

The European Commission's science and knowledge service

Joint Research Centre

Water purification: economic valuation and accounting

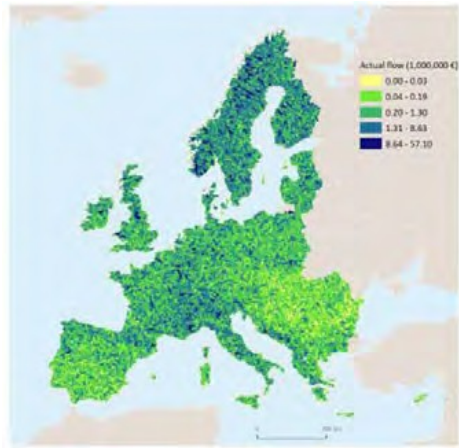
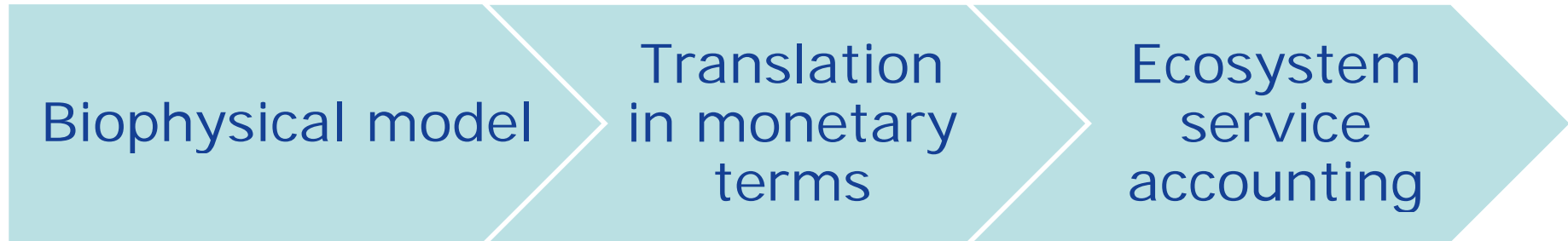
Presenter: Alessandra La Notte

Contributors: Sara Vallecillo, Joachim Maes

Bonn, 24-26 April 2018



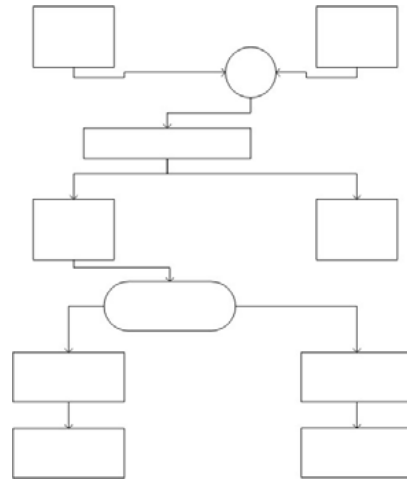
JRC approach for Ecosystem Service Accounting



