



BEEs

The LifeWatch ERIC Biodiversity & Ecosystem eScience Conference

Seville
22-24/05/23



Threats and challenges to biodiversity and ecosystem conservation from an eScience perspective



UNIÓN EUROPEA

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Una manera de hacer Europa

Affinity factors and adjustment parameters for the economic valuation of vineyard ecosystems by benefit transfer



VNIVERSIDAD
D SALAMANCA



Junta de
Castilla y León



*Europa impulsa
nuestro crecimiento*

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The goal

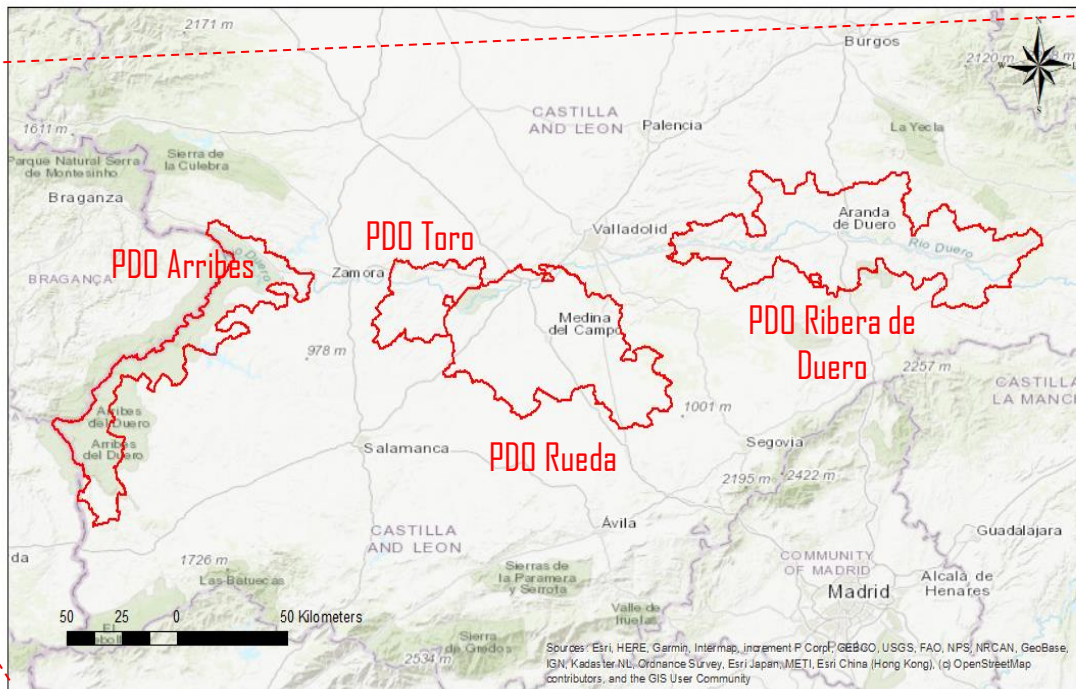
- Obtain economic estimates of the value of ecosystem services from 9 PDO winery areas in the region of Castilla y León (95000 km²)



