Schweizerische Eidgenossenschaft
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Bundesamt für Umwelt BAFU
Abteilung Biodiversität und Landschaft
Sektion Biodiversitätspolitik

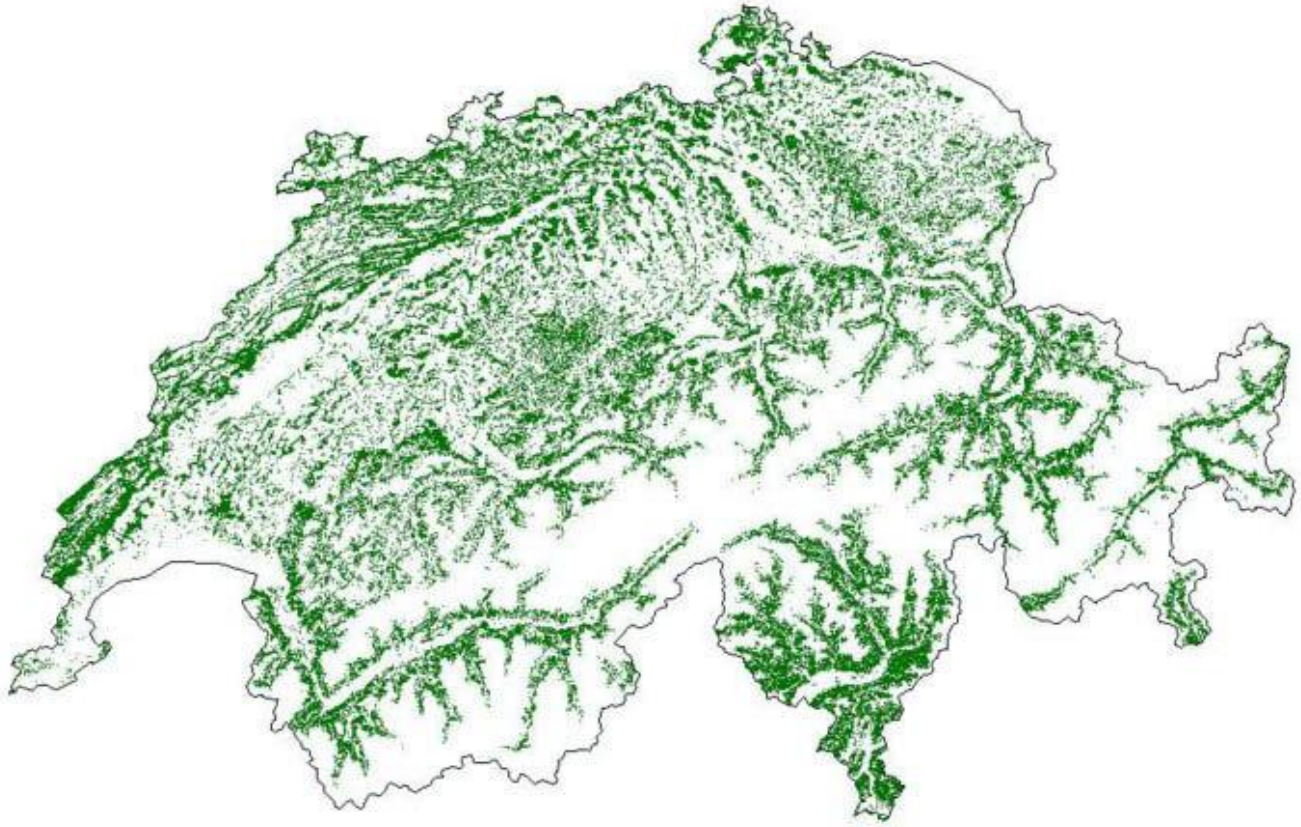
Biodiversity conservation and sustainable use in Swiss forest

Integrate Meeting, Boudry

22.10.2021

Dr. Claudio de Sassi

Forest



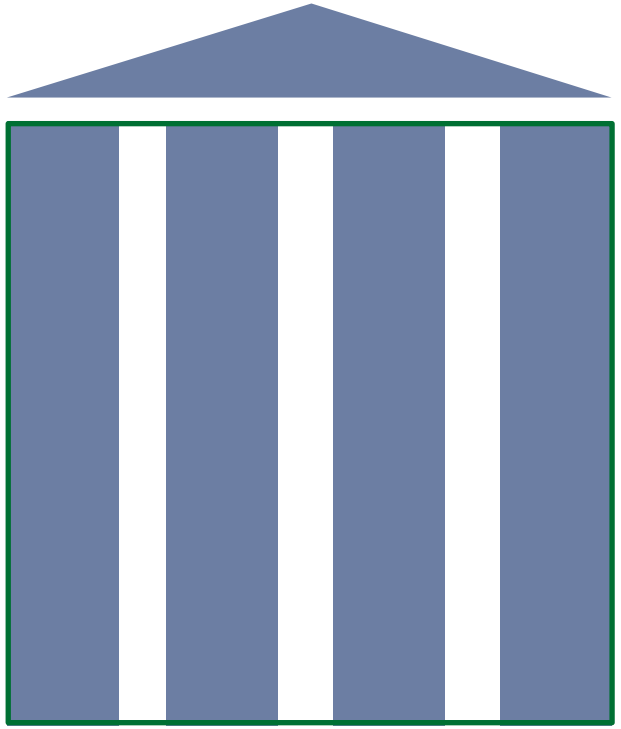
- One third of the country land cover, 1.3 mio hectares
- 40% of all species depending on forests at least for some life-stage

