



PAYMENTS FOR ECOSYSTEM SERVICES IN THE NATURA 2000 NETWORK: ANALYSIS THROUGH THE VALUE-BELIEF-NORM MODEL

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SEMINARIO UR BIOECONOMIA – 21/05/2024

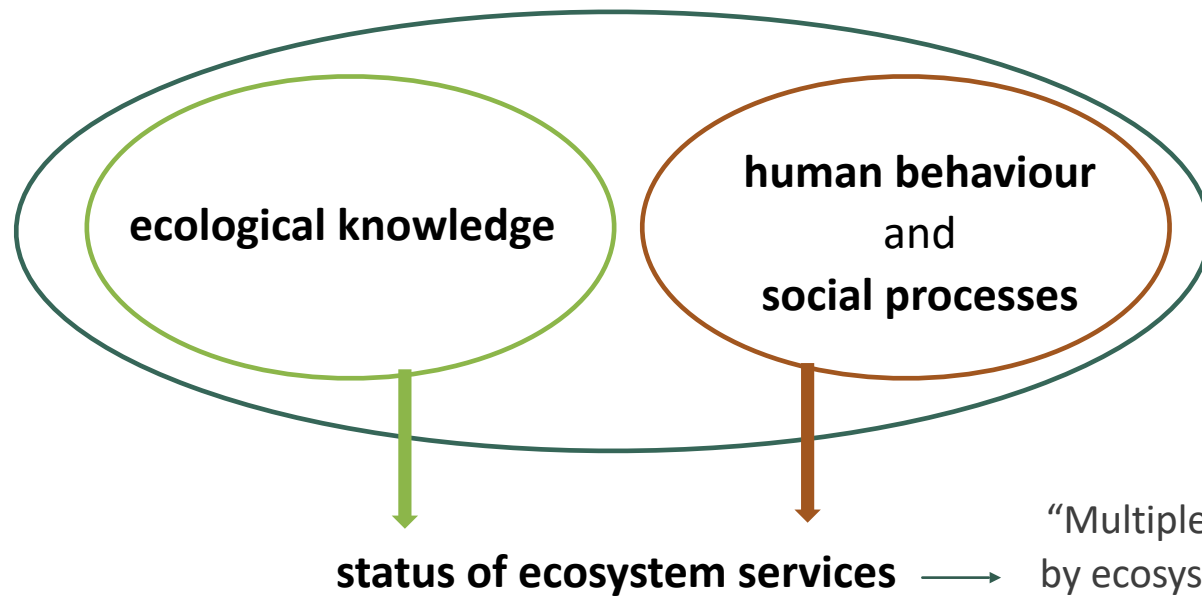


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INTRODUCTION

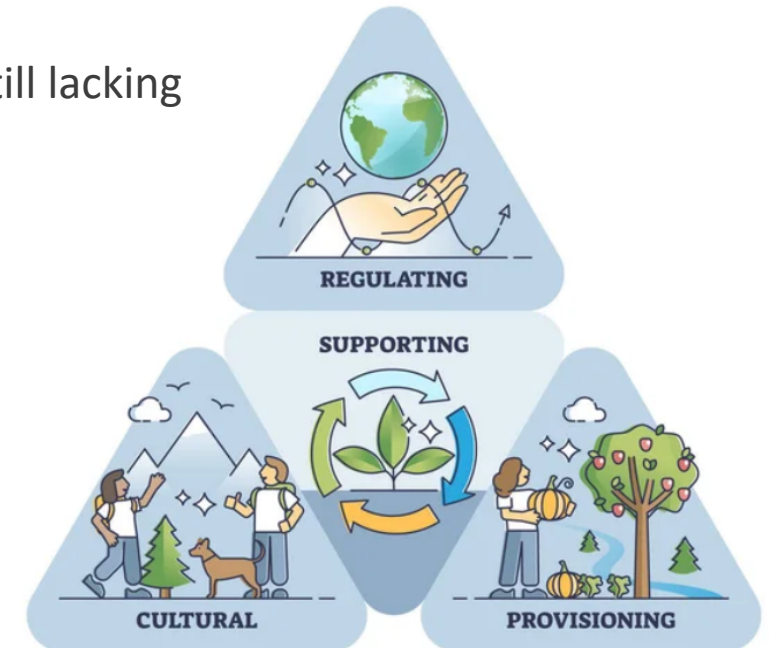
- Urgence of a **socio-ecological transformation** in response of the negative anthropogenic environmental changes documented in recent decades
- **Critical state of ecosystems** worldwide → requires **environmental policy instruments** capable of promoting the sustainability of natural resources



status of ecosystem services

“Multiple benefits provided
by ecosystems to humanity”
(MEA, 2005)

- Research still lacking



INTRODUCTION

- Ecosystem services approach and related policy tools → **PAYMENTS FOR ECOSYSTEM SERVICES (PES):** promising solution to halt ecosystem degradation

Art. 70, d.lg. 221/2015, *Collegato ambientale*

«Il Governo è delegato ad adottare, entro sei mesi dalla data di entrata in vigore della presente legge, senza nuovi o maggiori oneri per la finanza pubblica, uno o più decreti legislativi per l'introduzione di un **sistema di pagamento dei servizi ecosistemici e ambientali**».

D.D.L. 119-1004-1034-1931-2012-B, Modifiche L. 394/1991, Legge quadro aree protette, art. 36

«prevedere che il **sistema di PSE** sia attivato, in particolare, in presenza di un intervento pubblico di assegnazione in concessione di un bene naturalistico di interesse comune, che deve mantenere intatte o incrementare le sue funzioni».

