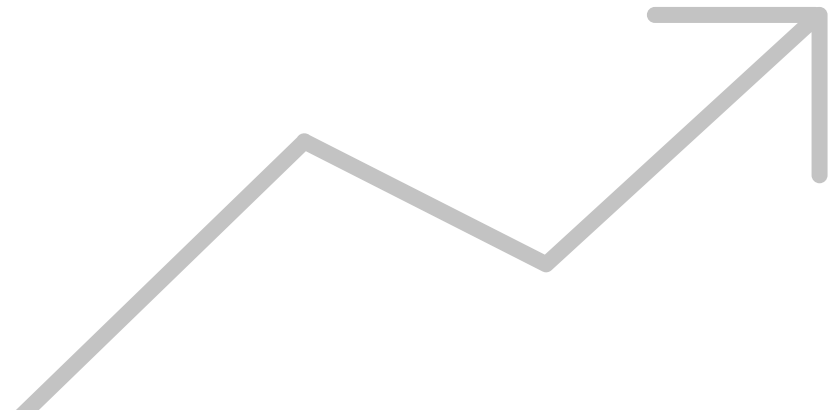
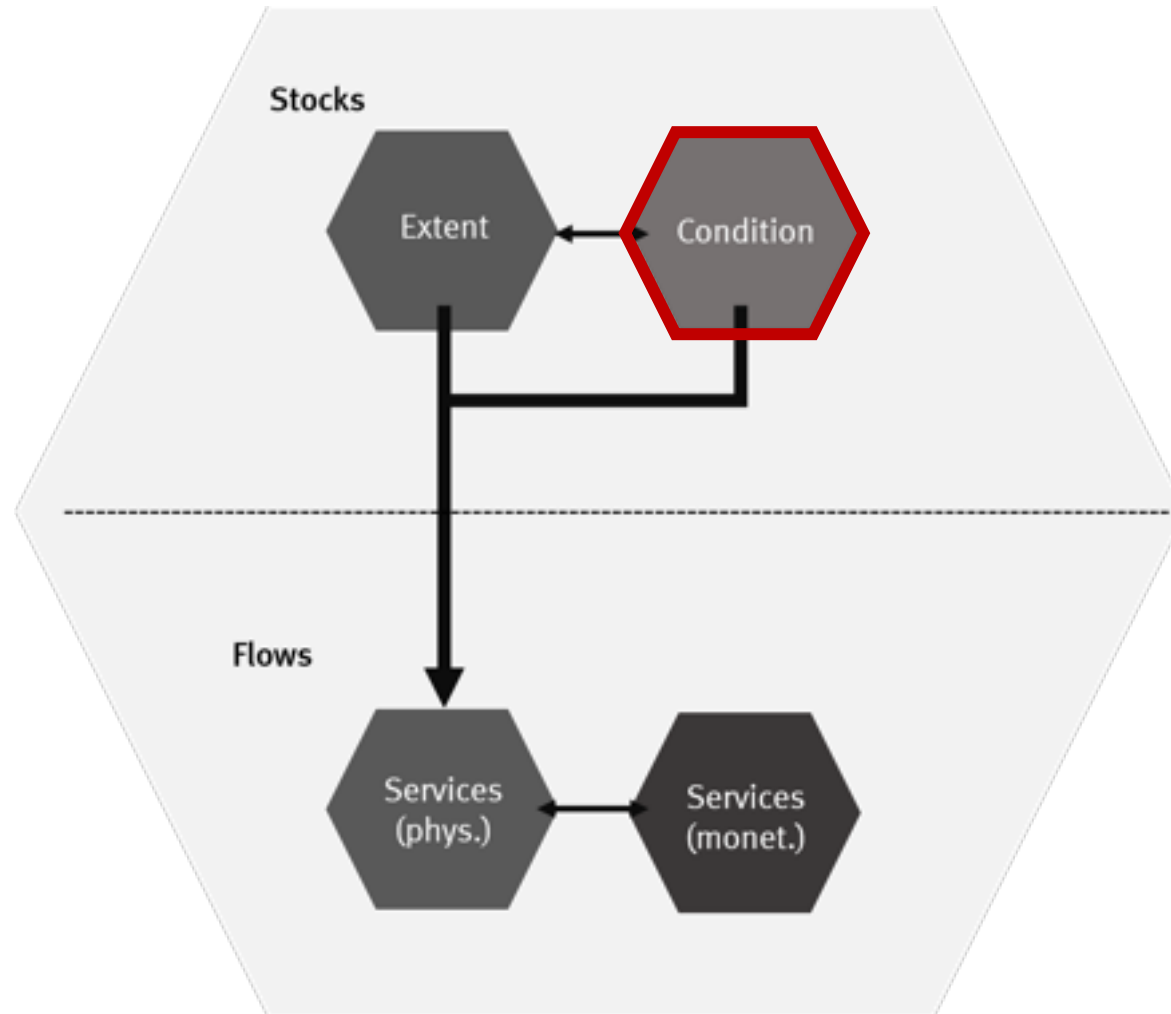