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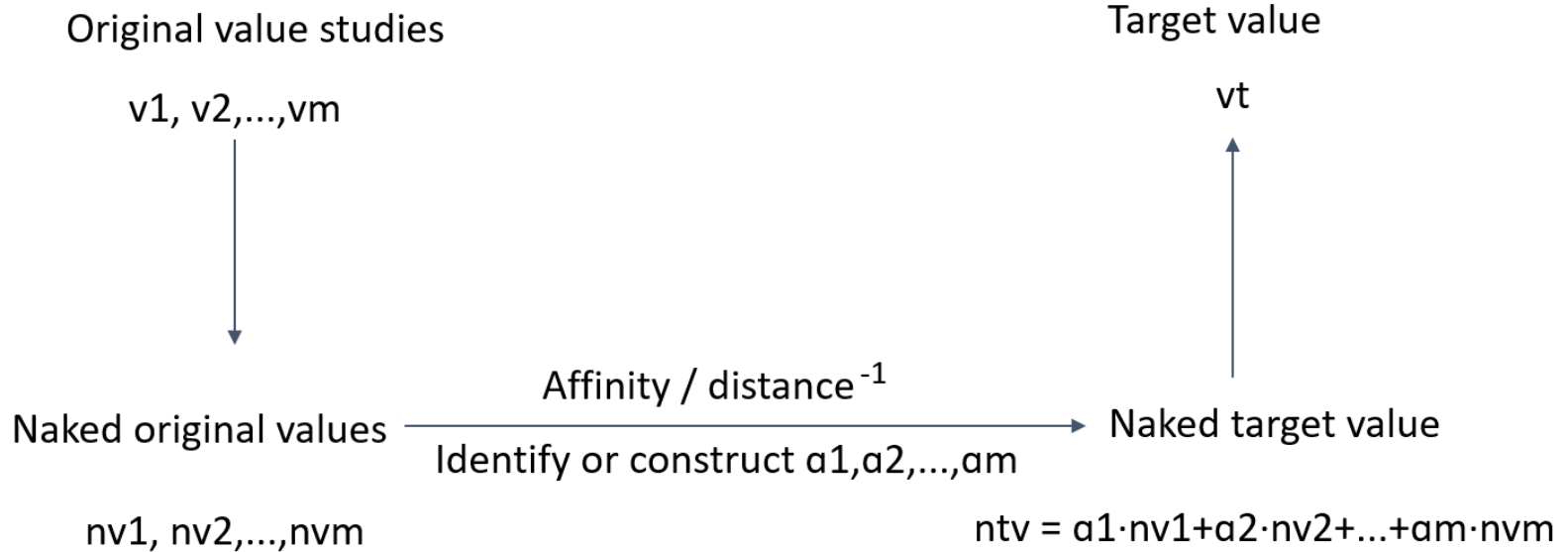
Una manera de hacer Europa

The goal

- Obtain economic estimates of the value of ecosystem services from 9 PDO winery areas in the region of Castilla y León (95000 km²)
- Methodology:
 - Market-price data for provisioning services
 - Meta-analysis benefit transfer from homogeneous reports for regulation and cultural services, mainly:
 - Avoided cost for regulating services
 - Travel cost for cultural services



Filtered affinity factors for benefit transfer



The challenge

- Affinity functions work best for highly homogeneous ecosystems with a lot of available primary data
- Primary data for regulating services is usually specific, but for cultural services:
 - There might not be enough primary data
 - Primary data might not be homogeneous
 - Primary data is frequently aggregated (recreation, visual amenity, inspiration...)



Fibres and other materials from wild plants for direct use or processing

Distance	EUR / Ha / yr
0,330	99,2
0,724	15,4
0,927	21,4
1,237	8,7
1,347	1,5
1,537	31,0
Estimated value:	45,8
Weighted std dev:	36,7

Wild plants used as a source of energy

Distance	EUR / Ha / yr
0,330	8,0
0,717	8,6
0,748	5,3
0,792	4,1
0,819	1,8
0,953	9,9
1,163	3,6
1,171	2,7
1,237	5,0
1,347	9,1
1,595	12,6
Estimated value:	7,5
Weighted std dev:	3,8

Recreational ecosystem services

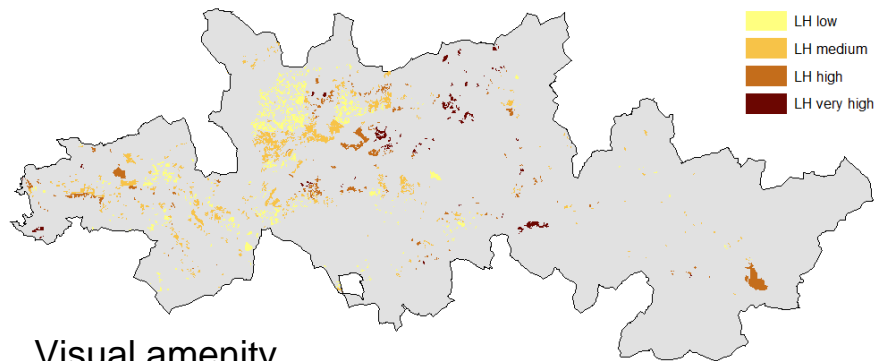
Distance	EUR / Ha / yr
1,898	1609,7
3,758	399,2
1,802	254,5
1,573	177,7
1,453	659,6
1,641	1020,2
1,606	24,6
1,619	426,0
1,632	1035,0
1,430	20,9
Estimated value:	426,8
Weighted std dev:	524,9

Scenario		Scenario 1	Scenario 2	No change
Landscape				
Knowledge about wine				
Symbolic and traditional values				
Recreation				
Payment	6 €			
Your choice	<input type="checkbox"/>			
Payment		1 €	3 €	0 €
Your choice		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

