

Nutrient contamination and Oxygen degradation in the Wakenitz River: How can Ecohydrology intervene?

Emerging pollutants in aquatic ecosystems

? Problem

Algal blooms, Massive fish kills in the City lakes connected to Wakenitz.

Objective

Investigating the major sources of nutrient inputs into Wakenitz river.

Study area



LEGEND
 ● Sampling Stations
 ■ id
 Google Terrain Hybrid

Methods

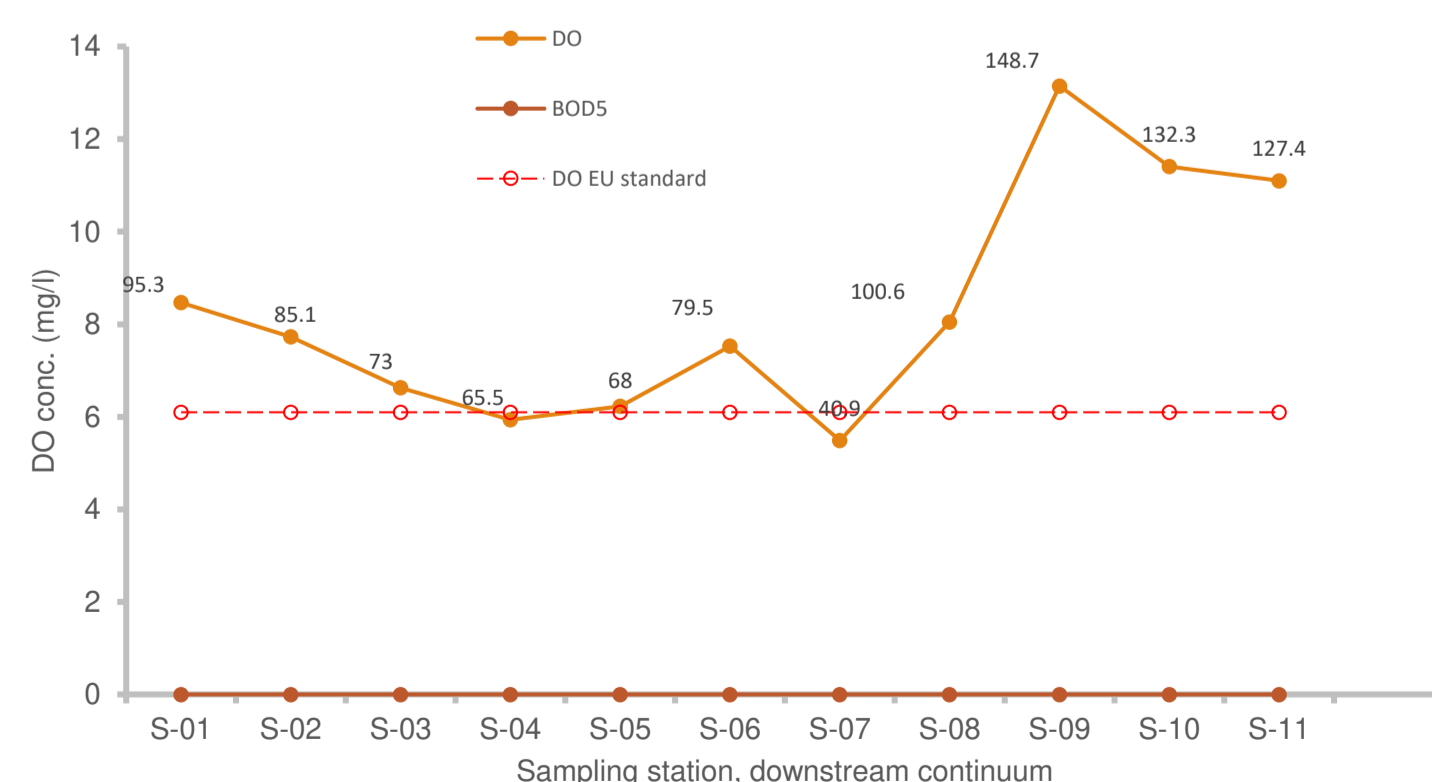
Manometric – BOD5
 Colorimetric – Nutrients
 Spectrophotometry - ions