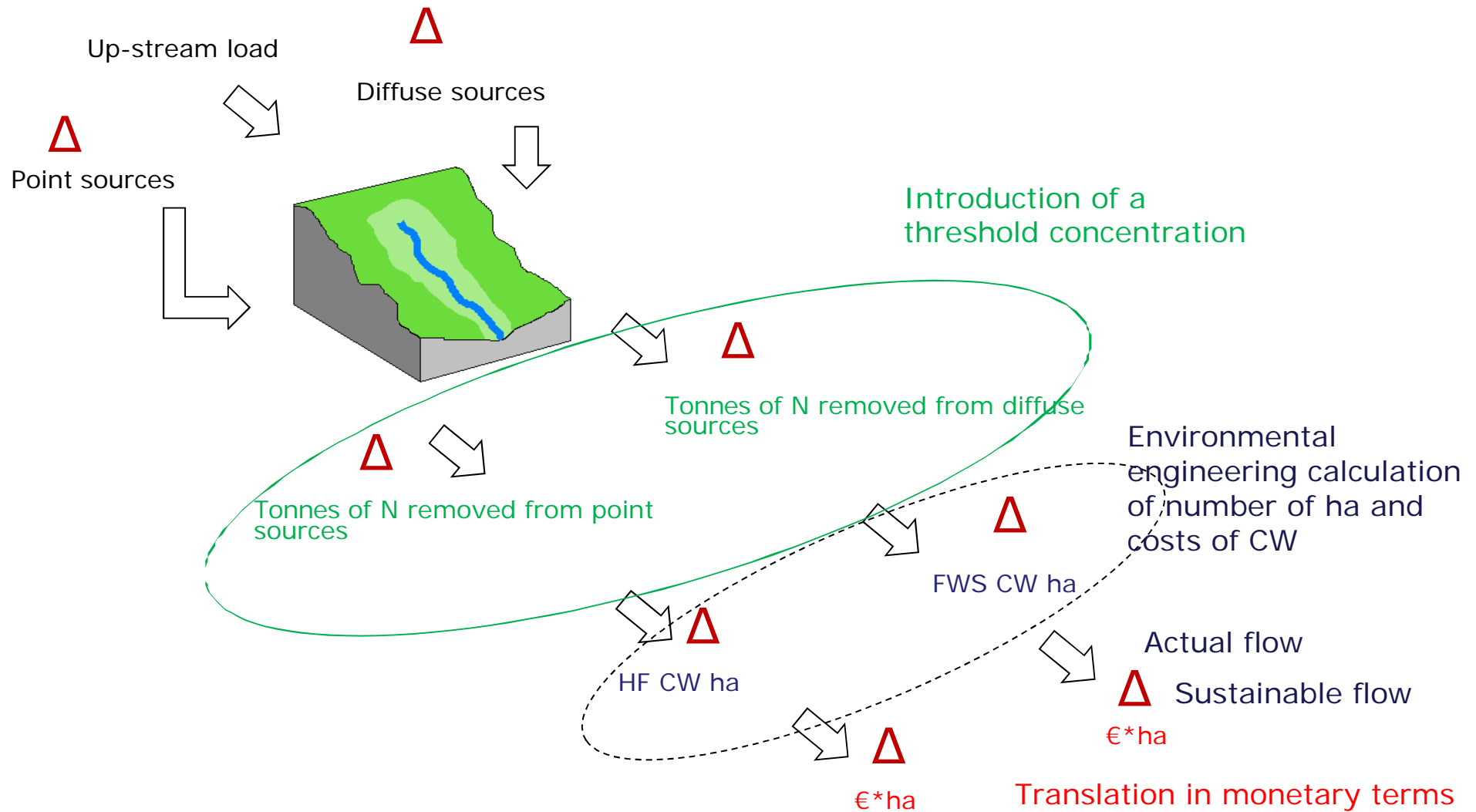
Spatially explicit

Potential flow
 Enabling actors } Use (actual flow)

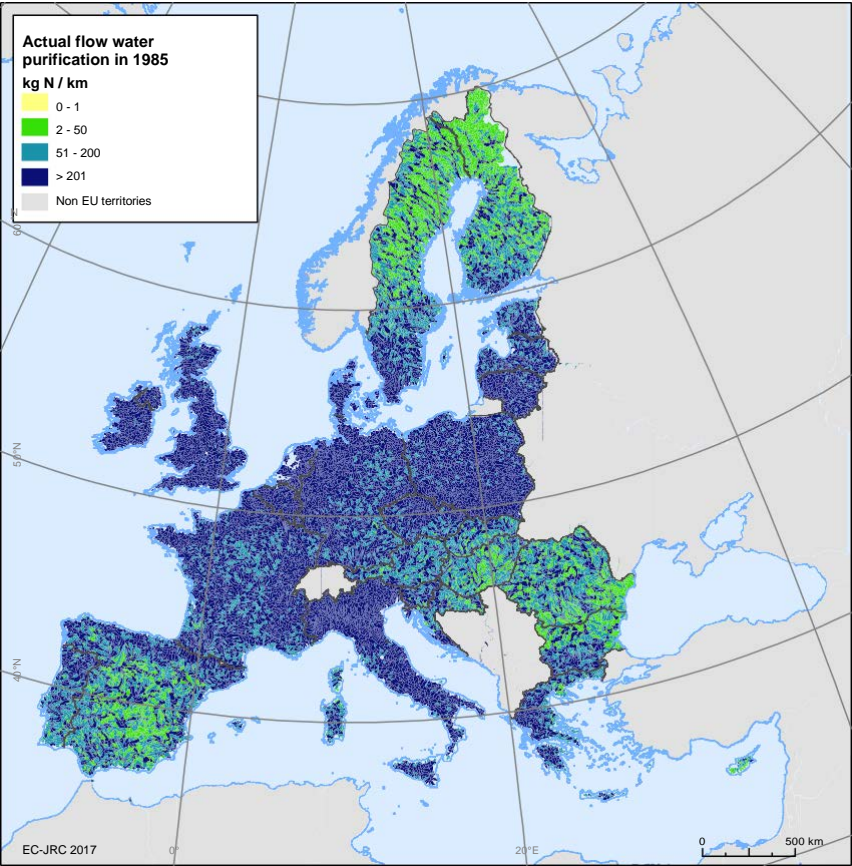
Critical variables of the biophysical model



