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... AND HALT BIODIVERSITY LOSS

STEFAN SCHINDLER (ENVIRONMENT AGENCY AUSTRIA)

SEIS and the environmental dimension of the SDGs – Webinar No. 5 “INFORMING BIODIVERSITY RESTORATION POLICIES”

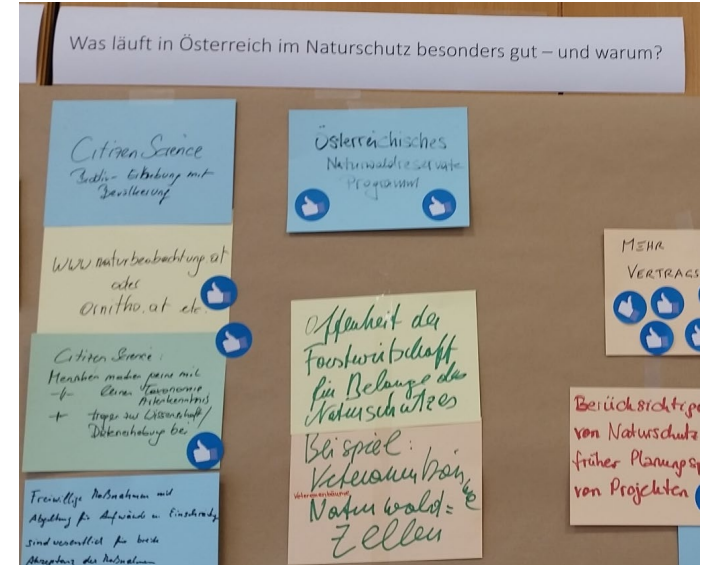
Content

- Austrian National Biodiversity Strategy and Action Plan 2030
- Biodiversity Monitoring in Austria

Austrian National Biodiversity Strategy and Action Plan 2030

Process 2019-2021

- Biodiversity dialog (workshop series with stakeholders)
- Expert paper on possible elements for a National Biodiversity Strategy and Action Plan
- Open public consultation
- First draft of the National Biodiversity Strategy and Action Plan
- Vision and cost estimation
- **Forthcoming:**
 - Definitive negotiations between Federal Ministry for Climate Protection and stakeholders (other ministries, Federal States, agricultural chambers, NGOs, academia...)



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Austrian National Biodiversity Strategy and Action Plan 2030

- In agreement with the EU-Biodiversity Strategy 2030
- Structure for the Austrian Biodiversity Strategy (current draft)
 - 1) Status and trends of species and habitats have improved significantly
 - 2) All important ecosystems are effectively protected and adequately connected
 - 3) Ecosystems that are particularly important for biodiversity and climate protection have been restored
 - 4) Habitat loss and fragmentation are significantly reduced
 - 5) Transformative change has been initiated in society, biodiversity is integrated into all sectors
 - 6) Global engagement is strengthened
 - 7) The legal framework for the conservation of biodiversity has been improved
 - 8) Financing is guaranteed and biodiversity-promoting action is supported
 - 9) Biodiversity is valued in society and the economy
 - 10) Scientific knowledge for achieving and evaluating biodiversity targets is available

Biodiversity Monitoring in Austria

Biodiversity status and trends requested by policy makers (e.g. CBD reporting)
→ **systematic biodiversity monitoring on species and habitats covering the entire country:**

- **WFD-Monitoring:** species and habitat data gathered for assessment of ecological status, but not analyzed regarding BD status and trends
- **Austrian Forest Inventory (ÖWI):** BD data play a minor role
- **Birds:** several monitorings by BirdLife Austria
- **HD-Monitoring (Art 11):** several species and habitats of community interest monitored
- **ÖBM-Kulturlandschaft:** base survey 2017/18 in open cultural landscapes

Habitats Directive Article 17 Reporting (2019)

Target features

- 205 species: full report in one or both biogeographic regions (Alpine/Continental)
- 2 species: partial report (*Canis aureus*, *Bolbelasmus unicornis*)
- 71 habitat types: full report in one or both biogeographic regions

Parameters

Parameters for habitats	Parameters for species
Range	Range
Area covered by habitat type within range	Population
Specific structures and functions (incl. typical spp.)	Habitat for the species
Future prospects	Future prospects

HABITATS DIRECTIVE ARTICLE 17 REPORTING (2019)

Example:

Reptile species in the continental region

Legend: FV Favourable XX Unknown U1 Unfavourable-Inadequate U2 Unfavourable-Bad

Current selection: 2013-2018, Reptiles, Austria, Continental.

