

Proposal for a practical framework to determine financial compensations for damage to nature

Prepared for the BIOVAL project

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Why BIOVAL?



- ▶ Between 11,4 and 38,1 million birds are illegally killed every year in the EU and mediterranean^{1,2}
- ▶ Tools in place to demand compensation
→ Compensation lists in 10 countries in the EU
- ▶ Most wildlife crimes (60%) still go unpunished³
→ Lack of specialization
→ Lack of resources
→ Lack of good tools?

¹ Brochet et al. (2016). Preliminary assessment of the scope and scale of illegal killing and taking of birds in the Mediterranean. *Bird Conservation International*, 26(1), 1-28.

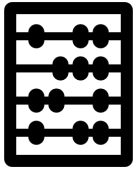
² Brochet et al. (2019). Illegal killing and taking of birds in Europe outside the Mediterranean: Assessing the scope and scale of a complex issue. *Bird Conservation International*, 29(1), 10-40

³ Engel, K. (2023). *Uncovering the Invisible: Successes and Challenges for Wildlife Crime Prosecution in Europe: European Summary Report*. Successful Wildlife Crime Prosecution in Europe. WWF

Why BIOVAL?



Transparent tool



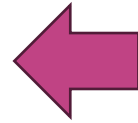
Easily calculate compensation



With low external expertise needed



Accepted within the legal community



- ▶ Most wildlife crimes (60%) still go unpunished³
 - Lack of specialization
 - Lack of resources
 - Lack of good tools?

But how?

Compensation as a form of valuing nature

- ▶ Value to value equivalence in remediation: monetary valuation¹
- ▶ IPBES Central Framework² and Values assessment³:
 - Nature has diverse values (INS, REL, INT)
 - Not all readily translatable to monetary value