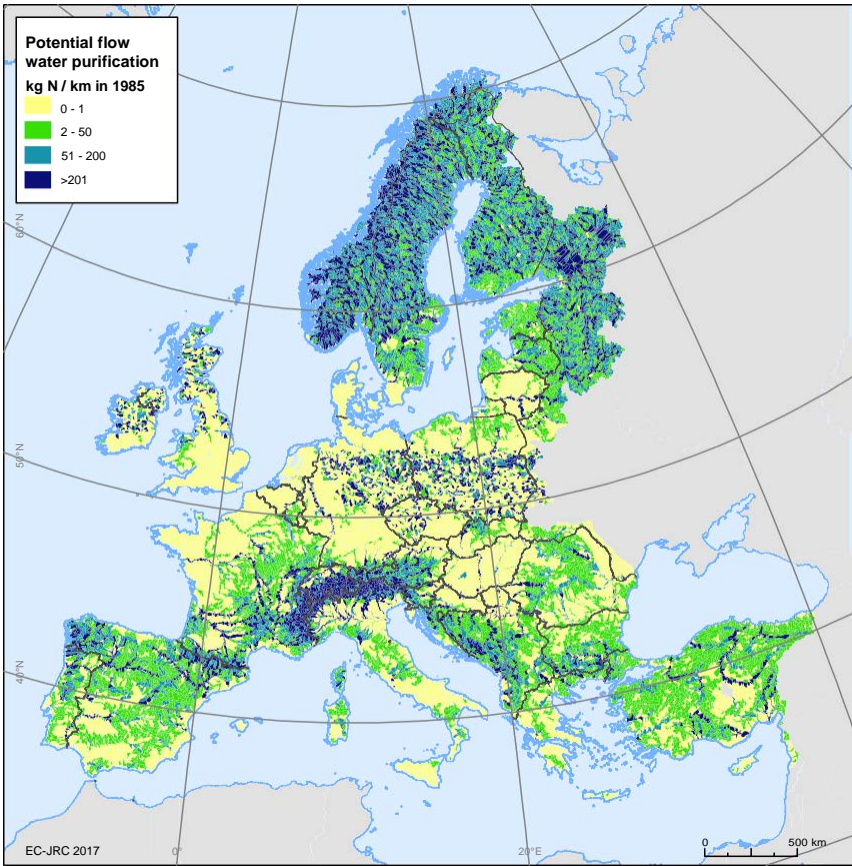
Graphical simplification of the procedure



