

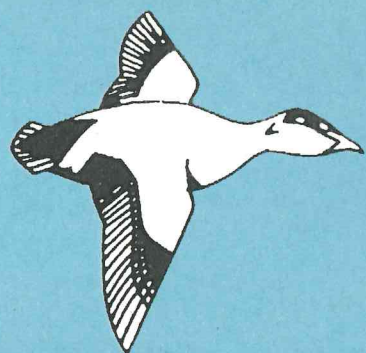
The Baltic Sea Project

NEWSLETTER No. 2

1998

ZASMIECANIE UMYSŁU I ŚWIATA





The Baltic Sea Project

The Baltic Sea project Newsletter
is published twice a year.

Editor: Birthe Zimmermann

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Financial assistance: The Baltic Sea Project Newsletter is produced in Denmark with financial support from the Danish Ministry of Education.

Circulation: The BSP newsletter is sent free of charge, to all BSP participants, organisations and other research institutions and government authorities, by the Danish National Agency for Education.

Production, design and print by:

Toptryk, Graasten, Denmark. The BSP Newsletter is printed on chlorine free, 100% recycled paper, Cyclus Print. This paper has the Nordic Environmental Logo, the swan. ISSN: 1237-489X.

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Hilmsberg / Hompe

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Cover: Szymon Fijalkousk, 1b, III Liceum Ogólnokształcące, Głogów, Poland "Zasmiecanie Umysły i świata": "Littering the Mind or the World!?"



Bridging the Environment

"Building bridges" can be understood literally as the building of a steel-and-concrete construction connecting two places. One of the longest suspension bridges in the world was opened only this year in Denmark, and a bridge is presently being built between Denmark and Sweden. What will bridge-building do to the in- and outflow of water to and from the Baltic Sea? Will it be a "zero-solution" after all? How will the creation of an artificial island in the middle of the Sound influence the environment? And how many more cars will pass the Danish bridges as the "gateway to Europe"? These were some of the questions that teachers asked when participating in the teacher training on "Water Quality" in Elsinore (presented on page 14).

"Building bridges"

in a figurative sense is e.g. used in pedagogy when students attending one school system visit another system and learn from the combined methods. Or when ministers invite organisations and NGOs to dialogue with decisions makers - as in Århus98 (page 29). The signing of the Public Participation Convention was an important bridge-building step for democracy. Bridge building are also the co-operative networking meetings and teacher training courses that take place within the Baltic Sea Project to help BSP teachers to "learn to know", to "learn to do" "to learn to be" "to learn to live together" for democracy and peace.

In this Newsletter you can read wonderful examples of students and teachers who "build bridges" by discussing environmental matters together, by examining the local environment, by visiting each other and learning about the different cultures and traditions that have an impact upon the development in our local neighbourhoods. Joint activities lead to knowledge, tolerance and understanding required for a sustainable future.

Sustainability

"Littering the mind or the world?" asks Szymon Fijalkousk, Poland in his cover drawing. An excellent question expressing the discrepancy between perception and action, for "What is a sustainable future?" The answer is not as simple as one could expect. One student answers "It is when you cut one tree and plant two new ones", another "It is when I realise that the fact that I smoke might hurt somebody else -and then quit smoking", others simply state "Recycling". The World Commission on Environment and Development made the following definition: "Sustainable Development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs".

Part of a process

Education is a key factor to achieve sustainable development. Lifelong learning, interdisciplinary education, partnerships, networking, multicultural education are core themes, and perhaps this requires changes in the educational traditions and aims. However, in order to change attitude, and concepts, and curri-

cula, students "need to practise envisioning alternative ways of development and living, evaluating alternative visions, learning how to negotiate and justify choices between visions, and making plans for achieving desired goals, and participating in community life to bring such visions into effect. These are skills and abilities which underlie good citizenship, and make education for sustainability part of a process of building an informed, concerned and active populace. In this way education for sustainability contributes to education for democracy and peace". (from: "Educating for a sustainable future / A transdisciplinary Vision for Concerted Action" UNESCO, Thessaloniki, Greece; Dec. 97)

"Part of a process" is also the work on the themes in Baltic 21 that will lead to the student and teacher conference in 2000. The logo has been depicted (page 8) and skilled students are asked to compose a "Hymn to the Baltic" that can "build bridges" between the BSP students and teachers and span the Baltic Sea like the wave or wing or branch in the beautiful Baltic 21 logo created by Liis Laugas, Estonia.

Birthe Zimmermann

Maritime Archaeology in the Baltic

Geological Background:

In many ways the Baltic area is unique in an archaeological sense. The basis is found in nature. Although there are great differences in the quaternary geology between the roughly the north and the south there are indeed some factors which are shared by all parts of the Baltic.

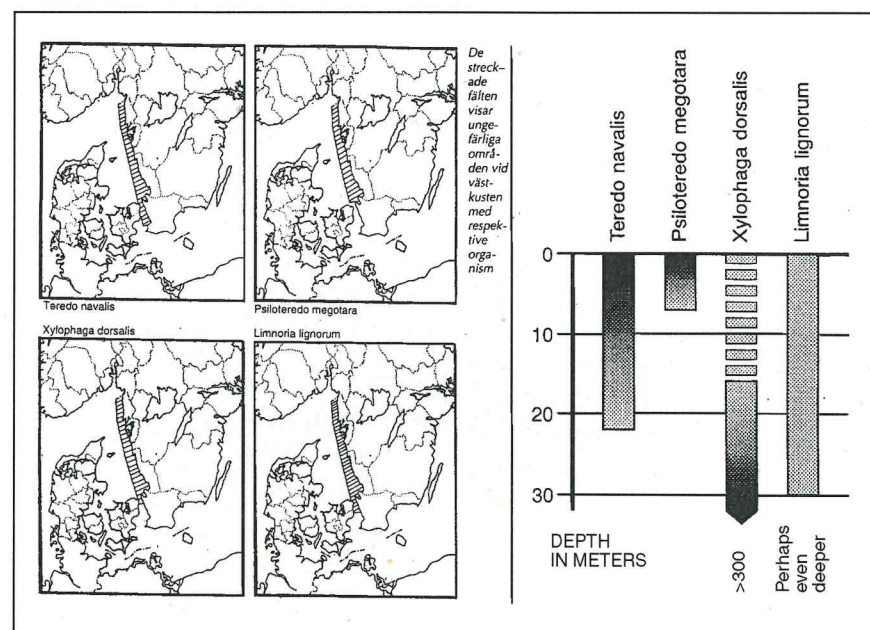
Among the differences could be mentioned the land upheaval in the north, which at present is at its most intense rate in northern Västerbotten in Sweden with app. 9 mm/year i.e. 90 cm in 100 years. The world record since the Ice Age is the Skuleberget mountain in Ångermanland, where the highest abrasive zone is found to-day at 285.5 meters above sea level. This uplift peters out completely in the very southernmost part of Sweden, in Skåne (Scania). On the south-western side of an axis through Denmark from Limfjorden to Rügen in Germany there is even a slow landsinking process obvious in the archaeological record. There Mesolithic stone age sites (app. 6-5000 BC onwards) can be discovered down to 15 meters below the present sea level. This is one of the unique highlights of recent Danish underwater archaeology: Here is found exceedingly well preserved materials such as textiles, bast, wood etc. and artefacts e.g. boats not normally found in other archaeological contexts on land.

Another important difference concerns the waterfront zones. In Finland and most of Sweden they consist mainly of constant features such as rocks and boulders, and in the south-Denmark, Germany, Poland and to some extent

Lithuania, Latvia and Estonia, sedimentary action is dominant. Thus the coasts are certainly transformed by natural factors in both main areas, but in different ways: One by way of land uplift, the other by wave erosion (abrasion) and replacement/ build up.

Internationally a unique factor would also be the archipelagos with large numbers of continuous small rock island chains which litter the coasts at several places.

The archipelagos of Stockholm, the Åland islands and south western Finland are justly considered famous. But there are others as well in the Baltic. All of them have been settled or are still settled as an important part of Baltic Maritime culture, based on the exploitation of the natural sources of the Baltic Sea. As a lonely and just possible parallel the Hudson Bay skerries of Canada could be cited, but they are different in character, uninhabited and almost totally sub arctic.



Occurrence of the ship-worms *Teredo navalis*, *Psiloteredo megotara*, *Xylophaga dorsalis* and *Limnoria lignorum*. They do not pass the threshold into the Baltic Sea because of decline in salinity making the Baltic shipwrecks a treasure

Vertical distribution of the four different species. *Teredo navalis* is the most frequent species with drilled channels in wood readily recognised because of a layer of chalk.

►► Preservation of shipwrecks

The most important difference between the Baltic Sea and other seas in the world lies in the preservation of shipwrecks and other large wooden constructions. In the Baltic we find virtually intact large carvel-built wrecks from as far back as the 17th century, when they started to get an impact on Baltic shipping, and the traditional clinker-built ships and boats where the construction has maybe dissolved but where all components are preserved. The Baltic Sea (and the Sea of Azov within the Black Sea) is the only major sea in the world where the ship-worm *Teredo navalis* and its cousins *Psiloteredo megotara*, *Xylophaga dorsalis* and *Limnoria lignorum* do not devour the wood completely. The shipworm *teredo navalis* (a mussel with a worm-like appearance) does not exist in the Baltic! One major reason for this is the low salinity! The traditional dividing line for its penetration is around the island of Hven in the Sound, however, at present there are disquieting reports on recent activity on ancient wrecks in the Rügen area, and the ship-worm may be considered one of the main threats to the cultural underwater heritage in the Baltic. If the cultural underwater heritage is threatened it would indeed include the best preserved parts of international shipping. Since the Middle Ages ships have entered the Baltic Sea from almost any part of the world, not only from the neighbouring North sea but also

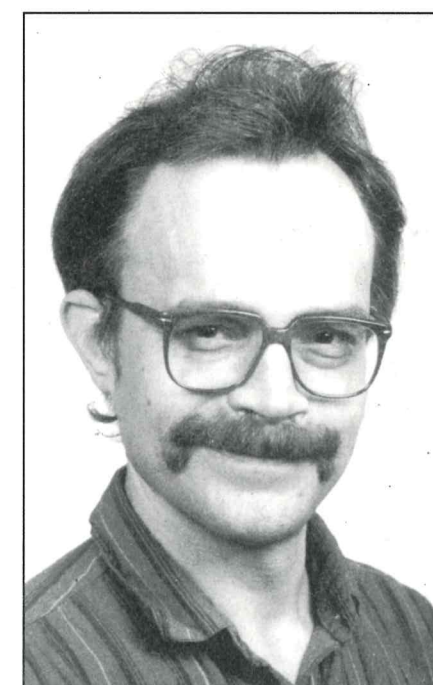
from Spain as well as from the Mediterranean and in more recent times from the Americas.

The discovery of the remarkable absence of *Teredo navalis* was made rather late. Not until Anders Franzén (discoverer of the "Vasa") in the 1950s realised the immense importance in relationship to the connection of large wooden sailing ships did it dawn on the scientific world what a treasure could be found in the Baltic Sea. The wrecks often stand hull-whole on the bottom with even decks intact and masts still standing. But the bottom topography is crucial. The archipelagos of Sweden and Finland with their marked up-and down topography seem to offer the best protection against the action of waves and screwing of ice.

Although the potential of the Baltic Sea has become known for quite some time astoundingly little has been done to document and to protect what archaeological treasures in terms of ships we do have.

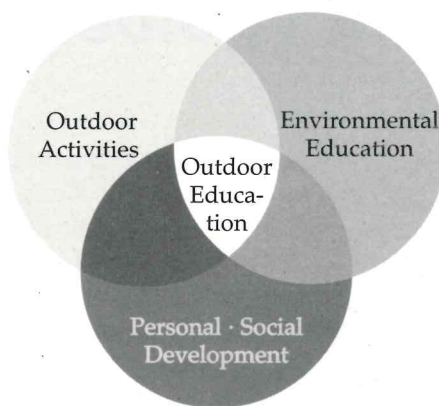
From 1993 the largest research Institute in the old world is found in Roskilde, Denmark. Together with other institutions in Denmark it is active in documentation, preservation and research of the underwater maritime cultural heritage, -not only in the Baltic Sea. In Stockholm, Sweden, the New University College has in 1997 taken the initiative to form a network on Baltic Maritime Archaeology. It is an important step in the realisation of the common aims in the Baltic region to realise the intimate relationships between nature and cultural history in the area.

Christer Westerdahl



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Pedagogy Outdoor Education -An Attempt at Defining Outdoor Education



Action-centred learning processes

In a normative sense, outdoor education is characterised by action-centred learning processes, often related to activities in the outdoor environment. These learning environments may be more or less unstructured, an unexpected meeting with the uncontrolled but physically more comprehensive situation than the artificial subject-divided context of the classroom. An experience of the whole, thematic integration, and direct contact between the student and the object of study constitute the central aspects of outdoor education's identity.

In its operational meaning, outdoor education creates many opportunities to come in contact with nature. The road of sensuous education to knowledge, through nature's unstructured learning environment, offers in many cases just the right amount of excitement - but too difficult, not too easy - something that facilitates the learning process. The emphasis is on problem presentations that are not possible for the teacher to create artificially without extensive manipulation. These learning situations of sufficient excitement create a "flow of learning" through optimal experience.

The degree of structuring is important when studying outdoor education from the point of view of content. The learning environment of the classroom often offers a structured meeting with the controlled. For many students this is not exciting enough. A central goal of this pedagogy is to create, by activities and experiences in the outdoor environment, knowledge and close relations to nature, culture, and society.

Feeling, action and thought

The dimension of experience in outdoor education is a stepping stone to a more active knowledge, i.e. useful knowledge. A combination of feeling, action and thought characterise the strongly pragmatic, action-centred educational perspective of outdoor education.

Prominent central educationalists differ in their views on the importance of contact with nature, but in some respect all of them emphasise the senses, the creative imagination, and the knowledge of the hand in their pedagogy.

The whole educational system is built on the artificial division into different subjects. Outdoor education offers a chance to penetrate the heavy cultural sediment of schools and teachers' training colleges, and open up a door to thematic education.

Learning by doing

An educational and learning situation, experienced live, in its proper context and its proper place, contains sensuous experien-

ces of smells, fragrances and atmospheres; in symbolic descriptions, these are often lost. Outdoor education will let you learn from reality, which can be identified and defined through its many examples. The walls of the classroom will limit learning unless natural and cultural environments are visited. Outdoor education shows us other roads to knowledge than the dominating western classic reproducing theoretical educational ideal. By its method of "learning by doing" outdoor education seeks to complete and restore a conscious relation between man and ecosystem in to-days highly technical outdoor environment.

Outdoor recreation as pedagogy

We feel that if the pre-school/school children of to-day get the chance to establish a lifestyle of active outdoor recreation (outdoor recreation as a pedagogy) they will have the conditions for a better quality of life as adults, both at work and in leisure hours. ►

Pedagogy Outdoor Education -An Attempt at Defining Outdoor Education

Textual learning should be an important complement to the direct experience of the learning contexts in different outdoor environments i.e. outdoor education. In outdoor education, the process of reflection embraces linguistic dialogue and cultural phenomena in the same way as reflection on a text involves a processing of digital codes, the literary education's road to knowledge.

Outdoor education as a part of an alternative view on knowledge regards knowledge as reflected behaviour, knowledge in action. The borderline between the "Intellectual" and the "manual" is a product of, and is only motivated within, a (western) tradition of theoretical knowledge. In this case, the label theoretic is motivated by its origin in the classical Greek word *theoria*, i.e. view. Back then, knowledge was a product of thoughts and reasoning, a view of reality separated from life and actions in the material worlds, i.e. differing from what is *praxis* -the Greek

word for action and activity.

Modern science is founded on the tradition of theoretical knowledge. This tradition implies that a person may have knowledge of reality without being able to apply knowledge to reality. The tradition of theoretical knowledge is distinguished among other things by the conviction that knowledge reflects or reproduces reality (possibly somewhat distorted) and that knowledge can be formulated into words and prevalent mathematical language.

Reflected knowledge in outdoor education makes an external activity to an internal activity, i.e. action leads to thoughts on the action by reflection on behaviour. Insight is not automatically connected to theoretical knowledge; it is gained in reality by participating in it. In the educational perspective that distinguishes outdoor education, concepts and behaviour become entwined. The result is a pragmatic, consequence-and action-centred pedagogy, emerging and proceed-

ing from a practical context. In outdoor education, there are no absolute points of reference, learning continues in a "free and never ending process" where the starting-point for learning itself is the firsthand observation.

