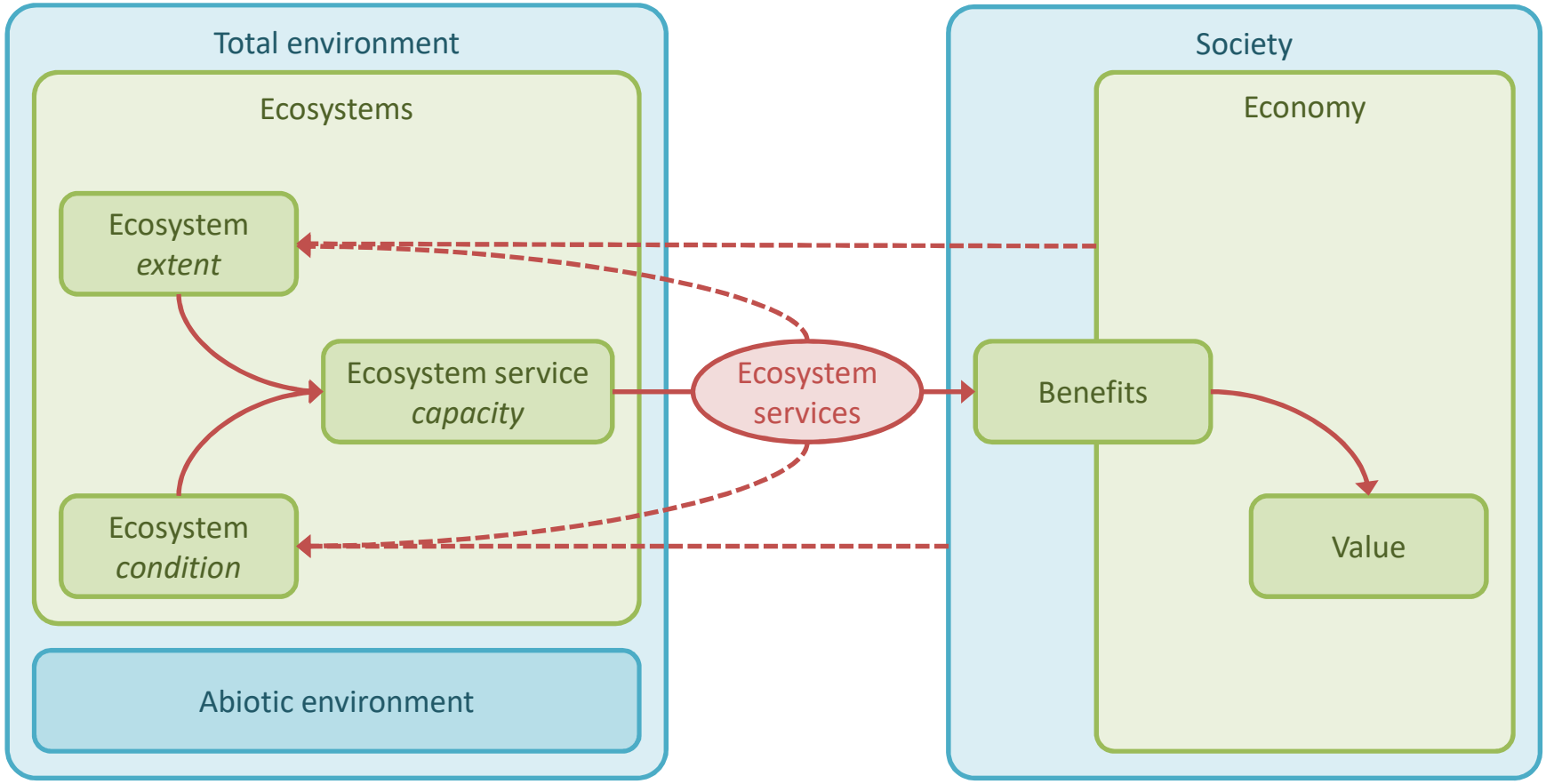
SEEA-EEA Ecosystem Extent Account for the Netherlands

Patrick Bogaart
Niek van Leeuwen, Marijn Zuurmond, Rixt de Jong

SEEA –EEA Framework



Introduction

- **Spatial units** are key to ecosystem accounting
- A classification describing the ecosystem types and a map are **essential components** of ecosystem accounting
- **SEEA EEA (2014):** recommended the use of an interim, land-cover classification as a starting point for an ecosystem classification

→ **Key revision issue** for SEEA EEA is to develop a proposal for a reference classification that better represents the concept and coverage of ecosystems

Goal

1. **Provide options for the construction of a reference classification of ecosystem types.**

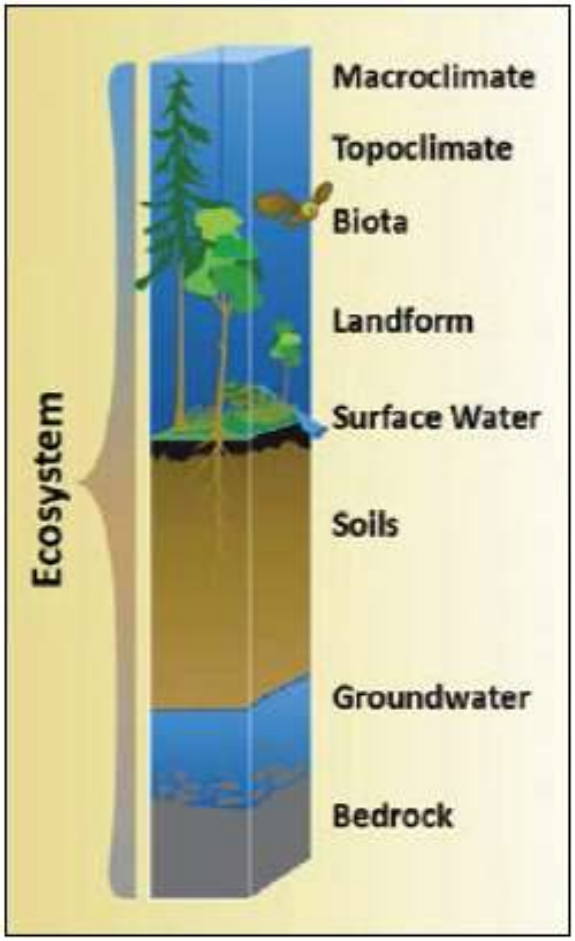
2. **Provide guidance for further disaggregation for ecosystem accounting at a national or regional scale.**

