Multiple criteria decision support systems for Mediterranean forest management planning

SCHOOL OF AGRICULTURE

INSTITUTO SUPERIOR DE AGRONOMIA

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Where does it fit within the MEDfOR Programme?

Consortium complementary roles in providing and disseminating knowledge in the core specialization areas of interest within MEDfOR

ULisbon; **UdL**eida; **UP**adua; **UT**uscia; **UVal**ladolid, **KTU**niversity; **UCP**ortuguese

What are the learning outcomes and skills?

✓ **The question you will be asked in your professional life:**

✓ How should I manage my forest holding, landscape, park?

  ✓ To get revenues

  ✓ To decrease vulnerability to wildfires

  ✓ To sequester carbon

  ✓ …

  ✓ In a context of environmental, budget,… constraints

✓ **The specialization will provide you with the learning outcomes and skills to answer this question – your answer will include:**

  ✓ An adequate schedule / plan of management options to implement in the holding, landscape, park
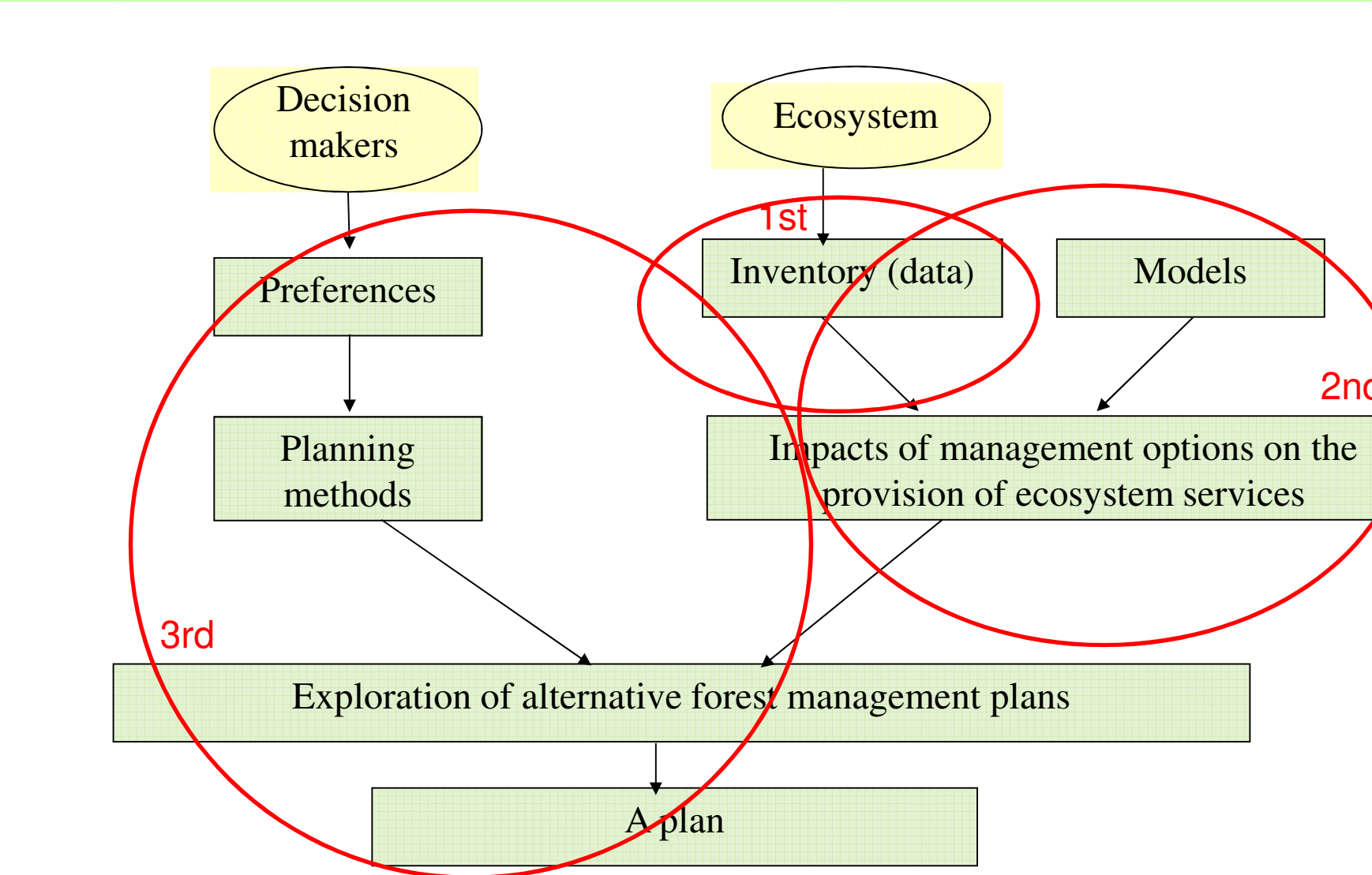
  ✓ Information about tradeoffs between revenues and ecosystem services