Forest

Swiss forest

Forest biodiversity

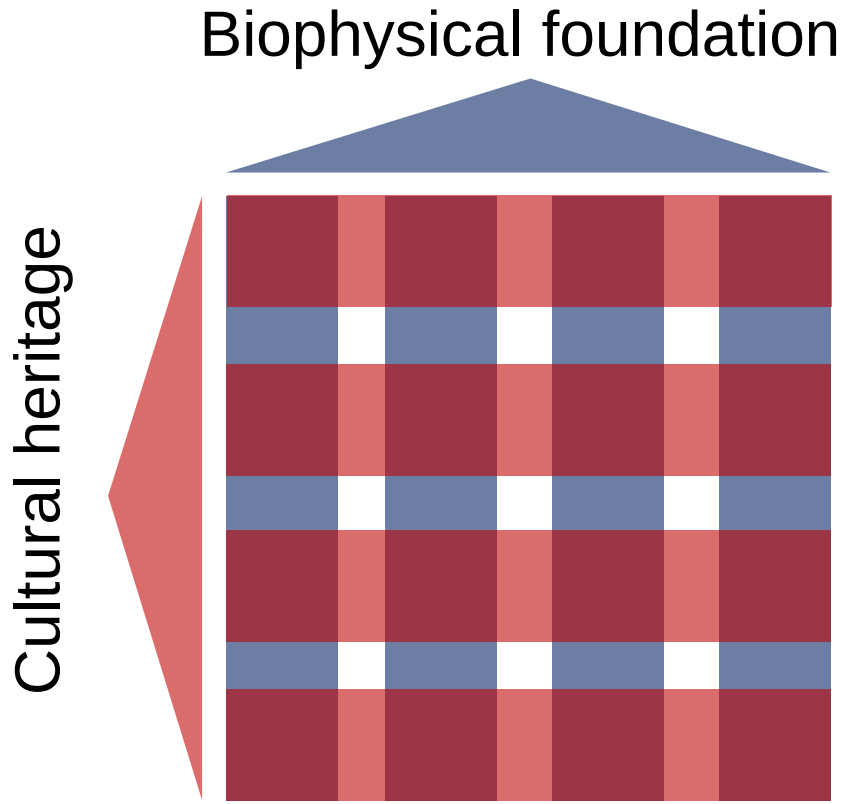
Biophysical foundation



Biophysical foundation

- Stark topographical, climatic and geological gradients
- 124 forest association types, 40% of which are ranked as priority for conservation

Forest biodiversity and people



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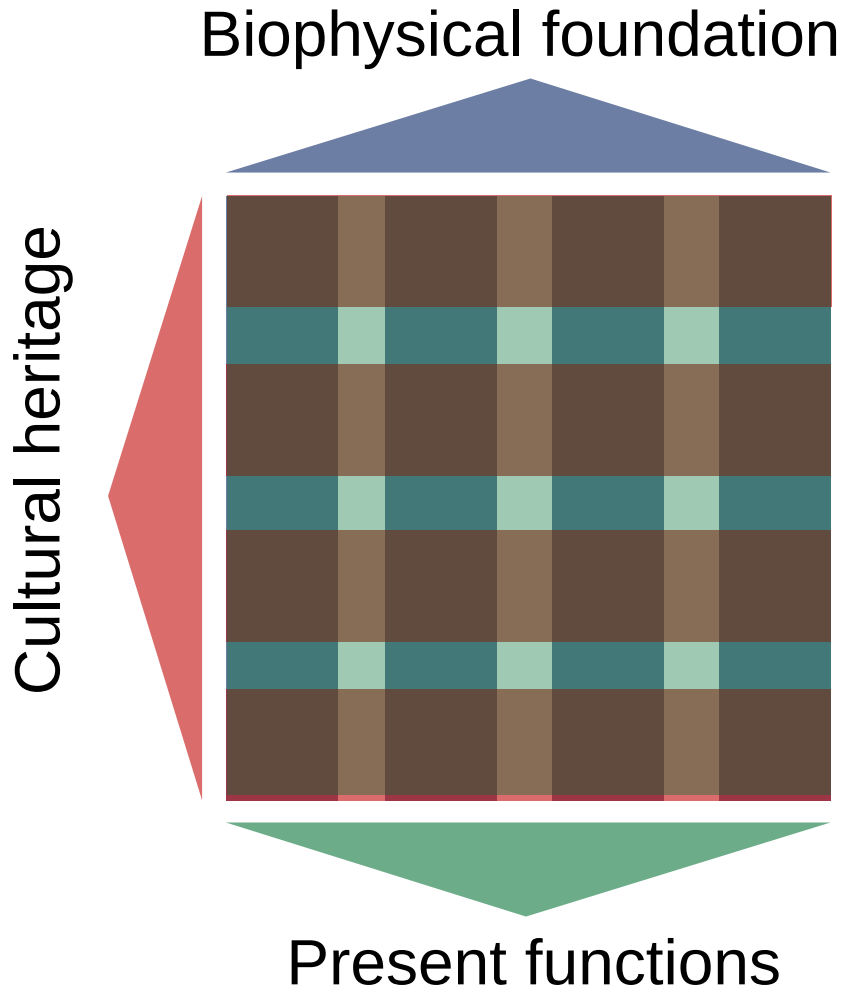
Cultural and historical heritage

- Profoundly different history of use and management practices, from clear cutting to food forests
- Complex ownership structure with huge fragmentation