Member States reports

Species	Range (km ²)				Population									Habitat for the species				Future prospects				Overall assessment				Distribution area (km ²)				
	Surface	Status (% MS)	Trend	FRR	Min	Max	Best value	Unit	Type est.	Method	Status (% MS)	Trend	FRP	Unit	Occupied suff.	Unoccupied suff.	Status	Trend	Range prosp.	Population prosp.	Hab. for sp. prosp.	Status	Curr. CS	Curr. CS trend	Prev. CS	Prev. CS trend	Status Nat. of ch.	CS trend Nat. of ch.	Distrib.	Method
<i>Coronella austriaca</i>	11600	1.74	x	≈	N/A	N/A	165	grids1x1	estimate	b	0.03	x	>	Y		U1	x	good	poor	poor	U1	U1	x	U1	x	noChange	noChange	8500	b	2.66
<i>Emys orbicularis</i>	800	0.28	=	>>	N/A	N/A	28	grids1x1	estimate	b	0.08	=	>	Y		U1	=	bad	poor	poor	U2	U2	=	U2	=	noChange	noChange	700	b	0.52
<i>Lacerta agilis</i>	21000	2.22	-	>	N/A	N/A	498	grids1x1	minimum	c	1.07	-	>	Unk	N	U1	-	poor	poor	poor	U1	U1	-	U1	-	genuine	genuine	13600	c	2.47
<i>Lacerta viridis</i>	5500	2.26	-	>	N/A	N/A	257	grids1x1	estimate	b	10.01	x	>	Unk	N	U1	-	poor	poor	poor	U1	U1	-	U1	x	noChange	noChange	4500	b	4.22
<i>Natrix tessellata</i>	6000	2.43	x	>	N/A	N/A	119	grids1x1	estimate	b	6.08	-	>	Unk	N	U1	x	poor	poor	poor	U1	U1	x	U1	-	noChange	noChange	4500	b	4.53
<i>Podarcis muralis</i>	2800	0.56	-	>	N/A	N/A	55	grids1x1	minimum	c	0	-	>	Unk	N	U1	-	poor	good	poor	U1	U1	-	U1	x	genuine	genuine	1600	b	0.48
<i>Vipera ammodytes</i>	100	0.14	=	>>	N/A	N/A	2	grids1x1	estimate	a	0.38	-	>>	N	N	U2	-	bad	bad	bad	U2	U2	-	U2	-	noChange	noChange	100	a	0.40
<i>Zamenis longissimus</i>	8300	2.85	x	≈	N/A	N/A	127	grids1x1	estimate	b	0.05	x	>	Y		FV	=	good	poor	good	U1	U1	x	U1	x	noChange	noChange	6400	b	4.30

<https://nature-art17.eionet.europa.eu/article17/species/report/?period=5&group=Reptiles&country=AT®ion=CON>

Habitats Directive Article 11 Monitoring (2019)

Target features are monitored in different areas and with different methods

- Full survey:
 - All occurrences in a **quadrant** (3' x 5') are mapped
 - Population data for all occurrences in a **quadrant** are taken
 - Monitoring: random selection of a **sample area** (1000x1000m or 500x500m) and survey of 1-4 **test areas** per sample area
- Survey of a representative sample
 - Random selection of **quadrants**
 - Mapping of occurrences on **quadrants**
 - random selection of a **sample area**
 - Survey of parameters on **test area**
- Baseline survey
 - Searching for additional occurrences in potentially suitable **quadrants**

Austrian Biodiversity Monitoring ÖBM-Kulturlandschaft

Aim:

Monitoring of status of biodiversity in Austrian cultural landscapes

→ Evaluation of biodiversity targets (e.g. CBD reporting)

Approach:

- Focus on the national scale; representative for the open cultural landscape of Austria (excl. forests; incl. Alpine pastures)
- “population” : **all 1 km² grids with ≥ 50% cultural landscape**
- Field surveys of species and biotope types; and assessment of EBVs by remote sensing
- Repetitions every 3-5 years
- Compatibility with existing programs of partial coverage

Österreichisches Biodiversitäts-

Monitoring: Kulturlandschaft



Konzept für die Erfassung von

Status und Trends der Biodiversität

UMWELTBUNDESAMT (2017) Österreichisches Biodiversitätsmonitoring (ÖBM) – Kulturlandschaft: Konzept für die Erfassung von Status und Trends der Biodiversität. Umweltbundesamt, Vienna, Austria. <http://www.umweltbundesamt.at/fileadmin/site/publikationen/REP0635.pdf>

