

# Rooted in discovery

## Field experience in environmental education

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**Environmental** non-governmental organisation focused on:

- nature preservation,
- applied research,
- management and restoration of habitats and reserves,
- **environmental education.**



## Topics

- ❖ Non-forest ecosystems (meadows, wetlands, peatlands, sand steppes, salt marshes)
- ❖ Natura 2000 network

## Regions

- Bratislava and surroundings, Banská Štiavnica
- Other region of Slovakia (High Tatras, Slovak Paradise, Danube Region...)
- Danube region
- Carpathian region

## Projects:

- More than 130 projects
- National and International (Danube, Carpathians, Trilateral Ramsar Projects..)
- EU – LIFE, EU - LIFE+, World Bank, UNDP, GEF, Interreg, DBU....

# Daphne – Environmental Education

Scientific background → Applied Ecology →  
Active Nature Protection → Environmental Education

Environmental education = important part of the process of  
nature conservation

## Daphne environmental activities

Integral part of each  
PROJECT



Non-project  
education activities  
(Offer for schools)

- **Indoor interactive educational programmes**
- **Outdoor environmental programmes**, excursions
- **Special residential programme/trip** for elementary schools (Banská Štiavnica)
- Environmental education **trainings, seminars** for teachers
- **Publications** – methodological materials, education tools



# Daphne – Environmental Education



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## Target group:

- Infant schools
- Primary schools
- High schools
- University students
- Teachers
- Public



## Aim:

- True discovery, understanding, adventure and personal experience → create/improve **relationship to nature** → change attitudes, behaviour
- **Popularization of science** = excitement, knowledge, adventure
- **Learning as a pleasure**
- **Self development** – getting a better understanding of who I am, where I am living, how I am living, what kind of relationships I have with others/with my surroundings, what impact I have....



## Restoration of Endemic Pannonic Salt Marshes and Sand Dunes in Southern Slovakia

- Conservation of priority habitats, strengthening the Natura 2000 network
- Main threats: ploughing and abandonment of farming → succession by shrubs, invasive species

### Activities are focused on:

- Active protection → restoration management of salt marshes and sand dunes (mowing, pasturing, improving hydrological condition...)
- Increasing awareness about the value of these ecosystems  
– target group: public, stakeholders, professional, schools  
– primary, high school, university

### Schools

- Environmental programmes – special interactive indoor eco-programmes, outdoor eco-programmes – excursions)
- Seminars for teachers from local region
- Publications, identification keys



## Restoration of NATURA 2000 sites in cross-border Bratislava capital region / NATURA 2000 BA

- Natura 2000 sites near Bratislava
- Habitats: xerotherms, forest (floodplain, oak-beach), wetlands, river floodplain
- Main threats: abandonment of management, tourists
- Active protection → preparation of management and restoration of non-forest and forest habitats (cutting shrubs, eliminating of invasive species, restoration of pasturing, improving hydrological cycle...)
- Increasing awareness --> public, schools, tourists, stakeholders

### **Schools** → teacher, children (Primary schools)

- Special interactive indoor eco-programmes, outdoor eco-programmes – excursions
- Publications, materials



- Nature = life book
- Discovering
- Observing
- Touching the nature
- Perceiving nature with all the senses
- Knowledges trough personal experience
- Adventure

## „Expedition“ for class

- Preparation, study
- Research, field work
- Determination
- Results, evaluation



## Type of activities

- Research – discovering
- Games
- Sensory activities
- Physical activities
- Art



# Expedition – preparation for research

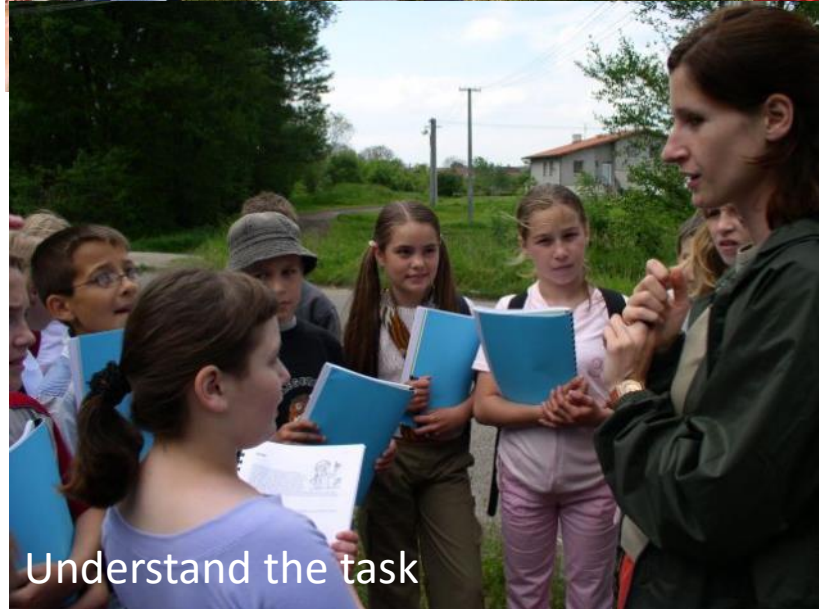


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What kind of habitats are we going to study

