


**Transilvania University of Brasov**  
 FACULTY OF SILVICULTURE AND FOREST ENGINEERING



9th International Symposium Forest and Sustainable Development  
Braşov, 16th October, 2020

## The emerging economic role of forest-based cultural services



Davide Pettenella  
with Laura Secco and Mauro Masiero  
Dipartimento TESAF - Università di Padova




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## Outline



- How can we define and classify cultural services?
- How much are they worth?
- What is new with them?
- Conclusion

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## Outline

- **How can we define and classify cultural services?**
- How much are they worth?
- What is new with them?
- Conclusion

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## Ecosystem Services (ES) classification (MA, 2005)



**Provisioning**  
 • FOOD  
 • FRESH WATER  
 • WOOD AND FIBER  
 • FUEL



**Regulating**  
 • CLIMATE REGULATION  
 • FLOOD REGULATION  
 • DISEASE REGULATION  
 • WATER PURIFICATION

**Cultural**  
 • AESTHETIC  
 • SPIRITUAL  
 • EDUCATIONAL  
 • RECREATIONAL

**Supporting**  
 • NUTRIENT CYCLING  
 • SOIL FORMATION  
 • PRIMARY PRODUCTION

Wood  
 NWFP  
 Water  
 Carbon sequestration  
 Biodiversity protection  
 Water cycle regulation  
 Disease regulation

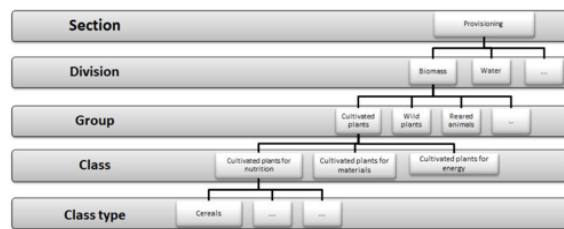
LIFE ON EARTH - BIODIVERSITY

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## ES classification: MA non the only one TEEB, IPBES and CICES classifications

### The Common International Classification of Ecosystem Services (CICES) Vers. 5.1



Division	Group	Class
Direct, in-situ and outdoor interactions with living systems that depend on presence in the environmental setting	Physical and experiential interactions with natural environment	Characteristics of living systems that enable activities promoting health, recuperation or enjoyment through <b>active or immersive interactions</b>
		Characteristics of living systems that enable activities promoting health, recuperation or enjoyment through <b>passive or observational interactions</b>
		Characteristics of living systems that enable <b>scientific investigation</b> or the creation of traditional ecological knowledge
		Characteristics of living systems that enable <b>education and training</b>
Indirect, remote, often indoor interactions with living systems that do not require presence in the environmental setting	Spiritual, symbolic and other interactions with natural environment	Characteristics of living systems that are resonant in terms of <b>culture or heritage</b>
		Characteristics of living systems that enable <b>aesthetic experiences</b>
		Elements of living systems that have <b>symbolic meaning</b>
		Elements of living systems that have sacred or <b>religious meaning</b>
Other characteristics of living systems that have cultural significance	Other biotic characteristics that have a non-use value	Elements of living systems used for <b>entertainment or representation</b>
		Characteristics or feature <b>existence value</b>
		Characteristics or feature <b>option or bequest value</b>
		Other

Cultural ES  
by CICES 5.1:  
12 typologies  
("Classes")

A classification not much  
suited for catching the  
variety and richness of  
(European) forest-related  
cultural services

## A proposal for better describing Socio-cultural ES in Europe

- Cultural services (art museums, concerts in the forest, theatre performances ...)

## Art events



[www.artesella.it/en/](http://www.artesella.it/en/)

Art exhibitions,  
concerts, drama...



[www.isuonidelledolomiti.it/EN/sounds-of-the-dolomites/](http://www.isuonidelledolomiti.it/EN/sounds-of-the-dolomites/)

## Forest concerts



www.isuonidelledolomiti.it/

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## Theatre and taijiquan in the forests

Escursione Teatrale 2018




Un percorso tra teatro, taijiquan e musica

Cosa è Escursione Teatrale?

