



Landscape Management: From Data to Decision

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ALTERNATIVE MANAGEMENT MODELS FOR ADDRESSING NEW DEMANDS ON FORESTS BY SOCIETY: THE CASE OF LOWLAND FORESTS IN NORTHERN ITALY

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Contents

- Cultural ecosystem services and forest care initiatives
- Case-study and methodology
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- Issues to further investigate

Cultural ecosystem services and forest care initiatives



Increase in urban population + use of technology:

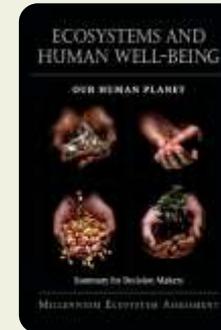
- profound societal changes
- demand on forests by society has changed accordingly



Forest scopes and uses have expanded:

- from traditional uses
- to the optimization of the provision of a broader range of ES contributing to human wellbeing

Ecosystem services classification (MA, 2005)



Nonmaterial benefits that people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation, and aesthetic experience

Cultural services (CICES 2018)



Division	Group	Class	Simple descriptor	Example service
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 active or immersive interactions	Using the environment for sport and recreation; using nature to help stay fit	Ecological qualities of woodland that make it attractive to hiker; private gardens Opportunities for diving, swimming
		Characteristics of living systems that enable activities promoting health, recuperation or enjoyment through passive or observational interactions	Watching plants and animals where they live; using nature to destress	Mix of species in a woodland of interest to birdwatchers Whales, birds, seals and reptiles can be enjoyed by wildlife watchers
	Intellectual and representative interactions with natural environment	Characteristics of living systems that enable scientific investigation or the creation of traditional ecological knowledge	Researching nature	Site of special scientific interest, Natura 2000 site
		Characteristics of living systems that enable education and training	Studying nature	Site used for voluntary conservation activities
		Characteristics of living systems that are resonant in terms of culture or heritage	The things in nature that help people identify with the history or culture of where they live or come from	Sherwood Forest
		Characteristics of living systems that enable aesthetic experiences	The beauty of nature	Area of Outstanding Natural Beauty; panorama site
	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	Elements of living systems that have symbolic meaning	Using nature to as a national or local emblem
Elements of living systems that have sacred or religious meaning			The things in nature that have spiritual importance for people	Totemic species, such as the turtle
Elements of living systems used for entertainment or representation			The things in nature used to make films or to write books	Archive records or collections
Other biotic characteristics that have a non-use value		Characteristics or features of living systems that have an existence value	The things in nature that we think should be conserved	Areas designated as wilderness
		Characteristics or features of living systems that have an option or bequest value	The things in nature that we want future generations to enjoy or use	Endangered species or habitat

