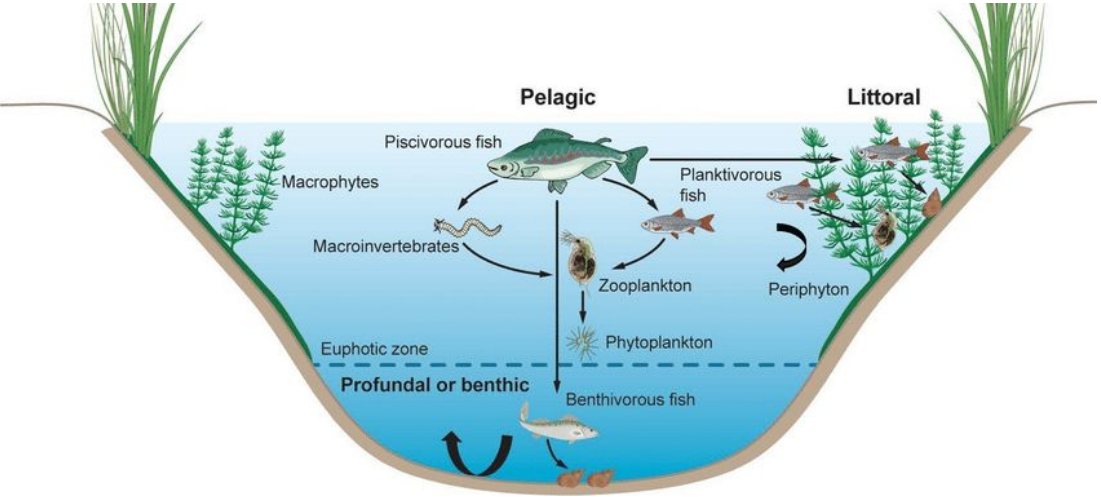
universität wien

Pelagic zone

By Marco and Zhenya

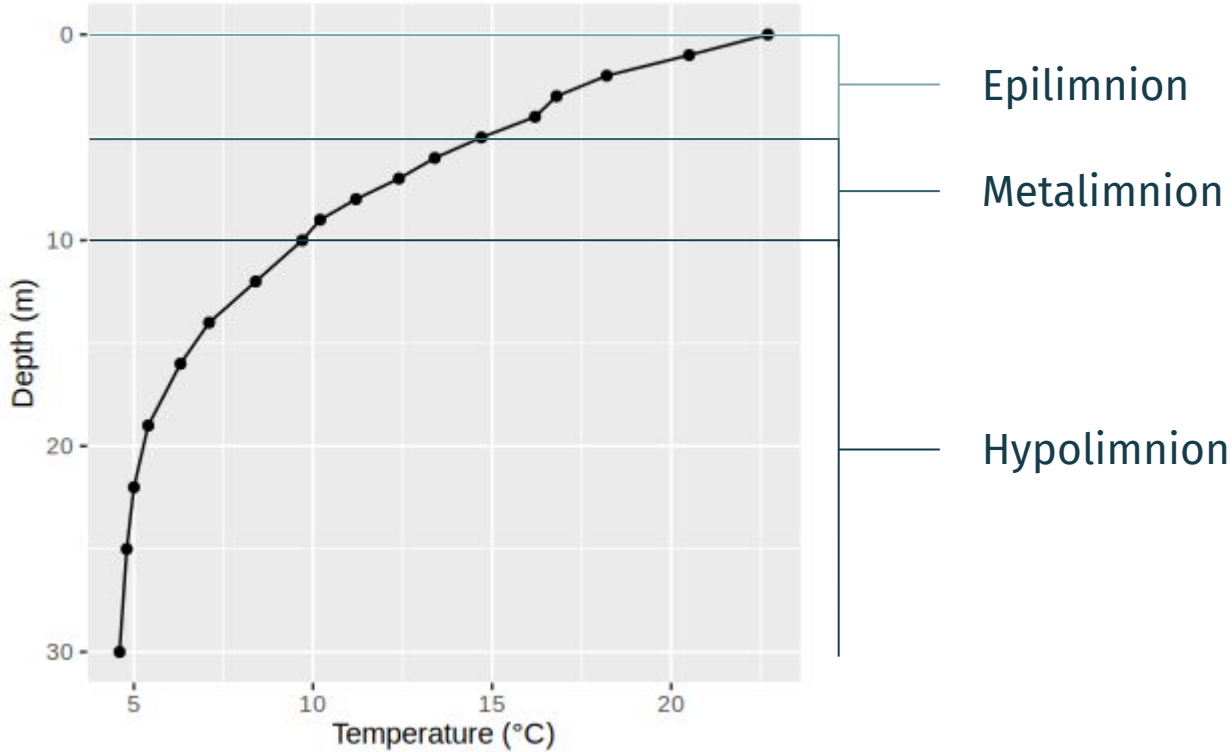
Recap

Pelagic zone - refers to an area that is not close to the shore nor to the bottom of an open body of water. It is identified by the amount of light sufficient for photosynthesis