Design criteria

1. The classification typology should **represent ecosystems**
2. The classification units can be **spatially delineated**
3. The classification units are **geographically and conceptually exhaustive**, and **comprehensive** across all environmental domains
4. The classification types are **mutually exclusive**, both conceptually and geographically.
5. The classification should be **practicable**
6. The classification should be **linkable** to other established classification systems

CBD Ecosystem definition

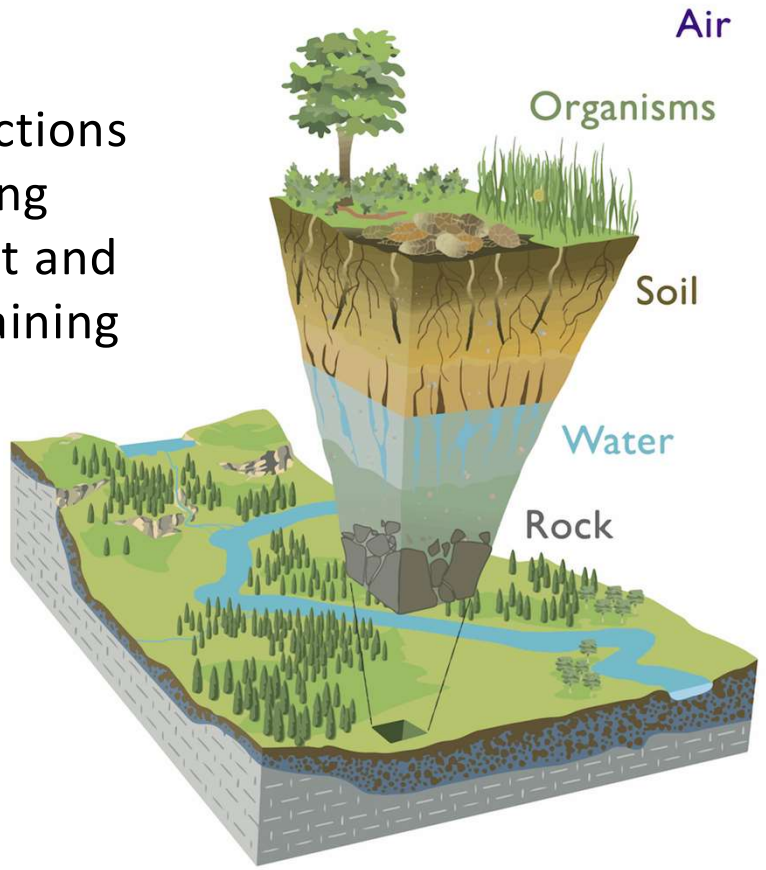
”[A] dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit” (CBD)



Related concepts: *Earth's Critical Zone*

"the heterogeneous, near-surface environment in which complex interactions involving rock, soil, water, air, and living organisms regulate the natural habitat and determine the availability of life-sustaining resources" (NRC, 2001)

Note: extends the concept of ecosystems towards geo-ecosystems to allow for abiotic services and conditions!



"A dynamic complex of **plant**, animal and micro-organism communities and their non-living environment interacting as a functional unit"

Vegetation…

- is the most recognizable component and an important functional property of many ecosystems.
- plays a key role in many ecosystem services
- Is described by species-independent plant functional traits, e.g.
  - Growth form (trees, shrubs, herbs, grass, etc); canopy architecture
  - Leaf type and phenology (broadleaved, needleleaved, deciduous)
  - Adaptations (phreatophytes, halophytes, xerophytes)

"A dynamic complex of plant, animal and micro-organism communities and their **non-living environment** interacting as a functional unit"

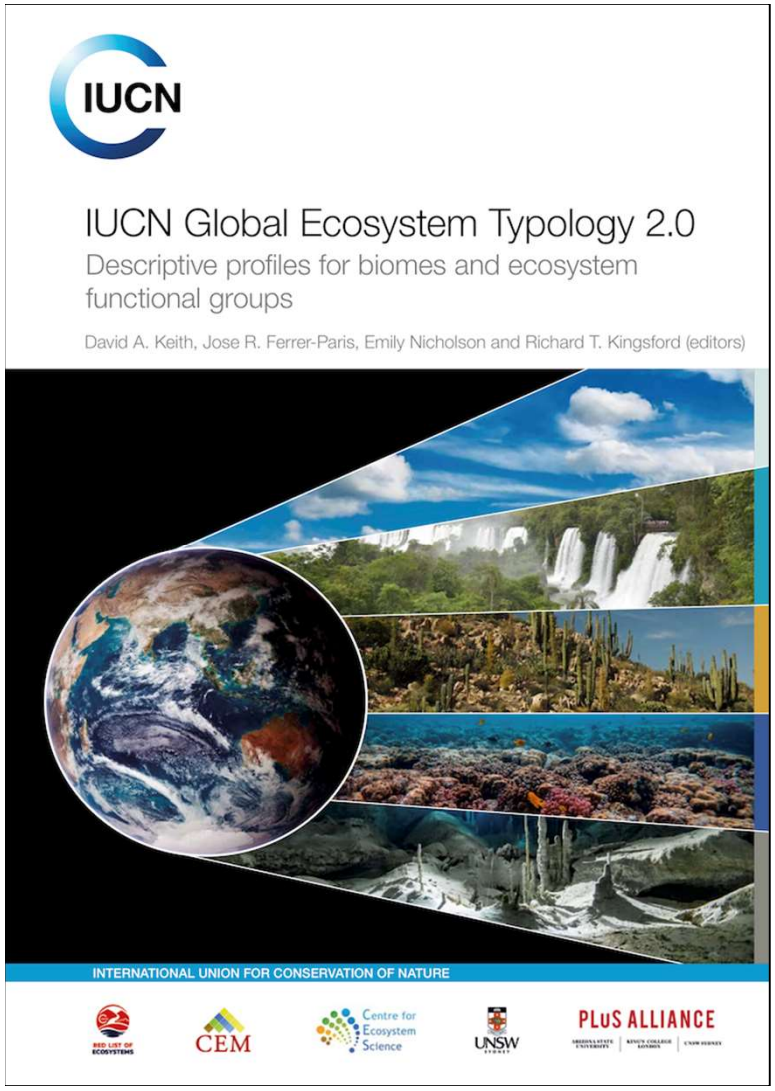
- **Climate**
  - Temperature
  - Precipitation
  - Seasonality/phase
- **Geomorphology**
  - Elevation, landform
  - Slope, Aspect
  - Curvature
- **Substrate**
  - *Lithology*
    - Type: igneous, sedimentary
    - Chemical: acidic, mafic
  - *Soils*
    - Texture
    - Water retention
    - CEC etc

