

# Offset metric calculator proposal

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Conservation Strategy Tactics & Insight

Acknowledging Phil Desmet

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# We have a great basis...

- Ecosystem classification
- Ecosystem distribution, targets & status
- Process insights
- Wetland functioning metrics
- Landcover....

...Need to find a common approach

# Protocol...

1. Residual impact by habitat
2. Derive a target for each habitat
3. Determine basic & final ratio multiplier
4. Calculate reqd area for each habitat
5. Verify additional process & ecosys services
6. Design offset in landscape
  - Vision, Bioreg Plan, PAES, pragmatic managment

# Deriving a target

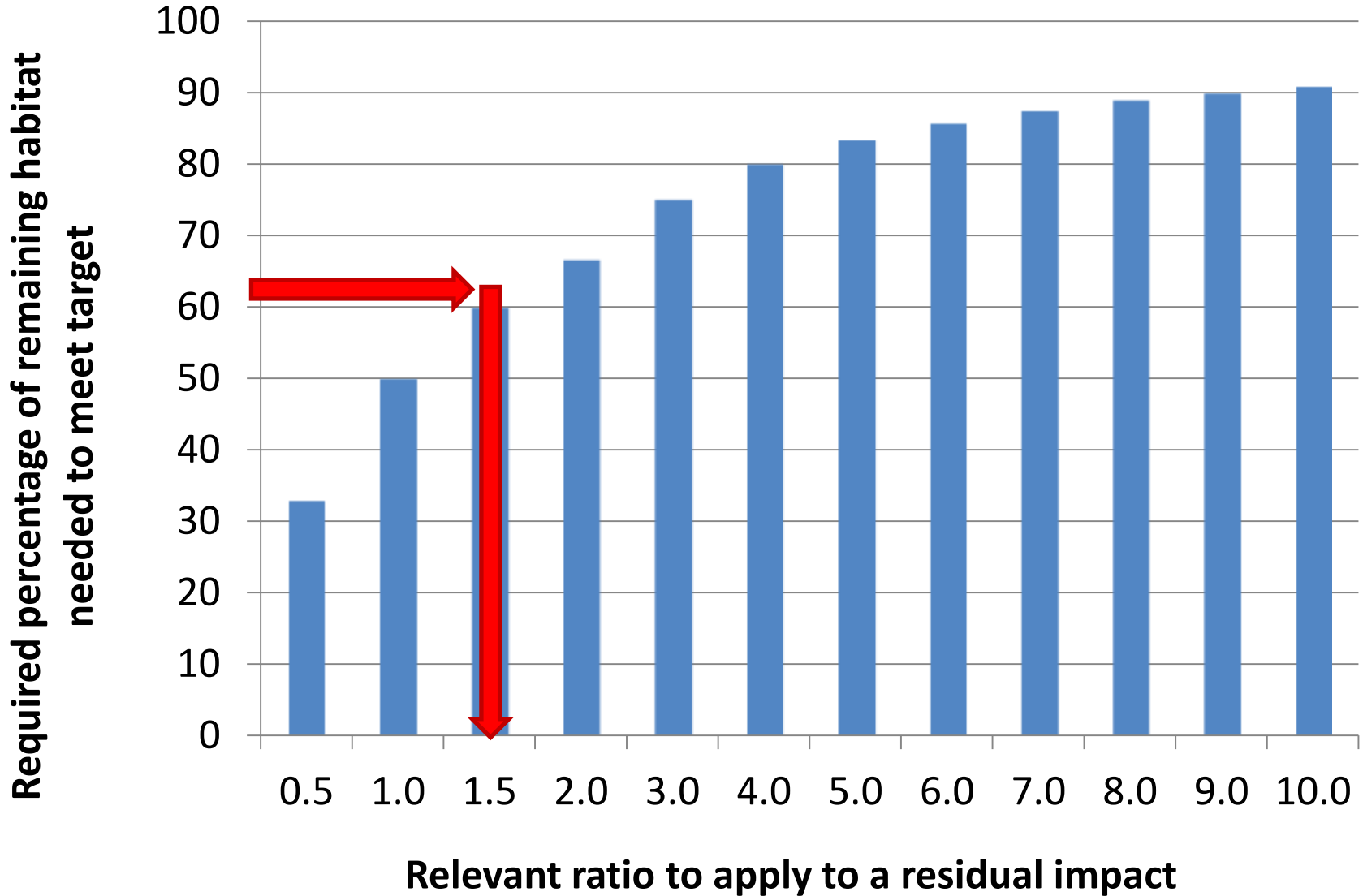
Ecosys	Habitat	Ecosys Status				
Veg Type 1	Quartz patch	LC	Criterion	Critically Endangered - CR	Endangered – EN	Vulnerable - VU
			A1: Irreversible loss of natural habitat	Remaining natural habitat ≤ biodiversity target	Remaining natural habitat ≤ (biodiversity target +15%)	Remaining natural habitat ≤ 60% of original ecosystem
	Inselberg	LC				
Veg type 2	Sandy plains	LC	A2: Ecosystem degradation and loss of integrity	≥ 60% of ecosystem significantly degraded	≥ 40% of ecosystem significantly degraded	≥ 20% of ecosystem significantly degraded
			C: Limited extent and imminent threat	--	Ecosystem extent ≤ 3000ha, and imminent threat	Ecosystem extent ≤ 6000ha, and imminent threat
	Calcrete patch	LC				
Veg type 3	Mountain shrubland	LC	D1: Threatened plant species associations	≥ 80 threatened Red Data list plant species	≥ 60 threatened Red Data list plant species	≥ 40 threatened Red Data list plant species
			E: Priority areas for meeting explicit biodiversity targets as defined in a systematic biodiversity plan	Very high irreplaceability and high threat	Very high irreplaceability and medium threat	Very high irreplaceability and low threat
WetInd	Headwater seep	LC				

