EEAC 30th anniversary

PARALLEL SESSION #2
11:00-12:45

SUSTAINABILITY OF THE USE OF NATURAL RESOURCES: ROLE OF BIODIVERSITY OFFSETTING

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#EEAC30
#CriticalDecade

EEAC

KESTÄVYYS PANEELI

SUOMEN LUONTO PANEELI

SUOMEN ILMASTOPANEELI
The Finnish Climate Change Panel

Introduction to offsets in Finland

- Offset design & failure
- Finnish legislation
- and offset register

Atte Moilanen, Univ. Helsinki

Offset design axes

Offset = ecological damage is compensated by respective ecological net gains (No Net Loss; Net Positive Impact)

Design axes, 17 factors total

1. Objectives (3)
2. Space (2)
3. Time (3)
4. Biodiversity (3)
5. Actions (6)

Objectives (Fin.)

Factors

1. Level of adherence to the mitigation hierarchy
   (generally unspecific)
2. Aim relative to NNL
   (NPI recommended)
3. Interpretation of NNL;
   (mean expectation; uncertainty accounted for separately)

photo © Atte Moilanen

Space

Factors

1. Design area, how close?
   (same or neighbouring forest vegetation zone)
2. Reference frame
   (Finnish & EU legislation)

Time

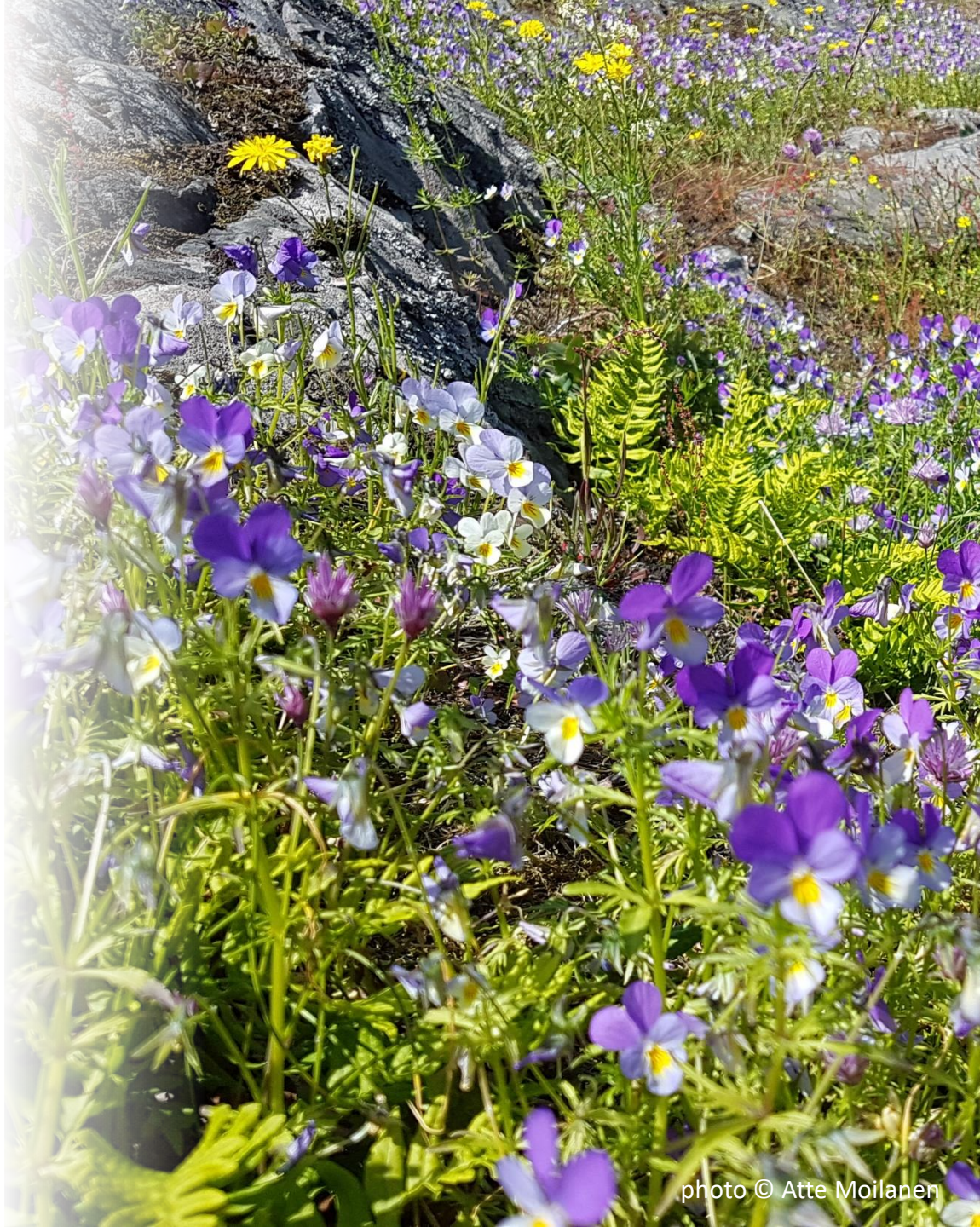
Factors

1. Permanence vs temporary
   (permanence required)
2. Evaluation time frame
   (30 years)
3. Time discounting
   (1.5 %)

Biodiversity

Factors

1. Measurement
   (simplified, mostly based on structural habitat features)
2. Trading up
   (allowed and encouraged inside same main environment type)
3. Limits to what species & habitats can be offset (yes)