Extract (with kind permission from the authors) from "Outdoor Education, Literary Education and Sensory Experience an attempt at defining the identity of outdoor education" by

Lars Owe Dahlgren & Anders Szczepanski, Linköping University, Teknikringen 3, S-581 83 Linköping, Sweden. Tel:+46 13 281991 Fax: +46 13 281996 E-mail andsz@esi.liu.se Website: www.liu.se/org/fmup/



To really appreciate the forms of a lichen growing on the bare rock one must come close to it - Anders Szczepanski and course participants, Sweden, October 1998

Anders Szczepanski practising Outdoor Education at the teacher training course on "Green School Yards", Sweden, October 1998



Student- and teacher Conference in June 2000 in Sønderborg Denmark

Winner of the Logo competition for the Baltic 21 conference: **Ms Liis Laugas**, Lilleküla High School, form 10, Tallinn, Estonia expresses her thoughts on the symbolism in her drawing: "Solar energy - the basis of life on Earth. The wave energy reaching the nine Baltic beaches, which are protected by the wing of the white-tailed Eagle, one of the indicator species of our home sea. Everything in Nature is interrelated".



Education for a sustainable future within the Baltic Sea Project established education on lifestyle, and developed with work on the Agenda 21 and the "From Words to Action" Conference in 1997 in Sweden. This third BSP conference succeeded the ones in Kotka in 1992 and Karlskrona in 1994. The Agenda 21 work is an ongoing process and the fourth international conference among Baltic Sea Project Schools will deal with the sectors included in "Baltic 21". Baltic 21, an Agenda for the 21st century in the Baltic Region, was signed in Nyborg, Denmark on June 22nd 1998 by governments in the entire Baltic Region.

In Baltic 21 the following sectors are dealt with

- **Agriculture** - Production methods, environmental, ethical and economical consequences and possible health factors.
- **Energy** - Needs, production methods, environmental

consequences, renewable sources etc.

- **Fisheries** - Sustainable fish stocks in marine and freshwater environments, tools and equipment, and bio-diversity.
- **Forestry** - Production methods, tree species; legislation; Virgin forests and plantations; Bio-diversity.
- **Industry** - Environmental history aspects; Green economy; Environmental friendly production and labelling; Ethics.
- **Tourism** - Impact and consequences; Eco-tourism.
- **Transport** - Needs, Methods, Techniques, and Consequences;

The seven sectors will be described for use in Baltic Sea Project schools to enable students to prepare for the conference in the school year 1999-2000. The starting point for the students can be in any of these sectors. The perspectives in the seven sectors will

enable more teachers and students in a variety of subjects to start working within the objectives of the Baltic Sea Project and lead to more international communication, bridge building, networking and problem solving.

LOGO competition

Liis Laugas will receive her winner award at the opening ceremony on Sunday, June 18th 2000! The Steering Committee (6 people representing the Ministry of Education, the South Jutland county, Sønderborg Municipality, school representatives and the general co-ordinator) received more than 200 suggestions from BSP schools, and had a very difficult job depicting the winner. However, the symbolic use in Liis Laugas' drawing is outstanding! ►

Thank you to the many schools that participated in the logo competition. In June 2000 there will be an exhibition of all the logo suggestions. Some of the art works will also be used for the educational material that will be developed and sent to schools for the 99-2000 school year, and some of them will be used for other purposes: The cover of this Newsletter for instance was sent as a logo suggestion.

Thanks to students from:

Amtsgymnasiet i Sønderborg, DK;
Järve Gymnasium, EE;
Loo Secondary School, EE;
Tallinn Lillekülla High School, EE;
Tartu Kivilinna Gymnasium, EE;
Uulu School, Tahkuranna, EE;
Meilahden lukio, FI;
Meri-Pori Upper Secondary Environmental School, FI;
Städtisches Gymnasium I, D;
Jelgava Gymnasium no 1, LV;
Lielvarde Secondary School, LV;
Limbazi 1. Vidusskola, LV;
Riga Secondary School no 49, LV;
Riga Secondary School no 66, LV;
Riga Secondary School no. 69, LV;
Riga Secondary School no 90, LV;

Ruiena Secondary School, LV;
Valmiera Gymnasium, LV;
Vecpiebalga Regional Country Gymnasium, LV;
Klaipeda Tailors' School, Puodziu 10, LT;
Zespol Szkol, Cmielów, PL;
Zespol Szkol Ogolnoksztalcacych no. 6, Gdansk, PL;
III Liceum Ogolnoksztalcace im. Bohaterow Westerplatte, Glogow, PL;
School no. 273, R.

and to those of you who sent logos without reference to school name.

Birthe Zimmermann

Baltic 21 - "Hymn to the Baltic" Competition

"Hymn to the Baltic" - Competition for the Baltic 21 conference in June, 2000:

On 18th - 22nd June 2000 the fourth International BSP conference for students and teachers will take place in Sønderborg, Denmark with the theme: Baltic 21.

Write and compose a "Hymn to the Baltic" for the conference: Music and text!

Conditions:

Text: In English! The stanzas should have the same two chorus lines that can afterwards be translated into the nine native languages. The length of the text should not exceed one page

Music: The music should be made for chorus primarily, as the "Hymn to the Baltic" is to be sung at the opening of the conference by all 300 participating students and teachers. (If you can also write notes for orchestra, wonderful: Please feel free to do so, but it is not a requirement and it does not qualify extra).

Deadline: March 15th 1999

Music (as written notes) and text is to be sent to the general co-ordinator (Address - see page 2 or 47)

Mark your contribution with: Name, Age, Class, Name and address of School.

Winner Prize - equivalent to the value of 3000 DK Kr

Extra appeal: Please add a song from your country that you would like others to know to be put into an international BSP Conference songbook

DENMARK:

Students from form 1d at Stenhus Gymnasium & HF, Stenhusvej 20, DK4300 Holbæk made the following cuttings and translations:

**"Danmark skal igen have bævere i naturen":
"Denmark is Going to Bring the Beaver Back to our Nature"**

According to the Bern convention Denmark is committed, after well considered pre-investigations, to reintroduce species native to our country, when it supports the saving of threatened species. In Denmark the beaver has been extinct for 2500 years, but The National Forest and Nature Agency is going to try putting out 25-50 beavers in the Danish woods, in the hope that the beavers will create more wet areas.

By Magnus Martini, Ida Krogager, Gitte Ramskov & Johanne Nørvig

JYLLANDSPØSTEN September 10th 1998

**"Dieselvogne skal svine mindre":
Diesel vans must pollute less**

There's too much pollution in Copenhagen, because the diesel vans let out a lot of sulphur particles. That means there's an excess mortality of 400 people in the capital. Kaja Jacobsen, socialistic people's party wants to prevent the excess mortality by installing catalysts, air particle filters and light diesel engines in the municipal vans. It isn't a big problem to carry it through, because some of the vans are old and need to be replaced.

By Laura Lorentzen, Line Løkkegaard, Quetzal Wallin and Iben Helquist

JYLLANDSPØSTEN September 18th 1998

**"Ja til grøn energi":
Green energy? - Yes!**

A Danish research institute (DEFU), has found out that 85% out of 1000 Danish people, would like more green energy. (e.g. solar heating, windmills.) 94% of the people below the age of 30 would like to concentrate more on wind and sun as prime energy sources. Even though the green energy, will cost 10% more than energy from the combined power and heating stations, the people in Denmark are willing to pay the price.

By Signe Larsen, Stine Kofoed, Nadja Christiansen, Kathrine Laursen

POLITIKEN September 6th 1998

**"Giftig jord i seks børneinstitutioner":
Poisonous Soil in 6 Child-care Institutions.**

Forty-nine of the 659 child-care institutions in Copenhagen are placed upon former industrial sites. The soil contains tar and other cancer-producing chemicals. The parents and the teachers have to inform the children about more careful hygiene. For instance make sure the children don't eat the poisonous dirt. To clean all 49 institutions will cost 150 mill. DK. kr. There has been 6 mill. DK. kr. set aside for the purification of 10 institutions and 3 playgrounds. Six institutions are so badly polluted that further analyses are needed.

By Sarah Boers, Sara Brinck, Rikke Nielsen, Mie Hørbo

JYLLANDSPØSTEN September 22th 1998

FINLAND:

Pupils Jerry, Nora, Pia, Niklas, Linda, and Ville from class 5-6th at Kälde School studied News papers about the environment in Finland in the period September 26th - October 8th 1998 and sum up as follows:

Shortly you can divide the articles according to the following.

Local environmental news:

- on the emptying of septic tanks from yachts and small boats in Pargas;
- on a new material of natural fibres that absorbs oil from oil spills in the marine environment -
- on better planning of traffic in city streets in Turku to reduce air pollution;

Universal environmental news:

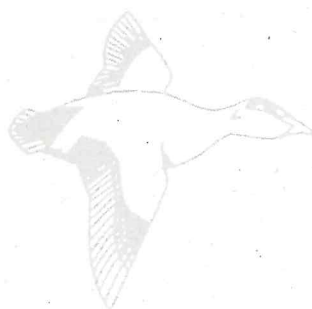
- on quick destruction of natural assets worldwide;
- on the protection of tree species and environmental care of forests;
- on ant investigations that show that ants serve as a natural, biological fighter in the protection of wood.

The Baltic Sea:

- on the debate of creating a Baltic Sea Centre;
- on the species in the Baltic Sea;
- on the ferry traffic, and on the consequences of angling.

EU:

- on a river monitoring project with increased supervision, and efforts to develop useful usage of the areas where the rivers end up;
- on the recycling of iron scrap from cars

**LATVIA:**

Students from Valmiera Gymnasium, Latvia worked with the following environmental articles:

Lithuania Agrees to Common Inspection of Buitinge Oil Terminal.

In connection with the anxiety raised by the Greens about the safety of Buitinge oil terminal a board has been created to evaluate its ecological safety - so it was announced by Indulis Emsis, Minister of Environment. The board would overtake the care for the maintenance of functioning of Buitinge oil terminal. Lithuanian and Latvian Ministers of Environment had discussed the creation of a common supervision system. Lithuania had promised to conclude a treaty of co-operation of the ESPO convention at the Lithuanian Parliament.

DIENA September 23, 1998

Purifying of the ground has been started.

The joint-stock company "Baltic Terminal" has started the project on purifying pollution in the port of Riga. Minister of Environment Mr Emsis has acknowledged that the clearing of the ground in Latvia on such a large scale has been done for the first time. This area is the most polluted in Riga - the degree of pollution of the ground is up to 30%. The plants being situated there during a hundred years - as the factory of super phosphate, "Latbithim" and the factory producing bonedust. Such methods of purifying technology are being applied in Latvia for the first time. It can last for 3 - 4 years.

DIENA September 21, 1998

The Wood Cutting Quantity.

The 1999 forestry year is prolonged from 12 to 15 months. This year the amount of wood cutting has been increased up to 25 % in the Latvian state woods. Allowance to cut 5,2 million m³ wood in the state forests has been given, but in private forests the quantity is diminished to about 1 million m³.

But in the forests < 50 ha the quantity of wood cutting isn't fixed.

These wood cutting plans are meant only for the next 2000 - 2005 years.

"Dienas bizness" - 30.09.98. author Maris Kirsons.

Perjantai 2. lokakuuta 1998 - 5

Naantalin Jalostamon NOx-päästöt ylittivät viime vuonna luparajan

Nesteen Naantalin jalostamon ympäristövaikutuksista on jälleen ilmestynyt ympäristöraportti, jota jaetaan noin 2000 jalostamon naapurille sekä viranomaisille.

Raportista käy mm. ilmi, että jalostamon typen oksidien päästöt ylittivät viime vuonna viranomaisten asettaman luparajan.

Viranomaisten asettama päästöraja typen oksideille eli NOx- päästöille on vuodessa 350 tonnia, mutta päästöt olivat viime vuonna noin 400 tonnia.

Jalostamon ympäristöinsinööri Pertti Niiranen pitää luparajan ylittämistä aina isona ongelmana. Tässä tapauksessa viranomaiset eivät harkintansa jälkeen ole määränneet jalostamolle mitään erityisiä toimenpiteitä.

— Me olemme käyneet keskustelua, miten vastaava ylitys estetään ja korjataan tulevaisuudessa. Joudumme myös lähettämään tästä selvityksen viranomaisille, Niiranen kertoo.

Hänen mukaansa luonnolle ei ylityksestä koidu juuri vahinkoa, sillä Nesteen NOx-päästöt ovat olleet vain murto-osa esimerkiksi paikallisen liikenteen tai IVO:n kivihiilivoimalan aiheuttamista päästöistä.

Maaperä suurin ongelma

Suurimpana Naantalin jalostamon ympäristöongelmana Niiranen pitää maaperän suojeluun liittyviä asioita.

— Kysymys on pääosin vanhoista synneistä. Olemme perineet 1940-luvun lopulta vanhan valtion polttoainekeskuksen alueet. Lisäksi 1950-1960-luvulla toimintatavat ympäristön suhteen olivat vähän toisia mitä ne tänä päivänä ovat.

— Maahan on haudattu osin jätteitä, jotka eivät ole kaatopaikkakelpoisia. Meillä on viranomaisten kanssa meneillään selvitykset, miten ja millä aikataululla nämä asiat hoidetaan, Niiranen kertoo.

Maaperän puhdistamisen kustannuksista ei vielä ole

tehty alustavaakaan arviota. Parhaiten Niirasen mukaan jalostamo on onnistunut vesiensuojelussa, missä toiminta on hyvin vakiintunutta. Jalostamon öljypäästöt mereen olivat viime vuonna noin kolme tonnia, kun luparaja on kahdeksan tonnia.

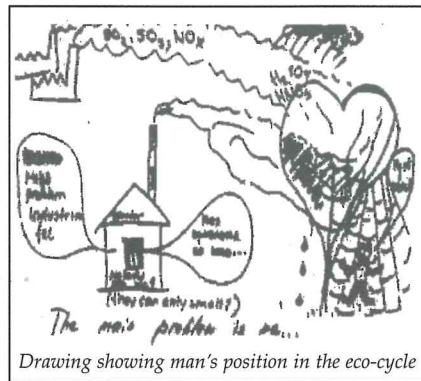
Satamalle ympäristösertifikaatti

Tällä viikolla on tullut myös tietoon, että Nesteen Naantalin ja Porvoon satamille on myönnetty ISO 14001-ympäristösertifikaatti. Satamat saivat sertifikaatti laadukkaasta ja ympäristöä mahdollisimman vähän rasittavasta toiminnasta eli ne täyttivät ympäristöasioiden hallinnan osalta ISO 14001-standardin vaatimukset.

Osastopäällikkö Erkki Kotirannan mukaan satamien saama sertifikaatti on ainutlaatuinen, sillä Nesteellä ei ole tiedossa yhtään satamaa maailmassa, jolle olisi aiemmin myönnetty ympäristösertifikaatti.

JONI KOSKI

Bridging the Environment - Russia and Sweden



In Luleå on October 1st - 3rd during some of the last beautiful days of this autumn about 40 teachers from 8 Swedish and 8 Russian friendship-schools met to develop their co-operation with an emphasis on the environment and democracy. Siv Sellin, the Swedish national co-ordinator, arranged the program with help from Swedish teachers. The Swedish Institute paid the travel costs for the Russian participants. On the Russian side Ludmila Polozova, v. chairman of Murmansk school committee, made an important contribution as co-ordinator.

The program

One basic idea was to combine theory and practice as teachers and human beings. We lived an ecological life on the eco-cyclic nature school at Vallen close to Luleå guided by Göran Öhman head of the school. Ulf Bergelin, an ecologist from the municipality of Luleå, guided us on air quality and biological diversity. The excellent BSP-book "Working for better air quality in the Baltic region" was used. Is democracy - a prerequisite for efficient environmental work? To learn from each others experiences and to start planning the school twinning.

Democracy - a prerequisite for efficient environmental work?

"When scientists tell us what's wrong and technicians what to be done, why don't we do anything?" To find the answer to this question

we must turn to social science. Carina Lundmark, a young doctor of political science, gave us the starting points for green democracy, which formulate two important questions:

- Who represents nature in our political system?
- Should the concept of Human Rights be expanded to include all living organisms?

Even among environmental organisations there are two fundamentally different approaches: Anthropocentrism (man is the master of nature) and Ecocentrism (man is a part of nature) Some characteristics of the green ideology is:

- Empathy for other forms of life
- Sustainable development, e.g. recycling, reduction of waste production
- In the foodweb all organisms are linked together, you must not make species extinct
- Each organism has an intrinsic value

My own thoughts having heard Carina:

- The Christian ideology came with a revolutionary message - all men (with stress on men) have the same rights. Slave revolts and social unrest opened up for the break through of Christianity in the Roman Empire.
- The suffragettes and the movement for women extended the rights also to women. The green ideology could bring a further expansion of the rights. Already today a big majority of the Swedish people think that each organism has an intrinsic value. Slaughterhouses are burnt and Swedish schools now offer vegetarian alternatives. Is it time for the next revolution of rights???

Local democracy to solve environmental problems

The rest of the day we sat in different groups and worked in a problem - oriented way on the

possibilities to use local democracy to solve environmental problems.

This was a most interesting experience, because the situation in the two countries differ quite a lot. Some glimpses:

- What can a teacher who smokes say about environment? The Russians were most radical. One school didn't employ smoking teachers!