Forest biodiversity, people and functions



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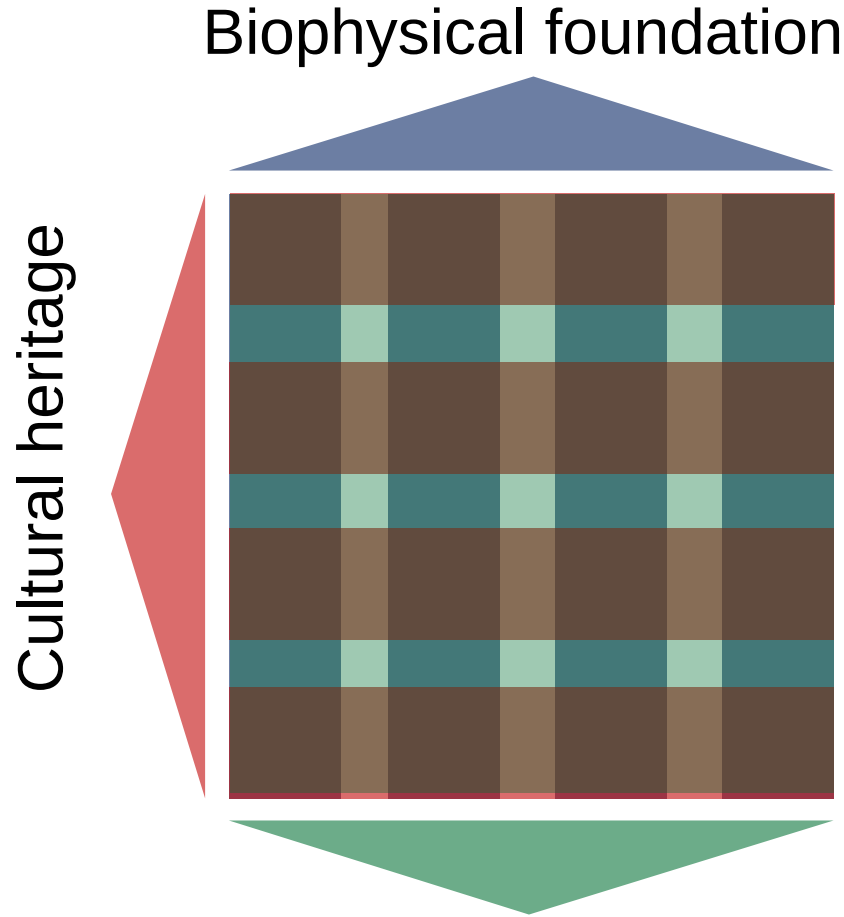
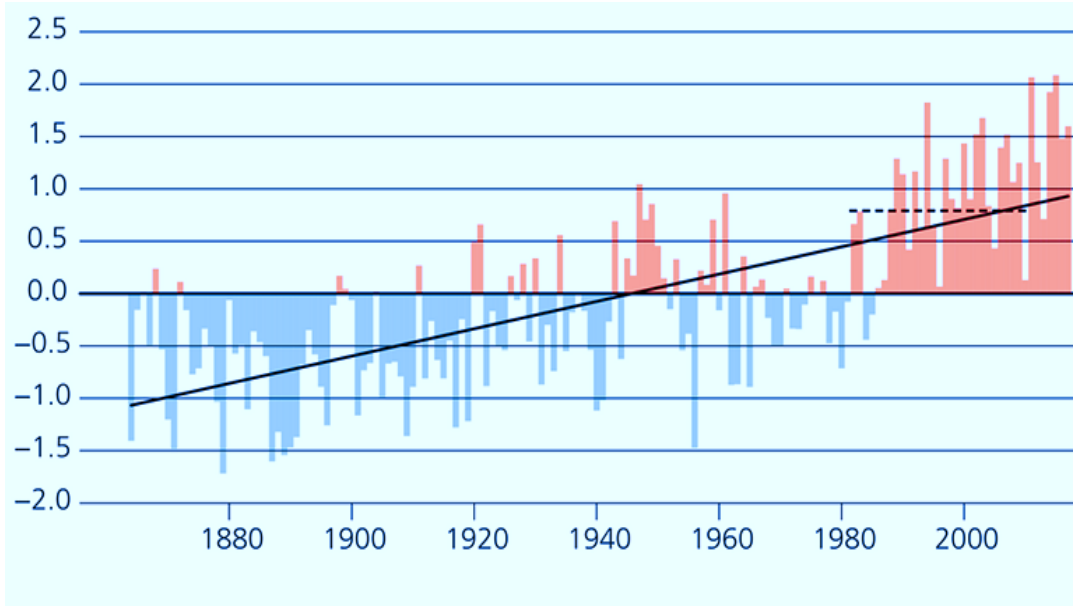
Present functions:

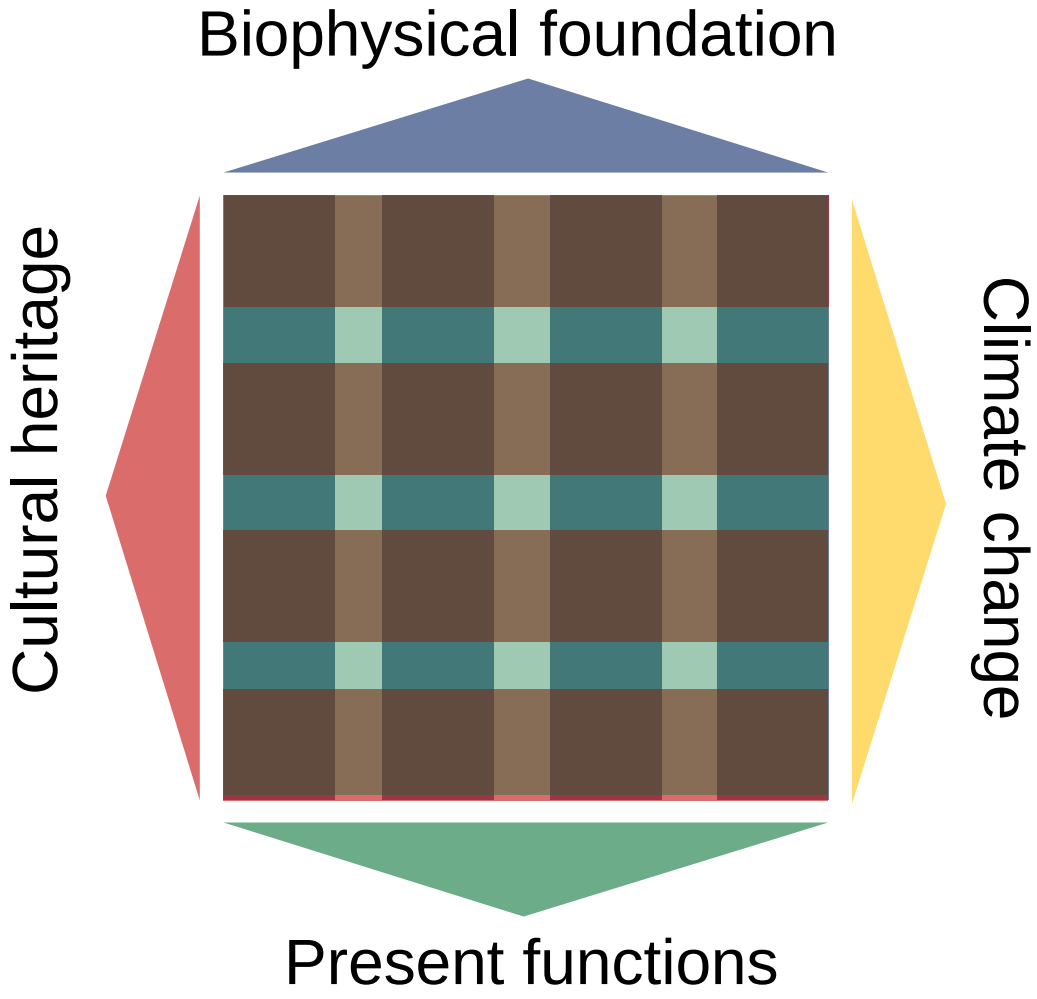
- Nearly half of Swiss forests have protection as priority function
- Wood production is and remains a key interest
- Biodiversity conservation, leisure, ecosystem services such as water have incresased in societal importance