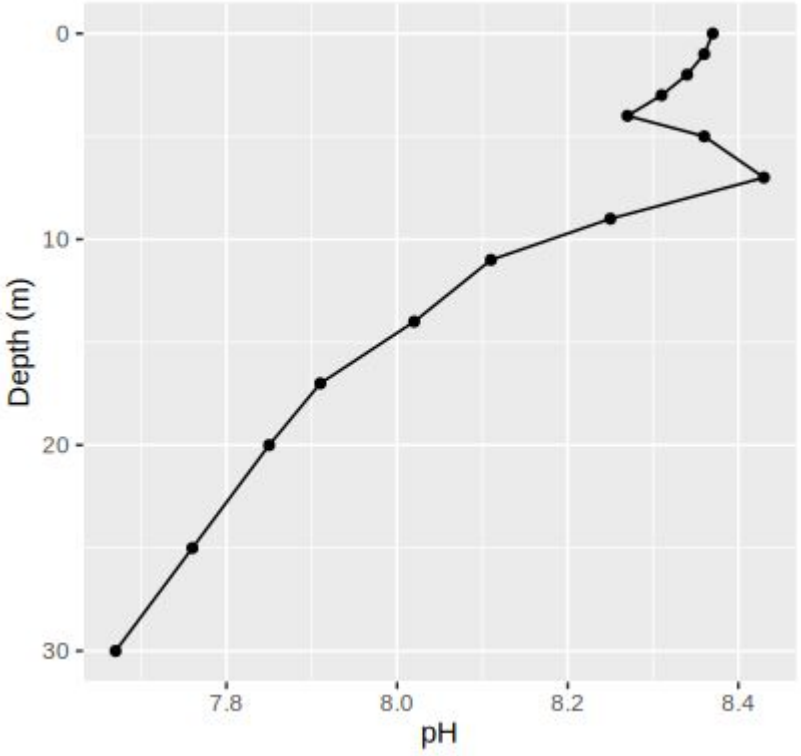


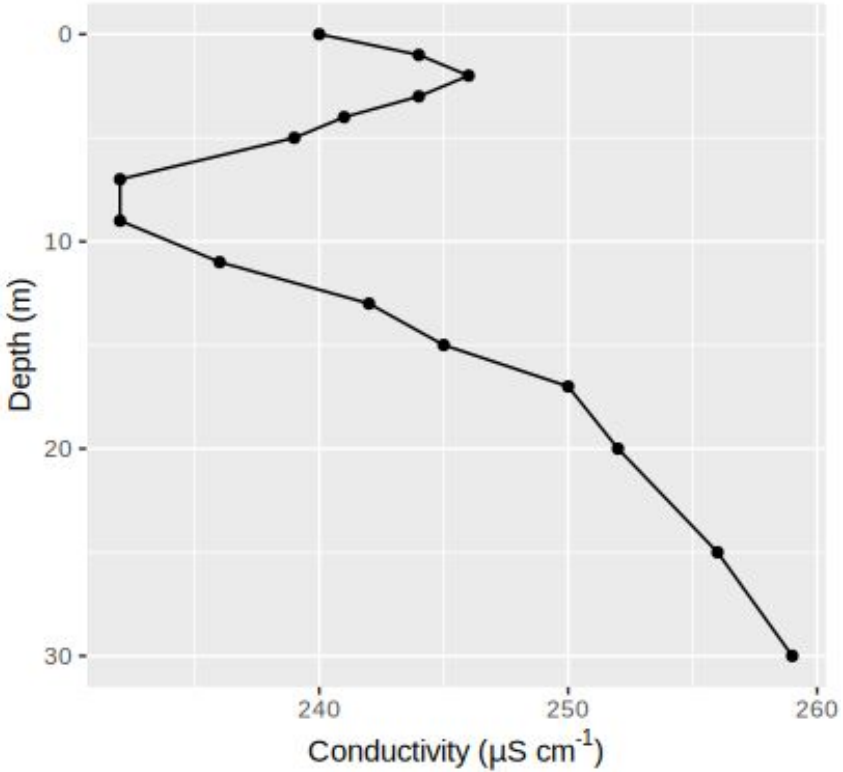
- Temperature
- Oxygen levels in absolute numbers and the percentage of saturation
- pH
- Conductivity
- Light absorption/ attenuation
- Turbidity - using a Secchi disc