➔ Valuation requires a legitimate and stepwise process⁴

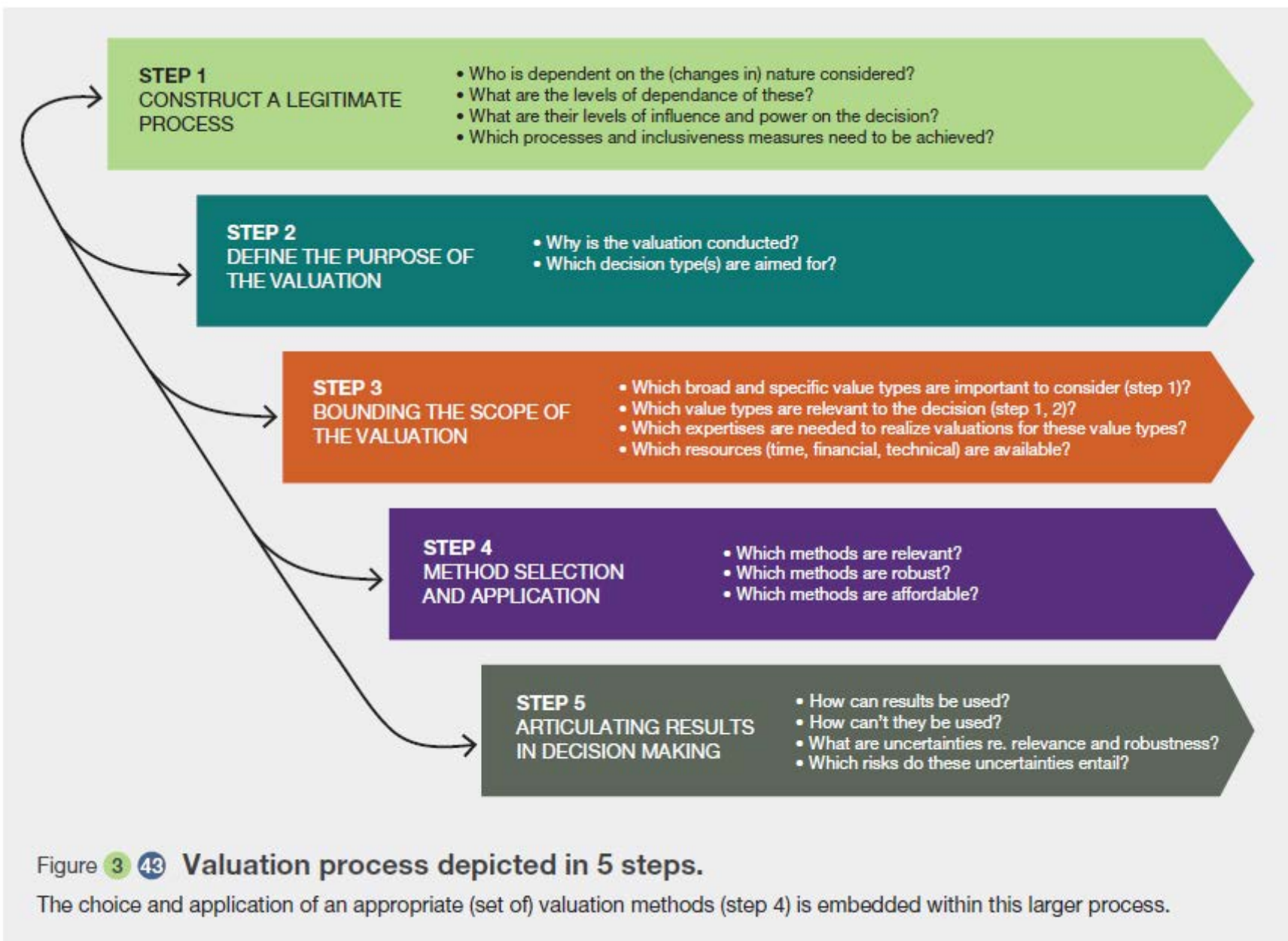


¹ European Commission (2013), Environmental Liability Directive: Training Handbook and Accompanying Slides, European Commission, Brussels

² IPBES (2022). Methodological Assessment Report on the Diverse Values and Valuation of Nature