Ecosystem Condition Accounting in Germany

Implementation, Data Gaps and Operational Challenges

Marius Belling, Simon Schürz , Jonathan Reith, Simon Felgendreher, Johannes Oehrlein





Goals of Condition Accounting

- Create a standardized and comprehensive way to describe ecosystem condition
 - Compatible with national and international monitoring systems
 - Simple but sufficiently detailed and comprehensive
- Monitoring of ecosystem condition variables and indicators over time
 - Automated accounting with high-resolution spatial data
 - Consistent data and methods
- Basis for service accounts
 - Service indicators
 - Basis for modelling approaches

Source: SEEA-EA White Cover 2021 (changed)

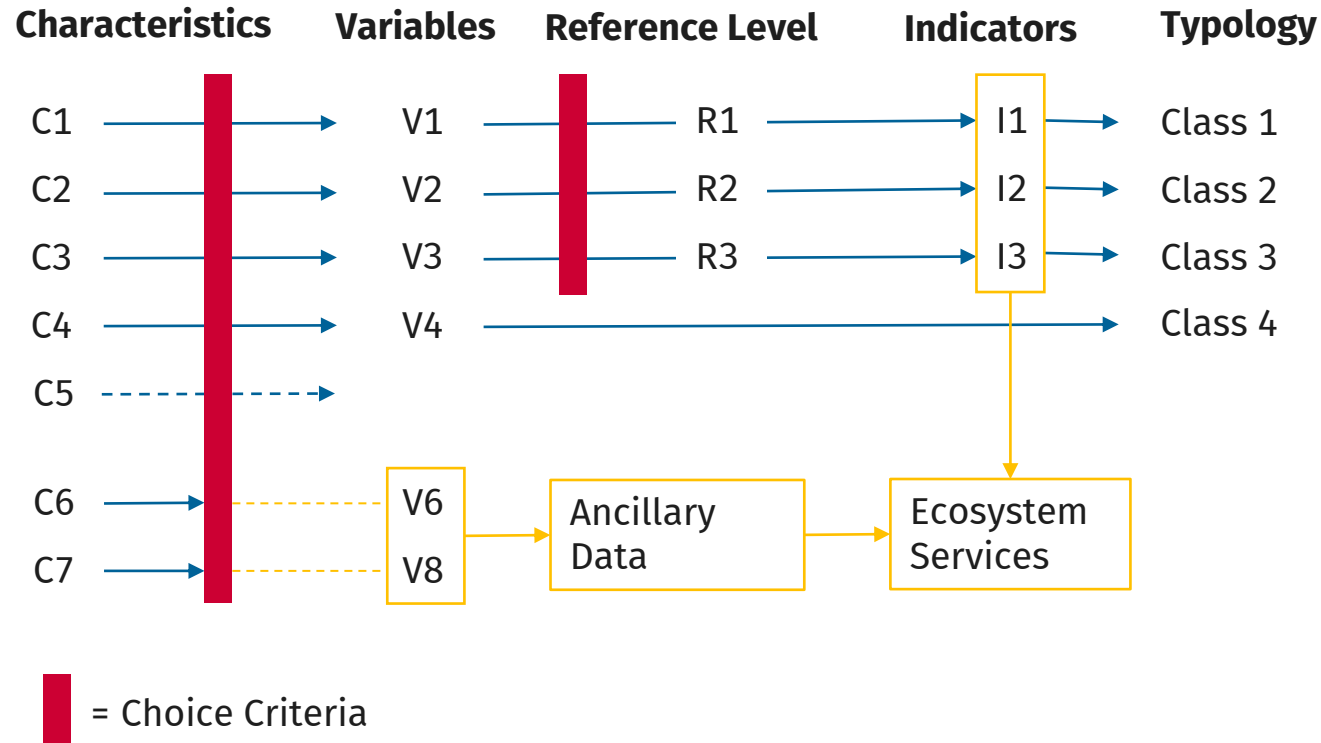
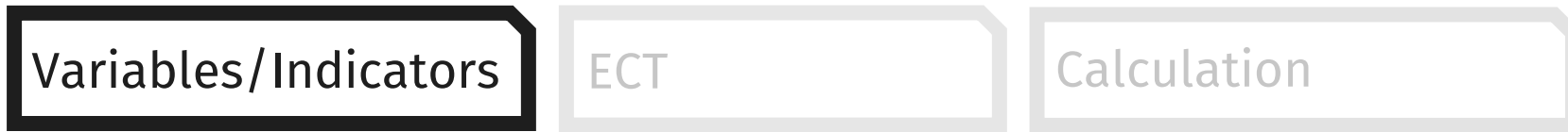
Challenges

- I. Identification of a sufficient set of condition indicators
- II. Collection of input data at necessary temporal and spatial resolution

- Frequent update on ‚Delineation of Riparian Zones‘ (Copernicus)
- Flooding Events through Radar-Data
- Spatial expansion of ‚Urban Street Tree Layer‘ (Copernicus)
- Daily land surface temperature at high spatial resolution

- III. Identification of relevant reference levels
- IV. Aggregation of different dimensions

Condition Accounting



Source: Keith H. et al. 2020 (changed)



