



Setting targets for species in biodiversity plans and measuring protection levels

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Problem Statement

- Setting of species targets in biodiversity planning lags behind ecosystems in terms of integrating planning targets with measuring of protection levels for all species.
- Measuring protection level is vital for informing NBA and for guiding protected area expansion strategies at National and Provincial level.



Problem Statement

- there is a misalignment in current target setting practices between species and ecosystems
 - ecosystem targets are set at representation levels (Critically Endangered thresholds).
 - species targets are set at persistence levels (Vulnerable thresholds).

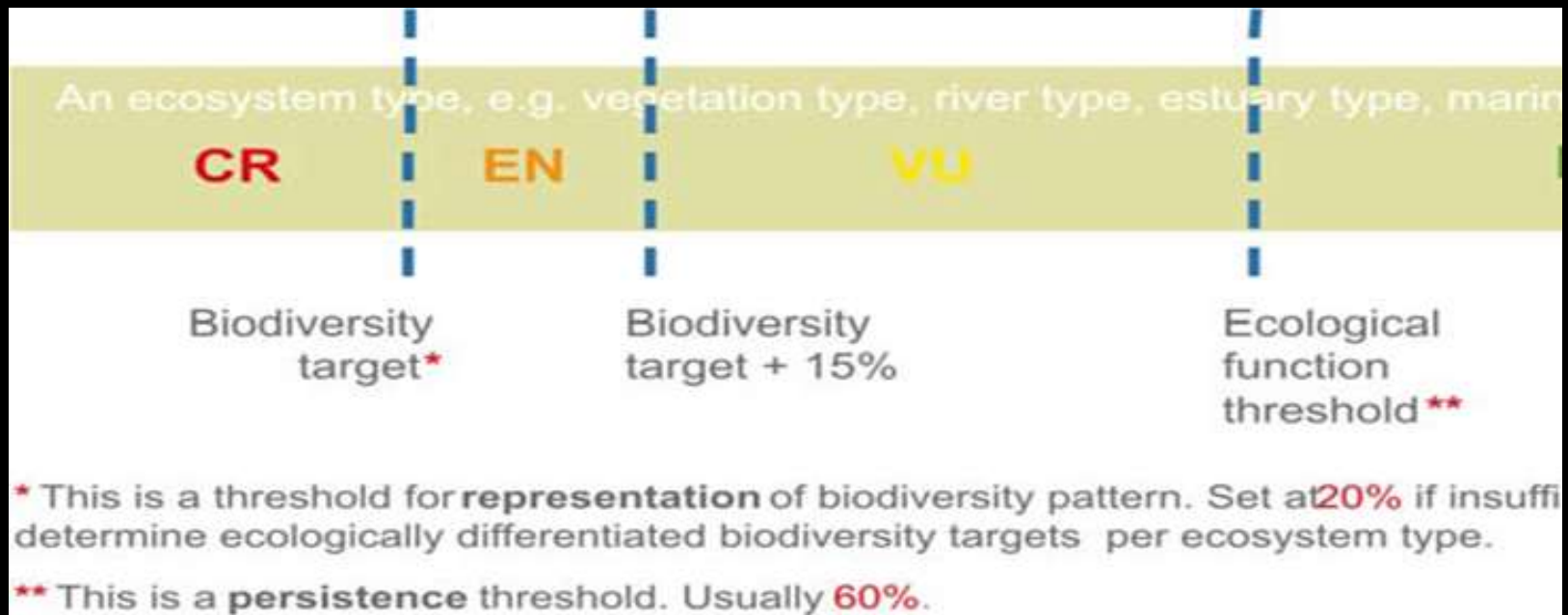


In this session we will:

- Outline how targets are set for ecosystems and species and implications for protection level.
- See two examples of how targets are being set for species in two provincial plans (FS, KZN).
- From a literature review two examples will be presented.
- Summaries strength and drawbacks of different approaches (based on literature review and our current methods).
- Discussion on how the current system can be improved.