Be prepared



Understand the task



Equipment



# Expedition – sampling



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- Life in ecosystems
- Invertebrates -> easy to catch (water, soil, forest...)
- Catching -> Be a predator
- Success -> Excitement -> Happiness-> Motivation
- Out of comfort zone





# Research - Invertebrate biomonitoring



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Studying



Identification keys



Discovering



Observing

Water invertebrate – indicators of water quality





# Research - chemical analysis of water



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## Chemical box

- Movable laboratory
- Young scientists
- Application of knowledges from class
- Precision
- Water pollution





# Experiments



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## Simple experiments

- Easy to realise in the field
- Explicit demonstration of processes
- Why?
- Better understanding of processes and properties
- Wetland functions, water surface tension





# Games



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- Ecological games → population dynamics, predator-prey relationships, invasive species....
- To relax, to move, to switch concentration, to have a fun
- Understanding processes





# Touching nature with senses



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- Animals without eyes
- Is a handicap always a handicap?
- Smell as a determination tool
- Touch experience -> body experience, memory of body





# Landart



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# Grasslands



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## World of grasslands and pastures

- Excursions, field trips
- Using existing educational pathway -> interactive tables and elements

### To understand:

- Why are grasslands valuable
- High biodiversity of grasslands (Orchids program)
- Threats and protection





# Salt marshes and sand dunes



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## Hidden treasure

- Southern part of Slovakia (Podunajsko region)
- Excursions, field trips

## Focus on

- Biodiversity of salt marshes and sand dunes
- Natura 2000 sites
- Endangered species
- Biodiversity loss





# Forest



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## Forest life

- Discovering life
- Biodiversity
- Life of a tree
- A dead tree is full of life
- Forest beasts
- Observation





## Forest spirit

- Deeper experience
- Sensory experience
- Physical experience
- Confirmation knowledges throughout games and activities





# Wetlands, peatlands, bogs



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## Wet adventure

- Discovering wet ecosystems
- Water beast
- Adventure
- Out of comfort zone





# Wetlands, peatlands, bogs



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## Beauty of hydrobiology

- Observing
- Studying
- Determination
- Young scientists





# Streams



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## Life of a river

- Similarities and differences between static waters (lentic ecosystems – ponds, lakes, swamps, marshes ) and flowing waters (lotic ecosystems – rivers, brooks)
- Hydrobiology
- Biomonitoring -> water pollution
- Adventure





## Back to prehistoric world

- Natura 2000 site - SCI Devinska Kobyla
- Sandberg (Bratislava) = famous paleontological locality, sandstones (more than 300 fossils from - The Cenozoic Era)
- Threats: erosion, non-disciplined tourists, ignoring of signage, pilferage, destroying of fossils, lack of knowledge among public about value of this place





## Back to prehistoric world – Educational program with excursion

- History of life on the Earth, species loss
- Process of fossilisation
- Young palaeontologist → Find your fossil in a sand (cast from gypsum), determination
- Art



## Residential Programme

- Special week education programme
- For primary schools
- In UNESCO city Banská Štiavnica
- Experience-based learning
- Indoor & Outdoor activities
- Activities focused on children learning as individuals and getting them to share their experience
- Special groups – journeyman, novice
- LARP (Live Action Role Playing Game)





# LIVING TEXTBOOK



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## ALCHEMIST GROUP



## Geology



## Fire



## Metal processing





# LIVING SCHOOL BOOK



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HERBWOMAN GROUP



Observation



Coordination



Cooking



Tradition



Art



# LIVING TEXTBOOK – Final day - LARP



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LARP – Live Action Role Playing



Test your skills

Various stands



Various tasks

Mystery



Team work – sharing knowledges





# LIVING TEXTBOOK – Final day - Celebration



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Preparation for celebration



Building a tent



Cooking





# LIVING TEXTBOOK – Final day - Celebration



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Presentation by each team



Presentation by each „workshop“



Celebration



Evaluation





Thanks for your attention

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