of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. Balvanera, P., Pascual, U., Christie, M., Baptiste, B., and González-Jiménez, D. (eds.). IPBES secretariat, Bonn, Germany.

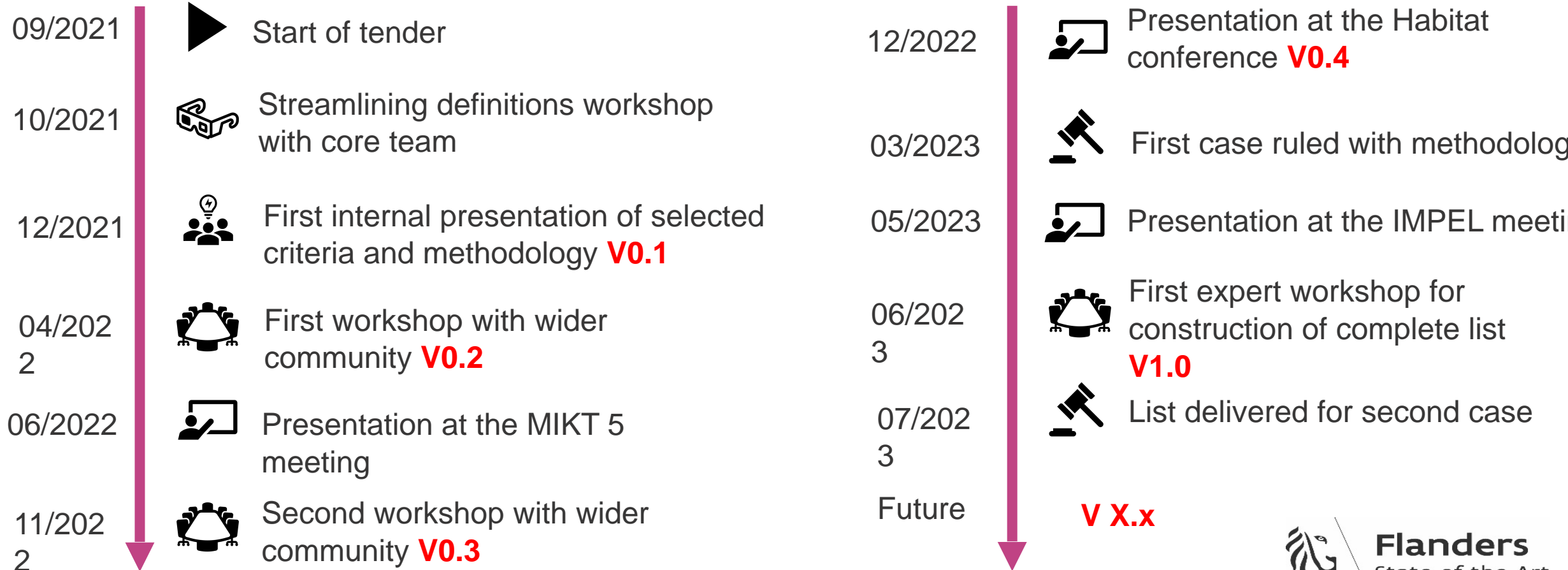
³ Díaz et al. (2015). The IPBES Conceptual Framework—Connecting nature and people. *Current Opinion in Environmental Sustainability*, 14, 1–16.

