



# Governance of Ecosystem Services

insights from

Life+ Making Good Natura project



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3<sup>rd</sup>AIEAA Conference

“Feeding the Planet and Greening Agriculture: Challenges and opportunities for the bio-economy”

25-27 June, 2014

Alghero, Italy



# Life + Making Good Natura

Making public Goods provision the core business of Natura 2000

LIFE11 ENV/IT/000168

**LIFE + Environmental Policy and Governance**

## PARTNERS

CURSA - University Consortium for Socioeconomic and Environmental Research

WWFRP

EURAC European Academy of Bolzano

SASSO SIMONE AND SIMONCELLO NATURAL REGIONAL PARK

POLLINO NATIONAL PARK

REGIONE SICILIA DRARFD – Forestry Agency

REGIONE LOMBARDIA

CILENTO AND VALLO DI DIANO NATIONAL PARK

ERSAF LOMBARDIA - Regional Agency for Agriculture and Forestry

MIPAAF - Ministry of Agriculture and Forestry

MATTM - Ministry of Environment





## AIM OF THE PROJECT

*Creating tools for **qualitative and quantitative valuation of ecosystem services** in Natura 2000 sites in order to **develop innovative approaches of environmental governance and improve Natura 2000 sites management effectiveness.***

*For 21 Natura 2000 study sites, specific actions are:*

- ✓ Data collection and preparation of spatial datasets (GIS);
- ✓ Application of the model to evaluate the ES qualitatively and quantitatively;
- ✓ Application of PES and PES-like scheme mechanism;
- ✓ Implementation of a management effectiveness evaluation system together with management authorities and stakeholders.



*The inclusion of ES and their economic valuation in conservation:*

- ✓ *social acceptance and attainment of conservation objectives;*
- ✓ *new arguments and tools in favour of biodiversity conservation.*



**The challenge is how to integrate ES assessment in managing Natura 2000 sites and encourage local communities and other stakeholders to adopt sustainable environmental practices in order to protect habitats and species.**



## GOVERNANCE OF ECOSYSTEM SERVICES

To protect natural capital and ecosystem services there is a need for:

- ✓ *providing information* ←
- ✓ *setting incentives* ←
- ✓ *regulating the use* ←

**It is necessary to define and implement a wide range of governance and management tools, referring to the policy mix instruments.**

**COMMAND AND CONTROL**

**MARKET-BASED**



## MARKET-BASED INSTRUMENTS

- price-based instruments (taxes and charges),
- liability instruments
- subsidies
- market creation measures and assignment of well-defined property rights
- other instruments, such as environmental agreements (EA)

Payments for Ecosystem Services (PES)





## AIM OF THE PAPER

On the basis of the MGN project preliminary results, we assessed 4 ES in 2 out of 21 study sites and compared these benefits with (direct) costs for conservation measures



Type	SIC	SIC
Code	IT2040019	IT8050025
Name	Bagni di Masino - Pizzo Badile	Monte della Stella
Region	Lombardy	Campania
Bioregion	Alpine	Mediterranean
Extent [km <sup>2</sup> ]	27.6	11.8
Assessed ES	Erosion regulation Recreational value	Wild food (mushrooms) Recreational value

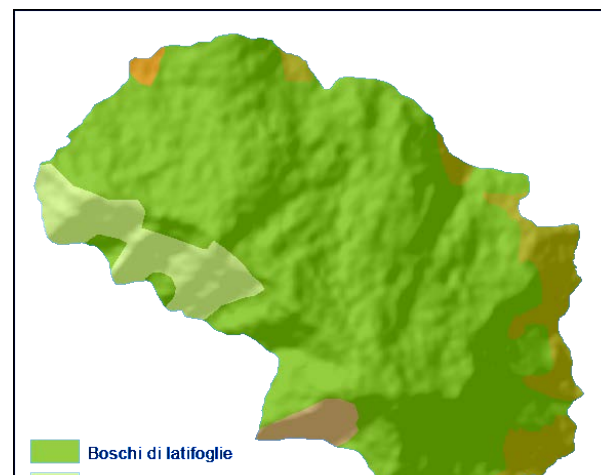
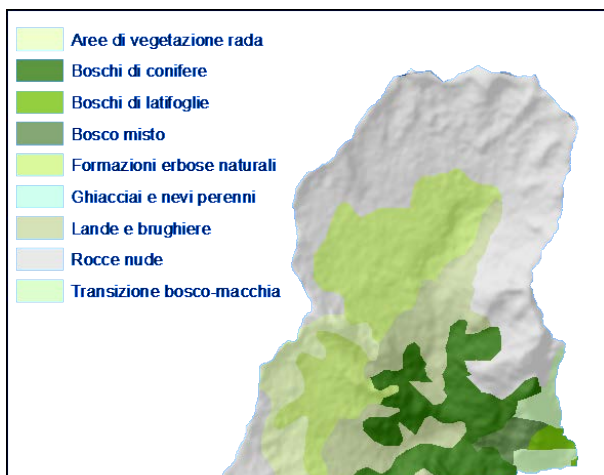


