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## COMMUNIQUES AND DOCUMENTS OF THE STATE ENVIRONMENTAL COUNCIL OF POLAND

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### Minister of the Environment among PROS Members

Professor Andrzej Kraszewski, who took over his post on February the 2<sup>nd</sup>, 2010 met on March 11<sup>th</sup> for the first time the Plenary Session of the State Environmental Council to present highlights of his program.



Fig. 1. Andrzej Kraszewski, Minister of the Environment

He mentioned that to solve of numerous important problems, which seemed to be unsolved for years, have become very urgent now. Therefore, it is not enough to just list them, but it is necessary to complete a deep diagnosis to find out where faults have been made by predecessors. Without a correct diagnosis an effective work plan would not be possible and future similar and other mistakes could be made very likely.

Due to the Minister, it is necessary **to change the paradigm of economic growth by the paradigm of effective and sustainable exploitation of resources**. It should not mean to slow down the economic growth itself, since the best protection of the environment are securing rich states. Such a paradigm meant as a set of ideas and theories creating fundamentals of sustainable development could be very creative and give an impulse to built a detailed theories in a consensus with practical data available to environmental sciences. Such examples present both, global warming and excessive use of resources of our planet and this approach should cha-

nge a policy, strategy and plans referred to particular sector of environmental management.

After this short introduction the Minister begun with stating his appreciation to the PROS as a special body consisting of top environmental experts, which in his opinion should be especially valid for collaboration with him. The Minister intends to consult with the Council all crucial problems of the national ecological policy to find out optimum solutions. He listed and commented most important and urgent issues, such as climate changes, management of municipal solid wastes, and governing of water economy.

He informed, that when he took over his post the Prime Minister expressed his **special concern on climate change issue** underlining that no other environmental problems effects the macro-economy of the State to that extend. It has appeared to be very difficult to agree the policy of the European Commission with policies of countries emitting larger amount of GHGs. It specially concerns countries like Poland being in a transition from centrally planed economy where power generation had been based on combustion of coal to market economy. Following horizons – 2012 (extended to 2018), 2020 or 2030 – of GHGs emission limits could be very difficult to reach without endangering an economic growth of a country. This is a matter of permanent negotiations with specialized EU structures, which are not ready to accept rights of countries in position like Poland. This complex situation would require a wise internal decisions based on a competent experts advise.

The second issue – **a systemic solution of management of municipal wastes** – seems to be just a domestic problem, but it deals also with Polish obligations to the EU. A former management of municipal solid waste, based on getting a maximum profit by entrepreneurs, seems to be in contradiction to a principle of effective economy with raw materials and also is putting Poland in a difficult position against European Commission. It seems obvious that current legal and managerial solutions are not able to provide a rational municipal waste management including recovery and recycling of raw materials. Property of municipal wastes should belong to local communities who could organize

efficient and economic collection and governing of garbage. The Minister expressed his appreciation to the PROS standpoint presented by the Council's Chair at the meeting of the Commission of Environment and Natural Resources of the Lower Chamber of the Parliament, supporting the Minister in his determination in necessity to introduce systemic changes to that sector.

The third key problem creates **water economy**. Water is a reminding power of nature causing massive floods. Polish water economy requires deep structural changes and providing adequate financing. In this sector an adoption of a strategic – also for Polish water system – new philosophy of rational governing of water resources due to the *EU Frame Water Directive* appears absolutely necessary. Also in that area a support and collaboration of all who cares for the environment is of a top importance.

Referring widely those three issues (here just briefed due to a shortage of space) the Minister stressed that his **main goal is to reinforce the role of the Minister of the Environment among other ministers**, especially those whose activities are largely influencing survival of natural values of the environment. A part of this aim is also to build a position and independence of the environmental inspectorate and to convert it into an efficient ecologic police, therefore the Minister is re-considering establishing of **the State Environmental Agency**. Ending his speech the Minister once again underlined the role of the PROS in his plans especially in constructing of **strategic undertakings in environmental activity** referring to various time-horizons.

**Andrzej Kraszewski** - Minister of the Environment of Republic of Poland, professor of Environmental Engineering Institute of Warsaw University of Technology. Top specialist of impact of infrastructural undertakings on environment. He carried on research dealing with methodology of assessing an impact of transportation on environment and with a role of conflicts on decision making process. He has also dealt with risk analysis, constructing of forecasting models, as well as computer and information systems related to the environment. He used to be an advisor to the Minister of Environment and to Parliamentary commissions dealing with environment and natural resources issues as well as the Deputy-Chair of Convention of the UN Economic Commission dealing with Trans-Border Impact on Environment.