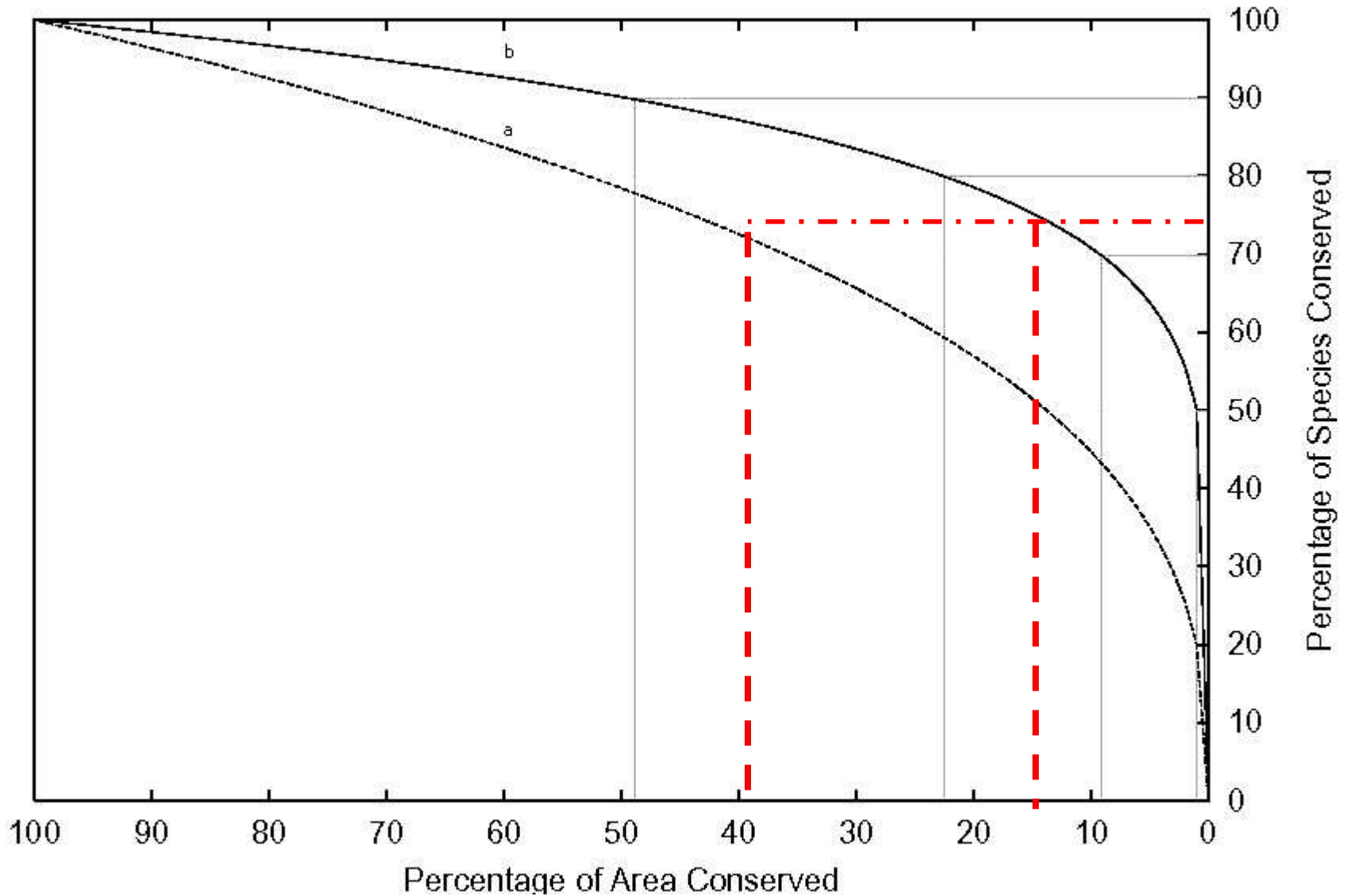


Ecosystem targets set at Critically Endangered thresholds



Critically Endangered ecosystems

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Critically Endangered ecosystems threshold

- Biodiversity target that ranges between 16 and 36% meant to include at least 75% of species present (Desmet et al. 2004).
- Not representative target for ecosystem but for 75% of species present in ecosystem.
- **Challenge** is that depending on which part of ecosystem is protected you will miss species especially ecosystems with high numbers of endemic species and high gamma diversity.

Species targets

- Currently most provinces are following setting species conservation targets for conservation plans based on Pfab, Victor & Armstrong 2011.
- This advocates an approach for planning for species persistence rather than representation.
- Uses thresholds of the IUCN Red List Criteria, which identify critical thresholds beyond which the probability of extinction increases.
- IUCN Criteria developed from thorough literature and expert consultations work for all taxonomic groups.