# Offset targets...

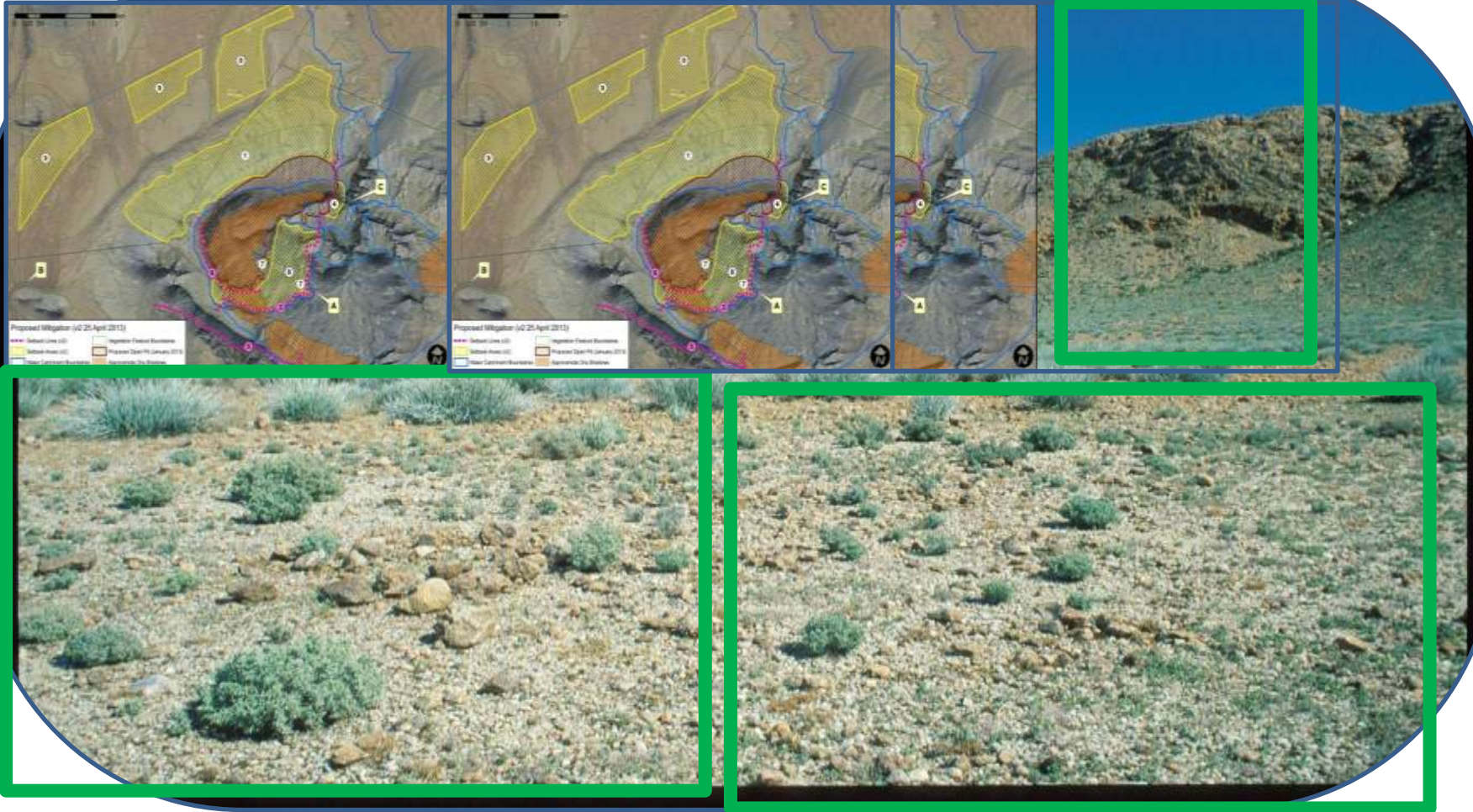
If habitat unit is

- $\geq$  EN then target = 80% remaining
- VU then 60%
- LC (localised) then NBA target +15%
- LC (widespread) then NBA target

# Look up ratios...



# Ratio required (60% = 1.5X)



# Determine a final ratio

Ecosys	Habitat	Target	Initial ratio
Veg Type 1	Quartz patch	80	4X
	Inselberg	60	1.5X
Veg type 2	Sandy plains	18	0.5X
	Calcrete patch	80	4X
Veg type 3	Mountain shrubland	34	0.5X
WetInd	Headwatr seep		





# Realistic ask

1. If reqd Offset  $>$  remaining extent,
  - Impact significant rating?
  - Require only remaining extent = target
2. Limits on modifiers
  - Uncertainty & Risk =  $1 - 2X$
  - Condition =  $0.5 - 2X$
  - Biodiv Priority Area =  $1 - 2X$



# Process targets & Ecosystem Services

- Inselberg connectivity
- River & wash
- Permanent springs
- Edaphic interface
- Climate gradient
- ...
- Groundwater use...
- ...only offset EI that delivers ES...
- Wetland Offset Calc

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