He is an author of over 60 papers including 3 monographs and 5 elaborations implemented to industry and public administration.

## 7<sup>th</sup> Plenary Meeting of PROS

On March 11<sup>th</sup>, the PROS gathered at the first semi-annual plenary meeting in 2010 with the following agenda:

1. Adoption of Agenda.
2. Adoption of Minutes from the 6<sup>th</sup> Plenary Meeting held on November 12<sup>th</sup>, 2009.
3. **Program-Speech** by the Minister of Environment **Professor Andrzej Kraszewski**.
4. **Solid Waste Management** – actuality of the Council's Standpoint – discussion.
5. **The National Program on Emission Reduction** and **the Social Council** at the Deputy-Prime-Minister – information.
6. Draft council's **Work Plan for 2010** – presented by chairs of WGs and the Council.
7. Discussion on materials sent prior to the plenary meeting:
  - a. visit of the *EEAC Steering Committee* representatives – attempts to get organization of *the 2011 EEAC APS & Conference in Wroclaw*,
  - b. information concerning the Presidium activities since the last Plenary Meeting,
  - c. information on PROS budget for 2010 and its consequences,
  - d. current situation of the Journal *Problems of Sustainable Development*.
8. Matters arising.

### Abbreviated extraction from Minutes of the most important items is as follows:

(3) Just after completing his duties as the President of the COP15 in Poznan and opening the COP16 in Copenhagen Professor Maciej Nowicki resigned of the post of Minister of Environment of Poland. As his successor Professor Andrzej Kraszewski was nominated on February the 1<sup>st</sup>. He met the chair of the PROS in an individual talk as well as Council's Presidium attending its meeting on February the 11<sup>th</sup>, but the Plenary Meeting was his first contact with all members of the PROS. Therefore, the Minister presented main issues of his policy (reported in a separate note in this volume).

(4) Professor Kraszewski expressed his appreciation to his predecessor assuring he intends to continue Maciej Nowicki's approach to several crucial problems among them to take over the control on solid waste management strategy. Being aware of Minister's position the PROS Presidium returned to the *Standpoint* issued a year ago (*Problems of Sustainable Development*, vol. 4, no 2, p. 120) and suggested the Council to reinforce the previous statement by declaring a new one and this new version has been approved by the Plenary Meeting (a novel text published in this volume).

(5) The general information was presented concerning elaboration of the *National Program on Emission Reduction* and establishing of *the Social Council* dealing with these problems at the Office of the Deputy-Prime-Minister (information published separately in this volume). The Assessment of *the McKinsey Report* has been also presented and discussed.

(6) On behalf of the Presidium the Chairman presented a draft of the *2010 Work Plan* and its details dealing with the Presidium activities. Chairpersons of Working Groups completed information about undertakings planned by their teams. *The PROs Work Plan for 2010* is also published in this volume.

(7) To facilitate a proceeding during the plenary meetings the Presidium decided to send appropriate materials prior to meetings. The first attempt of that new way of acting has been introduced in the reported meeting, which dealt with following issues:

(a) The Chairman informed about the visit of the *EEAC* Steering Committee representatives to Wrocław and Warsaw (visit reported in a separate information within this volume).

(b) The PROs Presidium was held on February 11<sup>th</sup> and was mainly devoted to present Councils activities, plans and needs to the new Minister. He expressed his deep interest in a close collaboration with the PROs, expecting a competent and valuable consulting and support of his policy and actions. A draft *Standpoint on Solid Waste Management* has been novelized just in a line of these expectations by the Minister. The *Agenda* of the next Plenary Meeting and its date were elaborated and set.

(c) The Chairman informed about a very modest budget, just covering domestic travel expenses. No sums have been planned for any events other than Plenary and Presidium meetings. The membership fee to the *EEAC* as well as participation cost in an annual network's event has been planned as well.

(d) The future financial situation of the semiannual journal co-edited by the PROs has not been solved, so far. A permanent appeal to all members to supply both, scientific papers to the main content of *Problems of Sustainable Development* journal as well as to its informative part, has been once more repeated.

## Work Plan 2010

### Plenary Sessions – March, November

#### Presidium Meetings – February, October

##### Presidium Tasks:

- Elaboration of Presidium Meetings agenda.
- Elaboration of Plenary Session agenda.
- Adoption of stand-points and resolutions as well as making other decisions within the period between Plenary Sessions.
- Representing the Council in domestic and international events.
- Contact with the *EEAC* Steering Committee.
- Contact with the Presidium of State Nature Conservation Council of Poland (PROP).
- Updating of PROs home page.
- Elaboration of materials to compose the PROs section of *Problems of Sustainable Development* semi-annual journal.