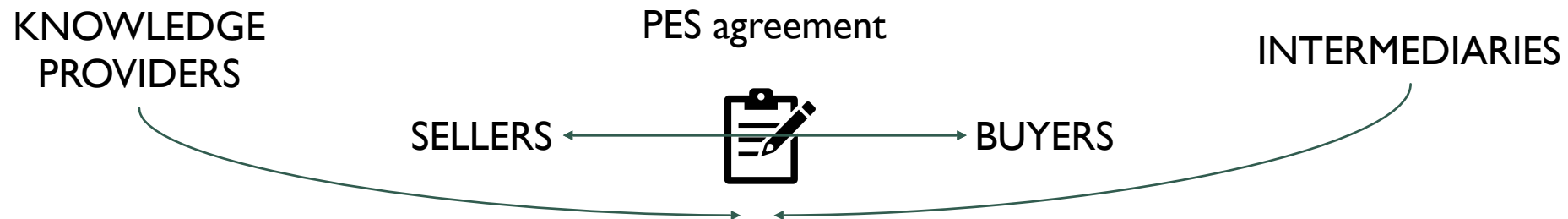
Art. 7, D.lg. 34/2018, Testo unico in materia di foreste e filiere forestali

«Le regioni, coerentemente con quanto previsto dalla Strategia forestale dell'Unione europea COM (2013) n. 659 del 20 settembre 2013, promuovono **sistemi di pagamento dei servizi ecosistemici ed ambientali (PSE)** generati dalle attività di gestione forestale sostenibile e dall'assunzione di specifici impegni silvo-ambientali informando e sostenendo i proprietari, i gestori e i beneficiari dei servizi nella definizione, nel monitoraggio e nel controllo degli accordi contrattuali.»

- Concrete results still lacking in Italy
- Stakeholder and community participation in PES design process is crucial for effective, inclusive, and lasting results

INTRODUCTION

- **European ecological network Natura 2000**
- Innovative approach for the coordinated conservation of **biodiversity** that aims to harmonise the maintenance of **habitats and species** with human needs
- Multi-faceted context rich in relationships between ecosystem services, providers, beneficiaries, public and private, appearing to be particularly interesting for the definition of **PES**



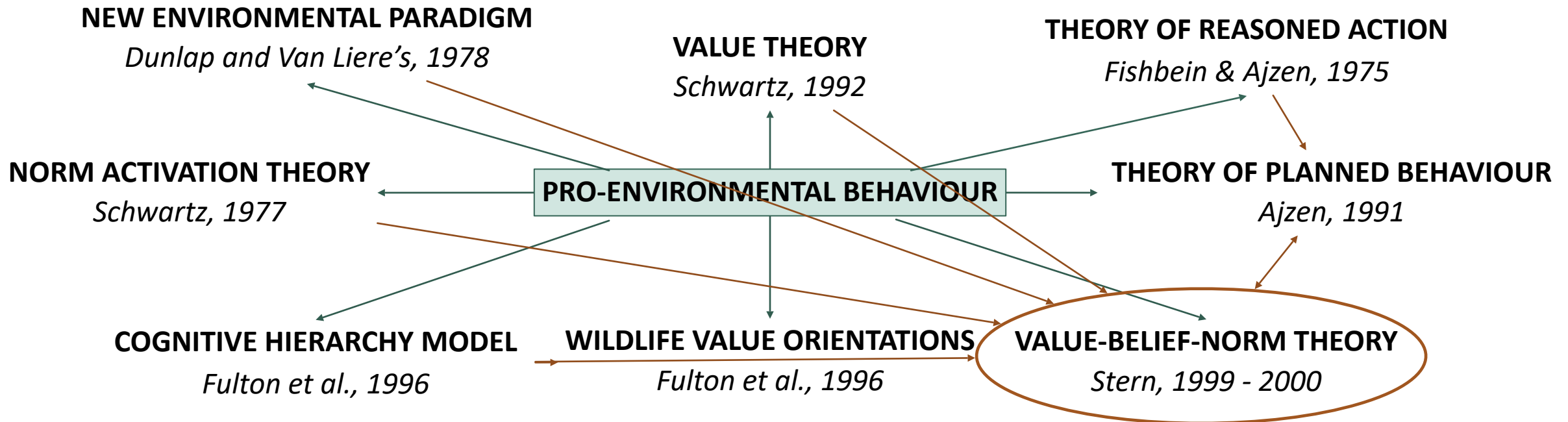
OBJECTIVES

1. Understand if and how **biodiversity protection** and **conservation of natural habitats** (protected areas, natural parks) have been investigated under the theoretical lens of some of the most common **theories in environmental behaviour**. → **LITERATURE REVIEW**
2. Identification of the **level of knowledge** and **attitudes** toward the concepts of "ecosystem services", "PES" and "Nature 2000 network" among stakeholders and analyse the factors (values, beliefs, norms and socio-demographic descriptors) that influence **participation** in a PES schemes and **willingness to pay** for ecosystem services in the context of Natura 2000 network sites → **VBN MODEL APPLICATION**
3. Evaluation of the differences found between the analysis conducted in different territorial context and with different type of stakeholders → **ABROAD EXPERIENCE**
4. Apply a participatory approach to develop PES schemes in the context of Natura 2000 network sites in **Umbria** → **LIFE IMAGINE (ACTION C4)**