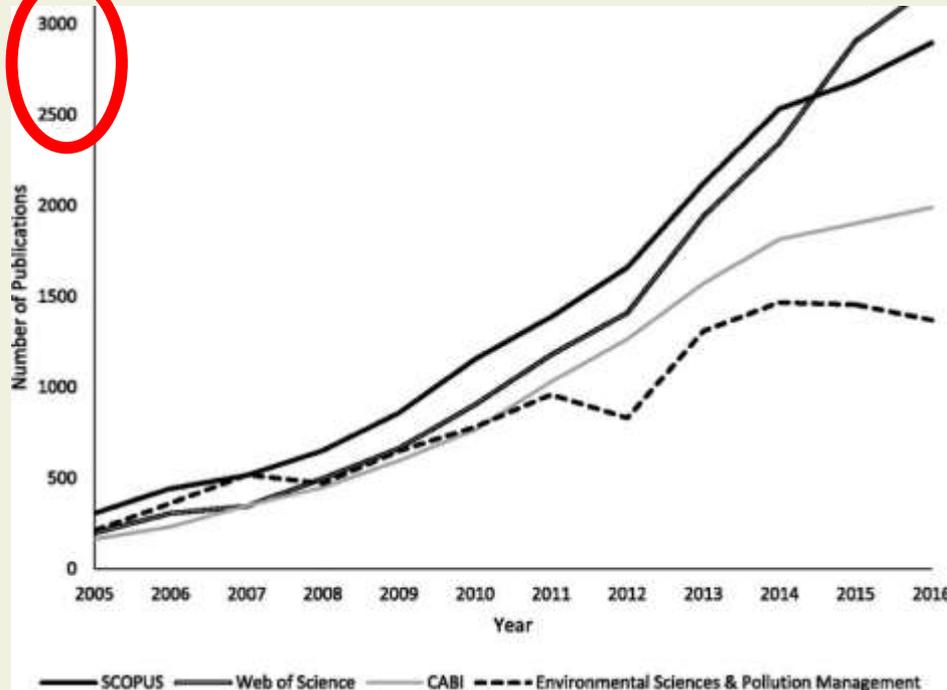


“despite their importance, cultural services and their associated values are still relatively marginalised in research and policy «(Hirons *et al.*, 2016)

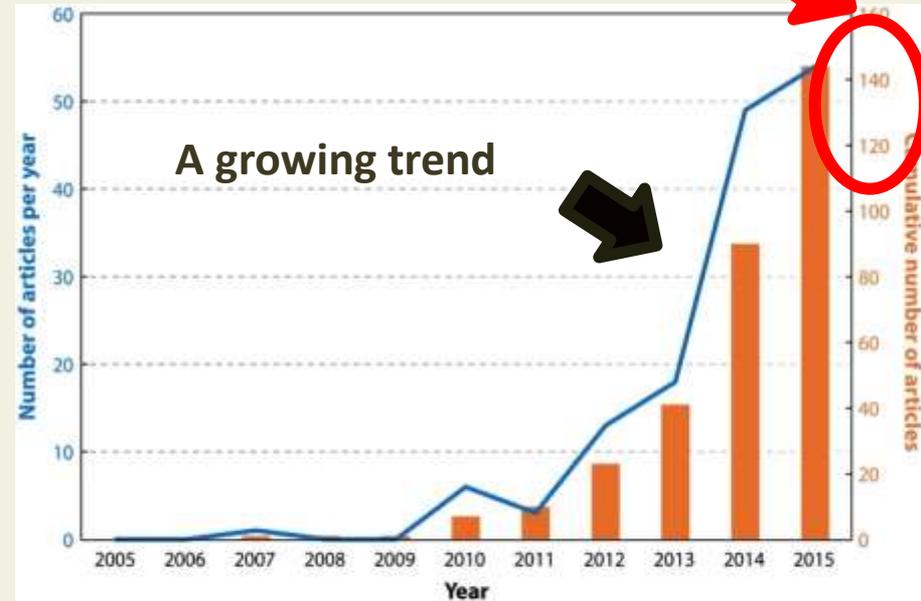
n° of scientific publications on scientific databases

By title, abstract and keywords:

A) “Ecosystem service*”



B) “Cultural ecosystem service*”
(only Scopus database)



Hirons M, et al. 2016.
Annu. Rev. Environ. Resour. 41:545–74

McDonough *et al.*, 2017

Hirons *et al.*, 2016

This gap is in contradiction with the growing awareness that **natural environment** has positive effects on stress



Nature a restoration effect on

- Physiological
- Psychological
- Social wellbeing

Biophilia (Wilson, 1984); Kaplan's Attention Restorative Hypothesis (Kaplan and Kaplan, 1989); Ulrich's Stress Reduction Hypothesis (Ulrich, 1991)



Several researches and initiatives:



www.bbc.com/earth/story/20160420-how-nature-is-good-for-our-health-and-happiness

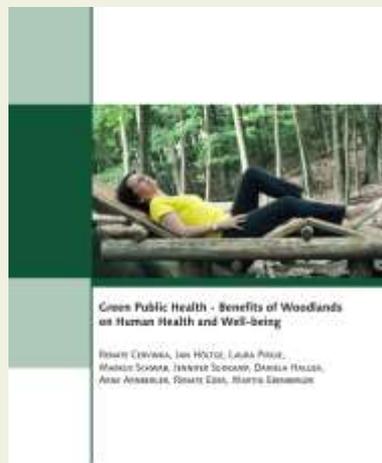


Richardson et al., 2016
<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0149777>

