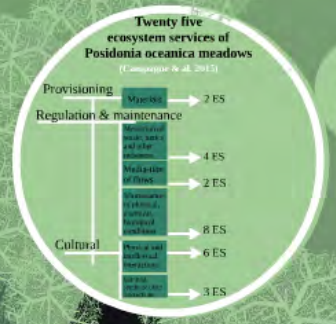
Ecosystem services: a complex concept for interdisciplinary research



Aicha BOUREDJI
PhD student in Economics

Methodology for the evaluation of management plans in protected areas: Collection, innovations and applications in Corsica

University of Corsica
UMR CNRS LISA 6240
Supervisor: Pascal Oberti
Co-supervisor: Christine Pergent

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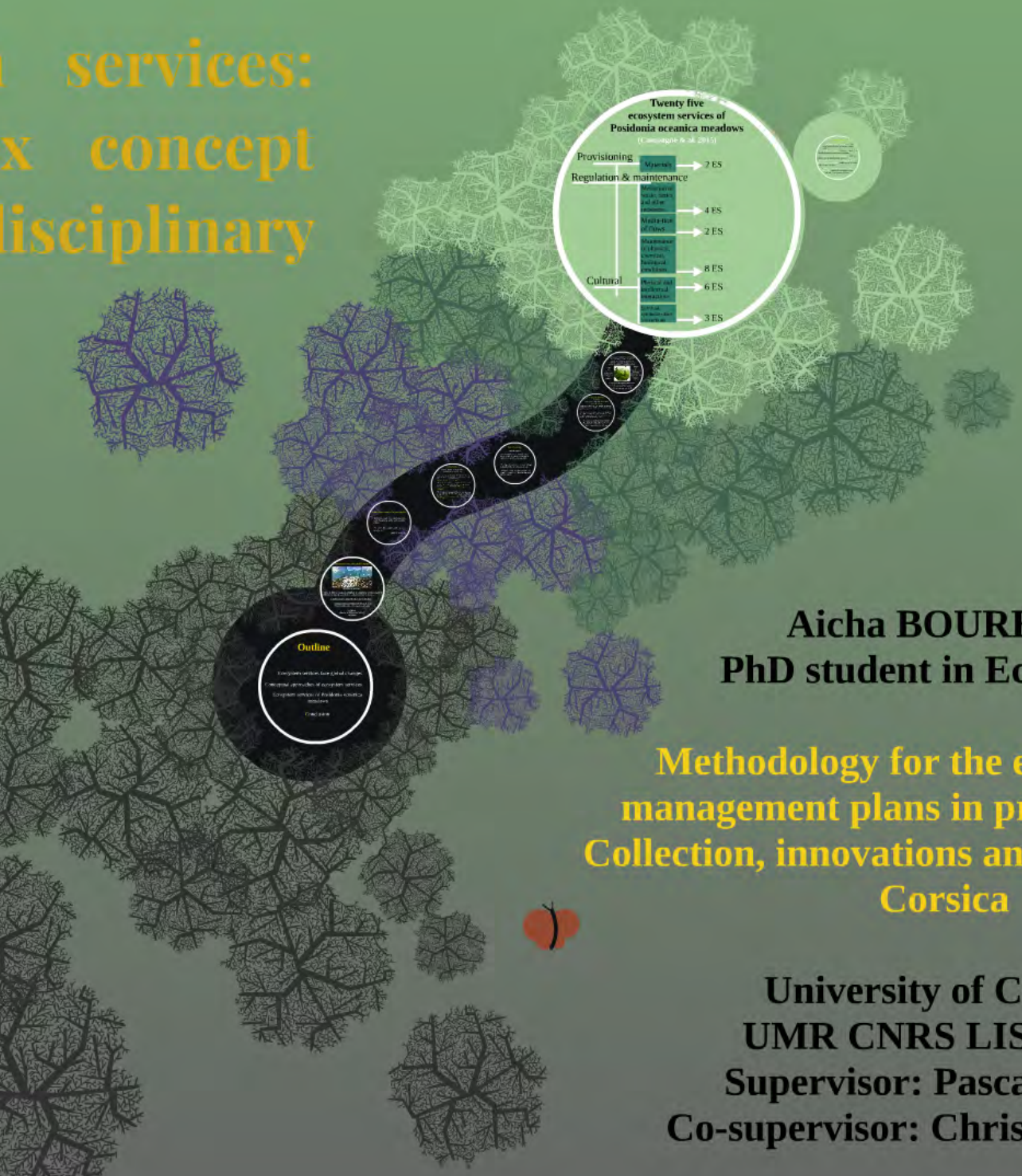

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There is still no common definition of ecosystem services and it is difficult to identify an effective method for their evaluation.

Complications in quantification and evaluation

Implementation of indicators is based on a clear identification of ecosystem services.

Focus on (Danley & Widmark, 2016)'s reflection

Outline

Ecosystem services face global changes

Conceptual approaches of ecosystem services

Ecosystem services of Posidonia oceanica meadows

Conclusion

Ecosystem services face global changes

(Huffington Post, Shutterstock)

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Focus on (Danley & Widmark, 2016)'s reflection

General optics aimed at the general public

Definition used for communication with the general public and in public policy.

