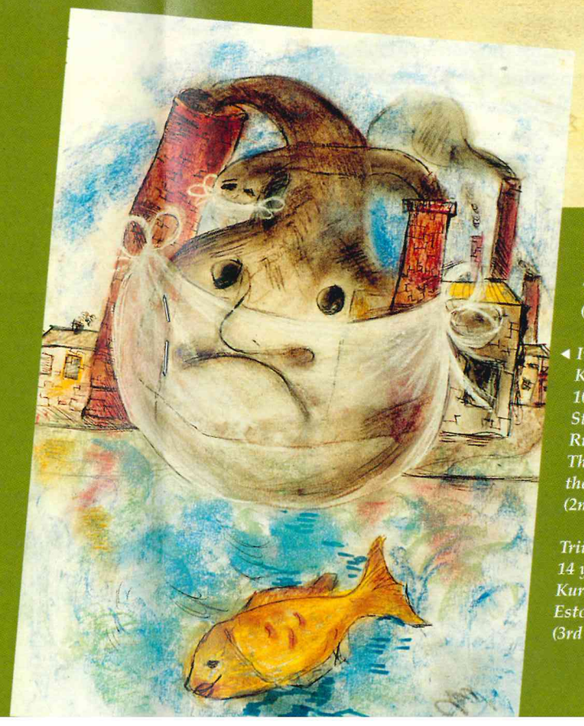


Aidas Bendoraitis, 15 years, Klaipeda, Lithuania (3rd prize)

Edita Zaveckaite, 10th form, Sveksna, Lithuania (3rd prize)



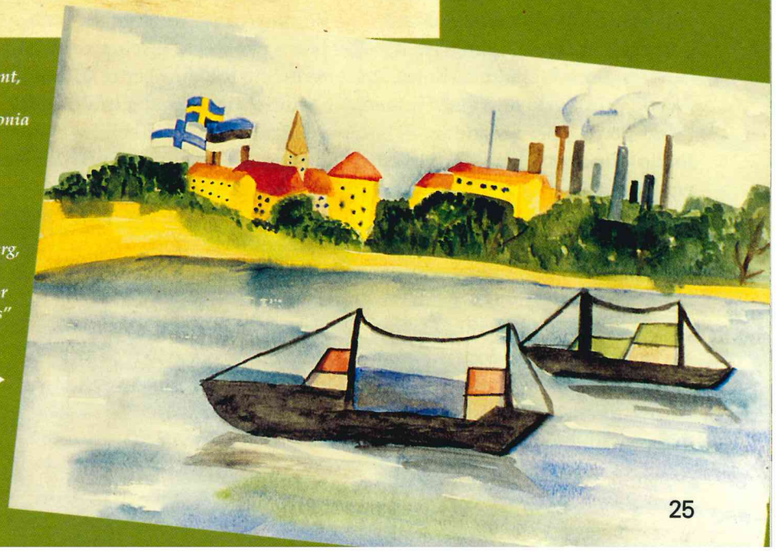
Arnis Skranda, 15 yeras, Jelgava, Latvia (3rd prize)



Kristel Pent, 16 years, Tartu, Estonia (3rd prize)

Ivan Kuznetzov, 10 years, St. Petersburg, Russia: The Mask for the Factories" (2nd prize)

Triin Soom, 14 years, Kuressaare, Estonia (3rd prize)



Johan, Torben and Anne-Louise (front) and Nina and Anne-Mette (half covered) creating "Statue on skis" from empty beer cans they had collected on a small walk. Waste thrown by non-caring citizens into private hedges and gardens.

CHANGING THE ATTITUDE?

▲ *Anne-Mette, Søren and Marie (front) performing in "The Baltic's Revenge" - a drama piece/ environmental theatre at the BSP theme day at Amtsgymnasiet with human sounds, but no words.*

"Since Sweden and the "Being a Green Consumer" workshop we look more for ecological goods!". "Since experiencing how to clean waste water in fish tanks and by growing special plants waste water treatment has another meaning.

We learn more from seeing and doing than from tedious lectures" say students from form 2y at Amtsgymnasiet in Sønderborg. They prepared a follow-up event for a new BSP-class of 25 students, and a Baltic Sea Project Theme day for all first year students in October 1997. The arrangement was made international and had participants from Germany (Robert- Borsch Gesamtschule), Sweden (Eslövskolan) and Finland (Meri-Pori Upper Secondary Environmental School). The event was sponsored by the "the Green Foundation" in the Ministry of Environment.

Inspired by Nyköping-experiences Agenda 21 activities were presented by 2y through role plays, an environmental hike with different tasks, and work was prepared for an environmental theatre performance with help and inspiration from Volker Stiehl, Hildesheim, who also took part in the workshop "Environmental Theatre" in Nyköping. The play was framing a political discussion at the actual theme day on October 28th.

Students presented the video from Nyköping and worked in different workshops in the morning. Each class was asked to define sustainable development, and to undertake one activity at school that they would collectively be responsible of following up upon.

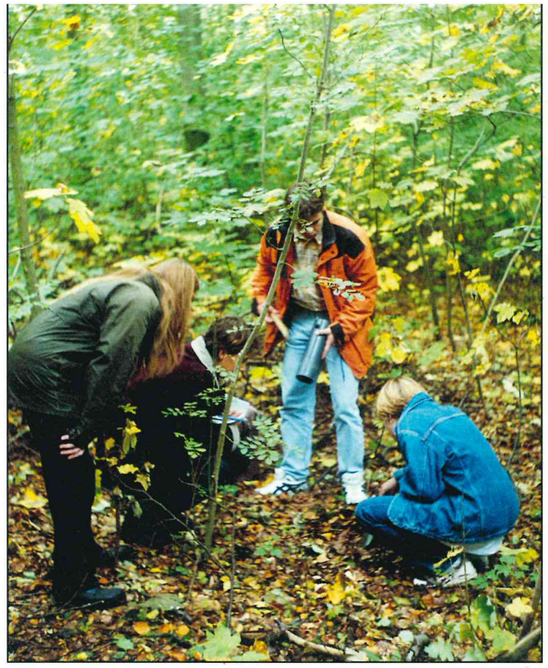
Tasks such as: counting the number of prints from the computer per week, finding ways of reducing the number of disposable materials used in the canteen, investigating in solar cells as a means of getting hot water for the showers, finding ways of reducing the number of photocopies received by teachers etc. were suggested. A political panel took place in the afternoon. Some students had prepared questions during workshops to open the debate, and some even wrote letters to the editor at the local newspaper, pointing out that the Municipality in Sönderborg once was announced "green" but that work had to be done to keep up this image!

After the October event the Green Committee at Amtsgymnasiet was made responsible for making the data for each class investigation publicly known.

However, sometimes perception, attitude and action do not walk hand in hand, and the results are still to be expected...

Kim Maron, Mogens Winther, Birthe Zimmermann
Amtsgymnasiet,
Grundtvigs Alle 86,
DK-6400 Sonderborg

Environmental hike making art out of waste. ▶



Students working in Knudskov, Denmark, October 1997

NETWORKING ON FORESTRY: DENMARK-POLAND-SWEDEN.

Nowodworski Secondary School in Cracow, Österportskolan in Ystad, Sweden and Stenhus Gymnasium & HF in Holbæk, Denmark cooperate on the theme "FOREST", but we work on the topic from different points of view. We concentrate on European forests, their ecology, pollution and growth. As a consequence of our cooperation we have exchanges of students.

During the visits the students are boarded privately in the homes of their "colleagues". In September 1997 students from Nowodworski Secondary School in Cracow visited Österportskolan in Ystad, Sweden and during the visit all the involved students from both schools visited Stenhus Gymnasium & HF in Holbæk, Denmark.

