



**Alfred Wegener Institute
Helmholtz Centre for Polar and Marine Research**

The growing scope of environment ontology



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**A community ontology attempting to
clarify the semantics of environmental
entities**



RELATION TO TIME	CONTINUANT				OCCURRENT	
	INDEPENDENT		DEPENDENT			
GRANULARITY						
ORGAN AND ORGANISM	Organism (NCBI Taxonomy)	Anatomical Entity (FMA, CARO)	Environments (EnvO)	Organ Function (FMP, CPRO)	Phenotypic Quality (PaTO)	Biological Process (GO)
CELL AND CELLULAR COMPONENT	Cell (CL)	Cellular Component (FMA, GO)		Cellular Function (GO)		
MOLECULE	Molecule (ChEBI, SO, RnaO, PrO)			Molecular Function (GO)		Molecular Process (GO)

Adapted from the Open Biomedical Ontology (OBO) Foundry proposal

Environmental systems

Biomes

Ecoregions

Ecozones

Habitats ...

Processes

Carbon fixation

Volcanic eruptions ...

Features

Coral reefs

Hospitals

Guts

Kimchi...

Materials

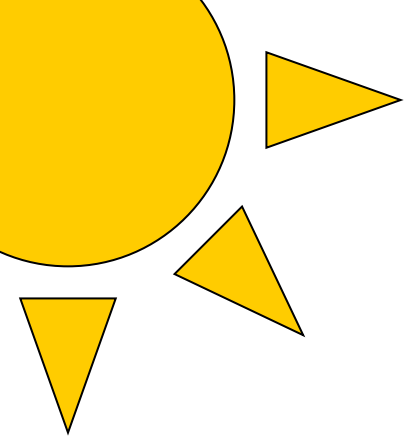
Water

Air

Soil ...