⁴ Termansen et al. (2023). Five steps towards transformative valuation of nature. *Current Opinion in Environmental Sustainability*, 64, 101344.



1. Construct a Legitimate Process

▶ Main stakeholders are the legal community



2. What is the purpose of the valuation?

- ▶ Civil and criminal courts
- ▶ Ecological damage where ELD is not feasible/applicable
- ▶ Compensation when primary remediation is not possible or feasible^{1,2}
- ▶ Monetary value only to be used as compensation not as THE value of the species



House sparrow caught with limestick

¹ Carrete, M., Tella, J. (2016). Rapid loss of antipredatory behaviour in captive-bred birds is linked to current avian invasions. *Sci Rep* 5, 18274

² Stojanovic, D. (2023). Altered wing phenotypes of captive-bred migratory birds lower post-release fitness. *Ecology Letters*, 26(5), 789–796

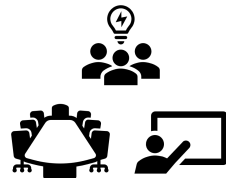
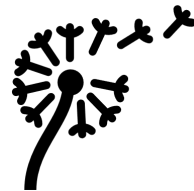
3. Which values should be included?



1. Screening of existing tools and stated possible criteria
2. Strength and weakness analysis of tools and criteria
3. Broad value categories considered



4. Internal and external workshops and presentations for validation



The BIOVAL criteria

Extinction risk

Risk of extinction as indicated by IUCN Red List Status.

Cultural
significance

Cultural significance indicated by tales/flags/tourism/official communications/...

Ecological
significance

Ecological significance indicated by specialization and role in the ecosystem

Contribution
to welfare

Contribution or damage to human economies, health or well-being

Size/Lifespan

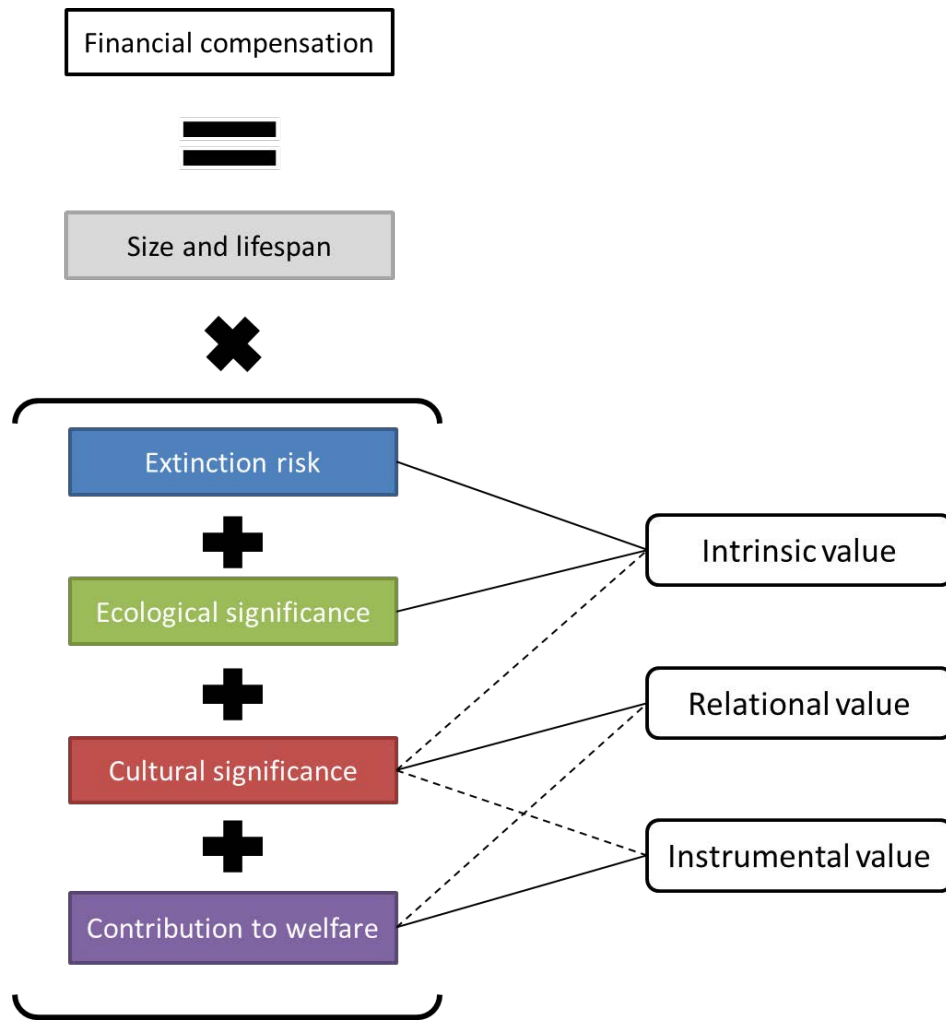
Size and lifespan as an indicator for acceptability of compensation

