



ÖJAB

A project by



jongerenwerk
Barkema & De Haan

with Bildungswerkstatt WALDKulturLANDSCHAFT e.V.

Green Environmental Climate Care Orientation



Trainers Manual



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1 GECCO – general part

About the GECCO project

The goal of the project was to encourage young people to shape their local natural environment and contribute to fight climate change through a collaborative, cross-border effort.

The GECCO project was designed in order to reach the following specific objectives:

- development of self and group effectiveness among adolescents aged 13-15
- acquisition of knowledge and skills that young people need to protect their local environment and care for them
- understanding the natural cycle of life through science education and experiments
- supporting language learning and exchanges between young people
- providing a manual for trainers and educators who want to work with adolescents within the context of environmental topics
- creating positive experiences and experiences for all participants

In this regard, an international camp for socially disadvantaged youth from Austria and the Netherlands was conducted in September 2022 in Styria, Austria.

The base for the camp was the rural town of Passail. Around the village there are extensive forest areas, which were a perfect environment for excursions, forest educational content, explanations and playful experimentation.



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Ein Projekt von  
mit Bildungswerkstatt WALDKulturLANDSCHAFT e.V.

Flyers for recruiting young adolescents from Austria (in German)

About this handbook

This handbook was elaborated in course of the Erasmus+ funded project GECCO - Green Environmental Climate Care Orientation, that started in March 2022 and lasted 12 months. The project was a cooperation between ÖJAB (Austria) and Jongerenwerk Barkema (Netherlands) with support of WaKuLa, an Austrian association dedicated to carrying out project weeks comprising the topic of forest pedagogy for young people.

The handbook particularly aims to summarize the major findings of the GECCO project, in particular the 1-week-training programme carried out for young people from both Austria and The Netherlands. Furthermore, the handbook aims to provide



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similar organizations (such as NGOs, youth work organizations, schools etc.) who want to carry out similar projects with profound know-how, raise awareness for possibilities and obstacles during such a project. The handbook was especially developed to support teachers and trainers, who are working with youth, to prepare, arrange and conduct activities that sensitize youth for the importance of the forest, teach them methods to foster forest care and improve their understanding of the ecosystem forest.

The handbook will be available as a free PDF download via the project partners' websites and on the Erasmus+ platform.

More information on the project

The FUTURE SKILLS project is carried out by 2 organisations from 2 countries:

- Österreichische Jungarbeiterbewegung (ÖJAB) – Austria
- Jongerenwerk - The Netherlands

The two organizations were supported in their work by the Austrian partner WaKuLa.

More information regarding the project can be found on the website of the project coordinator, ÖJAB:

<https://www.oejab.at/en/education/europe-international/european-educational-works/gecco>



2 Planning a GECCO week, methodologies, tips and best practices and recommendations

The content presented in this chapter includes environmental, forest and experiential education methods that were used during the GECCO project. They were compiled by the two project partners ÖJAB and Jongerenwerk. Some of the methods were prepared by the cooperation partner WaKuLa, which actively supported the project, especially during the implementation phase of the camp in September 2022 with a total of 20 young people between 13 and 16 years from Austria and the Netherlands. The chapter is regularly punctuated with practice questions that serve as guiding questions for interacting with youth.

Aim

Forests always have been an incredibly important part of the global ecosystem. In times of climate change, forests take on a new significance, as plants are the only (so far functioning) way to filter climate-damaging gasses from the atmosphere and thus counteract climate change.

This handbook is intended to present a training concept for trainers and teachers to bring young people closer to the forest and its care with all its components. On the one hand, this handbook therefore contains information about the functioning of the forest ecosystem and its relevant actors (trees, water bodies, wildlife) to deepen environmental understanding. By working with and in the forest, young people gain an increased awareness and understanding of the environment.

At the same time, they experience a sense of self-efficacy. Especially in view of the global challenge and the increasing explosiveness of the climate catastrophe, this can contribute to a better mental health. By participating in the activities, young people can get the chance to experience themselves as active shapers of the future and thus also as part of the solution to climate change. In this way, young people have the opportunity to experience self-efficacy and counteract feelings of



helplessness and powerlessness. This is an important guide from helplessness to self-efficacy.

The central elements of the GECCO approach are:

- To gain knowledge and understanding of the structure and functioning of the forest
- To teach methods, effects and goals of landscape management
- A reflection on one's own actions in the context of nature
- To support people who work with young people to implement environmental action methods, this handbook includes necessary preparations, safety instructions, background knowledge and methods.

Preparations

A starting point for preparation is to find a suitable piece of land/forest. Depending on the country, the legal basis for this differs. However, as soon as the forest is actively interfered with, the consent of the forest owner is necessary. Therefore, the cooperation and consent of a forest owner is necessary for the implementation of the training and a suitable cooperation partner must be found.

Private forest owners, forest enterprises or public forest owners can be approached with this intention. Municipalities can be a good contact point to find nearby suitable areas and to identify the owners.

When selecting lands, several factors must be considered: accessibility (both via roads that can be used by the public and the accessibility of the land in various weather conditions), suitability of the land for training at the intended time period (flooding, frequent fire hazards, etc. can be exclusion criteria), conservation restrictions, etc.

Specific tasks, time periods and areas must be agreed upon with the owners. The more precise the agreements are, the better the cooperation will succeed. Even



though specific landscape maintenance and conservation tasks are part of the training, the educational mission is paramount. Therefore, it is important to agree on realistic goals and to act only as a support to the forestry operation. Certain tools, protective clothing and vehicles may also be required. These may also be loaned or provided by the forest owner.

Thematic preparation with participants

In order for the participants to be able to go more into practice in the forest itself, it is necessary to provide them with a bit more theoretical content on the topic of "forest" beforehand. This briefing is also an important way to make the young people curious, to motivate them to go into "climate action" and also to sensitize them to the topic and to create an understanding.

Thus, an exchange could take place about why the protection of forests is so relevant in the context of climate change. In addition, we also recommend providing a little background knowledge (e.g. different types of forests, special features of the forest, what forests need). This can be spiced with funny or interesting fun facts about the forest or a quiz at the end.