## GIS-BASED ES ANALYSIS

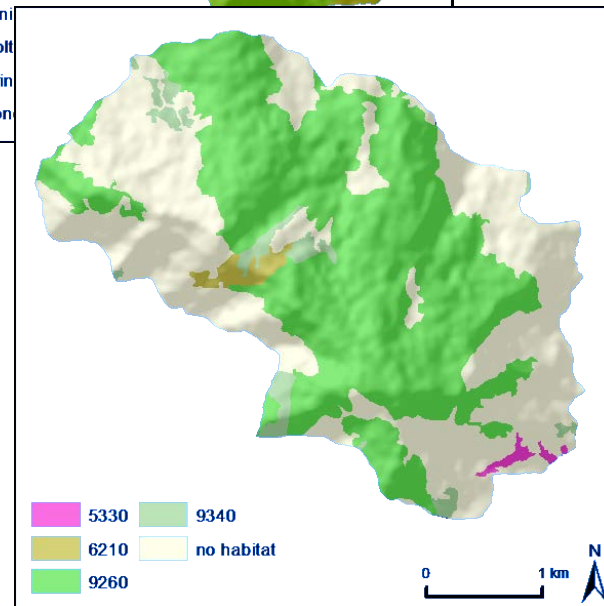
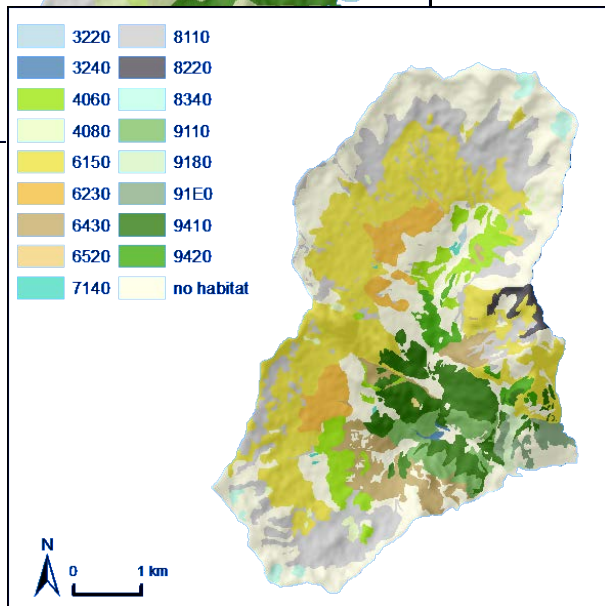
**Bagni di Masino e Pizzo Badile” (IT2040019)**

**Monte della Stella” (IT8050025)**

CORINE LANDCOVER



HABITAT







## MANAGEMENT INSTRUMENTS ANALYSIS

TYPE	CODE	NATURA 2000 SITE	MANAGEMENT AUTHORITY	MANAGEMENT INSTRUMENT	GENERAL OBJECTIVE
SIC	IT8050025	Monte della Stella	Campania Region	Management Plan	<p>Ensuring the restoration or maintenance of natural habitats and species of Community interest (Habitats Directive Annex I and Annex II and Birds Directive Annex I) at a favourable conservation status.</p> <p>This general objective includes: ecological sustainability objectives, (habitats and species conservation); socio-economic sustainability objectives aimed at promoting a functional socio-economic development for reaching biodiversity conservation objectives.</p>
SIC	IT2040019	Bagni di Masino e Pizzo Badile	Lombardy Region	Management Plan	<p>Ensuring the restoration or maintenance of natural habitats and species of Community interest and guaranteeing the maintenance and/or restoration of ecological balances through proper management actions.</p>



## STAKEHOLDERS-BASED ES ANALYSIS

### SITE MANAGEMENT AUTHORITY QUESTIONNAIRES



The questionnaire was divided into five sections including both closed and open format questions:

1. General information:
2. General framework:
3. Economic-financial framework:
4. Economic, environmental and social aspects
5. Ecosystem Services (ES)