The criteria that are not regarded

- ▶ Nature of the crime (intent, methods used, recidivism,...)
- ▶ Individual gain (only as a minimum value of compensation + fine)



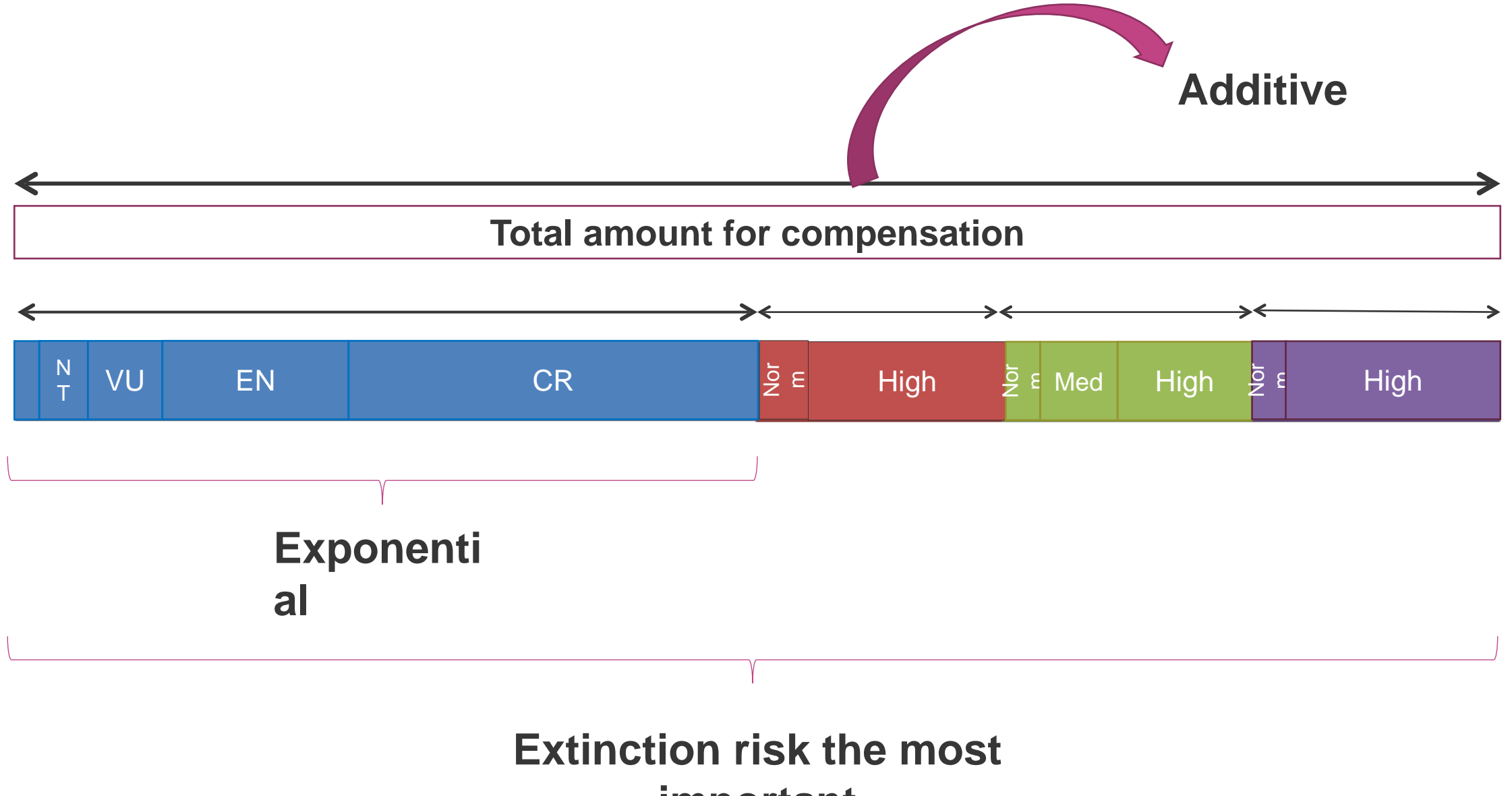
4. Method selection and application



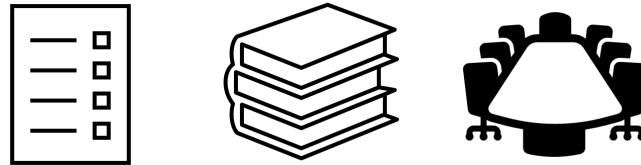
Additive formula, scaled to statement based willingness to accept

- ▶ Independent criteria
- ▶ Avoiding absorption of criteria
- ▶ Contribution of individual criteria to final amount is clear
- ▶ Leaving room for adapting the formula