Escursione Teatrale è un progetto interdisciplinare escursionistico in montagna che integra attività di Teatro, Taijiquan e Musica.

Chi partecipa?

Gruppi misti di persone vedenti, non vedenti e ipovedenti... e dai 6 anni!

Per maggiori informazioni

Pagina ufficiale del progetto: [http://www.parcosilvestresasentinesi.it/progetti\\_escursione\\_teatrale2018](http://www.parcosilvestresasentinesi.it/progetti_escursione_teatrale2018)

<https://www.parcosilvestresasentinesi.it/it/news/escursione-teatrale-2018l.org>

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## A proposal for better describing Socio-cultural ES in Europe

- Cultural services (art museums, concerts in the forest, theatre performances ...)
- Educational and pedagogic services (kindergarten or outdoor nursery forest schools, nature trails, bird watching, training in the forest, ...)

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## Education and pedagogic activities

German model exported (and adapted) in many other countries, including South-European ones →

**Campfire Kids**

**Going Back to Nature with Forest Kindergartens**

Radical back-to-nature forest kindergartens where children are allowed to climb trees and play with fire have spread across the country. Will the concept of the Waldkindergarten become Germany's next export success?

By Rupert Neude




Mappe delle Esperienze Educative in Natura

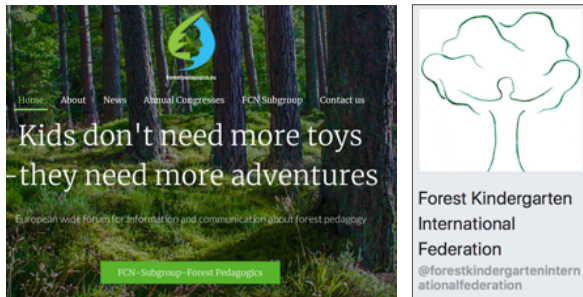
About 60 initiatives

[www.asi-onelbosco.com/](http://www.asi-onelbosco.com/)

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## Education and pedagogic activities



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- Sport services (hunting, hiking, Nordic walking, mountain biking, orienteering, airsoft, archery, use of adventure parks,...)

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## Sport activities and events



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- Spiritual and religious services (places for meditation and worship, ecological burial, funeral forests)

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## Burial/funeral forests

Bios Um Bios Um Pets Bios Incube Life Bios Parks News Support

Forests over Cemeteries: The Rise of Green Burials and the Bios Urn®



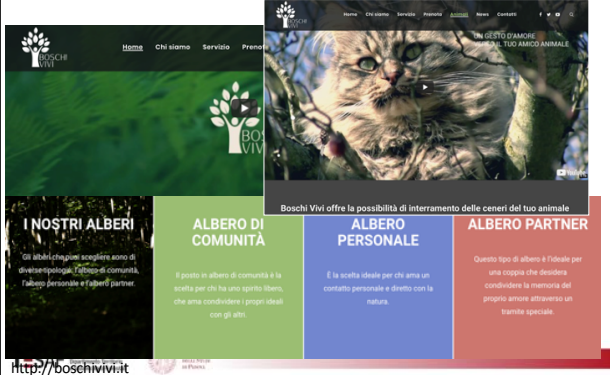
<https://umabios.com/forests-cemeteries-green-burials-bios-urn/>

<http://drhannahumble.com/2012/10/german-forest-burials-ruheforst/>

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## Burial/funeral forests



<http://boschivivi.it>

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## In US even a Guide for burial forest is available

### Guide: Finding A Green Cemetery

... This article on [funeral planning](#) is provided by Everplans — The web's leading resource for planning and organizing your life. Create, store and share important documents that your loved ones might need. [Find out more about Everplans](#) »



<https://www.everplans.com/articles/guide-finding-a-green-cemetery>

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## A proposal for better describing Socio-cultural ES in Europe

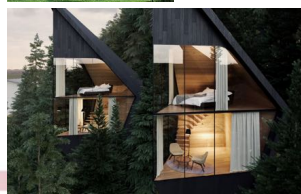
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- Spiritual and religious services (places for meditation and worship, ecological burial, funeral forests)
- Tourism and recreation (walking, wild forest products picking, camping, use of tree hotels, ...)