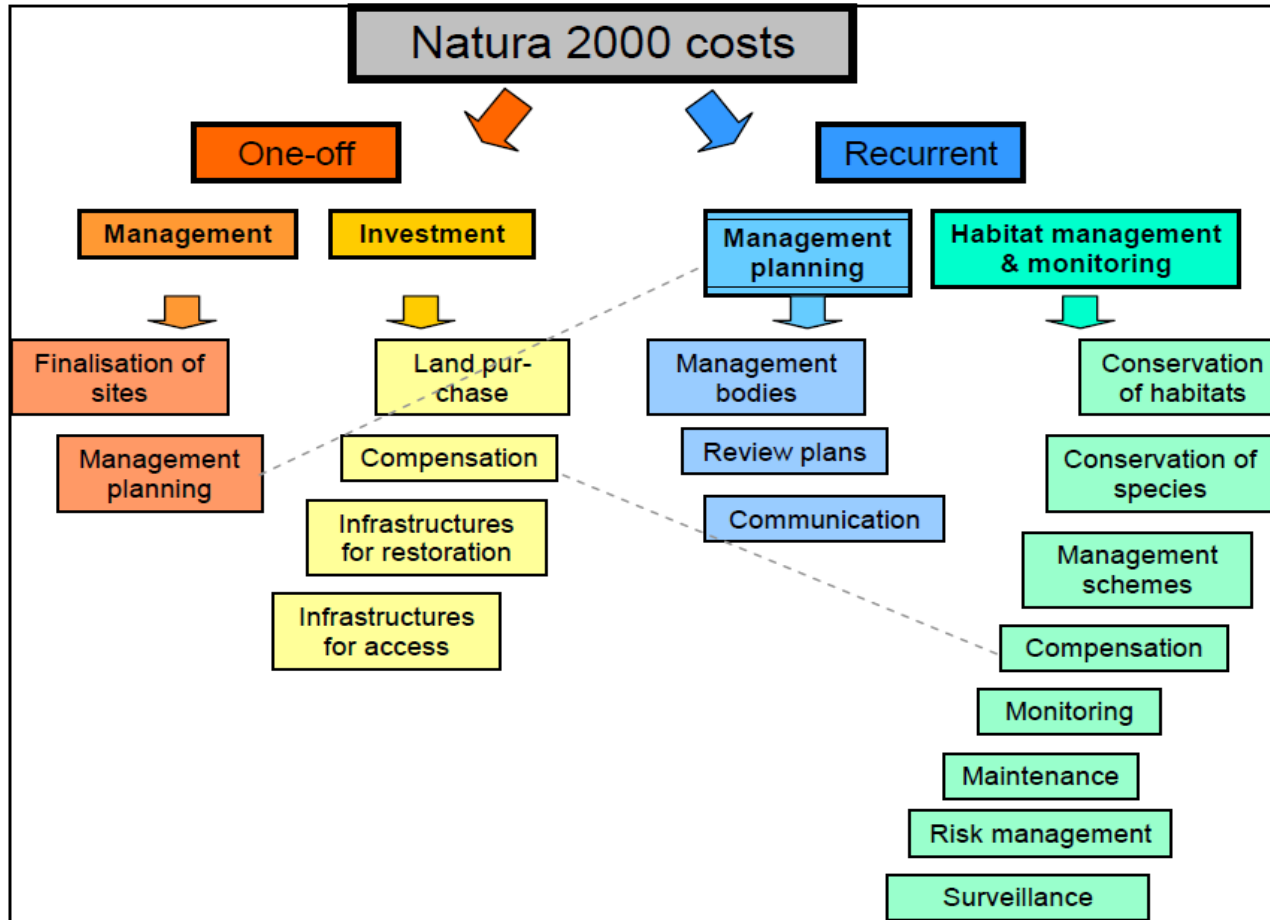
### STAKEHOLDERS MEETINGS



- ✓ Presenting objectives and structure of the project
- ✓ Debating local environmental issues and perception of ES
- ✓ Identifying main ES