- The situation of atomic waste in the Kola Peninsula started a Russian debate about whether the authorities were in control of the situation.

- A Swedish environmental problem is our well-known dullness. The group proposed Russian consults!

To learn from each others' experiences and to start planning school twinning

Good communication is the biggest problem. Good relations with the School Committee of the county of Murmansk solved both the bureaucratic difficulties with visas and permissions as well as physical communication to our schools on problems with faxes, telephones etc.

All schools developed programs for exchanges and common studies during the "freetime" of the conference based on environment and democracy, and a lot of impressive work done by both Russian and Swedish schools were presented. The Russian iron curtain closed almost all connections between Russia and Scandinavia for 80 years. Now new bridges are being built and we all felt like bridge builders during the conference.

Mats Zachrisson, co-ordinator of the BSP-Barents network in Norrbotten

Hjalmar Lundbomskolan, Kiruna
mzac@hjampis.kiruna.se

More pictures from the meeting can be seen on the home-page HYPERLINK <http://www.hjampis.kiruna.se/~mzac> www.hjampis.kiruna.se/~mzac

Paris, 18 September 1998

The International Oceanographic Commission (IOC) of UNESCO is proud to announce the launching of its new web site with the URL <http://ioc.unesco.org>.

The 1998 International Year of the Ocean (IYO) will end in December.

The importance and attention paid to this most vital resource should not. Thus, the IOC's new website aims to continuously provide ocean information for the benefit of IOC Member States and marine science community at large as well as to anyone interested in the World Oceans. It is hoped that these aims and objectives will be accomplished in an effective and timely fashion through a variety of services such as:

- The IMS Newsletter on-line: the IOC's Ocean News service;
- The IOC Ocean Activities and Meetings Service : a comprehensive database of ocean related events around the world, continuously update and -NEW- now allowing organizers of such events to enter their event information on-line;
- The Global Directory of Marine (and Freshwater) Professionals: a database with information of thousands of individuals active on issues related to the marine (and freshwater) environment. Are you a Marine or Freshwater Professional? Add your information to the database!
- The Ocean Pilot database: containing over 1300 URLs of Ocean related websites. - NEW- You are maintaining an Ocean related website? Enter the URL on-line!
- The IOC/UNESCO List of Ocean related Titles and Acronyms
- The IOC Member States and their Representatives (IOC Action Addresses): Find out who is the IOC representative for your country.
- The EURASLIC Directory of European Aquatic Science Libraries and Information Centres: Need to find an Ocean (or Freshwater) Library in your country? You will find it here. [note: we hope to expand this database to global coverage soon]
- The IOC Electronic Library: find and download hundreds of IOC publications AND of course you will find information on the IOC's Science Programmes & Activities: Global Programmes, Regional Programmes, etc. [Programme chapters are still under revision and will be added gradually]

So: check it out:

IOC 'home' website: <http://ioc.unesco.org>
GOOS website: <http://ioc.unesco.org/goos>
IODE website: <http://ioc.unesco.org/iod>

1998 The International Year of the Ocean

On board the Russian vessel, SIBIRYAKOV

Baltic Floating University (BTU) made a training Research Cruise in the Baltic Sea through July - August as a contribution to the 1998 International Year of the Ocean.

The objective was to provide education and training in oceanography and ecology covering data collection, analysis and interpretation. The Russian vessel Sibiryakov (leased from the Department of Navigation and Oceanography of the Russian Ministry of Defense) is designed for hydrographical, hydrological and geophysical investigations. Onboard were a scientific team and a research staff from Russia along with students from Cameroon, Denmark, Finland, France, Georgia, Germany, Greece, Lithuania, Netherlands, Portugal, Russia, Spain, Turkey and United Kingdom who joined the crew for different periods of time. Two BSP students from Mailahden Lukio, Helsinki, Finland were on board from July 24th - August 4th where they disembarked in Boulognesur-Mere, France : "We got on the ship in Helsinki and met all the people

who had already been onboard from St.Petersburg. On the first night we just got familiar with other students and the ship. On the second day we started our lectures and other activities, to mention a few: underwater video recording, research of the living organisms in the bottom layers of the Baltic Sea, also various water samples were taken. What comes to lectures, the most remarkable one was one about the influence of our behaviour on the Baltic Sea. Responsibility is needed if the Baltic Sea is to obtain a balanced state. We also learned that it is essential to co-operate to gain the most effective results in the management of the sea. The most important achievement of this voyage was to gather people from all over the World and create connections between the Youth who will be in charge in the future. We are grateful that we got this opportunity."

Jaakko Lavonius and Jonas Kautonen, students at Meilahden lukio, Helsinki.



"Elsinore - Gateway to the Oceans": Vitalija Kazdailiene (LT), Benediktas Gaizaukas (LT), Urmas Tokko (EE) and Liesma Abolina (LV) onboard "Ophelia" passing Kronborg Castle (Denmark)



Water Quality teachers Knud Johnsen, Denmark and Keth Andersson, Sweden demonstrate how to fill in the protocols

"Elsinore - Gateway to the Oceans"

was the title of a teacher trainer course for BSP teachers in August. Focus was on marine life north and south of the threshold in the Sound, preventing the inflow of salt water to the Baltic Sea to be equivalent to the constant out-flow of surplus fresh water from the Baltic Sea.

The participants were taken out onboard "Ophelia" to make bottom samples north of Hven, and bio-diversity in the high salinity water was investigated. The size of the mussel *Cyprina* was admired, and strange creatures were studied. The methods used for the protocol on Water Quality were demonstrated by Keth Andersson, Sweden and programme co-ordinator, Knud Johnsen, Denmark, and the programme was actively tried at different localities, and the computer updating

programme WaQua was fed with results from the course participants. Keth Andersson reports: "South of Copenhagen, at Køge Bay we even found *Chrysaora hysoscella* (compass rose jellyfish), normally an inhabitant of the Mediterranean that in warm summers can reach the British Channel - here it was south of Copenhagen: A sign of the global warming effect maybe?"

"What will be the impact of yet another bridge being built in the narrow straits?" was another important question that the course dealt with. In 1998 a bridge spanning the Danish Great Belt opened combining the Funen island and Zealand, and at present a bridge tightening Denmark and Sweden together is under construction. The infrastructure of a new city "Ørestaden" was demonstrated - with only a train station so far, and a motor highway but no houses.

The historical aspects of Elsinore were given by Per Werge, Denmark who took the participants on a walk through history - and town. Traditionally the Danish king demanded taxes from ships passing through the narrow Sound, and the importance of the town of Elsinore and the Castle of Kronborg for shipping, trading, fishery etc. were mentioned.

The Danish Environmental Protection Agency was visited to gain knowledge on legislation and policies on the marine environment in democratic Denmark. Eutrophication is still a major problem in Danish coastal waters. One action plan has been replaced by a second, since the goals of the first one were never reached, but from people in the Environmental Protection Agency the message was very clear: Pig farming production methods are really to be considered changed!

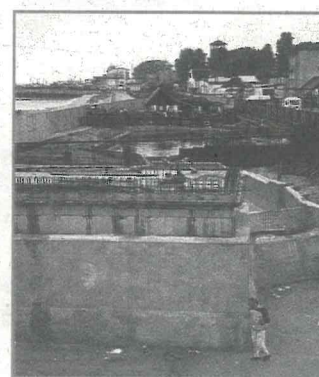
Participants in the "Elsinore-Gateway to the Oceans" ready to embark on "M/S Ophelia" From left to right: Per Werge, DK - Nadejda Bolshakova, R - Kaja Lotmann, EE- Katarzyna Zabicka, PL - Barbara Wojcieszek, PL- Ewa Jurkowska, PL- Benediktas Gaizaukas, LT- Mall Schmidt, EE- Vitalija Kazdailiene, LT- Birute Kristophitiene, LT- Liene Zeile, LV- Urmas Tokko, EE- Liesma Abolina, LV-Lars Hagermann (Elsinore Marine Lab)- Riitta Erkinjuntti, FI- Keth Andersson, S- Alla Shouvalova, R- Elena Babitch, R- Kerstin Iennerstedt, S- Jan-Erik Wallden, S- Hannah Ørnsholt Ring, DK- Gunilla Persson, S- Ingoar Iennerstedt, S- Knud Johnsen, DK (Klavs Zommers, LV and Yordanka Nenova, Bulgaria are outside the picture)



Baltic Sea Project

Uczniowie badają morze

Od blisko dziesięciu lat istnieje szkolny Program Morza Bałtyckiego - Baltic Sea Project, prowadzony w ramach UNESCO-agencji ONZ. Realizuje go kilkanaście polskich szkół. Z terenu Trójmiasta - dwie Przedstawicielki jednej z nich - Zespołu Szkół Ogólnokształcących nr 6 w Gdańsku - zastaliśmy w Helu, w Stacji Morskiej Instytutu Oceanografii Uniwersytetu Gdańskiego. W ramach UNESCO prowadzonych jest kilka programów - dowiedzieliśmy się od Katarzyny Zabickiej - Omelianowicz, nauczycielki matematyki i geografii w ZSO nr 6. - My działamy w Projekcie Morza Bałtyckiego. Jednym z naszych zadań jest sprawdzanie jakości wód Bałtyku. Przygotowujemy już pierwsze protokoły z badań. Wyślemy je do Kopenhagi, do koordynatora projektu.



Fokarium Stacji Morskiej Instytutu Oceanografii Uniwersytetu Gdańskiego w Helu. Laboratoria stacji służą także szkołom do celów badawczych. Foto: Katarzyna Zabicka



Water samples taken at the pier in HEL by class 7M from ZSO no 6 in Gdansk

From Teacher Training to active practise - Poland:

Teacher Katarzyna Zabicka from Gdansk went home from the teacher Training course in Elsinore, Denmark and did Water Quality investigations with her students. An article on their work appeared in the Polish Newspaper Dziennik Bałtycki Sept. 18th 1998 (extract):

"We are working in the Baltic Sea Project, preparing the first reports which we send to the Project co-ordinator in Copenhagen. Pupils from ZSO no. 6 in Gdansk have made research on the beaches and in the water to a depth of app. 70 cm. They have taken samples in Sopot and Hel to test redox cline among other things. They found that Hel had most oxygen, and as they have studied Hel over the years they can see that the quality of the water is improving. In Hel the number of bacteria has also decreased".

Katarzyna Zabicka-Omelianowicz, Zespół Szkół Ogólnokształcących No. 6, Gkeboka 11, P-80-759 Gdansk

The class at the Sopot beach



How to implement Learners' Guide 2,

"Working for Better Air Quality in the Baltic Region" into every day school work?

This question has been put to all teachers participating in two international teacher training courses made within the BSP framework in 1998: One course in Borlänge in Sweden on April 25th - 27th with app. 50 teachers from all nine riparian countries, another course in Ustron and Cracow in Poland on October 24th - 27th for app 30 BSP teachers from eight countries.

In both courses the Air Quality programme co-ordinator *Birgitta Berggren* and her Swedish students taught teachers the methods presented in the book, and needle loss and lichen studies were made in the forest. Active participants delivered constructive inputs along with excellent lectures made by resource people to update and supplement teachers' background knowledge.

created by hot coffee on open fire to revive cold fingers. Valuable discussions took place among the international teachers on methodology, on the difficulty in making conclusions, and suggestions for additional investigations. One suggestion was using moss balls for studies of heavy metals; another to co-operate with local industries which might have the equipment to do the analysing -e.g. on sulphur in pine needles. Other teachers told of experiences on ozone reactions on leaves, and of radio-activity investigations. These excellent ideas were put forward for each individual teacher to adapt or for networking purposes between schools in different countries.



Students Erika Hagegård and Anders Annikas teaching teachers

Sweden in April 1998:

Foresters from the Swedish company STORA presented "the outdoor classroom" and the necessity of forest protection to keep biodiversity in Sweden with rare species occurring in the virgin parts of the forest. As this happened on an extremely wet day, the wonderful Swedish forest atmosphere was



Course participants walking in the heavy spring rain from harvested to virgin Swedish forest



Fruticose lichen (*Usnea*) hanging beautifully from a branch in Swedish virgin forest



Forest atmosphere of the Swedish forest. Hot coffee on open fire.

Poland in October 1998:

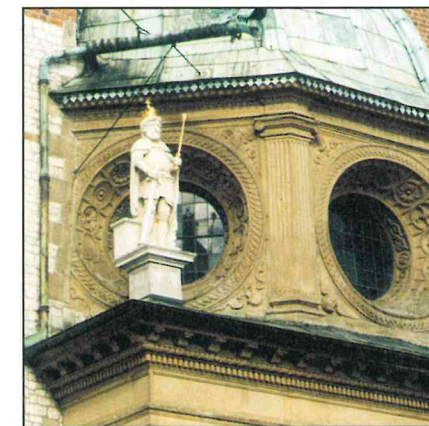
In Poland the teacher training course took place in the Silesian District, an area of heavy industries due to the presence of coal mines, and air pollution has been a long known consequence. The forest in the Beskidy mountains was used as outdoor classroom for introduction to the methodology on needle loss and lichen studies. The needle loss in fir trees showed air quality II, and fear shoots were demonstrated as a stress symptom as well. The needles showed dots and discolouring at the age of 2-3 years. Along with demonstrating methodology in "Learners' Guide 2" in the Beskidy mountains one perspective of the teachers training course was to see the effects upon our cultural heritage. This perspective was wonderfully demonstrated on a walk of the old town of Cracow. In Learners' Guide 2 on page 39 there is a photo showing the extremely damaged statue of King Sigismund. But he has been restored in the last year and is back in good-looking shape with a reconstructed face, body, garment and equipment (sword and sceptre). "Air quality has improved in Cracow", teacher *Anna Figiel* says, "and a new species of lichen even occurs on the city trees". This is a wonderful example of bio-indicators used to show



Swedish student Erika Hagegård demonstrates fear shoot and needle damage in a fir tree.

changes -here positive changes- in an area.

The elaboration of a video to supplement the "Learners Guide II, Working for better Air Quality in the Baltic region" took its starting point in Poland with *Bengt Littorin*, Sweden in charge. The work will be continued in Sweden and the video will be forwarded to all BSP schools after finalising.

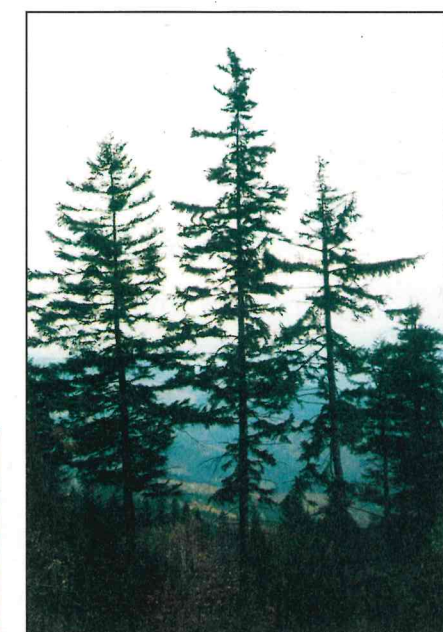


King Sigismund in Cracow - back to handsome forms after restoration (Compare with photo on page 39 in Learners Guide 2 "Working for Better Air Quality in the Baltic Region")

"Contracts"

One of the very positive results of the teachers training courses has been teachers signing "contracts" for further co-operation in teams of two-three schools. Teachers introduced their works during presentations and in Poland contracts were made not only on the Air Quality programme but on new ideas such as:

- **Radioactivity** in different food stuff (milk, berries and fishes) - a co-operation to be started between schools in Finland, Estonia and Poland
- **Mankind's Relationship with Nature through native values** - an idea for a networking issue fostered by participating teachers from Kaliningrad, Russia with wide acceptance. The idea is that pupils through legends, inter-



These fir trees in the Beskidy Mountains, Poland show a needle loss of 40-60 % = Class II

viewing elderly people on traditions should introduce native values in environmental education, and hopefully arrange international student summer camps

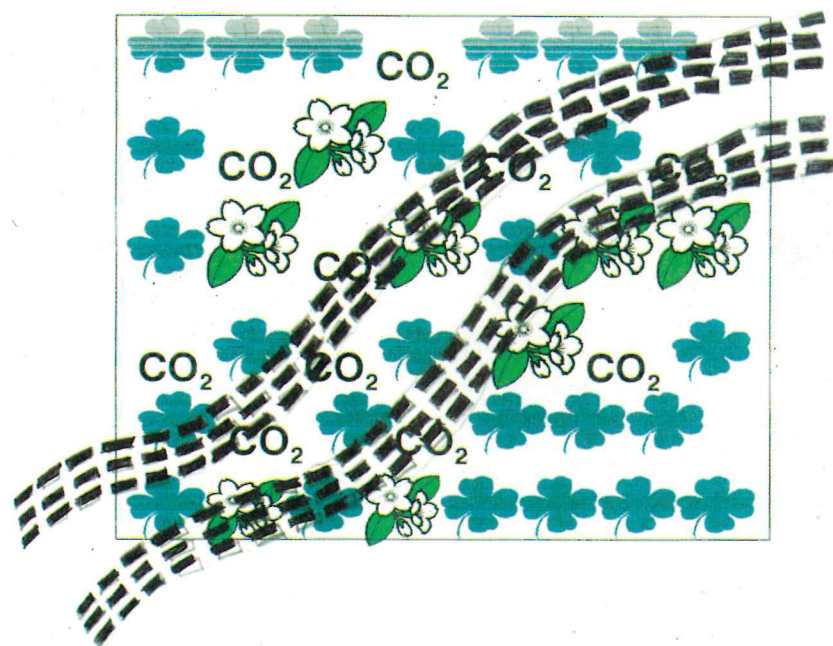
- **Plants and City** - investigation of city trees from top, trunk and roots also was a Russian suggestion which interested teachers from most countries.

