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Assessment of Ecosystem Services loss


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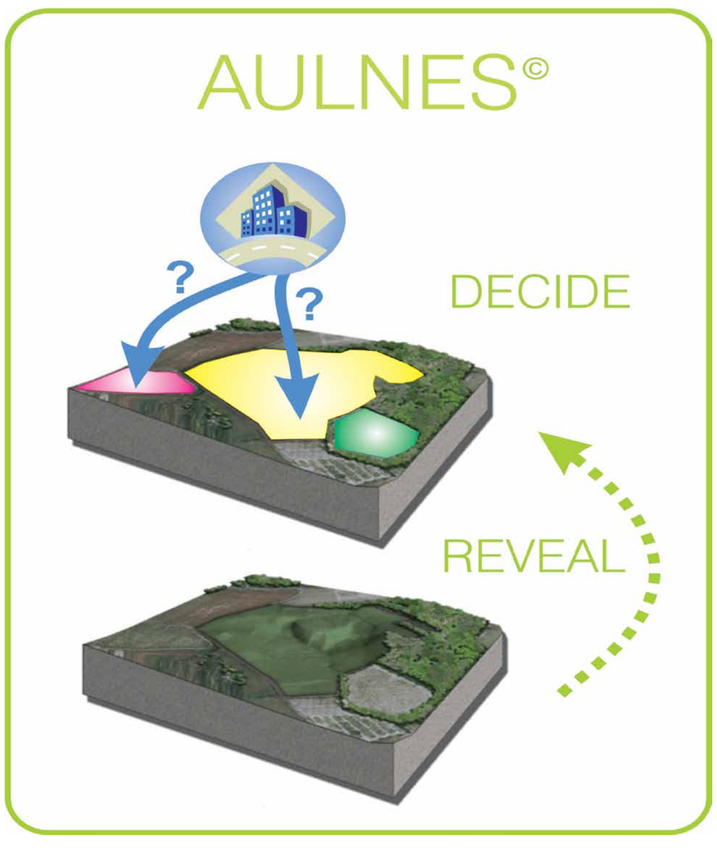

Our mission:

A toolkit for assessing potential Ecosystem Services loss during new infrastructure projects

> A **toolkit** to reveal services provided by an area's ecosystem to its population. It creates a **service offer map** and **highlights** what might not have been visible such as **service production hotspots.**

> A **method** to assess production **fluctuations of Ecosystem Services**. The variation in ES is studied with respect to changes brought to an area such as Industrial or Infrastructure projects or new Land management practices.

A sequential method

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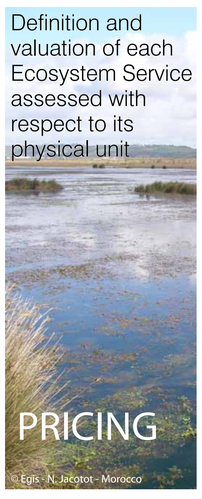
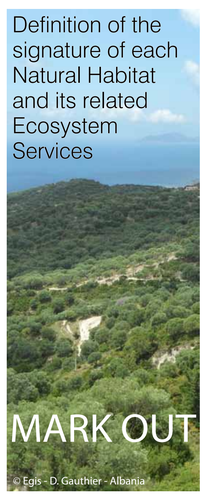
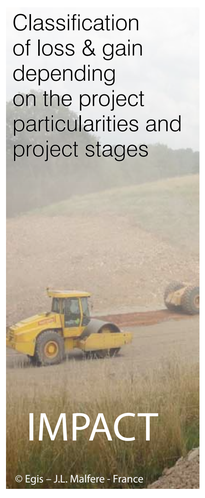
The methodology relies on a sequence of four appraisal steps:







Ecosystem Services assessed:

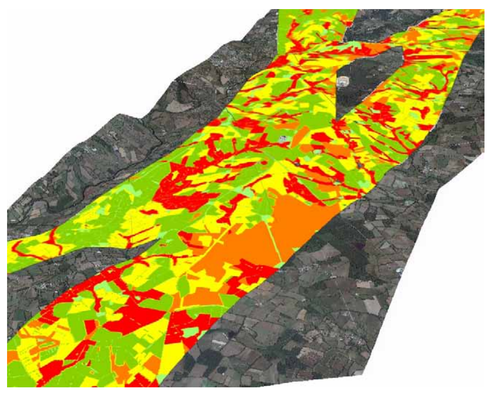
Provision:
>Food (hazelnuts...)
>Raw material (logs...)
>Fresh water (surface & groundwater)

Regulation:
>Erosion prevention
>Pollination (agriculture output)
>Biological control (pests)
>Global Climate regulation (carbon)
>Air quality regulation (dust abatement)
>Local climate regulation (wind-break)
>Drought climate (river low flow)
>Moderation of extreme event (flood)
>Waste water treatment (swamp)

Cultural / Recreation:
>Hunting
>Fishing
>Tourism (eco-tourism)

A combined indicator of Ecosystem Services presence/importance to represent service supply in the area

> **Designing avoidance measures**
> **Locating beneficiaries**

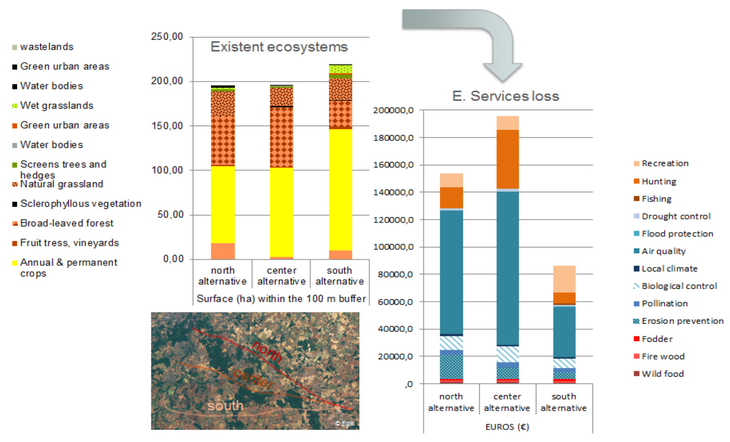


Example of a large area associated with a High Speed Train Railway project

Calculation of Ecosystem Services loss induced by the construction of transport infrastructure

Test on a railway project

> To compare alignment options



Over 20 km, choosing the solution with the least impact would reduce the loss of ecosystem services by 20% (€65,000 per year)

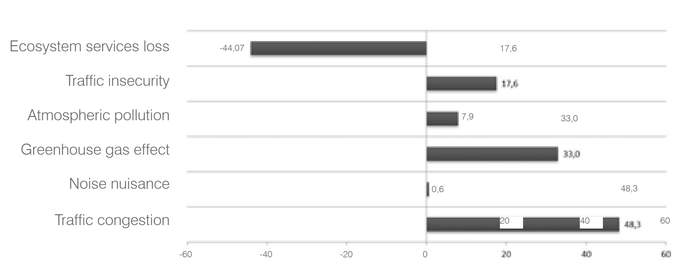
> To optimize the project

> where the loss is the most important
>define measures to mitigate the Ecosystem Services loss
>cost-effectiveness analysis of measures

Map of service loss linked to a High Speed Train Railway project

> To integrate minimised Ecosystem Services loss

> in the infrastructure Cost Benefits Analysis
> in the third parties balance



Reduction of around 20% of the discounted profit - a significant drop due to the low profitability of the project.

Accounting for ecosystem services diminishes the third parties balance by 42 %

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