Austrian Research centre for Forests (BFW) (2014):
Literature analysis (1993-2013):



www.bbc.com/news/science-environment-33368691



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

149 peer-reviewed articles + 31 other publications



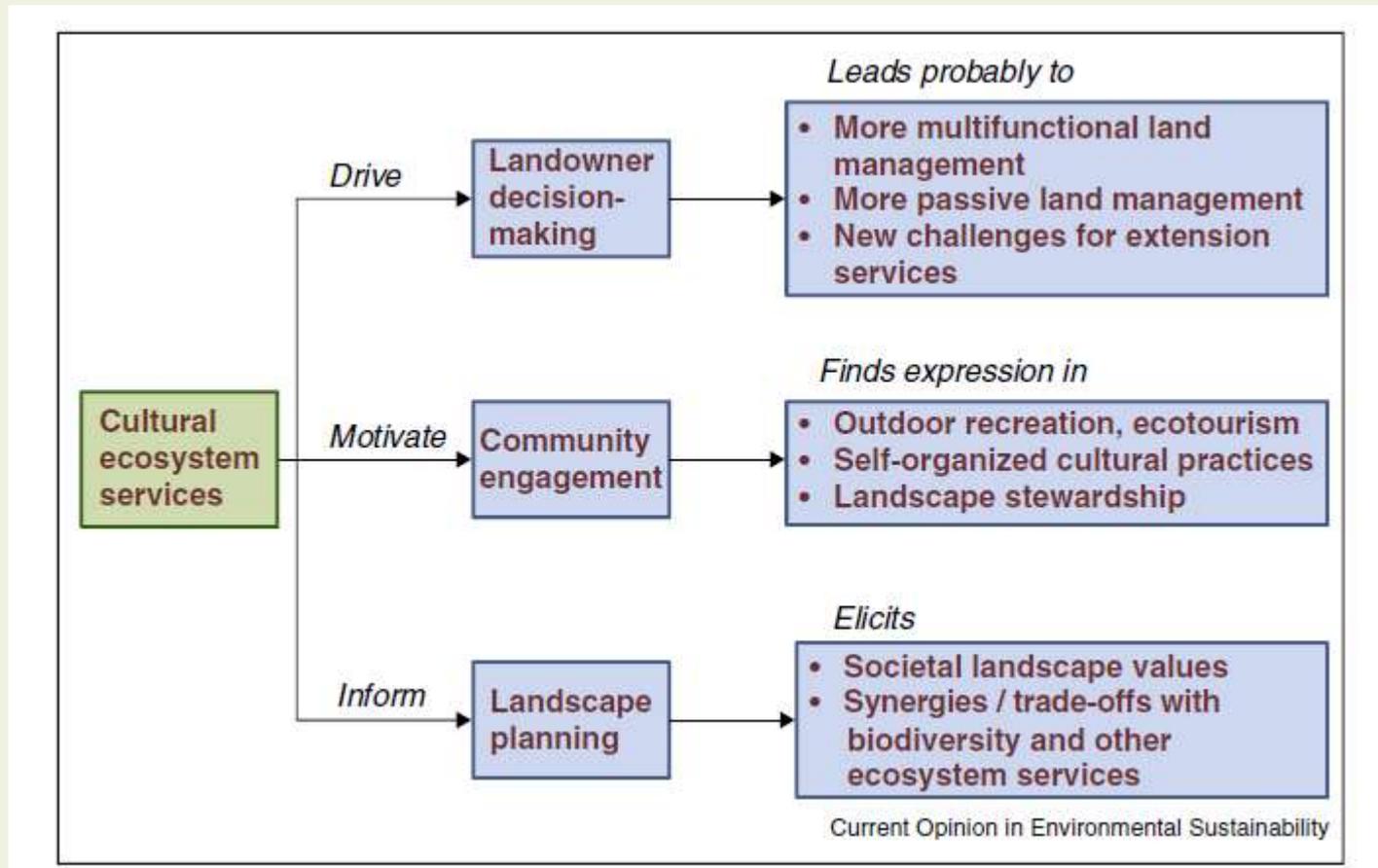
Forest Care Initiatives (FCIs)

FCIs are organized initiatives, from single stand activities to national programs, that use contact with forest's elements to **increase the level of well-being**

An opportunity:

