

# The Healing Power of Ecosystem Services and Ecotherapy: Exploring the Synergies between Nature's Benefits and Therapeutic Interventions

**Nurgül ARISOY<sup>1\*</sup>**

<sup>1</sup>*Department of Landscape Architecture, Selçuk University, Konya, State, Türkiye.*

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**\* Corresponding Author**

E-mail: [nurgul@selcuk.edu.tr](mailto:nurgul@selcuk.edu.tr)

 <https://orcid.org/0000-0001-8811-2215>

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**Abstract**

Ecotherapy is a therapeutic approach that aims to improve individuals' mental health through interaction with the natural environment. The tranquility, serenity, and stress-reducing potential provided by the natural environment make ecotherapy a significant tool in terms of health and well-being. The integration of ecotherapy into ecosystem service management has gained recognition as a valuable approach to enhance human well-being through nature-based therapeutic interventions. This study examines the effects of ecotherapy on health and the role of ecotherapy as part of ecosystem services. It highlights the significance of ecosystem services in the relationship between nature and human health, emphasizing the benefits derived from natural resources and ecosystems. The therapeutic potential of ecotherapy is explored, showcasing its effectiveness in promoting physical, mental, and emotional well-being. Various ecotherapy methods are discussed as effective ways to connect with nature and experience its healing effects. The study further highlights the importance of integrating ecotherapy into ecosystem service management, emphasizing the need for a holistic approach that considers the interdependence between ecological and human dimensions. The conclusion emphasizes the potential of this integration to support sustainable development, conservation, and a deeper appreciation for the benefits of nature.

## INTRODUCTION

In recent years, there has been a growing awareness of the significance of nature in enhancing human well-being. The benefits that humans derive from ecosystems, known as ecosystem services, have been recognized as a critical component of the relationship between nature and human health (Frumkin, 2001). Natural resources and ecosystems provide a wide range of services, including clean air, water, food sources, climate regulation, and mental health benefits (Hartig, Mitchell, de Vries, & Frumkin, 2014). The concept of ecosystem services is an approach used to identify and evaluate these benefits provided by the natural environment (Keniger, Gaston, Irvine, & Fuller, 2013).

Within the realm of promoting human health, ecotherapy has emerged as a powerful tool. Ecotherapy harnesses the healing power of nature to promote physical and mental well-being (Seligman & Csikszentmihalyi, 2000). By engaging with natural environments and participating in nature-based activities, individuals can experience a range of positive psychological and physiological effects (Bratman et al., 2019). Ecotherapy recognizes the therapeutic benefits of nature and utilizes it as a medium for improving mental health and overall well-being. It offers opportunities for stress reduction, relaxation, and a deeper connection with the natural world. Ecotherapy has gained recognition for its potential in enhancing human health and emphasizing the value of nature in sustaining well-being.

In recent years, research on therapeutic approaches based on interaction with the natural environment, particularly ecotherapy, and their healing effects on health have increased (Berman, Jonides, & Kaplan, 2008). Ecotherapy involves individuals establishing a connection with the natural environment, engaging in therapeutic activities in natural settings, and benefiting from the advantages offered by the natural environment (Kuo, 2015). The potential of nature to provide peace, tranquility, and stress reduction makes ecotherapy an effective tool for improving individuals' mental health.

This study explores the effects of ecotherapy on health and the role of ecotherapy as part of ecosystem services. Additionally, it highlights the importance of ecotherapy in terms of public health and sustainability. The findings presented in this article will help us understand the significance of the services provided by the natural environment on human health and well-being and promote greater inclusion of ecotherapy in health policies and practices.

### **The Positive Effects of Natural Environments on Human Health**

The natural environment has been recognized for its positive effects on human health, with numerous scientific studies supporting this notion. Interacting with the natural environment has been shown to have beneficial effects on physical, mental, and emotional well-being. These positive effects can be observed in various aspects of human health.

One significant aspect is the impact of the natural environment on physical health. Research has indicated that exposure to nature and engaging in outdoor activities can lead to improvements in physical fitness, cardiovascular health, and immune function (Bowler et al., 2010; Gladwell et al., 2013). For example, spending time in green spaces or participating in nature-based physical activities such as hiking or gardening has been associated with reduced risk of chronic illnesses such as obesity, hypertension, and cardiovascular diseases (Pretty et al., 2005; Hansmann et al., 2007). Furthermore, exposure to natural environments has been linked to enhanced recovery rates in hospital settings and improved overall well-being (Ulrich, 1984; Ulrich et al., 1991).