## INFORMATION ABOUT NATURA 2000 COSTS



Source: Gantioler et al., 2010



## INFORMATION ABOUT SITES' MANAGEMENT COSTS

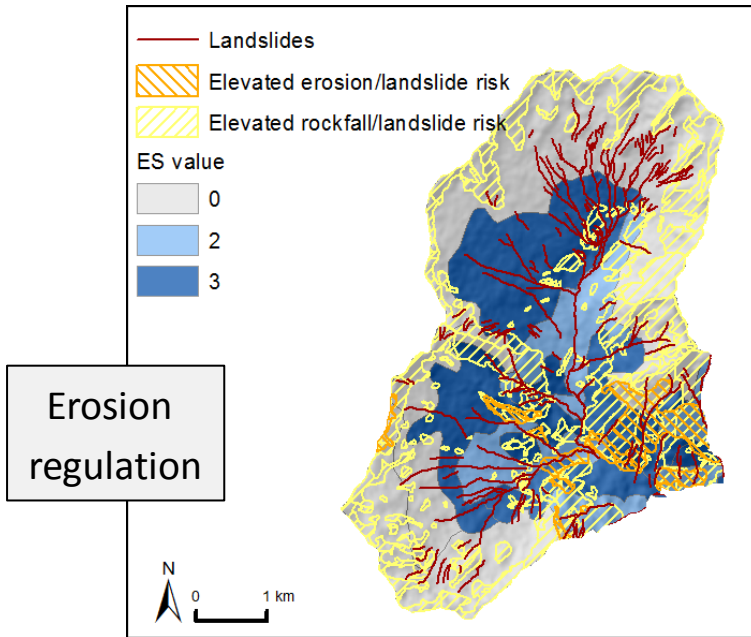
Recurrent costs		Monte della Stella (IT80500025)		Bagni di Masino e Pizzo Badile (IT20400019)	
		€	%	€	%
Costs for management planning	Running costs of management bodies	0	0	0	0
	Costs for review of management plans	190.000	6	0	0
	Costs for public communication.	100.000	3	30.000	6
Habitat management and monitoring costs	Conservation management measures– maintenance and improvement of habitats favourable conservation status	1.528.000	49	85.000	17
	Conservation management measures– maintenance and improvement of species favourable conservation status	0	0	30.000	6
	Implementation of management schemes and agreements with owners and managers of land or water for following certain prescriptions	300.000	10	5.000	1
	Provision of services; compensation for rights foregone and loss of income; developing acceptability 'liaison' with neighbours	0	0	0	0
	Monitoring	344.000	11	80.000	16
	Maintenance of infrastructure for public access, interpretation work, observatories and kiosks etc.	590.000	19	242.000	49
	Risk management (fire prevention and control, flooding etc.)	80.000	3	25.000	5
	Surveillance of the sites	0	0	0	0
Total cost		3.132.000	100	497.000	100

Recurrent costs	Monte della Stella (IT80500025)		Bagni di Masino e Pizzo Badile (IT20400019)	
	€	€/ha	€	€/ha
Costs for management planning	290.000	245,76	30.000	10,88
Habitat management and monitoring costs	2.842.000	2.408	467.000	169,39
Total cost	3.132.000	2.654	497.000	180,27



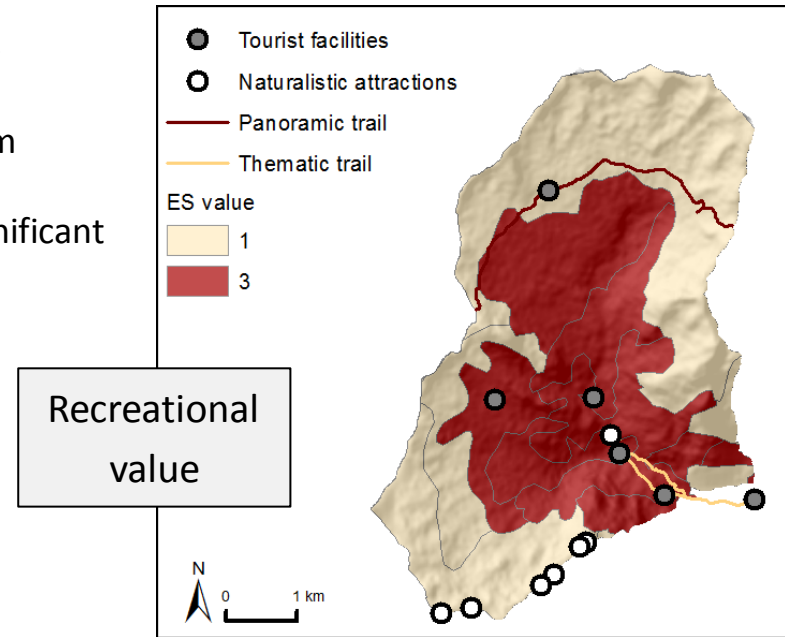
## ES ASSESSMENT

Study area	ES	Qualitative ES value	
		CORINE	Habitat
Bagni di Masino e Pizzo	Erosion regulation	1.25	1.29
Badile (IT2040019)	Recreational value	1.48	1.92



