



life+mgn
making good natura



LIFE + MAKING GOOD NATURA

Making public Goods provision the core business of Natura 2000

LIFE11 ENV/IT/000168

Costs and benefits of Natura 2000 Network



According to article 8 of Habitat Directive (92/43/CEE), the European Union demands the economic funding of Natura 2000 sites to local management bodies

The total cost to implement the Natura 2000 Network in the EU-27 is estimated at € 5.8 billion a year (Gantioler, 2010).

Natura 2000 benefits (EC, 2013)

Basis for upscaling	Value per hectare (€)	Value EU27 (€ M)
Mean	3,441	313,520
Median	2,447	222,951

“Making Good Natura” aims to establish and demonstrate innovative approaches to preserve biodiversity and improve Natura 2000 sites management through innovative tools and processes based on the concept of ecosystems services.

The project's specific objectives include:

- Identifying and evaluating the ecosystems services provided by Natura 2000 network sites
- Creating innovative models (e.g. PES) for funding the implementation of Natura 2000 management plans and conservation measures
- Creating and demonstrating models for better governance in conservation management and for the socio-economic development of local communities

Life + Making Good Natura



- Regione Lombardia**
- 01 ZPS IT2040401 Parco Regionale Orobie Valtellinesi
- 02 ZPS IT20A0402 Riserva Regionale Lanca di Gerole
- 03 ZPS IT20B0501 Viadana, Portiolo, San Benedetto Po e Ostiglia
- ERSAF Ente Regionale per i Servizi all'Agricoltura e alle Foreste Lombardia**
- 04 ZPS IT2020301 Triangolo Lariano
- 05 SIC IT2020002 Sasso Malascarpa
- 06 SIC IT2070022 Corno della Marogna
- 07 SIC IT2070021 Valvestino
- 08 ZPS IT2070303 Val Grigna
- 09 ZPS IT2040601 Bagni di Masino, Pizzo Badile, Val di Mello, Val Torrone, Piano di Preda Rossa
- 10 SIC IT2040019 Bagni di Masino e Pizzo Badile
- 11 SIC IT2040020 Val di Mello, Piano di Preda Rossa
- 12 ZPS IT2070402 Alto Garda Bresciano
- Regione Sicilia Dipartimento Regionale Aziende Foreste Demaniali**
- 13 SIC ITA020007 Boschi Ficuzza e Cappelliere, Vallone Cerasa, Castagneti Mezzojuso
- 14 SIC ITA020008 Rocca Busambra e Rocche di Roa
- 15 SIC ITA060006 Monte Sambughetti - Monte Campanito
- Parco Nazionale del Cilento Vallo di Diano e Alburni**
- 16 SIC/ZPS IT 8050055 Monti Alburni
- 17 SIC IT8050025 Monte della Stella
- 18 SIC IT8050006 Balze di Teggiano
- Parco Nazionale del Pollino**
- 19 SIC IT9310014 Fagosa - Timpa dell'Orso
- 20 SIC IT9310008 La Petrosa
- Parco Naturale del Sasso Simone e Simoncello**
- 21 ZPS IT4090006 Versanti occidentali del Monte Carpegna, Torrente Messa, Poggio di Miratoio

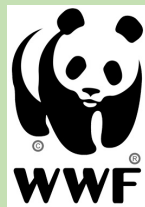
- September 2012 – June 2016
- 21 pilot sites
- 7 Italian regions involved
- 90.239 hectares
- 8 Special Protection Areas
- 12 Sites of Community Importance
- 50 Natura 2000 Habitats

Involved bodies



Consorzio Universitario
per la Ricerca
Socioeconomica
e per l'Ambiente

Scientific and administrative co-ordination,
model processing and transfer



Partners with specific scientific
and management skills
for modeling and transferring the model



