

# Nature and Public Health

## – Students' perspective on Nature-Based Interventions

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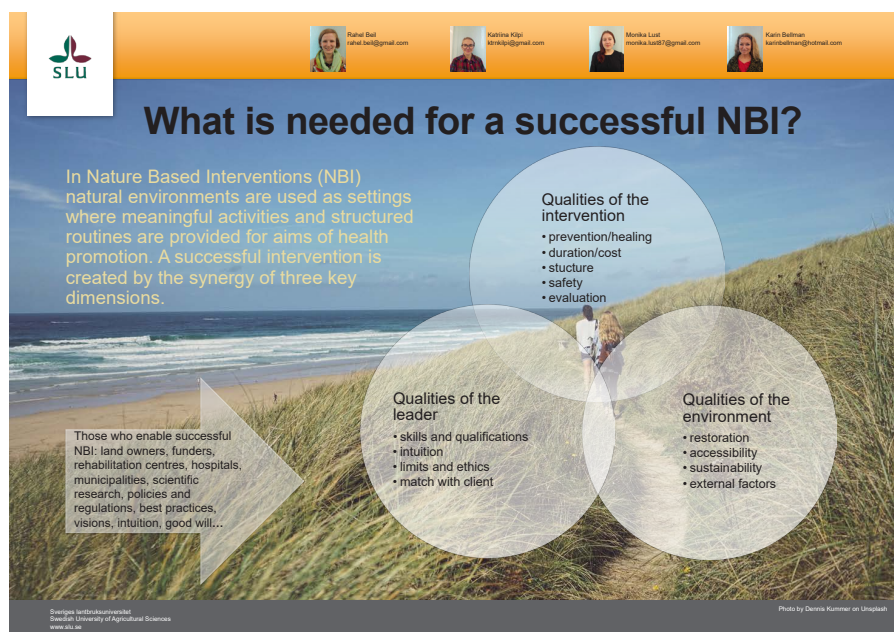
### Introduction

Outdoor environments for health and well-being is the main topic of an international master's programme offered at the Swedish University of Agricultural Sciences, leading to a master's degree with a major in Landscape Architecture (120 credits). The programme is offered at full time and part time study. Each course includes 2-4 campus meetings (either at Alnarp, Umeå or Skara). The programme offers theoretical foundation within environmental perception, place attachment, landscape architecture and nature-based solutions. There are courses covering topics on health promoting outdoor environments for different groups of users, ranging from e.g. public places, places for children's play and education as well health supporting environments for elderly in sheltered living. The courses also focus on specific target groups with specific needs such as rehabilitation or therapy. Two such courses are 1) nature-based interventions (NBI) and 2) nature and animal-assisted interventions (NAAI).

The **nature-based interventions course** focuses on the different types of outdoor environment where the natural space is the bearing element of the interventions i.e. **focus on the landscape** and the qualities that can support public health i.e. **place dependent**.

The **nature and animal-assisted intervention course focuses on occupations** performed with natural elements such as plants and animals for health promoting interventions that can be performed either outdoors or indoors such as hospitals, elder care homes, schools, space shuttles or submarines i.e. **not place dependent**.

This factsheet is based on student's work within the course nature-based interventions (NBI) during the fall 2018. The course is di-



vided into four modules, where the two first modules provide overview and introduction of the fields of research on landscape as a resource for promoting public health. The third module is performed as a case study, where the students visit and studies practical examples of NBI. The last module focus on abstractions of knowledge drawn from the case studies. The students presented their cases for each other in small groups of 4-5 persons and afterwards, extracted what they understood as the "core essences" of nature-based interventions. Thereafter, the students were re-grouped in new groups to discuss further the topics that emerged. Each group wrote an abstract based on their discussion illustrated in a poster. As the course final task, the

students presented their posters at a course-conference including poster walks, group discussions and feedback from examiners. Afterwards the groups adjusted or developed their abstracts and posters to be presented in this factsheet.

### SUCCESSFUL NATURE BASED INTERVENTIONS (NBI)

By Rahel Beil, Karin Bellman, Katriina Kilpi & Monika Lust

Nature Based Intervention (NBI) refers to natural environments being used for health promotion. In these environments, trained individuals facilitate meaningful activities and structured routines. In a Nature Based Intervention, three key dimensions are cru-

cial in order to provide a successful intervention. The three dimensions are: qualities of the environment itself; qualities of the person administering the intervention and finally, qualities of the intervention.

The most important qualities of an environment used for Nature Based Intervention are its restorative values (attention restoration, recovery from stress), accessibility (distance, cost, time), sustainability (adaptability, maintenance, long-term vision) and awareness of possible external factors. But even the best environments are not enough by themselves.

