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EU4Environment
Water and Data in Eastern Partner Countries



LEPL NATIONAL
ENVIRONMENTAL AGENCY

IMPLEMENTATION OF HYDRO-BIOLOGICAL MONITORING FOR THE SELECTED BASINS

WATER MANAGEMENT IN THE EASTERN PARTNERSHIP (EAP) COUNTRIES:
RECENT INNOVATIONS

Online workshop
18 September 2024

INFRASTRUCTURE OF THE NEA

TBILISI



BATUMI



MONITORING OF SW IN THE FRAMES OF THE PROJECT EU4ENVIRONMENT – WATER RESOURCES AND ENVIRONMENTAL DATA

2022

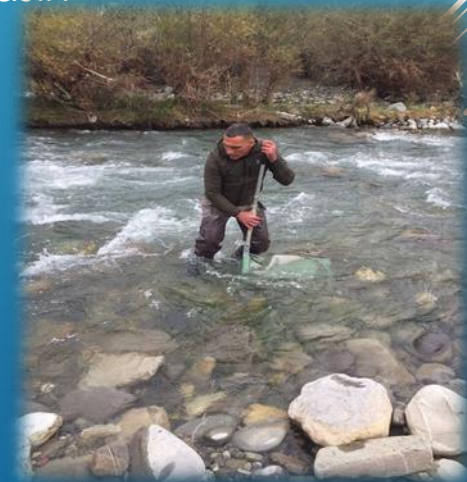
- ▶ Monitoring of surface water in Rioni and Enguri River Basins