REGIONE SICILIA

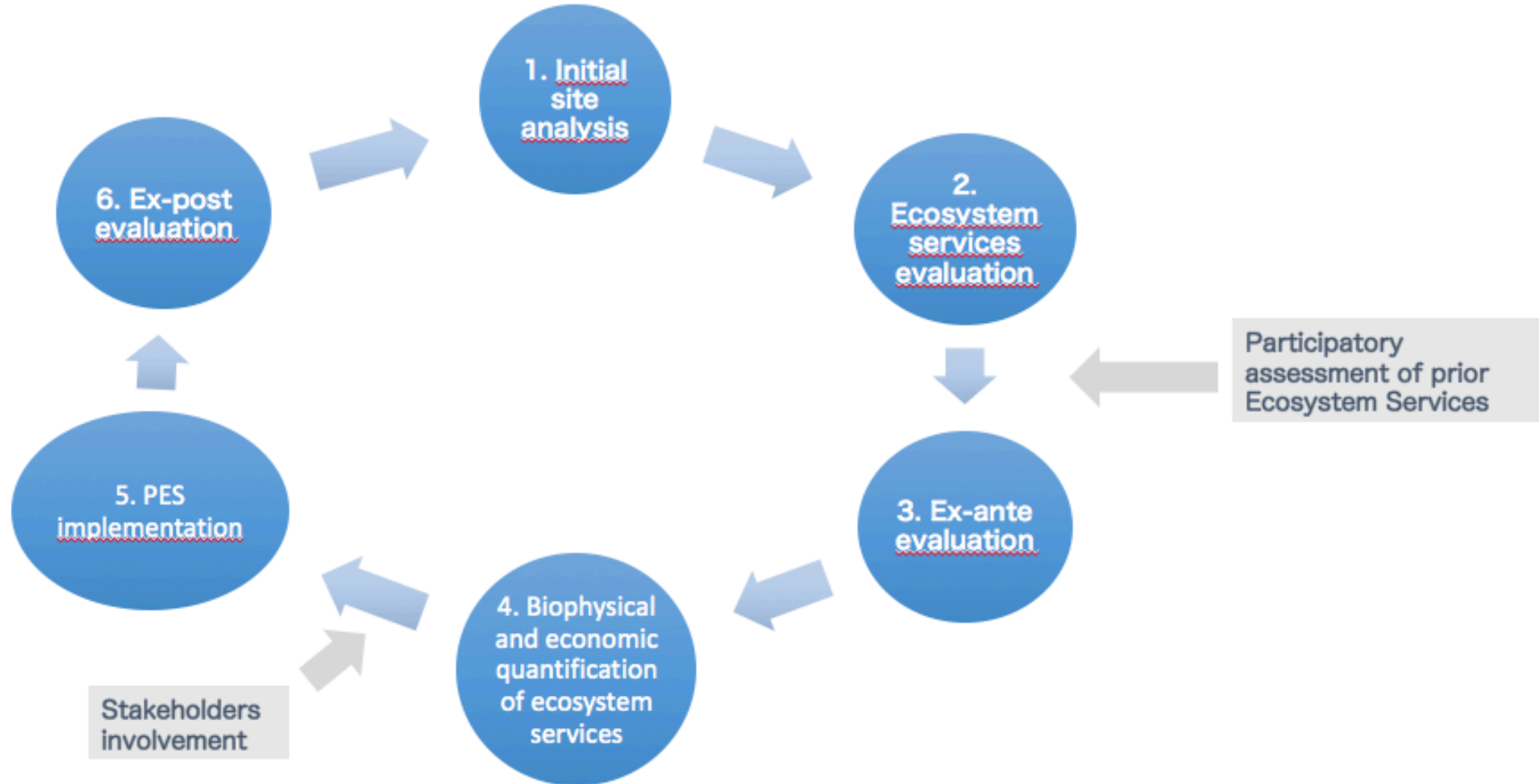


Territorial and management
partners
for replicating the model

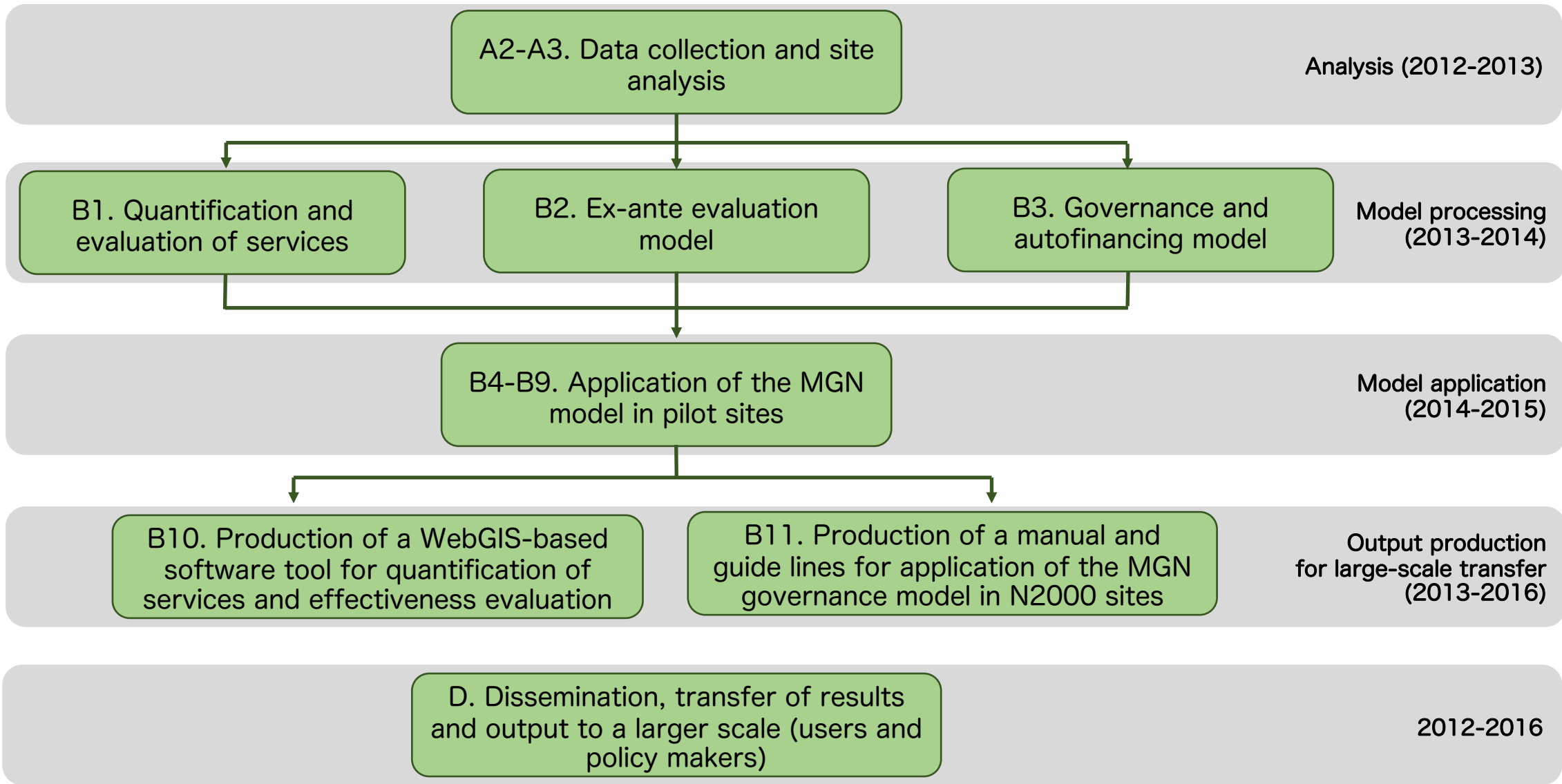


Bodies and actors outside the partnership
but inside the pilot steering committee:
inputs to the project
and transfer to a larger scale