Britta Wennerström, Jakobsberg Gymnasium, Mälarvägen 2, S-17542 Järfälla, Sweden reports after her return home:

"I measured pH in the soil to be 3.5. I used 4 g of air dried soil, added 20 mL of distilled water, and after two hours measured pH (H₂O) using an electrode. Later I shall determine the concentration of AL³⁺, and Nitrogen and perhaps some useful metalions"

Birthe Zimmermann

Do you know the harm your car does?



"Do you know the harm your car does?" asks Inese Freimane continuing, "Of course mankind will not neglect achievements gained over the years, but consider the damage done by exhaust pipes! The gas consists not only of CO₂ but of substances such as heavy metals, oxides of sulphur and nitrogen. I don't ask you to deny scientific achievements, but I do ask you to take maximum care of Nature!"

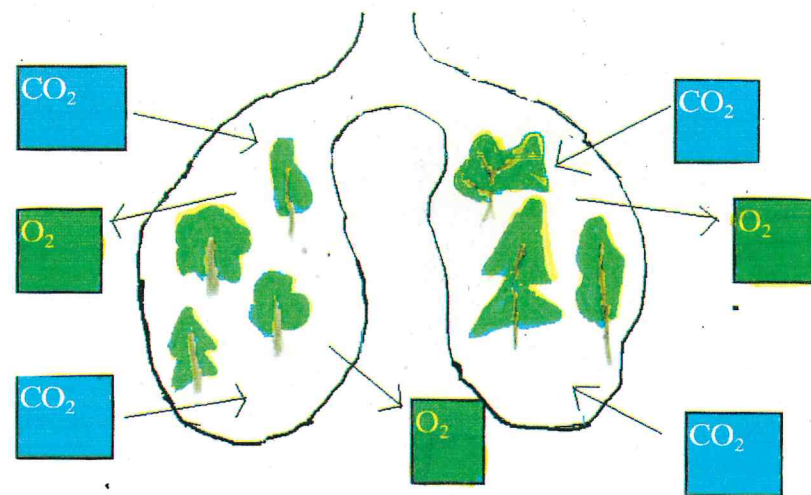
Solution: Maybe it is better to walk on foot!?"

- Latvia is in the lead of the Baltic 21 sector on transport

"Let the Planet Breathe"

suggests Zane Peneze saying, "Forests produce oxygen, so if the forests are destroyed we won't have oxygen but CO₂"

Solution: Don't cut the trees!



GREEN FORESTS - OUR LUNGS!

Inese Freimane & Zane Peneze, students from form 10 at Riga Secondary School no 90.

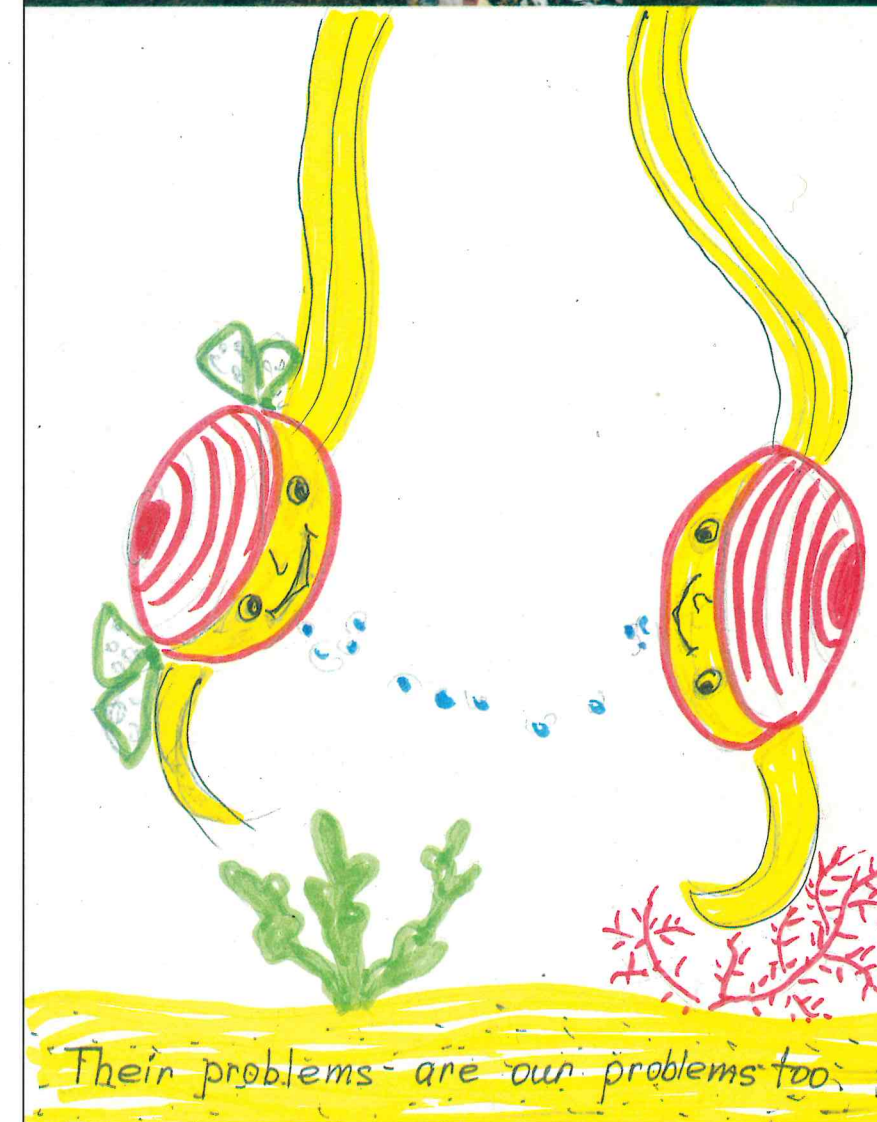
Coastwatch BSP has been a common programme for some years. At the co-ordinators meeting in April 98 it was decided that Coastwatch BSP will use the same questionnaire as is used in Coastwatch Europe; this network covers 17 European countries, and there was no need to work out a new questionnaire. The questionnaire is available from your national co-ordinator or from the programme co-ordinator (address below).

How to fill in the questionnaire:

- The questionnaire has to be filled in **once** during the 2 weeks survey period **28.09-11.10 98**. In case these weeks are not suitable then you can do your survey in the following week until 18.10
- Each questionnaire is for 500 m of coastline
- You can make as many copies you need
- To mark -tick x
- Items to be counted are: D5, D6 and E3A
- If you do not know or have not tested -leave blank
- All questions are welcome - please send them and the filled questionnaire to:

So far 92 questionnaires concerning 1998 have been sent in from Denmark, Estonia, Finland, and Latvia, but if you have made surveys you are still welcome to send the questionnaires to:

Reet Kristian
 Programme Co-ordinator
 TELO/ Nature House
 10 615 Endla 59
 Tallinn
 Estonia
 Tel: +372-6564047
 Fax: +372-6566531
 e-mail: reet@enl.envir.ee



Sillamae Kannuka School,
 Estonia collecting rubbish
 from their local coast

Ring Recovery Report

When doing Coastwatch Russian students from club "Nature" at Sillamae Kannuka School found a dead bird on the beach. Perhaps a gull with the Estonian name Hobekajakas (*Larus argentatus*?). The bird wore a ring HT111683.

On October 7th 1998 they received the following Ring Recovery Report from University of Helsinki, Finland:

Species: *Larus fuscus*, Lesser Black-backed gull.

Ringed as young, out of nest, on July 13th 1991 at Virolahti, Kymi, Finland by Timo Aalto, Katajamäentie 4, FI- 01260 Vantaa.

Found dead on Sillamae beach on September 21st 1998 after 7 years, 2 months and 8 days at a distance of 113 km in south direction from ringing place.

Alla Vjugova, Geoloogia 13, Sillamae Kannuka School, EE 40233 Sillamae, Estonia

What do we all learn about Lesser Black-backed gulls by studying these pieces of information?

Problem to solve...

(Answers are to be found on page 38).

The bird in this photo was found on a Danish beach on September 5th 1998.

- 1) What species of bird is it?
- 2) What possible reason(s) could there be for its death?
- 3) Could its death have been prevented? - How?
- 4) From general knowledge on the bird (and from books) - can you suggest app. where in Denmark the bird was found?



International Teacher Training course on "Bird Ecology in Estonia"

Time: May 1st - 4th 1999

Place: Haapsalu (on the Estonian west coast)

Costs: 125 US dollars for accommodation, meals and excursions

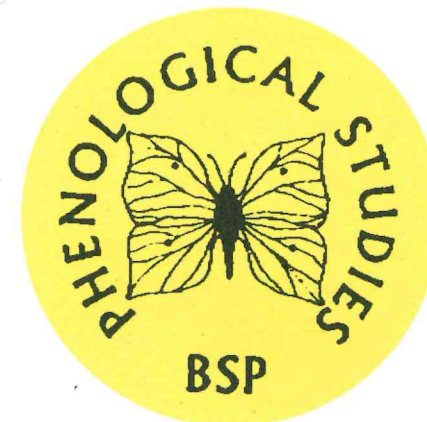
Number of participants: 30

Contact person: Anne Kivinukk, Hobby Centre TELO NATURE House, Endla 59, EE 10615 Tallinn

Deadline for application: March 1st 1999

Phenological Studies Spring 98

The number of the participants of the phenological studies is growing from year to year - more than 522 observers and groups (pupils, teachers, environmentalists etc.) participated, and Åland - a "daughter" of the Baltic Sea - joined the studies this year.



Our gratitude for the wonderful participation so as to the Open Estonian Foundation for the notable support.

We got lots of valuable information about the seasonal changes in different countries around the Baltic Sea.

Spring was early this year, the observers from Latvia, Lithuania, Germany and Åland noted. Winter was short and warm lasting only two weeks (1.-14.03) in Åland. "Temperatures seldom dropped below 0 this winter" the members of club "Smilies" (Germany) wrote.

Göran Andersson from Godby Högstadieskola (Sweden) writes, "Lots of marks of spring have appeared very early i.e. the blackbird started to sing on the 28th of February, the first coltsfoot (Tussilago) in bloom were found on the 22nd of February. The first skylark arrived on February 20th -

21st, on the 18th of March huge flocks arrived and started to sing at many places on the 21st.

The first brimstone butterfly appeared on the 22nd of February already, Leonora Urbanaviciene from Lithuania reports. It is the very first time that large numbers of brimstones appeared in this region (Trakai) in April.

We have observed the distribution and number of the white storks for some years already. Karin Jepsen from

oldest town in Denmark, also named "The stork-town". In the nest in Ribe there are 4 young storks and everybody hopes that all of them will survive."

The phenological studies as a common program of BSP will be continued next year. All the interested students and teachers are asked to participate again. Special call to the observers from islands of the Baltic Sea: it could be interesting to compare the changes in nature of different geographical conditions.



Denmark writes, "This year there were only 3 pairs of white storks in Denmark and a few single ones. It appears that a single stork that was seen in Sonderborg came from a German stork reserve.

The decreasing number of white storks could be caused by very intensive agricultural methods. The draining of wetlands has spoiled the places where storks were able to find food. High-voltage lines are dangerous for storks, too. Every year it happens that storks are killed because they fly into such a line. This year only one nest succeeded in getting young ones. It is in Ribe - the



Anne Kivinukk,

Programme Co-ordinator
TELO/ Nature House
Endla 59

10 615 Tallinn, Estonia
e-mail: anne@loodus.edu.ee

Learners' Guide no. 4 on "rivers"

The editorial group elaborating Learners' Guide 4 entitled "Working for Better Rivers and Water Courses in the Baltic Region" was announced at the 10th co-ordinators' meeting in Denmark in April 1998 to consist of Jan-Erik Wallden & Ingvar Lennerstedt, and Gunnel Öjelund, Sweden. Risto Hamari and Jarkko Suvikas, Finland. Velga Kakse & Andris Urtans, Latvia. Per Werge & Birthe Zimmermann, Denmark. Gunnel Öjelund has changed her position and as a consequence she has wished to leave the editorial group. Many thanks to Gunnel for her excellent work on the chemical part of the programme!

The editorial group met at the Rivers course in Kotka, Finland, on November 12th-15th and the work is now in progress / Birthe Zimmermann

International teacher training course "Rivers" in Lithuania and Latvia 1999:

April 24th-27th in Klaipeda, Lithuania as a co-operation between Lithuanian Green Movement and the Baltic Sea Project. Number of participants: 25
Accommodation and meals: 100 USD
Contact person: Laima Galkute, V. Krèvès 27-61, LT 3042 Kaunas
Tel: +370-7 202706 / Fax: +370-7 206724
e-mail: laimag@kaunas.sav.lt
Deadline: March 1st 1999

18 - 21 August 1999 in Ligatne, Latvia
Accommodation and meals: 120 USD
Number of participants: 30
Contact person: Velga Kakse, Valnu 2, LV 1050, Riga, Latvia.
Tel: +371-7212603 / Fax: + 371- 7- 223801
e-mail: velgak@latnet.lv

Deadline: May 01st 1999

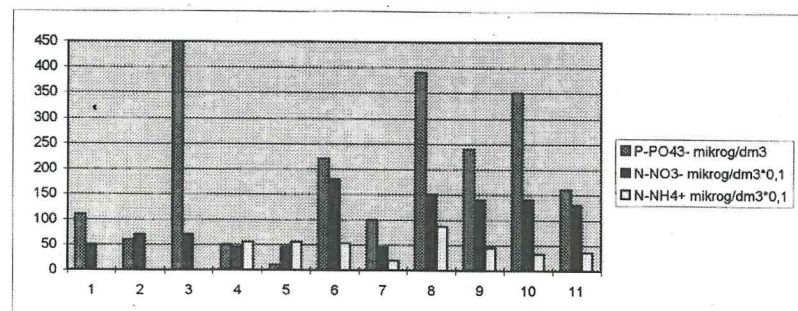
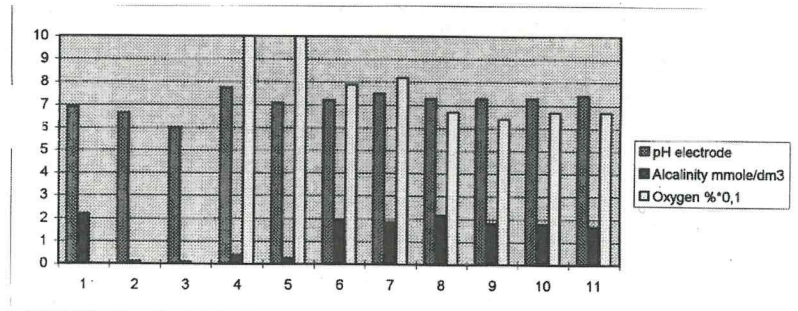
Results from BSP website on "Rivers": <http://www.b-s-p.org>

The results on "Rivers" 1997-98 from three Swedish schools may lead to questions:

- What differences can be seen in the three river systems or within the same river on 3 different days?
- What can single oxygen % saturation results show in a river? What other pieces of information would be needed to interpret the results?
- What reasons can explain the differences in nutrients (phosphor and nitrogen)?
- What further investigations need to be made?
- Whom are you going to inform about your results?
- What could be done to improve the water quality of the river?