Temperature profile

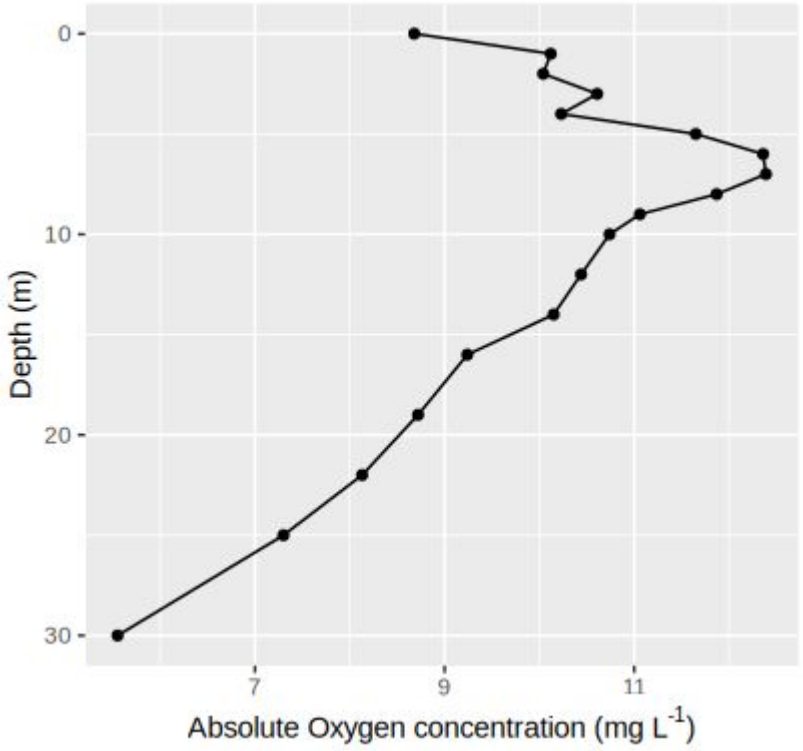


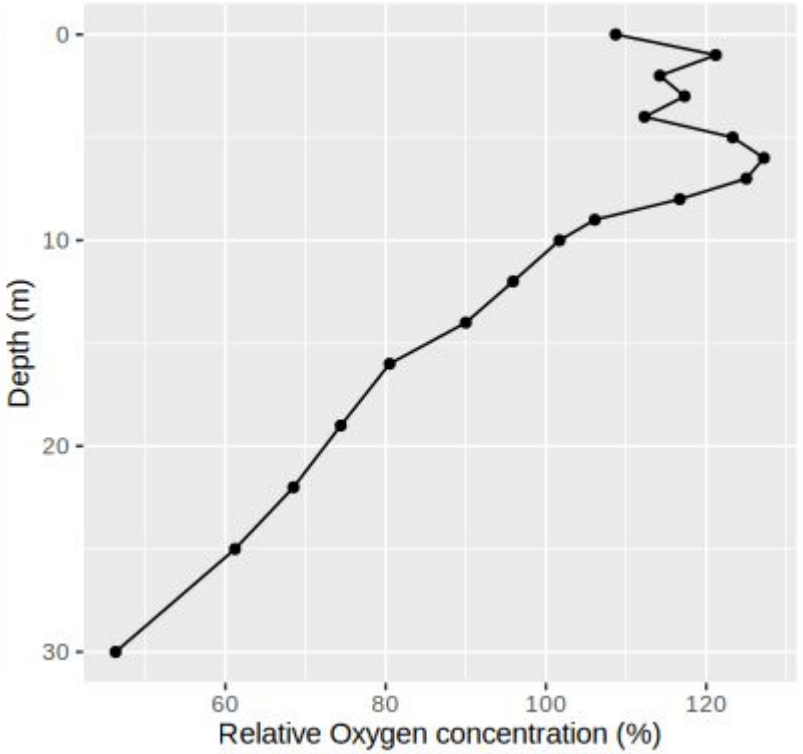
pH and Conductivity