Project cycle



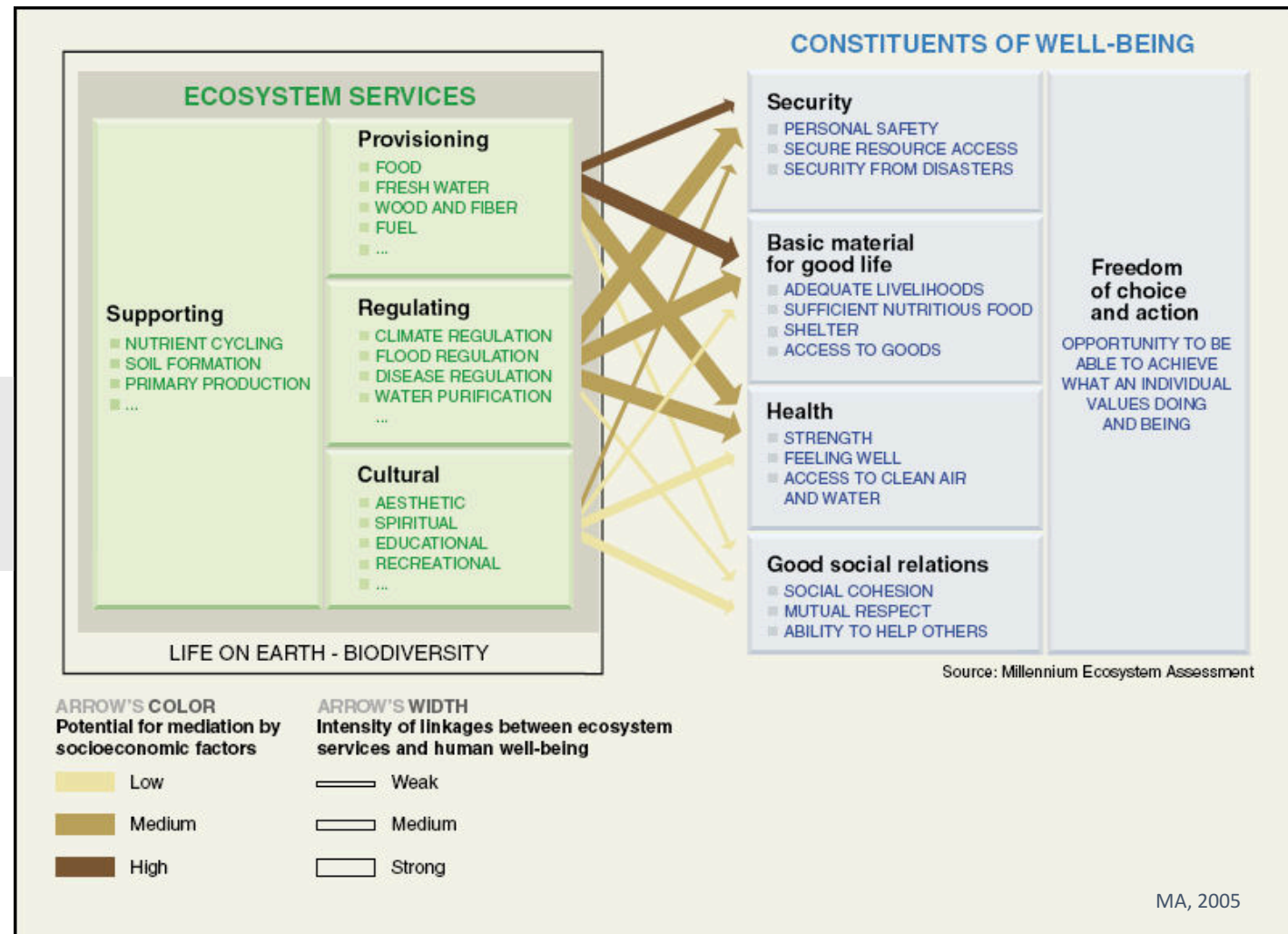
Project actions



Project Idea

1. Evaluating ecosystems services provided by the Natura 2000 network

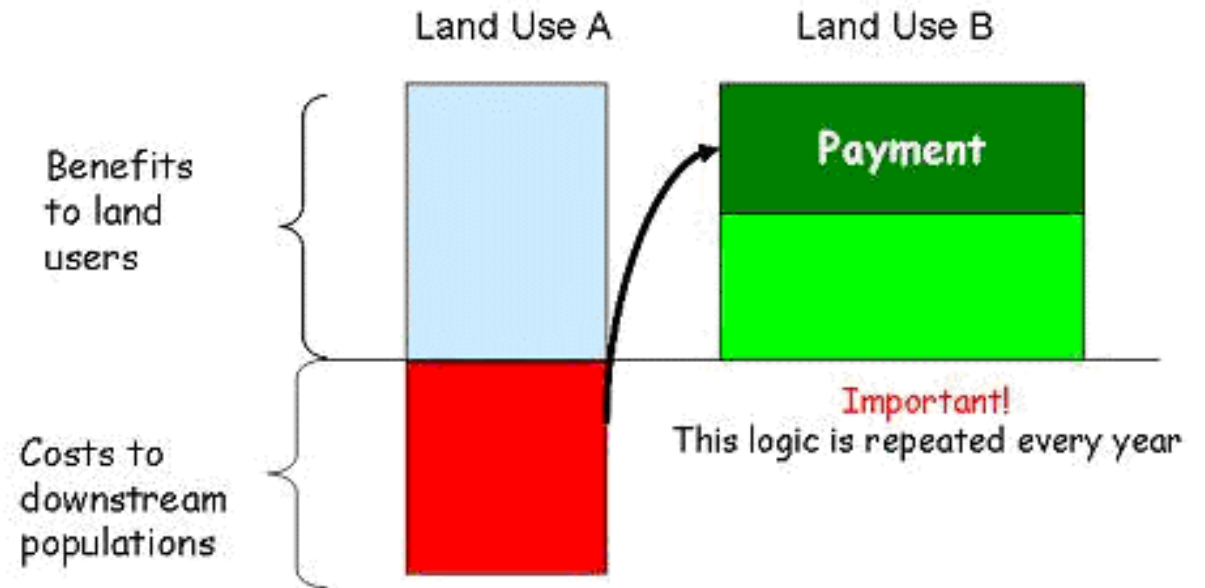
ECOSYSTEM SERVICES
Benefits people obtain from ecosystems (MEA, 2005)



Project Idea

2. Improving habitat management through Payments for Ecosystems Services (PES) and other innovative forms of self-financing

Payments for ES (PES)
System for the additional provision of environmental services through conditional payments to voluntary providers