ÖBM-KULTURLANDSCHAFT: RANDOM SAMPLING



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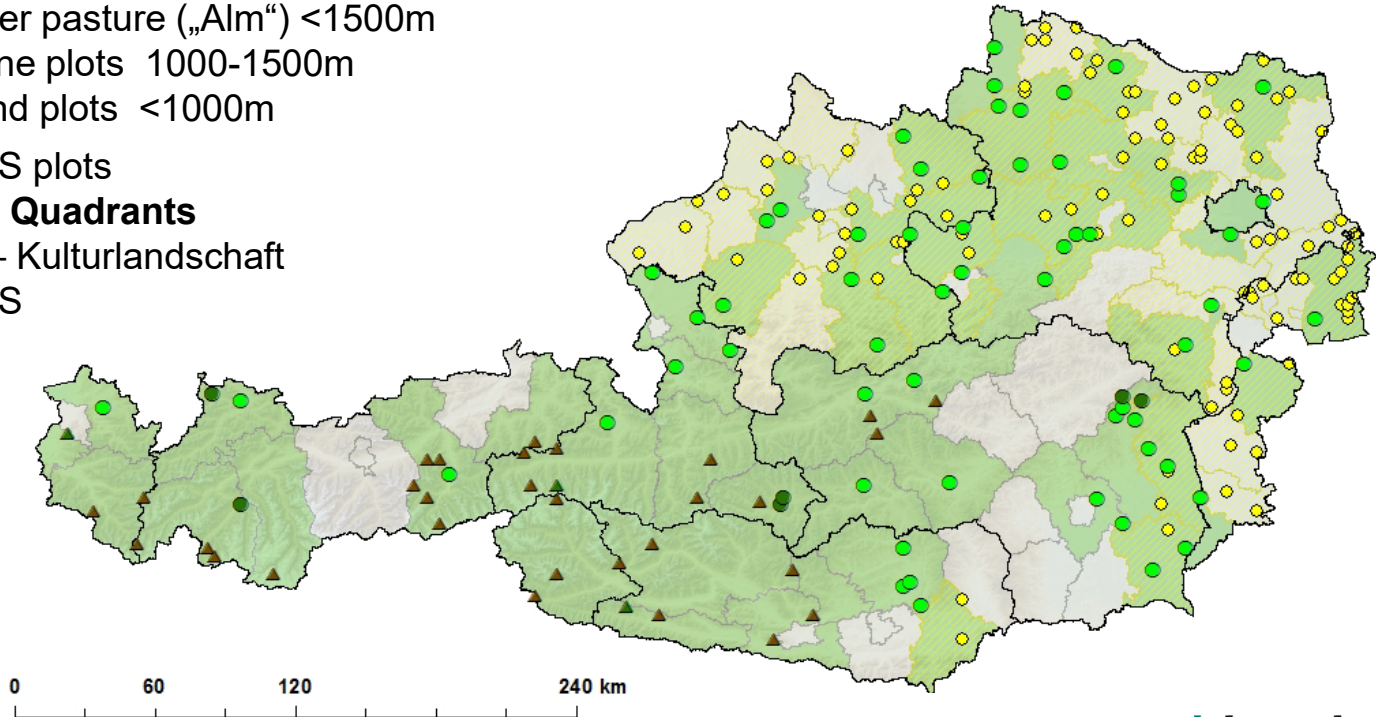
ÖBM-Kulturlandschaft 2017/18 (n=200 quadrants)

Quadrants

- ▲ Summer pasture („Alm“) >1500m
- ▲ Summer pasture („Alm“) <1500m
- Montane plots 1000-1500m
- Lowland plots <1000m
- BINATS plots