From simple to nuanced formula

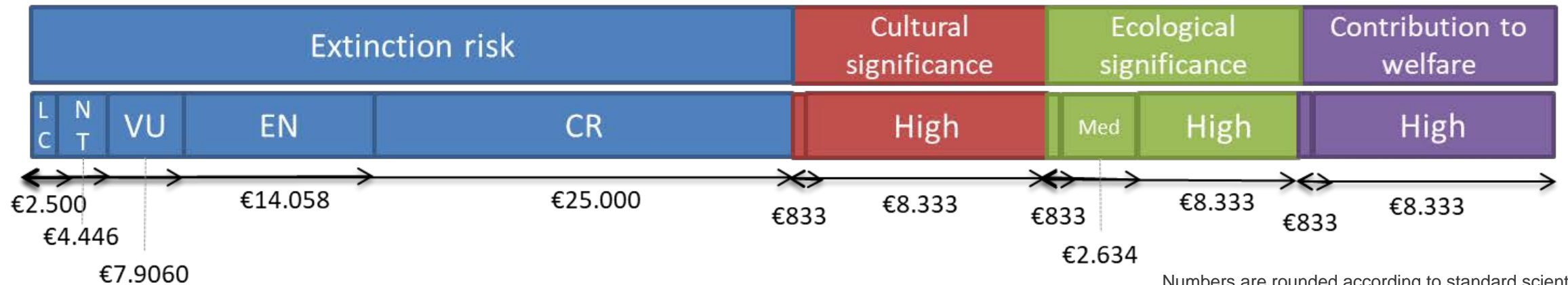


Scaled to acceptable amounts



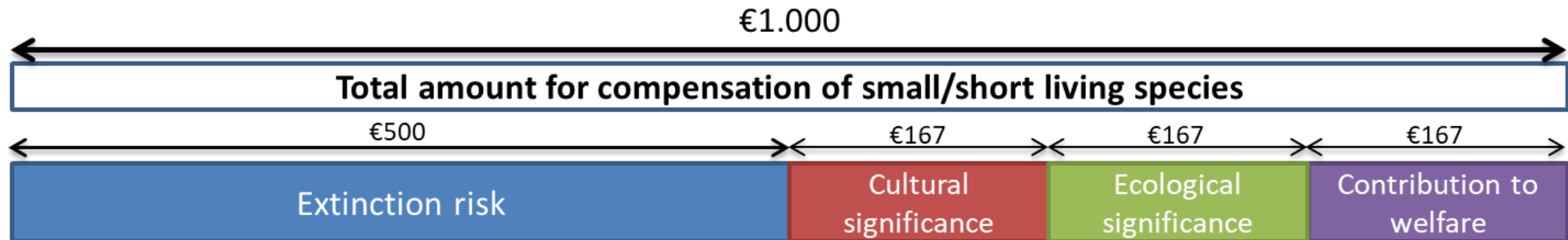
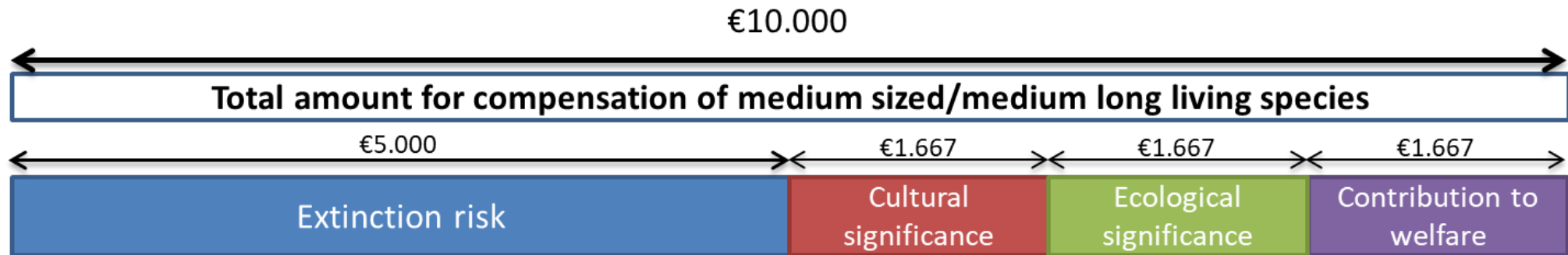
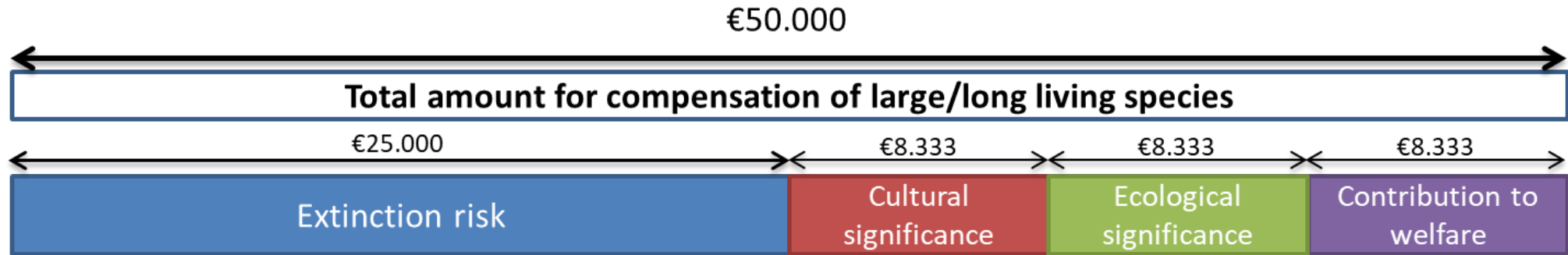
€50.000 - €10.000 - €1.000

← Total amount for compensation of large/long-living species →



Numbers are rounded according to standard scientific rules.

Scaled to acceptable amounts



Numbers are rounded according to standard scientific rules.