Forest biodiversity, people, functions and change





Forest biodiversity, people, functions and change



Biophysical

- Predicted strong effects on distribution and altitudinal belts of current forest
- Unclear but often negative interplay with biotic factors and facilitation
- Migration and «tracking» still unclear

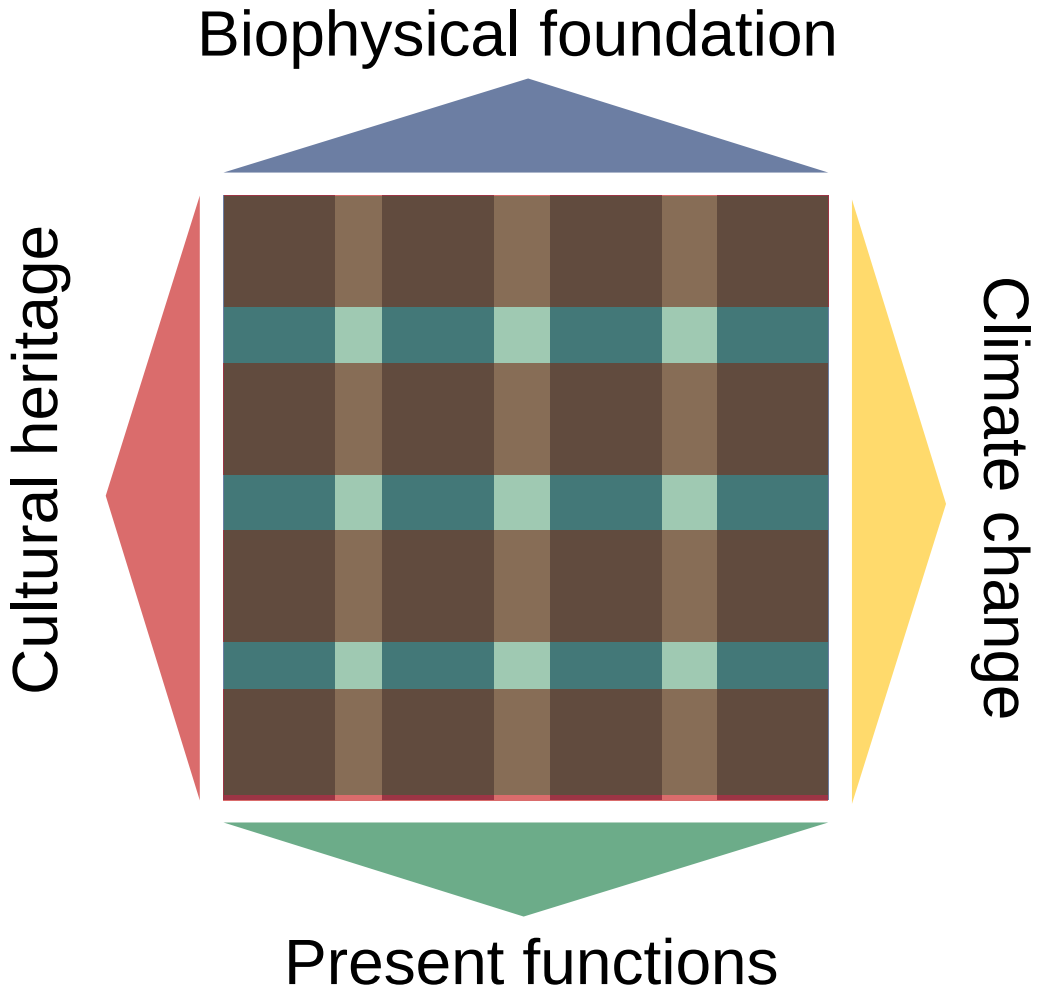
Cultural

- Deep challange to the sector facing a world where proven practices are no longer guarantee for the future

Present functions:

- Extent and distribution of forest function will change, but expectations are often site-bound

Forest biodiversity: Which diversity?

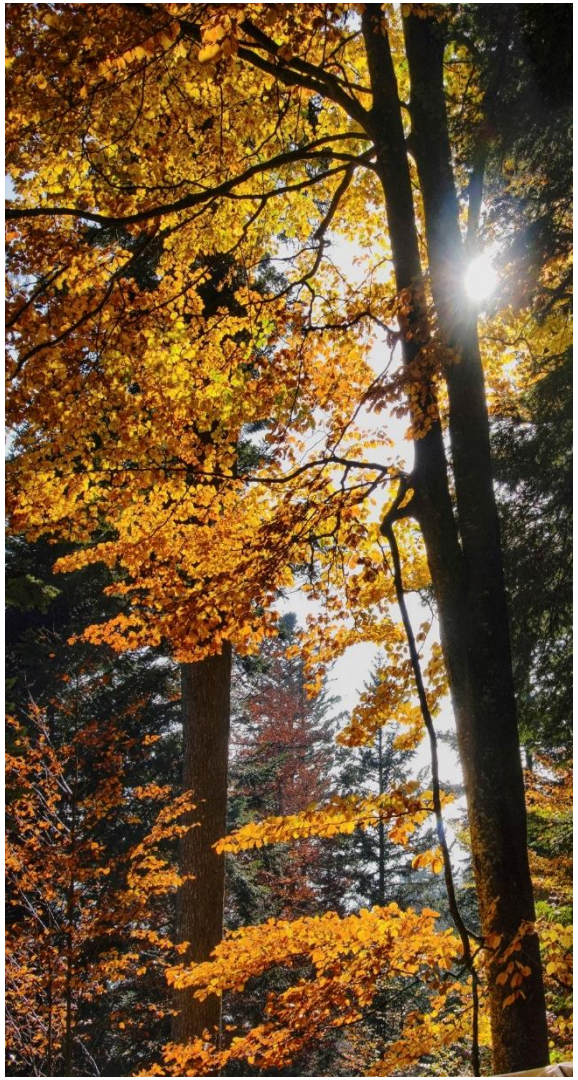


On a napkin:

- 6 biogeographic regions
- 4 national languages
- 3 functions anchored in law
- 2 attitudes of forest owners
- 2 levels of climate change