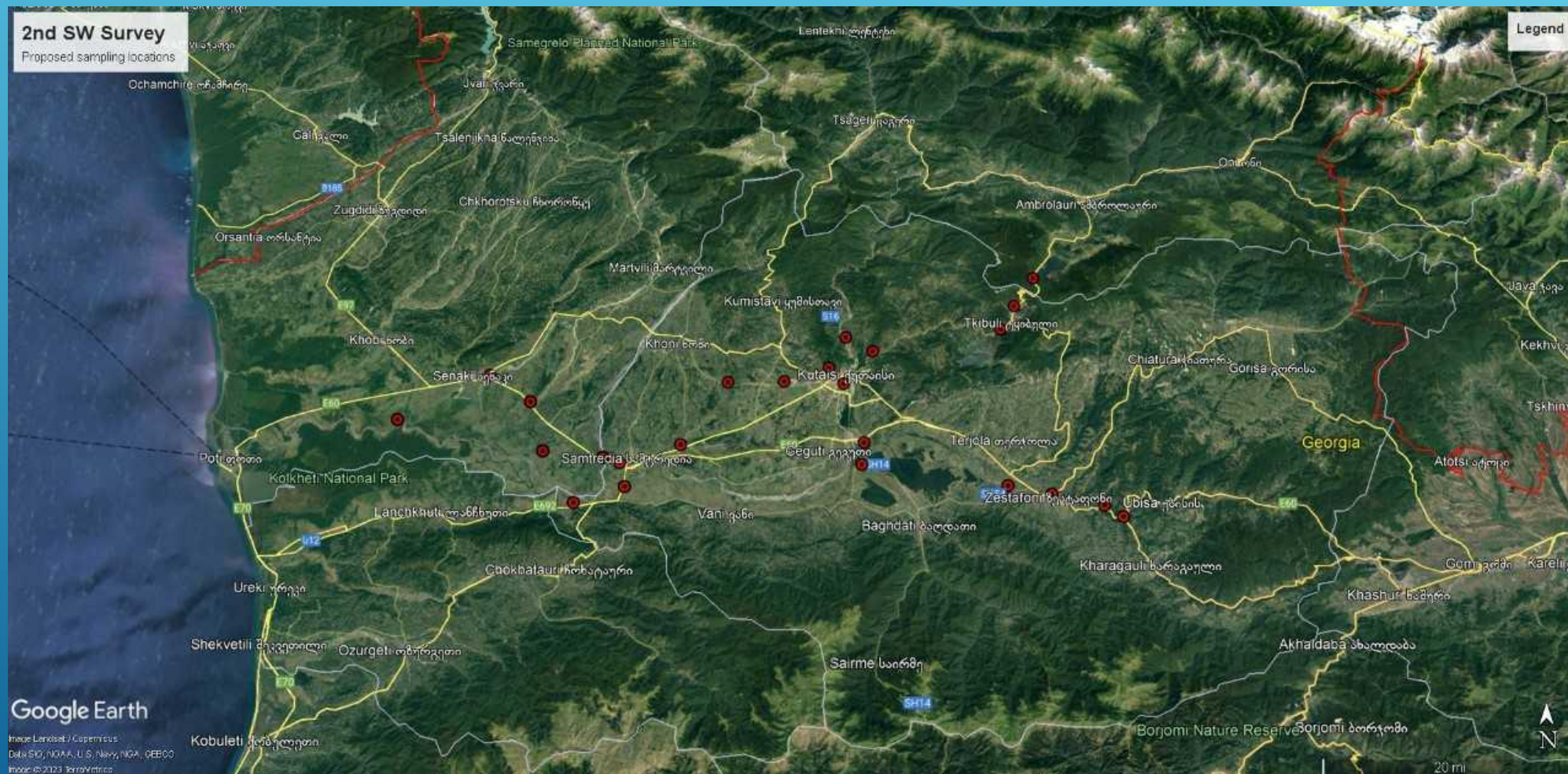
2023

- ▶ Transboundary monitoring in Ktsia/Khrami-Debed River Basin
- ▶ Monitoring of Surface water in Enguri and Rioni River Basins
- ▶ Transboundary monitoring in Alazani-Iori River Basin

- Sampling
- Analyses and data processing
- Reports



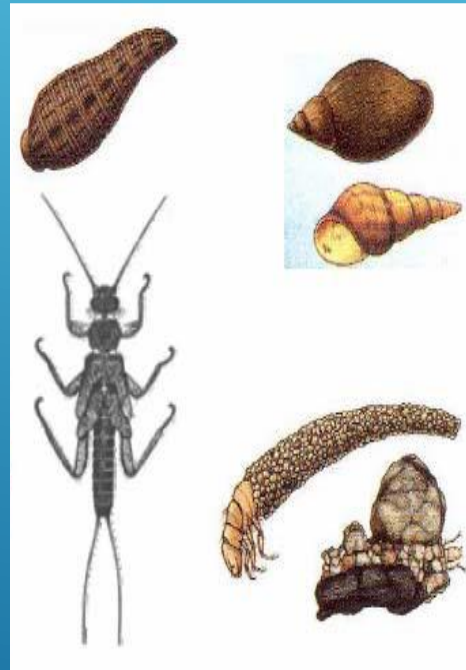
SAMPLING POINTS IN RIONI AND ENGURI RIVER BASINS