Resultatsammanställning. RIVERS

| RIVERS 97/98 | KARLSHAMN | | | NYNÄSHAMN | | | VALLENTUNA | | | | |
|----------------------|-----------|--------|----------|-----------|--------|-------|------------|------|------|------|------|
| Provplats | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| Datum | 970321 | 970325 | 970403 | 971004 | 971104 | | | | | | |
| Temp. C | 3,7 | 3,2 | 6,8 | 0,1 | 0,1 | 11 | 10 | 12 | 13,5 | 13,5 | 10 |
| Waterflow m3/s | | | | 0,03 | 0,09 | 0,8 | | | | | |
| pH electrode | 6,92 | 6,63 | 6 (ind.) | 7,74 | 7,07 | 7,2 | 7,5 | 7,3 | 7,3 | 7,3 | 7,4 |
| Alcalinity mmole/dm3 | 2,2 | 0,12 | 0,1 | 0,39 | 0,26 | 1,92 | 1,86 | 2,17 | 1,83 | 1,79 | 1,68 |
| Al 3+ mg/dm3 | 0,008 | 0,025 | 0,034 | | | 0,007 | | 0,18 | | | |
| Oxygen mg/dm3 | 13,36 | 14,26 | 12,06 | | | | | | | | |
| Oxygen % | | | | >100 | >100 | 79 | 82 | 67 | 64 | 67 | 67 |
| BOD-7 mg/dm3 | 7,32 | 2,15 | 4,1 | 6,6 | | | | | | | |
| P-PO43- mikrog/dm3 | 110 | 60 | 450 | 50 | 10 | 220 | 100 | 390 | 240 | 350 | 160 |
| N-NO3- mikrog/dm3 | 500 | 700 | 700 | 450 | 450 | 1800 | 450 | 1500 | 1400 | 1400 | 1300 |
| N-NH4+ mikrog/dm3 | | | | 550 | 550 | 530 | 190 | 870 | 450 | 330 | 360 |
| N/P ratio | | 15 | | 20 | 100 | 14 | | 20 | | | |
| Water Quality Class | | 2 | | 3 | 4 | | | | | | |



- RESEARCH PROGRAMME IN POLAND "OUR RIVER"

In 1997 students from the ecological classes from VII Liceum in Szczecin, Poland took part in the research programme "Our River" say students Szymon Geisler and Piotr Arabczyk. Water pollution, contamination of the water by micro-organisms, chemicals, industrial and other wastes or sewage influence the quality of the water. The object of the research

was the River "Bukowa" which flows over Szczecin to Odra and into the Baltic Sea. In the research area the river is only 15 cm deep and 150 cm wide. Along the river the "Coastwatch" programme was carried out: Waste was found such as tins, plastic bags, materials such as aerosol cans with CFCs. All rubbish has an influence on growth, and unusual sites for the

plants *Erodium cicutarium* & *Galeopsis ladanum* were seen: The first should grow in sandy fields, the latter in dry land, but both were found along the river in muddy areas. In the ditches *Melandrium album* was found normally growing on sandy fields. Chemical research was made during the months of May till August:

| Organic compound | May 1997 | June 1997 | July 1997 | August 1997 | 1 st | 2 nd | 3 rd |
|------------------|----------|-----------|-----------|-------------|-----------------|-----------------|-----------------|
| Ammonium | 3 mg/L | 3 mg/L | 2 mg/L | 5 mg/L | 1 | 3 | 6 |
| Nitrate | 50 mg/L | 50 mg/L | 2,5 mg/L | 100 mg/L | 5 | 7 | 15 |
| Nitrite | 0,3 mg/L | 0,3 mg/L | 0,2 mg/L | 0,5 mg/L | ,02 | ,03 | ,06 |
| Phosphate | 2 mg/L | 2 mg/L | 1,5 mg/L | 3 mg/L | 0,2 | 0,6 | 1 |

Results from River Bukowa, Poland. (1st, 2nd and 3rd are the references used to classify rivers into 3 main categories in Poland)

Nitrate and phosphate origin in sewage, detergents and fertilisers and are the main components for algae nourishment. When the nutrients enter the river, the algae start growing, but when the algae eventually die they are decomposed by bacteria that use oxygen.

Along with the rubbish people let out their drain into the river. Appeals and objections so far have had no effect. We would plead to all of you to send us your research for comparisons, and also help us "HOW TO STOP THIS!?"
- For the sake of water animals, plants - and us!

Please contact:
Szymon Geisler, Piotr Arabczyk, students at VII Liceum Ogólnokształcące im. K.K. Baczyńskiego, Jana Styki 13, PL- 71-138 Szczecin, Poland.

E-mail: eden@kki.net.pl



The sign says: "Don't throw Rubbish here!"

Barnens Landskap



Foto: Helge Rubin

skolgårdskonferens 1998

lek lektion & motion

Södertälje 17/4 • Lund 15/5 • Göteborg 18/9 • Linköping 16/10

Konferensprogram och anmälningsblankett finns på hemsidan: www.barnenslandskap.m.se. Barnens Landskap har tel- och faxnummer 046 · 13 11 12. Konferensserien presenteras i samarbete med Arla.



BSP Themes: Green School Yards

Co-operation between Barnens Landskap and the BSP - part of a process



"How does this set-up produce tar?"
Katrinn Ennok from Estonia seems to think



Lithuanian and Latvian participants dressed for outdoor education

In 1996 pre-school and primary school teachers met on Öland and started a process of improvements of school yards. In 1997 another international conference was established in Carnicava outside Riga in Latvia, and on October 15th - 18th 1998 some twenty BSP pre-school and primary school teachers from Sweden, Estonia, Latvia, Lithuania and Denmark benefited from a co-operation with "Barnens Landskap" and participated in a combination of a conference at Linköping University with app. 200 people, and a parallel course in the Swedish countryside for BSP teachers. All participants got inspired by the ideas and beautiful pictures shown by Susan

Humphries, Headmistress from the Coombes School, England, and by lectures on "Problem based Learning" and "Outdoor Education and the Outside Classroom" (see the article presented on pages 6-7). A wet but adventurous excursion into the forest world of "once-upon-a-time" led by Börge Falk from the Forestry Commission and Anders Szczepanski from LU high-lighted the theoretical part by adding the practical experiences: The participants were to use their senses, dressed in rubber boots and raincoats and covered by umbrellas on end, they were to burn pine to get tar, investigate the age of a tree by drilling holes into it and counting the

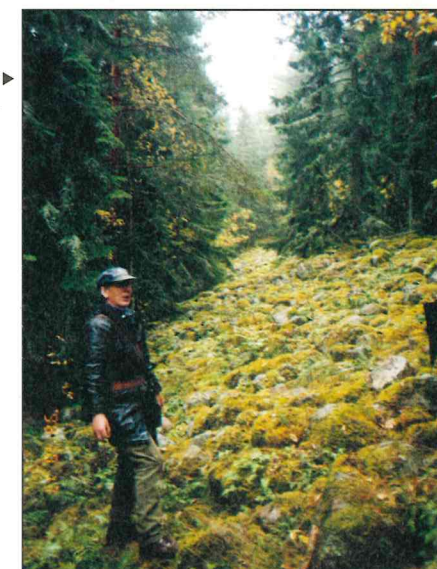
rings, make solid traditional Swedish forest-food over open fire, and study bio-diversity in the forest, and even eat some fern roots.

The forestry people presented "water in the landscape", built ships and mills and made the participants play with the water. They took us back in time to the Yoldia Sea with its distinct shoreline of round boulders clearly visible in the Swedish forest: With the retreat of the ice in Pleistocene, water from The Baltic Ice-lake drained westwards and allowed influx of salt water into the Baltic. Upheaval of land since then left these very marked shorelines.

Forester Börge Falk at one of the isobases or marked shorelines from the Yoldia Sea.



◀ Estonian poster "Our forest observations in a magnifying glass" made by pupils from Club Scarabaeus in Tartu. The pupils had 30 minutes only to do their drawing!



BSP Themes: Green School Yards - Sweden



◀ Rebuilding Uppsävaskolan made the creation of a school garden possible! spring of 1998

Uppsala: From Inspiration...

In June 1996 my colleague, Ulla Bric and I attended a Baltic Sea Project course for primary and secondary schoolteachers on the island of Öland, Sweden, and decided that something had to be done at our school! In the winter 1997 came the decision to rebuild and add new parts to our school. When the plan for a renewed school was presented to us, we realised that we had a chance to make a garden. A yard of approximately 250 m² had been created, with buildings on all sides, protected from damages by people outside the school and with a good climate for growing plants. Wooden boxes were installed, 60 cm high with good soil. In the spring of 1998 everything was ready for planting. A search for garden tools all over school gave us a lot to start with, and a small amount of money, 2000 SKr, could be spent on plants, tools and other necessary things.

To the Creation of a Small Paradise

In the month of May a "beggar's letter" was distributed to the parents in the lower classes, asking for plants, flowers, herbs and bulbs that they could give to our school garden and a surprising amount of plants started to arrive in pots and plastic bags. Our garden has a theme, suitable for small children, on COLOUR, TASTE and SCENT, so we planted annual and

perennial flowers in the smallest box. The next one was suitable for vegetables like potatoes, carrots, onions, salad and radishes and in the biggest one household plants such as rhubarb, strawberries, gooseberries and a square of spice herbs were planted, and finally a nice corner for the teachers with roses, lavender and flowers, like Dahlias. We also planted two apple trees -The Öland decision! During the spring of 98 the children sowed a lot of seeds and our windows were full of small pots with sunflowers and other annual flowers which we planted in the garden together. Our work was granted SKr 15000 from the authorities in Uppsala for the development of pedagogical ideas and to obtain time for planning, literature on gardening and to be able to study other school gardens.

Since we have day-care service all summer in our school, adults and children tended the garden during the summer holiday, so when everybody was back to work in mid August, the garden was very beautiful. The teachers used it for planning work and had coffee breaks with joy.



The Outdoor Classroom

During this autumn pupils and teachers have harvested the vegetables and used them in the school kitchen. Also, we have used our garden as a place to draw and paint pictures of the flowers, to taste the herbs and look at all the butterflies and bumblebees. In October we planted bulbs of spring flowers and filled our new compost with old material, in order to get new soil next year.

Pedagogical ideas and intensions

Our school garden is just one part of our intentions to make the children aware of how everything on Earth is linked together, including ourselves. We want the small children to be happy in the garden



◀ We measured the sunflowers. The tallest one was 3.8 meters!

and in the forest, the older ones to gather information and knowledge about everything living, in order to develop into adults, who are ready to act in order to obtain a sustainable future. This, in our opinion, has to be done by a combination of real outdoor experiences and classroom documentation, not to mention that we, teachers and pupils have a lot of fun working and playing together.

Irene Weisner

Uppsävaskolan, Akademivägen 2, S-75756 Uppsala Sweden

◀ Themes in the school garden: Colour, fragrance and Taste! For Use and Satisfaction - for butterflies, bumblebees, children and adults! (Aug.98)

BSP Themes: Green School Yards - Germany



▲ The first step towards a school pond was made in 1993



The school pond in 1998 ▶

- FOR THE SAKE OF SPECIES' PROTECTION...

"We rearranged the area surrounding the Comprehensive School of Lütten Klein, situated on the northern outskirts of the Hansatown Rostock" says Edeltraut Kindler. The school consists of four buildings, previously with much concrete and no flowers or plants. A long time ago our ecological club at school decided to spread the knowledge that every leaf and every plant would improve the quality of the air and that every blossom would give a butterfly a chance to survive. Thoughts, dreams, ideas developed, and in 1993 the school conference decided to change the surroundings around the school into being environmental friendly. We took the initiative in the club, and the work was sponsored by different firms because everybody at school - children, teachers and parents took part in the work, co-ordinated by our headmaster. Lessons and free time were spent, and since 1993 we have created:

- A composting system
- a pond
- a hedge to protect the birds
- a heath garden
- a bog biotop
- several flower beds
- a butterfly meadow
- covered walks and facades of the houses with trees containing

- boxes for bird nests and summer accommodation for bats
- concrete was taken away and replaced with an oasis of benches, bushes and trees
- The fragments mixed with compost were made into a high bed stone garden with plants.

Now we have the equipment for

places to remember.

Our green area is a good school yard, and we use it for celebrations, for art classes, science and biology lessons. It is a place of activity in our all-day school, and the young people from our borough meet here, sit here, talk here, and simultaneously the area provides space and different habitats to different species of plants and animals.

Edeltraut Kindler,
Gesamtschule Lütten Klein,
Turkuer Strasse 59,
D-18107 Rostock, Germany



◀ Establishing a green oasis in the school yard

▼ Transformation of concrete into a stone garden

games on the school yard. Our school took part in many competitions in our town and in other regions and the successes encouraged the whole school to work out new projects. We used special events to plant trees and to create



Agenda 21 - From Words to Action

"Moving towards the goal of sustainability requires fundamental changes in human attitudes and behaviour. Progress in this direction is thus critically dependent on education and public awareness.

The concept of sustainable development is not a simple one, and there is no road map to prescribe how we should proceed. Yet time is short, and we are called upon to act without delay. We must move ahead now, in a spirit of exploration and experimentation and with the broadest possible range of partners, so as to contribute through education to correcting trends that place in jeopardy our common future"

Federico Mayor, Director-General of UNESCO

Learners' Guide 3, Environmental education for sustainable development "From Words to Action" published within the Baltic Sea project in 1998 can be ordered from:

Liber Distribution

Publikationstjänst

SE-162 89 Stockholm,

Sweden

Phone: +46-8 6909 576

Fax: +46-8 6909 550

Order no: 97:348

Price: 60,- S kr per book

Purchasing 10 or more books: 40,- S kr per book

ENVIRONMENTAL EDUCATION From Words to Action FOR SUSTAINABLE DEVELOPMENT



The Baltic Sea Project
Learners' Guide No. 3

Agenda 21 - From Words to Action



Painting the benches in the school yard

Eslöv, Norrevångsskolan class 9

At first all pupils studied the Agenda 21 from different points of view in geography, biology, civics and religion. In May 98 the Environmental group and 3 teachers arranged an action day for voluntary actors in different operations such as

- Collecting money to save the rain forest, Virgin forests in Sweden, and wetlands in Skåne to help reintroduction of the white stork
- Cleaning up a meadow by cutting down twigs and picking up litter
- Constructing birds' nesting boxes to be installed in the parks of our town
- Renovating and painting the benches in the school yard
- Checking different restaurants and cafes in town to see which is best in recycling
- Informing younger pupils about the environment, recycling, and planting flowers in the school garden

The environmental group prepared the activities by making posters and money boxes, and by making questionnaires (and a

diploma) for the investigation in eating houses. Everything went very well, and most students participated and stated that they considered the practical day worthwhile and good. We recommend other schools to do the same!

By Lena, Carl, Patrik and Caroline in the Environmental group, and teacher Kirsten Lennerstedt, Norrevångsskolan, Eslöv, Sweden



Collecting litter in Abullahagen, a Nature reserve



Welcome banner at the NGO exhibitions at Brobjergskolen in Århus

Bridging the North Sea:



LONDON 99 - CONFERENCE:

Healthy People - Healthy Planet!

Next year WHO will hold the first European conference on Environment and Health in which NGOs will have a role to play. The conference will consider the development and implementation of National Environmental Health Action Plans.

Healthy Planet Forum

Parallel to the conference WHO supports a non-governmental event, Healthy Planet Forum that will take place at Westminster Central Hall on June 15th - 18th. The conference addresses among other topics a Protocol on Water and Health; a Charter on Transport, Environment and health; and Health Effects of Climate Change...

Further information can be obtained from:
Contact: Richard Grahn at Environment & health UNED-UK 3 Whitehall Court, London SW1A 2EL
Tel: +171-839 7171 / Fax: +171-930 5893
e-mail: 106655.1325@compuserve.com
Web Site: <http://www.oneworld.org/uned-uk/health>

Denmark - Public Participation Convention

- ECOFORUM / Århus98 Denmark

They were all there - the Ministers of Environment from every corner of Europe, and they met and dialogued with NGOs.

The BSP was there, too, with an exhibition in a class room at the Brobjerg school just across the parking lot from Århus Congress Centre asking ourselves, if the BSP is in fact a NGO activity (?).

The BSP information folder was created especially for this event to inform about our work, and the BSP programmes and themes etc. were presented on beautiful posters from all nine countries.

In a special video room BSP Videos on "Water Quality", "From Words to Action" and an English version of the German "Environmental Drama / Eco-sophy" were shown among other videos every hour. Danish Television visited the BSP exhibition and the interview for the News on TV with Danish Minister of Environment, Mr Svend Auken, took place in front of the beautiful Tartu posters. Teachers from Denmark took active part in presenting the exhibition to the public, and so did three teachers and three students from Estonia. The Århus convention was signed by 37 countries - and if you visit

<http://www.mem.dk/aarhus> you can find the conference photos and see the Danish minister sign the Public Participation Convention (photo 9), Estonia (photo 10), Finland (11), Latvia (19), Lithuania (21), Poland (26) and Sweden's Anna Lindh (photo 32).

The Ministers from Russia and Germany did not sign the convention.



Knud Johnsen presents the WaterQuality programme to Svend Auken, Minister of Environment, DK



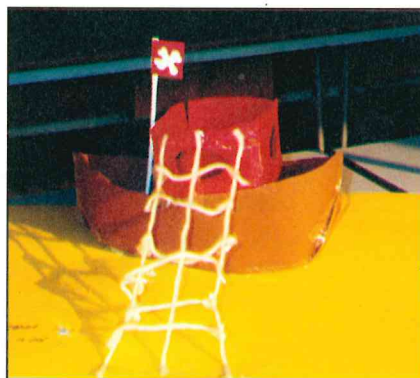
Part of the BSP exhibition at ECO-Forum Århus 98

Project title: "Natural Playing Ground" - in the eyes of children

At Østersøskolen the pupils had the following task: "Create a model of a Nature Playing Ground!"
One condition from the maths teacher was that the scale used was to be the same throughout the model work. The pupils went to work with the determination that "nature" was to be understood in the sense that all equipment was to be made from nature materials, and they seemed to grasp the task of the expression "Playing Ground" as "What would we like the adults to make for us".