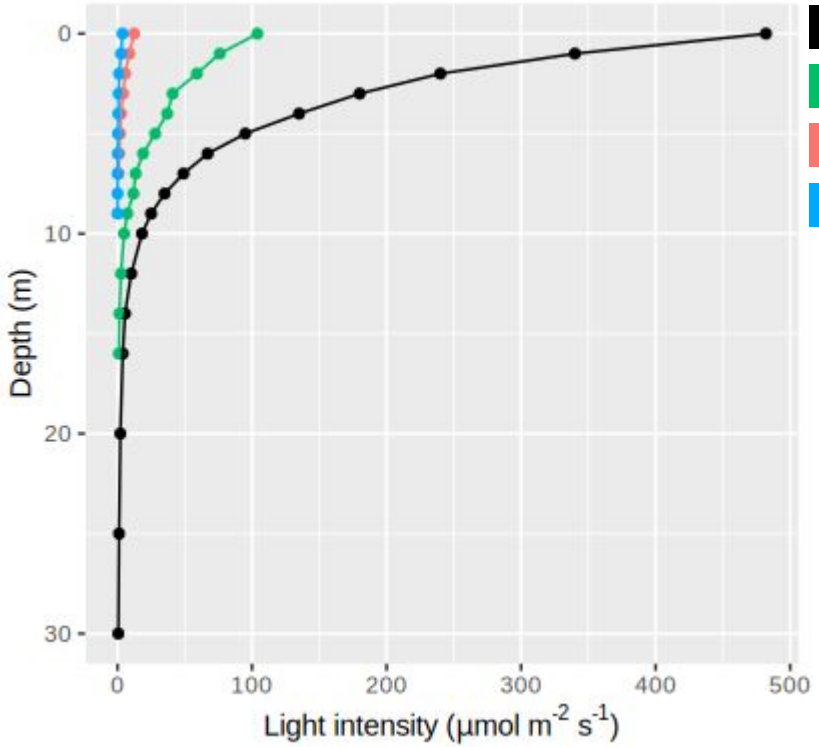


Absolute and relative O2

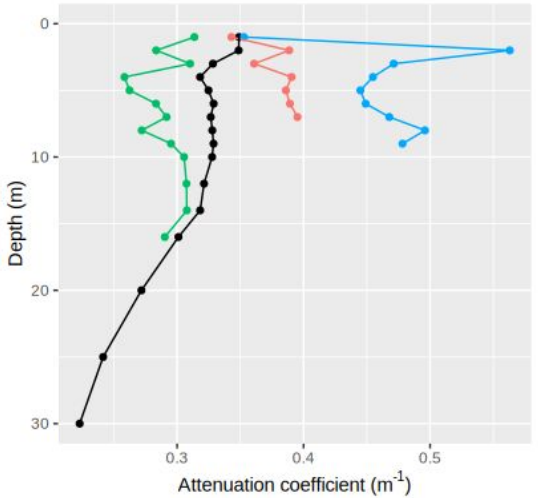




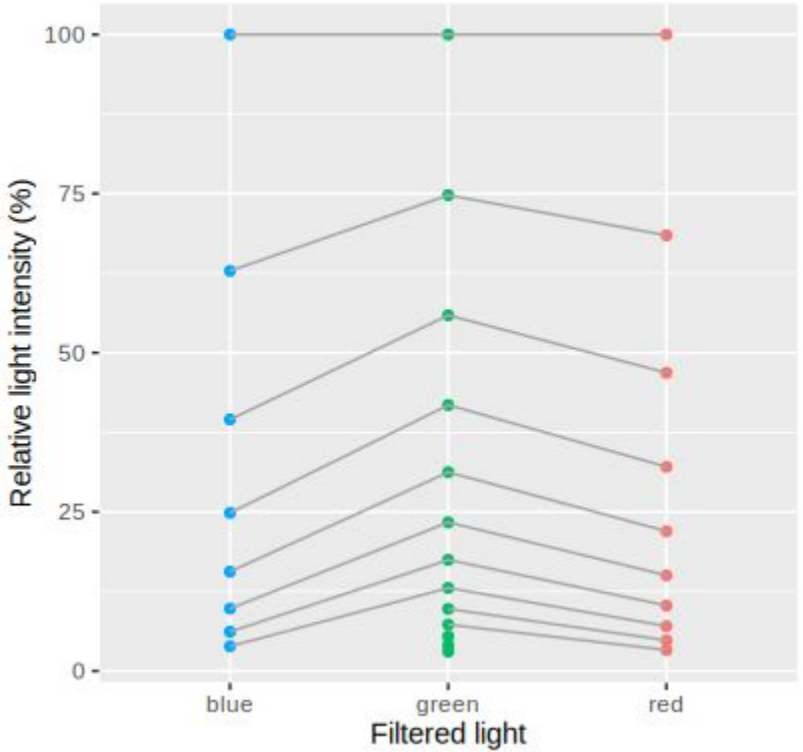