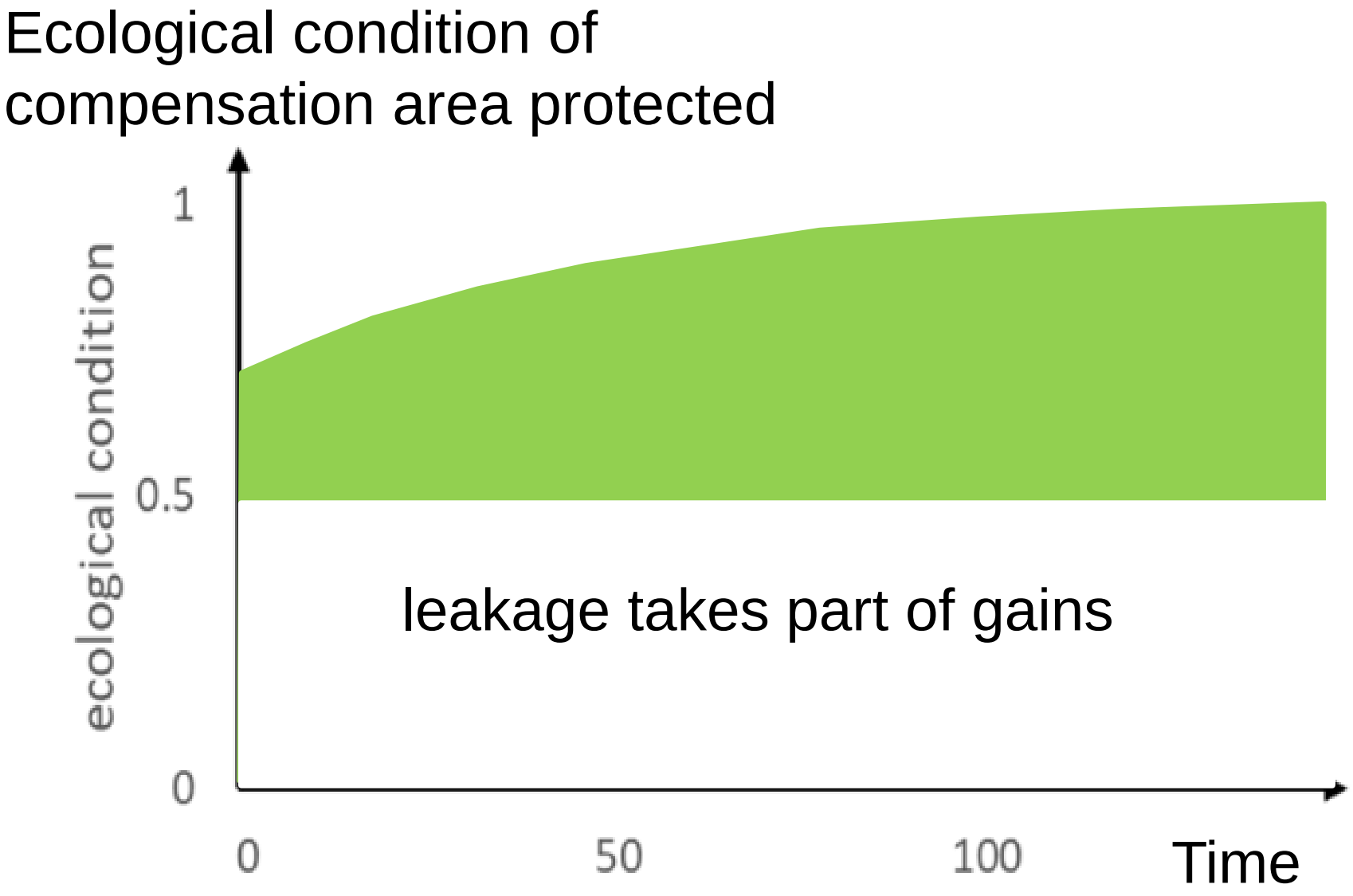
Actions

Factors (all accounted for in design)

1. Additionality
2. Avoided loss (protection) response
3. Avoided loss background trend
4. Restoration response function
5. Leakage
6. Monitoring and adaptive implementation