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## Tree houses



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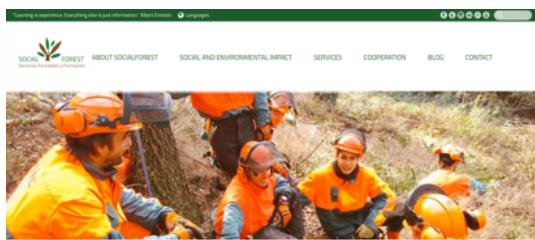
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## Social inclusion



Training, projects and job-opportunities for young unemployed people at high risk of social exclusion, e.g. immigrants, people with addiction or mental disorders...

<http://socialforest.org/en/>

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- Sport services (hunting, hiking, Nordic walking, mountain biking, orienteering, airsoft, archery, use of adventure parks,...)
- Spiritual and religious services (places for meditation and worship, ecological burial, funeral forests)
- Tourism and recreation (walking, visits to special landscape, sites and natural monuments, wild forest products picking, camping, use of tree hotels, ...)
- Services for social inclusion (activities for the elderly, the handicapped, prisoners, refugees-displaced persons, ...)
- Services for improving wellness and for therapeutic treatments (forest bathing-Shinrin-Yoku, forest therapy, pet therapy, ...)

**"Forest care" o "Green care"**

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## Forest bathing and therapy Shinrin-yoku (森林浴)



Introductory Videos on Shinrin-yoku Forest Therapy



Introduction to Shinrin-yoku, by Dr. Hiroshi  
Gifford. Video shows a slide show of nature  
images photographed in various forests.

[www.shinrin-yoku.org](http://www.shinrin-yoku.org)

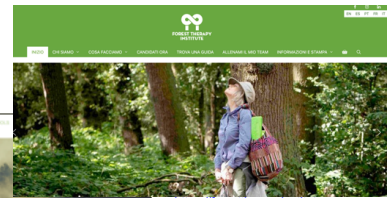
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## Forest bathing and therapy Shinrin-yoku (森林浴) → Forest-contact therapy



<https://foresttherapyinstitute.com>



<http://shinrin-yoku.pt/en>

[www.samuraispain.org/shinrin-yoku.html](http://www.samuraispain.org/shinrin-yoku.html)

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## Green care and forest-care



Green Public Health - Benefits of Woodlands  
on Human Health and Well-being

Rozina Cervinka, Jan Hájek, Laura Priot,  
Pavla Škorpová, Renata Škorpová, Daniela Hájek,  
Anne Amann, Renata Škorpová, Martin Škorpová

Cervinka et al. (2014)  
<http://bfw.ac.at/greencareforest>

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<https://www.greenforcare.eu>

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## • ... neither in State of Europe's Forests 2020 (forthcoming)

### CRITERION 1: FOREST RESOURCES AND THEIR CONTRIBUTION TO GLOBAL CARBON CYCLES

1.1 Forest areas in Europe are increasing

--

### CRITERION 2: FOREST ECOSYSTEM HEALTH AND VITALITY

2.1 Depositions of air pollutants still threaten European forests

--

### CRITERION 3: PRODUCTIVE FUNCTIONS OF FORESTS

3.1 Considerably more increment than fellings in Europe

--

### CRITERION 4: BIOLOGICAL DIVERSITY IN FOREST ECOSYSTEMS

4.1 Most forests in Europe are semi-natural

--

### CRITERION 5: PROTECTIVE FUNCTIONS IN FOREST MANAGEMENT

5.1 Protective forests play important roles in Europe

--

### CRITERION 6: OTHER SOCIO-ECONOMIC FUNCTIONS AND CONDITIONS

6.1 Most forests in Europe are in public hands but there are 100 times more private than public forest owners



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## A silent development

Ecology and Society

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E&S HOME > VOL. 25, NO. 3 > Art. 2