"A dynamic complex of plant, animal and micro-organism communities and their non-living environment **interacting as a functional unit**"

- **Abiotics ⟹ biotics**
  - Supply of resources
    - Energy
    - Water
    - Nutrients
  - Selection pressures
    - Adaptations
    - Niche differentiation
    - Biodiversity
- **Biotics ⟹ abiotics**
  - Ecosystem engineering
    - e.g. soil water retention
  - Carbon sequestration
  - Climate regulation
    - e.g. precipitation recycling
- **Disturbance regime feedbacks**
  - Fires, floods

The IUCN RLE classification

- Recently developed by IUCN (Keith et al., 2020)
- Process-based approach to ecosystem classification across the whole planet
- Ecological assembly theory is used to identify key properties that distinguish functionally related ecosystems
- **Pros:** Complies with all design criteria, explicit theoretical foundation and takes ecosystem as its conceptual base, strong biological component
- **Cons:** Mapping in progress, less focus on agricultural/urban areas


IUCN
IUCN Global Ecosystem Typology 2.0
Descriptive profiles for biomes and ecosystem functional groups
David A. Keith, Jose R. Ferrer-Paris, Emily Nicholson and Richard T. Kingsford (editors)
INTERNATIONAL UNION FOR CONSERVATION OF NATURE
CEM
Centre for Ecosystem Science
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A Global Typology for Earth's Ecosystems
The new IUCN Global Ecosystem Typology is a comprehensive classification framework for Earth's ecosystems that integrates their functional and compositional features. This new typology will help identify the ecosystems that are most critical for biodiversity conservation, research, management and human wellbeing into the future.

Figure 1 Hierarchical structure of Global Ecosystem Typology

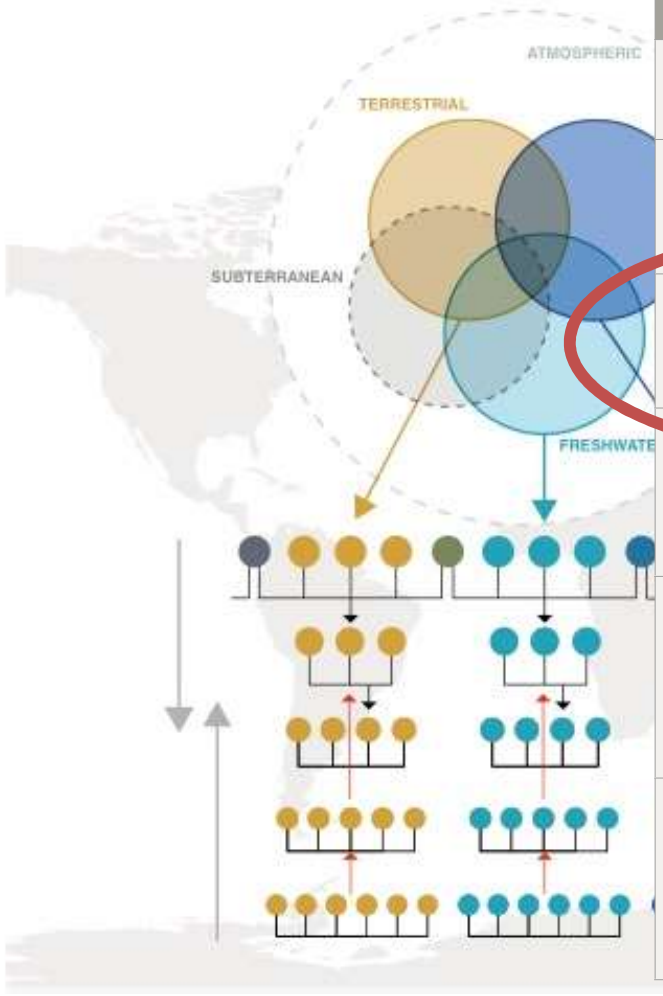


Table 2 Definitions of hierarchical levels within the global ecosystem typology

	LEVEL	DEFINITION
1	**Realm**	One of five major components of the biosphere that differ fundamentally in ecosystem organisation and function: terrestrial, freshwater, marine, subterranean, atmospheric
2	**Functional biome**	A component of a realm united by one or a few common major ecological drivers that regulate major ecological functions. Biomes are derived from the top-down by subdivision of realms (Level 1).
3	**Ecosystem Functional Group**	A group of related ecosystems within a biome that share common ecological drivers promoting convergence of biotic traits that characterise the group. Functional groups are derived from the top-down by subdivision of biomes (Level 2).
4	**Biogeographic ecotype**	An ecoregional expression of an ecosystem functional group derived from the top-down by subdivision of Ecosystem Functional Groups (Level 3). They are proxies for compositionally distinctive geographic variants that occupy different areas within the distribution of a functional group.
5	**Global ecosystem type**	A complex of organisms and their associated physical environment within an area occupied by an Ecosystem Functional Group. Global ecosystem types grouped into the same Ecosystem Functional Group share similar ecological processes, but exhibit substantial difference in biotic composition. They are derived from the bottom-up, either directly from ground observations or by aggregation of sub-global ecosystem types (Level 6).
6	**Sub-global ecosystem type**	A subunit or nested group of subunits within a global ecosystem type, which therefore exhibit a greater degree of compositional homogeneity and resemblance to one another than global ecosystem types (Level 5). These represent units of established classifications, in some cases arranged in a sub-hierarchy of multiple levels, derived directly from ground observations.