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Packing List

The organization of a group excursion to the forest should include a packing list that is sent out to the participants beforehand.

The packing list should include the following:

Group equipment, i.e. each group should have...

- means of communication (e.g.: radio device)
- first aid kit
- pocket knife
- garbage bag
- compass
- map
- flashlight
- enough food/snacks

Each participant should have the following:

- a small backpack
- drinking bottle
- sun protection: sunscreen, headgear
- clothing that can get dirty
- in general: seasonal clothing
- solid shoes
- safety gloves
- flashlight

The packing list should be supplemented accordingly, depending on the tasks that the young people have to accomplish.



Regulations and behavior in the woods

The preparation should also include an exchange with the participants about how to behave (and not behave) in the forest. The forest is an existing system in which we as humans nowadays act mainly as guests - rarely as a part. We do not want to harm the creatures and ecological system of the forest and actively help them. To do this, it is important to understand and internalize basic behaviors so that we do not unintentionally cause harm towards ourselves, others or the forest.

In order to have a real positive ecological impact on the forest during the training, it is crucial to discuss this with the young people in advance and talk about the collective responsibility in protecting - and not harming - the forest. It would be good not only to talk about it, but also to write down important aspects of behavior and perhaps draw up a "group responsibility paper" that gets signed by all participants (including the trainer).

PERSONAL SAFETY

Youth workers as adults have the responsibility to take good care of the young participants. This includes dealing with the topic of "safety" on different levels. In order to make appropriate safety arrangements and preparations, this must be done prior to the field trip as a necessary part of the planning and organization.

Prior to the field trip, youth leaders should discuss (and write down) together with their participants rules of conduct to reduce the likelihood of accidents and harm and to increase the awareness of potential risk factors. Here are some suggestions:

- Use fire only in designated areas (e.g. marked fireplaces or picknick areas)
- Defining areas where young people can move (usually not off the beaten track, only with the group leader)



- Don't touch or feed any animals that you encounter (human food could be harmful for them)
- Always stay at least in pairs
- Always inform someone when you move away from the group
- Keeping your own resources in mind to stay safe (don't go beyond your own limits or those of others, especially in rough terrain)
- Communication - let someone know if you are not feeling well, need a break or support
- No matter how hungry or thirsty you are; don't eat or drink anything you see in the forest without asking your group leader beforehand to lower the risk of poisoning

PROTECTING THE FOREST INSTEAD OF HARMING IT

Adequate behavior in the forest concerns not only our own safety, but also the well-being of the forest and its inhabitants. We make such forest excursions to sensitize and inspire the young people for forests and environmental topics and on the other hand also to contribute with smaller or larger actions to ecological conservation. And environmental protection begins with our own behavior towards nature. In this context, it is necessary for youth workers to discuss with young people what behavior is harmful to the forest and should therefore be avoided.

In order to treat the forest and its fellow inhabitants with respect, it is important that we pay attention to the following...

... Keeping quiet to not disturb forest dwellers: When walking in the woods, we should not disturb the woods in their "rooms of fire" and "dining rooms" (dicerries, young woods). If you do go off the beaten track, you should do so with caution and care, so as to disturb the animals and plants as little as possible.



... Destroying anything (e.g. nests, anthills, tree trunks, deadwoods) is counterproductive - it might be the home of lots of important organisms that are essential for the wellbeing of the forest.

... We should not leave anything in the woods and collect our waste. The animals can get injured on discarded trash. This is why it is always recommended to bring a trash bag, in this case the excursion group could also do something good by collecting garbage that doesn't belong to the participants.

... In case someone has to go to the toilet: It is advised to find a place at least 50 meters away from water, hiking trails and campsites and to watch for poisonous plants, anthills, and bee nests. It would be best to dig a hole deep enough so that everything really disappears - but it does not have to be 30 cm deep. Often 5 to 10 cm is quite sufficient. Finally a stick should be placed upright where the hole was dug.

... We should really try not to pick or step on flowers.

... We should not hurt the trees by breaking their branches. Damaged areas become an „entrance“ for bacterial pathogens and illnesses that can destroy a whole tree.

... In case we pick berries or herbs; we should leave the roots inside so that berries and herbs continue to grow the next year as well.

HUNT IN THE SEASONS

To avoid unintentionally coming into the field of fire of hunters, we should stay on the official trails. In spring, the hunters tidy up their hunting grounds. High seats are repaired or newly built, stalking paths are cut clear. Meadows and grasslands are cut



or repaired, and special seed mixtures are used. This attracts wildlife and leads it away from afforestation or agricultural fields that are threatened by browsing.

At the same time, many species are attracted by the blooming grasses, which in turn contributes to biodiversity. The salt licking stones are newly coated, the wild life gladly accepts salt at the time of the hair change. In spring there is much to observe in the Wild animal habitat: many young are born and mothers are on increased foraging, birds build nests. The breeding of birch and capercaillie also takes place in this period. In addition, the exact amount of coveys to be taken in a given hunting year is determined in shooting plans in order to achieve a covey population that is adapted to the habitat and the sex ratio. When the seeds have matured in the meadow, usually in early summer, they are searched for deer cracks before the meadows are mown to protect them from mowing death.

In summer, with a little bit of luck, you can enjoy the rutting of the deer, otherwise it is rather quiet in the area. In this time there is often an opportunity to discuss the various needs in the forest with walkers or mushroom hunters.

In autumn, animals begin to prepare for the winter and accumulate fat reserves. In late autumn, when it gets really rainy, the roar of the deer can be heard from far away. The hunting season lasts until late autumn.

In winter, the animal needs a lot of rest to save energy. A high density of livestock, and in the mountains simply a severe winter, can lead to a time of need for livestock, as fodder becomes scarce. Then in some areas feedings are provided. Salt stones are also gladly accepted. In this way, different animal species and their interplay in the forest ecosystem can be investigated in the annual cycle.