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The following is the established format for referencing this article:

Torralba, M., M. Lovrić, J.-L. Roux, M.-A. Budniok, A.-S. Muller, G. Winkel, and T. Plieninger. 2020. Examining the relevance of cultural ecosystem services in forest management in Europe. *Ecology and Society* 25(3):2. <https://doi.org/10.5751/ES-11587-250302>

### Research

### Examining the relevance of cultural ecosystem services in forest management in Europe

Mario Torralba<sup>1</sup>, Marko Lovrić<sup>2</sup>, Jeanne-Lazya Roux<sup>3</sup>, Marie-Alice Budniok<sup>4</sup>, Anne-Sophie Muller<sup>4</sup>, Georg Winkel<sup>3</sup> and Tobias Plieninger<sup>1,5</sup>

Source: <https://www.ecologyandsociety.org/vol25/iss3/art2/>

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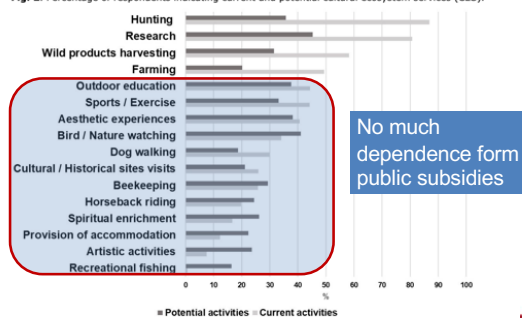
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Could the site/area that you manage deliver any more of these activities if you received additional incentives?

Fig. 2. Percentage of respondents indicating current and potential cultural ecosystem services (CES).



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## At least 3 sources of undervaluation of socio-cultural services

- Some components are **not assessed**
- In advanced economies wild forest products **picking** is considered a provisioning service, while it is **a socio-cultural one**
- The real economic **impact** is often **down-stream** the socio-cultural services supply

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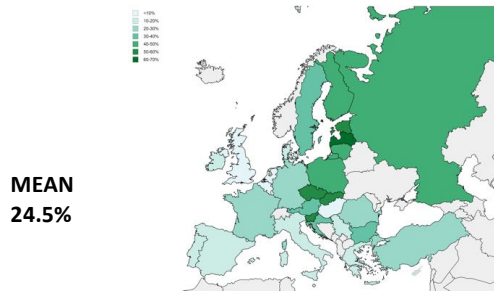
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## Provisioning or socio-cultural services?

Picking of wild forest products by country  
(% of households)



Source: Lovric et al., 2016 (STARTREE project)

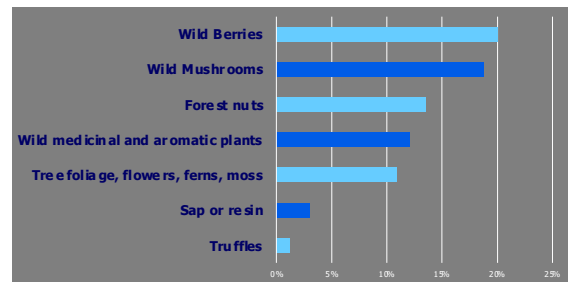
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## NWFPs picking (% of European households)



Source: Lovric et al., 2016 (STARTREE project)

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## Real economic impact

Forest bathing and forest-contact therapy:  
benefits measured with the *Quality-Adjusted  
Life Years* (QALYs) indicator

Cost/QALY = **50% of the costs** for ordinary  
treatments

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## Another example Many (new) soft tourist activities: micoturismo in Castilla y León

<http://www.turismocastillayleon.com/es/gastronomia-enoturismo/micoturismo>



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Enterprises: 62 (in 2008); > 100 in 2011