Appendix 1. List of Ecosystem Functional Groups by realms and biomes

REALM		BIOME		ECOSYSTEM FUNCTIONAL GROUP (EFG)	
TERRESTRIAL	T1	Tropical-subtropical forests	T1.1	Tropical-subtropical lowland rainforests
			T1.2	Tropical-subtropical dry forests and thickets
			T1.3	Tropical-subtropical montane rainforests
			T1.4	Tropical heath forests
TERRESTRIAL	T2	Temperate-boreal forests & woodlands	T2.1	Boreal and temperate high montane forests and woodlands
			T2.2	Deciduous temperate forests
			T2.3	Oceanic cool temperate rainforests
			T2.4	Warm temperate laurophyll forests
			T2.5	Temperate pyric humid forests
			T2.6	Temperate pyric sclerophyll forests and woodlands
TERRESTRIAL	T3	Shrublands & shrubby woodlands	T3.1	Seasonally dry tropical shrublands
			T3.2	Seasonally dry temperate heaths and shrublands
			T3.3	Cool temperate heathlands
			T3.4	Rocky pavements, screes and lava flows
TERRESTRIAL	T4	Savannas and grasslands	T4.1	Trophic savannas
			T4.2	Pyric tussock savannas
			T4.3	Hummock savannas
			T4.4	Temperate woodlands
			T4.5	Temperate subhumid grasslands
TERRESTRIAL	T5	Deserts and semi-deserts	T5.1	Semi-desert steppes
			T5.2	Thorny deserts and semi-deserts
			T5.3	Sclerophyll hot deserts and semi-deserts
			T5.4	Cool deserts and semi-deserts
			T5.5	Hyper-arid deserts
TERRESTRIAL	T6	Polar-alpine	T6.1	Ice sheets, glaciers and perennial snowfields
			T6.2	Polar-alpine rocky outcrops
			T6.3	Polar tundra and deserts
			T6.4	Temperate alpine grasslands and shrublands
			T6.5	Tropical alpine grasslands and shrublands

Appendix 1 (continued)

REALM		BIOME		ECOSYSTEM FUNCTIONAL GROUP (EFG)	
TERRESTRIAL	T7	Intensive land-use systems	T7.1	Annual croplands
			T7.2	Sown pastures and fields
			T7.3	Plantations
			T7.4	Urban and industrial ecosystems
			T7.5	Derived semi-natural pastures and oldfields
SUBTERRANEAN	S1	Subterranean lithic systems	S1.1	Aerobic caves
			S1.2	Endolithic systems
			S2.1	Anthropogenic subterranean voids
SUBTERRANEAN-FRESHWATER	SF1	Subterranean freshwaters	SF1.1	Underground streams and pools
			SF1.2	Groundwater ecosystems
	SF2	Anthropogenic subterranean freshwaters	SF2.1	Water pipes and subterranean canals
			SF2.2	Flooded mines and other voids
SUBTERRANEAN-MARINE	SM1	Subterranean tidal systems	SM3.1	Anchialine caves
			SM3.2	Anchialine pools
			SM3.1	Sea caves
FRESHWATER-TERRESTRIAL	TF1	Palustrine wetlands	TF1.1	Tropical flooded forests and peat forests
			TF1.2	Subtropical/temperate forested wetlands
			TF1.3	Permanent marshes
			TF1.4	Seasonal floodplain marshes
			TF1.5	Episodic arid floodplains
			TF1.6	Boreal, temperate and montane peat bogs
			TF1.7	Boreal and temperate fens
FRESHWATER	F1	Rivers and streams	F1.1	Permanent upland streams
			F1.2	Permanent lowland rivers
			F1.3	Freeze-thaw rivers and streams
			F1.4	Seasonal upland streams
			F1.5	Seasonal lowland rivers
			F1.6	Episodic arid rivers
			F1.7	Large lowland rivers

Table 3 Assembly filters and ecological traits distinguishing ecosystems within the five realms of the biosphere*

REALM	TERRESTRIAL	SUBTERRANEAN	FRESHWATER	MARINE	ATMOSPHERIC
Substrate	Soil/Rock	Rock	Separate fresh and saline waters and benthos	Connected saline waters and benthos	Atmospheric gases
RESOURCE FILTERS					
Water	Climatic and topographic gradients, sometimes limiting	Diffusion gradients, sometimes limiting	Climatic & topographic gradients, sometimes limiting	Not limiting	Convection and turbulence, limited to vapour and condensation
Nutrients	Topographic and substrate gradients, sometimes limiting, climatic leaching	Substrate and seepage gradients, sometimes limiting	Catchment substrates and stratification gradients, sometimes limiting	Sometimes limiting along depth and mixing gradients; deviations from the C:N:P Redfield ratio	Limited to aerosols
Energy	Euphotic, rarely limiting except at high latitude or by autotrophic competition	Aphotic, principally chemical sources, limiting	Mostly euphotic-mesophotic (rarely aphotic), depth and turbidity gradients, sometimes limiting	Euphotic-aphotic, depth, turbidity and benthic geomorphology (influencing lateral and vertical flux of organic carbon) gradients, often limiting	Not limiting
Oxygen	Rarely limiting	Diffusion and depth gradients, sometimes limiting	Turbulence, diffusion, depth and consumption gradients, sometimes limiting	Depth, mixing & consumption gradients, sometimes limiting (oxygen minimum zones)	Not limiting
Carbon	Not limiting	Diffusion gradients, often limiting	Inflow and mixing gradients, sometimes limiting	Depth and nutrient gradients, often limiting	Allochthonous sources, limiting
AMBIENT ENVIRONMENTAL FILTERS					
Temperature	Extended hot-cold climatic gradients altered locally by topography and altitude, limiting metabolic function & growing season	Geothermal heat gradients, sometimes heat-limited but typically not cold-limited	Limited climatic & depth gradients, rarely heat-limited and rarely below freezing	Latitudinal & depth gradients influence metabolism, productivity and growth, some systems heat-limited but rarely below freezing	Extended altitudinal and regional gradients

Table 3 (continued)

REALM	TERRESTRIAL	SUBTERRANEAN	FRESHWATER	MARINE	ATMOSPHERIC
Geomorphology	Landforms influence water, nutrients, light (high latitudes)	Landform influences surface connectivity, hence water, nutrients and carbon	Topography defines catchment extent & form, water flow direction and velocity, influencing water & nutrient supply & flood regimes	Bathymetry influences currents and habitat structure, hence nutrients, carbon, oxygen & biotic processes	Topography regulate orographic uplift, hence water and atmospheric instability
Solid substrate	Soil chemistry, texture and depth gradients influence nutrients & water percolation	Lithology influences nutrients and structure	Catchment & benthic substrates influence nutrients and water percolation	Hard/soft sediment gradients define habitat structure, influence nutrients and mobility of benthic life forms	No solid substrates
Fluid circulation	Surface flow influences fine-scale nutrient and water patterns	Fluid connectivity to surface influences water, nutrients, carbon and dispersal	Directional flows and mixing influence oxygen, nutrients and biotic dispersal	Tidal regimes and currents influence nutrients, oxygen, carbon sediment transport, biotic reproduction and dispersal	Convection, wind influence water and biotic dispersal
Seasonality	Influences water, energy, temperature and phenology in many systems	Influences water in surface-connected systems	Influences flow and filling/drying regimes, water, nutrients, temperature in many systems	Seasonal productivity of surface layers influences vertical flux of nutrients and carbon through water column and to benthos	Seasonal weather patterns influence water, temperature and wind
Interannual variability	Very high interannual variability drives boom/bust supply of water and nutrients at extremes	Low variability except in connected streams	Very high interannual variability drives boom/bust supply of water and nutrients at extremes	Low variability in most systems, but interannual climate cycles (e.g El Niño, Indian Ocean Dipole) and forage fish may drive trophic fluctuations	Regional scale cycles, such as El Niño, drive large fluctuations
UV-B radiation	May limit function at extremes of altitudinal and latitudinal gradients	Not applicable	Rarely limiting	Rarely limiting on function, diminishes with depth and turbidity	May limit function in some biota