### Working Groups Tasks:

#### All WGs:

- Reviewing of drafts of legal documents prepared by the Ministry of the Environment.
- Contact with corresponding the *EEAC* WGs.

#### WG Biodiversity (Collaboration with WG Agri):

- Preparatory documents for the sake of COP 16 in Mexico related to forest ecosystems in a climatic changes scenario.
- Conference entitled: European Union for prevention of biodiversity of Polish Forests – co-organized with General Directorate of State Forests – the Center for Coordination of Environmental Programs, March, 2010.

#### WG Education for Sustainable Development (Collaboration with WG SD):

- Continued cooperation in completing tasks dealing with the *UN-Decade for the Sustainable Development 2005-2014*, with such domestic institutions as:
  - Working Group *Education for Sustainable Development*, UNESCO – Poland.
  - Parliamentary Commissions completing action program for the sake of the *Decade* goals.
- Promotion of the *Decade* goals by publications in *Problems of Sustainable Development (PSD)*.
- Editing of a series of publications (4 vol.) on *Education for Sustainable Development* – in cooperation with EU-funds and *Ekonomia i Srodowisko Publishers*.
- Assessing progress in completing the *National Strategy and Ecological Education Program*.

#### WG Energy and Environment (Collaboration with WG Governance):

- Assessment of the Climatic Policy of Poland after COP 15 in Copenhagen.
- Assessment of implementation of Energy-Climate EU Package.
- Reviewing draft strategy of adaptation of Poland to climatic changes.
- Analysis of McKinsey Report – *Assessment of Capacity of Greenhouse Gases Emission Reduction in Poland until 2020*.

#### WG Water Economy:

- Preparation of application to finance an elaboration of a document *Strategy of Water Protection in Poland* by the Ministry of Science and Higher Education.
- Conference *Sediment Dynamics for Changing Future* – co-organized with Warsaw School of Agriculture.
- Expert's elaboration of *Management of Biological Sewage Treatment Sludge*.
- Elaboration of a report *Sustainable Water Economy in Poland* to be sponsored by the Ministry of Science and Higher Education (to be published in the *Problems of Sustainable Development Journal*).

**WG Agriculture (Collaboration with WG BD):**

- Assessment of environmental consequences of the CAP after introduction of *the Agenda 2000* on rural territories of Poland – a conference *Impact of Agriculture on Natural Environment under Climate Changes Conditions* – co-organized with IUNG-PIB, June 9-10, 2010.
- Participation in political and public debate on new challenges dealing with the COP and its further reform after 2013, based on a document elaborated by the Ministry of Agriculture and Rural Development: *Trends in Development of Rural Areas – Proposal for Sustainable Development of Villages and Agriculture*.
- Opinions on current regulations concerning sustainable development of rural areas and agriculture edited chiefly by the Ministry of Agriculture and Rural Development.
- Collaboration with the PROP.

**WG Governance (Collaboration with WG Energy & Environment):**

- Draft strategy on solid waste management until 2030.  
Seminar attended by scientists and practitioners.
- Observing functioning of a new system of nature protection.  
WG meeting with outer experts.
- Economic results – losses and profits – dealing with climate changes in a long perspective.
- Seminar attended by members of other WGs.
- Development and improvement of selective collection of and recovery of glanced residues in Poland based on Norwegian experience – WG meeting attended by outer experts.  
Seminar attended by members of other WGs.

**WG Sustainable Development (Collaboration with WG Education for SD):**

- In the light of main EU documents:
  - Sustainable Development in EU politics in various areas:
    - review on EU Strategy for Sustainable Development.
    - monitoring of preparatory works for a *Strategy of Sustainable Development in Poland*.
- Collaboration with *the International Center for Sustainable Development and Information Society*.
  - Polish-Austrian-German Conference on *the Future of Europe and Problems with Values*.
  - Publishing of a cycle of monographs in German and Polish dealing with the *Sustainable Development from Scientific Research to a Political Implementation*.
- Improvement of cooperation between Polish UNESCO-Chairs in the scope of a research on Sustainable Development and establishing of a New UNESCO-Chair on Spatial Economy and

Environmental Management of the Katowice School of Economics.

- Elaboration of a draft of a research program – *Goals of Sustainable Development of the First Half of the 21<sup>st</sup> Century*.

Tomasz Winnicki

## European Environment and Sustainable Development Advisory Councils 2011 Summit to be held in Wrocław, Poland

The Steering Committee of the European Environment and Sustainable Development Advisory Councils Network, held on 23<sup>rd</sup> of March, 2010 in Brussels decided to grant the organization of its 2011 Annual Plenary Session and Conference to the State Environmental Council of Poland (PROs).