SOME OF BIOLOGICAL RESULTS

GA01 TAZAKENDI

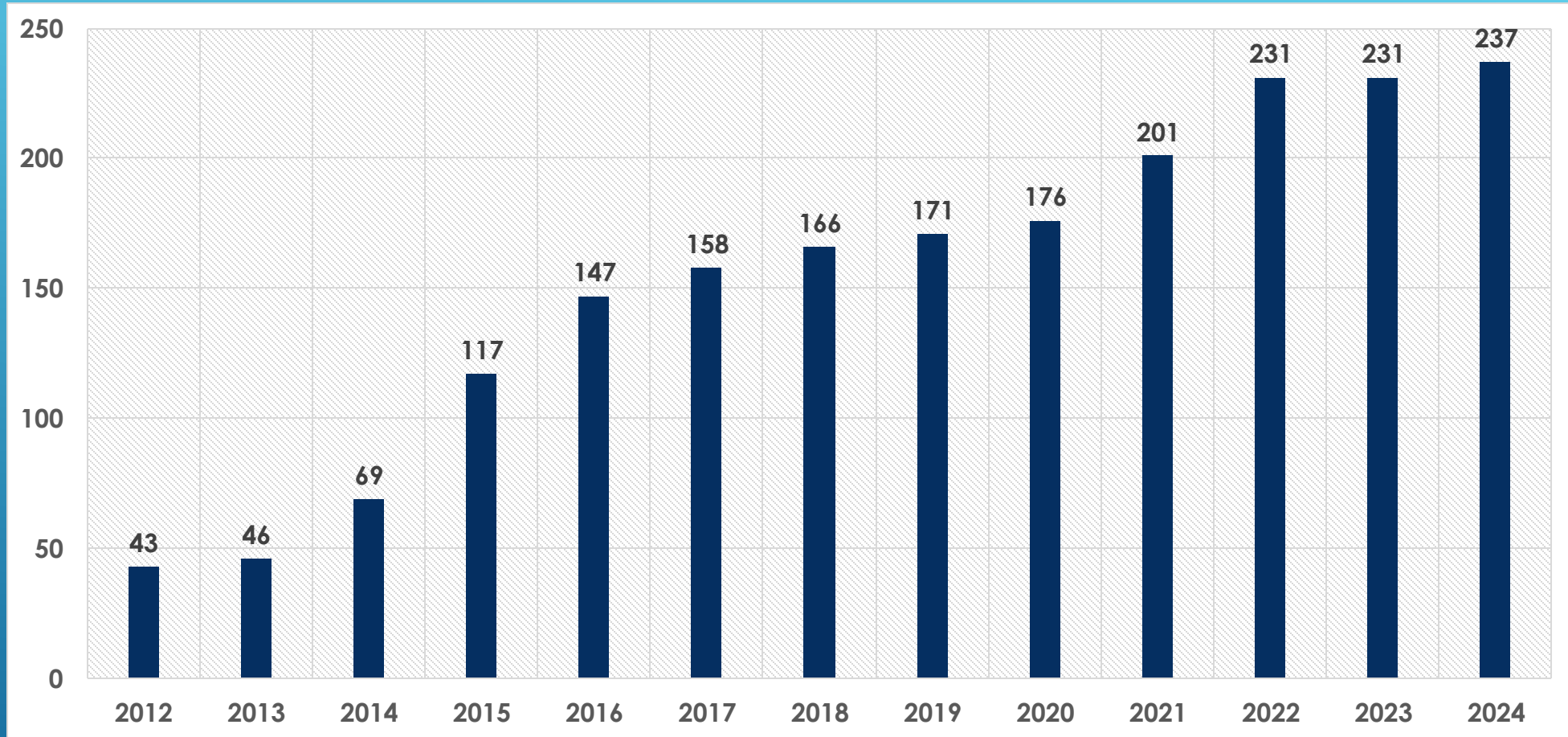
NEA Data with GE ESCS			HMC Data with AM ESCS		
Sampling date	05.09.2023		Sampling date	05.09.2023	
River name	Debeda		River name	Debed	
Site name	Tazakendi		Site name	Tazakendi	
River type	XVI		River type	III	
Site No.	GA01		Site No.	GA01	
Sampling No.			Sampling No.		
	<i>original</i>	<i>stand.</i>		<i>original</i>	<i>stand.</i>
nr of individuals	113		nr of individuals	129	
Abundance [m ²]	90		Abundance [m ²]	103	
taxa richness	6		taxa richness	10	
BMWP	31	0,22	BMWP	41	0,13
ASPT	5,17	0,54	ASPT	5,13	0,53
EPT	4	0,25	EPT	5	0,39
%EPT	46,9%	0,49	%EPT	73,6%	0,96
Margalef	1,11	0,25	Margalef	1,94	0,37
MMI		0,41	MMI		0,46
ref. MMI		0,72	ref. MMI		0,75
EQR		0,57	EQR		0,62
	nEQR	0,60		nEQR	0,60
	Ecol. status	GOOD		Ecol. status	GOOD



GA03 Enikendi

NEA Data with GE ESCS			HMC Data with AM ESCS		
Sampling date	05.09.2023		Sampling date	05.09.2023	
River name	Debeda		River name	Debed	
Site name	Enikendi		Site name	Enykendi	
River type	XVI		River type	III	
Site No.	GA03		Site No.	GA03	
Sampling No.			Sampling No.		
	<i>original</i>	<i>stand.</i>		<i>original</i>	<i>stand.</i>
nr of individuals	182		nr of individuals	413	
Abundance [m ²]	146		Abundance [m ²]	330	
taxa richness	8		taxa richness	11	
BMWP	36	0,26	BMWP	43	0,16
ASPT	5,14	0,53	ASPT	5,38	0,64
EPT	3	0,19	EPT	4	0,29
%EPT	75,8%	0,79	%EPT	61,0%	0,79
Margalef	1,41	0,33	Margalef	1,72	0,27
MMI		0,43	MMI		0,48
ref. MMI		0,72	ref. MMI		0,75
EQR		0,60	EQR		0,64
	nEQR	0,63		nEQR	0,62
	Ecol. status	GOOD		Ecol. status	GOOD

SURFACE WATER MONITORING NETWORK



From 237 points macroinvertebrates surveys are conducted in 115 points

HYDROBIOLOGICAL MONITORING IN THE GEORGIAN COASTAL AND TRANSITIONAL WATERS

Within the framework of the EUWI+ and EU4EnvWD projects, studies were carried out in the coastal zone of Georgia from Sarpi to Anaklia:

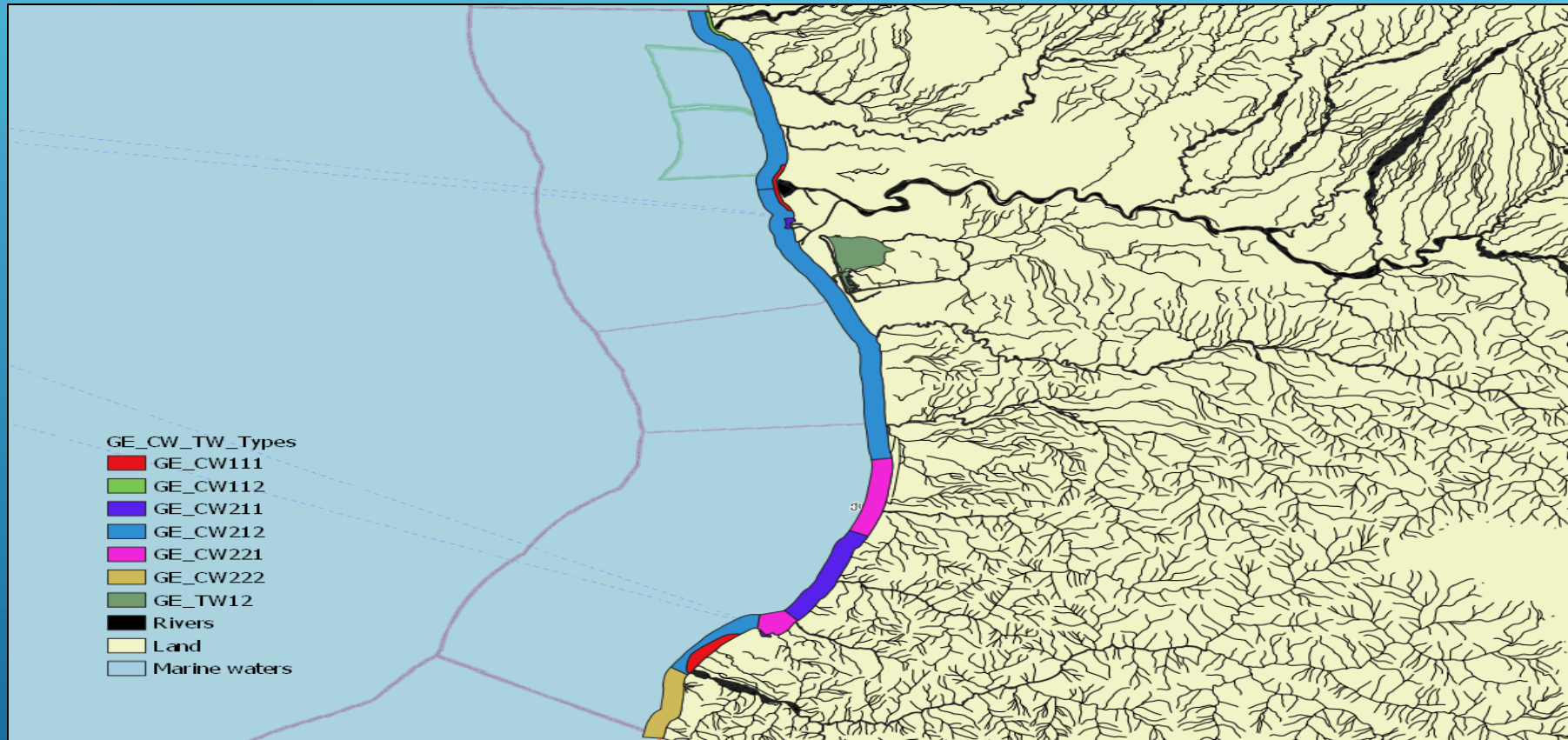
- ▶ in September and November 2019 and July/August 2020 – from Sarpi to Kobuleti;
- ▶ in August 2022 and May 2023 –from Kobuleti to Anaklia.

The aim of this survey was:

- ▶ to collect further data on the relevant CTW quality elements that will be used to revise or correct the draft thresholds for physico-chemical and biological quality elements ;
- ▶ assess the ecological status of the surveyed water bodies.
- ▶ all data collected throughout the coastal zone from Sarpi to Anaklia will serve as a basis for selecting permanent monitoring stations for surveillance monitoring in Georgia.