- 15 Agritourisms/ Farm businesses
- 12 Hotels/Guest quarters
- 8 Bed&Breakfasts/Inns/Hostels
- 9 Cheese, sausage and wine growing and producing factories
- 2 Didactic farms
- 3 Museums/Private collections
- 30 Restaurants/Porterhouses
- 26 Typical products sellers

**PARMA FUNGO PORCINO**

**TATTAGGIO**  
 THE TRAIL  
 MAP OF THE TRAIL  
 ITINERARY  
 STOPS ALONG THE TRAIL  
 PARKS  
 MUSEUMS  
 TOURIST INFORMATION  
 PHOTO GALLERY

**FIRMS**  
 Bed & Breakfast  
 Casale/Bed & Breakfast /  
 Agriturismo  
 Farmhouse holidays  
 Farmhouse holidays  
 Hotel  
 House / Collection private  
 Restaurant  
 Sale of local products

**Link**  
 Fungo di Borgaro  
 Museo Agrario  
 Strada del Porcino  
 Emilia Romagna Turismo

**Bottega del fungo**  
 Parco e prodotti del sottobosco  
 tel. 0521/74488  
 info@bottegadelfungo.it  
 www.bottegadelfungo.it

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## Outline

- How can we define and classify cultural services?
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- **What is new with them?**
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## Impacts of socio-cultural services development

The new activities:

- they meet the needs of emerging citizens that the welfare state is often unable to satisfy
- they are linked to new expertise (→ new job opportunities)
- they are able to activate new financial sources (SRI)

**For implementing these activities, the private (social) sector is far ahead of the traditional forestry sector, their leaders and their way of thinking and deciding on the use of forest resources**

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## A simplified view of ES economy

Ecosystem Services	Institutions, drivers	Instruments & theory
• <i>Provisioning</i>	• Market	• (prevailing) prices under market economy; neoclassical economics
• <i>Regulating</i>	• State	• (prevailing) compensations, incentives (PES); environmental economics; State regulated market economics
• <i>Socio-Cultural</i>	• Community	• (prevailing) <i>non-profit sector</i> ; social economics

Social economics is a branch of economics and a social science that focuses on the relationship between social behavior and economics. covering such issues as culture, gender, ethics, and philanthropic behavior.

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## The impacts of a new focus on socio-cultural services

- A **gender** revolution in the forestry sector

*"The first and foremost purpose of a forest growth is to supply us with wood material; it is the substance of the trees itself, not their fruits, their beauty, their shade, their shelter, that constitutes the primary object..."*

B.E. Fernow, 1902.  
**Economics of Forestry** (p. 86)



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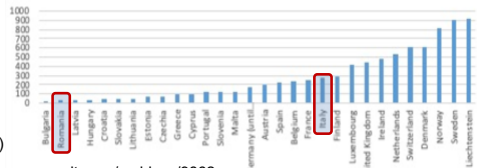
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## The impacts of a new focus on socio-cultural services

- A **gender** revolution in the forestry sector
- A **change in funding**: involving the forest sector in the health care and educational systems means increasing in a remarkable way the investments of the public and private sector

Public spending for one day hospital treatment in Europe (1,000 €)



Source: <http://www.sossanita.org/archives/9862>

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## The impacts of a new focus on socio-cultural services

- A **gender** revolution in the forestry sector
- A **change in funding**: involving the forest sector in the health care and educational systems means increasing in a remarkable way the investments of the public and private sector
- A **cultural change**: in the Covid-19 area, how we measure human progress, how we improve quality of life, towards a less consumptive model? → re-thinking the contents of a bio-economy policy? (more forest based socio-cultural services and less bio-refineries?)

*"In the midst of every crisis, lies great opportunity"*  
Albert Einstein

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## Two (at least) lessons to be learned

- In the relation with the **external world**: We need to encourage governments and large institutions to **recognise and respond to these new opportunities**. Think to the Recovery and resilience Plans
- In the relation to our **forest educational system**: we need to adapt our vision of the forest and the contents of our teaching, with more attention to **interdisciplinarity and social sciences**

## Are we adequately taking care of forest care issues?