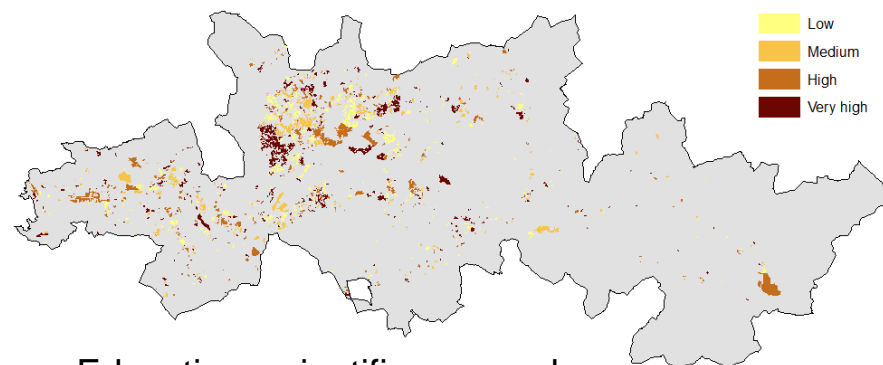
Coefficients:

	Estimate	Std. Error	z value	Pr(> z)	
(Intercept)	-1.98655	0.07575	-26.225	< 2e-16	***
Paisaje	0.37602	0.03856	9.753	< 2e-16	***
Conocimiento	0.23554	0.03575	6.589	4.43e-11	***
Simbolico	0.28988	0.03581	8.095	5.71e-16	***
Recreacion	0.33720	0.03564	9.462	< 2e-16	***
WTP	-0.05457	0.02171	-2.514	0.0119	*

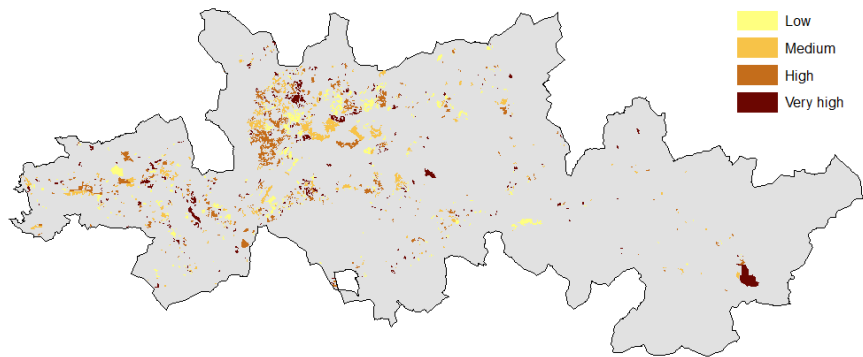
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1					