LEGAL MATTERS



Talking about safety - something that must be always considered in the course of preparing excursions with minors are legal concerns. Youth workers should be sure to obtain information in advance regarding legal supervisory responsibilities, reporting requirements and youth protection laws.

If a minor goes along on a project week, the task of taking care of a minor is partly transferred from the legal guardians – usually the parents - to the group leaders present at the field trip. However, the group leaders are always only assigned the duty of supervision, but never the entire custody. The extent to which the participants must be supervised depends on their age and maturity level. The location also plays a role: in a museum, for example, fewer sources of danger are to be expected than on a mountain hike.

The duty of supervision is fulfilled by anyone who protects children from danger and harm, who prevents harm that may come from the child itself, who correctly assesses situations to the best of his or her knowledge and belief, and who acts accordingly in a pedagogical manner. Not every child needs the same level of attention and supervision. Age, maturity and development play just as much a role as previous experiences that one has already had with the child. "Wild", younger children certainly need more supervision than older minors who have often been on forest excursions and therefore already know that they must abide by certain rules.

The duty of supervision includes various concrete obligations that are in general in compliance with laws. Depending on the country or city, the legal interpretation of the duty of supervision will vary.

Despite these national and regional differences, we would like to give a few hints here:

- Duty to inquire in advance:

The first step is to inform caretakers about the excursion (e.g. the goal, time, purpose and costs of the excursion) and obtain their consent. If the excursion lasts



several days, you will need a declaration of consent from the parent or guardian for underage participants. On the other hand it is also necessary to gather information about the participants. It must be clarified in advance, who will be the contact person during the training (emergency number of legal guardians, etc.), whether a child can swim, is vaccinated, has allergies or diseases, or has to take medication regularly. This information should be documented. In case of (in the forest relevant) allergies and chronic diseases (such as pollen allergy, severe asthma) it has to be clarified in advance if in this case participation is not recommended. Likewise, it is important to get an overview of local conditions before training: Where is the nearest hospital? Are there local emergency phone numbers? Are there special emergency exits in the neighborhood?

- Duty to instruct and warn:

Minors need age-appropriate rules and instructions so that as little as possible happens at the excursion (e.g. going into the forest only accompanied, wearing solid shoes, etc.). Rules and prohibitions should be explained and justified in a youth-friendly way.

- Duty to control:

Compliance with the established excursion rules should be observed and controlled. Often important rules have to be repeated by the youth worker again and again. Especially if a rule has already been broken once, the group leaders must pay more attention to it.

- Duty to intervene:

Intervention should be taken when declarations, warnings and prohibitions are disregarded. It would be good to also discuss possible consequences with the participants in advance.

- Compliance with the law



Last but not least, the duty of supervision also includes compliance with the law. For example, the provisions of the respective youth (protection) laws with regard to residence times, passing on alcohol & nicotine or making accessible media harmful to young people. Another important aspect is to find out in advance what the legal supervision ratio is for group excursions with minors. Even regardless of the legal situation, it would be irresponsible for a youth worker, for example, to go on a forest excursion with only one supervising person and 10 young people.

In the case of hikes or camps in the forest, forestry and nature conservation regulations are relevant (campfires, use of campsites, prohibition of littering, etc.). In addition, there are countless other laws that apply depending on the respective care situation and whose non-compliance can then constitute a breach of supervisory duty.

Legal problems and the question of liability always arise when something has happened and parents subsequently want to hold group leaders responsible. In most cases, it is possible to find solutions with the parents and minors involved without going to court. For example, many property damages are covered by various insurances.

We recommend documenting a lot in order to be on the safe side: e.g., creating minutes of debriefings that show who gives which child their medication; who has been to the doctor with a child; who has talked to the parents on the phone. Likewise, "rights and duties" of group leaders should be recorded in writing to show that one is aware of one's responsibility and has thought about possible problems and how to avoid them in advance.

What should also be mentioned is that the duty of supervision is always in a field of tension between protection and independence of the participants. It is the responsibility of adults to encourage adolescents and to promote their



self-responsibility and independence, but also to consider the safety aspect and to give (educational) and (pedagogical) instructions in case of potential danger. Despite all precautions, children and young people cannot always be protected from all dangers. We should also give them the opportunities to assess and manage dangers themselves and to cope with them. This enables young people to learn how to master the challenges of everyday life themselves and it promotes a sense of achievement and accomplishment.

EMERGENCY MANAGEMENT

Emergency management is part of the duty of supervision and it begins well before an emergency occurs, where we can still prevent certain emergencies from happening at all. Naturally, the association has a comprehensive concept for preventing accidents. However, this concept can never replace prudent behavior on the part of each and every one of us.

Therefore, at the very beginning, think about what measures you can take to avoid accidents (in the forest)?





COMMUNICATION

In order to ensure communication at all times, it is proposed that each group leader is equipped with a DMO (Direct Mode Operation) radio. These radios, as the name implies, communicate directly with each other and are not dependent on a mobile network. Therefore, they are particularly well suited for use in the field. However, the best radio is useless without a competent user. Perhaps there are firefighters among you who have radio experience? If not, your group leader will be happy to help you try it out.

It is also important to find out in advance whether there is cell phone reception in the forest you are visiting. Furthermore, you should also think of different ways of communication with your participants, besides mobile phones and radios (e.g.: imitating a wolf call when someone gets lost or if the group leader wants to gather the group together).

EMERGENCY LEAFLETS

Another part of the emergency management during such a project week are the emergency leaflets which your group leader carries with him/her at all times at the workplace. On these emergency leaflets you will find not only information on illnesses, allergies, etc. of those involved, but also important information on your current location as well as emergency phone numbers.

Situations to be discussed with the young people before:

- Your group leader has suffered a severe bleeding on his right lower leg, how can you help him?



- You are taking your lunch break when one of your colleagues thinks she is not feeling well. You see that your colleague's face and has a rash on her hands and her lips are visibly swollen. She complains of having increasingly difficult breathing. What do you do?
- Just as you are sitting in front of your accommodation, enjoying the end of the working day, you hear a sudden call for help. On the nearby hiking trail is an old gentleman. He has fallen and can no longer get up. He tells you that he tripped over a stone. Shortly after, he loses consciousness. What do you do?