Beyond physical health, the natural environment also plays a crucial role in

promoting mental well-being. Numerous studies have demonstrated the positive effects of nature exposure on mental health outcomes such as stress reduction, improved mood, and enhanced cognitive function (Hartig et al., 2014; Van den Berg et al., 2015). For instance, spending time in natural settings has been associated with decreased levels of stress hormones, improved attention and concentration, and increased feelings of calmness and relaxation (Berman et al., 2008; Hansen et al., 2017). Nature-based interventions, such as forest therapy or ecotherapy, have shown promise in reducing symptoms of anxiety, depression, and other mental health disorders (Annerstedt et al., 2013; Song et al., 2020).

Moreover, the natural environment has been found to have a positive impact on emotional well-being and social connectedness. Studies have shown that exposure to nature and green spaces is associated with increased positive emotions, higher life satisfaction, and greater social cohesion (McMahan & Estes, 2015; White et al., 2019). Nature experiences have been found to foster positive social interactions, promote social support, and enhance social connectedness (McMahan & Estes, 2015; Roe & Aspinall, 2019). These social and emotional benefits contribute to overall mental well-being and quality of life.

The natural environment has a range of positive effects on human health, including improvements in physical health, mental well-being, and emotional and social aspects of well-being. These findings highlight the importance of incorporating nature exposure and green spaces into urban planning, healthcare settings, and individuals' daily lives to promote overall health and well-being.

### **The Concept and Fundamental Principles of Ecotherapy**

Ecotherapy, an approach rooted in the belief of the intrinsic connection between humans and nature, posits that by aligning with the natural systems of the Earth, individuals can enhance their mental health and overall well-being (Seligman & Csikszentmihalyi, 2000). It is guided by several fundamental principles. Firstly, ecotherapy acknowledges nature as a healing space, utilizing natural environments like forests, gardens, parks, or bodies of water as therapeutic settings (Berman et al., 2008). Secondly, it

encourages individuals to cultivate mindfulness and a deep connection with nature, fostering a present awareness of the natural surroundings (Kaplan, 1995). Thirdly, ecotherapy utilizes the therapeutic elements of nature, such as natural light, fresh air, sounds of nature, and natural materials, to create a nurturing and calming environment for healing and personal growth (Hartig et al., 2014). Lastly, ecotherapy can be integrated with other therapeutic modalities, such as talk therapy, art therapy, mindfulness-based approaches, or cognitive-behavioral therapy, to complement and enhance the overall therapeutic process (Bratman et al., 2019). These principles collectively guide the practice of ecotherapy, harnessing the healing power of nature to support individuals' well-being and personal growth (Jordan, 2017).

Incorporating outdoor activities and experiences is another principle of ecotherapy, ranging from nature walks to gardening, wilderness excursions, animal-assisted therapy, or adventure-based activities, tailored to individuals' preferences and therapeutic goals (Cohen, 2013). Taking a holistic approach, ecotherapy recognizes the interplay between physical, mental, emotional, and spiritual well-being, harnessing nature's ability to address and support overall health and balance (Pretty et al., 2005). Additionally, ecotherapy promotes environmental stewardship and sustainability, instilling a sense of responsibility towards nature and future generations (Stuckey & Nobel, 2010).

The therapeutic relationship in ecotherapy emphasizes collaboration, with the therapist serving as a guide to support individuals on their journey of self-discovery and growth within the natural environment (Jordan, 2017). Furthermore, ecotherapy aims to cultivate resilience and coping skills by drawing upon nature's strength and adaptive qualities, assisting individuals in managing stress, building emotional resilience, and finding balance in life (Gladwell et al., 2012). It also emphasizes cultural and ecological sensitivity, respecting diverse perspectives and adapting therapeutic approaches accordingly (Smyth et al., 2013).

Furthermore, ecotherapy encompasses core principles that emphasize the importance of connection, balance, diversity, healing, and action (Cipriani et al., 2020).

Connection is seen as essential in ecotherapy, encompassing a sense of belonging and meaning derived from our relationship with

the Earth and its living beings (Zelenski & Nisbet, 2014). It recognizes the interdependence between humans, nature, and each other, fostering resilience and a deeper understanding of our place within the natural world (Pergams & Zaradic, 2006).