A well-trained, skilled and competent person can make a challenging environment work for the client, while a client might not get the best out of the restorative environment when guided by a weak leader. Due to the changing role of the person administering the NBI, we choose to call her the leader. The qualities of the leader include qualifications, skills and personal characteristics. The first two refer to the educational background and training, while the last covers individual traits. The role of the leader is important because she or he opens up the environment to the client. Her or his part changes, according to the quality of the environment but also based on the needs of the client.

The different needs of the clients dictate the nature of the interventions: it can be either curative or preventative. In addition, duration and intensity of the intervention, safety of the client and the leader, and the evaluation of the outcome need to be defined.

The foundation of these three dimensions are the enabling factors, which include stakeholders that make the environment and the intervention physically possible, such as the state-owned lands; privately funded rehabilitation centres, but also research evidence of efficacy of such interventions, documented best practices; trained personnel and general good will.

In order to create a successful NBI, the synergies of those three key dimensions need to be understood and implemented.

## NATURE MAKES SENSE

By Rebecca Yttermalm, Magnus Andersson, Sara Malve-Ahlroth & Emma Nyberg

Nature-based interventions (NBIs) are a broad and inclusive concept. They can be explored through questions like *why*, *how*, *for whom*, and *where* in order to understand *what* the essence is.

Nature proves to work salutogenically to almost everyone; it restores and improves our capacity to prevail in a stressful world and to recover when we suffer from various imbalances. By offering a natural arena that makes sense to us, nature promotes our capacity to cope better. Thus, nature enhances our ability to function both as individuals, members of the community and the society as a whole. Nature can be altered or improved but comes with an intrinsic value.

The benefits of nature can be enhanced even further by interventions. With the help of a facilitator, we can learn tools and techniques that guide us to an ever-improving

use of nature. The interventions can be both structured or individually adjusted but should always be formed to fit the user group or specific situation in place. An intervention will often involve stages of reflections but preferably turn into phases of more reciprocity. Being an actor that will both benefit from nature and affect nature positively, the user's sense of coherence is often strengthened. Consequently, this will improve both health and ability to function.

Due to the richness of nature and the variety of interventions, NBIs can fit different situations and target groups regardless of their needs and preferences. Each individual finds different meanings and possibilities for interaction from nature, based on e.g. previous experiences, cultural background and current mental status.

The interventions can take place in varying settings, from urban green to wild and untouched nature. However, the setting should be perceived as natural and incorporate natural elements that suit the preferences and needs of the user group and aim for optimal usability. The facilitator should choose or design a place with a variety of affordances that provide possibilities for different kinds of activities, experiences and changing situations.

Nature acts as a base for the NBIs but also as a tool and guide, in itself. NBIs are more than experiencing nature. When the facilitator provides suitable tools, the user group can gain psychological and physiological benefits either working in a restorative or recovering manner. NBIs can have several positive effects for varying user groups in different nature settings – one solution does not fit all.

## FIND YOUR ONW PATH

– How to use NBIs in prevention, health promotion and rehabilitation

By Martin v.d. Maarel, Linn Hultin, Catharina Stenmo & Helene Brandin

Mental disorders are one of the most growing problems faced by society today, affecting more than 25% of the European population, with stress related issues being most common. This puts pressure on healthcare systems to meet the rapid increase of patients. In Sweden, mental disorders represent over 40% of all sick leaves in the country and cost society 8 billion euros every year. Research shows that NBIs are efficient in prevention and rehabilitation to reduce stress and to promote healthier behaviours; but how do they work?





In NBIs, a salutogenic approach is used to strengthen mental and physical health through the environment and the operations. The participants may explore the advantages of being in nature by themselves but also through guidance. It is of importance that the NBI staff have the necessary knowledge for using the qualities of the environment to its full potential and the right skills to lead. The natural environment facilitates the participants' awareness of body and mind, and stimulates them to reflect about their life situation. Nature is coherent, treats everyone the same and communicates in a non-verbal way, making humans feel safe and as being part of something bigger. There is consistent evidence base supporting that nature provides health benefits due to relaxation, stress reduction and other psychological effects.

NBIs can take place almost anywhere, hence basically in any natural setting where you enjoy spending time. It is crucial to choose a supportive environment that meets the needs of the user group. The setting must have easy access so that it is possible to get there without too much effort and also that it is available for the purpose. Intervention situated in or near a city have more noise pollution than one in a setting further away. The inconvenience of this depends on how often participants visit the activity and their overall health status as well as coping abilities. People suffering from exhaustion disorder or having low psycho-physiological balance due to other circumstances require more silent and peaceful settings than those who seek temporary relaxation from stress in their everyday life.

In order to improve public health and to level out health inequities due to e.g. socioeconomic inequalities, targeted interventions are needed. NBIs should be designed with the specific users in mind to meet the needs and preferences of different people. Availability, accessibility and quality of the environment and the operations are crucial elements in the design process. Early involvement by the users ensures that the design reaches the goal, making the intervention comprehensible, manageable and meaningful. This creates a sense of coherence, which is a prerequisite for health and well-being.