In November 1997 students from Stenhus Gymnasium & HF visited Nowodworski Secondary School in Cracow, and in April 1998 students from Österportskolan will visit Cracow.

The students in Denmark study a small forest called "Knudskov". It is only 38 ha. and it was planted 1919-1920. "Knudskov" is not used for commercial purposes but the forest is the border between an inhabited area and agricultural land.

People in the neighbourhood use the forest for recreational purposes such as taking their dogs out. The forest has stands of beech, oak and spruce and a little ash, and foxes, deer and hares are the largest wild animals. We have studied how well the different species of trees grow in this forest.

Parts of the forest were measured by the municipality in 1980, and in 1997 we measured the same stands again. The content of humus in the soil from the different stands of trees was measured as well as the content of nutrients and the pH.

The Swedish students have also been measuring these parameters and in all three countries we study the plant and animal life in the forests.

If you have access to the Internet you can read more about our results on our homepage presently at:

http://www.unic2.dk/~b013/waag/FRAMEFOR.HTM.

Our e-mail address:
Skovprojekt@fc.skolekom.dk

Agnete Waagstein
Stenhus Gymnasium og HF
Stenhusvej 20
4300 Holbæk
Denmark

CONFERENCE PARTICIPATION =VALUABLE EXPERIENCES!

Members of the environmental club in Sweden with teacher Helgi Muoni (3rd from left) and the Swedish co-ordinator Siv sellin (centre)

From June 11th - 15th six members of the Club Scarabaeus participated in the "Agenda 21 - from Words to Action" conference in Sweden.

We learnt a lot, attended workshops, met new friends as well as old acquaintances. We enjoyed coworking with foreign students, and all got along very well.

Hopefully we shall have the opportunity of attending such conferences in the future - because through all the activities we learnt something that is quite unobtainable if you do not experience it yourself!

Silver Kikerpill, Tartu Environmental Club "Scarabaeus"

"ECO-SCHOOL"

On the 6th and 7th of February the conference "Eco-School" was made in Tartu Kivilinna Grammar School organised by the BSP school and the environmental club, "Scarabaeus". Students from three Estonian schools participated: Tartu Kivilinna Grammar School, Viljandi Carl Robert Jakobson Grammar School and Tallinn Lilleküla Secondary School.

During these two days the students discussed environmental problems in Estonia, they introduced the environmental programmes of their schools respectively, and watched videos of previous conferences and trash politics. A lecturer from the University of Tartu, Mati Arulepp, lectured on the Estonian waste situation, on international trash collecting systems and its history and problems. He also made a report on different types of trash. Most of his report was built up on plastic wrappers and how to differ them.

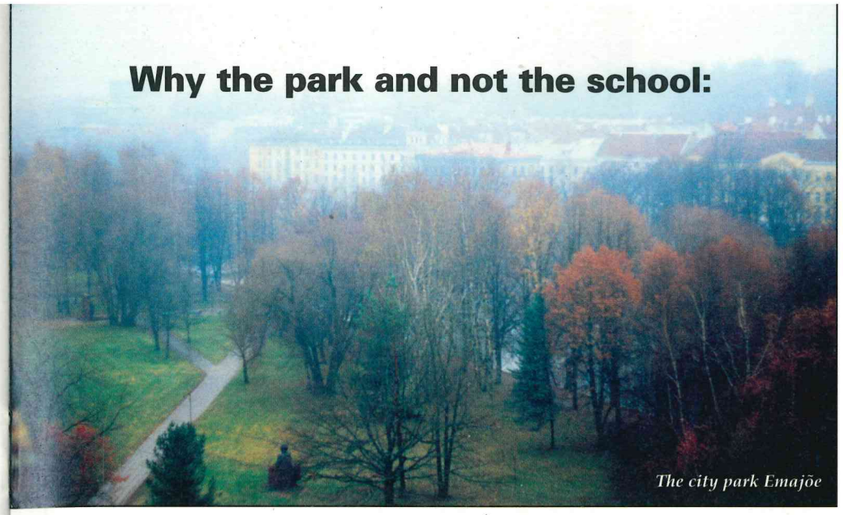
Students had time for relaxation. Several competitions had been organised, roll plays where teams had to be different countries and compete in making money by selling geometrical figures. The trick point was the different starting capital and instruments in the different countries.

There was a night disco, and time went by quickly. Each school had to make a plan of developments to be made for the future: They shared the plan of becoming eco-schools having a school Agenda 21!

Siim Sikkut,
a member of "Scarabaeus"

Eco-School trend game

Why the park and not the school:



The city park Emajõe

Tartu members of the environmental club "Scarabaeus" protest against the Treffner Grammar School being built in the city park Emajõe:

Tartu is a town with a long history, a town built on floats. In the centre it has green areas, small areas that give originality, resting places that make the town cosy and humane. It also has one of the oldest schools in Tartu, Tartu Treffner Grammar School.

The school needs renovating, but due to the expense Tartu Town Council has decided on building a new school instead near the Treffner Statue inside the Emajõe Park. On the left bank of the Emajõgi River lies one of the most beautiful green areas in Tartu.

This verdant area fulfils the fundamentals of city ecology: A river bordered with a green corridor. The opinion of environmental protection is that the riverside recreational park has to be maintained, and that the width of the recreational zone given by law should be respected.

A lot of care and money has been invested in this park during the last 50 years.

Building the school exactly in this beautiful area has been explained with restoring the school in its primary position. Hugo Treffner founded a school here in 1883, and the park carries his name. But already in 1919 the school moved into a new building at Rüütli and Morgan street. This school has given reputation to both the town and to many well known learned citizens.

Minuses of building the school house in the park:

- Transmission lines are placed over the park, and voltage in these will increase
- Heavy traffic on the nearby Narva highway
- The site is situated on the Emajõgi bank's 50 meters protective zone where building is prohibited

Plusses for placing the new school building in the park:

- The site is in the centre of Tartu, with easy access for cars and pedestrians
- Sports fields and rest areas can easily be created

What will happen to the old building? Because of its historical value it should be maintained and renovated! And then the money would not be spent on building a new school , and then townspeople would still have the most impressive park of Tartu intact.

To know people's opinion we questioned approximately 100 people in the centre of Tartu on the following issues:

- Tartu and green areas: 56% thought that Tartu has sufficient green areas
- Building on green areas in gene ral: 85% were against!
- Building the Treffner Grammar School on the park premises: 87% were against!

The question remains how we can retain a philanthropic park, and at the same time create a comfortable school for the pupils at Treffner Grammar School!

Merlin Rehema, member of the environmental club "Scarabaeus"

The centre of Tartu


Students from C.R.Jakobson Gymnasium test the water near lake Viljandi.

Environmental awareness and energy saving

At C. R. Jacobson Gymnasium in Viljandi the following activities have taken place:

Awareness of environmental knowledge among students and their parents
Energy saving examinations at school and at home
Joining the "eco-school" movement making up our own Agenda 21
Routine observations in the world wide GLOBE project (daily weather observations and weekly tests on the water from the Orika stream)

When dealing with energy problems students measured energy consumption at home and at school for one week. Then everyone had to make a plan for saving energy, and with this plan in mind measurements were carried out for another week. The results were put on the notice board under the title, "How I and my family use and save energy".
Production of energy was studied, and school consumption was compared in 1996 and 1997. We found an increase of 64 000 kWh with a usage of 577 600 kWh in 1997 at a cost of 289 000 kroons, an enormous amount of money!
Our main task for this school year and the next is to make an Agenda 21 for our school, and we shall continue the projects on finding possible ways of saving together with the routine observations of the atmosphere.