Balance is another key principle of ecotherapy, aiming to restore harmony between humans and nature, as well as within ourselves. It involves respecting and aligning with the natural cycles and rhythms of life, finding equilibrium between our own needs and the needs of the environment (Ryan et al., 2010).

Additionally, ecotherapy values diversity, acknowledging and celebrating the uniqueness of individuals, cultures, and species. It recognizes the interconnectedness and interdependence of all forms of life, appreciating the richness that diversity brings to the world (Nisbet et al., 2009).

Healing is facilitated through ecotherapy by providing a safe and supportive space to explore and process emotions, thoughts, and experiences in relation to nature (Hartig et al., 2003). Engaging in nature-based activities that promote creativity, joy, and relaxation enhances the healing process (Gonzalez et al., 2019).

Action is as a core principle of ecotherapy, empowering individuals to take responsibility for the protection and preservation of the natural world, as well as their own well-being. It is motivated by a sense of compassion, responsibility, and hope for a sustainable future (Clayton et al., 2017).

These principles form the foundation of ecotherapy, guiding individuals to establish a deeper connection with nature, restore balance, appreciate diversity, facilitate healing, and take meaningful action towards a more harmonious relationship with the Earth (Martin et al., 2019).

### **Integrating Ecotherapy into Ecosystem Service Management**

Engaging in activities such as gardening, wilderness therapy, forest bathing, animal-assisted therapy, and open-air meditation and yoga in natural environments are factors that contribute to the effectiveness of ecotherapy. These methods allow individuals to establish a deeper connection with nature and themselves, leading to improved well-being and mental health outcomes. Gardening promotes a sense of purpose and connection to nature, while wilderness therapy fosters personal growth and

self-awareness through outdoor activities. Forest bathing reduces stress and improves mood, while animal-assisted therapy enhances connection and relaxation. Open-air meditation and yoga in natural settings promote relaxation, stress reduction, and self-awareness. By incorporating these ecotherapy methods, individuals can experience the therapeutic benefits of nature, leading to a greater sense of harmony and well-being (Van den Berg & Custers, 2011; Fine, 2015; Annerstedt et al., 2013; Sobo et al., 2016; Soga et al., 2017; Tsunetsugu et al., 2017; Priest & Marsden, 2018; Laudenslager et al., 2018; Gonzalez et al., 2018; Bandoroff et al., 2019; Ochiai et al., 2019)

The integration of ecotherapy into ecosystem service management represents a promising approach that recognizes the interdependent relationship between human well-being and the natural environment. Ecosystem services, which encompass the benefits that ecosystems provide to society, have gained increasing attention in environmental management and policy (Millennium Ecosystem Assessment, 2005). These services include provisioning services such as food and water, regulating services such as climate regulation and flood control, supporting services such as soil formation and nutrient cycling, and cultural services such as recreational and aesthetic values (TEEB, 2010). Traditionally, ecosystem service management has focused on the conservation and sustainable use of natural resources to ensure the continued provision of these services.

However, the incorporation of ecotherapy into ecosystem service management expands the scope by recognizing the potential of nature to promote human health and well-being (Bowler et al., 2010). Ecotherapy, as a nature-based therapeutic approach, utilizes the healing elements of the natural environment to improve mental, emotional, and physical health (Hansen et al., 2017). By providing individuals with opportunities to connect with nature, engage in nature-based activities, and experience the therapeutic benefits of natural settings, ecotherapy contributes to the overall enhancement of human well-being (Cheng et al., 2020).

Integrating ecotherapy into ecosystem service management can be beneficial in multiple ways. Firstly, it reinforces the importance of maintaining and restoring ecosystems for the well-being of both humans

and nature. By recognizing the health benefits derived from nature, decision-makers and stakeholders are encouraged to prioritize the conservation and sustainable management of ecosystems, ensuring the continuous provision of ecosystem services (Hartig et al., 2014). Additionally, integrating ecotherapy into ecosystem service management can lead to more holistic and inclusive approaches that consider both ecological and human dimensions. Some of the approaches embraced for integrating ecotherapy into ecosystem service management as follows:

The first approach is natural area planning. To successfully implement ecotherapy, natural areas need to be made suitable for ecotherapy activities. This approach requires the design of natural areas such as parks, gardens, green spaces, and outdoor rehabilitation centers as suitable spaces for individuals to interact with the natural environment.