COASTAL AND TRANSITIONAL WATER TYPES APPEARING IN THE GEORGIAN COASTAL ZONE FROM SARPI TO ANAKLIA.



In the coastal zone from Sarpi to Anaklia, two transitional and 10 coastal water types have been identified

BIOLOGICAL QUALITY COMPONENTS

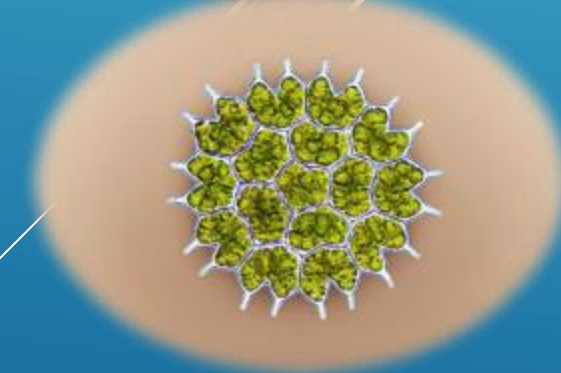
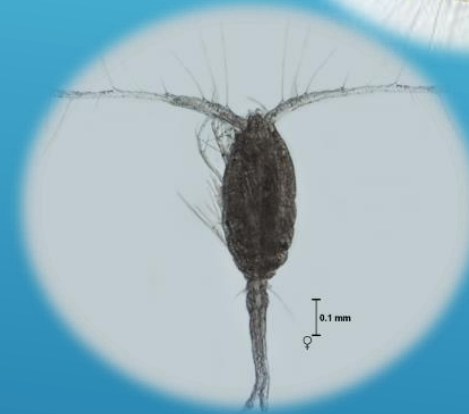
- **Phytoplankton** –species composition, abundance, biomass; invasive species;
- **Macrozoobenthos** - species composition, abundance, biomass; invasive species;

Supporting elements:

General physico-chemical quality elements
(temperature, salinity, transparency, nutrients)

Eutrophication indicator

Zooplankton - species composition, abundance, biomass; invasive species;



ASSESSMENT OF THE ECOLOGICAL STATUS OF COASTAL WATER BODIES FROM SARPI TO ANAKLIA 2019-2023:

River basin	Water category	Geographic location:	Water body	Supporting quality elements	Biological quality elements	Ecological status - Estimation
Chorokhi-Ajaristskali	Transitional waters	Chorokhi river estuary	TW11_Ch	G	M	M
	Coastal waters	From Sarpi to Chorokhi estuary	CW222_SaCh	G	G	G
		From Chorokhi estuary to Batumi cape - near coast	CW111_ChBaC	G	G	G
		From Chorokhi estuary to Batumi cape	CW212_ChBa	G	G	G
		Batumi harbour	CW211_BaHa	G	M	M
		Batumi cape to Korolistskali river	CW221_BaKo	G	G	G
		From Korolistskali river to Tsikhidziri cape	CW211_KoTs	G	G	G
		From Tsikhidziri cape to Kobuleti	CW221_TsKb	G	G	G
		Poti harbour	CW211_PoHa	M	P	P
		From Kobuleti to the Rioni river	CW212_KoRi	M	H	M
Rioni-Enguri	From the Rioni river to Anaklia	CW212_RiAn	G	G	G	

HYDROBIOLOGICAL MONITORING OF SURFACE WATERS ACCORDING TO RIVER BASINS - FUTURE PLANS 2025-2028

River basin	Number of stations	Phytoplankton/Phy to benthos	Macrophytes	Macroinvertebrates	Fish
Alazani-Iori	21 river points and 2 reservoirs - Iori and Alazani	once in 6 months	once in 3 years	once in years	once in 3 years
Khrami-Debeda	14 river points, 2 lake points - Algeti and Khrami	once in 6 months	once in 3 years	once in years	once in 3 years
Mtkvari (central part) basin	30 points of the river and 7 reservoirs - Khanchali, Faravani, Bazaleti, Jandari, Kumisi, Tbilisi Sea)	once in 6 months	once in 3 years	once in years	once in 3 years
Rioni-Enguri	38 points on the river and 2 points Paliastomi Lake and Enguri Reservoir	once in 6 months	once in 3 years	once in years	once in 3 years
Chorikhi-Ajaristskali	25 points on the river	once in 6 months	once in 3 years	once in years	once in 3 years

Thank you for attention!

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