Contributors: DA Keith, NA Brummitt, A Etter

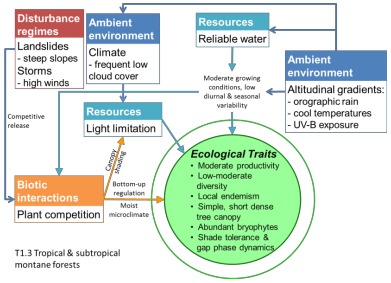
T1.3 Tropical-subtropical montane rainforests

Biome: Tropical-subtropical forests. ***Realm***: Terrestrial

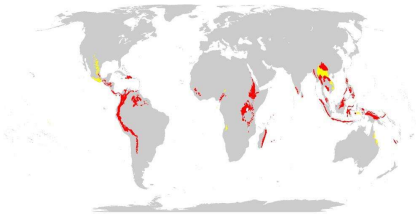
Ecological traits: Closed-canopy evergreen forests on tropical mountains usually have a single-layer low tree canopy (approx.. 5-20m tall) with small leaf sizes (microphyll-notphyll) and high SLA. Structure and taxonomic diversity become more diminutive and simpler with altitude, culminating in 'elfinwood' forms. Conspicuous epiphytic ferns, bryophytes, lichens, orchids and bromeliads drape tree branches and are able to exploit atmospheric moisture (cloud stripping), but grasses are rare or absent. Moderate productivity is fuelled by authochthonous energy sources, limited by cool temperatures, possibly high exposure to UV-B radiation and sometimes by shallow soil and/or wind exposure. Growth and reproductive phenology is aseasonal or weakly seasonal. Plant propagules are dispersed mostly by wind, also by territorial birds and mammals. Taxonomic diversity is moderate to low, especially in the tree canopy, but there is often high local endemism at higher altitudes in most groups, especially amphibia, birds, plants and invertebrates. Gap-phase dynamics is driven by individual tree-fall or lightning strikes, more rarely by extreme wind storms in some areas. Seedling banks are common (seedbanks uncommon), most plants are shade tolerant and able to recruit in shade.

Cloud forest, Mt Gower, Lord Howe Island (Oceania)
Source: David Keith (2018)

Key ecological drivers: There is a reliable year-round rainfall surplus over evapotranspiration, with high humidity and substantial cloud moisture component. Altitudinal gradients in temperature, precipitation and exposure are pivotal in ecosystem structure and function. Frequent cloud cover from orographic uplift and closed tree canopies maintain a moist microclimate and shady conditions. Temperatures are mild-cool, decreasing with altitude but above 0°C in all months of the year, with low-moderate seasonal variability and moderate-high diurnal variability. Landslides are a significant form of disturbance that drives successional dynamics on steep slopes and are exacerbated by extreme rainfall events. Mountains experience elevated UV-B radiation with altitude and are exposed to tropical storms in some regions.



Distribution: Humid tropical and subtropical regions in east Africa, east Madagascar, southeast Asia, west Oceania, northeast Australia, central and tropical south America.



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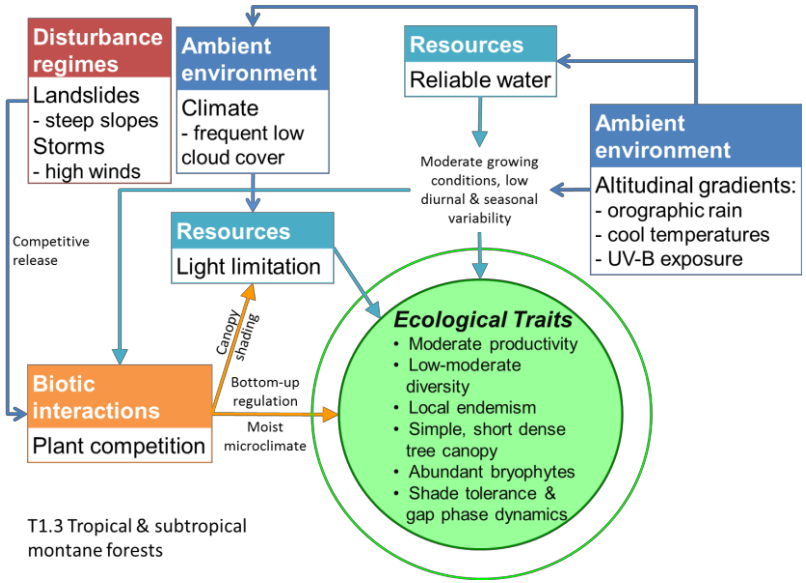
Gradstein SR, Homeier J, Gansert D (2008) The tropical mountain forest – patterns and processes in a biodiversity hotspot. Biodiversity and Ecology Series 2. Göttingen, Centre for Biodiversity and Ecology.