Here is what they created:

One group made a hiding place in a hole in the ground surrounded by a hedge of 1 meter's height, explaining: "One can play and talk, and when entering from the outside there is a ladder to crawl upon, and on the inside some steps."



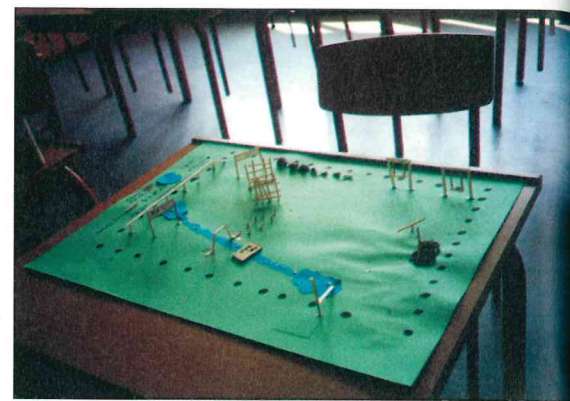
One group wanted a brown ship with a red cabin and a wooden mast with a flag of cloth - red with some bones- we should be able to crawl from the ship by a net that can be removed, and instead of water the ship should be in sand. We want a ladder all the way to the top of the mast

Another group says,

We would like an underground house. The house measures 2½ meters times 3 meters. There is a tunnel leading to the house. On one side of the roof there are some knobs to climb up upon, and then you can slide down on the other side. The roof is made of dirt and grass to prevent anybody from hurting themselves, and the walls are made of wood, because then it is natural."

Their works were presented on a national exhibition. Østersøskolen has 117 pupils, one fireplace, 2 switchbacks, 3 soccer goals, and four slings - but the children seem to enjoy both asphalt and grass and their need for adventure is very hard to restrain- fortunately.

Kirsten Tønnesen, Østersøskolen,
DK-4874 Gedser, Denmark



One group created an exercise slope with hindrances with stones to lift (5-60 kg). "A small stream should stream through the playing ground with a small lake for sailing. There should be trees all around to make it a nature plying ground and to make it more lively. A hollow tree spans the lake to crawl through, and there is also a bridge across to walk on."

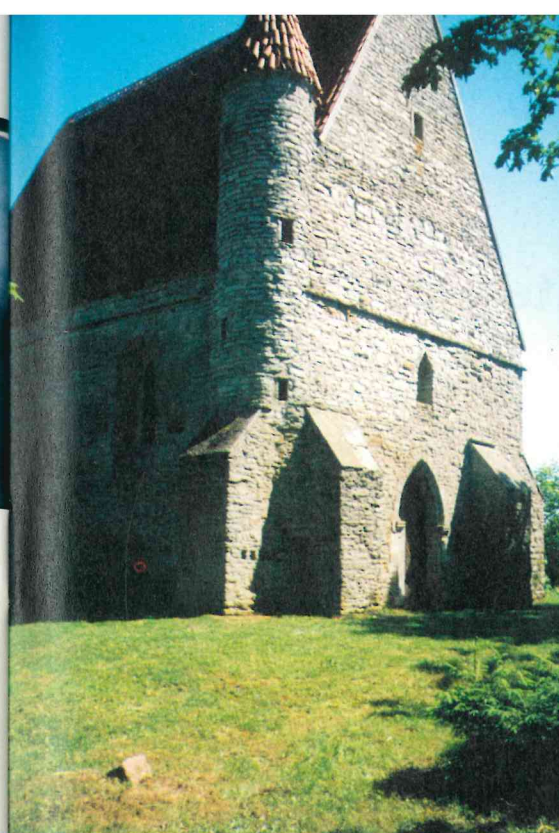
"Norma"

- Drama Festival
in Denmark in May 1999

NORMA = NORDic EnvironMent Actors
arranges a drama festival in Albertslund,
Copenhagen on 17th-21st May 1999 for
children aged 10-12 from the Nordic
countries who create a drama performance
playing app. 20 minutes.
Theme: Culture - Nature relationship.
How is "culture" understood in
your local area?
How is "nature" understood?
Do people form nature?
Does nature form people?

Further information from:

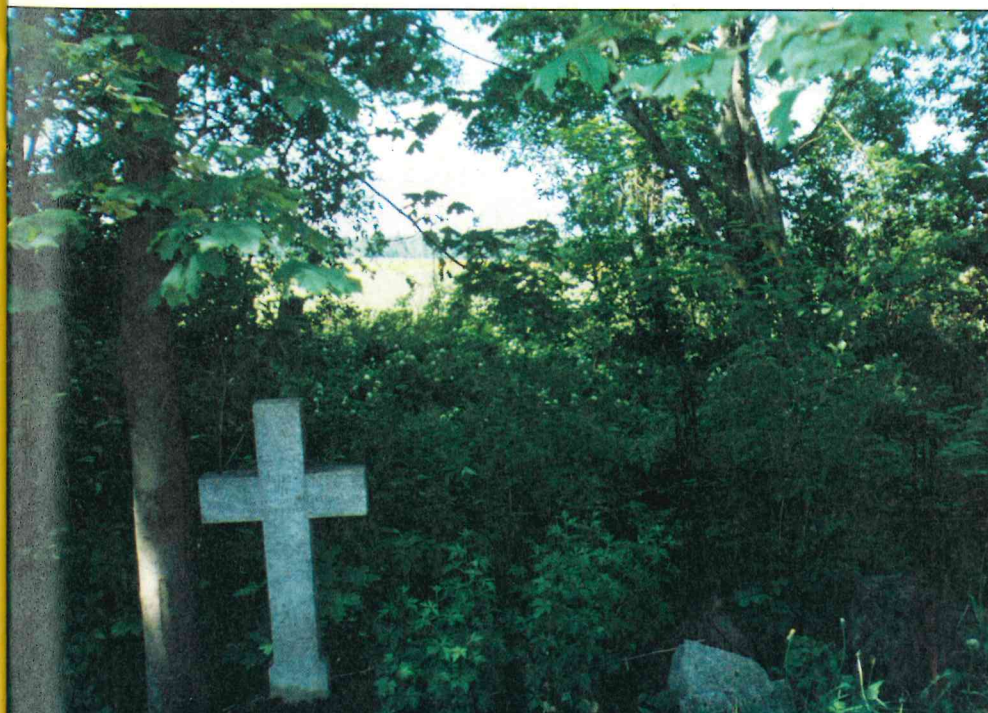
FFM, Myrthuegaard
Myrthuevej 39
DK-6710 Esbjerg
Tel: +45-75269906 / Fax: +45-75269506
e-mail: FFM@image.dk



▲ The Sara chapel



Pupils from Loo Sec. school at hard work on the church yard



The chapel was mentioned for the first time in 1223. According to legends, the Sara chapel was built 50 years earlier than the foundation of Tallinn, our capital, so the Sara chapel was one of the first strongholds of Christianity in Estonia!

Sirje Piht,
Loo Sec. School,
EE-74201 Harjumaa.

◀ Old graves that need preservation



The World of Water in the Eyes of Children

The third annual exhibition of "International Children's Creative Works Contest" was in 1998 entitled "The World of Water in the Eyes of Children"

The international co-operation in the Lake Peipsi Project has the following goals on making an art contest:

- To realise the creative potential of talented children in different countries
- To develop a dialogue between children and adults in Russia and Estonia and other countries in the sphere of environmental protection
- To bring about joint actions to preserve Lake Peipsi, the fourth largest lake in Europe and ecologically unique

The contest has been organised since 1996 by Pskov Region Ecological-Biological Centre, Russia, the town of Mustvee in Estonia, and the NGO Lake Peipsi Project and has gained popularity each year from 300 participants in 1996 to more than 700 in 1998.

The children were awarded on a ceremony on June 22nd and the winners enjoyed a boat trip along the Velikaya River into Lake Peipsi.

The children's works send a distinct message to adults to protect the natural beauty surrounding our waterways!

Victoria Grigorieva, Lake Peipsi Project, Pskov, Russia, 130024 Kuzbasskoy Div. str 32-53 or: Peipsi Järve Projekt, Lai 24, Tartu EE 2400, Estonia



▲ Bolshakova Olga, 14 years from Belarussia won 1st prize with her drawing, "Morning on the Lake"



◀ "Friendship" made by Skochko Dima, aged 12, led to a special prize from the Ministry of International Relations

"The World of Water in the Eyes of children" was exhibited in Pskov, Russia 2-22 June 98



Preparing the journal

The Rantasalmi Institute of Environmental Education within the framework of the Baltic Environmental Education Network invited two students from Estonia, Finland, Latvia, Lithuania, Poland and Russia to Rantasalmi International High School on July 5th - 17th 1998. Rantasalmi is situated more than 300 km north-east of Helsinki in the heart of the Saimaa lake district, and the participants stayed right on a lake shore. The two week courses were on:

- Mathematics and Nature: One topic was statistics especially the collection and analysis of quantitative information. Another topic was bio-economics of exploited populations focusing on the open access fisheries model "the tragedy of commons". The course was led by Dr. Scott M. Lewis, Washington University.
- Art as a way of Seeing Nature, led by Riitta Ahola. The students explored the variety of ways nature influences the human spirit, made journals and drawings of each other
- English Conversation Seminar: to enrich English oral skills among the participants
- Field Ecology where local ecosystems were investigated. Journals on chemical characteristics, plankton, invertebrates and plants were made in the lake of Haukivesi and Raudanvesi. Lab work took place in Lakeland's laboratory.

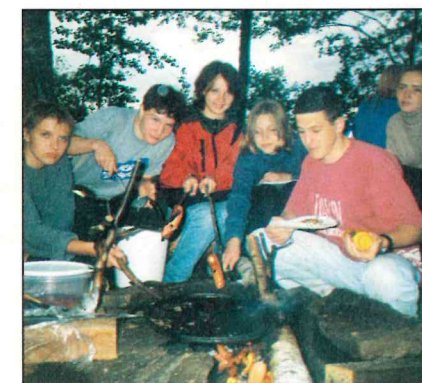
- BSP students from Lithuania at International Summer High School in Finland

The course included a visit to a water cleaning plant.

- Internet basics: Provided the participants with the necessary tools to carry out presentations on home pages
- Stone Workshop: Impressive to actually work with stones and make souvenirs for our friends.

For relaxation we walked, visited the Parish church, boated a lot and rowed in canoes - and the weather was unexpectedly warm: 27 degrees. An astonishing experience was to row a church boat with 14 oars and one driver at the end. We went in this boat to Linnansaari island and spent two days there. People come and sing, and dance and go to smoke saunas. In Linnansaari National Park you can see the Saimaa seal (a freshwater seal!) - however, we did not see it. We saw some sheep and goats, and realised that people leave cattle on their private islands. All students were very friendly, but we especially communicated well with two girls from Latvia because we could speak both English and Russian with them.

Jurgita Mikolaityte & Ieva Druaukute, Jonuciai Sec. School, Vasario 16-8 LT 4316 Garliava



Picnic with grilled sausages and pancakes

Anima Baltica

is the name of a campaign addressing TV watchers and pupils around the Baltic Sea. 26 three minutes animated films that focus on the state of the Baltic Sea will be made by animation artists from the countries around the Baltic Sea to be shown on television during the year 2000. The production process goes as follows:

- 1) Call for proposals: Deadline 15 January 1999. Each proposal/ synopsis should consist of max. one typed page in English, and each idea should be submitted on an individual page and the name, address, phone, fax, e-mail should be put on each idea page.

The subject areas are:

- The Importance of the sea for the humanity
- Consumption, life style and sustainable development
- Discharges from urban areas
- Industry, energy and military
- Agriculture and forestry
- Fishery
- Boats, ships and ports
- Air pollution
- The individual life style

All animation techniques may be suggested: Clay, 3D, cell, still photos, puppet

- 2) All animators will get an answer before February 15th 1999. There is no payment for idea papers, and they will not be returned. The suggestions should be sent before January 15th 1999 to:

EPIDEM/ZOT
Maneesikatu 1-3J
FI-00170 Helsinki, Finland
Fax: +358-9 68416120
e-mail: veima@epidem.pp.fi

Networking Poland - Finland

Participation in the fifth Environmental Camp School in Meri-Pori, Finland

Six students from II High Konopnicka School from Katowice went with their biology teacher, Jolanta Mol, to Finland in May 98 to participate in the fifth Env. camp school with teams from Finland, Lithuania, Estonia, Russia and two Polish teams (Katowice and Walbrzych). The well organised conference had the following programme:

- Monday: Presentation Day. Every team had to present their school and their environmental work.
- Tuesday: Group work on three topics:
 - 1) a chemical water analysis on the waters of the Rivers Kokemäenjoki and Lake Enäjävsi, and on the sea water on the Yyteri beach. Concentrations of nitrate and phosphorous were highest in the river.

- 2) Air Quality. Many species of lichen were identified, and by using lichen as bio-indicators observations of SOx on Hypogymnia physodes and Usnea were made and
- 3) Bird watching - wandering along forest paths and tracks, through marshes, swamps we searched for water birds. We listened to their voices, and used strong binoculars to observe beautiful teals, Golden eyes, Pochards, Canadian Geese, Grey Herons, Little Stints - in all 27 species were observed. A trip with ornithologist Ari Rantamaki to ring young owls was especially interesting.

Ringling the owl with ornithologist Ari Rantamaki

Wednesday we visited Kemira Pigment Plant, and we had to wear white suits, helmets and rubber boots - an amazing view! X-ray fluorescence methods to determine total sulphur contents in pine needles were demonstrated, and scanning electron microscopy to study the wax layer of needles. Imatran Voima - a coal power plant was visited before a very interesting day had made everyone very tired.

Thursday we visited Simo Korpela to see his collection of butterflies, -the biggest in Finland. We also visited a nuclear power station, and we were allowed to ask questions - we could not believe that there was no radiation in the building.

On Friday reports from working groups were presented and we had a lecture on Pori's environment. Sadly enough "All's well that ends well" and with the Jerkko Gala a wonderful week came to an end. A week that we would like to thank Veikko, Simo and Karri for - it has been a wonderful experience to come to Finland and spend six lovely days there.

Students Anna Janik, Alicja Mol, Agnieszka Gondek, Kasia Pajak, Martyna Michalak and Martyna Markowska, and teacher Jolanta Mol, II Konopnicka School, ul Glowackiego 6, P-40-052 Katowice



Water Quality presentation activated visiting Danish students, Mette W. Christensen and Margit Jessen

The students worked in five quite different workshops. BSP Teachers prepared the workshops very professionally.

- Internet group: A homepage was arranged with information on the workshops, the camp, BSP with background information, photos and drawings. The students worked very hard to complete it. The result can be visited at: <http://www.rz.uni-frankfurt.de/schule/asf>
- Water Quality group: Benthos animals were investigated together with plankton, salinity, temperature, visibility, redoxcline, organic material, algae, seed plants and chemical load to grade the quality of the water
- Sea-Life-Center: A marine biologist taught the students everything about fishes: Behaviour, appearance, way of life, movement. Dissections took place to study the organs of

Germany "Experience Nature - Keep Diversity" International Summer Camp -

"Wilkommen, Bienvenue, Welcome"

Ninety students from Denmark and Germany took part in the International BSP Summercamp in Timmendorfer Strand entitled, "Experience Nature - Keep Diversity" from Agenda 21. We were guests at the Ostseegymnasium Timmendorfer Strand directly situated at the Baltic Sea. The students lived in tents at the school ground and provided themselves with food, apart from one hot lunch that was served everyone upon arrival, and the good weather made everybody happy and gay.

The sculpture was presented in the daily paper during the preparation phase

sharks and rays; observations were made to better understand the living conditions. At the presentation all participants got a well organised and interesting tour through the amazing Sea-Life-Center

- Crane Protection: Students working with these migrating birds studied appearance, behaviour, way of life, migration routes. They visited a protection station for cranes near Mölnn and they could observe the feeding and the sleeping places. It was very impressive to see several hundred cranes coming back for the night. We all got information on how to participate in the protection of these birds: To keep the Cork Oaks in Spain and Portugal where the cranes spend the winter where they feed on the acorns. Everybody can collect corks and recycle and reuse them.