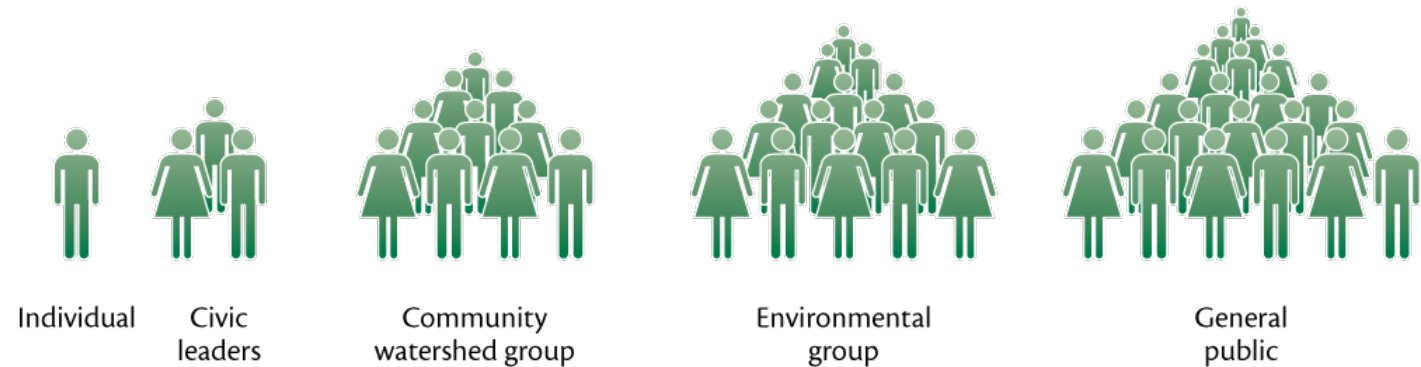


Project Idea

3. Involving stakeholders at local and national level for the development of innovative forms of governance.

Stakeholders

All subjects, individuals or organizations actively involved in an initiative whose interest is adversely or positively affected by the result of the execution of the initiative and the action or reaction which in turn affects the phases of the initiative itself.

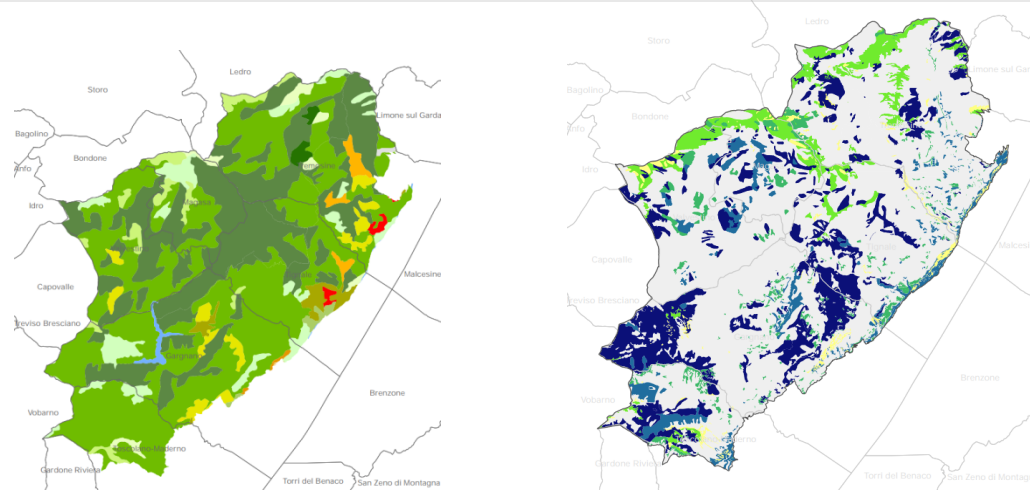


Conceptual diagram illustrating different target audiences that have different sizes, knowledge, and consequently require different communication techniques. Effective communication methods include personal correspondence or email for individuals; group letters or email for civic leaders; community flyer for associations; a website for environmental groups; and broadcasted news through the media for the general public.
Diagram courtesy of the Integration and Application Network (ian.umces.edu), University of Maryland Center for Environmental Science. Source: Longstaff, B.J., T.J.B. Carruthers, W.C. Dennison, T.R. Lookingbill, J.M. Hawkey, J.E. Thomas, E.C. Wicks, and J. Woerner (eds) (2010) Integrating and Applying Science: A handbook for effective coastal ecosystem assessment. IAN Press, Cambridge, Maryland. pg. 46.