Hilje Nurmsalu, teacher at C.R.Jakobson Gymnasium, Viljandi, Estonia

Environmental group takes the initiative at Borgaregatans skola in Vasa

Vasa is situated by the river Kvarken between the Botnic Bay and the Botnic Sea. One year ago an environmental club was made with both pupils and staff participants. The aim was to make a local Agenda 21 for the school taking up different tasks in each school year. This year the task has been on waste and how to sort different kinds of waste. We arranged a meeting inviting representatives from different institutions within the Vasa municipality. The environmental group meets once a month.

Frederik Sonck and Markus Norrgård, form åk 9
Borgaregatans skola,
Borgaregatan 13-15
FIN 65 230 Vasa, Finland
Tel: +358-6-3253 385
Fax: +358-6-3253 375

Meri-Pori Environmental Upper Secondary School prepared beautiful and informative posters for the Nyköping conference (1997) with the texts in English. The efforts show off: the posters were exhibited in Denmark in October 1997, and will be exhibited in Aarhus, Denmark during the "Environment for Europe" conference in June 1998.

Zeichnung: DS/Waldemar Mandzel
Dt. Allgemeines Sonntagsblatt, 27.11.1988

"DINOSAUR-PROSPERITY, AND THE RAIN FOREST"

Gymnasium im Schulzentrum Am Ahrensburg has worked with sustainable development in geography: "Dinosaur-Prosperity, and the Rain Forest" and made posters and a film:

The possible relationship between the tropical rain forest and man's prosperity was the topic in geography in a theme called "Problems of Developing Countries and Third World Policy".

Weizäcker in his book "Politics of the earth" calls for the creation of a new model of prosperity to be striven for equally by all countries.

Our model of prosperity ruins the world, and it cannot be spread to the whole planet: Resources are simply not sufficient. If we don't change we shall provoke fights for the distribution of resources. We must avoid trying to make others happy with our "Dinosaur-prosperity".

During classes we tried to develop a different model of prosperity. We came across the term "sustainable development" and understood that we had to look for an answer to our question in the proceedings of the Rio Conference 1992. It became evident how much the developing countries are influenced by our behaviour.

An excellent example is the tropical rain forest. In 1995 our environmental club made posters and a film for a nation wide competition by Oro Verde, a foundation to save the rain forest. The film shows a sketch which is to denounce unscrupulous behaviour of consumption: After a trip to Brazil exotic gifts from illegal trade with animals and plants are admired at a family reunion. This is contrasted by a background TV-programme, "Is the Rain Forest Dying?"

The exhibition deals with the following subjects : Treasures of nature / Green lungs of the Earth influencing our climate/ Threats to the rain forest/ Is the rain forest dying?/ The Brazil nut, and ways to save the rain forest/ UNESCO and Oro Verde. The exhibition invites the spectator to improve his knowledge on the rain forest by asking questions, giving the answers behind small doors:

On one board the question is asked: "At the current speed, how long will it take to deforest an area equivalent to the area of Ahrensburg (3529 km2) Answer:
9 minutes and 20 seconds!

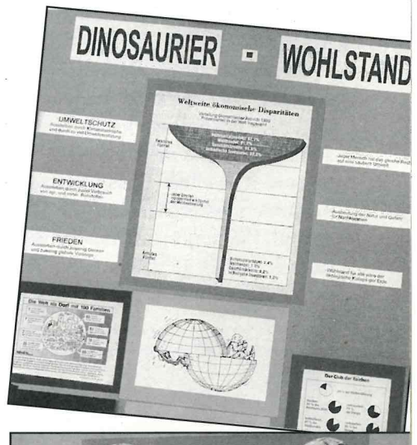
Posters were made treating Rio 1992, tropical forest and timber, Dinosaur - prosperity, Grande Carajas in Brazil, Transmigrasi in Indonesia, and GEPA. Reading the Rio Declaration we realised that peace, development and protection of the environment is necessary for the future.

Many chapters of the Agenda 21 help finding ways in which the world has to change to make the aims of Rio come true. It is important to understand that we must find solutions for the world-wide problems on a local basis according to the demand, "Think globally - Act locally". Municipalities are asked to present a local Agenda. Agenda 21 can be integrated into the curricula.

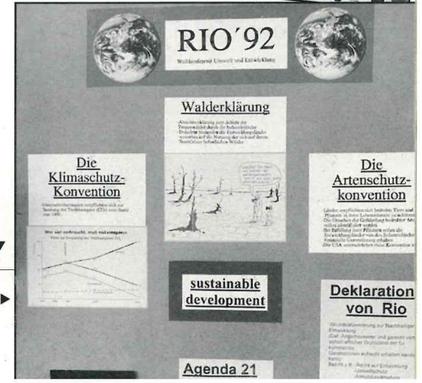
The message of the exhibition is encouraging the hope that with a new motto new models for survival can be developed.

Reference: E.U. von Weizäcker, *"Politics of the Earth"*
Wupperthal Institute for Climate, Environment and Energy

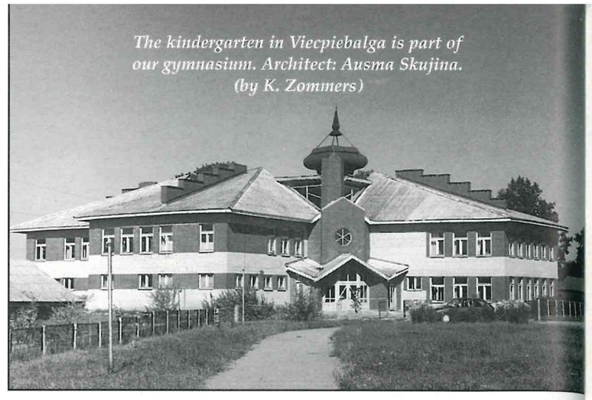
Daniel Soppa (Student), Dr Ulrike Graeber and Barbara Maitin (teachers)
Schulzentrum Am Heimgarten,
Reesenbüttler Redder 4-10,
D-22926 Ahrensburg



Dinosaur-prosperity: Rich to-day, gone tomorrœu..



Poster showing the Agenda 21 declaration in Rio



The kindergarten in Viecpiebalga is part of our gymnasium. Architect: Ausma Skujina. (by K. Zommers)

Talsi Grammar School

In Nyköping we participated in the workshop "Our Daily water". Due to financial reasons we cannot replace water closets in school or in our homes with urine separating toilets, and furthermore, they cannot be purchased in Latvia!

But we have changed our attitude to water: We turn off the tap while brushing our teeth - which we did not do beforehand.

We take quick showers rather than a bath which we preferred previously, and we think that also our families have changed their attitudes, and try to save more water.

At school actions were taken to make seminars in our district. "Save the Baltic Sea" is one example where students went to the sea to investigate it and clean up beaches.

One group worked with waste, collected litter in town and made it into a monster. Another group estimated the quality of the water in Lake Talsi. They found out facts about the flora and fauna. Some pupils made questionnaires about people's attitude towards preservatives in food.

We informed about the conference in Sweden, and the participants worked out a local Agenda 21. We decided to organise a Baltic Sea Week in April at school with focus upon water and water problems, and pupils of different forms will be asked to write poems and essays about water.

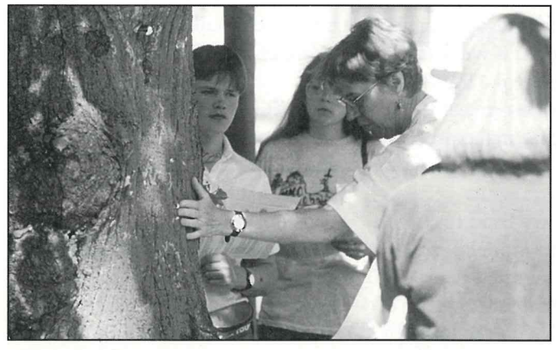
We also want to include discussions with local politicians and participants from the seminar - like in Nyköping.