Under the idea of Eco-sophy the workshop leaders planned a performance with the title, "from Earthsound and Mankind Song" based on the story of the sunken town Vineta. On the first day the group chose a fallen tree which



was moved to the central park. The task was to make the story of Vineta visible in a sound sculpture. With tools, physical strength and inspiration the participants worked out the sculpture and integrated instruments which make sounds through the wind and man's playing. After two days the sculpture could be erected and fixed to the ground. The design with colour, and arrangements of strings for the integrated harp, of gongs and drums completed this work of art. On the last evening everybody celebrated the festive hand-over of the sculpture to the Mayor of Timmendorfer Strand.

Gisela Knipper, National co-ordinator Hauptstrasse 14 D-38274 Klein Elbe Germany



Crane Protection presentation by teacher Barbara Maitin, Schulzentrum am Heimgarten, Ahrensburg



The Polish students remove Populus tremulus to keep the Finnish biotope suited for the butterfly Philotes baton

Latvia - Environmental Camp in Ruja



Karina and Laura search the colours of meadow plants

For the second time a camp for young environmentalists was arranged, in 1998 near Konu elementary school on June 15-18th

Teacher Laine at the river Ruja help her students to determine the species of plants and water animals



- The programme was done on a variety of themes:
- Determination of air quality by using bio-indicators (lichen)
- Investigation of the river Ruja, its flora and fauna, flow, depth
- Making pencil drawings (surface texture) of different tree and plant species
- Identification of tree species

We slept in tents and we had night rallies: From ghosts we were to collect letters that put into order made up a poem that led us to the

"glow worm". It was made from little candles and glittered warmly. Although we had heavy rain life in the camp continued; we made amulets of salt, flour and water (1:1:1) and baked them in the oven, and a magazine with research results was made.

Thanks to our teachers Anda, Māra, Ligita, Ervins and Laime that they made us a pupils summer camp!

Liga Birsa & Oksana Stelmaha from Ruiena secondary school

National BSP summer Camp - a Wonderful Tradition!

"A camp is an ideal place for pupils to make friends, to prove one's abilities and skills in different kinds of work individually and in co-operation, and to learn how to listen and take into account the thoughts of others" says teacher Anda Dekšne.

The Latvian BSP school summer camp has become a tradition. Usually it has been on the Baltic coast, but in 1998 it took place in the middle of Latvia, in Vecpiebalga, on August 19th - 22nd. 72 students and teachers from 16 schools participated. The camp was directed by the national BSP co-ordinator, Velga Kakse, and the workshops were guided by teachers who had all improved their knowledge on environmental education by participating in courses organised by the BSP. The pupils took part in the following groups:

- Environmental drama and Art- a successful way of getting acquainted and showing one's opinion of environmental aspects which resulted in a performance
- Air quality by using bio-indicators - this programme is not very popular in Latvia, but after trying out the programme together probably many schools will get involved. The students went to work with enthusiasm and determined changes in the colour



Environmental Drama group at work

of needles, needle loss and determined the lichen on fir trees and tried to make conclusions

- Environmental history - a new topic in Latvia because of lack of skills and knowledge in this field and how to work with it. It was very interesting for both students and teachers observe natural objects and see if they were influenced by man's activities, and to walk to the spring of Gauja, one of Latvia's most picturesque rivers. The walk to Gauja went though a lot of natural obstacles - bushes, swamps and pools. Klavs Zommers gave an exercise for pupils: They had to listen, to look

around, to analyse and think about people's activities and how these had influenced nature. They had to find answers about restorable and non-restorable nature resources and how to speed up long sustained development.

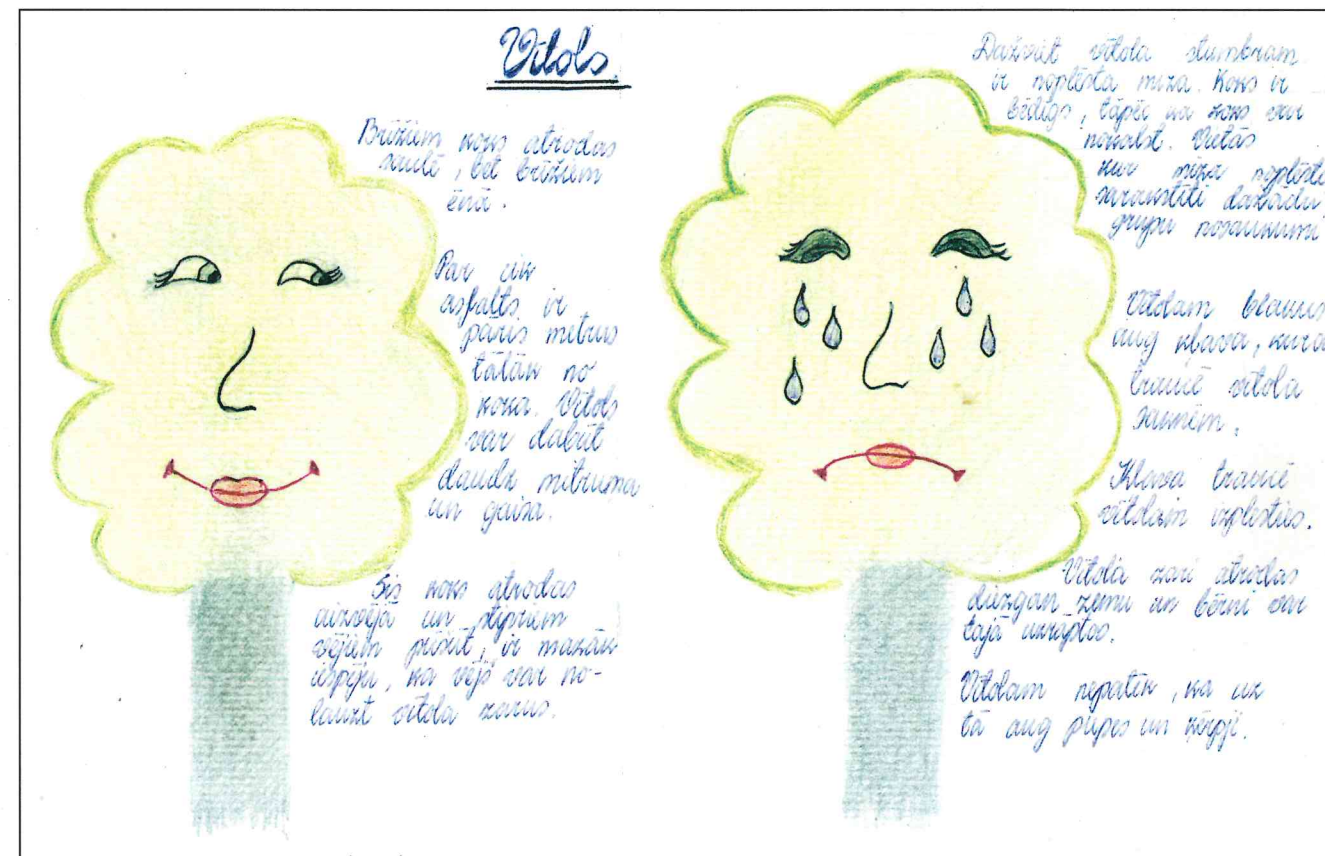
The camp summed up impressions and knowledge in a conference where pupils shared and evaluated their experiences, and it is my impression that the work on Air Quality and Environmental History will be continued in Latvian schools. Thanks to our national co-ordinator for excellent organisation and invested work.

Anda Dekšne, Rujiena Sec. School, Rujiena, Rigas ieka 30, LV 4240



Building the road Vecpiebalga - Madona without drainage killed part of the forest

Latvia -Pedagogy "I am a Tree Near Our School"



What makes a city tree smile, and what makes it cry? made by Iwa, Gundega & Linda

In Ilguciems Sec. School in Riga 142 students from different classes were asked to define "Environment". The school is a city school in Riga -a huge city with poverty, illiteracy, vandalism, crimes. The answers varied immensely and some were vague dealing with "surroundings", organic and inorganic materials, man, crowds, cars. They considered the most important environmental problem to be air pollution along with overpopulation, many cars, sewage, stray dogs, the burning of leaves and dust.

It is generally thought that large cities are unnatural, unpleasant and inhuman. So in September a joint action started between English and Biology: The students studied trees around our school: They were to notice one tree, find its name in English, describe its place of growth and how it

changed with the seasons. The number of different species of trees was summed up, and the pupils realised it was not easy to live as a tree in the city. Then they had the task, "I am a tree near our school" They were to tell what the tree saw every day, what it felt in every season, what it thought of its place of growth. They were asked to find out: "What can make the tree smile? and what can make it cry?" and perform for the others without words.

Evaluating their research work some students answered:
"We perceive the environment around us better"
"It makes the pupils happy, and it tells what and how much we know about nature!"
"Lessons like these are necessary to teach us that there are other living creatures on Earth, and little

by little it makes us love nature"
"Trees in the city are generally not happy because of too many cars"
"We discussed together different questions - that I liked"
"I realised that a tree gives us much more than we give it"
"We learnt to work as a team"
"We gained inspiration to act"

Liesma Abolina, teacher of biology
Lydia Izotova, teacher of English
Ilguciems Sec. School, Riga, Dcierciema iela 109, LV 1055

Lithuania Environment Protection Museum -

Benediktas
Gaizauskas
using the
museum
for teaching



We are to understand that live nature is an entire organism and it is full of harmony and the sublime. We should remember that all of us are dependant on nature that by protecting forests, rivers, or seas we also protect ourselves and the future of mankind



The Environment Protection Museum

In 1978 an environment protection museum was established in Vytautas Didysis Gymnasium in Klaipeda. For the students it is like a small world of ecology, containing information and material about the problems and the current situation all over the world, and especially in Lithuania. Each visitor can get acquainted with these problems and even help to solve them.

First the visitor is taken to maps of protected areas and objects in or around the city of Klaipeda. One such place is the National Park of Kursiu Nerija. Great attention and big efforts are made to preserve it, protect and clean the beach, and the students from our school help in strengthening the sand dunes.

The next step takes the visitor to the scheme of the Earth with its structures and treasures and the need to perhaps join environmental protection movements. Then on to the evolution of plant and animal species and what threatens them, so the visitor can examine ecological problems and be aware of the areas which can possibly be protected and preserved.

The red list with rare and disappearing species is presented so people know which species should be cared for. A huge collection of mushrooms, rules of picking them and their ecological importance is also on display. The visitor will experience fishes and animals and also forest trees even though Lithuania is not considered a country of forests. Berries and rules for picking berries; spiders as useful animals; models of dune protection; Nature protection posters; "The Plants and animals of the world on stamps" are all examples of displays in the museum. You can also learn about our students participation in the Baltic Sea Project and other projects presented through charts, diagrams of surveys, questionnaires and results

from co-ordinators in Denmark; Norway and Sweden.

One exhibition deals with animal and plant care and a small school zoo with beavers, deer, fish, bees.

You can also find pictures of our biology competition winners: There has been 30 biology competitions so far and our students have participated in all of them and won 43 rewards, 20 of which are the highest ones.

Having visited the museum you again come back to the idea that man is so very dependant upon nature, and it is simply a must to protect and preserve it!

Benediktas Gaizauskas,
Vytautas Didysis Gymnasium, S.
daukanto 31, LT 5800 Klaipeda

Answers on bird ecology, (from page 20):

- 1) The species is Sula bassana, the Gannet
- 2) The feathers have been smeared with brown sticky oil which makes the feathers absorb water. The temperature of the water chills the bird to death. The oil originated from a ship emptying its oil tanks in the North Sea. Its origin (nationality) was suspected to be Polish, but it was never proven.
- 3) Well, how can oil spills be prevented? By more environmental understanding / more education and improved ethics and morals... or?
- 4) The Gannet migrates to warmer areas (West Africa) in the winter time, and therefore it is frequently observed passing the Danish west coast on its way from the breeding grounds in the North Atlantic. This dead bird was found on the west coast of Mandø - a small island in the marshlands (Ramsar area)



Poland - Focus on Earth Day



Part of the exhibition on art works from Earth day

In III Liceum Ogólnokształcące, Głogów "Earth Day" was marked on April 22nd says Danuta Madroszkiewicz. The pupils had an art competition, a competition to be the best "Earth Mother" and pupils acted as journalists interviewing fellow pupils on their opinion and knowledge on matters such as "What is ozone". There was an exhibition on all art works and a jury had to find the winners of the best outfit as Mother earth.

The event took place to focus upon environment and man's dependence upon nature.

Danuta Madroszkiewicz,
III Liceum Ogólnokształcące im.
Bohaterów Westerplatte,
PL 67-208 Głogów



The best
Mothers of
Earth

Networking - Poland and Denmark

Amal from VII c at Włocławek misses her friends from Sønderskovskolen in Denmark, she says, "This exchange has been such a great success, and there should be more events like it. And hopefully, we shall meet again some day, somewhere..."

The Danes visited their Polish friends six months after the Polish pupils had been in Denmark in September. "We were all excited and a bit nervous while we waited for the Danish bus to arrive" During the week the Danes had a presentation to the Polish school system, and were shown the school. The Danish pupils said that it is a big building and that they like it very much. In the evening parents and pupils had dinner at school with some presentations and beautiful songs. The next

morning we visited the nitric works. We heard what was produced, and that this factory does not poison the environment, what we all thought! In the evening the folklore group performed "Kujawy" and we learnt a dance "Jack" that is also in part a Danish dance. We all danced and were happy. We had traditional games and a disco. On Wednesday we went on a trip to the very old village of Buskupin. We saw how people lived many, many years ago and how they made plates and cutlery. We later went on a narrow-gauge railway and could shoot with a bow and arrow and a spear ourselves. In Toruń we visited the planetarium, but the show was in Polish, so our friends could only watch. On the final day we talked about ecology in our town,



Danish pupils visit their Polish friends on an exchange visit

presented our projects, and all met by the lake to barbecue. It was the final evening, and the next morning we were all very sad: Exchange studies should take place more often!

Amal, Form VIIC,
Szkoła Podstawowa No 23
im. Kardynała Stefana
Wyszynskiego, P-87-800 Włocławek

ECOLOGY AND ECOLOGICAL OLYMPIADS IN ST. PETERSBURG



▲ Student Artem Kadzic ready to make a bottom sampling from a river ecosystem

School no 466 works with ecology in many ways: by making investigations on the water quality in river systems and lakes; by estimating the air quality using the lichen methods; by teaching art with natural materials, and by participation in the competitions called "Ecological Olympiads" says teacher Alla Shuvalova, School no 466, Rechnaya str. 24/26 Pesochny settlement, Kurorthy region, R-189646 St. Petersburg

Art made with materials from nature ▶



▲ Water analysis on the Glubocoye lake

▼ Students Tarliyana Jarashovets and Maria Markova estimating the air quality



"GOLDEN AUTUMN" IN KALININGRAD



Galina Kutchenyova's pupils work with trees and bushes and leaves: "The work on leaves is made by pupils from form 6-7. By examining the colour of leaves on different species of trees at different times of the year, they get to know much about trees and bushes and how they can be used in greenery. They learn how to make phenological studies and phenological research schemes. The pupils presented their work at a conference in Kaliningrad and in Moscow."

Galina Kutchenyova, Teacher of biology at Kaliningrad Regional Ecological Centre, Botanicheskaja 2, R-236000 Kaliningrad, Russia

The colour of different leaves turn from green to yellow, red or brown at different times

ECOLOGICAL ECONOMICS - TOWARDS SUSTAINABLE ECONOMY

Ecological Economics has been offered for the last two years at our school. The aim is to integrate important fields of knowledge from economics and natural sciences to bring a better understanding of conditions for an ecologically sustainable economy. Central economic issues in society are dealt with from a perspective of natural sciences e.g. limits of growth/ restrictions of natural resources / protection of the environment and also described in economic terms. The course has been given over three terms spring - autumn - spring with the following topics in the first term:

- Production, consumption and growth in ecological systems
- Recycling and linear flows
- Stability in ecosystems
- Laws of thermodynamics
- Exergy and enthalpy
- Classification of natural resources
- Theories of national economics from a historical perspective
- Theory of welfare

- GDP and green accounts
- International trade and global justice
- Agenda 21 an ecological sustainability

Terms 2 & 3 have been project work in which the students have worked with many different environmental issues. Here some examples:

- *The Economic Value of Protecting Wetlands*
- *The Environmental Impact and Consequences of a Waste Industry Producing Fuel Pellets*
- *Life Cycle Analyses of Plastic Trays within the package Industry*
- *Air Transport and Ferry Transport from Gotland to the Mainland: Comparative costs on the Environmental Impact by the two transport forms*
- *Consumers appraisal of Ecologically Produced Food*
- *Environmental Audit of an Aluminium Industry*
- *Environmental Audit of a Hairdresser's shop*
- *Evaluation of a Zero-emission Project on Gotland*

The final reports have reached high standards and of course required thorough guidance, but the students have generally been doing extremely well in their independent project work. Unfortunately the three term (90 lessons) course has been reduced to a one term / 35 lessons) course, which makes it very difficult to give the necessary space for the students' projects; and the course suffers from competition from other eligible courses such as computer courses.