Actual flow



Potential flow



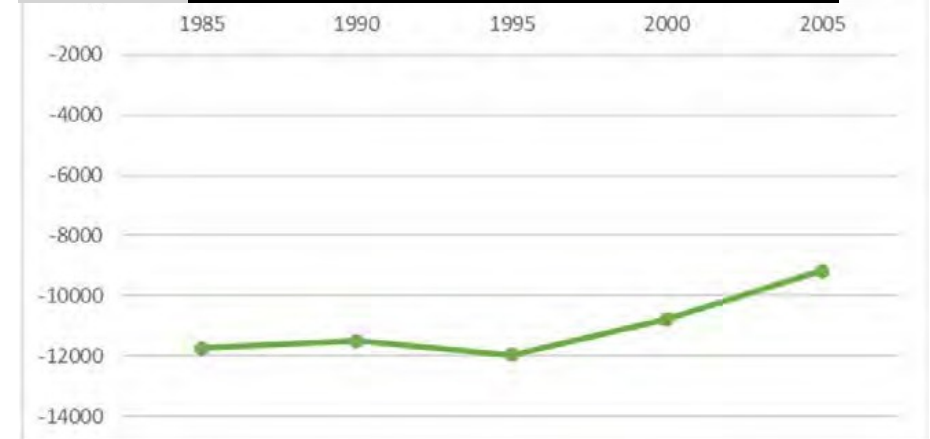
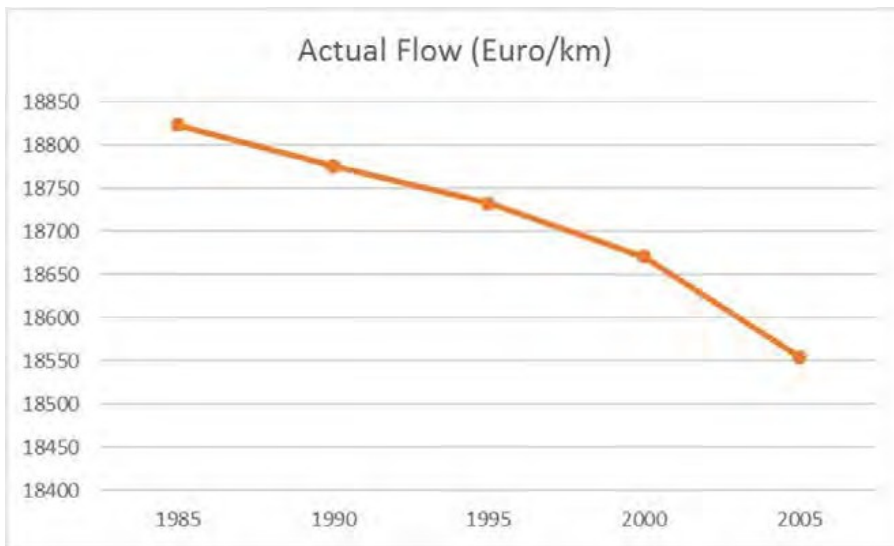
Considering a threshold of 1mg/l

Role of enabling actors: who drives changes in the actual flow...

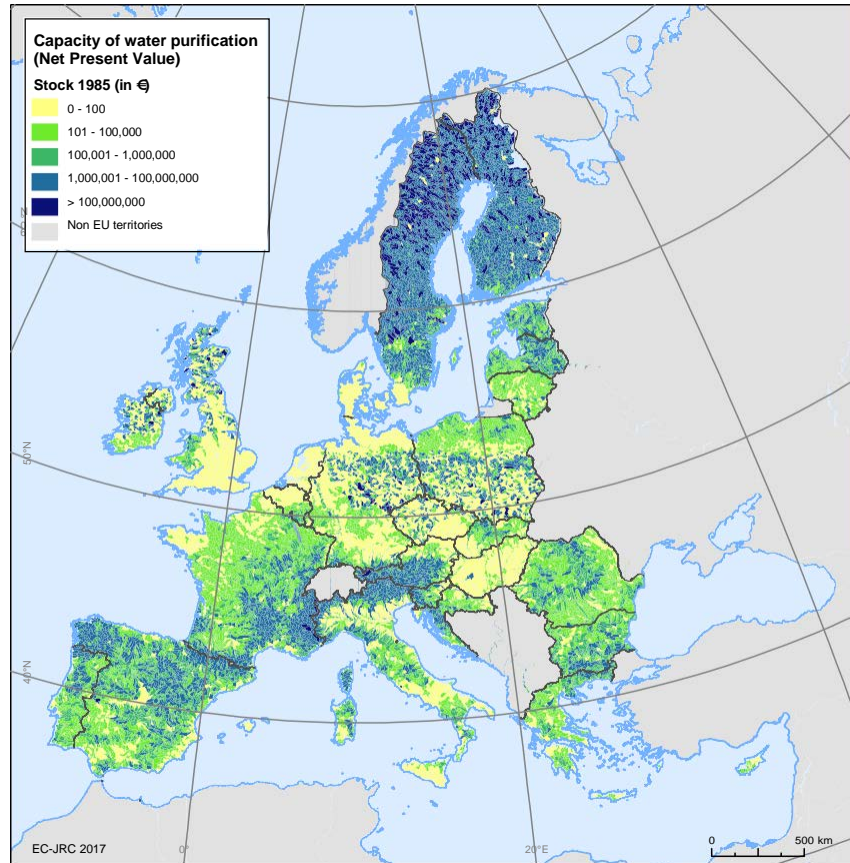
...what is the impact of these changes?