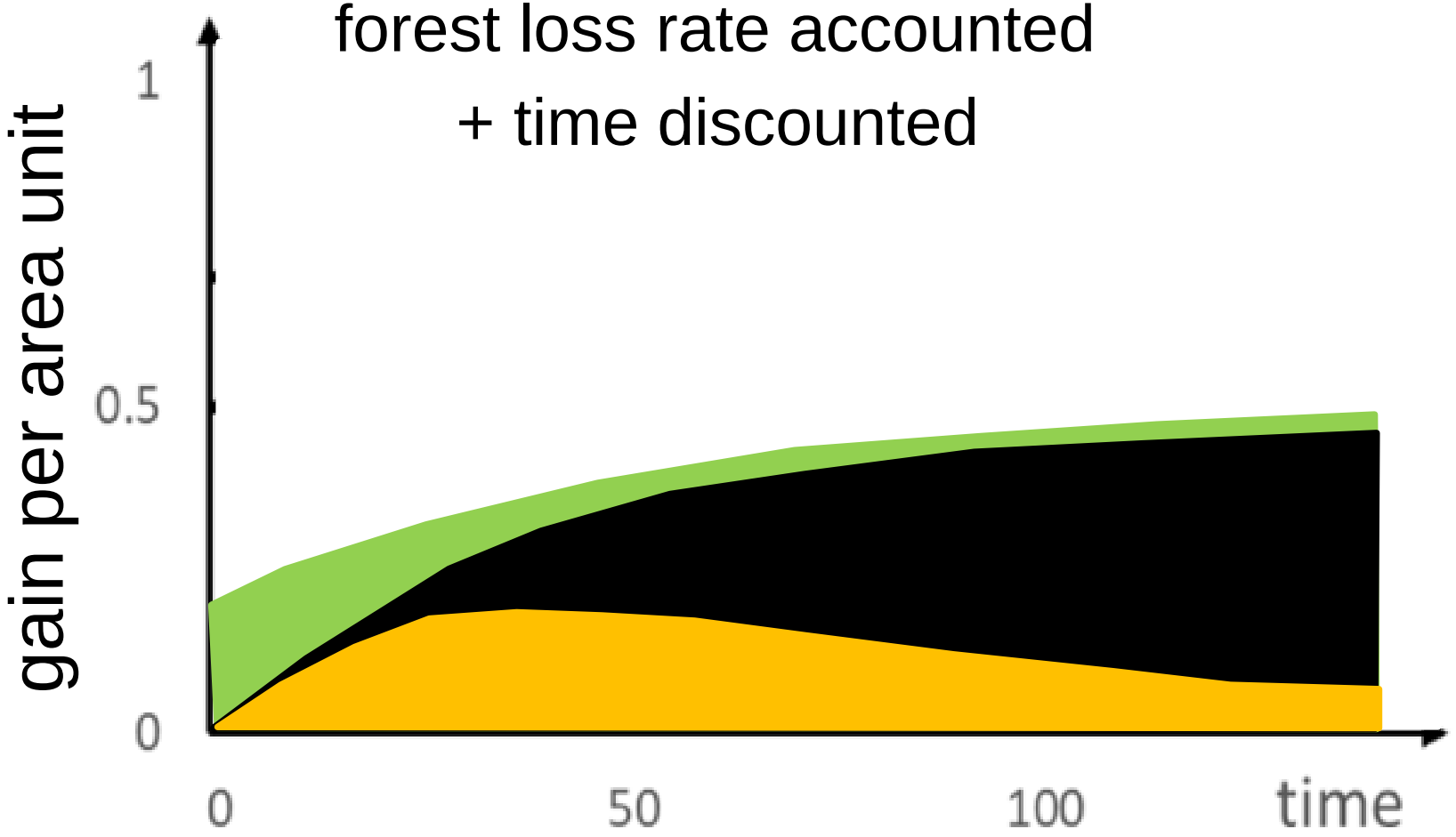
photo © Atte Moilanen