> 288 different possible combinations of underlying factors influencing today's management and future outcomes

Forest biodiversity: the national strategy

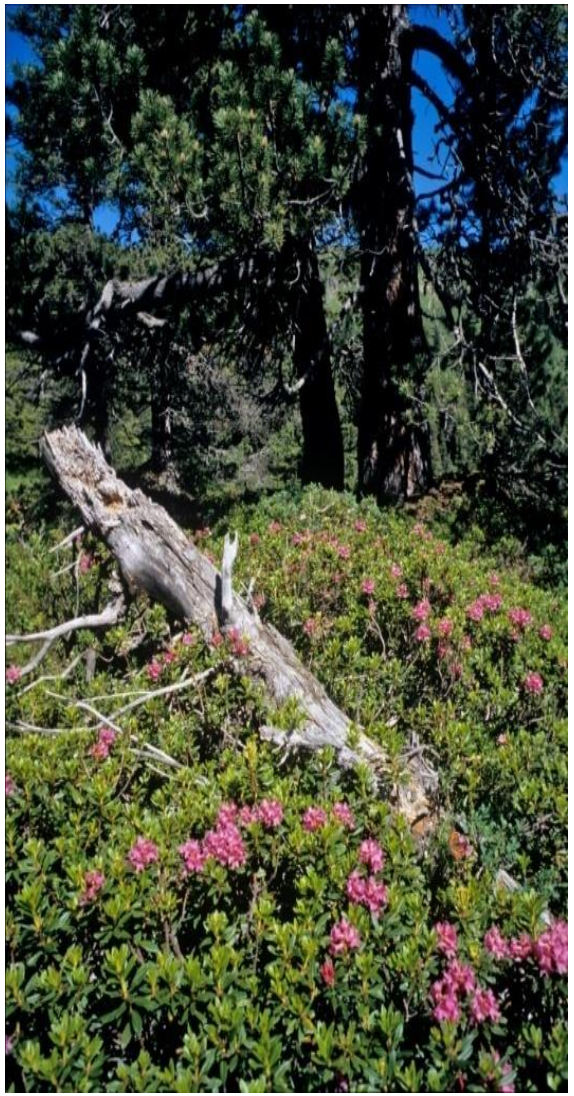


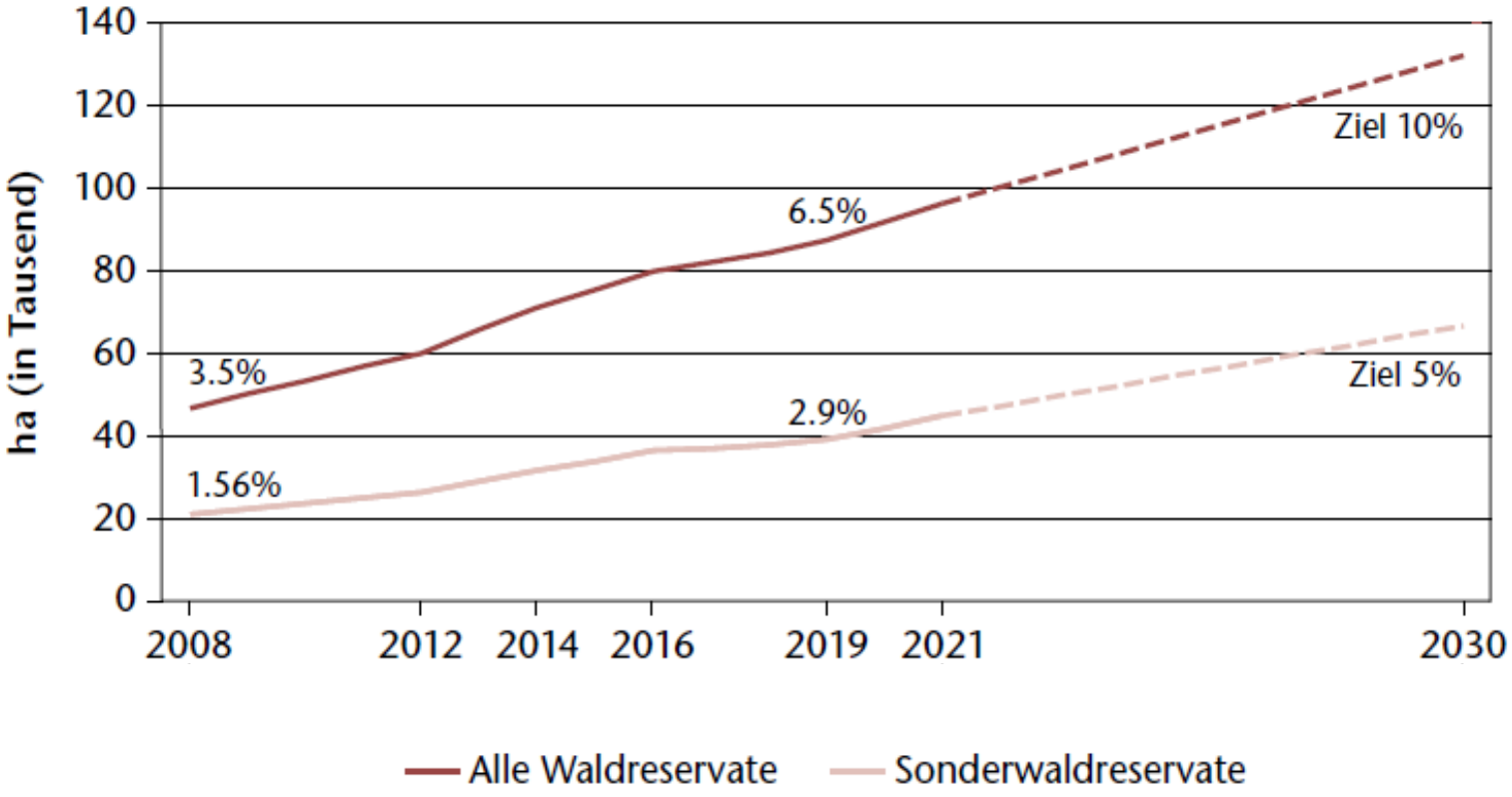
Guide to implementation defines 6 priority «bundles» of measures spanning integrative and segregative approach *with regional priorisation*