Naturally, we hope never to find ourselves in the situation of having to provide first aid. But if it is necessary, any support from your side is worth it:

FIRST AID INSTRUCTIONS

As mentioned before, the probability of accidents can be minimized e.g.: by adequate preparation and safety measures. But unfortunately accidents cannot always be avoided completely at all times. Therefore, it is also important to deal with the case of an accident and discuss this with the participants.

In case of an accident, one important aspect is not to panic and to stay calm and then assess the situation at the scene to get an overview of the situation. This is to clarify what has happened and who is injured. Any residual risks present, such as hanging trees, fire or rolling logs, should be noticed. If the situation is too dangerous for the first aider, the first aid is to be omitted. In general, the following applies: self-protection before protection by others! We are no help to others, if we hurt ourselves badly.



If the accident scene is accessible to the first responder, the following sequence of actions should be taken:

1. Securing the scene and/or the person

If possible: securing the accident site if necessary, like protecting the head of the injured person if the sun is shining straight on it. After securing the scene from immediate danger, it should be checked if the injured person is conscious and if normal breathing can be detected.

2. Alerting

In any case, the most important step is to keep yourself out of the danger zone and to make an emergency call to report the situation. First, with all the nervousness that an accident brings, an emergency number must be dialed. To avoid confusion, the EURONOTRUF 112 is a good choice. With cell phones, it is easier to connect to this emergency number. The emergency call center depends on the statements of the first responder. The more precise the description of the accident situation, the faster and more efficiently help can be provided. They will tell, what to do next. After the emergency someone from the group should be contacted for additional support.

ACCOMODATION AND SCHEDULE

For the experience, social cohesion and to shorten the distances, it is advisable to share accommodation nearby during the training.

With a schedule, young people should be given a daily rhythm and orientation during the project week. It should be regulated when they have to get up, whether a midday rest or lunch break should be taken and that the night's rest should be observed in order to avoid overtiredness of the participants. The schedule should also provide enough time for the large group to get together, to reflect and to share. By dusk, everyone should be back together and inside.



In the evening, time should also be set aside for meetings to reflect on the events of the day (e.g. dynamics that develop between young people and their possible consequences for the duty of supervision) and to discuss planning for the following day.

The group leader is responsible for the time management and for the adaption of the schedule to the given circumstances (e.g.: weather conditions). To better meet the schedule, it is also recommended to involve the participants and let them also take some responsibility. What can be helpful is to involve young people, e.g. in the roles of...

- **"timekeeper"**: a person who keeps track of the time, e.g. by calling the attention of the participants with a drum or a gong at the start of each session, the timekeeper can be changed everyday
- **"weather reporter"**: a person who checks the weather forecast the day before and informs the youth leaders about it to see if something needs to be adjusted to the weather conditions the next day.
- **"wood person"**: a person that collects dry wood from the forest, in case there is a campfire site at the accommodation.
- **"cooking helpers"**: if the group has to cook for itself, it is advisable to have at least 2 helpers for each meal (breakfast, lunch and dinner).





MATERIALS

To experience work in the forest professionally and with pleasure, we need good tools. They must be good, sharp, easy to handle, clean and visible in the wood, if you want to use it against your intentions. Some tools may not be easy to handle, so the group leader will be happy to give you professional tips... take your time! At the beginning of the week there is a whole range of new tools for each workplace, with which it can be a pleasure to lay a roof, to cut a tree, to make a path in a steep terrain or to dig a ditch. At the end of the week, the last work unit is used for cleaning and repairing used axes, sagas, hoopoes, pallets, shovels etc. But also homes, safety vests, ropes, planes and vehicles must be cleaned and passed on to the next group of participants fully operational.

- Decide where and how many people can work when limbing a felled tree on a steep slope, so that at the same time safety is ensured for every individual?
- Who is allowed to be within the protection zone when a tree falls and under what conditions?
- By the end of the week, try to figure out which tool fits you best.

Forests and Climate Change

There are nine planetary boundaries. They describe ecological stress limits of the earth, which, if exceeded, endanger the stability of the entire system and thus the basis of life of mankind as a whole. The climate is one of these important systems. Its planetary boundary has already been exceeded in the course of climate change.

Climate change is caused by the emission of greenhouse gasses (CO₂, methane, etc.) and the resulting greenhouse effect. It causes an increase in temperature on



the earth's surface. Compared to the pre-industrial age, the climate has already warmed up by 1.1°C worldwide. In Austria, it is already 2.3°C. What are the consequences? Extreme events, like drought, storms, and heavy rain become more frequent.

THE FOREST AFFECTED BY CLIMATE CHANGE

The forest is of outstanding importance as an ecosystem. It is home to well over half of the species living on land, produces oxygen for us to breathe, generates our drinking water, protects us from erosion and avalanches, provides us with the valuable raw material wood, and serves as a recreational space where we can play sports or simply relax. The forest and its plants react sensitively to climatic changes. Trees have become accustomed and adapted to certain site conditions over thousands of years. Important climatic site factors are, for example, precipitation, humidity, temperature and wind conditions. If these factors change as a result of climate change, trees come under stress and may die in extreme cases. Every year 17 - 19 billion m³ get cut e.g. in Austria. In 2018, 9 of these 19 billion m³ was damaged wood, that is, dead or damaged trees. Spruce, which is particularly affected by climate change, was the most severely affected. So almost half of the harvested wood is due to damage caused by the weather extremes in 2018 and thus to climate change.