  ✓ Sensitivity of the plan you propose to uncertain parameters (climate change, prices,…)

Knowledge and skills needed to answer the question

✓ **In order for you to be able to answer the question being asked by a forest owner, by a forest industry, by a park administration, by a community, by a forest or a nature conservation agency,…:**

- ✓ 1st knowledge required: You need to know the forest/inventory – data

- ✓ 2nd knowledge required: You need to know the impacts of management options on the provision of ecosystem services – models (else how may you explain why you propose a specific management option?)

- ✓ 3rd knowledge required: You need to know how to compare management alternatives and make a selection according to the objectives of the entity that asked you the question – planning methods and decision support systems

- ✓ Learning, literacy and life skills needed.

Knowledge and skills needed to answer the question

How are the learning outcomes and skills conveyed?

✓ **Courses (1st and 2nd knowledge required to answer the question):**

  ✓ 1. Remote Sensing and Image Analysis

  ✓ 2. Forest Models

  ✓ 3. Wildfires: assessing and managing risk - from prevention to restoration
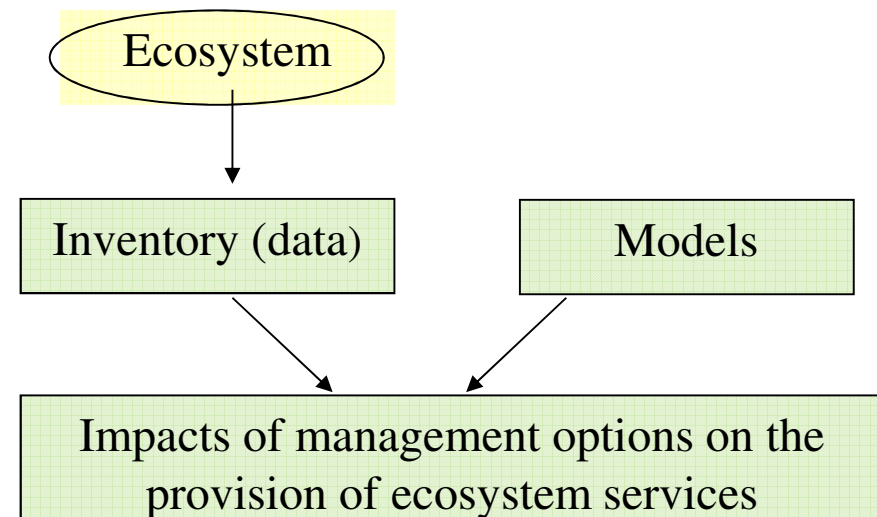