THEORETICAL FRAMEWORK

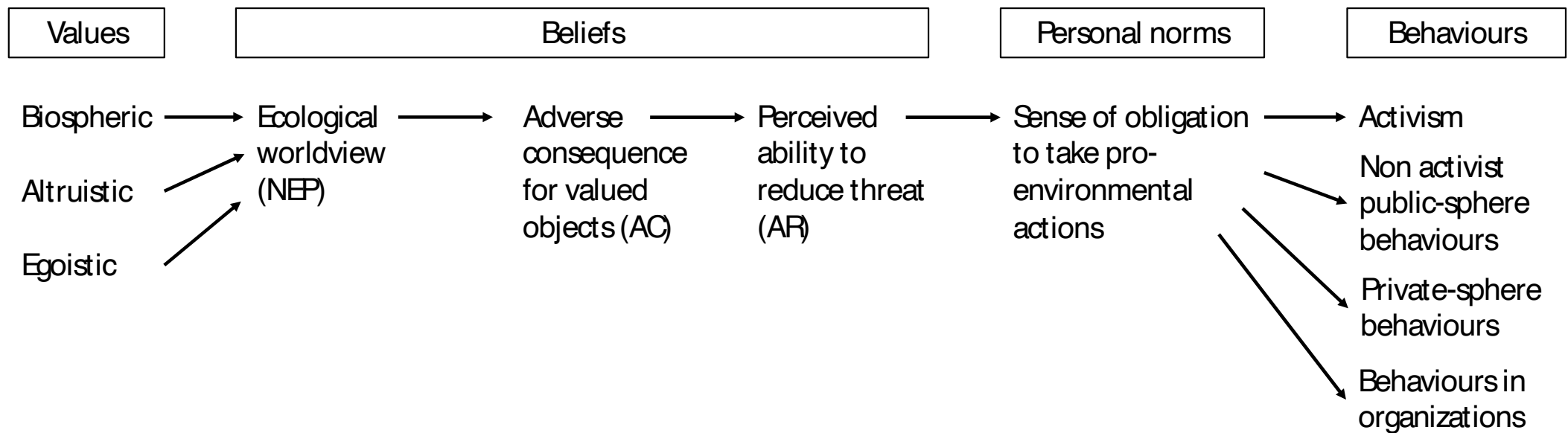
Sociologists and psychologists addressed the relationship between awareness of consequences, norms, values, beliefs, attitudes, perceived behavioural control and pro-environmental behaviour.

Environmental psychology theories explaining pro-environmental behaviour



VALUE-BELIEF-NORM THEORY

- Integration of earlier theories of human behaviour: value theory, norm-activation theory (Schwartz, 1977, 1992) and new ecological paradigm theory (Dunlap and Van Liere's , 1978)



- Stern et al. (1999) and Stern (2000).