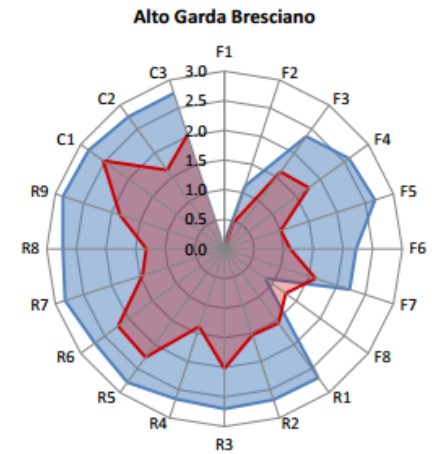
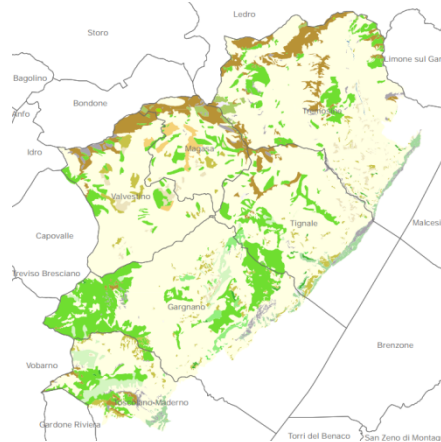
Ecosystem Services considered



CORINE Land Cover



Habitat Analysis



Ecosystem Services considered



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
	RL			ERSAF								RS			PNCVD			PNP		PNSSS	
	IT2040401	IT2040402	IT2080501	IT2020301	IT2020002	IT2070022	IT2070021	IT2070303	IT2040601	IT2040019	IT2040020	IT2070402	ITA020007	ITA020008	ITA060006	IT8050055	IT8050025	IT8050006	IT9310014	IT9310008	IT4090006
F1																					
F2																					
F3																					
F4																					
F5																					
F6																					
F7																					
F8																					
R1																					
R2																					
R3																					
R4																					
R5																					
R6																					
R7																					
R8																					
R9																					
C1																					
C2																					
C3																					

Code	Ecosystem services	Sites
F1	Crops	0
F2	Forage and grazing	4
F3	Hunting	4
F4	Raw materials	2
F5	Mushrooms	3
F6	Medical plants	0
F7	Genetic resources	2
F8	Drinking water	6
R1	Carbon sequestration	4
R2	Local climate mitigation	0
R3	Water regulation	6
R4	Water purification	0
R5	Erosion mitigation	3
R6	Protection from hydrogeological disruption	3
R7	Pollination	0
R8	Biological control	0
R9	Habitat for biodiversity	1
C1	Aesthetic value	5
C2	Recreational value	12
C3	Educational and spiritual value	3
TOTAL		58

Quantification of supply, demand and monetary value of 13 different Ecosystem Services

MGN approach



- 1 Questionnaires to management authorities
- 2 Preliminary meetings with management authorities and main local stakeholders
- 3 Stakeholders analysis (potential buyers and sellers)
- 4 Prioritarization of two or three ES for each site
- 5 Meetings with stakeholders for defining the financing scheme
- 6 Analysis of existing legislation for implementing PES or self-financing schemes

Ecosystem Services evaluation

Supply evaluation

Biophysical quantification based on land use and environmental attributes:

- *Direct data*
- *Models/estimates*



Demand evaluation

Local/regional quantification

- *Consumption of the inhabitants (beneficiaries)*
- *Risk areas*



Monetary Evaluation

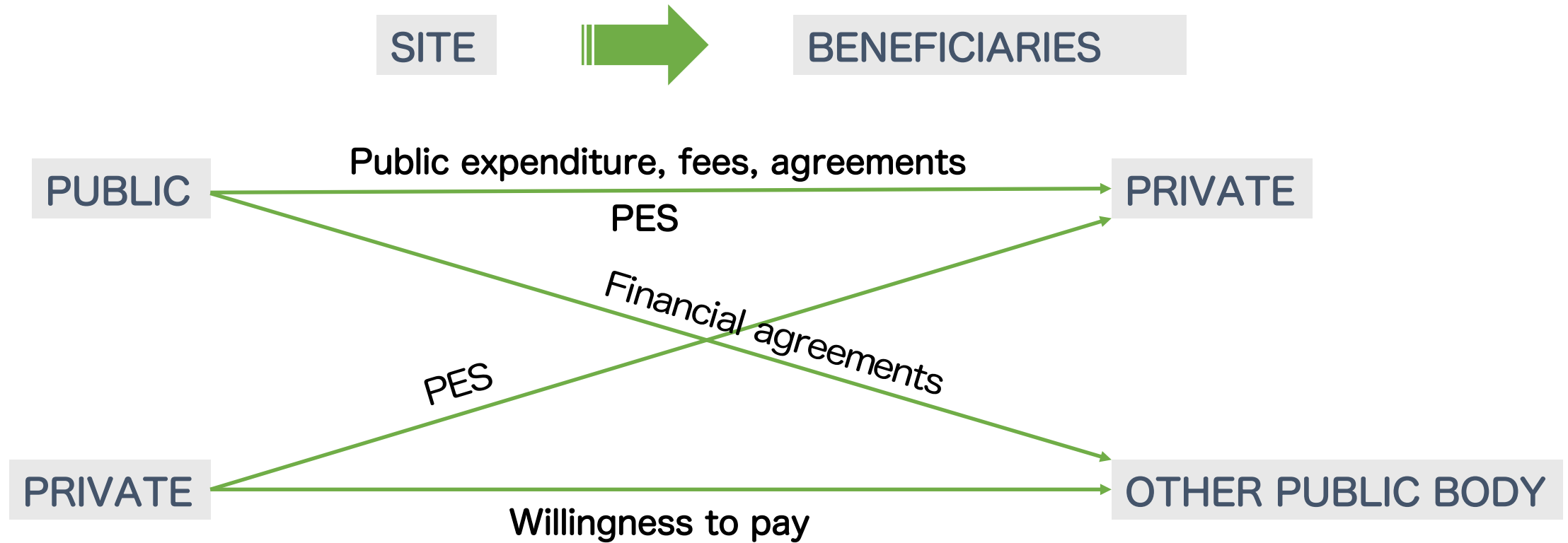
- Direct/indirect use value
- Replacement cost, avoided cost
- Touristic expenses

Different for each ES!

Different for each site!

Payment for Ecosystem Services

Relations between ES producers and beneficiaries



The evaluation of Ecosystem Services



- 1 Quantitative evaluation: (1) biophysical and (2) economic/monetary
- 2 Economic evaluation based on the typology of territory
- 3 Developing of a WebGIS model, available on the project MGN website
- 4 Payment for Ecosystem Services as a governance tool
- 5 Innovative scope: (1) PES agreements and (2) replicability of the model
- 6 Dynamic model to investigate cause-effect relations