THE NATURAL FOREST

Natural forests are stable forests and have a climate balancing effect. Why is that so? Natural ecosystems, and thus also the forest, tend to accumulate biomasses within their possibilities. Every quantum of energy that hits the system in the form of sunlight is harnessed and fed into the buildup of leaves, wood, and roots. Organisms



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feed on this biomass, and others feed on other organisms. A highly complex food resource is created. Even from dead biomass, such as dead leaves in autumn or decaying wood, the last bit of energy is extracted. An army of earthworms, bacteria, fungi, springbugs and other microorganisms live on it. Thousands of interacting species sit down at the table richly set by the sun. Thus, evolution has created a tremendously complex and fascinating web of relationships, a web in which everything depends on everything else and thus supports and sustains each other. This is the reason for the stability and robustness of virgin and semi-natural forests, and also for their climate balancing effect. In everyday life we experience this ourselves. Forests buffer temperature extremes, so that it is much cooler in forests in hot summers.

On the other hand, the higher biomass and the deadwood, which stores a lot of water, also have a cooling effect on the forest climate. The near-natural forest therefore buffers the heat better, calms itself and thus remains even more productive. Thus, biodiversity and naturalness in forest ecosystems have a concrete benefit for us humans. They stabilize the forest and are thus future insurance for all the green things that the forest offers us.



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HOW DOES A CLIMATE RESILIENT FOREST LOOK LIKE?

The closer to nature a forest is, the more stable it is in terms of climate. A near-natural forest is characterized, for example, by naturally occurring tree species, comparatively high biomass reserves, relatively high proportions of dead and biotope wood, species diversity, old trees and much more. A bit like a primeval forest. However, it will be crucial for the future of forest ecosystems to stop climate change.





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ENERGY - NOTHING RUNS WITHOUT IT

When you charge your cell phones, you're using solar energy, whether the power comes from coal, gas, or even renewable energy like wind power or photovoltaics. It's only with nuclear power that this doesn't apply. Even our warm home, the TV and computer, everything is ultimately powered by solar energy. Solar energy transformed into solid matter by trees is available to us in the form of wood and is the basis for the elemental power of fire, which gives us security, warmth and light.

Through fire, the previously bound solar energy is unleashed, and so fire can be life-giving and vital, or devastating and destructive. It depends on how we use it.

Some evidence suggests that even our ancestor - the Homo erectus, used fire for 1,5 Billion years. Often claimed, that Neandertaler were the first, who could start and handle fire for 40.000 years.

3 things are required for a fire: fuel, heat and oxygen. In the heat, the fuel reacts with the oxygen in the air, oxidation occurs. Fire is a so-called exothermic reaction: it produces more heat than is needed to start the reaction. Energy is actually available to the earth in abundance through the sun. Every year, our planet receives an amount of energy that is more than 10,000 times greater than what we humans consume annually. This energy warms the planet to life-friendly temperatures, drives winds and the water cycle, and is the energy source for life.



THE MOST IMPORTANT REACTION IN THE WORLD: PHOTOSYNTHESIS

Algae and plants are able to use photosynthesis to produce their own energy from inorganic matter, and ultimately the energy for all living things. From the carbon dioxide in the air, the water in the soil and the sunlight, they form sugar and oxygen by means of chlorophyll.

Sugar is the raw material for energy, which every living being needs for its life processes and for building up complex organic compounds, i.e. biomass. Ultimately, all living things live on it.

WOOD, COAL, GAS, OIL - SAFED SOLAR ENERGY

Energy is therefore stored in biomass. By far the most important bioenergy carrier for us humans is wood. Since biomass remains in the active carbon cycle, its combustion releases additional CO₂. A plant binds CO₂ by building up biomass and the same amount is released later, regardless of whether it is decomposed or burned. The situation is different with fossil energy sources such as coal or gas. They are also part of the carbon cycle, but not the active one. They were formed in geological prehistory from the decomposition products of dead animals and plants. In other words, they are dead biomass that has been preserved from air (like the ground of swamps and marshland) and sunk into deeper grounds stored at high pressures and temperatures. If we now burn the reserves of coal and gas that have accumulated over millions of years, this CO₂ is additionally blown into the atmosphere. This leads to an increase in the CO₂ concentration and, as a consequence, to climate change.

Questions:



- Why should we save energy when solar energy is infinite?
- Why is renewable energy more environmentally friendly than energy from coal, oil or gas?

THE COURSE OF THE WATER

In projects concerning climate change and forest with young people, work should be planned for active flood protection as well. Surface water, which is collected at the forest roads and channeled through a canal, is to be made available to the forest again in the lower area of the roads. With sluice gates and collecting basins the water will be distributed into the flat and prevent a more serious flood disaster in the adjacent valley. And the trees do not die of thirst! This work with shovels, cramps and wooden tools belongs to the field of engineering biology, which deals with securing and shaping our environment through living building materials such as plants, stone and wood. Streams and rivers are components of the green water cycle on our planet, driven by solar radiation. On its way to the sea, a river water develops almost like a living being, from a stormy, rushing mountain stream to a broad, slowly flowing river.

FROM THE SOURCE TO THE STREAM

Streams occur where groundwater emerges from the ground in springs. They become spring water and collect with aboveground streaming ground water to a spring creek. It is necessary for the stream to rewind many obstacles such as stones, consolidated soil and trees. In the spring area, the trees provide for water traps and rewinding of the roots. With it, they enrich the water with oxygen.



With the green drag force of the water, the masses of rolled material are transported to the valley, broken up during transport, abraded and crushed ever more rigidly. This area of the flowing water is characterized by high flow velocity, high oxygen content, low temperature fluctuations and low water temperature. The further we move away from the source and start the construction work in the stream or on the edge of the stream, the more consideration must be given to the flow velocity of the water and the meanders of the stream. The bed of the stream is covered with large stones, coarse gravel and some sand. Gravel and sand are deposited on the inside of the bends. On the other hand, on the outer sides of the bends, on the baffle slopes, there are new cracks and Carrying of the earth material and rocks. Here the hydraulic engineer focuses on the height of the transported material (debris) through the stream and tries to prevent this by means of natural and artificial structures.

The forest plays an important role in the protection of the river banks from landslides. In addition to the soil structure and composition, the forest plays a major role as an important bank protection and shade for the water. The confluence of several streams further down the valley increases the volume of water, which, however, flows off at a lower velocity due to the decreasing gradient.