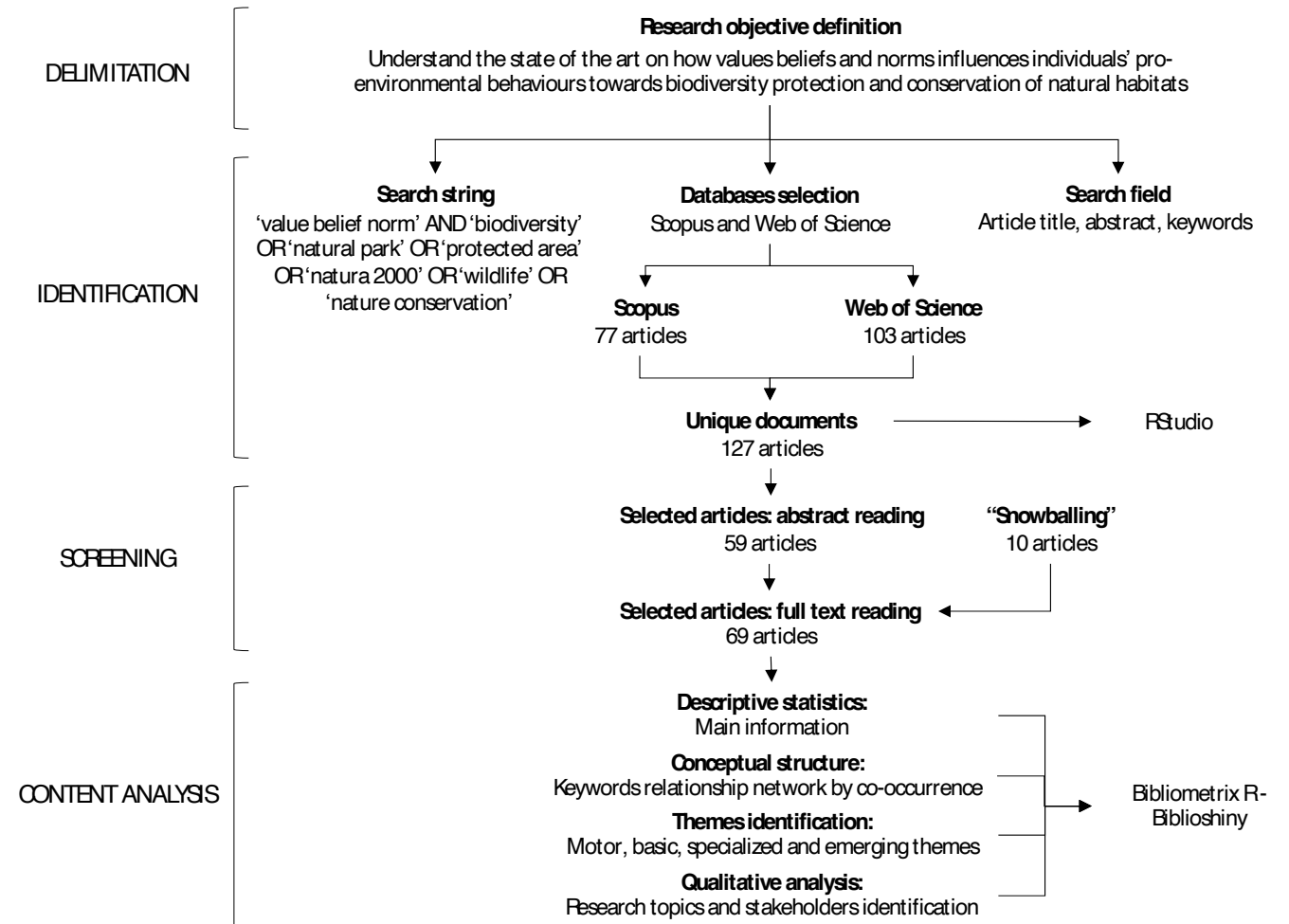
LITERATURE REVIEW

PREDICTING BEHAVIOURS TOWARDS BIODIVERSITY AND NATURAL HABITAT CONSERVATION THROUGH VALUE BELIEF AND NORM: A SYSTEMATIC REVIEW OF THE LITERATURE

- Understand the state-of-the-art research on how value, beliefs and norms influence individuals' pro-environmental behaviours toward **biodiversity protection**, and the **conservation of natural habitats**, especially in Europe and protected areas
- biblioshiny: the shiny app for bibliometrix



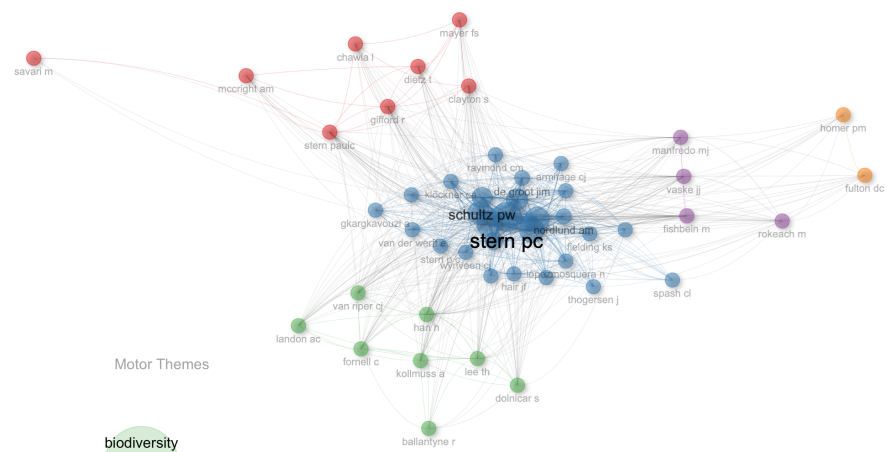
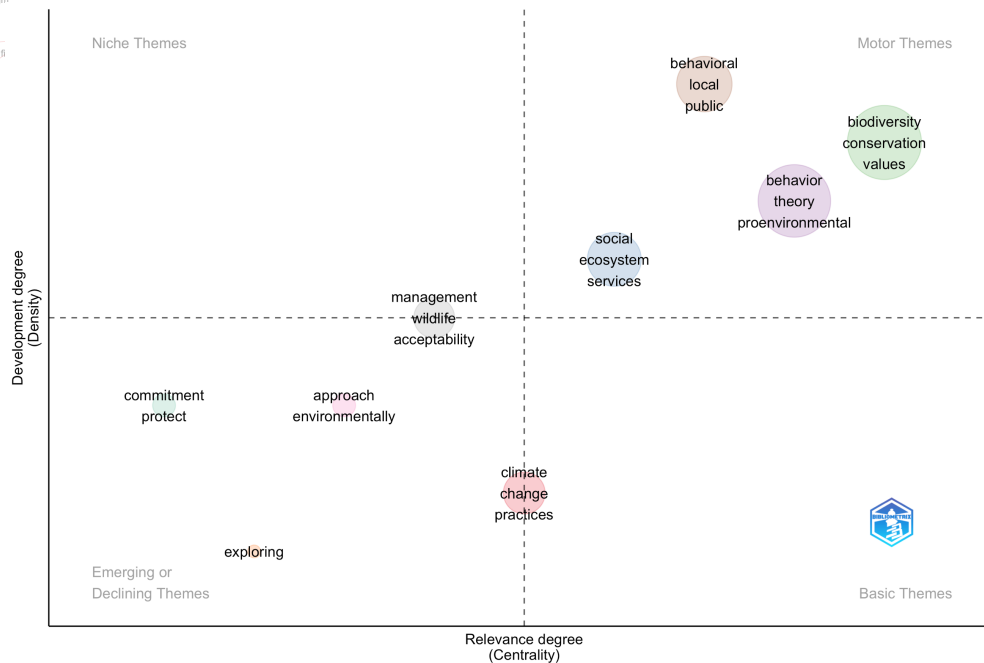
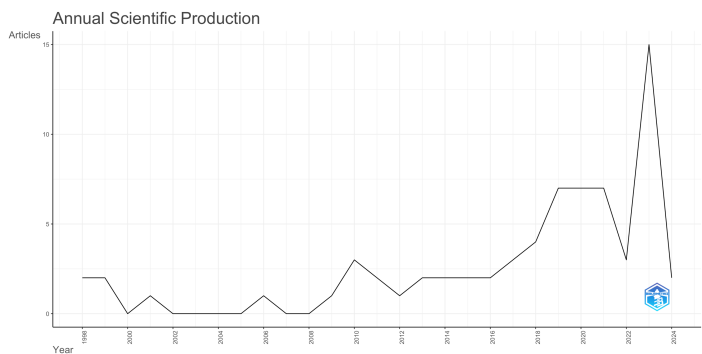
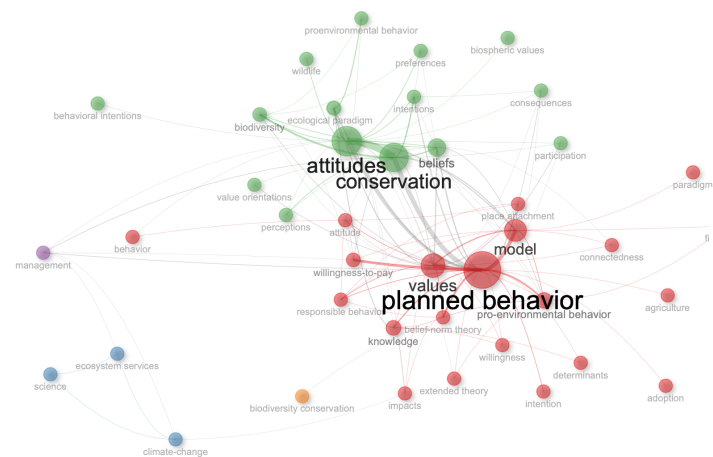
- Aria, M., & Cuccurullo, C. (2017). *bibliometrix: An R-tool for comprehensive science mapping analysis*. *Journal of Informetrics*, 11(4), 959-975.