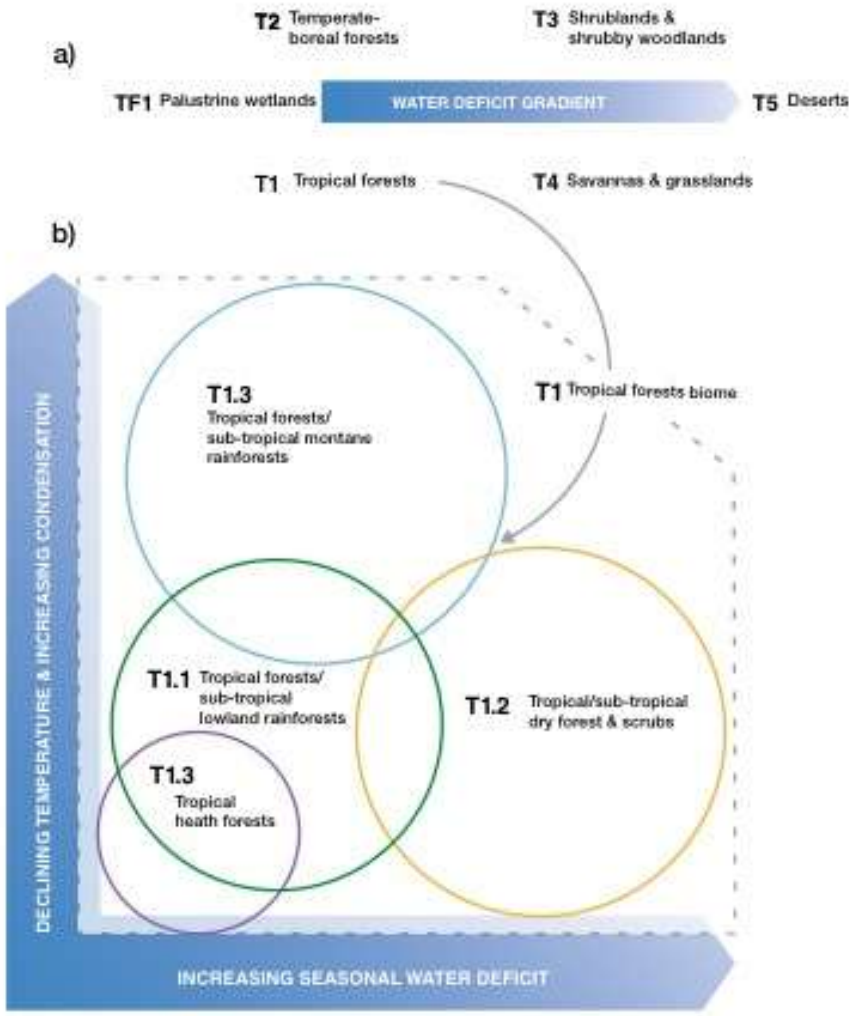
Hamilton LS, Juvik JO, Scatena FN (1995) Tropical Montane Cloud Forests. Ecological Studies. 110. Springer-Verlag, Berlin.



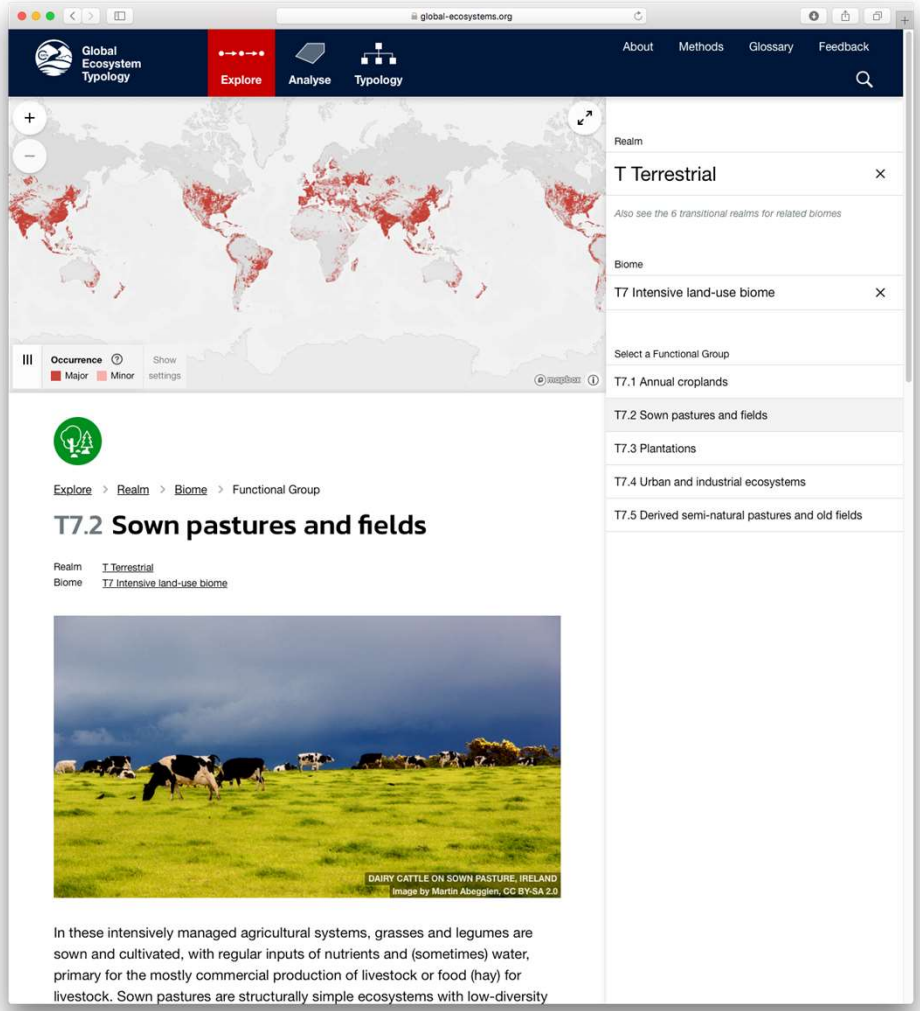
Keith et al. (2020)

Figure 4

a) Relationships of terrestrial biomes to a major assembly filter represented by a water deficit gradient (five of seven terrestrial biomes shown).
b) Relationships of four ecosystem functional groups to two environmental gradients (representing major assembly filters) elaborated within the Tropical forests biome (T1). A third filter related to an edaphic gradient differentiates group T1.4 from T1.1 (not shown here).