Sanita Dinsberga and Agnita Avotina,
Talsi Grammar School, Latvia

"Hello, pupils all around the Baltic Sea who went to Nyköping in June 1997"

Two students, Agnese Balode (11th form) and Oskars Spilva (12th form) from Vecpiebalga want to thank you all because they enjoyed meeting young people thinking in the same way as they:

Agnese writes," We live in the country. Our school is really GREEN: There are a lot of trees, some old, some new, planted around it as every class plant trees or flowers before leaving the school. We don't use disposable dishes, pupils go to school on foot or by public buses.



Oskars Spilva, Agnese Balode and Birgitta Berggren studying estimating the air quality by lichen bio-indicators in the park in Nyköping, Sweden, June1997.

The main activities of the year were:

- The gathering of pine needles for air quality analyses - we sent them to Meri-Pori, Finland.
- Exploring Air Quality by the Swedish lichen test.
- Coast watch - testing pollution of small rivers and lakes in our region.
- Waste in our surroundings

Another project and a very time consuming one was to get to know the real situation in land use now when farming has changed from collective farms into private property. More than thirty students are involved in this project as 170 farmers are questioned. We learnt that agriculture is now more environmentally friendly as the farmer is too poor to buy chemicals. But many people are unemployed, and part of the fields overgrow with weeds and bushes. The results will be used by university scientists in Leipzig, Germany and in Latvia.

One week in February 1998 was "Project Week" for all Latvian schools. Every pupil made a choice of his/her own - a nature path was made, guides in English, German and Russian were prepared; health was investigated: Height and weight of all pupils and teachers were measured and compared to ideal measures, and healthy life styles and food were discussed. We seemed healthy, though! ▶

▶▶ In Nyköping I could not speak English well. I am studying English only for the second year, and I study hard to improve my English. It is my third foreign language after German and Russian."

Oskars says:" It was very nice to see my group mates from Nyköping bicycling in the streets of the town! Nyköping was my first trip abroad. I liked all the activities, especially the Viking boat race and the Medieval dinner.

People were very responsive and kind when being interviewed, and I have learnt how to work in a bigger group. I think that I am looking upon the world a little different, and I try to do less harm to the environment around me. I live 8 km from school, and I go by bus. In spring and summer when the roads are better, I try to ride my bike.

After Nyköping I have studied the small river Balga, which has given name to our region. I have studied the pollution twice a year. However, this is my last year. I try harder on languages - Swedish, English, German and Russian!

Agnese Balode, Oskars Spilva,
Vecpiebalga Regional Country Gymnasium,
Césu rajons, LV 4122, Latvia

Maths in environmental education: Dust in our school...

Very often when teachers speak of environmental education they think only of nature, outdoor classes, forests, grass, animals. But indoor environment is important, too. Children should be taught about indoor climate - air, dust, sounds, the colours of the walls, clothes, and about green plants in school.

The children in our school carry no extra shoes for changing when being in- or outdoors. We are inside in the same shoes that we walk in outside. So it is very important to sweep the floor, and to wash it very carefully, even though pupils not always do this well. In form 7 we decided to make an experiment: Kaspars and Yanis swept the floor in the classroom. We put the dust into a plastic bag, and measured the weight: 102 grams!

Then with the help of the maths teacher, Mrs Kise, the pupils started calculating:

- With 25 people in the classroom and 102 grams of dust:
  How much dust does one person bring into the classroom every day?
  There are 880 students and 54 teachers at the school, a total of 934.
  How many grams of dust is carried into the school every day?
- With five school days per week - how much dust per week. And with 34 weeks -
  How much per year??

The results made the pupils have a discussion about what would happen if they did not sweep the floor:
Where would the dust pile up?
What would happen when moist dust dried up?
In what way does dust influence our health?
Why must we keep our class-rooms and homes clean?

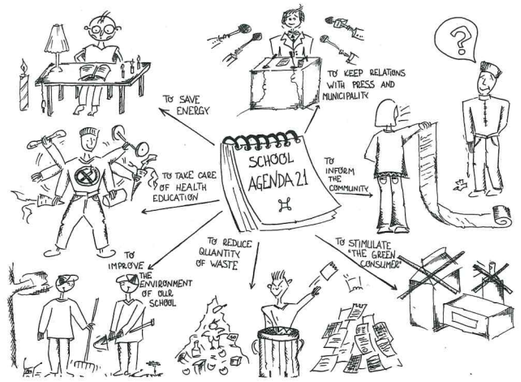
After discussions the pupils prepared a big wall paper and published the results which caused much interest among both pupils and teachers.

Lydia Izotova,
Riga Secondary School No. 58

Kaspars and Yanis sweeping the floor in the project "Dust in Our School"

Creation of a School Agenda 21

Creation of the School Agenda 21 at Kaunas Vyduno Secondary School, Lithuania



Inspired by the Nyköping conference enthusiastic students and teachers created a school Agenda 21 to solve local environmental problems. We foresaw the main trends of activities as:

- Integrating Agenda 21 into various subjects
- Evaluating environmental audit
- Stimulating the Green Consumer
- Taking care of health education
- Reducing the quantities of waste
- Saving energy

We selected persons responsible for each activity. It was complicated to integrate Agenda 21 into the programmes in various subjects due to the fact that positive teachers feel a lack of environmental knowledge. So we decided to organise a seminar "Environmental Education at School". Each teacher decided to dedicate one lesson to Agenda 21.

The students elaborated questionnaires on ecological aspects of our environment. The results helped us solving the most urgent problems at school.

The school club of science deals with health education - this year with special attention paid to the pupils of lower forms. Through plays and pictures the consequences of bad habits are explained.

We continue the action started last year, "If you economise paper you keep forest!" We collected 2800 kg of waste paper, sold it, and bought a plastic X-mas tree. So we celebrated X-mas by a tree we had earned the money for ourselves. In the future we are going to buy lamps which save energy.

We have been looking for ways to economise energy at school. The ideas are simple: Switch off the light when leaving the class, caulk windows during the cold season etc. In the future we shall co-operate with Lithuanian Green Movement upon this issue.

Our students pick information on environment friendly products. They will present the information to the habitants of our district during "Ecology Day of the Community" and ideas of being a green consumer.

We presented this project to the local administration and hope to obtain financial support.

Our students learn to act. Agenda 21 is a process of creating in which students and teachers communicate with each other.

Virginia Dmukauskiene,
Kaunas Vydone Secondary School

Pupils making up their school Agenda 21 in Kaunas Vyduno Sec. school,

The motto "From Words to Action" continues in our school and led to networking Lithuania- Sweden

The Nyköping conference was great in that we met people with the same attitude towards environment. An agreement has been made between the municipalities of Färgelanda, Sweden and Sveksna, Lithuania enabling the ecology club "Sveksnale" and EKO-Centrum in Färgelanda to emphasise on ecological work. We have also focused upon the democratic aspects of exchanges.

Our main goals are:

To measure the quality of water (rivers) using different methods, and comparing the results. In Sveksna we studied the rivulet of Sveksnale from its spring to where it runs into the river Asva. In Färgelanda the rivulets of Valboån ansd Lillån were studied. They are part of the river Örekilsälven draining into the fjord of Gullmaren.

The environmental aspect:

Sveksna was responsible for the biological part while Färgelanda was responsible for the chemical part. All students have made both analyses in both countries.