- M 1: «Allowing natural development»
- M 2: «Promotion of old- and dead wood»
- M 3: «Maintain and revaluate ecologically valuable forests habitats»
- M 4: «Promotion of national priority species and habitats»
- M 5: «Conservation of genetic diversity»
- M 6: «Research and knowledge transfer»

Programmatic agreements between Confederation and Cantons as main implementation instrument

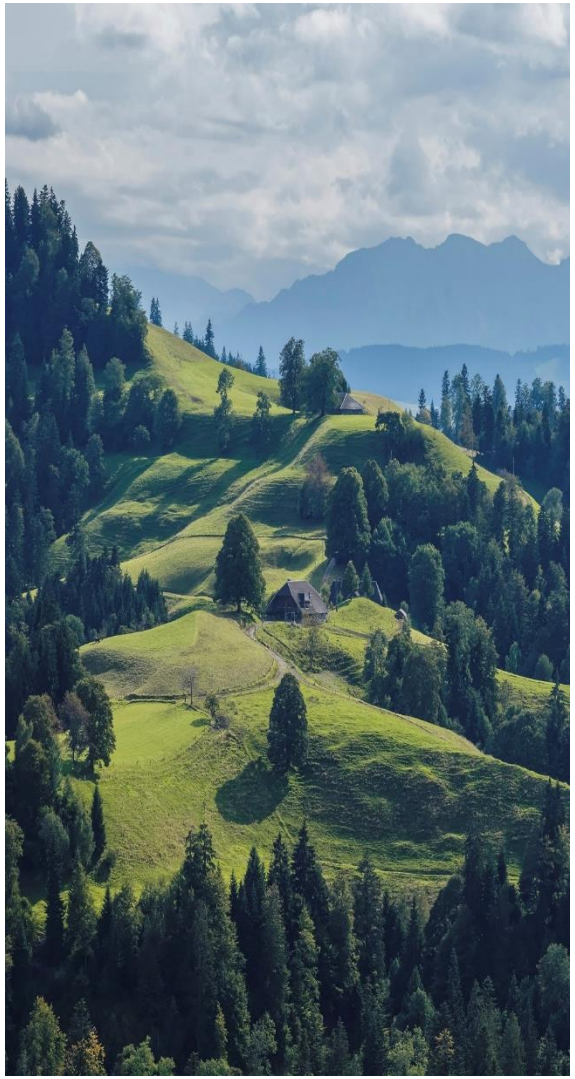
Segregative approach: forests reserves





> Doubling of the forest area in just over 10 years
> Target reachable

Integrative approach: forests edges

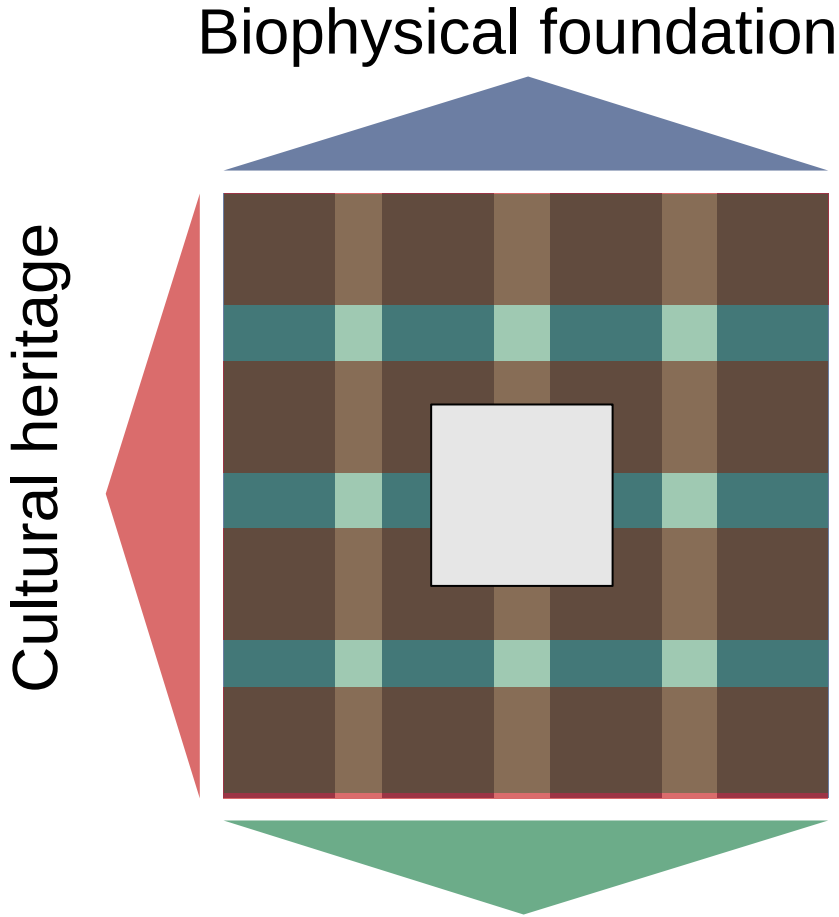


- **Ecotones of high ecological importance**
- **Promoted by human activity and fragmentation**
- **Great potential for connectivity**

- But:
  - Too often too monotone and sharp
  - Requires collaboration between forest and non-forest sectors