"The benefits people obtain from ecosystems"

(MEA, 2005, V)

Natural Sciences

Internal processes of nature that create a possibility for human well-being.

"Conditions and **processes** through which natural ecosystems, and the species that make them up, sustain and fulfill human life" **(Daily,1997,p.3)**

The direct link between man and nature

"The capacity of natural processes and components to provide the goods and services that satisfy human needs, directly or indirectly" **(De Goot & al, 2002)**

A kind of need that is expressed by Man and nature is highlighted

"The point at which the asset [of nature] is consumed by one or more humans is the point where the service occursand should be evaluated" **(Wallace, 2007)**

The services rendered by nature aredriven by the consumption decided by Man

Economic science

Natural capital

encompasses all natural resources that are useful directly to humans or that can be exploited technically and economically.

"The flow of final current services" **(Boyd & Banzhaf, 2007, p. 618)** resulting from

"ecological things or characteristics, not functions or processes" **(Boyd & Banzhaf, 2007)** in nature.

Ecology and the Hybrid Economy

Linking nature's structure and processes to benefit creation

Ecosystem services are the delivery mechanisms between the natural world and the benefits they provide to people.

“Services must be ecological phenomena” **(Fisher & al., 2008, p. 645)** not physical goods, and they “typically require other forms of capital to realize these benefits” **(Fisher & al., 2008, p. 646).**

"The outputs of ecosystems (whether natural, semi-natural or highly modified) that most directly affect the well-being of people"
(Haines-young & Potschin, 2013, p. i)

As a result, it is difficult to obtain a single operational definition that is consistent with all areas, but the interdisciplinary vision provides conceptual decentralization that is representative of ecosystem services.

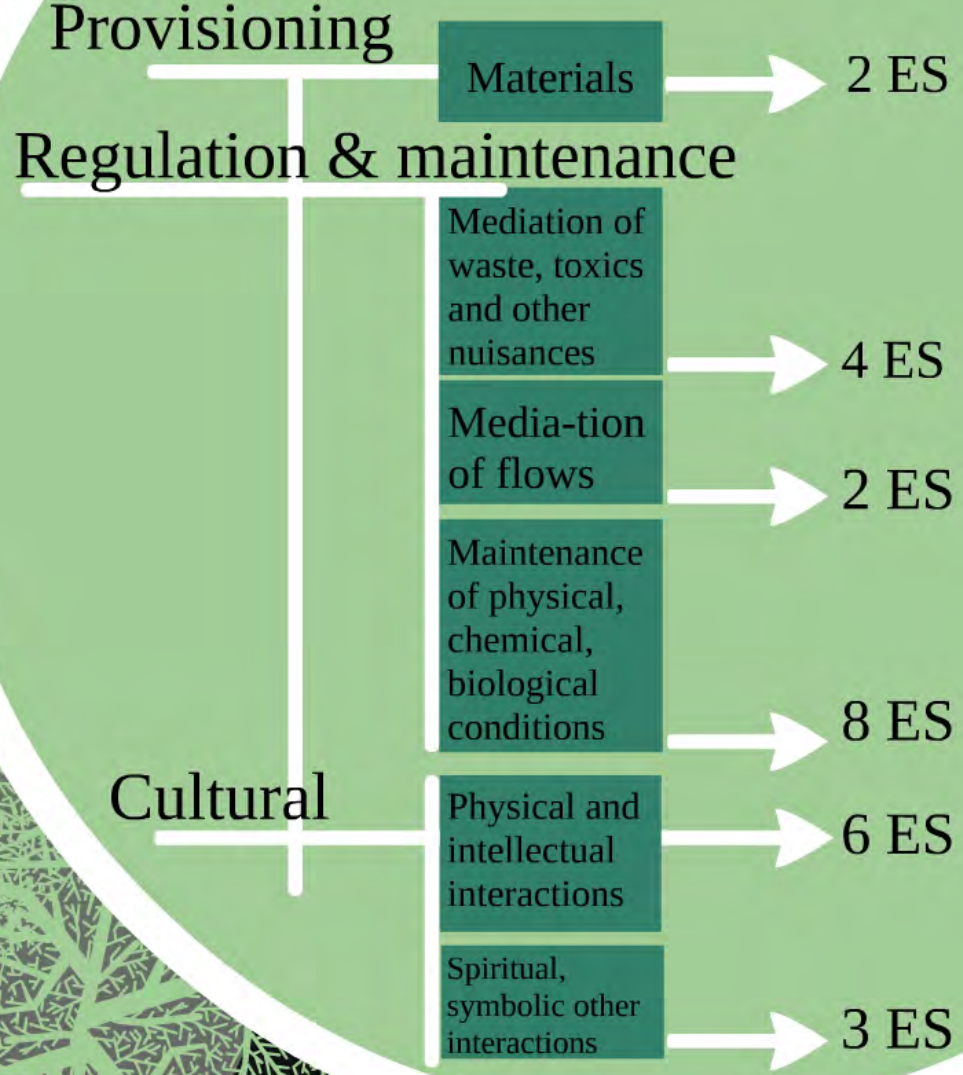
CICES
the Common International Classification of Ecosystem