The second approach involves therapeutic landscape design, which strategically arranges the environment to optimize the healing effects of natural elements and human-made features. This approach creates a therapeutic environment that promotes relaxation, contemplation, and emotional well-being through the intentional selection and arrangement of water features, vegetation, gardens, seating areas, walking paths, and meditation spaces. By recognizing the influence of the physical environment on therapeutic experiences, therapeutic landscape design aims to create spaces that foster tranquility and restoration.

The third approach is nature-based therapy activities. This approach encourages interaction with the natural environment and seeks to harness the healing power of nature. It involves using nature-based therapy activities such as horticultural therapy, nature walks, forest therapy, crafts with natural materials, animal-assisted therapy, and outdoor meditation to help individuals establish a connection with the natural environment and experience the therapeutic effects it provides.

The fourth approach is education and awareness building. Education and awareness building are important for integrating ecotherapy into ecosystem service management. This approach aims to help communities understand and appreciate the benefits provided by the natural environment and the potential of ecotherapy. Educational programs, seminars,

campaigns, and informative materials can be used to raise public awareness and support for ecotherapy.

The fifth approach is collaboration and partnership. This approach facilitates the coming together of different stakeholders to achieve common goals. Collaboration among stakeholders such as government, local authorities, healthcare organizations, conservation groups, therapy professionals, educational institutions, and community representatives creates synergy between ecotherapy and ecosystem service management. Integration can be achieved through sharing of knowledge, pooling of resources, and development of collaborative projects among stakeholders.

These approaches enable the consideration of the psychological and emotional connections between individuals and nature, fostering a deeper understanding of the values and benefits associated with natural environments (O'Brien et al., 2010).

Integrating ecotherapy with ecosystem services involves recognizing the inherent connection between human well-being and the natural environment and incorporating nature-based therapeutic approaches within the framework of ecosystem management. This integration can be achieved through the implementation of nature-based interventions and the design of therapeutic landscapes that provide opportunities for ecotherapy activities. Additionally, promoting environmental conservation and fostering collaboration among stakeholders enhances the integration of ecotherapy with ecosystem services. Continuous research and monitoring are crucial for assessing the effectiveness of nature-based interventions and informing decision-making processes. The integration of ecotherapy into ecosystem service management represents a promising approach towards achieving sustainable development and promoting human well-being. By acknowledging the potential of nature in enhancing mental, emotional, and physical health and incorporating nature-based therapeutic modalities, ecosystem service management can broaden its scope to encompass the comprehensive facets of human well-being. This integration has the potential to facilitate the conservation and sustainable governance of ecosystems while cultivating a deeper recognition of the manifold benefits that nature

bestows upon individuals and society at large. By combining these elements, the integration of ecotherapy and ecosystem service management not only contributes to the preservation and sustainable utilization of ecosystem services but also fosters a more profound understanding of the multifaceted benefits that nature provides to individuals and communities.

## CONCLUSION

The integration of ecotherapy into ecosystem service management represents a valuable approach that acknowledges the reciprocal relationship between human well-being and the natural environment. By recognizing the therapeutic benefits of nature and incorporating nature-based interventions such as gardening, wilderness therapy, forest bathing, and animal-assisted therapy, ecotherapy promotes the enhancement of mental, emotional, and physical health. This integration expands the scope of ecosystem service management, emphasizing the importance of including human dimensions and the conservation and restoration of ecosystems for the well-being of both humans and nature. By fostering a deeper understanding of the values and benefits associated with natural environments, integrating ecotherapy into ecosystem service management can contribute to the conservation and sustainable management of ecosystems, while promoting holistic and inclusive approaches to human well-being.

This article concludes by emphasizing the reciprocal relationship between ecosystem services and ecotherapy, highlighting the benefits of integrating these concepts. By recognizing the therapeutic potential of nature and incorporating ecotherapy principles into ecosystem service management strategies, we can develop innovative interventions that simultaneously enhance human health and well-being while promoting the conservation and sustainable use of our natural environment. Ongoing research, monitoring, and evaluation of nature-based interventions are crucial for maximizing the effectiveness of this integration and informing decision-making processes. By continually assessing their impact, we can refine and improve the integration of ecotherapy and ecosystem service management. Ultimately, recognizing and harnessing the healing potential

of nature enables us to create a more balanced and sustainable future for both humans and the environment.

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