## WHAT CAN NATURE DO FOR YOU TODAY?

By Malin Hjort, Linnea Larsson, Kelvin Mui, Anna Pooch & Elisabeth Stefan

Modern life is often characterised by a sedentary lifestyle. With much of the population



**Find your own path**  
How to use Nature Based Interventions (NBI) in prevention, health promotion and rehabilitation

**CONCLUSION**  
Nature is for everyone who seeks release from stress and mental fatigue. NBIs can be designed in several ways to meet the needs of different people.

**Where?**

- From urban parks to wilderness
- Match the user group
- Available & Accessible
- Supportive environment
- Silent & Peaceful soundscape

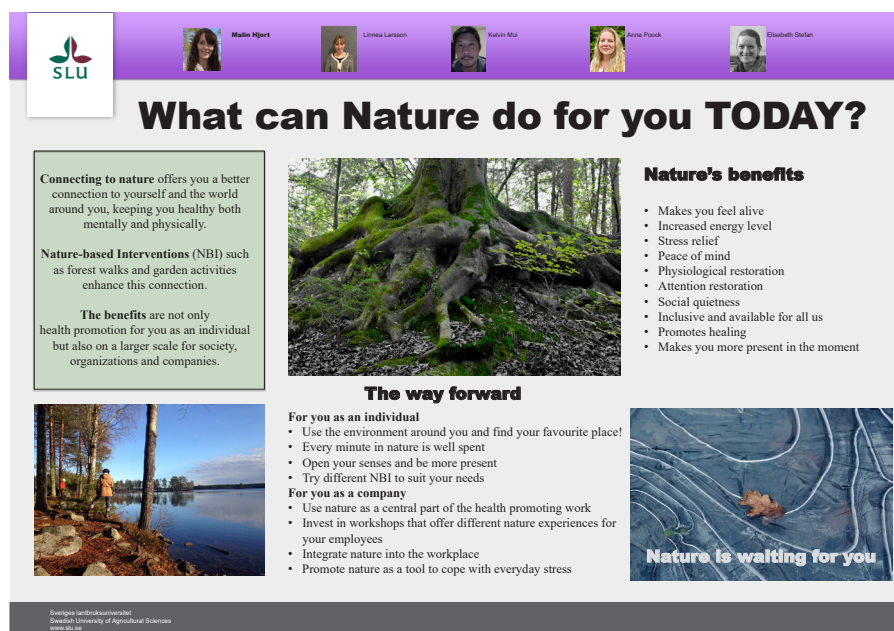
**How?**

- Salutogenic perspective
- Coherence
- Awareness-Body & Mind
- Knowledge & Skills
- Reflection

**BACKGROUND**  
Today's society puts high demands on individuals cognitive abilities causing stress and mental health problems. Mental disorders is one of the top health challenges in Europe affecting 25% of the population every year (WHO). Research has shown that NBI can improve health and wellbeing.

"In hospital you are ill, in nature you are healthy"  
(NBI participant)

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**What can Nature do for you TODAY?**

**Connecting to nature** offers you a better connection to yourself and the world around you, keeping you healthy both mentally and physically.

**Nature-based Interventions (NBI)** such as forest walks and garden activities enhance this connection.

**The benefits** are not only health promotion for you as an individual but also on a larger scale for society, organizations and companies.

**Nature's benefits**

- Makes you feel alive
- Increased energy level
- Stress relief
- Peace of mind
- Physiological restoration
- Attention restoration
- Social quietness
- Inclusive and available for all us
- Promotes healing
- Makes you more present in the moment

**The way forward**

**For you as an individual**

- Use the environment around you and find your favourite place!
- Every minute in nature is well spent
- Open your senses and be more present
- Try different NBI to suit your needs

**For you as a company**

- Use nature as a central part of the health promoting work
- Invest in workshops that offer different nature experiences for your employees
- Integrate nature into the workplace
- Promote nature as a tool to cope with everyday stress

**Nature is waiting for you**

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living in urban areas with modern comforts, health problems have become a chronic issue. If we continue on the same path, we risk losing the essential connection with nature. How valuable are our lives to us? Long-term sick leave causes suffering to the individual and economic losses for the society. Every year, long-term sick leave in Sweden costs billions of Swedish Crowns. This can be prevented. The aim of our study was to focus on the health-promoting aspects of nature, both on an individual level and for organisations.