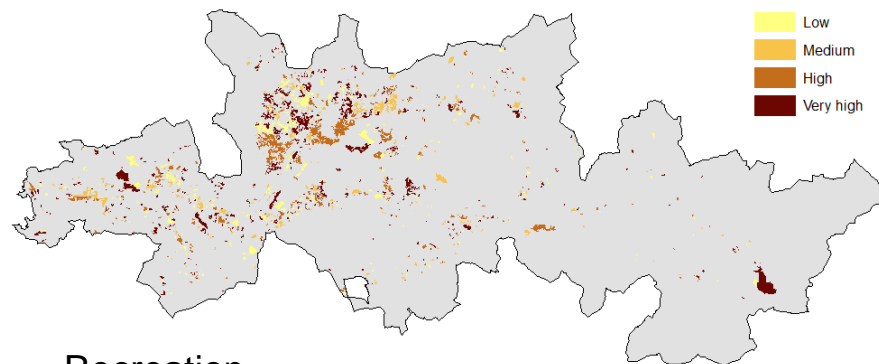
Visual amenity



Education, scientific, research



Spiritual, artistic, symbolic



Recreation

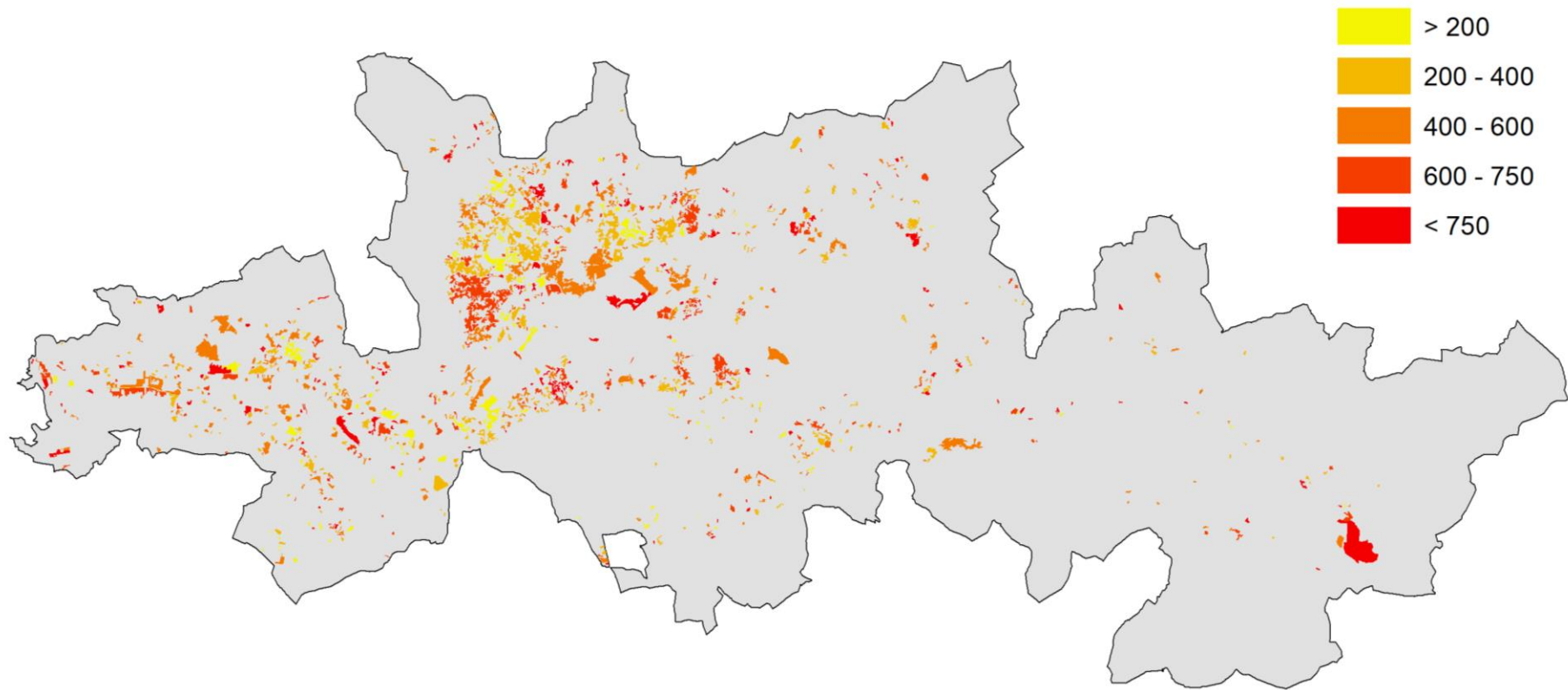
Scenario		Scenario 1	Scenario 2	No change
Landscape				
Knowledge about wine				
Symbolic and traditional values				
Recreation				
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Your choice	<input type="checkbox"/>			
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	A	B	C	D	E	F
1	ID	Landscape	Knowledge	Symbolic	Recreation	Factor
2	15	46,0	1	1	7	1,2010035
3	30	44,5	3	2	1	0,9905549
4	34	96,9	1	1	6	0,9217828
5	39	27,6	4	3	3	1,4149941
6	44	46,6	1	4	7	1,9173554
7	56	28,0	1	2	2	0,5935655
8	66	15,7	1	3	3	0,5445691
9	84	30,4	4	1	4	1,216647
10	89	60,2	4	1	7	1,7836482
11	91	92,0	4	1	7	1,7836482
12	120	52,4	2	4	6	1,8323495
13	125	14,9	3	1	1	0,1762102
14	131	13,3	3	2	0	0,4149941
15	139	11,5	2	3	1	0,4595632
16	163	10,8	2	1	4	0,5404368
17	170	37,4	2	4	5	1,5445691
18	178	30,3	4	2	6	1,4554309
19	181	7,7	1	1	5	0,0584416
20	190	20,8	4	2	7	1,7346517
21	198	56,3	3	2	3	1,2697757
22	200	25,6	4	4	6	1,9329988
23	205	17,2	1	4	7	1,3417946
24	212	31,9	4	2	2	1,1762102



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Thank you for your kind attention!



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