EU 25					
	1985	1990	1995	2000	2005
Agriculture	18,467.93	18,417.70	18,372.09	18,317.43	18,223.31
Other sectors	355.71	357.98	360.24	353.31	331.71

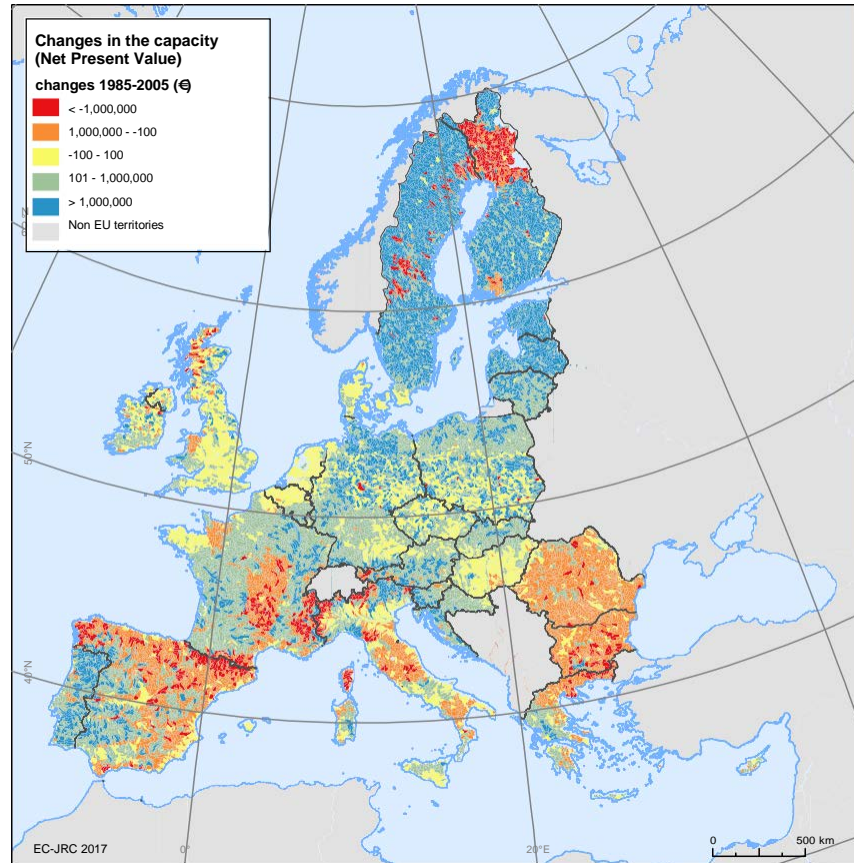
EU 25					
	1985	1990	1995	2000	2005
water bodies	-11,737.75	-11,494.03	-11,943.97	-10,777.94	-9,165.49
other land	-	-	-	-	-



Water purification capacity (NPV)