The water flow rate is reduced, and the transported particles, such as gravel and sand, become increasingly smaller. With reduced flow rate, the residence time of the water increases. Environmental factors, such as the prevailing temperature, become more pronounced. The temperature fluctuations increase. The higher the temperature, the lower the oxygen content in the water.

In addition, the residence time of the water in the area that has become a river increases due to the formation of channels. This leads to a selective deposition of the river sediments in accordance with the flow velocity. The proportion of sands and silts increases, fine sediments are deposited mainly on the inner side of the meander curve (sliding slope), on the outer side (impact slope) erosion (scour) occurs. Wetland biotopes are formed along the meander and flow down the river.



The tendency to form meanders and oxbows increases with the further course of the river. The longer residence time of the water in the meanders leads to an increase in the water table and the formation of extensive floodplain forests. During floods, the banks of the river are inundated. The flooded areas are called "floodplains".

Questions for practice:

- What does a mountain forest stream look like to you?
- Roughly draw the course and the sections of your Books!

FLOODLAND DYNAMIC

Floods are both a curse and a blessing. In some ancient cultures, there are even myths about the life-giving floods that turn scarce soil into fertile land. In a country like the European countries, however, with fertile soil and sufficient rainfall, it is the destructive power that many people associate with a flood. But if you look at nature, floods are also an important elixir of life in this country. Many species, such as willow and black alder, could only develop because of the regular flooding in the catchment area of rivers. Some trees developed survival strategies (like high regeneration capacity) and thus found a way to be superior to competing species, if not everywhere then at least on such special sites.

Questions for practice:

- What factors influence life on the riverbank?



Survival hack: Fire

What are the main steps to make a fire? Call the fire department? Owning a lighter as green as possible? Making fire in the forest does not work at all? Making fire in the forest requires great care. Especially in dry weather, all precautions must be meticulously observed! The elemental power of fire provides security and warmth. In some situations that we are confronted with in nature, the ability to make fire can prove to be "vital". Even in the rich countries of Central Europe, there are still soft spots on the mobile landmap, not to mention that even batteries eventually run out. Fire is visible from far and can serve as markings in search and rescue actions. During the day, smoke rising above the forest is visible for miles. For groups that need to care for the "injured", the fireplace provides a place to warm up, have tea and wait for rescue. What are the requirements for safe handling of fire?

The choice of the place for my "campfire": A place that is as level as possible, without any objects that could cause a fire, such as tree stumps, large stones or similar trip hazards. The ground around the fireplace must be cleared of combustible material to prevent the fire from spreading uncontrollably. If possible, a wall should be dug or stones laid around the fire. For the fire use dry wood if possible. Wet wood always meant a higher smoke development. For kindling, use the cleanest wood possible. If there are coniferous trees nearby, it is best to use the dead branches from the lower part of the trunk. Before decortication, it is necessary to collect the largest possible stock of small and large wood for "replanting". Start with a small pile of wood - when it starts to burn, slowly add more and more wood. If you have paper available - handkerchiefs, writing paper, newspapers etc. then ignite the fire with it, otherwise use small pieces of dry wood.

Once a fire has started, it can quickly get out of control and, within a few minutes, assume life-threatening proportions for humans. To extinguish a fire, one must either remove the heat, the fuel or the oxygen.



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The best lubricant is still water; it is cheap, environmentally friendly and available almost everywhere in unlimited quantities. Water draws heat from the fire until there is not enough left to maintain the fire reaction. Water extinguishes because it is cool, not because it is wet. One alternative to stop a fire is to cover it with sand. Here, the success is based on the deprivation of oxygen and the comparatively cooler temperature of the sand. But there are also fires that should never be extinguished with water: for example, river fires. Here it can cause little or bigger explosions. In the case of grease fires, meter-high flames can arise. With the fire steel held at an angle and a knife or a sharp edge are rubbed sparks to ignite. This requires some practice and the first time it may take a long time before a fire actually starts. Fire must never be left unattended.



3. Informal learning during the training course

Throughout the training week we used a lot of known practices and methodologies which are commonly used in mobilities for young people. They form a good base for a youth program in which there is not only room for topical learning but also for interpersonal development. As explained in the chapter above, the young participants were given a lot of information and knowledge about the forest and its connection to the environment. This was done in a combination between formal and informal learning. The same combination was used for the other side of the training course. Which methods were used and can be used when setting up this type of training course are explained below.





Preparation

As this specific training week was organized in an intercultural setting, there was a big focus on getting to know each other. It is highly recommended to pay attention to the first days, since this will be the base on which you build on for the upcoming week. Not only when working with an international group, also when you are working with young people who don't know each other beforehand and even for groups who do know each other.

In the previous part there's been said a lot about safety while working in the forest. Here we were talking mostly about physical safety, but safety is also important when talking about your mental state or a group process. To ensure the young people were 'safe' throughout this week, they were prepared beforehand about possible obstacles and difficulties. Every group should have some meetings before joining the week. These meetings can be done with or without parents, but when talking about underage young people, parents should be involved. During these meetings all the practical information should be conveyed, like travel, program, packing list and accommodation. But much more important, share the goals and objectives of the week with the group. This will ensure that the young people come prepared and know what their learning curve should look like.

When creating the project, these were the objectives set for the GECCO Week:

- for young people to acquire knowledge and skills that they need to protect their local environment and take actions against climate change in their communities
- for young people to develop self and group effectiveness, intercultural and language learning



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Next to this there are also some other objectives that should be shared with a group:

- Expanding your knowledge and self confidence
- To become an active citizen
- To develop your informal learning skills

Besides sharing the objectives it is important to discuss some ground rules beforehand. These are just the basic rules, since the group rules will be set during the first day of the introduction. The following rules are the basis for a GECCO week:

- Active participation
- No alcohol
- No drugs
- No aggression
- Respect for each other and nature

Respect is something which needs to be explained, how to have respect for different cultures, customs etc. By already explaining this in the local groups, you'll make sure the group goes into the week with the right mindset. To increase group cohesion when the group doesn't know each other before going on the week, you can decide to do some small group activities before. Giving small tasks like preparing a presentation, buying some national products or organizing a group chat could also increase the bond within the group.