This decision was preceded by a visit of the EEAC SC chairman Hubert David and member Roger Thomas to Wrocław, the planned host-city of the event. Guests were received by the Mayor of Wrocław doctor Rafał Dutkiewicz, who expressed his satisfaction and appreciation to the choice of his city for such important event.



Fig. 2. The town hall in Wrocław

The EEAC delegation was also met by the Rector of University of Technology of Wrocław professor Tadeusz Więckowski, who promised to allow to house all APS and Conference meetings in premises of the University. The main building of the University hosted in 1948 the historical *First Congress of Intellectuals* attended by such personalities as Jean Frederic Joliot-Curie, Pablo Picasso and Ilija Erenburg and since then a number of world-wide-range conferences, schools and other meetings.

The EEAC visitors were also received by the Minister of Environment of Poland professor Andrzej

Kraszewski who declared his personal and institutional support to this important event organized within the period of Polish Presidency in European Union.

The delegation took also part in a meeting of the PROs presidium and a few other members of the council, discussing current issues of the network and Polish council mutual activities.

It should be also mentioned that the PROs has already organized in Warsaw in 2006 the 14<sup>th</sup> APS and the conference on forestry management. The co-organizer was Finnish Council for Natural Resources since Finland held the EU-Presidency at that time. e-Report on that event could be reached at: <http://www.eeac-net.org> (clicking *Annual Conferences and Proceedings*).

Tomasz Winnicki

## The Standpoint of the State Environmental Council on solid municipal waste management in Poland

Poland signed in 2001, prior to joining the European Union accession, obligations in environmental area. Despite that management of municipal waste had been an important part of this obligations the common organization and logistic EU-rules have not been implemented to domestic system in the segment of municipal governing.

Activities in that area initiated by the former Minister of the Environment Professor Maciej Nowicki have been continued with growing intensity by his successor Professor Andrzej Kraszewski. He presented his determination to finally solve legal aspect of the problem at Presidium of the PROs and at the meeting of the Parliamentary Commission of Environment Protection and Natural Resources, which met with a great applause by Members of Parliament from all political options.

**The State Environmental Council is strongly underlining its former standpoint from March 2009 supporting the Minister of the Environment in his action and is expressing the following:**

*It is necessary to introduce a clear division of competences in the area of management of municipal waste among all involved ministries. Coordination of this activity should be a domain of the Minister of the Environment.*

*It is vital and urgent to implement in Polish system of management of municipal waste organizational and logistic rules already applied in the European Union, no matter what difficulties must be overcome due to a present delay.*

*Major changes should concern on property of residues, responsibility of local self-governments, mechanism of proper administration including fees for removal of residues as well as other means adequate to the EU-Requirements.*

The State Environmental Council is convinced that removing of all above mentioned basic systemic barriers would allow to implement all other elements of obligatory EU-Program to correct the management of municipal waste in Poland to make up for a lost time and to meet still higher standard of the Community in this important sector of environmental protection.

Warsaw, March 2010

## State Council for Nature Conservation in Poland (PROP)

The Council for Nature Conservation in Poland is an advisory body to the Minister of Environment in Poland. Its function is to assess nature conservation status and the implementation of the domestic strategy of nature and biodiversity conservation. It also evaluates the projects of legal acts and suggestions referring to new protected areas. One of the major tasks of the Council is to promote and support the idea of nature conservation.

PROP has a very long tradition and it originated in 1919, when a Provisional State Commission for Nature Conservation was founded as the advisory body to the Minister of Religion and Public Education. The Commission was headed by Professor Władysław Szafer and it included five members. It was the predecessor of the State Council for Nature Conservation with a seat in Cracow. It was inaugurated in 1925 as the consulting body to the Minister of Environment being its official representative.

For the term of 2009-2014, the Minister of Environment nominated a team of 40 PROP members. Andrzej Bereszyński has become the Chairman, and Wanda Olech, Wiesław Dembek and Andrzej Kepel have become Deputies. Six other members have headed the following commissions: Commission for Animal Conservation; Commission for the Conservation of Plants, Fungi and Botanical Gardens; Commission for National Parks and Reservations Conservation; Commission for Wetlands, Fresh- and Salt-Water Areas and for Agricultural Environment Conservation; Commission for Nature 2000 Network Conservation, and Commission for CITES.

Each commission has elaborated its work plan for the period 2009-2014 and for the current year. Let us mention some of these plans starting with the National Park problems. The priority was given to establishing of such national parks as the Jurajski



Park, Mazurski Park and Turnicki Park. In further sequence, it has been foreseen to recognize Wieliczka Salt Mine as a national park. The Commission for National Parks (headed by Stefan Skiba) has also planned to organize seminars with the participation of national park Directors in order to discuss problems connected with the functioning of national parks in Poland. The issues referring to national parks are closely linked with problems of the Commission for Nature 2000 Network headed by Przemysław Chylarecki.