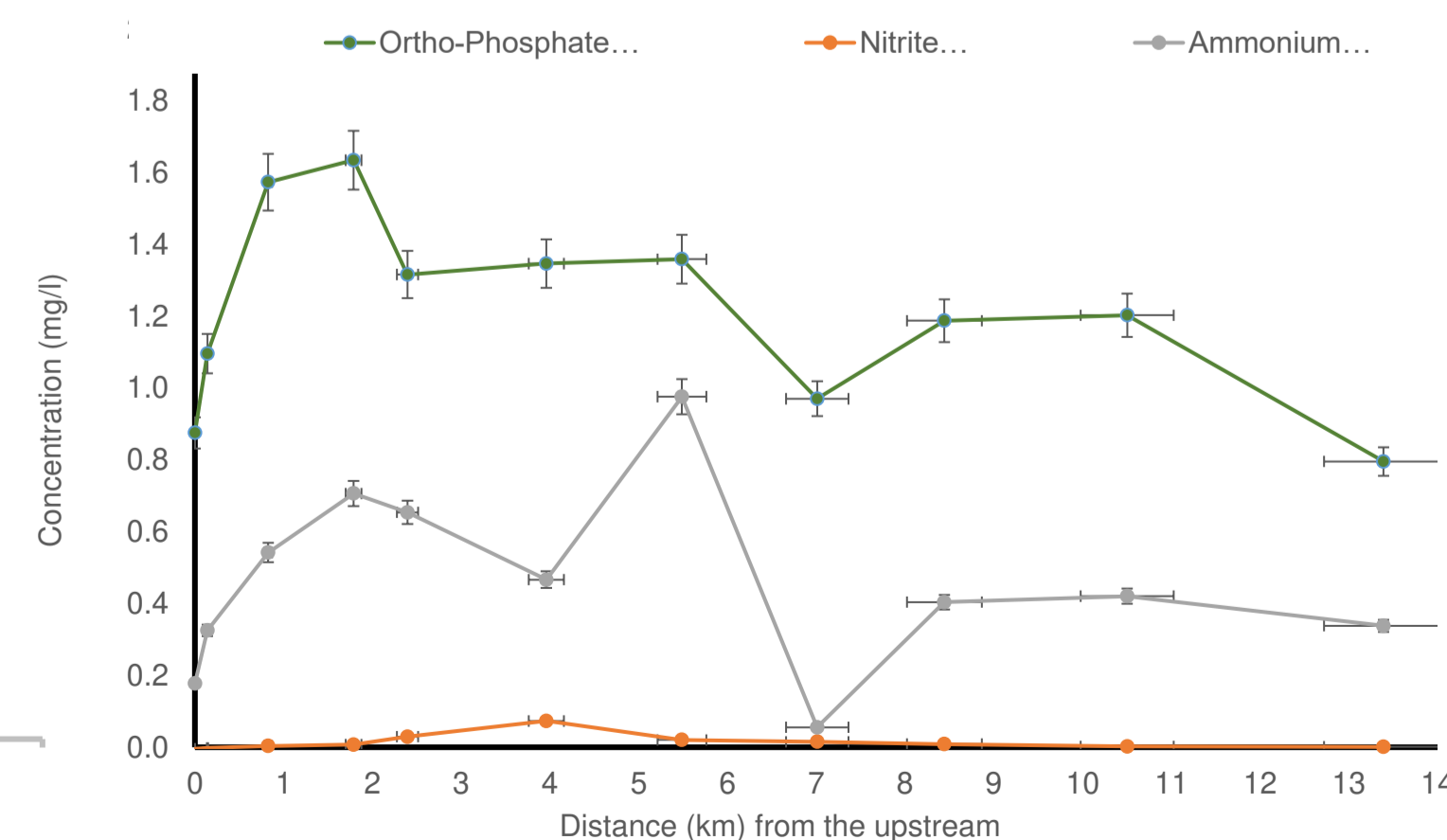
Reference table

Substance	Unit	Substance-based chemical water quality class						
		I	I-II	II	II-III	III	III-IV	IV
Total nitrogen	mg/l	≤ 1	≤ 1.5	≤ 3	≤ 6	≤ 12	≤ 24	> 24
Nitrate nitrogen	mg/l	≤ 1	≤ 1.5	≤ 2.5	≤ 5	≤ 10	≤ 20	> 20
Nitrite nitrogen	mg/l	≤ 0.01	≤ 0.05	≤ 0.1	≤ 0.2	≤ 0.4	≤ 0.8	> 0.8
Ammonium nitrogen	mg/l	≤ 0.04	≤ 0.1	≤ 0.3	≤ 0.6	≤ 1.2	≤ 2.4	> 2.4
Total phosphorus	mg/l	≤ 0.05	≤ 0.08	≤ 0.15	≤ 0.3	≤ 0.6	≤ 1.2	> 1.2
Orthophosphate Phosphorus	mg/l	≤ 0.02	≤ 0.04	≤ 0.1	≤ 0.2	≤ 0.4	≤ 0.8	> 0.8
Oxygen*	mg/l	> 8	> 8	> 6	> 5	> 4	> 2	≤ 2
Chloride	mg/l	≤ 25	≤ 50	≤ 100	≤ 200	≤ 400	≤ 800	> 800
Sulphate	mg/l	≤ 25	≤ 50	≤ 100	≤ 200	≤ 400	≤ 800	> 800
TOC	mg/l	≤ 2	≤ 3	≤ 5	≤ 10	≤ 20	≤ 40	> 40