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DESCRIPTIVE STATISTICS



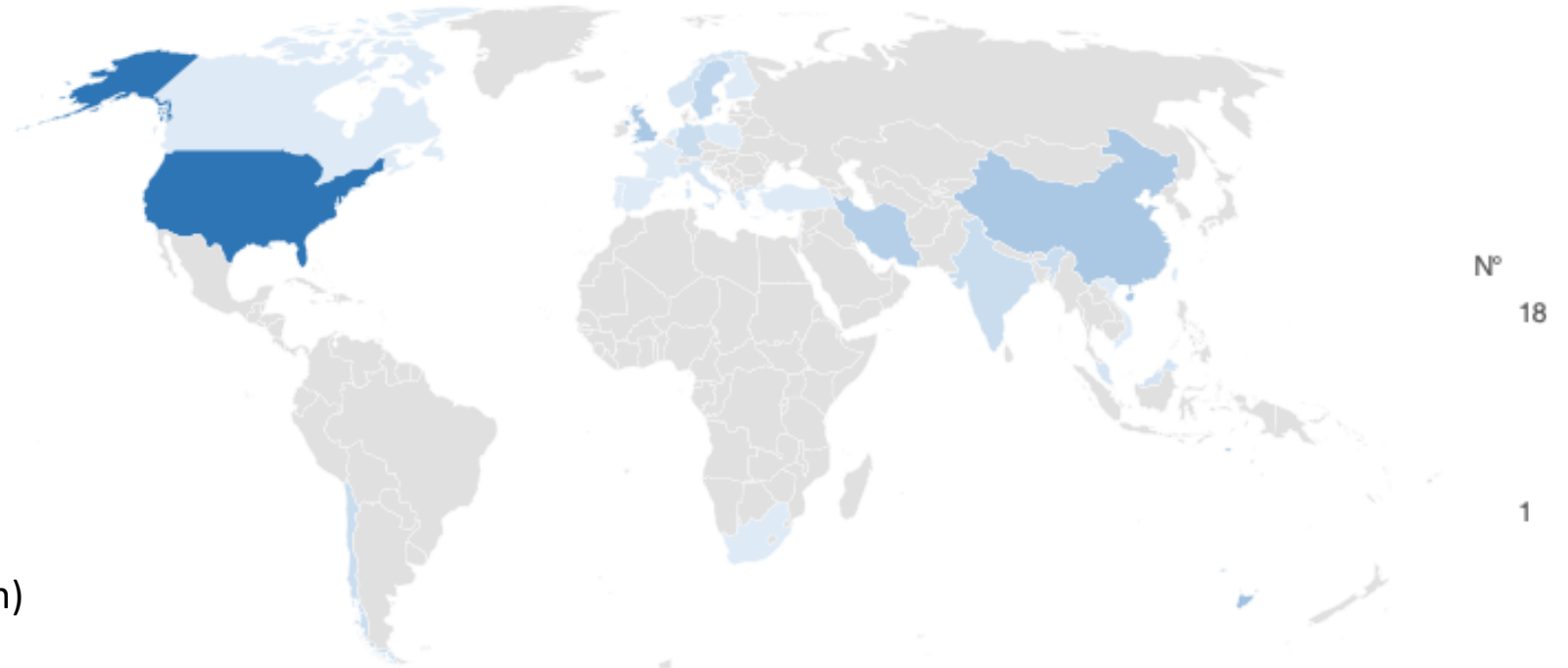
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CASE STUDY DISTRIBUTION

- USA 18
- Australia 7
- China 6
- Europe 22
 - UK 6
 - Sweden 4
 - Germany 3
 - Italy 2

↓
(Protected areas conservation)