Operationalized through Delphi study



Species - English	TOTAL	Category animal	Extinction risk	Cultural significance	Ecological significance	Contribution to Welfare
Adder (<i>Vipera berus</i>)	3.672,09	Medium sized/medium long-living	Endangered	Normal	Medium/specialist	Normal
Badger (<i>Meles meles</i>)	3.941,52	Medium sized/medium long-living	Vulnerable	High	Medium/specialist	Normal
Barn owl (<i>Tyto alba</i>)	2.860,38	Medium sized/medium long-living	Least concern	High	Medium/specialist	Normal
Barn swallow (<i>Hirundo rustica</i>)	544,15	Small/short-living	Vulnerable	High	Medium/specialist	High
Bearded reedling (<i>Panurus biarmicus</i>)	208,11	Small/short-living	Vulnerable	Normal	Normal/generalist	Normal
Beech marten (<i>Martes foina</i>)	833,33	Medium sized/medium long-living	Least concern	Normal	Normal/generalist	Negative
Black kite (<i>Milvus migrans</i>)	5.000,00	Large/long-living	Least concern	Normal	Normal/generalist	Normal
Blackbird (<i>Turdus merula</i>)	100,00	Small/short-living	Least concern	Normal	Normal/generalist	Normal
Brambling (<i>Fringilla montifringilla</i>)	100,00	Small/short-living	Least concern	Normal	Normal/generalist	Normal
Buzzard (<i>Buteo buteo</i>)	5.000,00	Large/long-living	Least concern	Normal	Normal/generalist	Normal
Canada goose (<i>Branta canadensis</i>)	4.166,67	Large/long-living	Least concern	Normal	Normal/generalist	Negative
Carrier crow (<i>Corvus corax</i>)	2.500,00	Medium sized/medium long-living	Least concern	High	Normal/generalist	Normal
Chaffinch (<i>Fringilla coelebs</i>)	250,00	Small/short-living	Least concern	High	Normal/generalist	Normal
Coal tit (<i>Parus ater</i>)	138,91	Small/short-living	Near threatened	Normal	Normal/generalist	Normal
Collared dove (<i>Streptopelia decaocto</i>)	100,00	Small/short-living	Least concern	Normal	Normal/generalist	Normal
Common crane (<i>Grus grus</i>)	12.500,00	Large/long-living	Least concern	High	Normal/generalist	Normal
Common linnet (<i>Carduelis cannabina</i>)	208,11	Small/short-living	Vulnerable	Normal	Normal/generalist	Normal
Common lizard (<i>Zootoca vivipara</i>)	100,00	Small/short-living	Least concern	Normal	Normal/generalist	Normal
Common redpoll (<i>Carduelis flammea</i>)	100,00	Small/short-living	Least concern	Normal	Normal/generalist	Normal

What did we contribute in the end?

1. Diverse values of nature, previously uncaptured
 - Cultural value
 - Contribution to welfare
2. Independent use of criteria through addition in stead of multiplication
3. Transparent formula which is easy to fill in and interpret
4. Robust indicators per criterium
5. Acceptable amounts for compensation through statement based WTA
6. Formula can be applied for additional species and fully updateable



Wolf killed on 28/09/2023 – possible compensation of €42.500

What are the open questions?

1. How to improve robustness of indicators (data and experts)
2. How to take into account spatial and temporal effects?
3. Where does the money go?



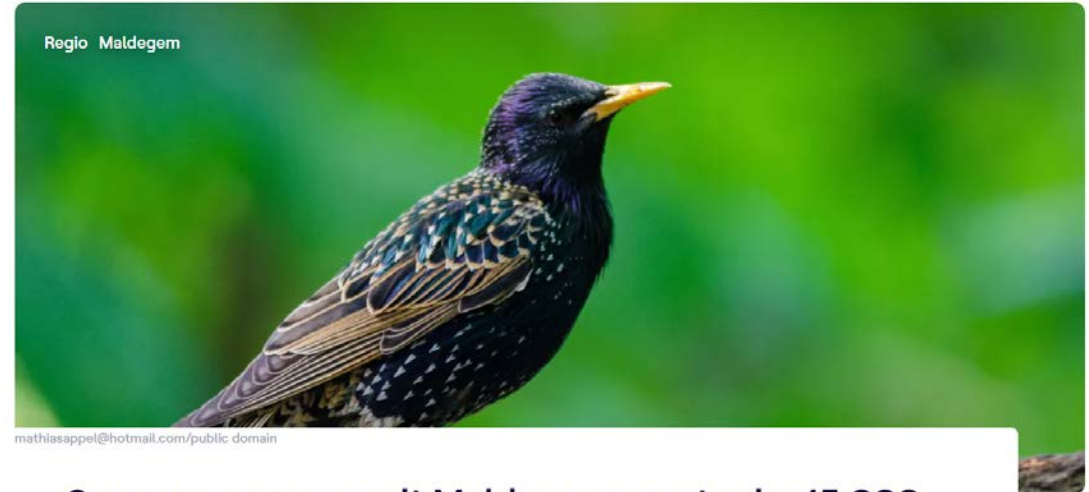
Blackcap caught with limestick:
possible compensation of €100

Next steps

- ▶ Evaluate application of the list
- ▶ Supplement with other species
- ▶ Publish updated versions regularly

Questions to the public:

- ▶ How can the methodology be adapted to your jurisdiction
- ▶ How would you set up a (funding) structure for all the above



Spreeuwenvanger uit Maldegem moet ruim 15.000 euro betalen

National news: Sparrow catcher needs to pay €15.000