Source: Modified from Keith et al. (in review).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T7.2 Sown pastures and fields
T7.3 Plantations
T7.4 Urban and industrial ecosystems
T7.5 Derived semi-natural pastures and old fields
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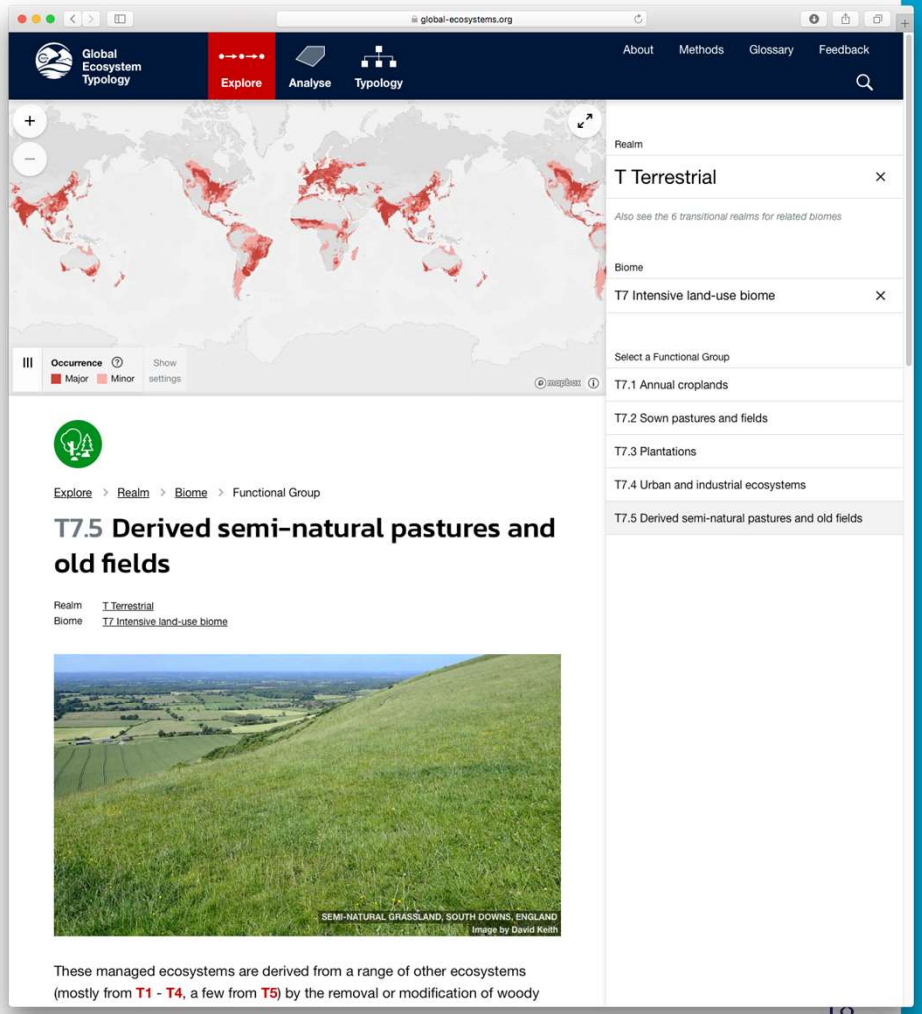
T7.2 Sown pastures and fields
Realm T Terrestrial
Biome T7 Intensive land-use biome
DAIRY CATTLE ON SOWN PASTURE, IRELAND
Image by Martin Abegglen, CC BY-SA 2.0
In these intensively managed agricultural systems, grasses and legumes are sown and cultivated, with regular inputs of nutrients and (sometimes) water, primary for the mostly commercial production of livestock or food (hay) for livestock. Sown pastures are structurally simple ecosystems with low-diversity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SEMI-NATURAL GRASSLAND, SOUTH DOWNS, ENGLAND
Image by David Keith
These managed ecosystems are derived from a range of other ecosystems (mostly from T1 - T4, a few from T5) by the removal or modification of woody

Next Steps

- Crosswalking with national classifications
- More detail in anthropogenic ET's
  - Proposal: FAO land use classification

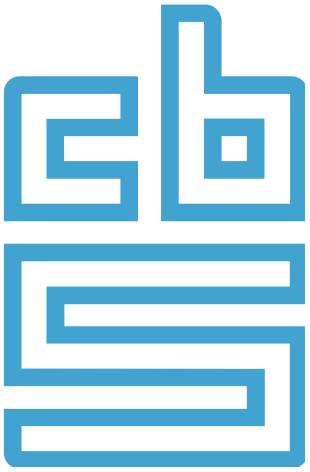
Identifying Ecosystem Types by linking local Nature management types to IUCN GET

IUCN			NL Ecosystem Types		Nature Management Types	EUNIS Habitat types
Realm	Biome	Functional group	2006/2013	2018	(Eng)	(Eng)
Terrestrial	T1 Tropical-subtropical forests	(none)				
	T2 Temperate-boreal forests & woodlanc	T2.1 Boreal and temperate montane forests and woodlands				
		T2.2 Temperate deciduous forests	*21 Deciduous forest*	***Semi-natural forest***	N14.03 Carpinus/Fraxinus forest	9160 : Sub-Atlantic and medio-European oak or oak-hornbeam forests of the Carpini
			11 Coastal dunes (veg.)		N15.01 Dune forests	2180 : Wooded dunes of the Atlantic, Continental and Boreal region
			23 Mixed forest		N15.02 Pine/oak/beech forest	9190 : Old acidophilous oak woods with Quercus robur on sandy plains
						9120 : Atlantic acidophilous beech forests with Ilex and sometimes also Taxus in the
						9110 : Luzulo-Fagetum beech forests
		T2.3 Oceanic temperate rainforests				
		...				
	T3 Shrublands & shrubby woodlands	T3.1 Seasonally dry tropical shrublands				
		T3.2 Seasonally dry temperate heaths and shrublands				
		T3.3 Cool temperate heathlands	24 Heathland	**Dry heath**	N07.01 Dry heathland	2310 : Dry sand heaths with Calluna and Genista
						2320 : Dry sand heaths with Calluna and Empetrum nigrum
						4030 : European dry heaths
						5130 : Juniperus communis formations on heaths or calcareous grasslands
			25 Driftsand	**Driftsand**	N07.02 Inland dunes	2330 : Inland dunes with open Corynephorus and Agrostis grasslands
		T3.4 Rocky pavements, screes and lava flows				
	T4 Savannas and grasslands	T4.1 Trophic savannas				
		...				
		T4.5 Temperate grasslands	*27 Semi-nat. grasslands*	**Semi-natural grasslands**	N10.01 Wet poor meadows	6410 : Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion ca
						7140 : Transition mires and quaking bogs
						7230 : Alkaline fens
					N10.02 Moist hay meadows	6510 : Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)
~						6410 : Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion ca
						7140 : Transition mires and quaking bogs
						7230 : Alkaline fens
					N11.01 Dry poor meadows	6210 : Semi-natural dry grasslands and scrubland facies on calcareous substrates (Fe
						6130 : Calaminarian grasslands of the Violetalia calaminariae
						6230 : Species-rich Nardus grasslands, on silicious substrates in mountain areas (and
						6210 : Semi-natural dry grasslands and scrubland facies on calcareous substrates (Fe
					N12.02 Herb-rich grassland	6510 : Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)
						1330 : Atlantic salt meadows (Glauco-Puccinellietalia maritimae)
					N12.03 Arrhenatherum hay meadow	6510 : Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)
					N12.04 Saline and flooded grassland	1330 : Atlantic salt meadows (Glauco-Puccinellietalia maritimae)
						1310 : Salicornia and other annuals colonizing mud and sand