✓ Wood, Biodiversity

✓ Water

✓ Carbon

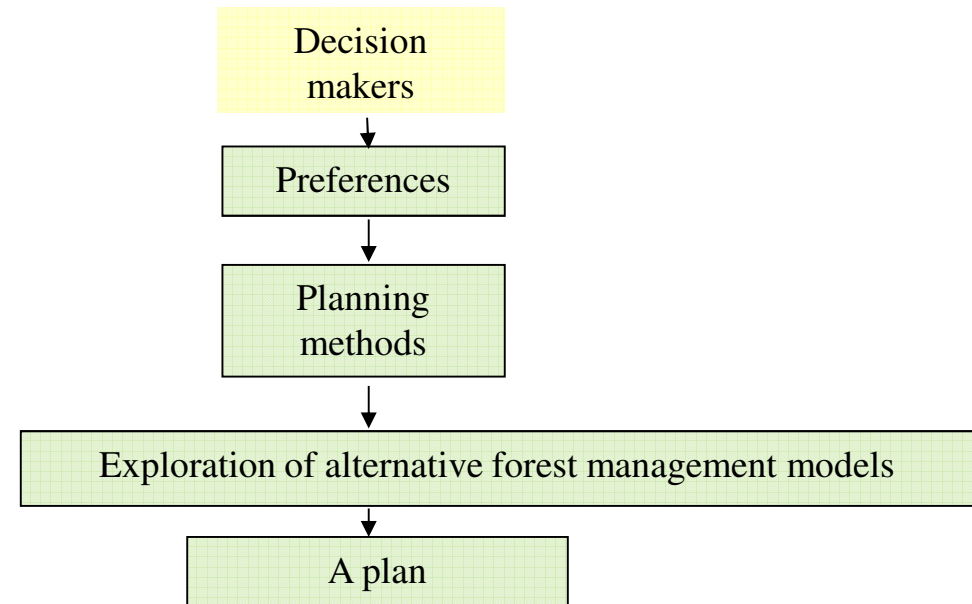✓ Cultural

✓ Regulatory

Ecosystem

Inventory (data)

Models

Impacts of management options on the provision of ecosystem services

How are the learning outcomes and skills conveyed?

✓ **Courses (3rd knowledge required to answer the question):**

    ✓ 4. Natural Resources Management

    ✓ 5. Forest Governance

Decision makers → Preferences → Planning methods → Exploration of alternative forest management models → A plan

How are the learning outcomes and skills conveyed?

✓ **Courses**

   ✓ 6. Mediterranean forest management planning research problems and case studies

Independent studies class that may be linked to the dissertation.

You select a management planning problem of interest to you (e.g., a question by a forest owner, an industry, a community, a park administration, a forest or a nature conservation agency) and explore and discuss methods to help answer it with the guidance of the instructor

Who conveys the learning outcomes and skills?
-   Key Faculty –
-   Key stakeholders engagement -

✓ Margarida Tomé
Expert on Forest Models
https://www.researchgate.net/profile/Margarida_Tome3

✓ José G. Borges
Expert on Forest Management Planning
https://www.researchgate.net/profile/J_Borges

✓ José M. C. Pereira
Expert on Fire Ecology and Management
https://www.researchgate.net/profile/Jose_Pereira21

✓ Tiago Oliveira
Stakeholder expert on Wildfires and Risk Analysis
https://www.researchgate.net/profile/Tiago_Oliveira17

✓ **Research and project leaders in management boards of international organizations** – European Forest Institute (EFIMED, IEFC), European Agroforestry Federation, International Union of Forest Research Organizations, International Savanna Fire Management Initiative,…

Who conveys the learning outcomes and skills? - Regular participation of international scholars –
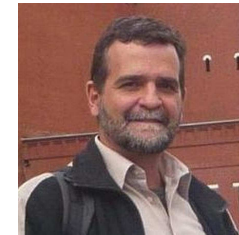

✓ Marc E McDill
PSU, USA
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✓ Keith M. Reynolds
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✓ Sándor Tóth
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✓ Luiz Carlos Estraviz R
S. Paulo, Brazil
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✓ **More opportunities for networking and internships**

Discussion

✓ Course objectives and contents

✓ Ongoing projects the specilization may link too

    ✓ Internship opportunities

    ✓ Dissertation topics

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