- As an answer for increasing demand of wellbeing
- Income diversification and sustainable development of rural/forest areas → for avoiding abandonment → and maintaining a diversity of forest stand types

Cultural ecosystem services and their influence on landowner decision-making, community engagement, and landscape planning



A plurality of initiatives (some factors of classification)



Forest = framework

Forest = *medium* and instrument



Event/single activity
(es. 1/year)

Event/repeated activity,
permanent



«Normal» forest
management

Focused, alternative
forest management



Low connection with other
activities at landscape level

High connection at
landscape level, *networking*

The landscape scale is the most
appropriate for cultural ES/FCIs

Case-study and method

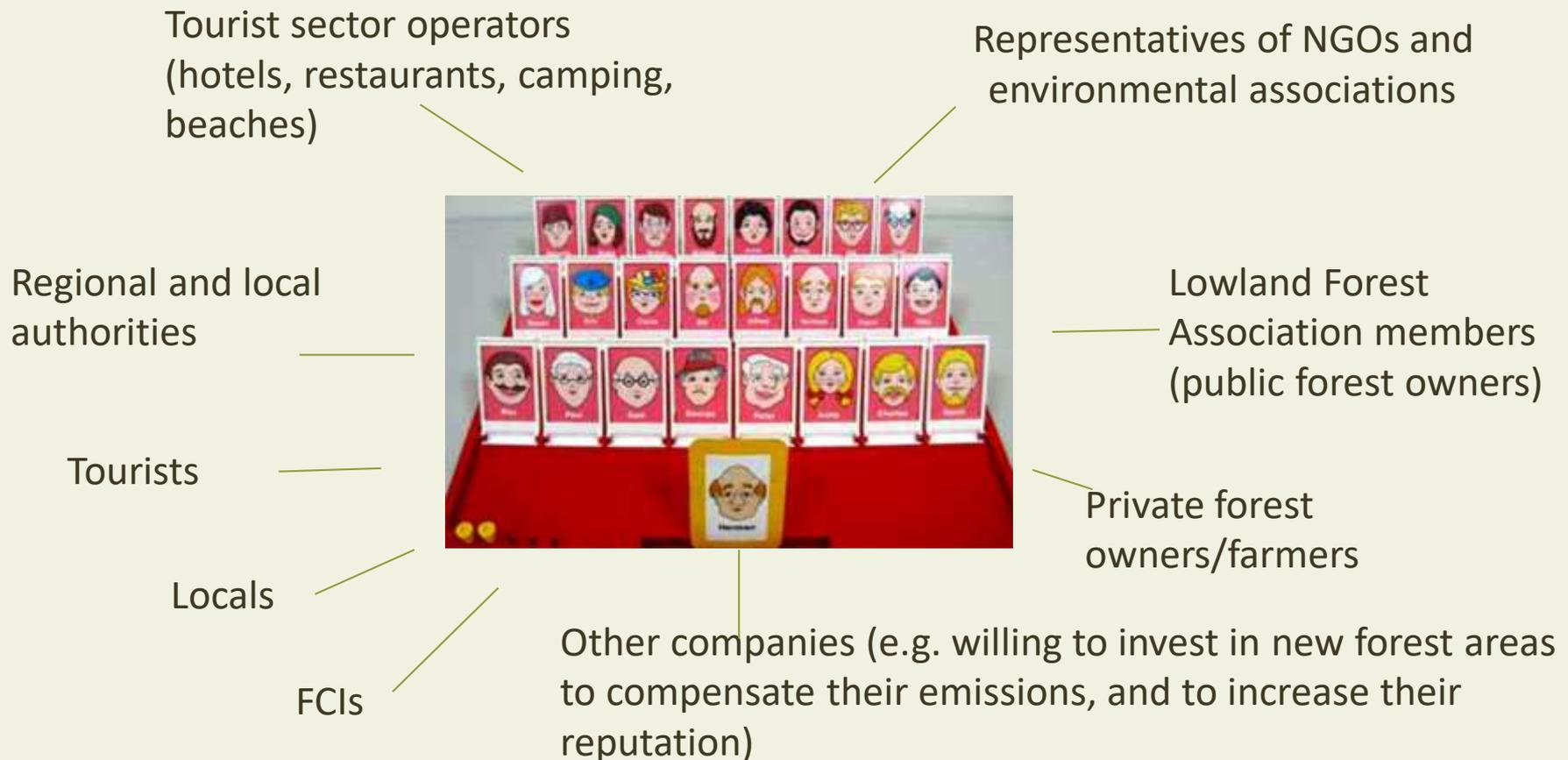


- Comune di Quarto d'Altino
- 1. Bosco San Michele Vecchio
- 2. Bosco delle Crete
- 3. Oasi Trepalade
- Comune di San Donà di Piave
- 4-5 Coridol verdi
- 6. Bosco Carrer
- 7. Bosco Fellini
- Comune di San Stino di Livenza
- 8. Boschi Bandiziol e Prasaccoon
- Comune di Torre di Mosto
- 9. Bosco Belvedere
- Comune di Este

A unique case in ALTERFOR

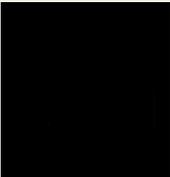
- Low production/non productive forests
 - ~“urban” forests
-
- A network of lowland forests close to densely populated and touristic places along the Adriatic sea
 - Forest owners/managers (mostly Municipality) are coordinated by the **Lowland Forest Association (AFP)**

- Identification of the current FMM
- Analysis of the ES provided
- Analysis of the stakeholders: roles, expectations and needs



Through:

- 
- Master thesis

- 
- Field survey and meetings

- 
- 1st workshop – Bibione (Venice), 29th Sept. 2017



Needs and expectation: **forests for recreation** (and for biodiversity)