T7 Intensive land use systems	T7.1 Croplands	1 Annuals	**Cropland (intensive)**	–	
		2 Perennials	**Perennials (intensive)**	–	
	T7.2 Sown pastures and old fields	4 Pastures	**Pastures (intensive)**	–	
	T7.3 Plantations	*21 Deciduous forest*	**Production and other forest**	*N16.03 Dry production forest*	*9190 : Old acidophilous oak woods with Quercus robur on sandy plains*
					9120 : Atlantic acidophilous beech forests with Ilex and sometimes also Taxus in the shrublayer (Quercion robori-petraeae or I
		22 Needleleaf forest		*N16.04 Moist production forest*	*91E0 : Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)*
					9120 : Atlantic acidophilous beech forests with Ilex and sometimes also Taxus in the shrublayer (Quercion robori-petraeae or I
					9160 : Sub-Atlantic and medio-European oak or oak-hornbeam forests of the Carpinion betuli
					9190 : Old acidophilous oak woods with Quercus robur on sandy plains
	Txx Intensive horticulture	3 Greenhouses	**Greenhouses**		
		(none)	**Open-air container horticulture**		
	T7.4 Urban and infrastructure land	41 Residential	**Residential (urban)**		
			Residential (rural)		
		42-48 Offices and businesses	**Industrial/business parks**		
			Mining pits etc.		
		27 Public green space	**Public green space**		
			Sports park		
			Semi-public recreational		
			Recreation (accomodation)		
		45 Infrastructural / paved	**Infrastructure**		
		6 Farmyards and barns	**Residential (rural)**		
T8* Extensive land use systems	T8.1* Extensive croplands	1 Annuals	**Cropland (extensive)**	N12.05 Herb-rich cropland	
				A01.02 Croplands (fauna supporting)	
				A01.03 Geese foraging areas	
				A02.02 Croplands w. high floral value	
				A12.01 Croplands (breeding birds habitat)	
				A12.02 Croplands (winter birds habitat)	
				A12.03 Croplands (Hamster habitat)	
		2 Perennials	**Perennials (extensive)**	L01.09 Traditional orchards	
	T8.2* Extensive pastures	27 Semi-nat. grasslands	**Pastures (extensive)**	N13.01 Moist farmland bird grassland	
				N13.02 wintering migrant bird meadow	
				A01.01 Meadow birds	
				A01.03 Geese foraging areas	
				A01.04 Insect-rich grassland	
				A02.01 Pastures w. high floral values	
				A11.01 Meadow birds (open landscape)	
				A11.02 Meadow birds (reed, high veg.)	
				A11.03 Winter birds	
	T8.3* Extensive Plantations	*21 Deciduous forest*	***Semi-natural forest***	N17.02 Dry coppice	9190 Old acidophilous oak woods with Quercus robur on sandy plains
		22 Needleleaf forest			9120 : Atlantic acidophilous beech forests with Ilex and sometimes also Taxus in the shrublayer (Quercion robori-petraeae
		23 Mixed forest			9110 : Luzulo-Fagetum beech forests
					2180 : Wooded dunes of the Atlantic, Continental and Boreal region
				N17.06 Moist coppice	91E0 : Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion) incanae, Salicion albae)
					91F0 : Riparian mixed forests of Quercus robur, Ulmus laevis and Ulmus minor, Fraxinus excelsior or Fraxinus angustifolia, a
					9160 : Sub-Atlantic and medio-European oak or oak-hornbeam forests of the Carpinion betuli
				N17.03 historical estate forest	
				N17.04 Duck decoys	
				N17.05 Willow coppice	91E0 : Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)
	T8.4* Other extensive rural	5 Field borders, hedgerows etc	**Hedgerows etc**	N12.01 flower dyke	
				L01.02 Tree hedge	
				L01.03 Alnus tree hedge	
				L01.05 Clipped hedgerow	
				L01.06 Shrub hedgerow	
				L01.07 Tree-lined lane	
		-		L01.08 Pollard tree	
		29 Other unpaved	**Fallow & other extensive use**		
				N12.06 Rough grass and shrubs	

Terrestrial Ecosystem Types

Group	Ecosystem Type	Functional group	T2.1 Boreal and montane needle-leaved forest and woodland	T2.2 Temperate deciduous forests and shrublands	T3.2 Seasonally dry temperate heaths and shrublands	T3.3 Cool temperate heathlands	T3.4 Rocky pavements, screes and lava flows	T4.4 Temperate wooded savannas	T4.5 Temperate grasslands	T5.4 Cool temperate deserts	T7.1 Croplands	T7.2 Sown pastures and old fields	T7.3 Plantations	T7.4 Urban and infrastructure lands		Tally check	max	#candidate EFGs
Wet semi natural	Seminat. forest		0.2	0.8												1	0.8	2
	other forest		0.2	0.2									0.6			1	0.6	3
	tree lines			0.33									0.3			0.66	0.33	2
	Heathland					1										1	1	1
	Driftsand					0.2										0.2	0.2	1
	Seminat. Grassland							0.25	0.25			0.25				0.75	0.25	3
	Other unpaved															0	0	0
Agriculture	Cropland (intensive used)										1					1	1	1
	Cropland (extensive)										0.5					0.5	0.5	1
	Pasture (intensive)											1				1	1	1
	Pasture (extensive)								0.5			0.5				1	0.5	2
	Perennials (intensive)												0.8			0.8	0.8	1
	Perennials (extensive)												0.4			0.4	0.4	1
	Field borders										0.2	0.2				0.4	0.2	2
	Fallow										0.5	0.5				1	0.5	2
	Green houses													1		1	1	1
	Pots & container horticulture										0.2		0.2	0.2		0.6	0.2	3
Built-up	Built up (urban)													1		1	1	1
	Built up (rural)													1		1	1	1
	Industrial estate													1		1	1	1
	Other terrain use													1		1	1	1
	Infrastructure													1		1	1	1
	Sport park													1		1	1	1
	Public park													0.5		0.5	0.5	1
	Leisure													0.5		0.5	0.5	1
	Recreational residence													0.5		0.5	0.5	1



Facts that matter