Districts with Quadrants

- ÖBM – Kulturlandschaft
- ▨ BINATS

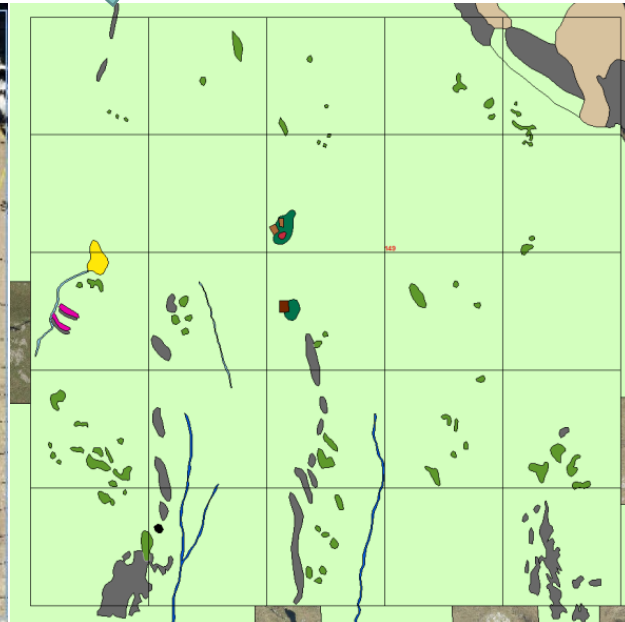
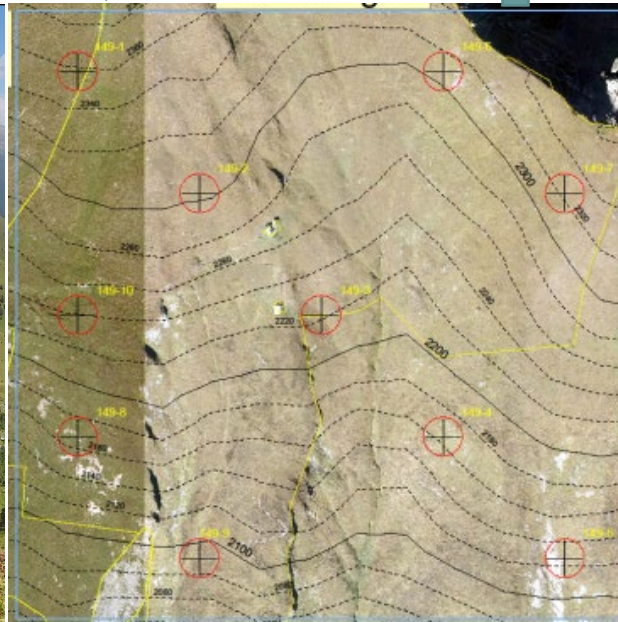
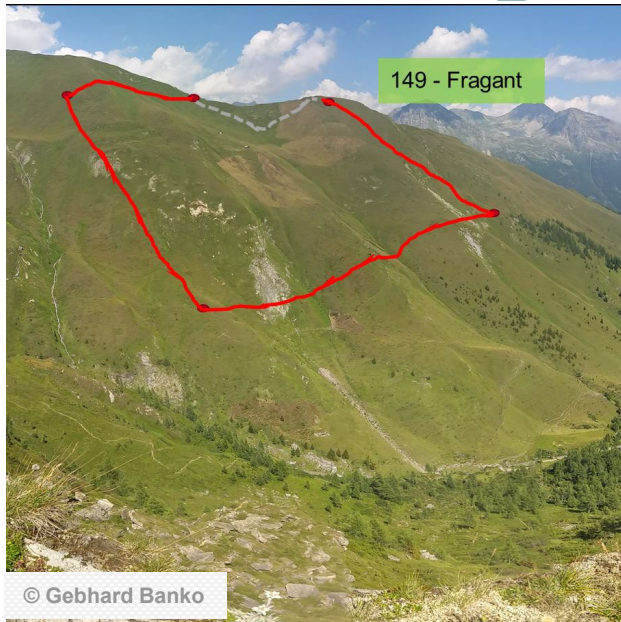


ÖBM-Kulturlandschaft: field survey of biotope types

based on red lists of Austrian biotope types
(Umweltbundesamt 2002, 2004, 2005, 2008)
appr. 400 habitat types



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Field survey of species



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2 x



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www.fokus-natur.de

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ÖBM-Kulturlandschaft: Remote Sensing and EBVs

EBV class	Examples of SRS-EBVs	ÖBM-Kulturlandschaft	
Genetic composition	Currently not defined	Currently not planned	
Species populations	Currently not defined	Field surveys (species)	<input checked="" type="checkbox"/>
Species traits	Currently not defined	Currently not planned	
Species composition	Currently not defined	Habitat and species surveys	<input checked="" type="checkbox"/>
Ecosystem function	Proportion of radiation absorbed by photosynthesis	Normalized Vegetation Index (NDVI)	<input checked="" type="checkbox"/>
	Leaf Area Index	Leaf Area Index (LAI)	<input checked="" type="checkbox"/>
	Vegetation phenology	BOS (Begin of Season), LOS (Length of Season), EOS (End of Season)	<input checked="" type="checkbox"/>
	Soil moisture	Moisture Index (MI)	<input checked="" type="checkbox"/>
	Floodings	Number of water coverages (nWB)	<input checked="" type="checkbox"/>
Ecosystem structure	Land Cover	LISA Land cover classes	<input checked="" type="checkbox"/>
		Grassland cuts per year (<i>nGS</i>)	<input checked="" type="checkbox"/>
		Ploughing per year (<i>nBU</i>)	<input checked="" type="checkbox"/>
	Forest Cover	Habitat mapping and BFW-Waldlayer	<input checked="" type="checkbox"/>

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