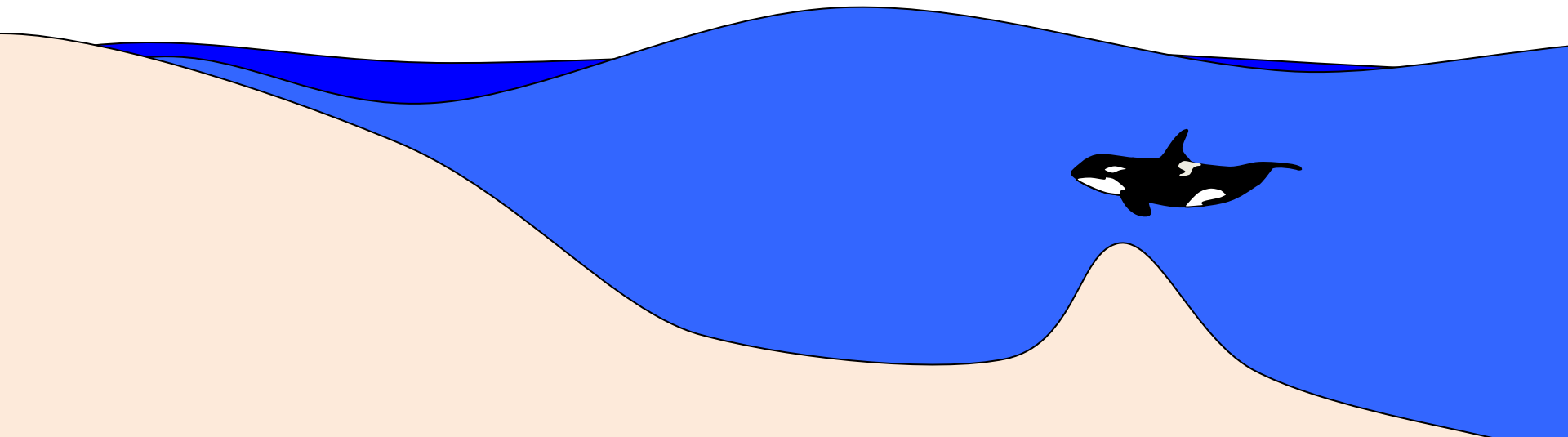
Seeding a new Food ontology

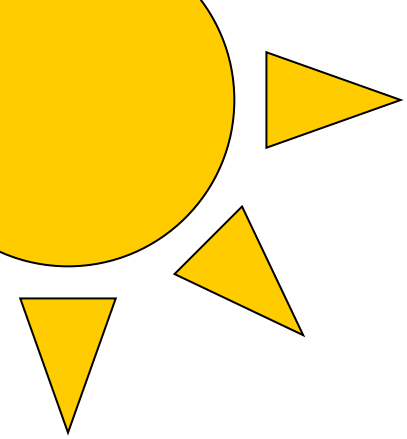
Thousands of classes mined from EOL



Biome level

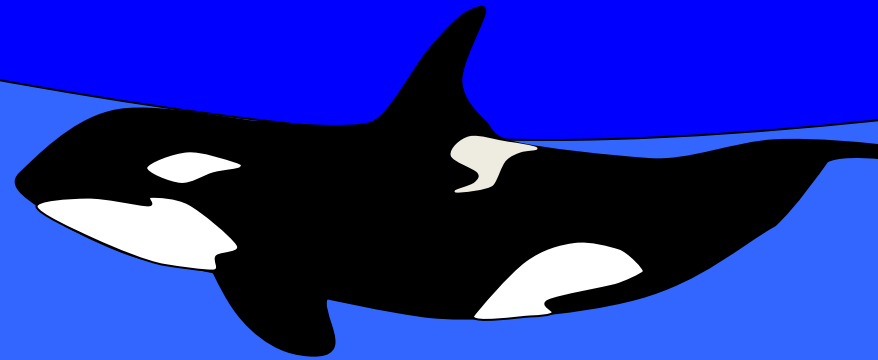
Marine neritic epipelagic biome