Natural environments can support pe-

ople's health. Studies have shown that nature has many positive effects such as stress relief, calming of the mind, as well as mental and physiological restoration. These effects can be enhanced, by attending Nature Based Interventions (NBIs) such as guided forest walks and garden activities. Nature can make you feel alive and whole again. It is inclusive and available for everyone. The biophilia hypothesis proposed by Edward Wilson describes the innate connection that humans have with nature. Most people have natural areas close to where they live, and people have the potential

to find their own favourite places. Nature can increase your energy level; thus, every minute spent in nature is time well spent. By opening up your senses in nature, you can develop your child-like fascination. The theory of attention restoration theory (ART), introduced by Stephen Kaplan in 1995, describes nature's healing ability in more detail.

By attending an NBI, you can add to your toolbox and learn more about how different tools and techniques help you as an individual to take control of your health. For example, you could practice guided mindfulness exercises while in a forest, or you could perform meaningful activities in a garden setting with a horticultural therapist. Later, you could then practice what you have learned on your own, in a quiet setting.

Social quietness, especially in nature, can offer much needed mental rest in our busy society, with a lot of demands and cultural norms that are not easily met.

As an organisation, you can use nature as a central part of your company's health promotion. It is a fun and cost effective way to keep your employees healthy. This can be done by investing in nature experiences for your employees and promoting nature as a tool to cope with everyday stress.

Nature is here for all of us, both as individuals and groups to help us lead a healthy life. Nature is waiting for you.

## Discussion

By Anna Litsmark

The aim of this fact sheet was to highlight students' perspectives on what they perceive as being the "core essences" of a Nature Based Intervention (NBI), based on discussions of knowledge gathered from a variety of case studies, which the students have performed during the course Nature Based Interventions (LK0306). In this section, the content of the fact sheet will be supported by a short summary, discussion and concluding remarks.

NBIs can be an important asset for improvement and promotion of people's health and well-being. In their abstracts, the students

emphasise that NBIs can be efficient for both individuals and for the larger society. As one group states, mental health problems are one of the fastest growing issues that society faces today. Through NBIs, both improvement of health and prevention of illness can be gained.

However, concepts of health promoting nature settings and therapy treatment programmes based in nature can be difficult to understand and interpret, due to the fact that many have referred to them. By gaining knowledge from different cases and discussing their design and structure, the essence of the wide-ranging concept of NBIs can be better understood.

One group has pointed out three key dimensions that they believe are crucial to provide a successful NBI. These three dimensions include: qualities of the environment itself, qualities of the person administering the intervention, and qualities of the intervention. They believe that in order to create a fruitful NBI, the synergies of those three key dimensions need to be understood and implemented.

These three dimensions listed above are highlighted in many of the students' abstracts. One group, for example, calls for the importance of the staff working with NBIs having the necessary knowledge for using the qualities of the environment to their full potential. This perspective goes in line with another group's ideas, which are that an experienced and competent staff can make a challenging setting rewarding for the participants, while a less experienced and less competent staff might not reach the full potential.

Many of the groups also reflect on the qualities of the environments and the strengths and weaknesses with different nature settings. One group raises the point that NBIs that are easily accessible without too much effort from the participants is important, especially for vulnerable groups. On the other hand, an intervention situated in or near an urban environment (where most people in Sweden live today) runs a higher risk of being impacted by noise pollution compared to one

conducted in a more secluded setting. The students believe that the evaluation of this inconvenience depends on how often the participants visit the NBI and their overall health status and coping abilities.

Further, some of the students emphasised the design of the intervention itself. Besides pointing out duration and intensity of the NBI, safety issues and the importance of evaluation, they also pointed out that participants' needs are the factor that shapes the nature of the intervention.

However, one group of students highlight that due to the diversity of different interventions and the variety of nature settings they can take place in, NBIs can be suitable for several situations and target groups – regardless of their needs and preferences. NBIs can take place in varying settings, from green urban areas to nature perceived as wild and untouched, as long as the environment supports the target group's preferences and needs. One solution does not fit all, but different designs of NBIs, developed with the participants in mind, can promote several positive health benefits for many different target groups.

The quote "nature makes sense" from one of the groups works as a good summary of the students' collective perspective on NBIs. The silver thread of this perspective on NBIs is that it can be an efficient way of promoting health and preventing illness, as well as an important strategy towards sustainable development – as long as the NBI is very well thought out.

## Concluding remarks

By gaining a better understanding of the concept of NBI, the positive health benefits of nature can be more effectively utilised. In addition, a greater understanding of the concept also makes it easier to describe to those who are new to the subject and helps in refining the arguments for its value in today's society.

Further information about the master programme, see [www.slu.se/ohw](http://www.slu.se/ohw)

- Faktabladet är utarbetat inom LTV-fakultetens område Arbetsvetenskap, ekonomi och miljöpsykologi.
- Responsible: Anna María Pálsdóttir, course leader and examiner for the course LK0306 NBI
- Co-responsible: Ann Dolling, course leader for the meeting in Umeå and examiner och Anna Litsmark, research assistant and course assistant.
- På webbadressen <https://pub.epsilon.slu.se> kan detta faktablad hämtas elektroniskt