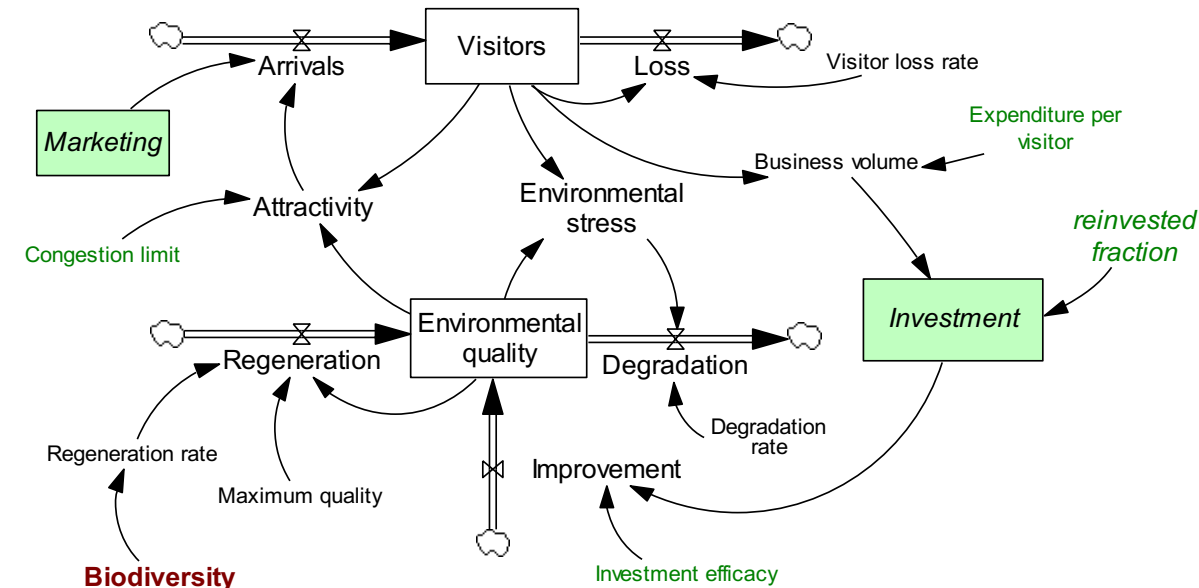
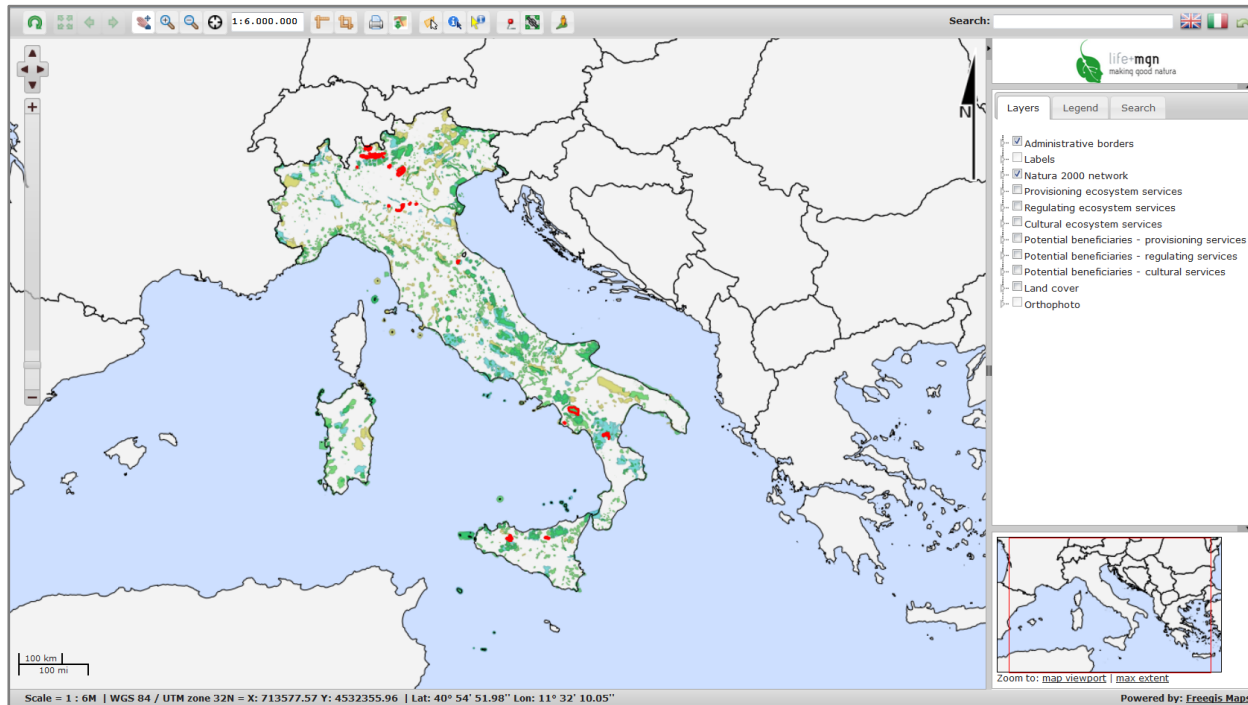
The WebGIS model and the dynamic model

The WebGIS allows

- to view one or more themes,
- to obtain information on visualised areas,
- to search by predefined questions,
- to save and print images.

Qualitative dynamic models

- to sustain site management ,
- to understand the complex dynamics.



LIFE+ MGN results and impacts

15 PES agreements signed

14 PES agreements defined, but not signed

13 PES agreements identified



National law (Legge 28 dicembre 2015, n. 221): « Environmental provisions to promote green economy measures and to contain excessive use of natural resources ». The government is committed to introduce a system for the payment of ecosystem and environmental services

Reform of the law on national parks will include PES as a self-financing and natural resources management tool

Replicability of the MGN manual



Lesson learned



- 1 Involvement of stakeholders is very important to increase the acceptance of restrictions in protected areas, promote sustainable practices and support conservation activities
- 2 For assessing ES of Natura 2000 sites very detailed data are needed, and that could be represent a cost for the management body
- 3 The main constraint is data unavailability to effectively measure ES and their trends
- 4 It is fundamental to identify ES sellers (providers) and buyers (beneficiaries)
- 5 Quantitative assessment can't be inexpensive at small scale (Natura 2000 site), because it requires very detailed data (CORINE Land Cover works better at large scale rather than small scale)

LIFE+ MAKING GOOD NATURA



Contacts

Davide Marino (project coordinator):
dmarino@unimol.it

Giampiero Mazzocchi
gia.mazzocchi@gmail.com

THANK YOU!

AITÄH!

LIFE+ Making Good Natura references

<http://www.lifemgn-serviziecosistemici.eu>

<http://www.facebook.com/ProgettoLifeMakingGoodNatura>

<https://twitter.com/LifeMGN>