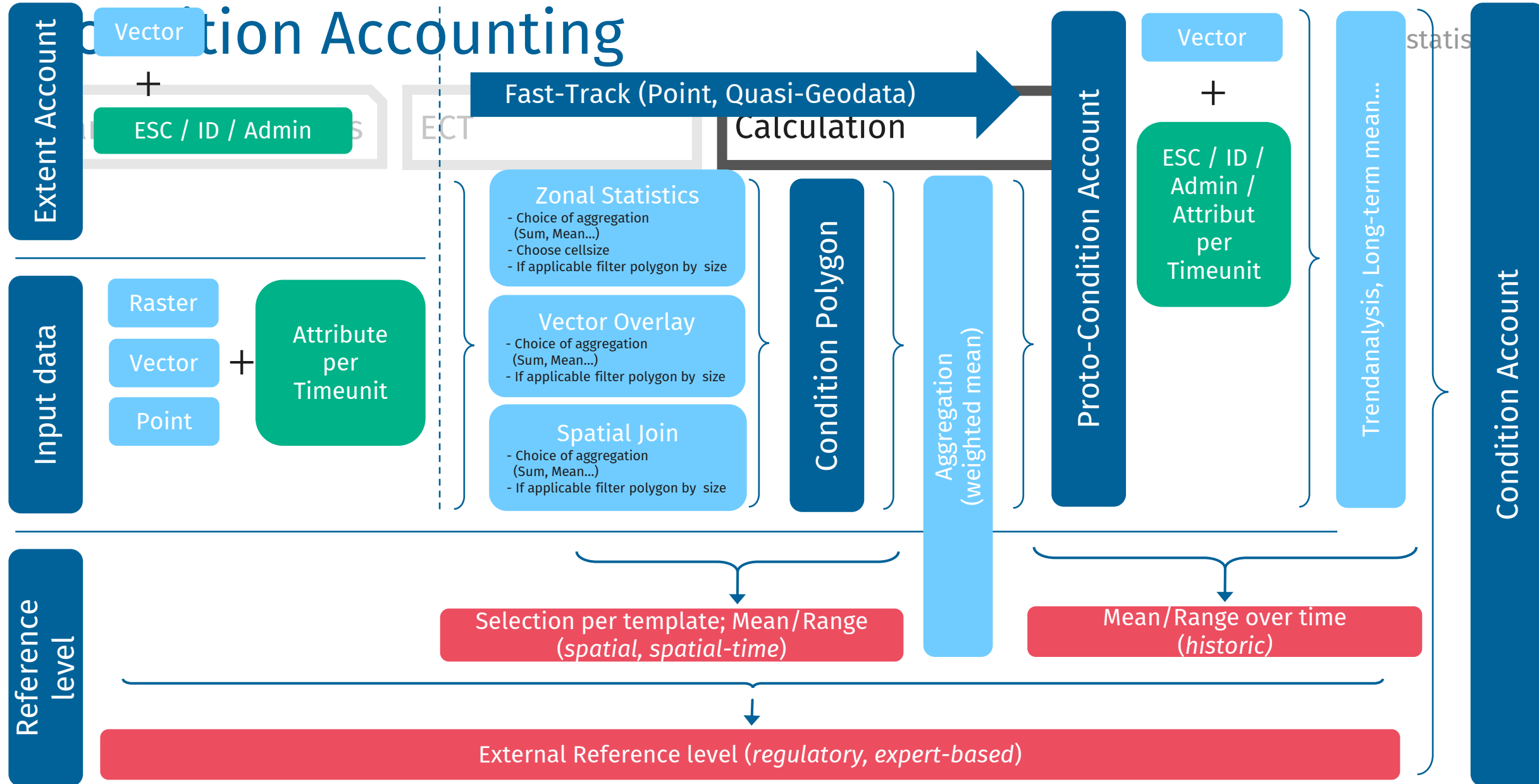
Condition Accounting

Variables/Indicators		ECT	Calculation	
Forests and woodland	A Abiotic	Physical	AP 1	Soil Moisture Index (SMI)
		Chemical	AC 1	Soil organic carbon
			AC 2	pH-value in soil
	AC 3		N Critical Loads	
	B Biotic	Compositional	BC 1	Characteristic bird species
		Structural	BS 1	Tree cover density
		Functional	BF 1	Normalized Difference Vegetation Index (NDVI)
	L Landscape		L 1	Fragmentation*
			L 2	Connectivity*
			L 3	Diversity*
	Pressure Indicator		P 1	Area harmed by fire
			P 2	Surface near ozone
	Management Indicator		M 1	Share of protected area
	Ancillary Data		Z 1	Precipitation
			Z 2	Temperature
			Z 3	Transpiration
Z 4			Vegetation Period	

* Methodological work are ongoing and not final yet



Condition Accounting



Publications

- Ecosystem maps
 - Interactive map at municipality level (new geoviewer coming)
 - Rastermap at 100x100m (coming)
- Accounting tables
 - National, regional, municipality and marine area level
 - Conversion matrices
- Background information
 - Methodological report
 - Classification
 - Ecosystem profiles



[Project website](#)

Thank you!

Contact

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