Gunnar Mannervik,
Säveskolan, S-621 58 Visby, Gotland



"Golden Autumn in Kaliningrad, Russia:"

Different species have different shades of golden colours: How many species can you find?

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 inter-dependence 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 May - December 1998:

The Baltic Sea Project has obtained an international web site address: <http://www.b-s-p.org> Visit it, sign the **guest book**, start a discussion or exchange data through the **conference**.

Learners Guide 3, "From Words to Action" was published and sent to all BSP schools in May.

The **fifth International Environmental Camp School** took place in Meri-Pori, Finland on May 24th-29th. Students and teachers from Estonia, Finland, Lithuania, Poland and Russia participated.

An **information folder** on the BSP was Prepared for ECOFORUM, Århus98 parallel to the ministerial Environment for Europe "Public Participation Convention" conference June 20th-25th. The Baltic Sea Project exhibited posters and videos on programmes, themes, teaching materials, made by all participating countries. Teachers from Denmark and students and teachers from Estonia presented the exhibition to the public.

Learners' Guide 1 "Working for Better Water Quality in the Baltic Region", **second edition** was published in August 98 and sent to all BSP schools.

To focus on 1998 as the International Year of the Ocean an international teacher training course took place in Elsinore on August 25th - 30th. "**Elsinore - Gateway to the Oceans**" was arranged by Danish BSP teachers. Twenty-five teachers from Denmark, Estonia, Finland, Latvia, Lithuania, Poland, Russia, Sweden and one teacher from Bulgaria participated. The course was supported by the Danish Ministry of Environment, the Danish Ministry of Education and UNESCO's Participation programme.

On September 4th-5th a course was arranged in Lysekil, Sweden, on "**Sustainable Fisheries**" by the Swedish national co-ordinator as a joint event between the BSP and the North Sea Project. Teachers from Sweden and Denmark took part.

On September 7th-11th an International Summer Camp "**Experience Nature - Keep Diversity**" was arranged at Timmendorfer Strand by the German national co-ordinator and German BSP teachers. Students and teachers from Denmark and Germany participated.

The **Fourth edition of the "Catalogue of School Activities" 1998** was finalised and sent to all BSP schools in September.

A course on "**The Environmental History of Norrköping, Sweden**" was made by Swedish teachers together with the Swedish national co-ordinator on September

24th-26th. Swedish and Danish teachers participated.

A "**Brigde-Building**" meeting took place in Luleå, Sweden for 40 Russian and Swedish teachers representing 8 Swedish and 8 Russian friendship schools on October 1st-3rd. The main aim was to develop co-operation on environment and democracy.

An International Teacher Training course on "**Green School Yards and Outdoor Education**" was made as a co-operation between Barnens Landskap and the BSP and took place in Linköping, Sweden on October 15th-18th. Twenty-five teachers from Denmark, Estonia, Latvia, Lithuania, and Sweden took part. The course was supported by the Danish Ministry of Education and UNESCO's Participation programme.

The **fourth International BSP theme day(s)** at Amtsgymnasiet i Sønderborg, Denmark took place on October 22nd-23rd with participation of 45 students and teachers from Estonia, Finland, Sweden, and Germany.

International teacher training on **Air Quality** took place in Poland on October 24th-27th with 25 teachers from Denmark, Estonia, Finland, Kaliningrad (Russia), Latvia, Lithuania, Poland and Sweden. A **video on Air Quality** to supplement Learners Guide 2 took its starting point in Poland. The video will be sent to all BSP schools upon finalising. The course was supported by the Polish and Danish Ministries of education and by UNESCO's Participation programme.

An International Teacher's Training course on "**Rivers**" took place in Kotka, Finland on November 12th-15th with 25 teachers representing Denmark, Estonia, Finland, Latvia, Lithuania, Poland, Kaliningrad (Russia) and Sweden. The editorial group working on Learners Guide 4 on "Rivers" used the international presentations as a starting point. The course was supported by the Finnish and Danish Ministries of education and by UNESCO's Participation programme.

The general co-ordinator represented the BSP at the following events:

- at the Meeting of National Co-ordinators for the Western Mediterranean Sea Project (PMO) in Alicante, Spain on May 20th-24th, which was the first official event after the establishment of the sister project in 1996.
- At the UNESCO international workshop for outstanding ASP co-ordinators on "the extension and consolidation of the ASPnet" in Lisbon, Portugal on September 12th-15th
- At two "Ocean 98" events for teachers in Denmark, in Kerteminde on September 16th, and in Esbjerg on October 8th

The Western Mediterranean SeaProject (PMO) is an educational project between France, Italy, Malta, Morocco, Tunisia, and Spain designed around Natural heritage, Cultural heritage and the Mediterranean people. It differs from other sister projects being the only project which uses French as its language of communication; it brings together schools from two continents; it provides considerable cultural diversity; it has private sponsorship rather than sponsorship from an official body; its logo-type is created by a professional artist. On the co-ordinators' meeting in Alicante, Spain, May 98 an international summer camp was decided to take place July 20th-26th in Spain for students aged 13-16 working on: Ethnography - the peoples of the Mediterranean; Water - the source of life; Habitat- Cultural heritage and landscape; and Biodiversity - Natural heritage. The camp would include joint activities on renewable energy and an artistic expression.

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SEMEP

In April 1998 a launching meeting was held to expand SEMEP to include the Black Sea countries of Russia, Moldova, Armenia, Azerbaijan, Georgia and Ukraine. These are in addition to Bulgaria, Romania and Turkey who were already involved with SEMEP. The inclusion of Russia is an interesting development as the country is also involved with BSP, but as the country is so large it has a coastline both with the Baltic and the Black Sea. The involvement in both projects should mean it is possible to raise a greater awareness of environmental education issues throughout the country.

The third meeting of national coordinators was held in July 1998 in Greece, attended by the representatives from 22 SEMEP countries. The meeting discussed future plans and the operation of SEMEP for 1998-99. Unlike BSP, SEMEP generates worksheets for schools to follow. Schools can follow the latest creation or repeat earlier worksheets. The 1998-99 worksheets were entitled 'Water in Our Environment' and encouraged students to investigate the following through 9 sets of worksheets presented in a competition format:

- Sources of water,
- River water and its ecosystem,
- River estuary and its ecosystem,
- The sea and its ecosystem,
- Lake/reservoir water and its ecosystem,
- Ownership of water in our environment.

The fresh water ecosystem and us, The ecosystem through the ages, Water, water everywhere, but .. The initial worksheets emphasise the biological nature of the environment and follow up SEMEP themes of previous years in which students' outdoor investigatory involvement was stressed

as a part of schoolwork. It is estimated that 500 schools are currently involved in SEMEP.

SEMEP welcomes interested BSP schools to contact schools in the SEMEP project. Slowly SEMEP schools are acquiring e-mail facilities and these addresses can be obtained from UNESCO. Division for renovation of secondary and vocational education, Chief for Science and technology education; 7, Placé Fontenoy, F-75352 Paris 07SP, France

National coordinators

Denmark

Since last year four upper secondary schools, Kalundborg Gymnasium and HF, Nyborg Gymnasium and HF, Viby Gymnasium and HF, Stenhus Gymnasium and HF plus two lower secondary schools Bodilsker Skole and Nærum Skole, and one Nature School Esrum Møllegård have joined the Danish BSP. At the end of August teachers from Rungsted and Køge Gymnasium organised a course for participants from all the BSP countries named "Elsinore - Gateway to the Oceans". For the national members of BSP the same teachers organised a seminar at Copenhagen at the end of September and the beginning of October where we studied the new bridge building to Sweden and the great efforts taking place to reduce the biological damages. So far it seems to have been successful.

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Estonia

Estonian BSP schools are actively discussing sustainability and developing Agendas in their schools (Tartu Nature House, C.R. Jacobsons Gymnasium, Kivilinna Gymnasium, Tamme Gymnasium, Lilleküla High School). There are some traditional issues so as BSP Coastwatch and Bio-indication developed by our schools, but some directions are new: The pupils of Uulu School observe the changes of the coastline during the last 30 years; the pupils of Loo Secondary School put in order a local cemetery as a cultural and historical place; the students of Tamme Gymnasium search the local people's attitude to nature and the environment. Schools co-operate with schools in Estonia and with schools in other countries: Kadrina Secondary School participated in a students conference in Järfälla Gymnasium (Sweden), Tamme Gymnasium met their friendship school from Ams-gymnasium in Sønderborg (Denmark).

Hobby Centre TELO/Nature House (co-ordinating centre of BSP in Estonia) has a web page- www.envir.ee/loodusmaja that includes information about BSP activity as well.

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Finland

The Finnish curricular system comprises the national core curriculum, the distribution on the classroom hours, specifying the minimum syllabi confirmed by government, and the school specific curricula. This means that the schools may develop or even change their own curricula in accordance with their gained experiences and own schedules. Environmental education at school is usually implemented and integrated with other school subjects. The aim is to deal with issues of the environment as themes linked naturally to the school subjects, harnessing the expertise of the individual subjects to the support of environmental education. Separate courses

in environmental education are provided as well. There are many possibilities. One of the characteristics of the Finnish school system is the very flourishing co-operation between the schools and the various organisations, enterprises, and consumers. Also the enterprises consider co-operation important. Study visits by pupils to various companies and courses held at and by the companies have grown very popular. This is the frame also for the Baltic Sea Project here in Finland. Both integrative as separate courses are using, for example ecology, fish, lichen, environment cleaning, participating fish marketing, media literacy, air quality, coast watch, bird ecology, writing articles to local papers, rivers, phenological studies, environmental history, water quality, agenda 21, pine needle project, and many others. Some of these processes are monitoring or evaluating by workers themselves, others by stakeholders. All of us inhabitants on the Baltic Sea region are responsible for the sea. The care of the sea is growing all the time, but we have to have some trust, high ethic and positive attitude for acting together for the future on the Baltic Sea. There are so many different changing factors in the environment, but we are going on step by step to our aim, when our co-operation is working well, as it is in the BSP-project. We like to say in Finland: many little brooks make a large river.

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Germany

The international summer camp took place in Timmendorfer Strand with great success. Participants from 9 German and 1 Danish school (Sønderborg) worked for 5 days in five workshops. Unfortunately the invited schools from Riga, Wrocław and Prag could not come. For the next year we plan a teacher training course on "Air Quality" to introduce the programme to all German BSP schools. In the autumn of 99 a teacher-student seminar about "Air Quality" will take place in the forest to motivate more inland schools to participate in the BSP. At the end of September 1998 the annual ASP meeting with all 110 German ASP schools was held

in Bad Berka. We could welcome two new schools to the BSP, Dresden and Gelsenkirchen. For the year 2000 the German ASP considers a worldwide action day on "Agenda 21"

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Latvia

Many BSP teachers incorporate the environmental education as part of their subject curriculum in the classroom, in some schools theme work and environmental weeks take place involving teachers from different subject areas. These are very important changes in the BSP work in Latvia, because some years ago BSP was only outdoor activity organised by teacher enthusiasts! UNESCO Associated School conference was organised by the Latvian UNESCO National Commission on June 30th in Riga. More than one thousand students and teachers discussed about the education problems now and after the year 2000. Representatives from all BSP schools took part in the conference. There was a poster exhibition where BSP was represented and a workshop "BSP - one of the possibilities how to integrate the environmental education in the school curriculum" was conducted. The students' summer camp and teacher training course was organised on August 19-22 in Vecpiebalga. Work-shops on "Environmental History", "Environmental Drama" and "Art" were included for the first time in our student camp. Teachers who took part in the international teacher training course in Sweden conducted the workshop "Air quality" and trained the teachers how to use Learners' Guide No 2 "Working for better Air Quality in the Baltic Region". This autumn the most popular common BSP programme is "BSP-Coastwatch". Schools situated far from the sea organised special excursions to the sea and made investigations. This school year schools are working with ideas for Baltic 21 and Agenda 21. The competition "River tell me a story" will be organised in Latvian and English, involving English teachers in the environmental education, too.

National coordinators

The national Environmental Project Olympiad will take place in February 1999. International co-operation will be continued using the Internet and teachers who participated in the international teacher training courses in Denmark and Sweden will organise the teacher training courses next summer in Latvia. The international teacher training course "River" will be organised in August 1999.

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Lithuania

The Baltic Sea Project is very popular among Lithuanian schools, and more and more schools wish to participate in the network. This year the Co-ordination Council was established, and the main BSP work takes place in the regions. This enables information to be spread more easily and co-operation between schools is better. In the regions new schools work together with experienced schools, and regional councils organise conferences for students and teachers for the exchange of results. This structure and co-ordination mechanism enables pupils not only to investigate, but also to represent their school more widely in regional centres. Schools from the same region usually face the same environmental problems, and the conditions for co-operation are improved. Mobility characteristic of regional events create conditions for publicity. It was decided to once a year organise a conference for all BSP schools. Every year the conference will take place in another region. Representatives of regions will present reports about their achievements. Many interesting initiatives and investigations are carried out in the project. BSP schools can use materials and results in curriculum development. Some enthusiastic teachers started to develop methodology for application of the materials in school curricula. And according to statistical data, students participating in BSP pass maturity examinations on biology with better results than students not participating in the project.

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Sweden

In Sweden around 50 schools are active in the BSP. Around 200 schools are connected to these schools in regional networks. The most popular BSP-programmes are Water Quality of the Baltic Sea and Rivers. An increasing number of schools are choosing the programmes Air Quality and Phenology. The schools are also working with themes like Save the Baltic Sea, From Words to Action, Environmental History, Green School Yards, Ecological Economy, Energy and Environment etc. Four meetings has been held in Sweden during the autumn. Water Quality and Sustainable Fishing was the theme for a meeting in Lysekil on the west coast of Sweden. A lecturer presented an increase of nutrients in the North Sea and a decrease of animals in the sediment. The teachers discussed a suggestion for studying

the water quality of the North Sea and how sustainable fishing can be brought up in class. One representative from Denmark took part. Teachers in history and science had a meeting in Norrköping on "History of cities" within the theme Environmental History in the Baltic region. The lecturers described how the early industrialisation created environmental problems, how these problems were handled and what we could learn for the discussion today. Teachers formulated suggestions of how the ideas could be brought up in the schools. One representative from Denmark took part. To create a concrete frame for the twinning between schools in northern Sweden and the Kola peninsula in Russia a meeting was held in Luleå for Russian and Swedish teachers. The theme of the meeting was "Sustainable Development in the Barents Region" and the programme contained studies of air quality and bio-diversity in forests and discussions on green democracy. An international meeting on "Green School Yards" within the BSP in co-operation with Barnens Landskap (Children's Landscape) was held in Linköping, Sweden. The programme contained lectures on "The Outdoor Classroom", "Learning and Problem-based Learning" and workshops which gave several practical suggestion. Swedish teachers also took part in an international course on Water Quality in Denmark. Polhemsskolan in Lund contributed to the exhibition at the conference for European Ministers "Environment for Europe" in Denmark.

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Calendar / Future events

- March 4th - 5th: "Baltic Identity" Teacher training on Bornholm, Dk (In Danish)
Teachers from Sweden and Finland are welcome
- March 15th: Deadline for "Hymn to the Baltic" competition (conditions on page 9)
- March 15th: Deadline for contributions to Newsletter 99:1 (Appeal below)
- March 18th - 21st: 11th co-ordinators meeting, Finland on "Baltic 21"
- April 24th - 27th: International Teacher's Training on "Rivers", Klaipeda, Lithuania, in English (p22)
- May 1st - 4th: International Teacher's training on "Bird Ecology", Haapsalu, Estonia, in English (p20)
- June 1st - 5th: The Sixth International Environmental Camp school, Meri-Pori, Finland
- June 15th - 18th: Healthy Planet Forum, London (page 29)
- August 18th - 21st: Int. Teacher's Training on "Rivers and Recultivation", Latvia, in English (p22)
- September 2nd - 5th: "Sustainable Fisheries" Esbjerg, Dk in co-op. with NSP. In English
- September : International Teacher Training "Environmental History of St. Petersburg" in St. Petersburg, Russia, In English
- October: International Teacher's Training on "Environmental Drama" Germany, in English
- November: International teacher training "Env. History of the City" Norrköping, Sweden in English
- 2000
- June 18-22: "BALTIC 21": International conference for students and teachers, Sønderborg, Denmark, in English (pages 8-9)

Appeal

Will you contribute to the Newsletter? Please send texts by e-mail, on a diskette, by fax or letter, but please do not e-mail photos (Quality reduction). All contributions are welcome such as:

- Art works for covers
- Letters to the editor: Which article in this issue did you find most interesting? (State why)
- Newspaper cuttings with environmental aspects from your country (summarised in English)
- Educational ideas
- Articles on your work; if you send photos with people, please name them and please do not e-mail pictures

Send your contributions to:
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Press stop: March 15th 1999 Please write in English
The next Newsletter will be published in May 1999

Enjoy the season: Happy New Year



Art through natural materials, made by Irina Rejova, School no 466, St. Petersburg, Russia