Light absorption



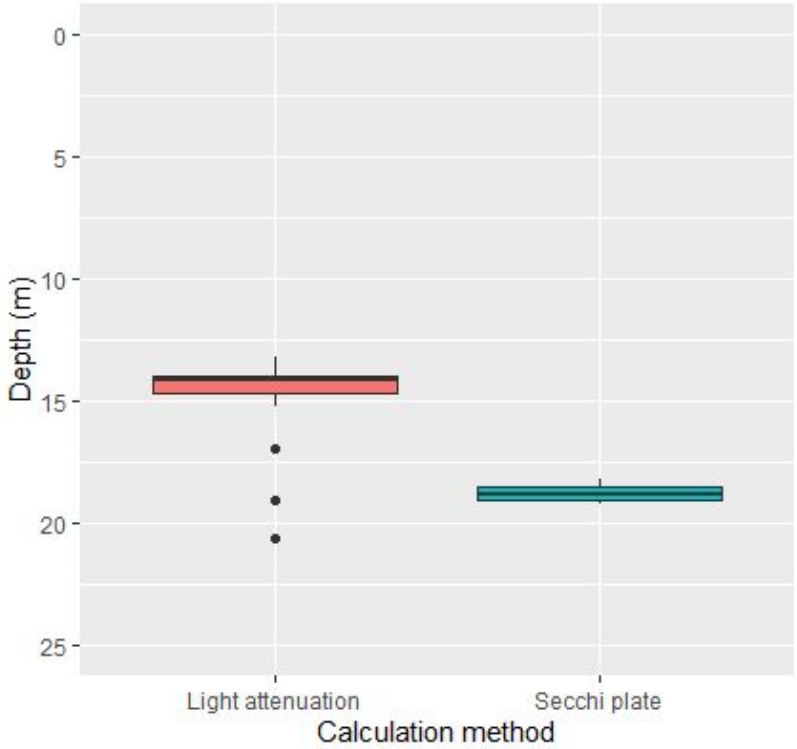
Light
Green filtered light
Red filtered light
Blue filtered light