Fig. 3. Prof. Andrzej Bereszyński

A vital issue to be discussed on the level of PROP Presidium and during plenary meetings is the actual economic situation of national parks. A proposal made by the Ministry to liquidate the existing auxiliary financial support which solves numerous technical problems referring to parks and brings some financial help is not supported by PROP. Also an idea to combine national parks with forestry administration has little chances to be accepted by the Council. However, the consent to establish General Agency for National Parks to coordinate their activities and to redistribute some financial support to them meets with the Council's approval.

Another top priority issue within the Commission for Animal Conservation (headed by Wanda Olech in cooperation with Ministry experts) is a preparation of rules for the elaboration, evaluation and acceptance of the Animal Species Conservation Plan. This plan requires a financial support in order to issue a new edition of the *Polish Red Book Data of Animals* being a basic scientific source referring to all legal documents dealing with the conservation of animal species and with the general strategy of that action. PROP deals also with the addition of a manual referring to fauna and flora species and their habitats: *Protection of Habitats and Species Natura 2000 – Methodical Handbook*.

Still another important problem refers to invasive species which are a threat to the indigenous biodiversity. PROP strongly supports the Cracow Nature Conservation Institute of Polish Academy of Sciences in its striving to publish in a book form the

information about this subject, which is actually available only in an electronic version.

A topic of permanent discussions is the decision of the Ministry of Environment to allow a reduction of *Alces alces* population in Poland. This proposal was made by the Polish Society of Hunters and it was even supported by the corresponding PROP commission. Despite the fact, that the rough estimation of this species population is about 6000, the expected increase of the number of these animals in West Poland has not been observed. A research referring to that problem and ordered by the Ministry has been carried out and the final report is expected to be known in the year 2011. Problems referring to the conservation of game animals and protected animals, as well as to reports dealing with any irregularities in their health and population number in the understanding of a threat for biodiversity are carefully analyzed by the Council.

The PROP has not accepted the Ministry's proposal of extending the period of group hunting for game animals until the 31<sup>st</sup> of January. However, it must be stressed, that because of the high ethics of the Polish hunters, the Hunter Society has not supported the proposal of hunting elongation and no group huntings were organized in that period. Such elongation of the hunting period could evoke some negative behaviors in the animals.

The PROP faces also the necessity of expressing its view concerning the suggestion to reduce some bird species of *Corvidae* family in order to protect hunting grounds and some bird species on the areas of Nature 2000.

Another kind of PROP's activity is to interfere in various situations endangering objects and institutions important for nature conservation and protection. Such situation takes place in the Bolestraszyce Arboretum preserving flora species in the Sub-Carpathian region. This valuable monument of culture and nature in South-Eastern Poland includes thousands of taxons. Moreover, since 2007, an „Universal Sensory Garden” has been created within the Arboretum giving a chance to blind and old people to get acquainted with the museum collections by using touch or smell senses supplemented by descriptions in Braille's alphabet. This Arboretum is endangered by the fact that an open mine of aggregates is planned to be established in its close vicinity, therefore, PROP protests intensively against this plan.

PROP had to undertake different important actions in the past. It can be exemplified by the proposal of bringing to Poland exhibits of fauna and flora such as hides, cranes and stuffed animals (tigers, wolves, panthers and others). Such procedure is in a clear contradiction with environmental ethics and it cannot be accepted by the Council which belongs to the world family acting against illegal killing of protected animals including young seals. This activity is the chief objective of PROP commission for

CITES (Andrzej Kepel, Ryszard Topola, Hanna Werblan-Jakubiec, Wojciech Solarz, Maciej Rembiszewski).

I am aware, that this short description can only present some areas and problems of the PROP activity. In fact, not only the most important and actual ones, but also several other issues which are in the focus of the Council's care and which are dealt by us for the advantage of our domestic and global nature. We highly appreciate that in this important mission, we have found an ally in a younger (by about seven decades) Sister-Council, the State Environmental Council of Poland (PROS). A cooperation of these two advisory bodies responsible to the same Minister (apart of a slightly different approach to several vital environmental problems) will allow the Polish Government to continue a policy of a sustainable development for the survival of the awesome biodiversity and natural resources in our beautiful country for the future generations.

*Andrzej Bereszyński, PROP Chairman*

**Andrzej Bereszyński**, professor (since 1993) of Faculty of the Institute of Zoology of Poznań University of Life Science, worked since 1971 as an assistant of the Institute of Applied Zoology of Agriculture Academy of Poznań where he got his PhD (1976) as well as DSc – habilitation (1988) degrees.