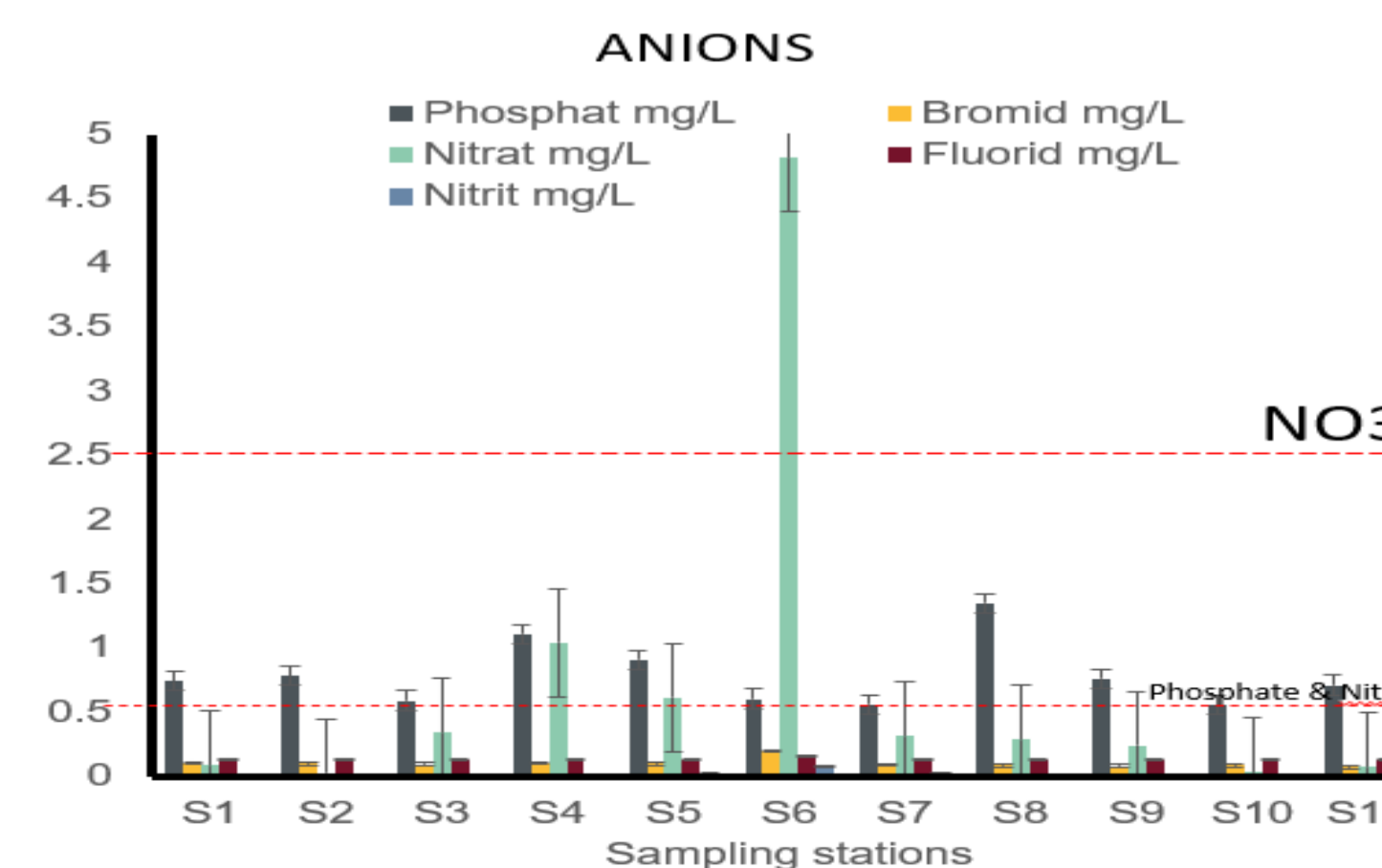
BOD5 & DO Profile



Critical nutrients



Anions



Cations