IPBES
the Intergovernmental Science and Policy Platform on Biodiversity and Ecosystem Services

"... are space for integrating environmental, social and economic knowledge to improve environmental decision-making"
(Gómez-Baggethun & al, 2010)

Twenty five ecosystem services of Posidonia oceanica meadows

(Campagne & al. 2015)



Conclusion

- Adaptation to climate change: MPAs as nature-based solutions to increase climate resilience.
- Climate change mitigation: MPAs can contribute to the reduction of greenhouse gas emissions.
- Early warning and ground-truthing trends: MPAs as sentinel sites in marine climate change.
- Integration of the global change problem in assessable management plans: MPAs to test the results of managerial actions.
- Monitoring indicators, dashboards and report cards: intervention effectiveness and adaptative management of MPAs.

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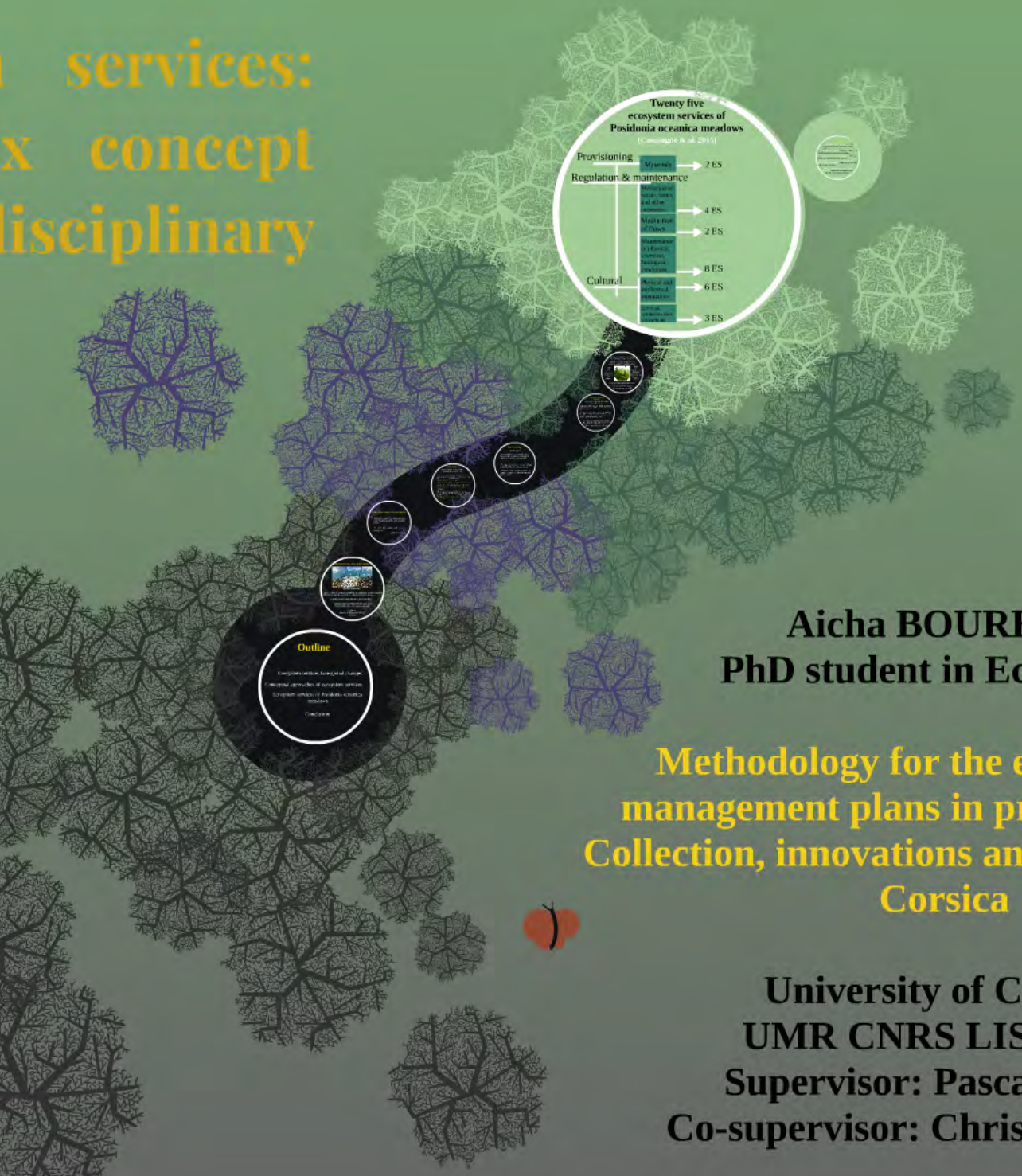

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