Development of aFMM with this aim

- Identification of the FCIs at landscape level (and in Italy)
- SWOT analysis of these initiatives (ongoing)
- Establishment of a FCIs network



2nd workshop – Cessalto (Treviso), 21st April 2018



UNIPD team



AFP team



Etifor team

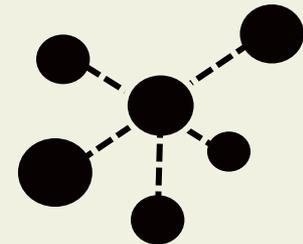


Preliminary results

aFMM: Recreational and habitat selective management model

- Selective cutting with close to nature approach
- Non-silvicultural practices: e.g. fencing of some areas, informative panels in 3 languages, birdwatching sheds, waste baskets, benches, creation and maintenance of paths, bike routes

- aFMM for promoting cultural ES are not limited to technical aspects
- they shall include mechanisms to enhance governance of natural resources at landscape level



FCIs in Italy



Educational activities



>60 educational activities in the nature in Italy (April 2018):

- 45 kindergarten and schools
- + other educational forms (es. environmental education)

Many other experiences yet not recorded

Art



Music



Permanent sport activities



Building a bridge between science and operators



FICs invited at the second Italian workshop for:

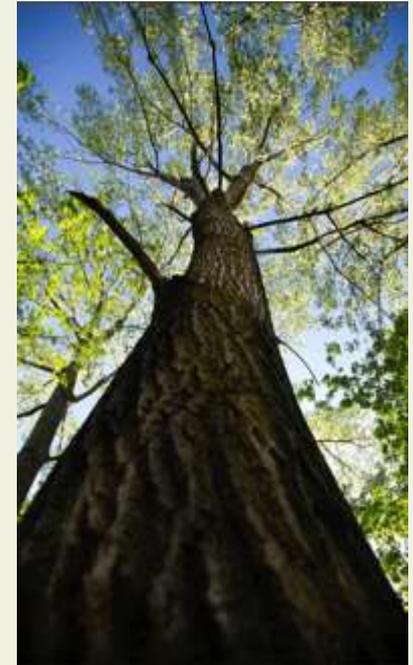
- Discussing the aFMM and silvicultural practices



- Illustrating their experiences



- Showing their experiences on the field





Issues to further investigate

- Monitoring and evaluation of provision of CES (ensuring that other ES i.e. biodiversity are not depleted → FSC framework can help)
- Normative and fiscal aspects (e.g. contractual forms, financing)
- Replicability of the model and scaling up

A photograph of a forest with tall, thin trees. Sunlight is streaming through the canopy, creating a warm, golden glow. The text "Thank you" is overlaid in the center.

Thank you