The democratic aspect:

The results have to be part of a greater whole including a social dimension. The project makes it easier for the Lithuanians and Swedes to communicate in the spirit of the twinning agreement. Students have to understand the importance of what they are a part of.

Livija: " A few years ago we did not know anything about ecology. When ecology club "Sveksnale" was founded we could find solutions for nature. We must know what people do in other countries, and how they work to protect nature!"

Egle:" The ecological club members decided to clean the environment, and now people of Sveksna have got a new view upon ecological problems. Many people have changed their opinions.

Laimonas:"More people are interested in ecological problem solving. Our Sveksna is changing due to our work!

Danguole Sauliene
Eco-club "Sveksnale"
Sveksna, Lithuania

Mild tells about biological methods to project members from Sweden

"ECOLOGY AND TOURISM"

The participants in the Nyköping conference from Szkola Podstawowa no. 3 in Ustka were pupils of 8th form, which is the last one in our school system. The programme "Ecology and Tourism" fulfilled last year is being continued in a 3rd form (10-year-olds) in our school, mainly through practical classes outside the school building.

The issues of Agenda 21 are gradually introduced to the children involved. The pupils took part in their first international action "European Coast Observer" in September 1997. During numerous hikes in the nearest surroundings they learn how to recognise various plant and animal species, and they look for trees which could be added to the list of nature monuments.

During one of our hikes the pupils found a dead seal - rarely found in local surroundings. This enabled a more serious approach to the problem of species protection. We have got in touch with the Research Station on the Hel Pensinsula and soon we plan to participate in ecological education classes organised there.

In Nyköping we had the possibility to see a really inspiring theatre performance, and we have decided to develop our activity in this direction as well. Pupils write their own screen plays based upon fairy tales they know. In their stories the characters do care about natural environment. We are going to present a medley of stories during one of our school meetings or in a local kindergarten.

We have also made a little step towards school waste management: We asked the local authorities for help in building a small school compost heap and the answer was "Yes", so in the future we will not have to throw raked dead leaves into dustbins.

Participation in the Nyköping conference and the ecological workshops was not only a great opportunity to exchange experience, get new ideas, learn new methods within ecology, but it also made our pupils improve their English by making friends with peers from other countries.

Our pupils in the "Ecology and Tourism" programme learn English as well. At present we are trying to get in touch with schools from other European countries in order to exchange letters and experiences connected with our ecological activity.

So write us a letter if you agree on the idea of exchanging information through letters!

Teresa Kaminska,
Teacher at
Szkola Podstawowa
No. 3
PL- 76-270
USTKA
ul. Wroblewskiego 7
Poland

▲ *Agata Michalska, Kasia Kowalczuk, Natalia Papric and laura Wisniewska from form 3 learn not only not to throw rubbish, but to collect waste left behind by so-called pseudo-turists.*

◀ *"Ecology and Tourism" classes in the fields are a great opportunity to learn how to identify various plant species.*

The Nyköping - effect in Katowice:

Six students and two teachers, Jolanta Mol and Krystyna Pytlik, from our school participated in the ecological conference "From words to action" in Nyköping in Sweden, June 1997.

We came back to Poland very impressed by the vast variety of subjects presented at the workshops, most of them inspired us to undertake new task and actions, locally.

We gave a detailed report from our stay in Sweden to our principal, Maria Szweda, who listened to us with delight.

All the students from our school were shown a film presenting workshops and evening entertainment made by Mariusz Pyka, Martin Kawalski and Alice Mol. We shared our experiences and impressions with listeners of "Katowice" and "TOP" radio stations.

With the beginning of 1998 year we commenced intensive work.

Martyna Markowska i Jakub Wolak found a sponsor, who purchased trash bins for separation of bottles, aluminium and paper waste.

Marcin Topolski organised a competition the main aim of which was to construct towers made of alu-cans - of course the highest tower won.After the competition all the cans were sold to a recycle plant.

Thanks to this brilliant idea of Marcin's all students now know about the recycle plant and, what is more important our local Park and a nearby reservoir were cleaned.

In order to improve and update our knowledge about the current situation of our environment, Mariusz Pyka organised a meeting with Wojchiech Stawiany in the Centre of Environmental Control and Survey where we were told about problems with silesian mines, power, metallurgical and cooking plants. During the meeting we watched the film concerning everyday work of scientist at CECS.

Students from our school took part in the "Clean up the world" action, we cleaned the Ochojec reservoir from wastes such as plastic cups, bottles, cans, papers, old rusted buckets, even broken TV kinescopes !

As our primary aim is ecological education we were pleased to participate in bio-mathematical workshops prepared by Jolanta Mol and Anastazja Nêdzi.

For 3 days in Wisa - Malinka, a village in the Beskid Mountains, 60 students worked on the following subject:

- Transport vs. Protection of air and landscape
- Energy for the future
- Ecological Village in Beskid Mountains
- Hot to limit waste production ?
- Mountain Tourism and winter sports vs. devastation of environment
- Healthy lifestyle
- Journalists Group - they task was to write the report
- Art Group - they prepared the show :
  " Living in harmony with environment and conscience"
- Last 2 groups worked on tasks: history of calendar and math problems

Six students formed each group. ▶

Magda Mironzuk, Monika Kubica, Ania Janik, Alicja Mol, Anita Nowak and Oha Biolik from II Konopnicke High School at a meeting with the Polish - Swedish Society reporting our cooperation with Swedish schools. ▶

◀ *Monika Cabaja and Mariusz Pyke take samples of pine needles in Murckowski forest for the Pine-needle project with Meri-Pori Environmental school in Finland.*

▶▶ On one of our excursions a forester explained us the effects of replacing the fir forest with spruce, leading to the problem of acidifying the soil and waters of the Czarna - Wiselka river. This has led to total extinction of the populations of trout and otter.

We were introduced to modern methods of protecting young trees against noxious insects - special traps for insects to prevent the larvae destroying spruces.

Our workshops were finished by the ''mini scientific session'', each group presented its achievements and conclusions in form of reports and posters.
Thanks to the ''Demeter Ecological Club'' and Jolanta Mol's intensive work many students have changed their habits so that now they:

- do not have the water running while brushing their teeth
- separate waste
- bring bottles to shops (then sent to recycling)
- collect aluminium cans and batteries for later recycling
- switch off the light in not occupied rooms
- buy washing agents and soap without detergents
- do not use aerosol body sprays
- get to school by tram, bus or train not car
- educate their parents
- try to buy goods that are not harmful to the environment
- members of ''Demeter Club'' take part in air investigations for the presence of oxides of sulphur and nitrogen (in co-opera tion with Meri-Pori School - Finland)
- participate in the GLOBE program

We do believe that international conferences such as the one in Nykoping, have significant influence on improvement of ecological knowledge and consciousness.

We would like to thank Agenda 21, Nykoping High School, local BSP coordinator Mr. Krzysztof Kafel and Mrs. Siv Selin for inviting us to Sweden for such a remarkable Conference.

Students: Alice Mol,
Martin Kawalski
Teacher: Jolanta Mol
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Katowice, Poland
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What has happened in Nyköping, host town of "From Words to Action":

The conference was a great inspiration for us and quite a lot has happened in Nyköping since you all left. We have carried on with the Eco-race competition that started during the conference.

During the autumn of 97 we made a second investigation in all major grocery shops in Nyköping to see which one had most eco-labelled and locally produced food. This time another shop won. Our cooperation with the municipality has become more intense. As chairman Göran Forsberg promised during the conference an "Environment Day" was held in September. Eight students from our school and students from other schools participated. A lecture was held, and the Municipality presented different environmental projects that take place in Nyköping. The students got the opportunity to discuss with people from the Municipality.