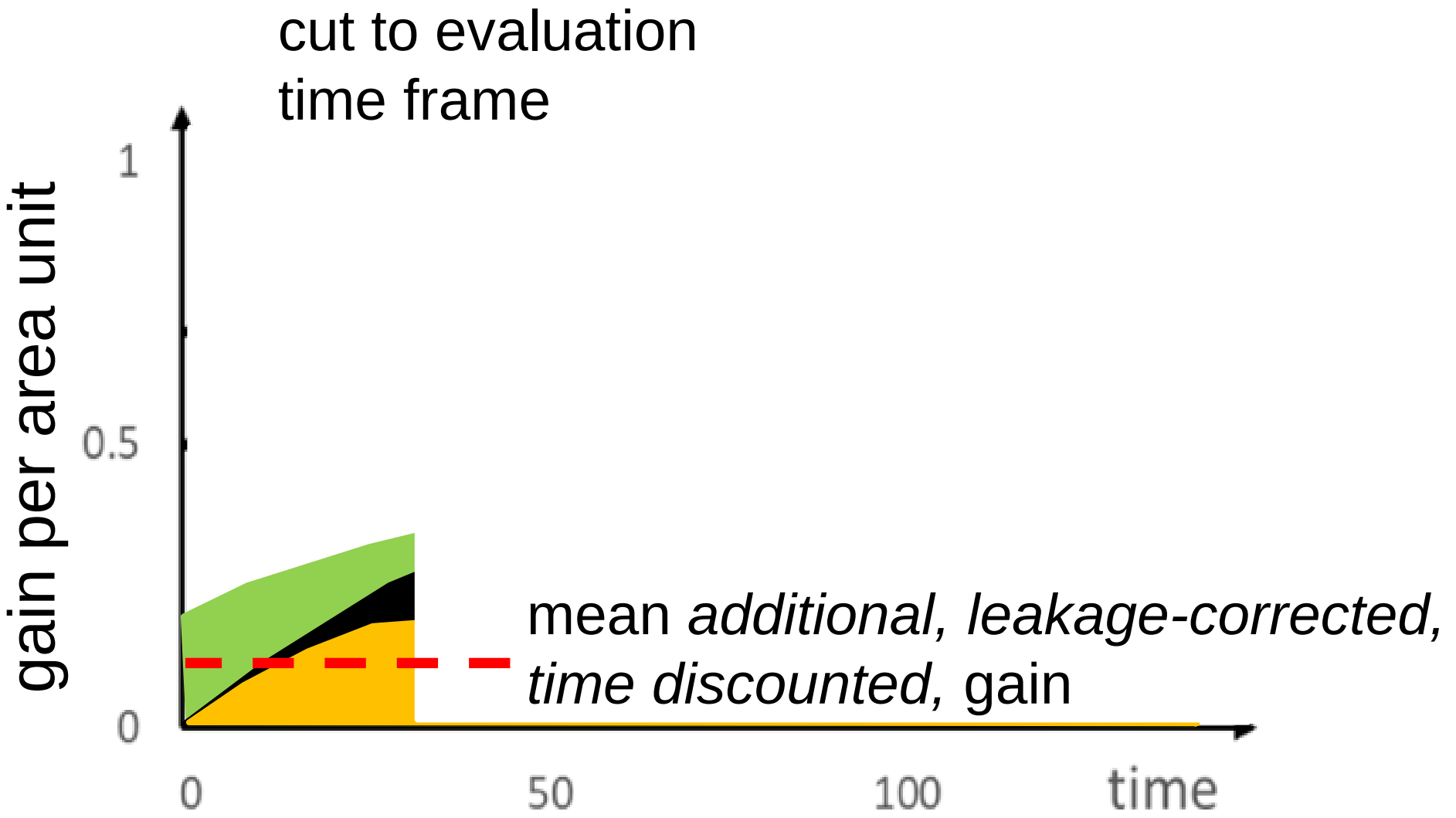
Illustration: time and actions in estimation of gains