37% of the area with an elevated erosion and landslide risk

**ES value**  
 3-high  
 2-medium  
 1-low  
 0-not significant

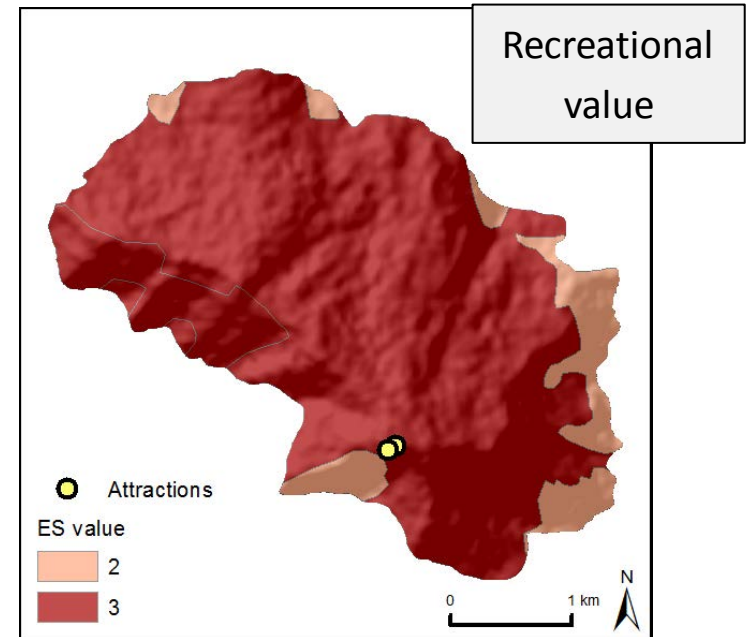
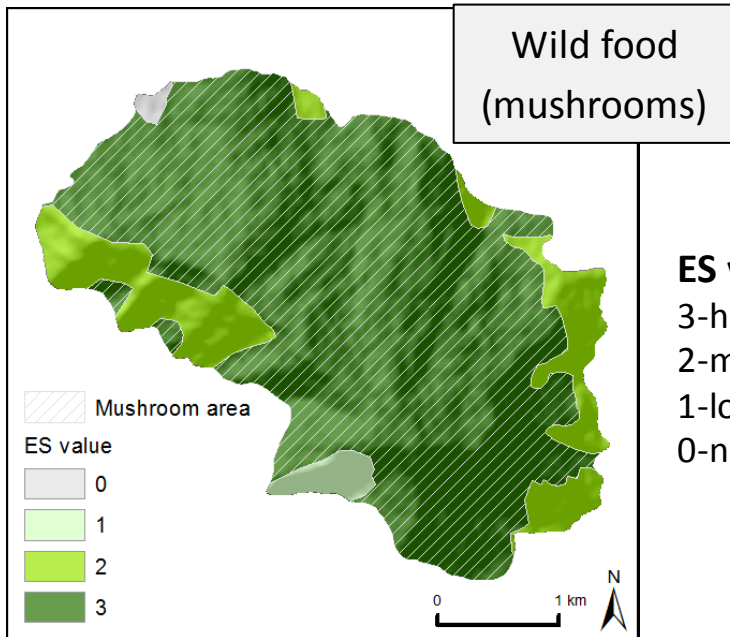


- Economic value of 61,650 Euro (2013)
- Up to 1.5 million potential day-trippers within 1.5 hours driving



## ES ASSESSMENT

Study area	ES	Qualitative ES value	
		CORINE	Habitat
Monte della Stella (IT8050025)	Wild food (mushrooms)	2.82	2.79
	Recreational value	2.91	2.80



Total economic value between 38,000 and 76,000 Euro/year

- Economic value of 72,600 Euro (2013)
- Up to 4 million potential day-trippers within 1.5 hours driving



## FIRST INSIGHTS AND CONCLUSIONS

- Data unavailability and poor accounting system
- Different management costs per hectare
- Average benefit/cost ratio (50%)

*Quantification of costs relating to the Natura 2000 network is crucial for measuring and assessing conservation measures effectiveness.*

*In a context of stagnant and uncertain funding for biodiversity new governance and management tools, such as PES or PES-like schemes, should offer a considerable potential to raise new funds.*

***Solving multi-layered governance problems normally requires combining governance structures, scales and tools.***







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**Thank you!**

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