As an immediate effect of the "Environment Day" four representatives from the Municipality visited Gripenskolan and discussed with some students how the cooperation between the school and the Municipality can be improved.

In the future we hope that people from the Municipality can come more often to the school to talk about local environmental problems.

The school has an "Environmental Group" which has a lot of ideas. Apart from the eco-race it takes care of the recycling of waste paper in school. Furthermore the group competed in an environment competition called "Miljöjakten". Teams from all parts of Sweden participated and points were gained by answering tough questions about environment. The conference has made a lot of people in Nyköping interested in environmental problems!

Samuel Hylander and
Johan Engström, Gripenskolan,
Nyköping

Folded and unfolded non-disposable cup
The non-disposable conference cup can be bought at:

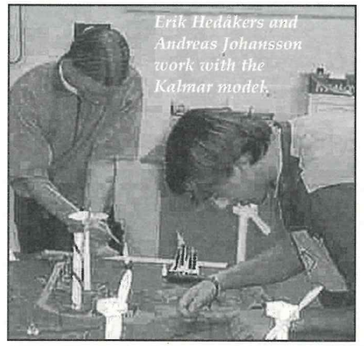
RENAJS
att. Jørgen Samuelson
Getängsvägen 4
S-50263 Borås
Sweden

Activities at Jenny Nyströmsskolan, Kalmar, Sweden.

Since the conference "From Words to action" in Nyköping a few things have happened at our school. We have two groups specialising in environmental studies.

One group has been to the biggest shopping centre of Kalmar serving home made bread and bean salad. They also distributed leaflets about local food production, written by themselves, and a small book about how they wanted life to be 50 years from now. It was a very nice short story about a lady called Bettan. The pupils called the local newspaper and the day after they could read about the whole thing in the paper.

The other group decided to concentrate on the effects of burning. They found out that most environmental problems are related to burning of oil, coal or wood. Having seen this they started to look for alternatives and together they made a model of Kalmar where almost all burning was gone. This model is now shown in the school library, and will soon appear on Internet on the school home page.
Address:
www.jenny.gy-edu.kalmar.se.



Erik Hedåkers and Andreas Johansson work with the Kalmar model.

They have also asked for permission to demonstrate for non polluting cars and permission to, during the demonstration, spread as much benzene as an ordinary car does. This is their way of finding out how the environmental laws work. The demonstration will take place on the 9th of May in Kalmar.

One of the local papers happened to see our application for the demonstration, and came to our school to interview us, and the result was a very positive article about our environmental education.

Many of these pupils are now studying Environmental Chemistry and are engaged in various projects. One group will analyse the heavy metals from traffic (We have been working with this for almost ten years now, and we have found that our cars spread all the metals they are made of e. g . copper, cadmium, zinc and chromium.) Another group will look deeper into trains and environmental problems.

For two months we have taken care of all vegetable waste from our kitchens. We have five warm composts, which our pupils have put together.

The soil is used in our school yard. Every day you can choose between three dishes and one of them is always a vegetarian one. Vegetarian food as a rule is more environmentally friendly. All food is cooked at school.

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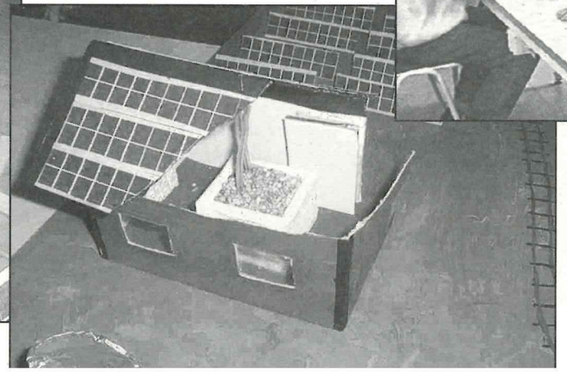
Lichen are back in the city!

Thomas Johansson, Andreas Bergman, and Andreas Johannsson analysing soil samples.

Detail showing how to store energy from summer to winter



The Blue Danube River Project, BDRP

First, and probably most important, is that the Project is fulfilling its original purpose of being a pilot international project. Its ideas have spread - through SEMEP, I*EARN,Life-Link, civic education projects of the Open Society clubs in Bulgaria, programmes of teacher training of the Council of Europe. At present we have a busy electronic exchange on the topic of a "My River" competition we announced via E-mail and the countries that have subscribed to participate apart from the Danube partners are Russia, Israel, USA, UK, Lithuania. We have started receiving contributions with young peoples creative work. We have also placed a home page of our international activities and hope that many more will benefit from the huge collection of material accumulated. In June we plan an on-line debate "What rights for the river?" with schools connected to the cyber highway but also via fax and snail-mail for those lacking the facilities.

Second, Romania is organising the next international seminar in September, 1998 in Galatz, the Danube Delta, which will presumably mark the transition to cultural aspects and students' creative work.

Third, Germany is organising the next international event with a summer camp devoted to artistic activities in Passau, July 1999, which will, hopefully mark the shifting of coordination, too.

Last, but not least, I am working on the illustrations of the River empathy book, and if there is no funding yet, I would like to discuss it with the other editors to put on a web site for people to use. At least in this way contributors will be satisfied. If, luckily, UNESCO manage to find some financial backing, it can materialise in a printout. I have already given a probable budget we will need if we want a book of about 200 pages, 5000 copies and 20 colour illustrations - a lump sum of 20, 000 dollars.

Yordanka Nenova,
General co-ordinator of the Blue Danube Project

The Caribbean Sea Project, CSP:

The first CSP Environmental Education Workshop for Teachers and Students will take place from 20-26 July, 1998 in Tobago. The workshop is in observance of the International Year of the Ocean. One teacher and one student from 17 Caribbean territories will be invited. The workshop will be hosted by the Trinidad and Tobago National Commission for UNESCO. Content areas to be addressed at the workshop are:

1.The resources of the Caribbean Sea (focus on their physical and biological characteristics)
2. The economic value of the resources of the Caribbean Sea (for export, tourism, mining, etc.)
3. Use and abuse of the Caribbean Sea (focus on the impact of man's relationship with the sea)
4. Creative influence of the sea: stories, songs, folk tales, myths, tales of experiences of fisher men.
5. Research and regulatory concerns.
6. Transport of drugs and toxic waste taking a historical perspective.

Anticipated outcomes:

We expect the workshop to result in a cadre of teachers and students who would have received some training that would empower them to play a leadership role in the development of the CSP within their respective territories. The workshop will also result in the production of learning materials that would be subsequently disseminated to CSP schools. Inter-cultural learning and sharing will also be an important workshop output.

The 4th Regional Meeting of the CSP will be hosted by the National Commission for UNESCO of St. Vincent and the Grenadines. The authorities in St. Vincent have not yet finalised the dates of the meeting.

Sandra Gift,
general co-ordinator of the CSP

The Western Mediterranean Sea Project-PMO:

- The Basic Document of PMO has been edited and sent out to every associated school in the countries that are involved in PMO: France, Italy, Malta, Morocco, Spain and Tunisia,
- 24 schools are participating in PMO in the school year 1997-98.
- The first PMO Newsletter will be edited in May 1998, and the First Regional Meeting of PMO National Co-ordinators will take place in Alicante, Spain, next May.
- The First International Camp of PMO will take place from 20-26 July, 1998 in Crevillente (Spain). It will be hosted by the CAJA DE AHORROS DEL MEDITERRÁNEO (saving bank in Spain).
- This year, a series of educatio nal papers will be edited from Regional Co-ordination, hosted by CAJA DE AHORROS DEL MEDITERRANEO.