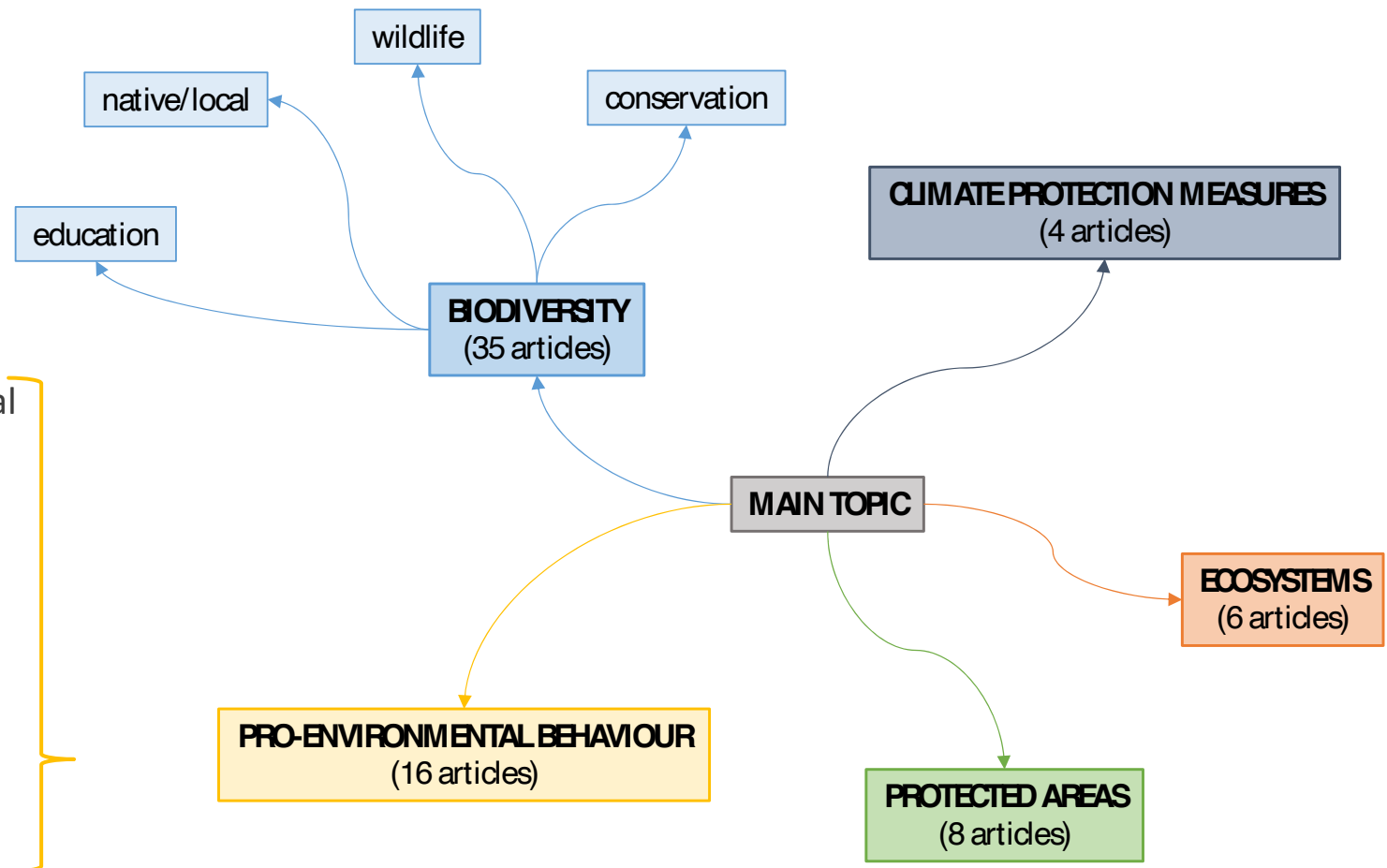


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CATEGORIES IDENTIFICATION

- Study of self-reported pro-environmental behavioral intentions or past behavior broadly connected to biodiversity, for understanding the most relevant predictors and/or drivers
- Analysis of previous biodiversity-related experiences and how they affected future self-reported pro-environmental behavior in terms of consumption
- Very specific topics