The first days

As mentioned above, it is very important to create a good base to build on. This started with the preparations at home and will continue during the first days. The groups will be brought together and this will bring along some first day butterflies. Usually there will be an arrival day on which the young people will need time to settle and find their personal place. The young people will be excited but maybe also scared, it is important to be mindful on this first day of everyone's feelings. Introduction will be convenient, but further than that, let the young participants settle in.

After a good night's sleep, the program can begin. Start the day with some energizers and some small name games such as:

NAME TOSS

Equipment: ball

Time: ~ 10/15 minutes

- Arrange the group in a circle.
- One person starts off by saying the name of someone else in the circle, and tossing the ball to them.
- That person then in turn says the name of a different person, and tosses the ball to someone else who has not yet received the ball.
- That continues until everyone in the circle has received the ball once.
- Generally, the objective is to pass the ball around the circle without dropping it. If the ball is dropped, the group restarts until completed without dropping.
- You can add a "thank-you, (name)" from the receiving person

GIANTS, WIZARDS AND ELVES

Equipment: none

Time: 10/15 minutes

- Teach everyone the following three characters:
- Giant - Tip-toes, raise hands above head, curl fingers, growling sounds
- Wizard - Crouch slightly, wave and point a magic wand, shouting "kazaam!"
- Elf - On haunches, hands cupped for big ears, shrill screeching noises
 - Give people plenty of practice by calling out the characters and having them instantly become that character - offer lots of positive encouragement for dramatic effort
 - Form two teams - each team convenes to decide on a character



- Teams then line up facing each other (use a rope on the ground to separate teams). Have ~ 4 feet between teams.
- Facilitator dramatically announces "1....2.....3.....", then teams adopt their poses, revealing their identity
- Immediately, the winning characters (team) must chase the losing team and try to capture (tag) as many as possible
- Giant wins by 'squishing' an Elf
- Elf wins by 'outwitting' a Wizard
- Wizard wins by 'zapping' a Giant
 - The losing characters try to reach a "safe zone" (e.g., over another rope) about 30-60 feet away without being captured
 - Teams then reconvene and decide on their next character
 - Continue until one team entirely consumes the other

When the ice is broken you can continue with some more in depth conversation. To start small you can ask the participants to create a portrait of each other with some information about the other person. They will receive some examples of questions and will get some time to really get to know the other person. Afterwards, they will present the other person to the group (their first public speaking of the week). This is also a way to introduce "Secret friend":

SECRET FRIEND

- Explain how it works:

During this exchange we are going to do an activity that's called secret friend. Everybody during this exchange will be someone's else's secret friend. This means that for the whole week you are going to take care of your friend. Everybody will get his/her envelope. During the whole week you're gonna put secretly small things in the envelope of your friend. The things you can put in your friend's envelope are:

- little notes with compliments

- small presents

- you can ask another person to do something nice for your friend (like giving a hug)

Make sure that you do something for your friend at least once a day!

You have to do this very secretly so your friend won't discover that you are his/ her secret friend! You can check your own envelope every time you want to. At the end of the week we are gonna do the reveal of the secret friends! So by the end of the week you're gonna discover who your secret was!

- The notes and gifts can be placed in an envelope at the bottom of everyone's portrait



- Write all the names on a piece of paper and put them in a hat
- Everyone gets one name, you are this person's secret friend

One of the reasons to organize the “secret friend” activity is to teach the young people about kindness, caring and friendship. These values are highly important in life and can be developed like this in a fun way.

When the participants have gotten to know each other a little bit better, it is time for the next step: sharing their expectations, fears and rules. This step is important because not only will the young people start discussing with each other, they (and the organizers) will find out what they would like to achieve this week but also if they share a fear with another student. Not only finding matching fears is helpful, also announcing them will make it easier for other young people to help with these fears.

EXPECTATIONS, FEARS AND RULES

- You start by dividing the group into smaller groups (about 4-5 per group), make sure to have mixed groups when there is an intercultural aspect.
- The groups will have 3 papers each with: expectations, fears and rules.
- They will get enough time to discuss and write down on each piece of paper, to help them it is best to give them some example questions;
 - Expectations: What did you expect before joining the program? What would you like to learn? Did you have any expectations about the other participants (from the other cultures)?
 - Fears: What are you afraid of happening during this week? This can be being afraid of the bugs in the forest or afraid of public speaking. Also discuss if there is someone in your group who can help you with this fear.
 - Rules: Set some ground rules you think everyone should follow during this week. Do you all agree on these rules? Are they achievable?
- When the groups have finished the work, they will be asked to share the results with the whole group and the leaders will make a compilation of all the three elements.
- It is important that the rules set by the groups are agreed upon by everyone
- Hang the papers with all the examples up on a wall visible for everyone



Throughout the first days it is important to constantly check in with the participants, if they feel safe and feel free enough to share their thoughts and experiences. This will make it easier for the young people to create bonds and to express themselves throughout the week.





Informal learning

When the first days are through, the young people will dive into the program. Since this particular project takes place in the forest, the young people really get the full experience of working with their hands and not just their heads. Since informal learning is the baseline for European mobility, this way of learning in nature, about nature was already very suitable. By doing all of the activities surrounding the forest, the students got to work on the first objective set for the week: 'for young people to acquire knowledge and skills that they need to protect their local environment and take actions against climate change in their communities'.

For the second objective: 'for young people to develop self and group effectiveness, intercultural and language learning', the group was taken outside of the forest. One of the main activities of the week was learning about the different competences set in the youthpass. They worked on this with the "Youthpass Islands" A *'learning-by-doing' team game to introduce Youthpass and the eight key competences for lifelong learning*. This tool was created by Juan Ratto-Nielsen and he explains the way to use the tool as follows:

YOUTHPASS ISLANDS

The objective of this activity is to introduce Youthpass and its competences as a tool for self-assessment of the learning process. The objective of the game is for each team to get their "YOUTHPASS-PORT" stamped, after visiting each island and fulfilling certain tasks related to each one of the 8 key competences. This is a "learning-by-doing" activity where the main aspects of Youthpass are addressed and discussed during the game and the debriefing.