His scientific activity has been oriented towards conservation of rare and endangered species of animals, chiefly birds and mammals and their behaviors in natural and farming conditions. In 1968-86 he conducted research on *Great bustard* in Poland and since 1974 he participated in a program of restitution of European beaver in Western Poland as well as the research on wolf conservation following its presence and dynamic of population growth which resulted (1998) in legal protection of *Canis lupus*. He has been also carrying research on restitution of *Bison bonasus* in Western Poland. He has been creating a nature reservation *Rezerwat im. Bolesława Papięgo* on Zgierzynieckie Lake – a part of NATURA 2000 Program.

He is an author of 360 publications including 68 original research works and 9 scientific books he also supervised 9 doctoral dissertations as well as 260 master theses in zoology and nature conservation.

He was granted numerous high rank positions and honors at nature protection institutions and organizations among them in several National Parks.

He has been elected (2009) the Chairman of the *State Council for Nature Conservation of Poland (PROP)*.

## The Kostrzyca Forest Gene Bank

Changes in natural environment, induced mainly by man, are often irreversible. Climate changes, irrespective of whether they are caused by natural factors or by human beings, are of utmost importance in this aspect. We are aware that the optimum environment for many plant organisms is shrinking and consequently limiting their opportunities for natural reproduction, propagation, seed dispersion and preservation of diversity sufficient for the population survival. Currently it is believed that for a population to be able to survive, the number of

reproductive individuals may not fall below 100. Numerous populations of indigenous flora species, including small populations of some arborescent plants, have gone below this critical number of individuals. It is about time to use modern gene storage technologies in order to preserve as much as possible of this heritage we have been given to use.

The Kostrzyca Forest Gene Bank (FGB Kostrzyca) operates both at the business level by supplying the top grade seeds of trees and woodland shrubs, from which top class nursery material is produced, and at the nature conservation level as one of the very few institutions in Poland protecting the most valuable species of the indigenous flora.



Fig. 4. The Kostrzyca Forest Gene Bank Headquarters

The Kostrzyca Forest Gene Bank was established in 1995, in the south west of the country between the villages of Miłków and Kostrzyca in the Karkonosze Mountains, the highest mountain range of the Sudety. The direct reason of creating the Forest Gene Bank was the ecological disaster in the Sudeten Mountains in 1980's which damaged 17 000 hectares of forests.

The Kostrzyca Forest Gene Bank is a unit of the State Forests National Forest Holding. Its main goal is active ex-situ biodiversity conservation.

The Kostrzyca Forest Gene Bank has undertaken a multi-faceted effort to maintain the gene resources of plants forming the native flora of our woods, in line with the provisions of Convention on Biological Diversity as well as the declaration of the Ministerial Conference on the Protection of Forests in Europe. The preservation of the genetic diversity, both in situ as well as ex situ, refers to:

1. The preservation of gene pool of the most valuable selection objects from the area of the State Forests NFH for commercial purposes.
2. The preservation of gene pool of both the oldest indigenous forest stands and the so-called individual conservation trees.
3. The preservation of gene pool of protected and endangered plants from natural stands.

4. Implementation of individual species restitution programmes aimed at trees, shrubs and herbaceous plants.

#### Organisation:

The Kostrzyca Forest Gene Bank is governed by the General Director of the State Forest in Warsaw. The range of activity involves forest across the whole country. Within the Gene Bank's structure, there are specialized units of the gene reserves storage. These are:

- **Harvest Organization and Resources Creation Unit** is responsible for monitoring crop in seed stands, safe harvesting of seeds, cones, grafting shoots and other parts of trees and technological processes of cones and seeds during their treatment. It also services the units of State Forests in the area of Regional Directorate in Wrocław and is responsible for tending the Arboretum of the Forest Gene Bank. The Arboretum covers an area of 8 hectares surrounding the bank and counts up to 4500 taxons of trees and shrubs. It is an important way of preserving biodiversity in the living clone archives and enriches the educational activities of the Forest Gene Bank.
- **Research and Reserve Protection Unit** is responsible for testing the quality of seeds and cares for the gene resources and deposits stored and treated in the Forest Gene Bank. The unit is also responsible for data basing of seeds stored in the bank and of all registered seed stands in Poland. The team services the units of Regional Directorate of State Forests in Wrocław as a Station of Evaluation of Seeds. Seeds received by FGB Kostrzyca undergo a testing procedure in accordance with the testing rules and methods approved by the State Forests NFH, which take into consideration the specifics of Polish seed management and selection rules.
- **Biopreparation Production Unit** produces a mycorrhizal vaccine based on a fungus *Hebeloma crustuliniforme* for the needs of State Forests units and private recipients. The vaccine is helpful in the case of seedlings planted in the most degraded areas, e.g. the post agricultural or polluted soils. The unit collects and analyzes the results of production in order to improve the biopreparation production technologies (by research institutions).
- **The Research and Development Unit** consists of 2 laboratories:
  - Cryopreservation Laboratory** is working out new methods of preserving heavy seeds (e.g. oaks, beech, yew or sycamore maple) gene reserves. The seeds of the above species cannot be stored in typical conditions as they require alternative treatment and preservation of embryonic axes in liquid nitrogen.