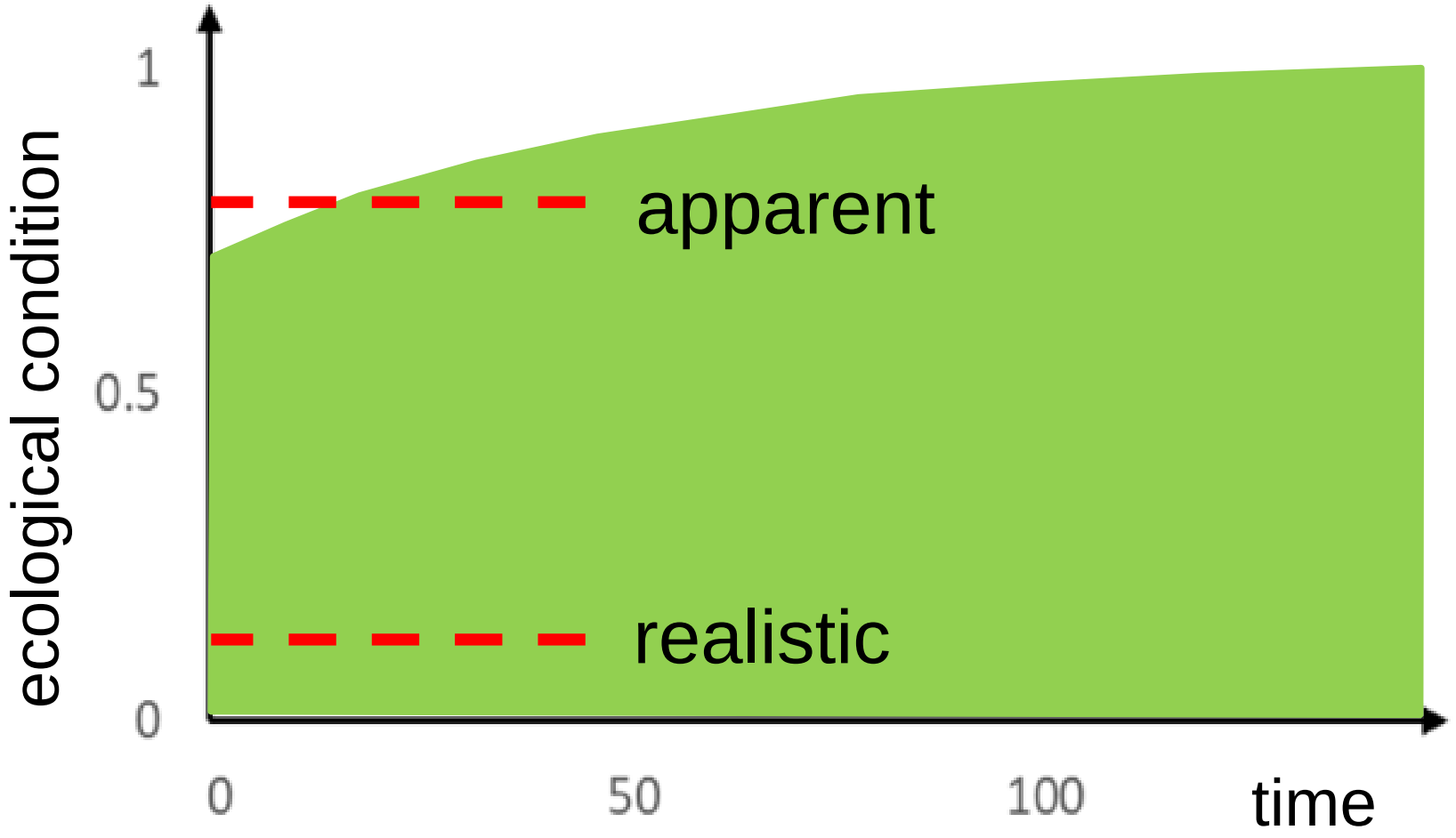
Example: forest

leakage removed
forest loss rate accounted
+ time discounted




cut to evaluation
time frame
gain per area unit
1
0.5
0
0
50
100
time
mean *additional, leakage-corrected, time discounted,* gain

Additional gains are much smaller than apparent

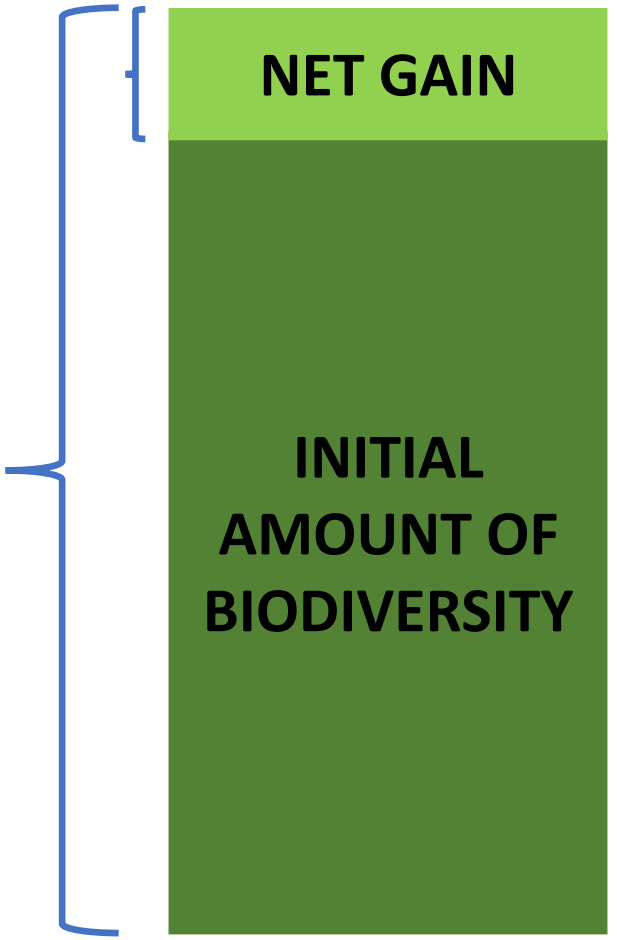


Major complications with offsets

1. Overall complexity
2. High competence needed in design and implementation
3. High number of species and habitats
4. Unavoidable subjective decisions

Easy offset failures

1. Single-species offset (special case of limited application scope)
2. Lack of permanence = **FAIL**
3. Allowing double-counting (no additionality)
4. Ignoring leakage in avoided loss offsets
5. Confusing gross amount with net gain
6. Lack of implementation monitoring and sanctions for failure
7. Etc etc the list goes on



The relevance of also offsetting common nature

- Ecology includes all species and habitats in area
- Only offsetting rare and endangered species & habitats = partial offsetting
- *Common species & habitats support rare nature via food chains and regional population dynamics*
- *Common species are common until they become rare*