Thresholds for species

		THREAT CATEGORY			
		VU	EN	CR	
CRITERIA	A	Population decline	30-50%	50-80%	>80%
	B	Range size	5000 – 20 000 km ²	100 – 5000 km ²	<100 km ²
	C	Population size AND Decline OR Subpopulation size	<10 000 >10% <1000	<2500 >20% <250	<250 >25% <50
	D	Population size	<1000	<250	<50
	E	Probability of extinction	10-20%	20-50%	>50%

Pfab et al's targets

CRITERIA		Persistence	Representation equivalent	
		VU	CR	
	B	Range	10 populations	1 populations
	C	Population size	10 000	250

- 11 populations
- Area required for 10 000 individuals

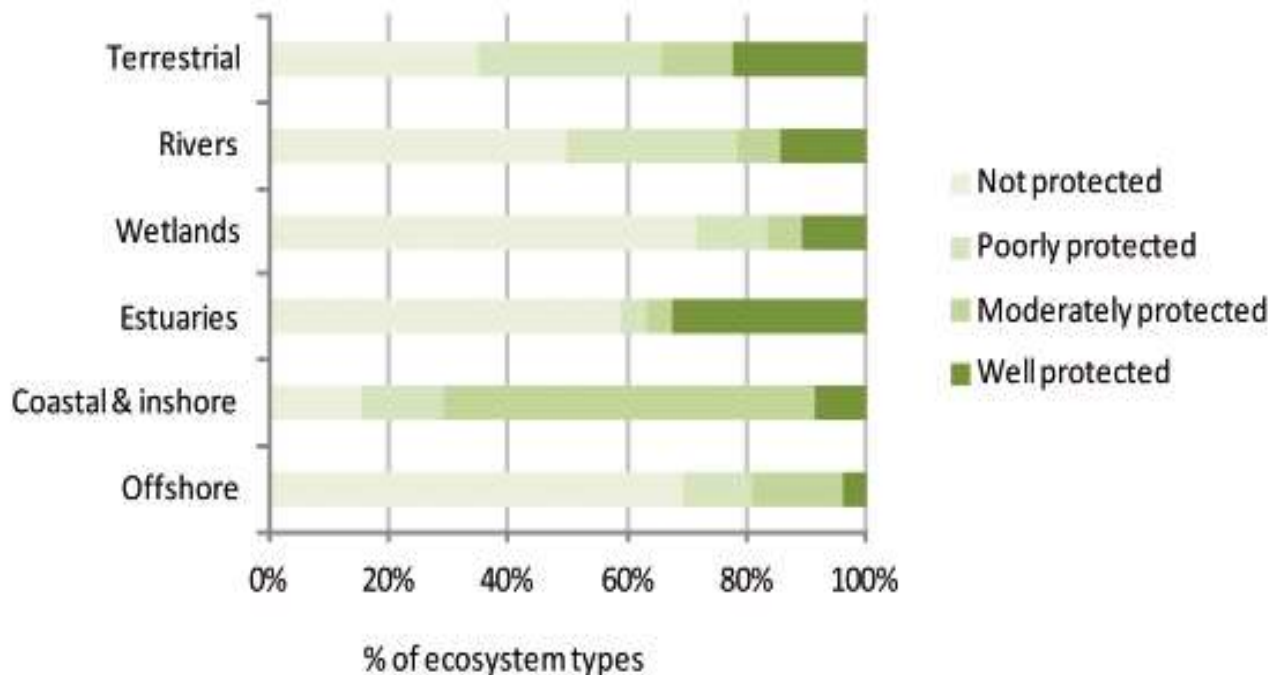
Measuring Protection Level

Ecosystem protection level (Proportion of biodiversity target met in protected area)

- **Not protected** Zero or less than 5% of biodiversity target
- **Poorly protected** 5–49% of biodiversity target
- **Moderately protected** 50–99% of biodiversity target
- **Well protected** $\geq 100\%$ of biodiversity target

Measuring Protection Level

- Ecosystem protection measured for all ecosystems



- we need to be able to do this also for all species too.

Important points:

- CR threshold (Biodiversity Target) used for measuring Ecosystem protection level – representation target.
 - Is the Ecosystem threshold really a representation target – representative of 75% of species but is more than needed to represent the ecosystem (one patch of an ecosystem.)
- If we translate Pfab’s target to representation level “CR” the implication is that you need to only protect 1 site.
 - Won’t be able to have scale of protection, species will either be protected or not.
 - Also a representation target will not be enough for effective long term conservation of a species.