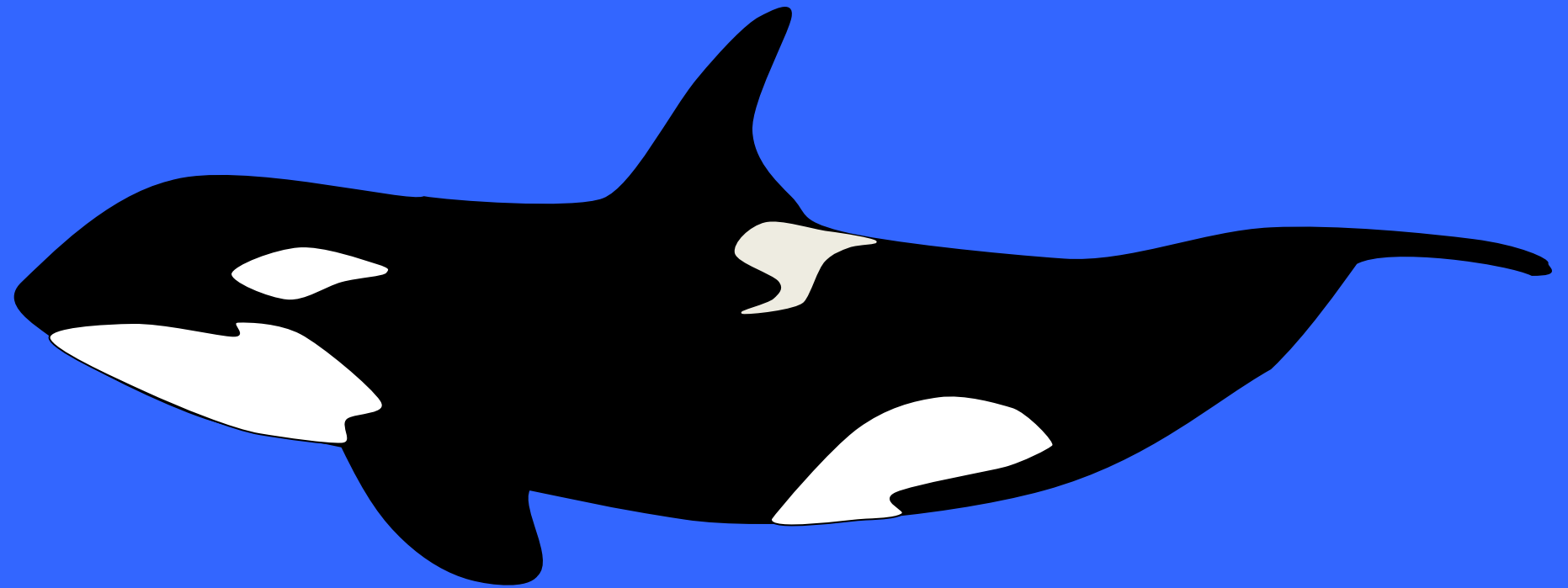
Feature level

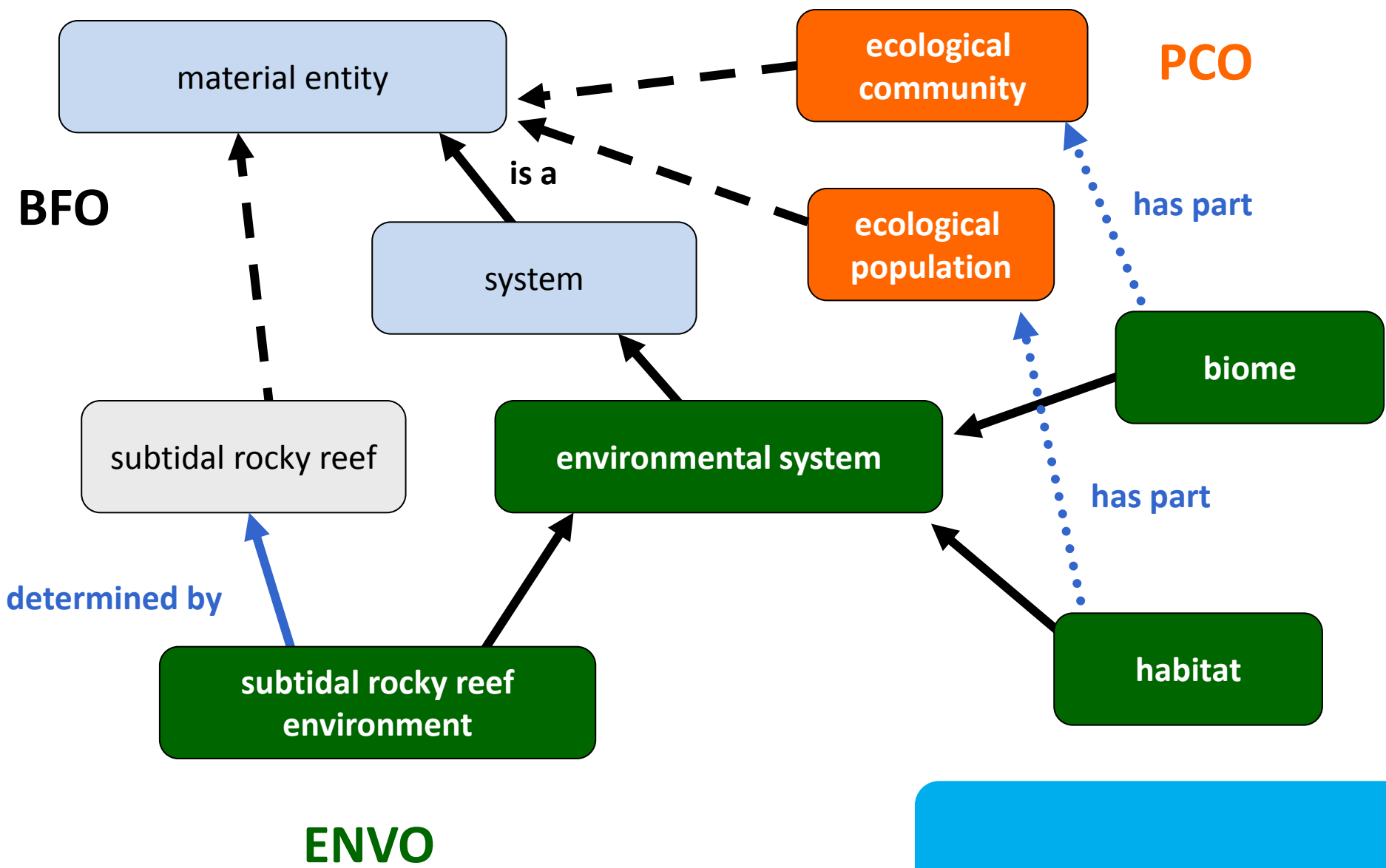
Marine subtidal rocky reef

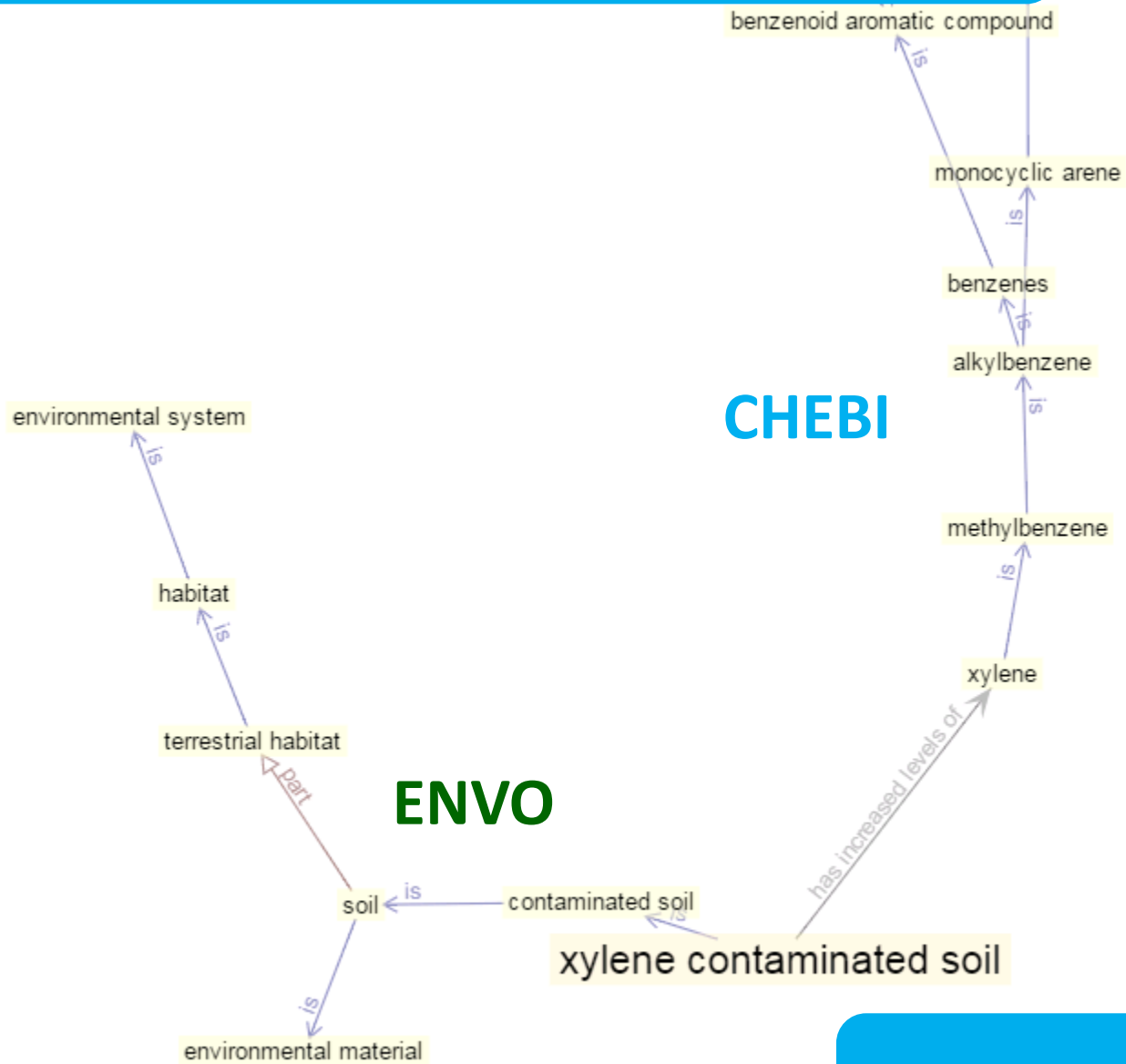


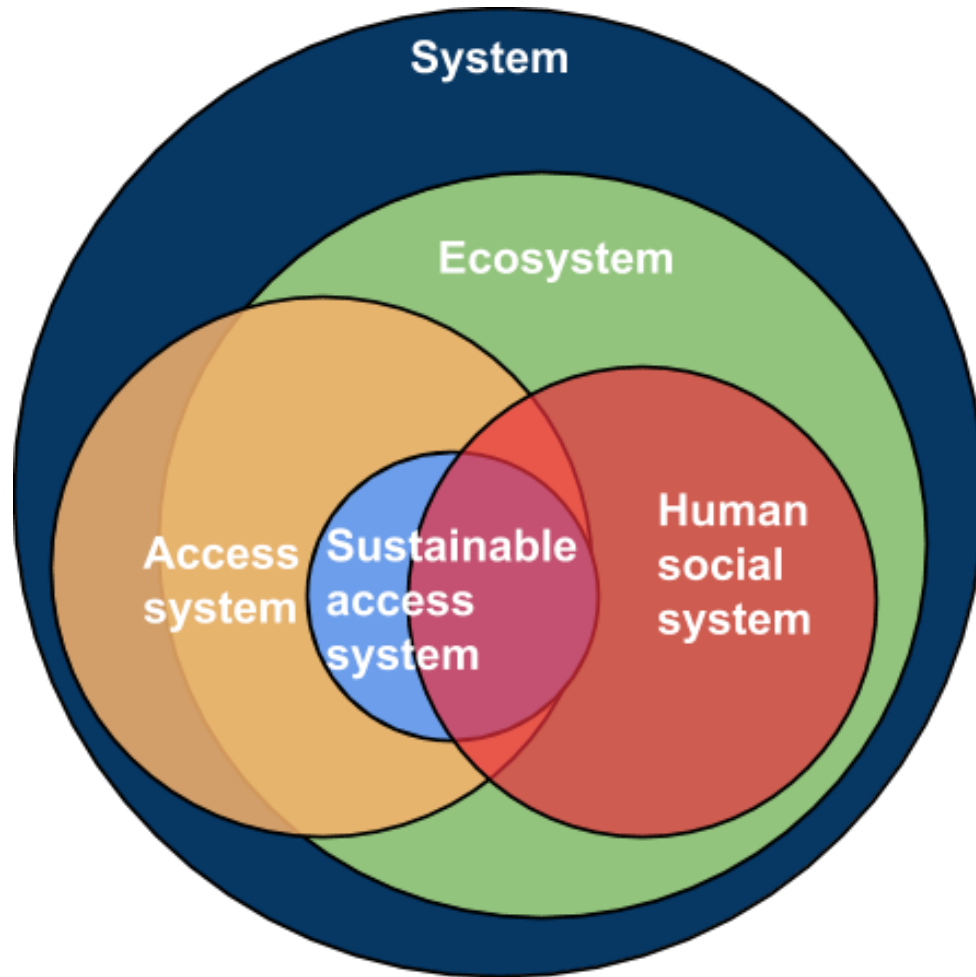
Material level

Coastal water











**A semantic interface for the
Sustainable Development Goals**

“Ecosystem services”

“Healthy environments, healthy people”

“People, Planet, Profit”



Acknowledgements



Antje Boetius



**Jacqueline McGlade
Ludgarde Coppens
Mark Jensen
Priyanka DeSouza**



**Chris Mungall
Ramona Walls
Evangelos Pafilis
Visotheary Ung
Mark Schildhauer
Barry Smith
Suzanna Lewis**

Zebra habitat...

...grasslands, savannas, woodlands, thorny scrublands, mountains, and coastal hills



An environment where a zebra was observed...