These papers will be sent out to schools and will help teachers and students of PMO schools to achieve pedagogical objectives in their daily work. The title of the first issue in this series is: "The problem-solving methodology".

Alfredo Benlloch
PMO General Co-ordinator

SEMEP

Drawing: Popov Mirela, class VII a, Jurilovka School, Romania: Life in the Ocean

2nd SEMEP Summer School
8-15 July will be held in Thessaloniki in Greece, followed by an NC meeting. Environmental aspects with cultural, human rights and exchange as the main themes.

The next issue of the SEMEP newsletter is in production. Content: a range of student articles and concerns for the environment.

Jack Holbrook,
UNESCO consultant

UNESCO Flagship Projects:
http://unesco.uneb.edu/unesco/educprog/asp/b_asp_e/part5.htm.

Diamandi Dorin-Serban
Romania /SEMEP

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 December 1997-June 1998:

In December 1997 and January 1998 teachers and students gave their opinions and suggestions for solutions, to **Baltic 21**. Prime ministers and ministers of environment in the nine countries surrounding the Baltic sea invited BSP schools to **public participation** in the dialogue made through the Internet address http://www.ee/baltic21

In Neustrelitz, Germany, BSP teachers met on December 11-12th to organise a BSP national summer camp with innovative ideas on **biodiversity and "Eco-sophy".** The summer camp will be held in September 1998 at Timmendorfer Strand, Germany. Some Danish students have been invited.

Learners' Guide no 2 "Working for better Air Quality in the Baltic Region" has been finalised by the editorial group directed by Siv Sellin, Sweden. All communication in the final phase took place swrough mail, e-mail, telephone and fax. The book has been distributed to all BSP schools.

An international course for teachers on "Air Quality" took place on April 25th - 27th ,organised by the programme coordinator, Sweden's national coordinator, and the general coordinator. Forty-eight teachers from Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, Russia and Sweden participated.

A conference report on "From Words to Action" and on the parallel 9th International Consultation Meeting in Nyköping, Sweden, June 11-15th 1997, has been published and forwarded to all participating schools and national coordinators. A video made during the conference entitled "From Words to Action" has likewise been distributed.

Learners Guide no 3 entitled "Agenda 21" has been finalised by the former general co-ordinator.

The 10th International Consultation Meeting took place in Sönderborg, Denmark April 16-20th. The following decisions were taken:

- The meeting adopted the following **common BSP-programmes:** Water Quality, Air Quality, Rivers, BSP-Coastwatch, Phenological studies, Bird Ecology. Environmental history was accepted as a networking **theme** between BSP-schools for further elaboration.
- The meeting supported the idea of arranging further **international teacher training courses** on the common BSP programmes in different participation countries. Denmark has applied the UNESCO Participation Programme 1998-1999 for financial support.
- The meeting supported the idea of arranging an **international conference for students and teachers in the year 2000 in Sønderborg, Denmark** with focus on the seven sectors presented in **Baltic 21.**

The preparations will be based on the sector plans in which each nation is responsible for one or two sectors. Workshops will deal with the seven sectors Agriculture, Energy, Fisheries, Forestry, Industry, Tourism, Transport.

- The meeting supported the idea of **public participation** in **Environment for Europe** in Århus, Denmark in June 1998.

Internet homepages and **a fourth edition of the School Catalogue** are in progress.

Denmark

The annual BSP meeting was held in the Ministry of Education on March 20th 1998. BSP schools in Denmark now count six upper secondary schools, six primary schools, and four environmental or nature schools and the number still increases. One main obstacle for primary schools to active participation is the need for environment and international cooperation to be taken into the main objectives for the school in order to allow teachers to participate in meetings, seminars and courses. In the years 1997-1999 the Ministry of Education has established exchange programmes with schools in Estonia, Latvia and Lithuania. Some of the schools are BSP schools. Danish partners are still to be found for some of the Baltic classes.

Participation in at least one of the common programmes is required. Among the most popular programmes are Water Quality, Phenological studies and Bird ecology, but all of the programmes are carried out and Learners Guide no. 2 has led to an increased interest in Air Quality. Knud Johnsen, programme coordinator of Water Quality, has published and distributed a computer programme WaQua, recently sent to schools participating in the programme. To mark the International Year of the Ocean, a teacher's training course on Water Quality has been prepared by active BSP teachers. Other teachers have formed a group preparing and collecting material and ideas for teacher training courses to come. A multimedia teaching material has been prepared by Rungsted Gymnasium on local history.

A students' conference will be hosted in Denmark in the year 2000. Three municipalities have asked to host the conference due to active work from devoted BSP teachers. Innovative ideas on Baltic identification, Baltic music and literature, and environmental poetry and drama were suggested along with Baltic 21 as the basic theme. The conference will be hosted by the Municipality in Sønderborg on June 20-24th in the year 2000.

Follow-up activities upon Agenda 21 have taken place in some schools, and special Agenda 21 monthly tasks for primary schools are offered through the new Internet address:

http://www.bsp-dk.dk Most schools network with BSP schools on themes such as forestry, water and rivers, environmental history, and environmental drama.

Danish participation in "ECO-FORUM, Aarhus 98" along with "Environment for Europe" June 20-25th will include Water Quality materials (book, video and computer programme) and posters with English texts. Financial support for national BSP activities has been guaranteed from the Ministry of education till the year 2000. After this year the schools have to look for money elsewhere.

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Estonia

After the conference in Nyköping a living discussion about sustainable development has started, and some schools have started their own Agenda. Lots of activities have been organised such as meetings, seminars ("Water problems and the environmental Action Plan in Estonia"), surveys, exhibitions ("Nature in Town" and "Our Green City" in Tartu, "Clean Baltic" in Kannuka school), the cleaning of the sea coast (making a viedotape "Sea coast and the protection of it", and Project "Estonian rivers"),and the planting of trees. Regular seminars for BSP teachers are organised twice a year by the Hobby Centre TELO/Nature House. A BSP camp for students is planned in the spring of 1998.

Estonian BSP schools are active in many of the common BSP programmes (Coast watch:12 schools; Phenological studies: 7 schools; Air quality: 1 school, and Bird Ecology: 5 schools) and some of the activities are combined with other projects (SPARE, Air Pollution Project Europe, Link-Life Friendship-schools programme and "Cooperation for Peace"). A group of teachers from Estonia, Latvia and Lithuania were kindly hosted by Sörlidenskolan in Örnsköldsvik (Sweden) in October 1997 to work on bio-indicators together with Nolaskolan, Örnsköldsvik. Three BSP schools (Tartu Kivilinna High School, C.R.Jacobsons Gymnasium and Lilleküla Secondary School) have joined an eco-school project.

It is nice to see that primary level pupils (Loo Secondary School) and students speaking the Russian language (Kannuka School) are involved in very active environmental activities. Viljandi C.R. Jacobsons Gymnasium and Tartu Nature house started their own Agenda, and two seminars have been organised on sustainable development in Tartu schools. The students and teachers of Viljandi pay attention to the energy problem.

The guiding idea is sustainability. The students have introduced their experience in a school newspaper and on posters. Lilleküla Secondary School aimed at introducing Aenda 21 at community level introducing sustainable lifestyle to every student's home to stream towards an eco-school. Actions for the waste problem have been taken by "Scarabaeus" and Järve Secondary School.

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Germany

The national BSP teachers' meeting took place in Neustrelitz (Mecklenburg-Vorpommern) on December 11th and 12th, 1997.

14 teachers from 10 German BSP schools exchanged experience, introduced their subjects, planned new partnerships for their projects.