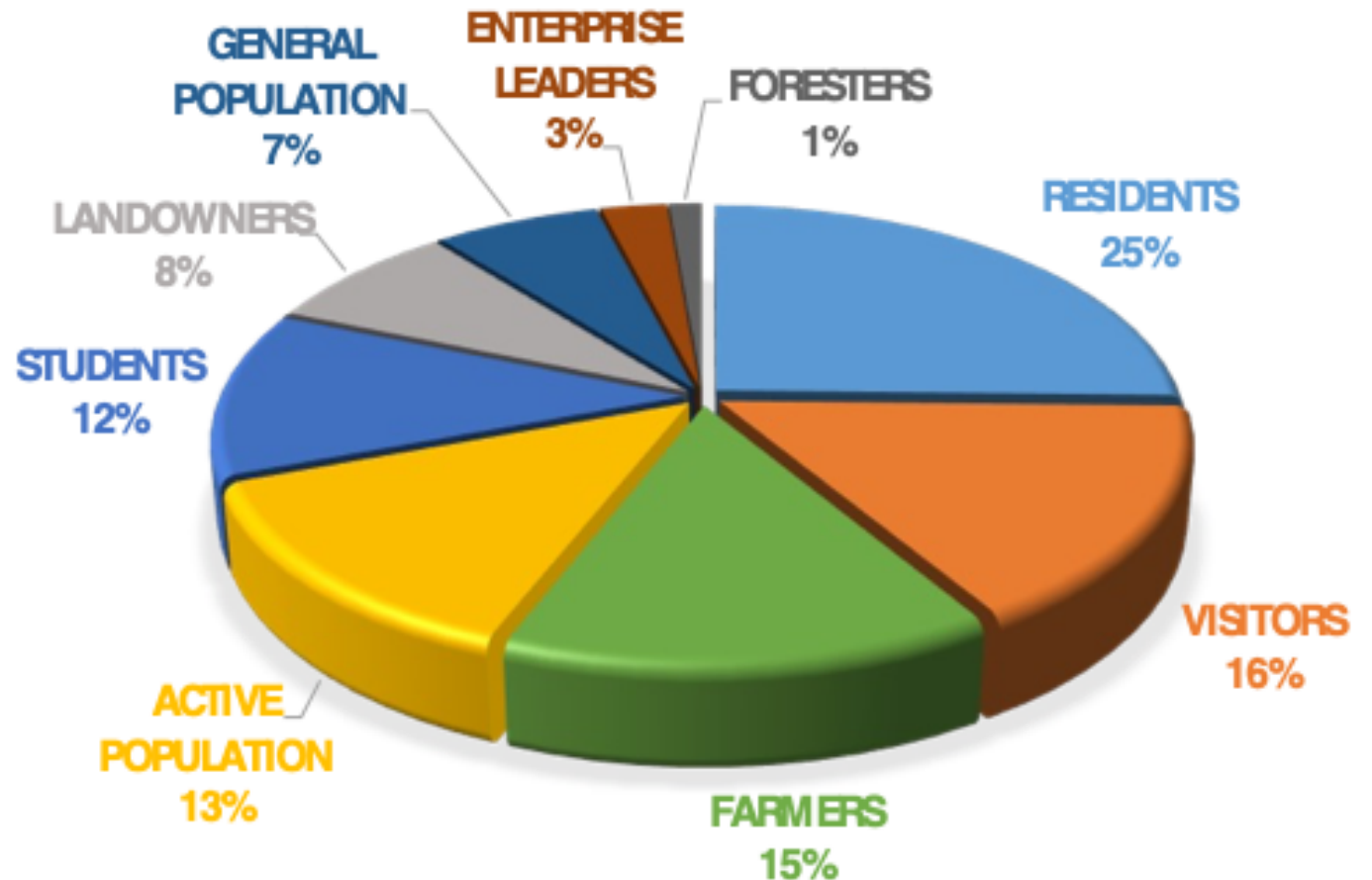


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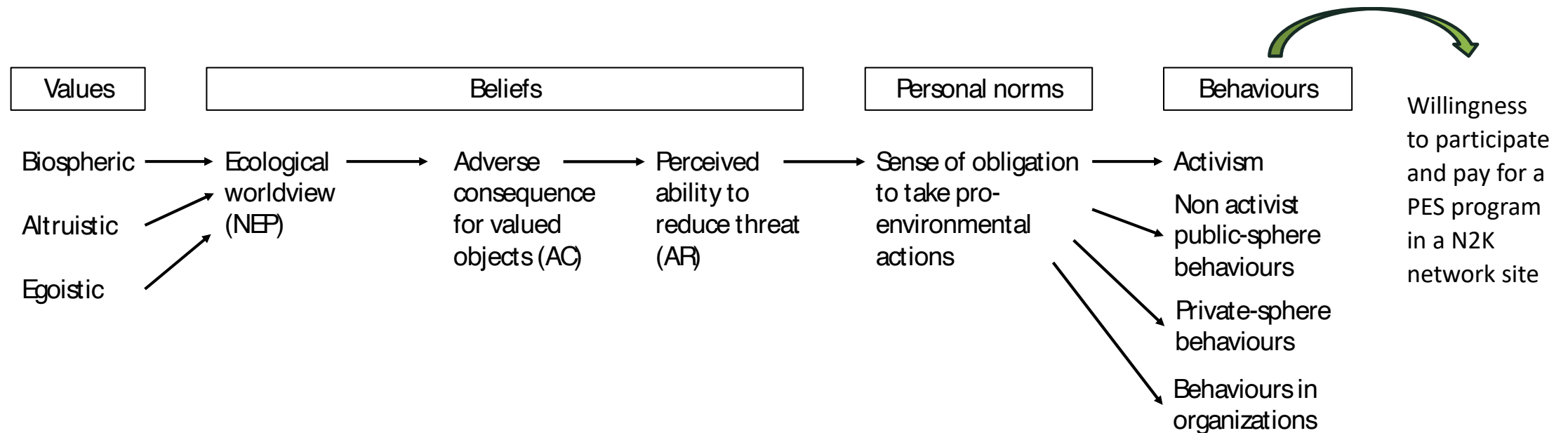
STAKEHOLDERS IDENTIFICATION

- Hunters
- People involved in biodiversity/nature or other areas relevant actions
- Mountain hikers
- Agricultural experts
- School staff
- Research biologist
- Wildlife managers
- Organization involved in recreational activities in natural areas
- Pro-nature and animal workers



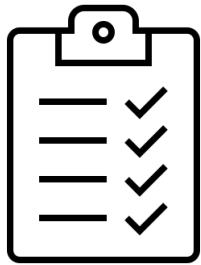
VALUE-BELIEF-NORM THEORY

- The **VBN MODEL** offers a useful and effective framework to identify the environmental attitudes, beliefs, and values that motivate the intention to **pay for ecosystem services conservation**.



- Stern et al. (1999) and Stern (2000).