Light absorption



Euphotic zone



Relative species abundances

	Class	Organism	Lunzer Untersee	Fishpond
Phytoplankton	Bacillariophyceae	*Asterionella sp.*	2	0
	Bacillariophyceae	*Navicula sp.*	1	0
	Bacillariophyceae	*Aulacoseira sp.*	0	2
	Bacillariophyceae	*Nitzschia sp.*	0	1
	Bacillariophyceae	*Surirella sp.*	0	2
	Chlorophyta	*Botryococcus sp.*	0	1
	Chlorophyta	*Dictyosphaerium sp.*	0	1
	Chlorophyta	*Elakatothrix viridis*	1	0
	Chlorophyta	*Kirchneriella sp.*	0	1
	Chlorophyta	*Nephrocytium sp.*	2	0
	Chlorophyta	*Oocystis sp.*	2	0
	Chlorophyta	*Pediastrum boryanum*	0	1
	Chlorophyta	*Pediastrum duplex*	0	2
	Chlorophyta	*Pediastrum simplex*	0	1
	Chlorophyta	*Phacotus lenticularis*	2	2
	Chlorophyta	*Planctosphaera gelatinosa*	1	0
	Chlorophyta	*Sphaerocystis schroeteri*	1	0
	Chlorophyta	*Staurastrum sp.*	2	0
	Chrysophyceae	*Dinobryon sp.*	4	1
	Cyanophyceae	*Microcystis sp.*	0	1
	Cyanophyceae	*Phormidium sp.*	0	1
	Dinophyta	*Ceratium hirundinella*	4	0
	Dinophyta	*Peridinium sp.*	2	1
	Euglenophyta	*Colacium calvum*	1	0
	Euglenophyta	*Euglena acus*	0	2
	Euglenophyta	*Euglena oxyuris*	0	4
	Euglenophyta	*Lepocinclis texta*	0	1

*potential bioindicators are marked in RED

	Class	Organism	Lunzer Untersee	Fishpond
Zooplankton	Cladocera	*Alona sp.*	0	1
	Cladocera	*Bosmina longirostris*	2	2
	Cladocera	*Daphnia cucullata*	0	1
	Cladocera	*Daphnia longispina*	2	0
	Cladocera	*Leptodora kindtii*	0	1
	Copepoda	*Cyclops sp.*	3	0
	Copepoda	*Eudiaptomus gracilis*	2	0
	Copepoda	*Nauplius larva*	4	3
	Diptera	*Chironomidae larva*	0	1
	Platyhelminthes	*Turbellaria (indet.)*	0	1
	Rotatoria	*Ascomorpha ecaudis*	1	1
	Rotatoria	*Asplanchna priodontal*	2	0
	Rotatoria	*Brachionus sp.*	0	2
	Rotatoria	*Filinia longiseta*	1	2
	Rotatoria	*Kellicottia longispina*	3	0
	Rotatoria	*Keratella cochlearis*	3	0
	Rotatoria	*Keratella quadrata*	1	0
	Rotatoria	*Polyarthra vulgaris*	1	4
	Rotatoria	*Synchaeta sp.*	0	1
	Thecamoeba	*Centropyxis aculeata*	0	1

*widespread species such as marked in BLUE are characteristic of nutrient-poor, clean water

Relative species abundances

Phytoplankton

Ceratium hirundinella

Euglena oxyuris

Relative species abundances

Zooplankton

Keratella cochlearis

Cyclops sp.

Summary

- The thermocline is estimated to be at 7-10 meters depth
- The euphotic zone is estimated to finish between 14-18 meters depth
- The most abundant species are *Euglena oxyuris* (Fish pond) and *Ceratium hindurella* (Lunzer See)

Thanks <3