Birthe Zimmermann took part as a guest and gave important information about international proceedings. Our main aim was the planning of the 2nd summer camp in September 1998 with the topic: "Experience Nature - Keep Diversity".

One hundred students from German schools and 17 students from Amtsgymnasiet i Sønderborg (DK) will participate in different workshops for one week. Financial means are limited, and therefore the workshops will again be conducted by BSP teachers.

To cover all the costs sponsors are being looked for and begged for money. At the moment the following offers are being planned: Water Quality; Video documentation; Save Energy; Bird Migration and the Protection of Cranes; Internet; and perhaps a workshop in the Sea Life Centre in Timmendorfer Strand and the "highlight" Ecosophie.

Hans Rotter and Volker Stiehl are planning a performance with the title "Man's Song and Earth Sound" based on a story about the sinking of the island Veneta.

They will make instruments and sculptures to catch the wind. We are looking forward to this great idea!The organisation of the camp will be in the hands of the Ostseegymnasium Timmendorfer Strand, the national coordinator and a few colleagues who agreed to take over duties.

A Danish-German plan is to collect songs, poetry, legends, tales and fairy tales of the Baltic area. Following the conference "From Words to Action" six German schools now work with the Agenda 21, having taken single aspects of the Agenda 21 into their curricula.

Workshops are trying to work alongside the Agenda 21 as well. The UNESCO team of the Robert-Bosch-Gesamtschule in Hildesheim is working on a German version for younger students (10-12 years of age).

Single students have changed their daily habits since taking part in the Swedish conference: They only go by bike, don't eat meat from intensive livestock farming, and save energy at home and at school.

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Latvia

There are 25 Baltic Sea Project schools in 1998. Three new schools from Riga are involved in the BSP now. They will investigate the air quality in the city.

The schools are involved in many BSP programmes - Water Quality of the Baltic Sea, Small Rivers, Air Quality and Phenological studies. Many schools involve Agenda 21 in their environmental education activities. Five BSP schools took part in the National Environmental Project Olympiad and four of them based their projects on Agenda 21.

We have a BSP newspaper about Latvian BSP school activities where students and teachers write about their experiences in the solving of environmental problems.

A competition about small rivers and lakes was organised. Students wrote interesting stories about the history of the rivers and lakes near to their schools.

We will publish more interesting stories in our newspaper.

A teachers' seminar took place on March 29th in Riga. There will be a summer camp at the end of August.

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Lithuania

Lithuanian Strategy and Action plan for Environmental Education and Public Awareness has been developed and approved by the government in February 1998. It is based mainly on the principles of sustainable development and the Agenda 21.

A significant part in the strategy involves environmental education in the school based on the experience of the BSP. All schools are encouraged to create a School Agenda 21 including the integration of environmental issues in the school curriculum as well as practical activities in the school and local community.

Two workshops for teachers "Agenda 21 in the school" were organised in Siauliai (December 1997) and Kaunas (January 1998).

More than fifty teachers and representatives of municipalities participated in the workshops. A corresponding material and recommendations were prepared.

A national meeting and poster exhibition of schools working in the River Project took place in Vilnius, at the Ministry of Environmental Protection (February 1998). The BSP schools represented their results in this meeting as well.

All above mentioned events were organised in cooperation with Lithuanian Green Movement and the Ministry of Environment Protection.

National coordinators

Kaunas Municipality invited school children to prepare projects proposals for the improvement of local environment. The Action day in the municipality for the presentation and expertise of the projects will be organised in March.

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Russia

At present the main purpose of development in the sphere of ecological education in north western Russia is to form the systems of permanent ecological education in primary school - secondary school and in the university:

- ·Integration of ecology in secondary school with some other subjects (geography, history)
- ·Developing methods of using ecological knowledge in everyday life on the family level.

Therefore the Federation of Ecological Education in north western Russia held the forum, "Environment and Health" (family and school). Conception of municipal ecological education was developed there. In St. Petersburg, during the IV International Ecological contest in October the conference "Integration of different forms of permanent education" was held. The conference "Sustainable Development and Ecological education" will take place in November. The main event in the past winter was the 4th city ecological contest, in which more than 300 pupils from more than 60 schools in St. Petersburg took part.

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Sweden

Twelve Swedish schools took part in the BSP international conference "From Words to Action" in Nyköping in June 1997. After the conference many schools continued with Agenda 21 activities inspired by the conference. Here are some examples:

A school in Kalmar is working with ecological food and with a project about reducing the use of fossil fuel. The result of their studies will be spread to the local officials and to people in general. A school in Täby is planning an Agenda 21 for their school.

The municipality of Nyköping has invited representatives of teachers and students to a full day's discussion about education, environment and Agenda 21. A school in Falun will include many of the activities from the conference in a special course called "Environment in Action" .Some schools have also worked with ideas for Baltic 21, an Agenda 21 for the Baltic Sea region.

Here follows some examples:
Nynäshamn upper secondary school came up with suggestions in the following areas: traffic, recycling refuse, oil outlets, environment information, environmental taxes and economical support.

Some of the ideas that came up at Fyrisskolan were: collective traffic free of charge, same environmental laws in all countries and cleaning oil-tankers should be free of charge (all boats pay to special fund). The most popular BSP programmes in the Swedish schools are Water

Quality of the Baltic Sea (44%) and Rivers(44%). Also Air Quality (24%) and Phenological Studies (18%) have interested many schools. The schools are working with special themes in the BSP like "Save the Baltic Sea", "From Words to Action", Environmental history and Green School yards. They are also developing their own activities like "Ethics and Environment", "Ecological Economy" and "Energy and Environment". Most schools are networking with a school in the Baltic Sea region.
Here all countries are represented.

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Future events

May 25th-29th:	The Fifth International Environmental Camp School, Meri-Pori, Finland (In English)
June 20th-25th:	"Environment for Europe", Public Participation Convention. A NGO-Exhibition in Brobjergskolen, Aarhus, Denmark. The BSP will present posters, videos on programmes etc.
August 25th-30th:	"Elsingore-Gateway to the Oceans" International teachers course on Water Quality, Denmark. (In English) (presented on page 12)
September 4th-5th:	Lysekil, Sweden: Sustainable Fishing/Water Quality in the Baltic and in the North Sea. (In Swedish) Teachers from Denmark, Sweden and Finland are welcome.
September 7th-11th:	Second sommer camp, Timmendorfer Strand, Germany (In German)
September 24-26th:	Environmental History of the City, Norrkoping, Sweden (In Swedish). Teachers from Denmark, Sweden and Finland are welcome.
October, 1st-5th:	Fourth Ecological Olympiad in St. Petersburg, Russia (In English and Russian)
October, 15th:	Deadline for conference LOGO competition. Theme: "Baltic 21" (Conditions on page 23)
October 15th:	Deadlline for contributions to Newsletter 1998:2 (Appeal below)
October 15th-17th:	"Green School Yards" International course for primary school teachers, Linköping, Sweden (In English)
October 24th-27th:	International course on "Working for better Air Quality in the Baltic Region", Katowice, Poland

Appeal

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

- **Art work** for **covers**. Size: A3 preferably
- **Letters to the editor** with comments and suggestions
- **Newspaper cuttings** with environmental aspects from your country (summarised in English)
- **Educational ideas** - especially on Rivers, Baltic 21 sectors or Environmental History!
- **Articles on your work** - if you send photos with people, please name them
- **Cartoons** on **Environmental aspects?**

Send your contribution(s) to:
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(please don´t e-mail photos - mail them: Thank you!)
Press stop: October 15th 1998 **Please write in English!**

The next Newsletter will be published in December 1998.

The editor wishes you all a very pleasant season and summer 1998.

Fishwood etching 9/10
Roumen Michailov