- Measure is integrated and complementary to forest management

Forest biodiversity conservation



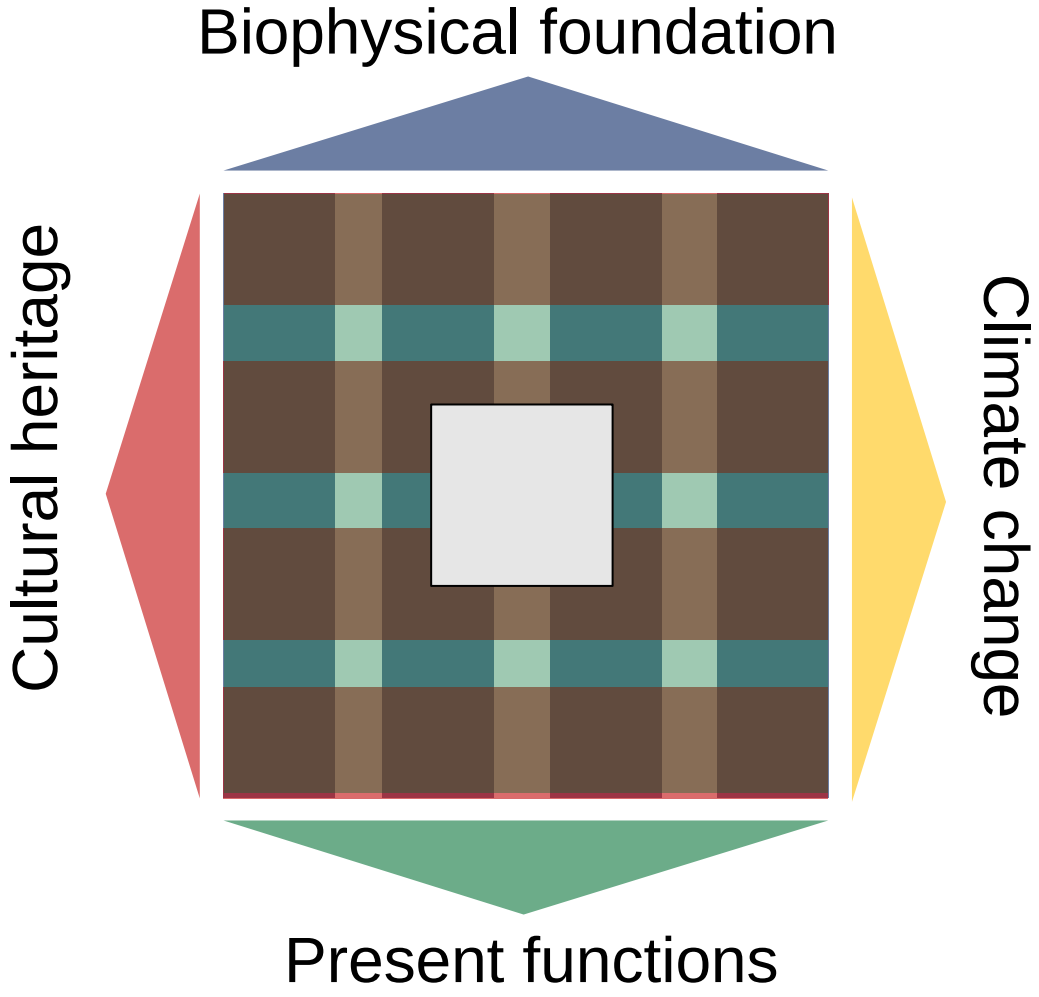
Ca. 10% dedicated to forest conservation would be utterly insufficient to guarantee biodiversity conservation by itself:

> protected forest total area
> silviculture close to nature on 100% of the forest area (sustainable use)

- No large-scale clear cuts
- Natural rejuvenation
- Selective harvest
- …

National strategy targets deficits of silviculture close to nature

Climate the game changer?



Climate change challanges biodiversity conservation:

> site bound nature of priority areas
> rare species in ever tighter niches
> biotic homogensation and/or invasion

Climate change challanges forest management:

> wood production «loses» the breadwinner species in the lowlands
> Protective function cannot «wait and see»
> ecosystem services such as water?

To integrate or not to integrate…

To integrate or not to integrate…

Climate challanges forest management for all functions

- Resilience and adaptation are key to face climate change

To integrate or not to integrate…

Climate challanges forest management for all functions

- Resilience and adaptation are key to face climate change

Where do they come from, how do we get them?

To integrate or not to integrate…

Resilience and Adaptation are properties of an ecosystem, not of trees or stands

Technical solutions, e.g:

- adaptation through faster turnover and plantation
- resilience through new cultivars

Can be part of the mix, but should not be the primary or sole focus

Natural solutions, e.g

- Natural rejuvenation
- Species and structural diversity
- Time (it's free!) for natural development

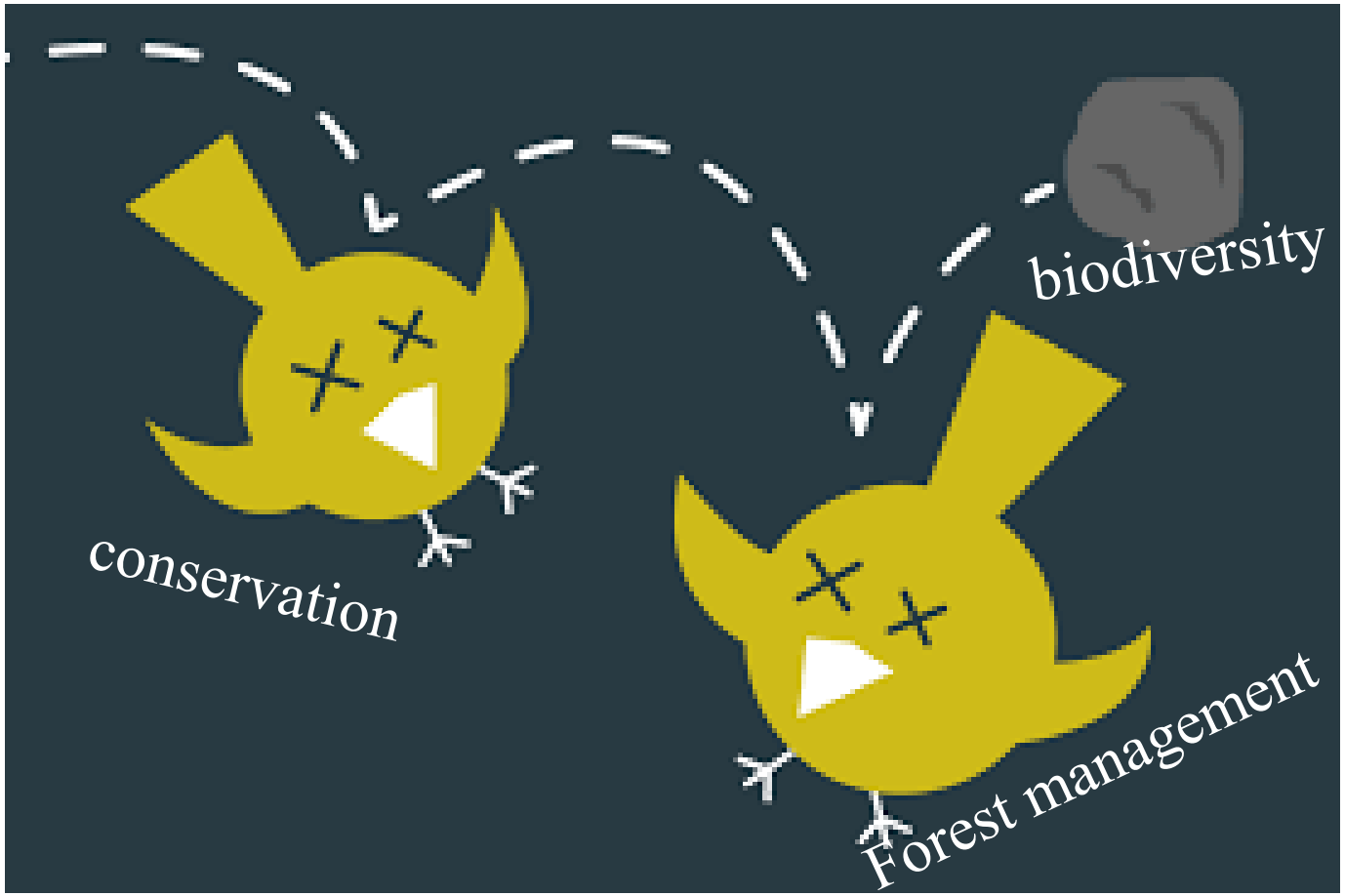
Need to be seen as the best insurance against the unknown, and the measures that really work at the scale needed, i.e the ecosystem