**DNA Analysis Laboratory** is responsible for checking genetic differentiation of trees from different areas within one species and for identifying gathered gene reserves.

- **Environmental Education Unit** works with a broad circle of recipients i.e. school children, students and professional groups. The goal of educational activity in FGB Kostrzyca is shaping attitudes of responsibility for the environment by presenting the role and activities of the Forest Gene Bank and explaining the elementary knowledge of the environment and its threats. The courses are adjusted to the age and level of knowledge of the recipients.

The Forest Gene Bank Kostrzyca is an important participant of national programmes run in Poland such as the programme for the preservation of forest gene resources and forest tree breeding for the years 1991-2010, the protection and restitution of English Yew (*Taxus baccata L.*) programme, the progeny testing programme and the programme of restitution of Silver fir (*Abies alba Mill.*) in the Sudeten mountains and Floranatur LBG programme for *ex situ* protection of gene resources of Polish endangered, protected and rare flora species by creating a bank of seeds originating from natural sites.



Fig. 5. The Kostrzyca Forest Gene Bank

In 2008, the Kostrzyca Forest Gene Bank became an associated member of ENSCONET (European Native Seed Conservation Network). As a result of cooperation with the Network, a faster and more efficient way of storing seed collections, curation activities and seed storage, which often differ from traditional methods applied in common Polish forest tree species, were introduced.

FGB Kostrzyca will also take part in continuation of European Forest Genetic Programme (EUFORGEN). The Participation in this programme gives an opportunity to conserve gene resources of tree species on European level as well as allows to exchange knowledge, ideas and people while carrying out the gene conservation efforts.

One of the key partners for the Kostrzyca FGB is Millennium Seed Bank at Royal Botanic Gardens Kew, Great Britain, which mission is to inspire and



deliver science-based plant conservation worldwide, enhancing the quality of life.

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## Białowieża National Park the 600<sup>th</sup> Anniversary of Conservation of the Białowieża Primeval Forest

In Poland and Belarus 2009 was the year of a symbolic celebration of the 600th anniversary of protection of Białowieża Forest. The Polish Ministry of the Environment has initiated a series of events on a platform *The Partnership for Białowieża Forest* promoting this priceless heritage of nature. The culmination of anniversary celebration was an international conference held in September 2009 in the headquarters of the *Białowieża National Park (BNP)*. To commemorate this event a monumental rock was located in front of the Park office with the inscription saying (in translation): *The Oldest Forest please stay forever in your power and beauty and teach us how to love the home nature.*



Fig. 6. Entrance to the Białowieża National Park, photo by Renata i Marek Kosiński

The celebration was also an occasion to sign international documents between Poland and Lithuania as well as between Poland and Belarus reinforcing bilateral cooperation in conservation of natural environment.

The Polish Ministry of Environment has initiated a process of enlarging the area of the BNP – a decision which requires an approval of local self-governments – and promised to allocate resources supporting tourism and eco-tourism, education and ecological education as well as environmental investments.

The BNP occupies one sixth (10 517 ha) of the Polish part of Białowieża Forest protecting its best

preserved fragments – the last pristine lowland deciduous forest – which for many centuries stretched over Central-European Lowland. Due to these unusual values the Park has been introduced on the UNESCO World Heritage List and recognized as World Biosphere Reserve.

It is amazing that the BNP is visited each year by over a hundred thousand of tourists, both from Poland and from abroad. Guests come from such distant countries as Japan, New Zealand, Australia, Republic of South Africa, Peru, Mexico, and Canada. In 2009 tourists from 86 countries visited the BNP and when they were asked what had attracted them to this particular place they answered they wanted to see the European bison and a primeval forest. Some other came to do research on a unique natural ecosystem not disturbed by human activity.