Offset registers

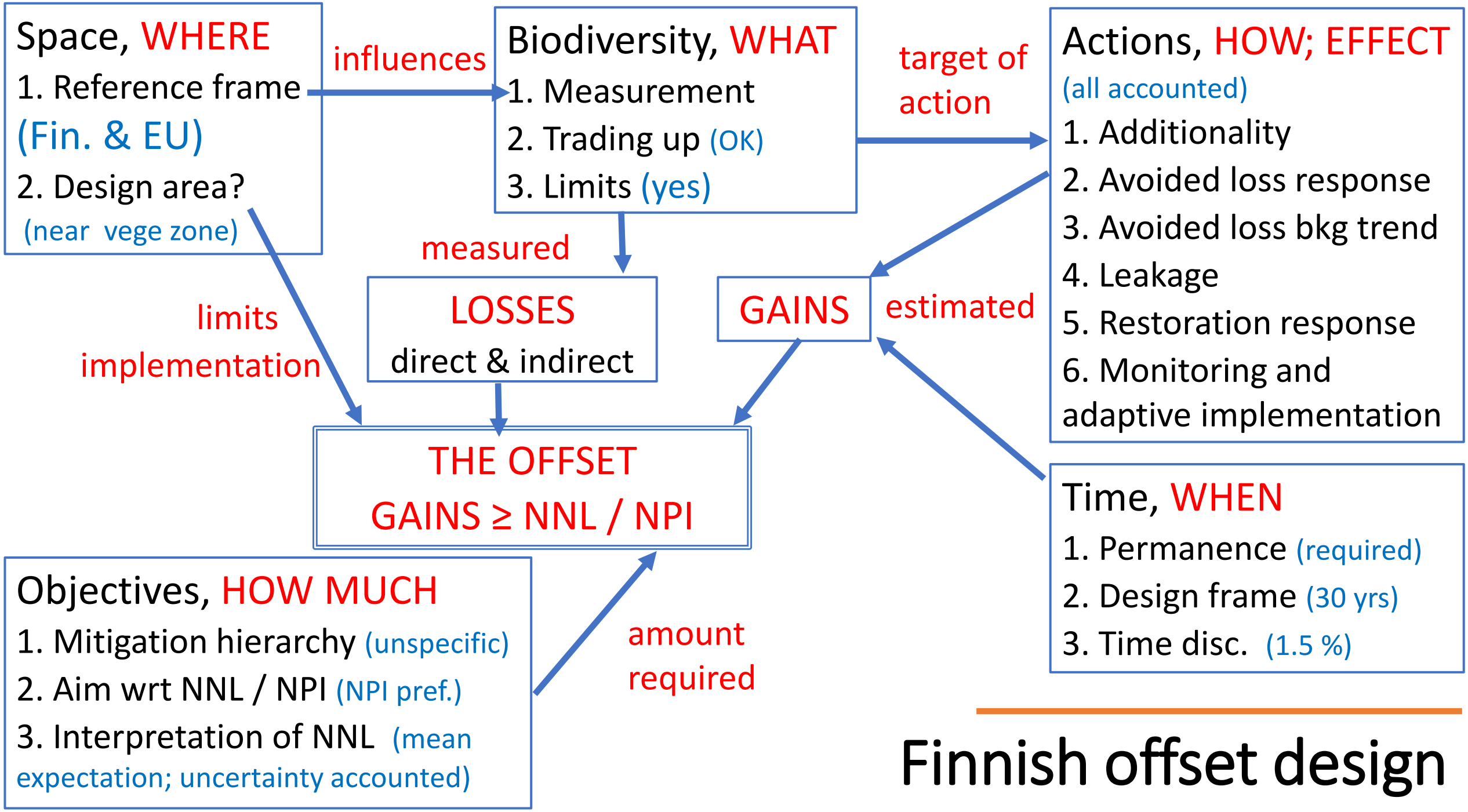
Kujala et al. 2022: Only 4 /66 countries with offsets had publicly accessible offset register…

Finland: transparent public register (in progress)

1. Supports administration
2. Facilitate learning & development

Includes

1. What was compensated, where, when & how?
2. Details of design & decision process.
3. Observations from monitoring implementation.
4. Compensation areas available (not exclusive).



Finnish offset design