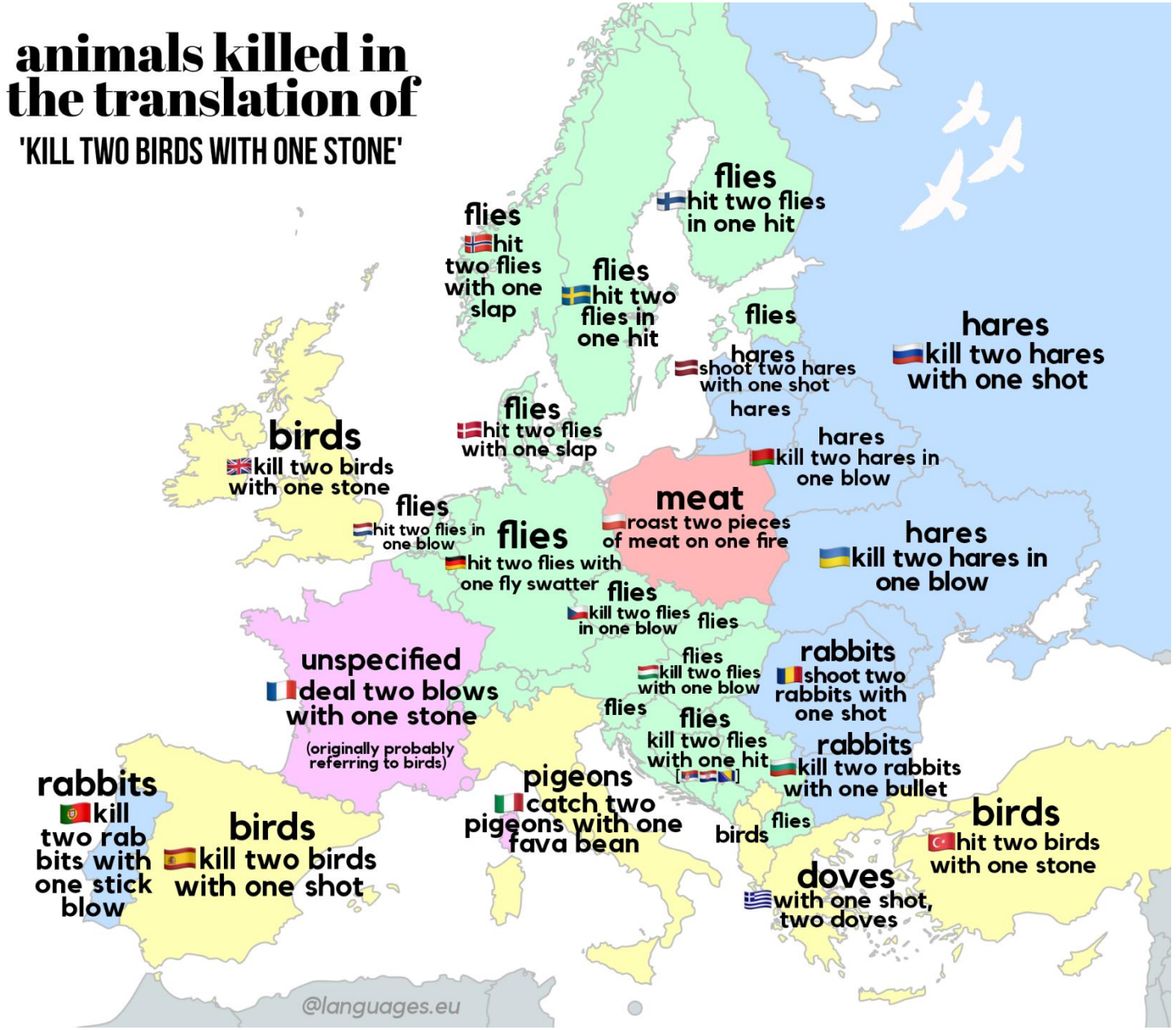
To integrate or not to integrate…

Resilience and Adaptation are properties of an ecosystem, not of trees or stands

By integrating biodiversity conservation deeper into forest management, we can kill the proverbial two birds with one stone, helping secure forest functions and averting further biodiversity loss

Thank you for your attention




animals killed in the translation of
'KILL TWO BIRDS WITH ONE STONE'
flies
hit two flies in one hit
flies
hit two flies with one slap
flies
hit two flies in one hit
flies
hares
kill two hares with one shot
hares
shoot two hares with one shot
hares
flies
hit two flies with one slap
birds
kill two birds with one stone
hares
kill two hares in one blow
meat
roast two pieces of meat on one fire
flies
hit two flies in one blow
flies
hit two flies with one fly swatter
hares
kill two hares in one blow
flies
kill two flies in one blow
flies
unspecified
deal two blows with one stone
(originally probably referring to birds)
flies
kill two flies with one blow
rabbits
shoot two rabbits with one shot
flies
flies
kill two flies with one hit
rabbits
kill two rabbits with one bullet
rabbits
kill two rab bits with one stick blow
birds
kill two birds with one shot
pigeons
catch two pigeons with one fava bean
birds
flies
birds
hit two birds with one stone
doves
with one shot, two doves
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