**The most important values of the Park** concern the strictly protected area located between the Narewka and Hwozna Rivers. A part of this area belonged to the *Reserve* forestry established in 1921 and being a foundation of the present Park. This area of a strict protection regime is covered with a natural provenance forest – originated without direct human impact. This centuries-old forest consists of numerous tree species varying from very old trees to quite young ones. Rich diversity of plants, fungi and animals exist there, including numerous species characteristic for primeval forests, already completely exterminated or endangered elsewhere. Thanks to a great number of dead trees there is a variety of fungi species (e.g. the bracket fungus *Fomitopsis rosea*, cauliflower fungus *Sparassis crispa*) and animals (e.g. beetles *Pytho kolwensis* and *Buprestis splendens*, or ornithological gems – three-toed woodpecker *Picoides tridactylus* and white-backed woodpecker *Dendrocopos leucotos*).



Fig. 7. European bison, photo by Renata and Marek Kosiński

**Survival of the European bison** – a symbol of the Park – was a great achievement of scientists and breeders. The Lowland bison *Bison bonasus bonasus* used to live in Białowieża Forest until 1919 and a few of them survived the First World War in zoological gardens and other wildlife parks in some European countries. Thanks to scientists

and authorities of the BNP that have been conducting the species restitution since 1929, the European bison returned to the wild to Białowieża Forest in 1952. At present in both Polish and Belarusian parts of the forest lives a population similar in size to the one from the beginning of the 20<sup>th</sup> century, that is about 800 animals (in the Polish part about 450). Captured animals were transferred to all Polish bison breeding centres and many of foreign ones. No doubt the restitution of the European bison was a great success; however, this species still requires a special protection.

**The Park is open to public and science.** Besides *The European Bison Show Reserve* and the *Palace Park* also the area of strict protection has been accessible for tourists for many years. Despite a high level of protection the tourist rout is available, but under strict rules. It is accessible only on foot and with licensed guides. This very strict regime has been a bit relaxed since 1996 when an additional area of over 5000 hectares was taken over from the State Forests administration. This annexed area has a lower level of protection allowing visitors an open access to the forest and even picking up mushrooms and berries. There are 25-kilometre long routes for walking and 14-kilometre long routes for cycling as well as some places to observe European bison; all available with no paid guidance. The BNP is accessible for scientific studies on biodiversity and ecological processes in the primeval forest. At present about 60 research projects are being carried on in the BNP area. Every year dozens of young forestry graduates come to get to know a real primeval forest.



Fig. 8. Palace Park, Photo by Mateusz Szymura

**The Białowieża National Park plays an important role in both nature, history and culture education.** A special attention is paid to the education of the local society to gain their approval to the Park's activity and its plans of enlargement of its area. Awareness of a necessary link between man and nature has been introduced to all levels of education from kindergarten to university. *The Nature Education Centre* delivers lectures for public for free, offers workshops for teachers, and organizes and provides other forms of education. Special

attention has been devoted to the disabled who may get closer to nature using such senses as touch, taste and smell. *The Centre* also provides a free access to the Internet. *The Nature and Forestry Museum* exhibits interesting objects from the Białowieża Forest. The BNP also publishes various valuable publications such as scientific quarterly for the general public, guidebooks, brochures, maps, and other.

**The Park is an important economic partner of the region.** It sells over 150 000 entrance tickets annually and has also motivated the establishing of an external orbit of various commercial activities, such as lodging and boarding of tourists, guiding of visitors, manufacturing and selling of souvenirs. Also some larger investors appeared around the Park area building hotels and other auxiliary tourist facilities. This big step ahead has been slowly changing a negative approach toward the Park to more friendly and even positive – more and more of local citizen are appreciating both, the value of nature. Therefore, not only the Park had become open to the Public, but also the Public has become more open to the Park.

**Aims for the near and more distant future** begin with an elaboration of a long-term plan of the Park protection in accordance with the recent achievements of natural sciences. An urgent task is to modernize *the European Bison Show Reserve*, the unit most frequently visited by tourists, also to facilitate visiting by the disabled. An English style *Palace Park*, an object of historical value, created in *fin de siecle* requires also an urgent revitalization. These two tasks are costly investments and need an external support. Another priority goal is to continue both captive breeding of European bison as well as support the free roaming bison herd in the Polish part of Białowieża Forest with special attention given to the bison health. Next goal is to retain open areas within the Park (meadows in river valleys, old timber yards) representing habitat for rare species of plants and animals. It needs active protection preventing succession of shrubs and trees. A permanent priority of a national park is to conduct and initiate scientific studies monitoring the threats to native ecosystems. For natural sciences Białowieża National Park forms a standard of European lowland forests. This should be the reason to carry on here research on the course of natural processes and functioning of natural ecosystems. There are also plans of monitoring natural processes taking place in ecosystems. Results of monitoring would be important for successful protection of natural ecosystems in the Białowieża National Park for the benefit of future generations.

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