VBN MODEL APPLICATION



1. Stakeholders' selection



2. Questionnaires drafting



3. Submission of questionnaires to selected stakeholders



4. Output analysis

5. Drawing conclusions

VBN QUESTIONNAIRE



SurveyMonkey

- **Socio-demographic** information
- Importance of **VALUES** in response to the statement "as a guiding principle in my life"
- Level of agreement with the **NEW ENVIRONMENTAL PARADIGM** statements on the relationship between humans and the environment
- Level of agreement with the statements about our role as humans (**BELIEFS** - Awareness of Consequences and Ascription of Responsibility)
- Level of agreement with the statements about personal, moral and social **NORMS**
- "Ecosystem services", "PES" and "Natura 2000" **concepts knowledge**
- **BEHAVIOURAL INTENTIONS**: Business engagement with sustainability (private and public sphere), Willingness to participate for a voluntary emissions offsetting programme by purchasing credits from regional Natura 2000 areas, Willingness to pay for a sustainability credit (€/ton CO2)

Likert
scale

PARTICIPATORY APPROACH FOR A PES SCHEMES IN NATURA 2000 AREAS



- ✓ Riunioni *one-to-one* con gli stakeholder individuati
- ✓ Tavoli di condivisione tra gli stakeholder
- ✓ Elaborazione di un'idea progettuale per le aree boschive

LEGGE 29 LUGLIO 2021: ACCORDO DI FORESTA, NUOVO STRUMENTO NEGOZIALE

- **UN NUOVO CONTRATTO PER FARE RETE.** — CON IL D.L. 31 MAGGIO 2021 N. 77, CONVERTITO CON L. 29 LUGLIO 2021 N. 108, È STATO INTRODOTTO NEL NOSTRO ORDINAMENTO L'ACCORDO DI FORESTA, STRUMENTO NEGOZIALE CONSEGNATO AGLI OPERATORI CON IL FINE DI “VALORIZZARE LE SUPERFICI PUBBLICHE E PRIVATE A VOCAZIONE AGRO-SILVO-PASTORALE, NONCHÉ PER LA CONSERVAZIONE E PER L'EROGAZIONE DEI SERVIZI ECOSISTEMICI FORNITI DAI BOSCHI”

PARTICIPATORY APPROACH FOR A PES SCHEMES IN NATURA 2000 AREAS

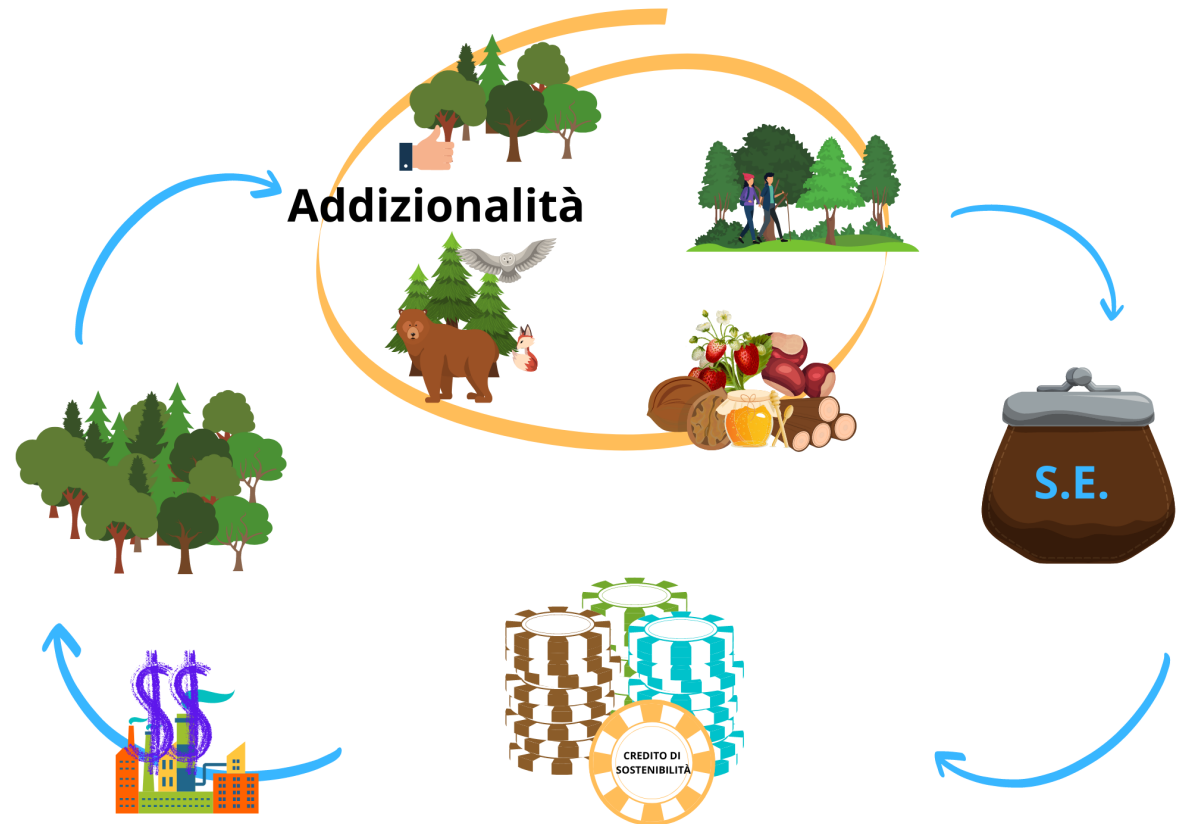


CERTIFICAZIONE GESTIONE FORESTALE SOSTENIBILE

+

CERTIFICAZIONE SERVIZI ECOSISTEMICI

1. Carbonio Forestale (stoccaggio, assorbimento e non emissione)
2. Tutela della Biodiversità
3. Funzioni Turistico Ricreative
4. Idoneità al Benessere Forestale





GRAZIE PER L'ATTENZIONE!

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