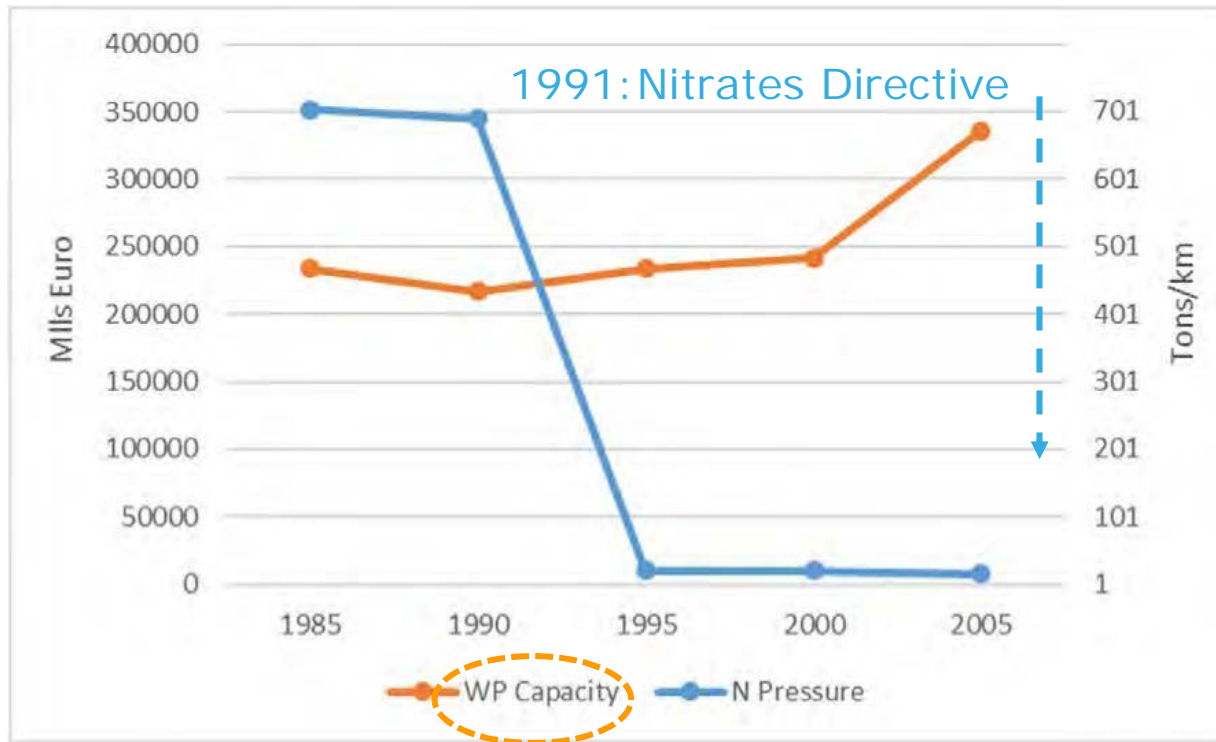


Capacity trend 1985 - 2005



How much is it worth to decrease N inputs?

EU-27 (no Malta)



Long term ability to generate water purification

Issues that need to be discussed

- Motivations for the use of replacement cost
- Motivations for the use of CW as replacement cost
- NPV: lifetime (T)? Interest Rate?
- Approach for application in time series:

If there is only one reference monetary value

- CPI?
- Constant prices /current prices?
- Exchange rate?

*If there are more reference monetary values but
not for all the time series*

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- How to “mix” the values

References

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NTIFIC AND POLICY REPORTS

Physical and monetary ecosystem service accounts for Europe: A case study for in-stream nitrogen retention



Alessandra La Notte^{a,*}, Joachim Maes^b, Silvana Dalmazzone^b, Neville D. Crossman^c, Bruna Grizzetti^a, Giovanni Bidoglio^a

^a European Commission - Joint Research Centre, Directorate D – Sustainable Resources, Via Enrico Fermi 2749, 21027 Ispra, VA, Italy
^b Department of Economics and Statistics, University of Torino, Campus Luigi Einaudi, Lungo dora Siena 100, 10153 Torino, Italy
^c CSIRO Land and Water Flagship, Waite Campus, 5064 Adelaide, South Australia, Australia

services accounts

Report under phase 2 of the knowledge innovation project on an integrated system of natural capital and ecosystem services accounting in the EU

Alessandra La Notte, Sara Valfacolo, Chiara Pileo, Grazia Zuliani, Joachim Maes

Scenario analysis for the case of water purification in Europe

Alessandra La Notte, Joachim Maes, Vincent Thieu, Fayçal Bouraoui, Fabio Masi

One Ecosystem : Research Article



2017

The role of enabling actors in ecosystem service accounting

Alessandra La Notte[‡], Alexandra Marques[§]

[‡] European Commission- Joint Research Centre, Directorate for Sustainable Resources, Land Resources Unit, Ispra, Italy

[§] European Commission- Joint Research Centre, Directorate for Competences, Modelling, Indicators and Impact Evaluation Unit, Ispra, Italy



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