DEPARTURE DAY

1. Divide the participants in groups of 4 pax@ max
2. Draw 8 islands (with masking tape) on the floor that correspond with the 8 key competences and place one task card and the necessary materials and equipment on each island.
3. Every group gets one empty passport divided in 8 sections and 1 die.

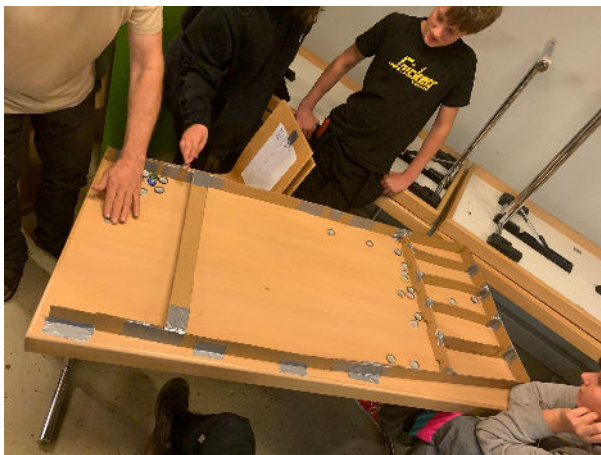


4. Explain the objective of the game. The objective of the game is to get the passport stamped on the 8 different island icons within 45 minutes. (Each icon represents 1 key competence)
5. Once they roll the die, they go to the island with the task card that matches the icon they got on the die. If there is another team on the island, they have to roll the die again until they find a vacant island they have not visited before.
6. The game ends when everybody has the 8 stamps or when the time is over
7. Debriefing and Discussion:
 - a) Debriefing about the game and its relevance to the competences and the project;
 - b) Presentation and discussion about 8 key competencies;
 - c) Explanation about the Youthpass process during the project. This is connected to the Captain's Log as a tool to self-assess their learning outcomes throughout the project.

All materials for this activity can be found in the annexes of this manual, including some examples of tasks that could be used. During the GECCO week this activity was adjusted a bit for the theme of the program. Since the young people worked in groups already, they kept the same teams and worked on the activity separate from the other groups. As is seen in the examples of tasks, they are not necessarily about the environment, during the week these tasks were adapted a bit to suit the theme. Most importantly the young people got to learn about the 8 different competences: Literacy competence, multilingual competence, mathematical, science, technology and engineering competence, digital competence, personal, social and learning to learn competence, citizenship competence, entrepreneurship competence, cultural and expression competence.



To close off the week of learning, it is nice to end the week with an intercultural evening. This is an evening organized by the young people themselves, where they portray their own culture and country. During the week in Styria, the young people decided to combine the two countries in one evening. The students from the Netherlands showed everyone a bit of Dutch culture by organizing a pub quiz combined with some dutch snacks and ended the night with traditional Dutch games. The Austrian students had a similar program, but changed it up a bit with Viennese Waltz. This ended up becoming an evening filled with laughter and fun. A perfect way to close a wonderful week!





4 Conclusion and recommendation

Now that the GECCO training week has come to an end, we are ready for some conclusions and recommendations. Let's get started with some experiences from the young participants, throughout the week they shared their thoughts on the program, the group and the way of learning. What they appreciated most about this week was that it felt like they were learning but it felt different to how they were learning in school. Some of the young people found it very hard to learn with books but now they could combine the theoretical with the practical. What they had to learn about safety, different types of trees or tools, could be put into a real life situation within an hour. The same went for speaking English, of course they had this in school, but now they were tasked to practice it in real life. Not only to speak it themselves but also to help others who were struggling. One of the young people said that now they were able to visualize what the 'environment' was. By seeing and working in this immense forest, they could better see where the impact of climate change was compared to their own community.

Two of the boys that took part discussed that they struggled a bit with English and social contact, but by actually working in the forest they felt more free to express themselves since they didn't feel like the spotlight was on them. Next to this, two of the young people gave a great example of conflict resolution within a training week. They were struggling for a few days, they kept on bothering each other and then complained to the staff about the other person not respecting boundaries. Since there is no getting away from each other, the trainers set them down for a talk and were very frank about the situation and how they wanted them to act based on the rules set in the program. And instead of punishing them for bad behavior, they were spoken to based on their own responsibility and they acted accordingly. One of them said that they were never set down like this before, normally they were asked to leave each other alone. But this is not an option when you are stuck in the mountains of Austria.



All of the things the young people described are what makes a mobility like this so valuable. Informal and practice based learning is the base of these training weeks, and with these methods you are able to reach a far bigger group of young people than just formal learning. All of the different barriers young people may face to learn, such as language, social skills and development issues can become much smaller in a more free setting.

This also brings us to the first recommendation:

- **Always create your program with your target group in mind!** When you want your training week to be inclusive for all young people, don't just think about what you want them to learn. But think about what they would be interested in learning. And then find a way to provide them with a setting in which this is possible.
- **Be mindful of different cultural aspects.** Even though Austria and the Netherlands shared a similar culture, there were some struggles for the young people (eating different food than you are used to for example). We as trainers might think this should not be a big issue, the participants would disagree when some of them are abroad for the first time. Don't just think about food, also keep in mind things like religion, work ethic, customs and local laws.
- **Create your program around your theme, but leave enough space for personal development.** Yes, you want your participant to return home filled with information about your theme, but you also want them to return home filled with new memories, friendships, skills and ideas. Most of them will only have one experience like this in their life and will cherish these moments forever, so make it count.
- **Have fun and be creative!** This is your time to get out of your formal learning bubble and to develop something new. So enjoy it, that way the young people will do the same. Don't worry too much if they'll gain enough knowledge and



focus on being in the moment with them. Sit back sometimes to watch them grow in front of you.

We as the organizers of this project hope you'll create your own project to inspire more young people to take action. May this manual help you on your way.

